ComColor GL

<u>GL9730</u> GL7430

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- Unplug the Power Cord from the AC outlet before performing maintenance.
- Be careful to avoid getting neckties, clothing, long hair or equivalent items tangled in moving or rotating parts.
- Exercise extreme caution if you must work on the machine while the power is on.
- Never work on the machine while it is operating.
- Work carefully to avoid injuring yourself on sharp edges of metal parts or spring hooks.

CAUTION

[Handling of Lithium Battery]

- Never fail to follow the following instructions when you discard the used lithium battery.

1. Never let the battery short-circuited.

If the (+) and (-) terminals contact each other or metal materials, the battery will be short-circuited.

If the batteries are collected and stored inorderly or one upon another, the abovementioned case will occur.

- DANGER -

If the battery is short-circuited, it will heat up and may in some cases explode into fire.

2. Never heat up the battery.

- DANGER -

If you heat the battery up to more than 100 degrees Celsius or put it into the fire, it may burn dangerously or explode.

3. Never disassemble the battery or press it into deformation.

- DANGER -

If you disassemble the battery, the gas pouring out of the inside may hurt your throat or the negative lithium may heat up into fire.

If the battery is pressed into deformation, the liquid inside may leak out of the sealed part or the battery may be short-circuited inside an explode.

4. Never fail to keep the battery out of reach of children.

If you put the battery within reach of children, they may swallow it down. Should they swallow the battery, immediately consult the doctor.

[Replacement of the Lithium Battery]

- 1. The lithium battery must be replaced by a trained and authorized service technician.
- The battery must be replaced only with the same or equivalent type recom- mended by the manufacturer.
- 3. Discard used batteries according to the manufacturer instructions.

[Remplacement de la batterie au lithium]

- 1. La batterie au lithium doit être remplacée par un technicien de maintenance formé et agréé.
- La batterie de rechange doit être d'un type identique ou équivalent à celui recommandé par le fabricant.
- 3. Éliminez les batteries usagées conformément aux instructions du fabricant.

Perchlorate Material-special handling may apply,

See www.dtsc.ca.gov/hazardouswaste/perchlorate

This product may contain certain substances which are restricted when disposed.

Therefore, be sure to consult your contracted service dealer.

!! WARNING !!

Important Safety Precautions

(1) Always disconnect electrical supply before placing hands in the machine.

1) To avoid injuries:

Be sure to turn OFF the power and disconnect the electrical power cord from the machine before disassembling, assembling, or when making adjustments on the machine.

2) Protection of the machine:

Make sure to turn OFF the power to the machine before plugging or unplugging the main power cord, electrical connectors, or when connecting a Meter.

(2) Discharge the Capacitors on the Power Supply Unit before servicing the machine.

1) To avoid electrical shock:

The capacitor (condenser) on the Power Supply Unit is still charged with electricity even after the machine power is turned OFF and the machine power cord disconnected from the power source.

Before servicing the machine, make sure to press the Sub Power Key, after switching OFF the machine main power and disconnecting the power cord, to discharge the charged power from the capacitor on the Power supply unit.



(3) Electrical Shock Hazard Symbol.

1) To avoid electrical shock:



As a warning to avoid electrical shock, the Power Supply Unit should never betouched with the machine powered ON or when the main power cord is plugged to the machine even though the main power toggle switch is switched OFF. Electric Shock Hazard Symbol is imprinted on the Power Supply Unit to indicate the above.

Work on the Power Supply Unit only after turning the machine main power OFF, disconnecting the power cord, and discharging the capacitors.



Electric Shock Hazard Symbol on the Power Supply Unit

Power Supply Unit



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(4) Always connect electrical connectors fi rmly.

1) To avoid electrical failure:

The connectors must be connected firmly together and onto the PCBs.

2) Protection of the electrical components:

The electrical components may be damaged due to short circuits caused by a loose connector.

(5) Warning on the disposal of LCD Touch Panel.

The back light tube of LCD of the Touch Panel on this Model contains mercury which must be recycled or disposed of as hazardous waste.

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Chapter 1. Maintenance Notes

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1. Precautions

1-1. General Precautions

- Unplug the Power Cord from the AC outlet before performing maintenance.
- Be careful to avoid getting neckties, clothing, long hair or equivalent items tangled in moving or rotating parts.
- Exercise extreme caution if you must work on the machine while the power is on.
- Never work on the machine while it is operating.
- ◆ Work carefully to avoid injuring yourself on sharp edges of metal parts or spring hooks.
- Remove a wrist watch or a ring if it interferes with work.
- Never place your hands under the Elevator Unit inside, which may drop unexpectedly due to a trouble or unexpected operation to cause personal injury.

1-2. Special Precautions for Color Inkjet Printers

- Maintain the printer to keep it free of dust (including paper dust).
- If paper or other dust adheres to the Print Head nozzles, it may cause an ink misfire in printing.
- When replacing the Waste Ink Tank (for scheduled replacement) or if necessitated by the printer usage conditions, remove paper and other dust left inside the printer, mainly in paper paths, using a vacuum cleaner. The amount of paper dust that would accumulate inside the printer depends on the type of paper used.
- Never use an air duster to remove paper and other dust because the blown dust may clog the Print Head nozzles, thus causing an ink misfire in printing.
- Ink storage
- Store ink cartridges under specified environment and conditions and follow the "first in, first out" principle for earlier use when taking them from the storage.
- Do not store ink cartridges under environments that may degrade ink quality because degraded ink may cause such troubles as clogged Print Head nozzles on the printer.
- Precautions for ink usage
- Do not shake ink cartridges before use because it may cause air bubbles to form or larger particles settled at the bottom of ink cartridges to float up, thus clogging the Print Head nozzles in case they reach there.
- Do not refill used ink cartridges with ink.
- Confirm that ink is not deteriorated in ink cartridges in case they are not used promptly after unsealed or the printer is operated after an extended disuse period because ink may be deteriorated due to oxidization if it is exposed to air for a long period.

Using deteriorated ink can lead to problems that require the replacement of the Print Heads or other components related to ink circulation, such as ink misfires in printing.

- Precautions in anticipation of extended disuse of the printer
- Ink may be degraded or dried inside ink flow paths or ink cartridges on the printer if the printer remains unused for an extended period, thus causing clogged Print Head nozzles or other print-related problems. In the worst case, the Print Heads may be required to be replaced. To avoid it, it is recommended that the printer be routinely operated without long intervals.
- Precautions after an extended period of disuse of the printer
- Ink misfires may occur during printing due to clogged Print Head nozzles if the Print Heads have not been cleaned for a long period. In case the Print Head nozzles are found clogged, execute the Print Head cleaning operation. If necessary, repeat the said operation several times to remove clogs from the corresponding Print Head nozzles.
- If the said clogs can not be removed from the Print Head nozzles even after repeated strong cleaning operations, the corresponding Print Heads may need to be replaced.
- Differences between display and print colors
- The colors on prints may differ slightly from the ones viewed on your display device.
- The difference in colors may be attributable to various factors, including differences between RGB and CMYK color systems, RIP color representation setup and display device configuration.
- ♦ Never touch the surfaces of the Print Head nozzles.
- The scratches or dust on the surface of the Print Head nozzles may cause image defects on prints.
- Take due care not to touch the surface of the Print Head nozzles with hands nor to scratch it with neighboring components or tools during maintenance operation because it may lead to such defects as ink misfires in printing, whose solution requires the replacement of the Print Heads in the worst case.
- Protect the Print Heads from any physical shock.
- The Print Heads are extremely fragile. Handle them carefully and avoid dropping or striking them.
- Selection of paper types
- Advise a customer to use only recommended types of paper because ink may not be firmly fixed on some types of paper, thus causing ink smudges on prints through ink transfer to paper transfer rollers or belt inside the printer.
- If a customer wants to use a non-recommended type of paper, however, advise the customer to confirm if the said type of paper can bring an expected result through test prints in advance.
- If ink is transferred to the said components, besides, more frequent maintenance operations may be required.

- Maintain recommended operation environment.
- Ink viscosity, which affects the ink ejection performance of inkjet printers, increases under lower temperature, thus causing such ink ejection problems as ink misfires from the Print Head nozzles more frequently. Therefore, advise a customer to operate the printer under recommended operation environment whenever possible.
- Cleaning wipes
- Always use CRECIA Corp.'s "Kimtech" or "Kimwipe," or any other wipes that do not produce fuzz or paper dust nor leave any fiber when cleaning off ink stains on the components inside the printer, excluding the Print Head nozzles, whose surface should not be touched with the said wipes, because remaining fibers or paper dust may cause ink misfires from the Print Head nozzles or other operational errors during printing.
- Never use ordinary tissue paper.

1-3. Other Maintenance Precautions

- Inspections
- If a defect or abnormality is found during inspections, take required corrective actions, including replacement of defective components if required.
- Disassembly of components
- Follow the disassembly procedures described in this manual when determined that it is required to replace defective components to solve the existing problems after inspection.
 - * The components to be worked on during the said disassembly procedures are indicated by the arrows and other signs in the pictures provided as shown below:





- Indicates screws to be removed.
 - . Indicates other components than screws. (Connectors, E-rings, etc.)
- Indicates the shift direction of components.

xIndicates component names.

- Watch for ink leaks when disassembling ink-handling components.
- Be careful not to apply extra force to ink tube joints nor to disconnect them unintentionally.
- When disassembling multiple-item-assembled, similar or symmetrical components, handle them orderly when removed to ensure their proper reassembly.
 - 1) Arrange removed components in order.
 - 2) Clearly identify what component is to be replaced and what component is to be reused.
 - 3) When replacing screws or other fasteners, use only specified-size ones.
- Reassembly of components

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- Reassemble components by following the indicated disassembly procedures in reverse order, unless otherwise specified.
- When a (half-pierced) convex point is prepared on a component for positioning at attachment, secure the said component while engaging the said point properly with the corresponding matching hole.



- When a removed ink tube is stained with ink inside or at its mouth, wipe off ink before reconnecting it to the original position.
- Work on electrical system
- If a wire harness is removed, secure it tightly with a cable tie or band after rewiring it.
- When reassembling components, be careful to avoid pinching or damaging electrical wires.
- Replace blown or defective fuses with specified capacity-rating ones. Using a fuse with a rating above the specified value may cause fire and/or damage to the equipment.
- Take due care not o drop sensors and Print Heads as they are vulnerable to shock.

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1-4. Sensors and Switches

Be sure to turn off power before disconnecting or connecting sensors.

Types of photoelectric sensors

Photoelectric sensors can be divided into the following four types: interrupt (U-shaped), actuator, reflective and transmissive ones.



Types of magnetic sensors

Some magnetic sensors use Hall ICs, while others use magnetic reed switches.

• Types of switches

1) Microswitches use either a N.O. (Normally Open) contact or N.C. (Normally Closed) contact.

- 2) The N.O. contact closes when the switch actuator is pressed.
- 3) The N.C. contact opens when the switch actuator is pressed.



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2. Maintenance Tools and Goods

Always use the tools listed below when maintaining the printer because it may cause personal injury or mechanical damages on the printer if you use unlisted ones.

Several maintenance goods listed here, besides, may be helpful when you maintain the printer.

Туре	Size	Shaft Length, etc.
Phillips screwdriver	No. 2	250 mm
	No. 2	100 mm to 150 mm
	No. 2	Stubby type
Slotted screwdriver	6 mm	100 mm to 150 mm
	3 mm	100 mm to 150 mm
	1.8 mm	Precision type
Box driver	5.5 mm	100 mm to 150 mm
Spanner	5.5 mm, 7 mm, 8 mm, 10 mm, 13 mm, 14 mm, monkey	
Allen wrench	6.0 mm, 5.0 mm, 4.0 mm, 3.0 mm, 2.5 mm, 2.0 mm, 1.5 mm	
Steel measure	150 mm, 300 mm	
Long-nose pliers		
Pliers		
Snap ring pliers		
Nipper		
Penlight		
Multimeter		
Soldering iron	20 W to 30 W	
File	Flat, round	

<Regular tools>

	5.5mm box wrench with magnet	
	To be required to manually elevate up or down the Transfer Belt Unit.	
	- Part No.: X7609 "NUT DRIVER (MAGNET)_S"	
	- Part No.: X7610 "NUT DRIVER (MAGNET)_L"	
	5.5 -7.0mm wrench	
5.5mm 7.0mm	5.5mm wrench is required to work on the Internal Paper Feed Unit, while 7.0mm one is required to remove the Registration Roller.	
	[Note] 8.0mm one is additionally required to work on the Perfect Binder (optional).	

At least 250mm in shaft length or	Long screw driver or Ratchet wrench To be required when mounting the Front Bottom Cover on the printer during installation.
	Normal metric screwdriver with one- eighth marking on the grip end The one-eighth marking on the grip end may be useful when aligning the Print Head angle during image adjustment.
15m or ess	Metal ruler (with the width less than 15mm) or a similar item of another material To be required to open the Front Door of the printer with the power OFF. [Note] The scale section is not required.
	Metric feeler gauge To be required when confirming if the Registration Roller is parallel to the Transfer Belt Unit in their replacement.
Came 000/10/(200 0 x 00	Adjustable wrench To be required to adjust the level of the equipment at its installation. [Note] Up to 24mm nut should be handled.
Add	Plastic forcepsTo be used to clamp ink tubes when working on the Ink Flow Section.Part No.: 050-85373-007 "Plastic forceps" (10 pcs. In a plastic bag)
Current Contraction of the second sec	Plastic tube clamp To be used to clamp ink tubes temporarily when re-shipping the printer. Note that ink tubes may be deformed if they remain clamped for a long period.

<Other maintenance goods>

	Wrist band (static electricity remover) Recommended to be taken on when working on the Print Heads or Printed Circuit Boards on the printer for static electricity damage prevention.
	Rectangular plastic cups To be used to keep dismounted Print Heads temporarily or catch draining ink while working on the Ink Flow Section.
Large Magnet	Strong large magnet Required to keep screwdriver tips well magnetized.
	Rubber cushion To be used to cover the corner edges of PCB brackets to prevent personal injury. - Part No.: 050-75030-004 "Corner Cushion; SU"
	Isopropyl alcohol To be applied to wipe off dripped ink from metal components inside the printer.
	Lint-free paper towel To be used to wipe off ink stains on the printer. Take care not to let paper fibers enter the Ink Flow System.
	Powder-free plastic gloves Recommended to be taken on when working on the Ink Flow System to avoid ink stains on hands. Never use powdered gloves, as the powder may clog the Print Head nozzles.

Plastic sheet to protect the floor	Plastic sheet Recommended to be laid on the floor beside the printer while working on the Ink Flow System to protect the floor from ink stains.
	Vacuum cleaner Recommended to be used to suck out paper dust inside the printer. Never blow it out because the blown dust may adhere to the Print Head nozzles.
	High-quality (matte) paper (A3 or Ledger size) Recommended to be used as printing paper when executing image adjustment.
	Lupe Recommended to be used to check printed image quality in detail.

<Items required for image adjustment on the printer which is not equipped with the scanner>

FECTION	Laptop PC Required to connect a 3rd-party scanner and transfer scanned image data to the printer for image quality adjustments.
	 3rd-party scanner To be used to scan print patterns acquired from the printer for image quality adjustment. * EPSON GT-5650 is among the recommended models.
	USB cable Required to connect the scanner to a Laptop PC.

3. Jigs

The following jigs are prepared to facilitate your maintenance operation and ensure proper setup of the printer.

Print head positioning jig Required when replacing and positioning the Print Head No. 2, 4 or 6. Part No.: 050-79655-106 "HEAD_ADJUST_ASSY"
Print head positioning jig Required when replacing and positioning the Print Head No. 1, 3 or 5. Part No.: 060-75499-009 "HEAD_ADJUST_ASSY_L"
Print head replacing jig Required when replacing the Print Head. Part No.: 060-75498-002 "HEAD_REPLACE_JIG"
Transfer belt skew adjustment jig Required when adjusting the mounting position of the Transfer Belt to prevent its skewed traveling. Part No.: 061-75162-001 "SPACER 0.35"
ComColor carrying handle Required to lift out the printer from the shipping carton. 4 pieces of it are necessary to be inserted into 4 bottom corners of the printer. Never mix it up with similar ones for other models than ComColor. Part No.: 022-11500-258 "CARRY HANDLE"
4mm-diameter shaft (2 pieces) Required when replacing the Transfer Belt.

4. Installation

4-1. System Setup

- 1. Model identification
 - The printer is to be activated by installing a dedicated identification card, i.e. Control Card, inside. Without the said ID card installed or with a wrong ID card installed, therefore, the printer will not function.

If a wrong ID card is installed, the following error message is to be displayed: S98-1811-2 Model ID Error

This error message appears when the model code stored in the ROM on the Engine Control PCB does not match the counterpart stored on the Control Card.

• The printer, however, is enabled to function temporarily even with a wrong Control Card through "provisional registration" function, thus providing an extra period for acquiring a correct Control Card.

<"Provisional registration" function>

- The "provisional registration" function becomes effective when the printer is initially powered on after unpacking. When the accumulated power-on period reaches 336 hours (=24 hours X 14 days), then, the said function is to be terminated to register the current printer's ID information as final data.
- During the "provisional registration" period, the advice code I03-1814 is to be indicated to notify an operator that the printer's ID registration has not been finalized, whenever the printer is powered on, waken up from the sleep mode or reset.
- In case the printer's ID registration is finalized, with a wrong Control Card installed, through the expiration of the "provisional registration" period, the printer will be disabled immediately.
- The test mode TM No. 113001 "Machine Final Registering" is prepared to allow you to finalize the printer's ID registration before the "provisional registration" period expires if a proper Control Card is installed.
- 2. Count charge mode selection
 - You are required to enable the count charge mode through the test mode TM No. 016081 "Count Charge Selection" when the printer is intended to be operated under count charge framework. Several charge patterns are prepared for your selection in this test mode.
- 3. Rental operation setup (Japanese market only)
 - You are required to lead the printer to accept only rental-operation-dedicated ink cartridges through the test mode TM No. 116001 "Ink Kit Special Configuration" when the printer is intended to be operated under a RISO-designed rental (INK Kit) contract.

4-2. Installation Procedure

List of compatible models

(Common options)

	Com	Color	
	GL9730	GL7430	
Wide Stacking Tray	[E]	[E]	*1, *2
Auto-Control Stacking Tray	[F]	[F]	*3
Card Feed Kit	[C]	[C]	
Envelope Feed Kit	[C]	[C]	
Paper Ejection Attachment G10	[A]	[A]	
Option PCB FG10	[A]	[A]	

Note:

- *1 The Wide Stacking Tray and the Job Separator IV: NIII can be installed together.
- *2 When installing on the Group [E] models, the Paper Ejection Attachment G10 is additionally required.
- *3 When installing on the Group [F] models, the Paper Ejection Attachment G10 and the Option PCB FG10 are additionally required.

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ComColor 68A Series Installation Procedure

Installation has to be done by an authorized technical expert. Please read "TECHNICAL MANUAL" of the applicable model about work precautions.		
Applicable Models This document describes procedures for the following 68A series GL9730 GL7420 GL7420B	g models:	
GL 7430 GL 7430R Packing List This package contains the following items. ComColor 68A Series Set 1. ComColor 68A series	Control Card Kit (Seperately packaged) 1. Control Card1 pc. 2. Emblem	
3. Bottom Cover L1 pc.4. Bottom Cover R1 pc.5. Screws1 set6. Belt Platen Cleaning Stick1 pc.7. Drainage Tank Cap1 pc.8. Image Sample1 set9. Paper Size Label3 sheets10. Paper Guide Label1 sheet11. Energy Star Label1 sheet12. Stability ASSY1 pc.13. Function Label1 sheet14. Wireclamper3 pcs.15. AC Inlet Warning Label1 sheet17. Manual Case1 pc.18. Stepped screw2 pcs.19. Instllation Procedure (This document)1 copy20. Printer Driver DVD-ROM1 pc.	Face Down Tray G10 (Separately packaged)1. Face Down Tray Assy	
21. End User License Agreement1 copy22. Quick Guide1 copy23. User'sGuide1 copy24. Troubleshooting Guide1 copy25. Administrator'sGuide1 copy26. Declaration of Conformity (For EU only)1 sheet27. FCC Declaration of Conformity1 sheet28. Earth Plate(GD) *1	 *1: This item is used when connecting the Scanner. When installing the printer and options at the same time, check out options' Installation Procedure Manual before starting the installation. This package may contain parts which are not required for this installation. Some parts may be required from another package. 	







Do not pull out the Front Tray until the completion of the procedure in step 11.

- 1. Remove the tapes on the printer.
- 2. Remove the Right Top Cover and Left Top Cover. (5 screws)
- 3. Remove the Lower Right Side Cover. (2 screws)
- 4. Open the Front Door.
 - Note: If the Front Door is locked, insert a metal ruler into the gap between the Front Door and move it up to unlock.
- 5. Place the Control Card.
 - Note: Face the logo side upward and attach in the direction of the arrow.

- 6. Remove the Middle Inner Cover. (6 screws)
- 7. Remove the Lower Inner Cover. (2 screws)







Important: Do not remove the screw at (A).

- 9. Push the Bracket toward the rear.
- 10. Remove the screws on the upper side(2) of the Bracket. (4 screws)

Note: Two of the removed screws will be used in step 13.

11. Remove the Bracket.

Note: Push the lower side all the way in to remove it.

- 12. Remove the two Fixed Shaft from part (A) of the Belt Platen Unit.
- 13. Attach the two Fixed Shaft to part (B) of the frame. (2 screws)
 - Note: Reuse the screws removed in step 10.
 - Fit the rear side of the Fixed Shaf to meet the D hole on the rear frame.
- 14. Rotate the shaft of part (A) counterclockwise to lower the Belt Platen Unit.
 - Note: Use a nut driver (5.5 mm/ 0.2 inch) to rotate while pressing the shaft.
 - Lower until there is a gap of abou 80 mm/ 3.2 inch at the upper part of the Ink Pan.
- 15. Remove the securing screw and the rubber ring at the tag (1).
- 16. Remove the securing screw at the tag (2).
 - Note: The securing screw will be reused in step 19.







- 17. Push in the Head Holder Bracket toward the rear side. (Arrow (1))
- While pushing in the Head Holder Bracket, rotate it counterclockwise by 90 degrees. (Arrow (2)) Note: If the rotation is heavy, check the pushing adjustment in step 17.
- 19. Secure the Head Holder Bracket with the securing screw.

Note: Reuse the screws removed in stap 16.

- 20. Rotate the Resist Roller 2 to 3 times in the direction of the arrow.
- 21. Lift up the Ink Pan and remove the Shock Absorbing Sheet.
 - Note: When removing the Shock Absorbing Sheet, be careful not to touch the ink head and the KG roller.
- 22. Remove the Shock Absorbing Block at left of the Ink Pan.
- 23. Remove the Tape on the Belt Platen Unit.
- 24. Attach the Bottom Cover L. (IT3C M3 x 10: 1 pc.)





25. Attach the Bottom Cover R. (IT3C M3 x 10: 1 pc.)

Important: When securing the screw, pull out the Front Tray.

- 26. Replace the Lower Inner Cover. (2 screws)
- 27. Replace the Middle Inner Cover. (6 screws)
- 28. Remove the two Shock Absorbing Blocks on the Drainage Tank.



When installing the Face Down Finisher (option), steps 29 to 35 are not required.

- 29. Attach the Face Down Bracket; F. (Double-washered screw M4x8: 2 pcs.)
- 30. Attach the Face Down Bracket; R. (Double-washered screw M4x8: 2 pcs.)

- 31. Insert the Face Down Tray Assy into the Face Down Bracket; F and Face Down Bracket; R while sliding it, and connect the wire harness to the connector.
 - Important: Be sure to lead the wire harness of the Face Down Tray Assy through the Cutout part on the back side of the Face Down Tray Assy.
- 32. Secure the Face Down Tray Assy to the Face Down Brackets.(Binding screw M4x6: 2 pcs.)
- 33. Insert the Face Down Sub Fence; F into the Face Down Fence; F.

Note: Align the three Claws with the Face Down Fence; F.

- 34. Insert the Face Down Sub Fence; R into the Face Down Fence; R.
 - Note: Align the three Claws with the Face Down Fence; R.
- 35. Insert the Paper Support Tray into the Face Down Tray Assy.
 - Note: Align the two Claws with the Face Down Tray Assy.

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- 36. Remove the Rear Cover of the Panel Unit. (3 screws)
- Loosen the four binding screws of the Free stop hinges.
- Temporarily fasten the Panel Unit to the frame. (Double-washered screw M3x8, 4 pcs.)
- 39. Swing the Panel Unit to align the axial center of the free stop hinges, and then tighten the 8 screws.

- 40. Connect the HDMI cable.
- 41. Attach the USB Securing plate. (Double-washered screw M3x6, 2 pcs.)

Note: Push in the direction of the arrow to secure it.

- 42. Secure the HDMI cable and the cable of the USB Securing plate with the three wireclampers.
- 43. Replace the Rear Cover of the Panel Unit. (3 screws)
- 44. Insert the Reuse band of the panel unit interface cable into part A of the frame.
- 45. Connect the Relay cable of the printer to the Interface cable.
- 46. Set the Ink Cartridges.
 - Important: Remove the bottle caps first before setting the Ink Cartridges.
 - Place each color of the Ink Cartridge to the indicated places as shown in the illustration.
- 47. Close the Front Door.
- 48. Replace the Right Top Cover and Left Top Cover. (5 screws)

Note: Make sure that the wire harness does not get caught.

49. Replace the Lower Right Side Cover. (2 screws)



50. Put the Paper Guide Label on the Front Tray.

Important: Clean up the attaching area with alcohol beforehand.

Note: Ask users whether the Paper Guide Labels are required to be put on the trays.

51. Put the Paper Size Label on the Front Tray.

Important: Clean up the attaching area with alcohol beforehand.

Note: Ask users which paper size they use and put labels.



Paper Size Label

If either the Multifunction Finisher, High Capacity Stacker, Perfect Binder, or Wrapping Envelope Finisher is installed, skip to step 54.

- 52. Attach the two stepped screws.
 - Note: Ask the users if they need the Manual Case before you attach the screws.
- 53. Catch the Manual Case on the stepped screws.





- 54. Affix the Panel Sheet (English) to the Panel Unit.
 - Note: Ask users if they need the Panel Sheet (English) or not.

- 55. Secure adjuster (1) by lowering it until the casters on both sides are off the floor.
- 56. Secure adjusters (2) and (3) by lowering them until they contact the floor.
 - Note: Secure adjusters (2) and (3) so that they lightly touch the floor.



- 57. Remove the screw on part (A) and attach the Stability ASSY with the Binding screw.
 - Note: Insert the Stability ASSY under the printer at a slant before aligning the screw holes.
 - Press the Stability ASSY upward so that part (B) pushes against the bottom plate of the printer.







58. Affix the Emblem to the front door.

Important: Clean up the attaching area with alcohol beforehand.

59. Affix the AC Inlet Warning Label.

Important: Clean up the attaching area with alcohol beforehand.

Note: Affix the label that conforms to your language. When a corresponding language does not exist, affix the label written in English.

- 60. Plug in the Power Cord.
- 61. Turn on the printer, follow the introduction wizard, and input the required items.
 - Note: Before, during or after the installation wizard, initial ink filling starts. (About 8 minutes)
- 62. Start up the test mode, input "093068" using the print quantity keys, and then press the Start key.

Note: The ink circulation operation starts. (About 10 minutes)

63. Check the operation and the print quality, then adjust settings.

Note: Refer to the technical manual for details.

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<<Transport fixing screw for Ink tower unit>>

Please remove the securing screw (Transport fixing screw) on the lower right of Ink tower bracket when you open the Ink tower.

Black colored tape (T_SHEET) is attached at the screw position as the figure below. Note:

This screw is just for prevent the tower from vibration during transportation and it is not related with machine movement.

So, you do not need to put it back again on the bracket after closing the Ink tower.



[1-25]

RISO Scanner HS7000 Installation Procedure

⚠️Installation has to be done by an authorized technical expert. Please read "TECHNICAL MANUAL" of the applicable model about work precautions.		
Applicable Models	Packing List	
This document describes procedures for the following model: 62A series 63A series 67A series 68A series "62A series," "63A series," "67A series" and "68A series" are the model names of "ComColor."	This package contains the following items:Scanner Unit Set1. SCANNER HS70001 unit2. USB cable1 pc.3. Label sheet1 set4. Maximum loading capacity labels1 set5. Installation guide (this manual)1 copy6. FCC Declaration of Conformity1 copy7. Declaration of Conformity1 copy8. Safety Information1 copy	
When installing the Scanner Stand, the SCANNER STAND FG10 Set is required separately.	Use the following parts from the items packed with the SCANNER STAND FG10. 1. Earth plate (L)	
When you install the printer and this option at the same time, check printer's Installation Procedure Manual before starting the installation. This package may contain parts which are not required for this installation. Some parts may be required from another package.	 When connecting with the ComColor GL Series, use the following parts. (Included with the ComColor GL Series unit.) 1. Earth plate (GD/GL)	

<<For the ComColor GL Series>>







- 1. Affix the Gasket (L) to the outer side of the Earth plate (GD/GL).
 - Note: Clean with alcohol before affixing the Gasket.• Align with the edge of the metal plate and then affix.
- 2. Affix the Gasket (GD/GL) to the inner side of the Earth plate (GD/GL).
 - Note: Clean with alcohol before affixing the Gasket.
 - Align with the edge of the metal plate and then affix.
- 3. Attach the Earth plate (GD/GL) to the rear side of the Printer right side. (Double-washered screw M4x20 included with GL, 4pcs.)

4. Affix the Gasket (L) to the inner side of the Scanner Stand.

Note: • Clean with alcohol before affixing the Gasket.

- Align with the edge of the Scanner Stand right edge and then affix.
- Align the height with the Earth plate (GD/GL).

Proceed to step 2 in <<ComColor FT / GL Series Common Procedures>> on Page 1-27.

<<ComColor FT / GL Series Common Procedures>>





- 1. Affix the Gasket (S) to the metal plate of the Scanner Stand.
 - Note: Align the edges indicated by the dotted lines in the illustration on the left.

- 2. Mount the Scanner on the Scanner Stand.
 - Important: Adjust the position of the Scanner to fit the Stopper A to the dents on the bottom of the Scanner and to touch the Stopper B by the rear side of the Scanner.



- 3. Remove the Cover lock carriage with a screw from the side panel of the Scanner.
- 4. Slide the Lock lever to the rear side, and then lock is canceled. Replace the Cover lock carriage with a screw.

5. Stick the Maximum loading capacity label.



Maximum loading capacity label

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6. Remove the Shock absorber of the ADF unit.







Stick the AF glass cleaning labels (2 pcs.).
 Note: Stick the label installation for your country.

- 8. Set the Scanner Stand to the Printer.
- 9. Connect the Power cord to the Scanner, and then the Power cord to the outlet.
- 10. Connect the Scanner and the Printer with the USB cable.
- 11. Lead the USB cable with six Wire saddles as shown in the illustration on the left.
- 12. Secure the Power cord with eight Wire saddles as shown in the illustration on the left.



- 13. Secure the Scanner Stand to the Printer (Right side). (Knurled screw, 2 pcs.)
- 14. Secure the Bracket to the Scanner Stand under the Printer. (2 screws)
 - Note: The Bracket is attached to the Scanner Stand in direction as shown in the illustration. The upper part of the bracket should fit to the slit on the bottom of the Printer. Push up the Bracket to meet the screw holes behind.
- 15. Turn on the Printer.
- 16. Enter test mode, input "216001" using the print quantity keys, and then press the Start key.
- 17. Set "1" on the "Scanner connection settings" screen using the print quantity keys.
- 18. Input "216002" using the print quantity keys, and then press the Start key.
- 19. Set "0" on the "Scanner lock settings" screen using the print quantity keys to release the Scanner lock.
- 20. Input "213006" using the print quantity keys, and then press the Start key. (The carriage position is initialized.)
- 21. Exit test mode, scan the test chart, and confirm that it works.

Important: Do not use a surface-processed test chart (such as No.14 or 15) with the ADF. Doing so may separate the reverse side of the original.

22. Enter test mode, input "213010" using the print quantity keys, and then press the Start key. (The scanner input value is stored.)

Installation is completed.

The height of the ADF unit, the skew, and the scanning position are adjusted upon shipment from the factory.

If there is a problem with the image in step 21, proceed to the adjustment procedure on page 1-31.
ADF Unit Height Adjustment

Unsuitable ADF unit height can cause original feed trouble and undesirable print results.



- 1. Start up the test mode of the printer.
- 2. Input the test code "212001" to turn on the CCD light of the Scanner Unit.
- 3. While the ADF unit is closed, check the space between the bosses of the ADF unit and the scanner table from Window A and Window B.
 - Rear side (Window A) ... 0.2 mm or less
 - Front side (Window B) .. 0.5 mm or less

Note: Insert a Mylar sheet to check the height.

Important: Do not let the Mylar sheet get caught in Part C.

- If the rear side is lowered, rotate the Height adjustment screw clockwise.
- If the rear side is raised, rotate the Height adjustment screw counterclockwise.
 Image: Constraint of the screw counterclockwise o

4. If the space is large, rotate the Adjustment screw of the ADF unit, and adjust as follows.

Important: When adjusting the rear side, the height of the front side is automatically determined.

5. Quit the test mode to turn off the CCD light.

ADF Unit Skew Adjustment

Compare the print result that the original is read by using ADF unit and the print result that is not using the ADF unit. When there are any differences between them (ex. the position gap, expansion and contraction, and inclination etc.), the adjustment below is needed.

1. Back side skew adjustment



- 1) Move the screw that is securing the Adjustment plate.
- 2) Slide the Adjustment plate to finely adjust the position.



If the image is slanted like the illustration on the left, move the Adjustment plate in the (A) direction.



If the image is slanted like the illustration on the left, move the Adjustment plate in the B direction.

Bottom Top

3) Print and check the image.

Repeat steps 1) to 3) above to adjust until you obtain a proper image.

ADF fixing screw

2. Front side skew adjustment

- 1) Loosen the ADF fixing screw.
- 2) Finely adjust by rotating the Adjustment screw on the rear side of the hinge.



If the image is slanted like the illustration on the left, rotate the Adjustment screw in the (A) direction.





If the image is slanted like the illustration on the left, rotate the Adjustment screw in the B direction.

Bottom Top

Important: When rotating in the B direction, gently push the ADF unit to the rear side.

3) Print and check the image.

4) Tighten the ADF fixing screw. Repeat steps 1) to 4) above to adjust until you obtain a proper image.

3. Adjustment of scanning position (Compensation for printing position in horizontal direction)

 The printed image scanned on the Stage glass



 The printed image scanned on the ADF unit



- 1) Start up the test mode of the printer and input the test code "216031", and press the Start key.
- 2) Input a required value with print quantity keys to compensate the horizontal scanning position.

The position is shifted 0.04mm per one step.

Setting range is from 81 to 175.(You can shift the scanning start position \pm 2.0mm.)

Reference value is 128. (ex. To shift the scanning position to the left by 1mm, input "152".)

- 3) Press the Start key to confirm the input value, and press the Stop key to quit the test mode.
- 4) Check if the horizontal printing position is the same as when the original is scanned on the Stage glass.

Repeat the procedure in the above steps 1) to 4) until obtaining an identical horizontal print position.

4. Adjustment of scanning start position (Compensation for printing position in vertical direction)



Front side

- 1) Start up the test mode of the printer and input the test code "216032", and press the Start key.
- 2) Input a required value with print quantity keys to compensate the vertical scanning start position. The position is shifted 0.1mm per one step. Setting range is from -40 to 40. Reference value is 0. You can shift the scanning start position ± 4.0mm.
 (av. To shift the scanning start position by 1mm.

(ex. To shift the scanning start position by 1mm upward, input "10".)

- 3) Press the Start key to confirm the input value, and press the Stop key to quit the test mode.
- 4) Check if the vertical print position is the same as when the original is scanned on the Stage glass.Repeat the procedure in the above steps 1) to 4) until obtaining an identical vertical print position.

Back side

- 1) Start up the test mode of the printer and input the test code "216033", and press the Start key.
- Input a required value with print quantity keys to compensate the vertical scanning start position. The position is shifted 0.1mm per one step. Setting range is from -40 to 40. Reference value is 0. You can shift the scanning start position ± 4.0mm.

(ex. To shift the scanning start position by 1mm upward, input "10".)

- 3) Press the Start key to confirm the input value, and press the Stop key to quit the test mode.
- 4) Check if the vertical print position is the same as when the original is scanned on the Stage glass.Repeat the procedure in the above steps 1) to 4) until obtaining an identical vertical print position.

[1-35]

FACE DOWN FINISHER G10 Installation Procedure

Applicable Models This document describes procedures for the following model: 63A series and 68A series 63A series and 68A series 1 pc 7 5 FDOS Bracket; RL 1 pc 9 Front Cover Sponge 1 pc 9 Reversal Guide 1 pc 9 Reversal Guide 1 pc 10 FDO Stapler Tray 1 pc 11 Screws 1 pc 12 Jam Release Label 1 pc 13 Jam Release Dial Label 1 pc 14 AC Inlet Warning Label 1 pc 15 Installation Procedure(this document) <



- 1. Turn off the printer and unplug the power cord.
- 2. Open the Paper Feed Tray.
- 3. Remove the two Top Covers. (Right: 3 screws, Left: 2 screws)
- 4. Remove the Left Side Cover; rear. (4 screws)
- 5. Cut off the illustrated parts from the Left Side Cover; rear.
- 6. Remove the Rear Cover. (5 screws)









- 7. Remove the two Connectors of the Fence Unit.
- 8. Remove the ground wire on the Fence Unit. (1 screw)
- 9. Remove the Fence Unit. (2 screws)
- 10. Remove two Fence Unit Brackets. (1 screw each)

- Secure the FDOS Bracket; F. (Double-washered screw M4x10, 3 pcs.)
- 12. Secure the FDOS Bracket; RL. (Double-washered screw M4x10, 2 pcs.)

 Secure the FDOS Bracket; RU. (Double-washered screw M4x10, 3 pcs.)





Rear Cover

14. Affix the Front Cover Sponge.

Important: Clean with alcohol before affixing the Front Cover Sponge.

- 15. Open the Engine Board Mount. (4 screws)
- 16. Connect the FDOS External Wire Harness to CN5 of the Engine Board.
- 17. Lead the FDOS External Wire Harness through the Square bush and secure it with three Wire saddles and the Edge saddle.
- Close the Engine Board Mount. (4 screws)

- 19. Replace the Rear cover. (5 screws)
- 20. Replace the Left Side Cover; rear. (4 screws)



How to retrieve the output tray from packaging materials, please refer to the Unpacking Notice Sheet.

- 21. Set the FDO Stapler Assy on the FDOS Bracket; F and FDOS Bracket; RL. (Arrow①)
 - Important: Be sure to work with two people.
 - Place in accordance with the hole portion of the FDO Stapler Assy to the claw portion of the FDOS Bracket; F.
- 22. Slide the FDO Stapler Assy into the printer. (Arrow(2))
- 23. Secure the FDO Stapler Assy. (Double-washered screw M4x10, 2 pcs.)
- 24. Remove the Bracket; upper. (2 screws)



25. Remove the Rear Sub Cover. (1 screw)

Note: Pull up the cover, and remove the hook.

- 26. Remove the Rear Cover. (4 screws)
- 27. Secure the Cover; Rear Frame. (Binding screw M4x8, 2 pcs.)

28. Connect the FDOS External Wire Harness to the Connector of the FDO Stapler Assy.





- 29. Attach the sponge to the Top Cover; Left.
 - Note: Align the bottom edges, press toward the rear side, and affix.

- 30. Replace the Top Cover; Left. (2 screws)
- 31. Replace the Top Cover; Right. (3 screws)

- 32. Replace the Rear Cover. (4 screws)
- 33. Replace the Rear Sub Cover. (1 screw)Note : Fitted to suit the hook.
- 34. Replace the Front Cover. (4 screws)







- 35. Mount the Reversal Guide.
 - Note: To be mounted to suit the boss and insert the hook.

- 36. Shift the tray base to the front side.
- 37. Place the FDO Stapler Tray align the shape of the Slide wall and secure it. (Binding screw M4x8, 2 pcs.)

- Plug in the Power cord to the FDOS Tray Assy.
- 39. Secure the Power cord with a Wire saddle.
- 40. Put the AC Inlet Warning Label.
 - Note: Put the label that conforms to your language.When a corresponding language does not exist,put the label written in English.



- 41. Affix the Jam Release Dial Label at the position illustrated on the left.
- 42. Replace the Jam Release Label at the position illustrated on the left.

Paper Ejection Attachment G10 Installation Procedure

▲Installation has to be done by an authorized technical expert. Please read "TECHNICAL MANUAL" of the applicable model about work precautions.	
Applicable Models	Packing List
For details, refer to "The Table of Applicable Printers."	This package contains the following items.1. Paper Ejection Attachment
Stacking Tray). Be sure to check another option's Installation Procedure Manual and the Packing List before you start the installation.	15. Installation Procedure Manual (This document)1 copy16. Declaration of Conformity (for EU Only)1 copy





- 1. Remove the Right Front Door. (1 clip)
- Remove the three Inner Covers. (Middle Inner Cover: 6 screws, Top Inner Cover: 3 screws, Right Inner Cover: 4 screws)
 - Note: Remove in the order of Middle Inner Cover, Top Inner Cover, and then Right Inner Cover.
- 3. Remove the Right Side Cover Rear. (4 screws)







- 4. Remove the Rear Cover and Left Side Cover Rear. (Rear Cover: 5 screws)
 - Note: Remove the Rear Cover and Left Side Cover Rear together.

 Remove the Right Side Cover; Middle and Right Side Cover; Lower. (Right Side Cover; Middle: 2 screws, Right Side Cover; Lower: 2 screws)

 Remove the screws of the Control PCB Unit and open it. (4 screws)







7. Pull out the Exhaust Duct. (2 screws)

Note: Be careful of the top Claw.

- 8. Remove the FU Plate. (4 screws)
 - Note: Screws are found inside the front and rear side, and on the right side board.

- 9. Remove the Upper Carrier Guide; L. (2 screws)
 - Note: The two screws will be used in step 10.



- Front side 3 Adapter Plate Assy.; F 0 HIGHLICHU The C 00
- Rear side ø G 0 G 5 Adapter Plate Assy.; R

- 10. Attach the Upper Carrier Plate. (Use the 2 screws removed in step 9)
 - Note: Insert the Hooks into the Holes and align the Positioning boss.

11. Attach the Adapter Plate Assy.; F (Shorter shaft). (Double-washered screw M4 x 8, 2 pcs.)

12. Attach the Adapter Plate Assy.; R (Longer shaft). (Double-washered screw M4 x 8, 2 pcs.)



- 13 Attach the Upper Transfer Plate; A to the Paper Ejection Attachment. (Ering, 1 pc.)
 - Important: Insert the Upper Transfer Plate; A to the longer shaft first, then set it in the shorter shaft.
- 14. Attach the reuse band (1) to the metal plate.
- Lead the wire harness of the Upper Transfer Plate; A as illustrated on the left.

- 16. Attach the reuse band (2) to the metal plate.
- 17. Plug the connector of the wire harness into the relay connector.

 Attach the Gear Shield Plate. (Double-washered screw M3 x 8, 1 pc.)

Note: Route the wire harness around the outside of the metal plate.

19. Attach the Paper Ejection Attachment. (Double-washered screw M4 x 8, 4 pcs.)



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21. Open the wire saddles (3 pcs.) indicated in the illustration and release the wire harnesses (4 pcs.).

- 22. Put the Motor shaft into the hole on the Paper Ejection Attachment and attach the Middle Belt Motor Unit. (Double-washered screw M4 x 6, 3 pcs.)
 - Important: Be sure to use M4x6 screws. If longer screws (M4x8) are used, they may cause the machine to fail.

- 23. Affix the Clamp at the position illustrated on the left.
 - Note: Horizontal position: Align with the edge of the round hole.
 - Vertical position: Align with the bottom edge.



- 24. Connect the wire harness connectors on the right side to CN1 and CN2 on the Middle Belt Motor Unit, and then bundle the wire harnesses with the clamp.
- 25. Connect the wire harness connectors on the left side to the Joint Connectors (2 pcs.) of the Paper Ejection Attachement secured in step 16.
- 26. Close the wire saddles (3 pcs.).
 - Important: Be sure that the ink drain tube is lead through the wire saddles.
 - Be sure that the part indicated by red arrow on the illustration is stretched tightly.

- When installing the Wrapping Envelope Finisher, steps 27 to 30 are not required. Skip to step 31.
- When installing the Multifunction Finisher, proceed to steps 27 and 28.
- When installing other finishing accessories, skip to step 29.

= When installing the Multifunction Finisher FG20 =





- 27. Attach the Bracket; Front and Bracket; Rear to the printer.
 (Double-washered screw M4x8, 2 pcs. (for Bracket; Front) / 3 pcs. (for Bracket; Rear))
 - Important: The said brackets are not included in this package. They are provided along with the Multifunction Finisher FG20 packages.

28. Attach the Closure Cover Plate to the printer. (Binding screw M4x8, 2 pcs.)

Proceed to step 31.

= When installing other finishing accessories than the Multifunction Finisher FG20 and Wrapping Envelope Finisher =



- 29. Attach the brackets corresponding to the to-be-installed finishing accessory to the printer. (Front side / Rear side, 2 screws each)
 - Auto-Control Stacking Tray: Double-washered screw M4x10
 - Wide Stacking Tray: Double-washered screw M4x10

High Capacity Stacker: Double-washered screw M4x8

- Perfect Binder: Double-washered screw M4x8
- Important: The said brackets are not included in this package. They are provided along with the respective finishing accessories' packages.
- Bracket Bracket Closure Cover Plate
- 30. Attach the Closure Cover Plate to the printer.(Binding screw M4x8, 2 pcs.)

Proceed to step 31.

- - = When installing any finishing accessory (common steps) =





 Replace the Right Side Cover Lower. (2 screws)

32. Cut off the parts of the Right Inner Cover as shown in the illustration to the left.



Jam Release Dial

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- 33. Replace three Inner Covers. (13 screws)
- 34. Replace the Right Front Door. (1 clip)
- 35. Affix the Jam Release Label; FU to the Right Front Door.
 - Note: Avoid affixing to the ejector pin marks.
- 36. Attach the Jam Release Dial. (Double-washered screw M3x8, 1 pc.)
- 37. Affix the Jam Release Dial Label; FUP to the Jam Release Dial.



Jam Release Dial Label; FUP

38. Attach Jam Release Handle A. (Double-washered screw M3x8, 1 pc.)



When installing the Multifunction Finisher, High Capacity Stacker, Perfect Binder or Wrapping Envelope Finisher, take the steps 39 and 40.

- 39. Remove the Top Cover; Right and Top Cover; Left. (Top Cover; Right: 3 screws, Top Cover; Left: 2 screws)
- 40. Remove the screws on the Engine PCB Bracket and open the bracket. (4 screws)

Only when installing the Wide Stacking Tray, take the following steps. Otherwise, proceed to the installation procedures of the corresponding finishing accessory.

- 41. Replace the Exhaust Duct. (2 screws)
- 42. Return the Control PCB Unit to its original position and secure it with screws.(4 screws)
- 43. Replace the Right Side Cover Rear, Rear Cover and Left Side Cover Rear. (Right Side Cover Rear: 4 screws, Rear Cover: 5 screws)

Engine PCB Bracket

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OPTION PCB FG10 Installation Procedure

 $\underline{\Lambda}$ Installation has to be done by an authorized technical expert.

Please read "TECHNICAL MANUAL" of the applicable model about work precautions.

Applicable Models

For details, refer to "The Table of Applicable Printers".

When installing the printer and this option at the same time, check printer's Setting Procedure Manual before starting the installation. This package may contain parts which are not required for this installation. Some parts may be required from another package.

Packing List

This package contains the following items.

- 1. PLATE;OPTION PCB U.....1 pc.
- 2. PLATE;OPTION PCB L 1 pc.
- 3. PCB; XF-OPTION......1 pc.
- 4. WIRE;OPTION RELAY.....1 pc.
- 5. Screws 1 set.
- 6. Setting Procedure Manual (this document) .. 1 copy
- 7. Declaration of Conformity (for EU only) ... 1 copy





- 1. Turn off the printer and unplug the power cord.
- 2. Remove the Rear Covers of the printer.
- Secure the PLATE;OPTION PCB U. (Double-washered screw M3x6 2 pcs.)
- 4. Secure the PLATE;OPTION PCB L. (Double-washered screw M3x6 2 pcs.)

5. Secure the PCB; XF-OPTION. (Binding screw M3x6 4 pcs.)



- 6. Plug the connector of the Power cable in CN9 on the PCB; XF-OPTION.
- Plug the connector of the WIRE; OPTION RELAY in CN4 on the PCB; XF-ENGINE.
- Plug the connector of the WIRE; OPTION RELAY in CN6 on the PCB; XF-OPTION.

Proceed to another option's installation procedures.

[1-58]

ADDITIONAL 2000 SHEET FEEDER FG20 Installation Procedure

Installation must be performed by an authorized technical expert. For work precautions, refer to the "TECHNICAL MANUAL" of the applicable model.

Applicable Models

This document describes procedures for the following models:

67A Series FT5430, FT5430R, FT5230, FT5230R, FT2430, FT1430, FT1430R
68A series GL9730, GL9730R,

GL7430, GL7430R

"67A Series" and "68A Series" are the model names of "ComColor."

Install the ADDITIONAL 2000 SHEET FEEDER FG20 after installing the printer.

Packing List

This package contains the following items.

1. ADDITIONAL 2000 SHEET FEEDER FG20... 1 unit 2. Middle Transfer Guide Plate Assy......1 pc. 3. Middle Transfer Cover.....1 pc. 4. Screw (Round tip IT3C 3×10).....1 pc. 5. Screw (Cap screw double-washered M4×8)...2 pcs. 6. Screw (Binding M3×6)2 pcs. 7. I/F Communication Wire Harness......1 pc. 9. Lever H (Blue) Label 1 sheet 10. Paper Size Label...... 1 sheet 11. SwitchCover *.....1 pc. 12. Ferrite core *1 pc. 13. EarthPlate *1 pc. 15. Unpacking Caution Sheet 1 sheet 16. Installation Procedure Guide (This document)...1 copy 17. CE Declaration of Conformity.....1 copy 18. Specified Substances List 1 sheet 19. Conformity Certificate 1 sheet * The items are used only for 68A (GL) Series.

For 68A (GL) Series >





- 1. Turn off the printer and unplug the power cord.
- Remove the Exterior Cover. (Round tip IT3C 3×10: 5 pcs.) Note: If the Stability Assy is attached, remove it. The Stability Assy will not be reused.

- 3. Remove the Left Side Cover; Rear. (Round tip IT3C 3×10: 4 pcs.)
- 4. Cut out the notch on the Left Side Cover; Rear.





- 5. Open the Engine PCB Unit. (Round tip IT3C 3×8: 4 pcs.)
- 6. Open the Power Supply Unit. (Round tip IT3C 3×8: 4 pcs.)

- 7. Pull in the I/F Communication Wire Harness from the rectangle hole on the Printer rear board.
 - Note: Attach so that the Relay connector side is on the outer side of the rear board as shown in the illustration.
- 8. Attach the Relay connector to the Printer rear board. (Binding screw M3 x 6: 2 pcs.)





9. Use the eleven Wire Saddles to secure the I/F Communication Wire Harness on the Printer rear board, and lead it through the Square bush on the BRACKET; ENGINE PCB.

- 10. Attach the Ferrite core to the I/F Communication Wire Harness pulled out to the board side.
 - Note: Secure the Ferrite core by bundling the three wire harnesses.



- 11. Secure the Power Lines of the I/F Communication Wire Harness to the wire saddles [1] and [2]. (2 positions)
- 12. Attach the Power Lines of the I/F Communication Wire Harness to CN37 on the Engine PCB.
- 13. Attach the Signal Lines of the I/F Communication Wire Harness to CN6 on the Engine PCB.
- 14. Pull out the Connector from CN24 on the Engine PCB. (fig. [A])
- Insert the pulled-out Connector to the Relay Connector of the I/F Communication Wire Harness. (fig. [B])
- 16. Secure the Signal Lines to the wire saddle [1]. (1 position)
- 17. Attach the IF Connector of the I/F Communication Wire Harness to CN24 on the Engine PCB. (The red frame area shown in the illustration.)
- 18. Attach the Power Supply Unit. (Round tip IT3C 3×8: 4 pcs.)
- 19. Attach the Engine PCB Unit. (Round tip IT3C 3×8: 4 pcs.)
- 20. Attach the Left Side Cover; Rear. (Round tip IT3C 3×10: 3 pcs.)
- 21. Attach the Exterior Cover. (Round tip IT3C 3×10: 7 pcs.) Note: For the position where the Stability Assy was removed, use the included screw (Round tip IT3C 3×10).





22. Open the Internal Paper Feed Transfer Exterior Cover Assy.

- 23. Remove the Internal Paper Feed Transfer Exterior Cover Assy. (Binding P-Tight 4×10: 4 pcs.)
 - Important: Do not remove the Left Side Cover; Lower until step 40. The movable cover may get damaged.
 - The two removed screws will be used in step 37. The remaining two will not be used.





- 24. Remove the Movable Cover from the Internal Paper Feed Transfer Exterior Cover Assy.
- 25. Remove the Detection board from the Internal Paper Feed Transfer Exterior Cover. (Stepped P-Tight M3: 2 pcs.)
- 26. Attach the Detection board to the Middle Transfer Cover. (Stepped P-Tight M3: 2 pcs.)
 Important: Check that the Detection board moves left and right.

27. Attach the Movable Cover to the Middle Transfer Cover.







- 29. Remove the spring from the Tray Lower Guide Plate; Driven Assy.
- Remove the Jam Release Shaft Assy.
 Note: Align the D cut with pulling out direction.
- 31. Attach the Jam Release Shaft Assy to the Middle Transfer Guide Plate Assy.
- 32. Attach the spring.





Lever Middle Transfer Cover Assy 33. Attach the Middle Transfer Guide Plate Assy to the Tray Lower Driven Guide Plate.

(Binding P-Tight 4×10: 2 pcs.)

Important: Check that the bosses are not overlapped, and that there are no gaps.

- 34. Lead the lever through the Middle Transfer Cover Assy.
 - Note: While raising the lever, lead it through the Middle Transfer Cover Assy.

35. Attach the hook on the Middle Transfer Cover Assy to the Middle Transfer Guide Plate Assy. (2 positions)

Note: Perform this while raising the Movable Cover.
RISO SQUARE WEB VERSION [1-67]



36. Open the Middle Transfer Cover Assy.

Note: Hold the Middle Transfer Cover Assy when opening it so that it does not fall down.

37. Fasten the Middle Transfer Cover Assy

(Binding P-Tight 4×10: 2 pcs.)

Important: • Fasten the rear side

(round hole) before the front side (slotted hole).

 Use the two screws removed in step 23.

- 38. Close the Middle Transfer Cover Assy.
- 39. Affix the Lever H (Blue) Label over the Lever H Label.
- 40. Remove the Left Side Cover; Lower. (Round tip IT3C 3×10: 2 pcs.) Note: It will not be reused. Important: Check that the printer adjusters are secured in place.
- 41. Remove the screw as shown in the illustration. (1 pc.) Note: The removed screw will be used in



- 42. Attach the Switch Cover.
 - Note: \cdot Use the screw removed in step 41.
 - Insert the top of the Switch Cover under the sheet metal.

43. Affix the Gasket to the Switch Cover.

Important: Clean the area with alcohol before affixing.

Note: Affix the Gasket along the edge of the red dotted line as shown in the illustration.



44. Remove the screw on the Guide Plate once and attach the Earth Plate together.

Note: Attach the Earth Plate in the direction of the arrow as shown in the illustration.





- 45. Lift the left side of the ADDITIONAL 2000 SHEET FEEDER FG20, and rotate the adjusters about 1 to 3 times. (2 positions)
 - Note: Horizontal adjustment will be performed in steps 59 and 60

46. Remove the stepped screws used to secure transport for the paper feed tray. (2 positions)

Important: Remove the black sheets and securing parts used to prevent failure of removal.

- 47. Remove the End Fence Transport Securing Plate. (Round tip IT3C 3×8: 3 pcs.)
 - Important: The removed screw will be used in step 49. The remaining two will not be used.





- 48. Open the Upper Cover.
- 49. Attach the End Fence Transport Securing Plate to the Paper Feed Tray Rear Cover. (Round tip IT3C 3×8: 1 pc.) Note: Use the screw removed in step 47.
- 50. Close the Upper Cover.

- 51. Attach the wire saddles to the Side Cover; Right. (2 pcs.)
 - Important: Attach the lower wire saddle along the Rib.
 - Attach the wire saddle so that its opening is on the inner side.
- 52. Lead the I/F Communication Wire Harness; EXF through the wire saddles. (2 positions)





53. Open the Middle Transfer Cover Assy.

Important: While pulling up the Movable Cover [1], open the Middle Transfer cover Assy [2].

54. While pulling up the Movable Cover, insert the Connection Base of the ADDITIONAL 2000 SHEET FEEDER FG20, and insert two positioning pins into the holes.

- 55. Fasten the Connection Base with screws at the front side ([1]) before the rear side ([2]).(Cap screw double-washered 4×8: 2 pcs.)
 - Important: Make the gap between the Connection base and the printer cover about 5 mm, and screw it down.
 - Note: Use a 3 mm hex wrench.
 - Insert a screw in the vertical slotted hole on the front side.



Power cord Power cord Developed of the second secon

- 56. Insert the I/F Communication Wire Harness; EXF into the main unit connector.
 - Important: Insert the I/F Communication Wire Harness; EXF so that it is not twisted.
 - Make sure that I/F Communication Wire Harness; EXF slack is at the outer side.
- 57. Insert the main unit power cord.
 - Important: Make sure that it does not cross over the I/F Communication Wire Harness; EXF.

- 58. Move the ADDITIONAL 2000 SHEET FEEDER FG20 closer to the printer.
 - Important: Check that the I/F Communication Wire Harness; EXF goes out from the rear side of the ADDITIONAL 2000 SHEET FEEDER FG20. If it is not going out, reconfirm steps 51, 52 and 56.



- 59. Place a level at position [1], and rotate the rear adjuster in the A or B direction to adjust the height so that the left and right are horizontal.
 - Important: Slightly lift the machine before rotating the adjuster. Take care not to get your fingers pinched.
- 60. Place a level at position [2], and rotate the front adjuster in the C or D direction to adjust the height so that the rear and front are horizontal.
 - Important: Slightly lift the machine before rotating the adjuster. Take care not to get your fingers pinched.



- 61. Confirm the paper size to be used with the user.
- 62. Remove the thumbscrews of the Side Fences, align half pierce and positioning holes with the position of the paper size, and attach the thumbscrews.
 - Note: The factory default is set to A4.
 Attach so that the Side Fence hooks go into the slits at the bottom.
- 63. Remove the thumbscrew of the End Fence, align the fence and paper size screw holes, and attach the thumbscrew.

Note: The factory default is set to A4.



- 64. Affix the Paper Size Label to the Front Cover.
 - Important: Clean the area with alcohol before affixing.



- 65. Turn on the printer.
- 66. Enter test mode, and set the paper size to be used in "356007: EXF PAPER SIZE SELECT".

Setting value	alue Paper size	
1	B5	
<u>2</u>	<u>A4</u>	
3	Letter	
4	195 x 270 mm	

(The underline indicates the default setting)

- 67. Check the paper feeding.
 - Important: To adjust the center position of the paper, follow the steps below.
 - [1]Separate the ADDITIONAL 2000 SHEET FEEDER FG20 from the printer.
 - [2] Remove the screw at the front of the Connection Base.
 - [3] Insert the screw into the horizontal slotted screw hole on the left and fasten it temporarily.
 - [4]Loosen the screw at the rear and fasten it temporarily.
 - [5] Adjust the Connection base in the front and rear directions, and then completely tighten screw at the front and then the rear.
 - [6] Move the ADDITIONAL 2000 SHEET FEEDER FG20 closer to the printer.

[1-76]

Multifunction Finisher Main Unit FG20 Installation Procedure

▲ Installation must be performed by an authorized technical expert. For work precautions, refer to the "TECHNICAL MANUAL" of the applicable

Applicable Models

This document describes procedures for the following models:

67A Series FT5430, FT5430R, FT5230, FT5230R, FT5231, FT5231R, FT5000, FT5000R, FT2430, FT1430, FT1430R 68A series GL9730, GL9730R, GL7430, GL7430R "67A Series" and "68A Series" are the model

"67A Series" and "68A Series" are the model names of "ComColor" or "闪彩印王."

The following kits (separately packaged) are required in order to install the MULTIFUNCTION FINISHER MAIN UNIT FG20.

- PAPER EJECTION ATTACHMENT F10 (separately packaged) or
- PAPER EJECTION ATTACHMENT G10 (separately packaged)

Install the PAPER EJECTION ATTACHMENT F10/G10 before performing this installation procedure.

If you will install PATLITE at the same time, attach OPTION PCB FG10 first.

If you will install the printer at the same time, check the installation procedure for the printer before working. Some parts may not need to be attached or may need to be replaced.

IF UNIT FG20 and FOLDER UNIT FG20 may tip over because they are unstable as standalone units. Take care when handling them.

Power cable kit set (Separately packaged)

- 1. Power cord (outlet)
 - If installing FOLDER UNIT FG20......2pcs.
 - If not installing FOLDER UNIT FG20.....1pc.

Packing List

This package contains the following items. 1. IF UNIT FG20 1 unit 2. Bracket; Front 1 pc. 3. Bracket; Rear 1 pc. 4. FIN-IF Connection Wire; FI 1 pc. 5. FILL GAP SPONGE $(532 \text{ mm} \times 15 \text{ mm} \times 10 \text{ mm}) \dots 1 \text{ pc}.$ 6. FILL GAP SPONGE (823 mm × 15 mm × 10 mm) 1 pc. 7. Release Lever Labels *1 1 set 9. JAM Release Spacer *1......2 pcs. 11. Cover Plate Assy *2.....1 pc. 12. Screws...... 1 set 13. Registration Form F..... 1 copy 14. Personal Information Handling Sheet...... 1 sheet 15. Installation Procedure (This document).... 1 copy 16. Unpacking/Overturning Notice Sheet...... 1 copy 17. Declaration of Conformity...... 1 copy 18. FCC Declaration of Conformity 1 sheet 19. Material Sheet (for China)......1 sheet 20. Conformity Certificate 1 sheet

MULTIFUNCTION FINISHER MAIN UNIT FG20 set (Separately packaged)

-	
1.	MULTIFUNCTION FINISHER MAIN UNIT FG201 unit
2.	Top Tray1 pc.
3.	Ground Connection Bracket
4.	Docking Plate1 pc.
5.	Booklet Tray 1 pc.
6.	Interface Wire 1 pc.
7.	FILL GAP SPONGE (535 mm × 10 mm × 8 mm)1 pc.
8.	Error Lamp Sheet1 sheet
9.	Installation Screws1 set
10.	SettingList 1 copy
11.	Registration Form F *31 copy
12.	Personal Information Handling Sheet *31 sheet
13.	Declaration of Conformity *31 copy
14.	FCC Declaration of Conformity *31 sheet
15.	Material Sheet (for China) *41 sheet
*1	The items are used only for 67A (FT) Series.
*2	The item is used only for 68A (GL) Series.
*3	Not included with Chinese and Korean models.
*4	Included with Chinese and Korean models.

[1-77]

(Option)

MULTIFUNCTION FINISHER PUNCH UNIT 2/4H
FG20 (Separately packaged)
1. PUNCH UNIT 2/4H FG201 unit
2. Dust Box 1 pc.
3. Dust Box Sensor 1 pc.
4. Screw 1 pc.
5. Packing List 1 sheet
6. Material Sheet (for China)1 sheet
7. Declaration of Conformity 1 copy
8. Registration Form F1 copy
9. Personal Information Handling Sheet 1 sheet
(Option)

MULTIFUNCTION FINISHER PUNCH UNIT 2/3H FG20 (Separately packaged)

1. PUNCH UNIT 2/3H FG20 1 uni	it
2. Dust Box 1 pc.	
3. Dust Box Sensor 1 pc.	
4. Screw 1 pc.	
5. Packing List 1 cop	ру

(Option) FOLDER UNIT FG20 set (Separately packaged)
1. FOLDER UNIT FG20 1 unit
2. Docking Plate
3. Ground Connection Bracket
4. Folder Tray Caster
5. JAM Removal Procedure Sheet 1 pc.
6. FILL GAP SPONGE
$(535 \text{ mm} \times 10 \text{ mm} \times 8 \text{ mm}) \dots 1 \text{ pc}.$
7. Error Lamp Sheet2 sheets *3 or 1 sheet *4
8. Screws1 set
9. Setting List 1 copy
10. Packing List 1 sheet
11. Registration Form F *31 copy
12. Personal Information Handling Sheet *3 1 sheet
13. Overturning Notice Sheet 1 sheet
14. Declaration of Conformity *3 1 copy
15. FCC Declaration of Conformity *3 1 sheet
16. Material Sheet (for China)*41 sheet
*3 Not included with Chinese and Korean models.
*4 Included with Chinese and Korean models.

MAIN UNIT FG20 and remove the Stopper Stopper on the Staple Unit. (2 screws) Note: The plate will not be reused. Θ Remove the Stopper on the upper left 2. of the Booklet Unit. (2 screws) Note: The plate will not be reused. 3. Loosen the screws of the Stopper at the bottom of the Booklet Unit, slide the Stopper upward, and secure it with the screws again. (2 screws) Important: Remove the caution label. Stopper 3 Stopper

<<MULTIFUNCTION FINISHER MAIN UNIT FG20 preparation procedure for installation>>

1.

Open the Front Cover of the MULTIFUNCTION FINISHER



4. Remove the Stopper on the Stack Tray. (1 screw)

Note: The plate will not be reused.

- 5. Affix the Error Lamp Sheet.
 - Important: The sheet to affix depends on whether FOLDER UNIT FG20 is connected.
 - Clean up the attaching area with alcohol beforehand.





 Attach the Top Tray. (Hex head round tip TP screw M3 × 6: 1 pc., included with MULTIFUNCTION FINISHER MAIN UNIT FG20)

- Attach the Booklet Tray. (Hex head TP screw M4 × 10: 1 pc., included with MULTIFUNCTION FINISHER MAIN UNIT FG20)
 - Note: Attach the hooks (3 positions) to the main unit.
- 8. Connect the connector under the Booklet Tray.

9. Attach the Ground Connection Brackets. (Hex head round tip TP screw M3 × 6: 1 pc. each, included with MULTIFUNCTION FINISHER MAIN UNIT FG20)



10. Affix the FILL GAP SPONGE (535 mm × 10 mm × 8 mm) to the Top Cover of MULTIFUNCTION FINISHER MAIN UNIT FG20.

Important: Clean up the attaching area with alcohol beforehand.

The procedure depends on the unit (option) that will be connected.

- To connect FOLDER UNIT FG20 (option), go to the following step.
- To connect PUNCH UNIT FG20 (option), go to page 1-85.
- If you will not connect either, go to page 1-88.



11. Attach the JAM Removal Procedure Sheet included with FOLDER UNIT FG20 to the inner side of the Front Cover of MULTIFUNCTION FINISHER MAIN UNIT FG20. (Hex head round tip TP screw M3 × 6: 3 pcs., included with FOLDER UNIT FG20)

Go to page 7.

<<FOLDER UNIT FG20 (option) preparation procedure for installation>>



Take care as FOLDER UNIT FG20 falls over easily.

1. Remove the packing material. (2 pcs.)

 Attach the Docking Plate included with MULTIFUNCTION FINISHER MAIN UNIT FG20 to FOLDER UNIT FG20. (Hex head TP screw M4 × 6: 2 pcs., included with MULTIFUNCTION

FINISHER MAIN UNIT FG20)

Note: The Docking Plate included with FOLDER UNIT FG20 is used for IF UNIT FG20.



Ground Connection Brackets Pull ou the Folder Tray and attach Casters (2 pcs.) to the Folder Tray. (Deltite screw M4 × 8: 1 pc. each, included with FOLDER UNIT FG20)

 Attach the Ground Connection Brackets. (Deltite screw M4 × 8: 1 pc. each, included with FOLDER UNIT FG20)

Note: Attach to the positions marked with "D".

[1-84]



5. Affix the FILL GAP SPONGE (535 mm \times 10 mm \times 8 mm) to the Top Cover of FOLDER UNIT FG20.

> Important: Clean up the attaching area with alcohol beforehand.

FOLDER UNIT FG20 installation is complete. The following procedures depend on the unit (option) that will be connected.

- To connect PUNCH UNIT FG20 (option), go to page 1-85.
 If you will not connect PUNCH UNIT FG20 (option), go to page 1-88.



- << PUNCH UNIT FG20 (option) installation procedure>>
 - 1. Remove the Rear Cover; Upper of MULTIFUNCTION FINISHER MAIN UNIT FG20. (4 screws)

- 2. Pull out the connector and remove the wire harness from the clamp.
- Remove the Paper Ejection Guide Assy.
 (2 screws)
 Important: The two removed screws will be used in step 7.







7. Secure PUNCH UNIT FG20. (2 screws)

Important: • Use the screws removed in step 3.

• Fasten to the yellow areas with screws.

- 8. Replace the Rear Cover; Upper of MULTIFUNCTION FINISHER MAIN UNIT FG20. (4 screws)
- 9. Attach the Dust Box Sensor and connect the Connector. (Hex head round tip TP screw M3 × 6: 1 pc, included with PUNCH UNIT FG20)



10. Set the Dust Box.

PUNCH UNIT FG20 preparation for installation is complete. Go to page 1-88.



<<IF UNIT FG20 preparation procedure for installation>>

Take care as IF UNIT FG20 falls over easily.

1. Take out IF UNIT FG20 from the packing box and set it upright.

Important: When setting IF UNIT FG20 upright, hold it at the 4 locations indicated by the arrows (metal parts).





3. Fix the FILL GAP SPONGE (532mm x 15mm x 10mm) to the Top Cover of IF Unit FG20 as shown in the figure.

Important: Clean up the attaching area with alcohol beforehand.

4. Fix the FILL GAP SPONGE (832 mm x 15mm x 10mm) to the Connecting Cover of IF Unit FG20 as shown in the figure.

Important: Clean up the attaching area with alcohol beforehand.







- 5. Affix the AC Inlet Warning Label to the position in the figure.
 - Important: Clean up the attaching area with alcohol beforehand.
 - Affix the label that conforms to your language. If the corresponding language does not exist, affix the English label.

- 6. Install the Manual case to the Rear Cover of the IF UNIT FG20. (Stepped screws: 2 pcs., included with printer)
 - Note: Confirm with the user if its installation is necessary in advance.

IF UNIT FG20 preparation for installation is complete. Go to page 1-92.



<Printer side installation procedure>

Install the PAPER EJECTION ATTACHMENT G10 in advance.

- 1. Draw in the FIN-IF Connection Wire; FI to the inside from the square hole on the main unit frame side.
- Secure the Connector. (Binding screw M3x6; 2 pcs., included with IF UNIT FG20)
- 3. Route the FIN-IF Connection Wire; FI as shown in the figure on the left. (4 wire saddles, 1 edge saddle)

 Route the FIN-IF Connection Wire; FI as shown in the figure on the left. (4 wire saddles)



) Dh Square bush

1 Hand

Ferrite core



5. Route the FIN-IF Connection Wire; FI as shown in the figure on the left. (5 wire saddles) 6. Pass the FIN-IF Connection Wire; FI through the Square bush of the Engine PCB Bracket, and draw out the harness

to the board side.

- [Without OPTION PCB] 8. CN4 FIN-IF Connection Wire; FI]] [With OPTION PCB] Square bush
- Attach the Ferrite core. 7.
 - Connect the FIN-IF Connection Wire; FI drawn out from the square bush.
 - Without OPTION PCB: Secure with 1 wire saddle, and connect to CN4 on the Engine PCB.
 - With OPTION PCB: Secure with 2 wire saddles, and connect to CN2 on the OPTION PCB.

e r

][Ferrite core

N2

FIN-IF Connection Wire; FI Ø

6



- 9. Peel off the De-electricity Brush. (This is not reused.)
- 10. Attach the Cover Plate Assy as shown in the figure at left.
 - Note: Press The Paper Ejection Wing toward both edges.
 - Important: Insert the edge of Cover Plate Assy into the bottom of Transport Guide Plate, and attach it by moving it to the right and pushing it against the Paper Ejection Wing.







Replace parts that were removed when the Paper Ejection Attachment was attached.

- 11. Replace the Exhaust Duct. (2 screws)
- 12. Replace the Engine PCB Bracket secure it with screws. (4 screws)
- 13. Replace the Control PCB Unit secure it with screws. (4 screws)
- 14. Cut off the part shown in the igure on the left from the Rear Cover.
- 15. Replace the Rear Cover. (5 screws)
- 16. Replace the Top Cover; right. (3 screws)
- 17. Replace the Top Cover; left. (2 screws)

<<IF UNIT FG20 connection procedure>>



- 1. Open the Front Cover of IF UNIT FG20.
- 2. Remove the screw of the Connection Release Lever, and pull the Connection Release Lever forward. (1 screw)

3. Connect the IF UNIT FG20 Connector to the Connecter of the printer.







- 5. Push in the Connection Release Lever handle and secure it back in place with the screw. (1 screw)
- Secure the Bracket; Front. (Double-washered M4 × 8: 1 pc., included with IF UNIT FG20)
- 7. Close the Front Cover of IF UNIT FG20.

- If connecting FOLDER UNIT FG20, go to page 1-97.
- If not connecting FOLDER UNIT FG20, go to page 1-98.

Connection Release Lever

<<FOLDER UNIT FG20 (option) connection procedure>>



1. Remove the screw securing the Connection Release Lever of FOLDER UNIT FG20. (1 screw)

- 2. Connect FOLDER UNIT FG20 to IF UNIT FG20.
 - Important: Move and connect FOLDER UNIT FG20 while pulling the Connection Release Lever of FOLDER UNIT FG20.
- 3. Secure the Connection Release Lever of FOLDER UNIT FG20 back in place.(1 screw)

Go to page 1-98.

<<Multifunction Finisher Main Unit FG20 connection procedure>>

Connection Release Lever

Tab

1. Remove the screw securing the Connection Release Lever of MULTIFUNCTION FINISHER MAIN UNIT FG20. (1 screw)

- Connect MULTIFUNCTION FINISHER MAIN UNIT FG20 to IF UNIT FG20 (or FOLDER UNIT FG20).
 Important: Move and connect MULTIFUNCTION FINISHER MAIN UNIT FG20 while pulling the Connection Release Lever of MULTIFUNCTION FINISHER MAIN UNIT FG20.
 - 3. Secure the Connection Release Lever of MULTIFUNCTION FINISHER MAIN UNIT FG20 back in place. (1 screw)
 - 4. Remove the Connector Cover of MULTIFUNCTION FINISHER MAIN UNIT FG20. (1 screw)
 - Important: Pull the cover forward while pressing the tabs.
 - If connecting FOLDER UNIT FG20, go to step 5.
 - If not connecting FOLDER UNIT FG20, go to step 11.

Connection Release Lever



• If connecting FOLDER UNIT FG20



5. Remove the connectors and attach to the position shown in the figure with a reuse band.

- Connector

 Connector

 Connector

 Connector

 Reuse band securing location
- Connect the FOLDER UNIT FG20 wires as shown in the figure. (4 connectors)
- 7. Secure the FOLDER UNIT FG20 wires at the locations shown in the figure. (2 reuse bands)



- 8. Connect the Interface Wire to MULTIFUNCTION FINISHER MAIN UNIT FG20 and IF UNIT FG20 as shown in the figure.
 - Important: Do not connect the Interface Wire to the Relay Connector of the printer. This will cause an error.
- 9. Connect the power cords to MULTIFUNCTION FINISHER MAIN UNIT FG20, FOLDER UNIT FG20, and IF UNIT FG20 as shown in the figure.
- 10. Replace the Connector Cover of MULTIFUNCTION FINISHER MAIN UNIT FG20. (1 screw)

Go to FOLDER UNIT FG20 adjustment (page 1-101).

• If not connecting FOLDER UNIT FG20



- 11. Connect the Interface Wire to MULTIFUNCTION FINISHER MAIN UNIT FG20 and IF UNIT FG20 as shown in the figure.
 - Important: Do not connect the Interface Wire to the Relay Connector of the printer. This will cause an error.
- 12. Connect the power cords to MULTIFUNCTION FINISHER MAIN UNIT FG20 and IF UNIT FG20 as shown in the figure.
- 13. Replace the Connector Cover of MULTIFUNCTION FINISHER MAIN UNIT FG20. (1 screw)

Installation is complete.

[1-101]

<<FOLDER UNIT FG20 adjustment>>

- Turn on the printer, enter test mode, change the value of TM376391 "FOLDER PARAMETER RETRIEVE" to "1", and restart the printer. (This will automatically read the fold adjustment value of FOLDER UNIT FG20 from the FOLDER UNIT FG20 board and save it to the Main Board of MULTIFUNCTION FINISHER MAIN UNIT FG20.) Important: Make sure to restart the printer.
- 2. Configure test mode as follows.

Test mode		Initial value	Setting value
046061	TM PRINT: PRINT QUANTITY SETTING	1	1
046062	TM PRINT: OUTPUT DESTINATION	1	0
046063	TM PRINT: DUPLEX/SIMPLEX	0	0
046064	TM PRINT: PAPER FEED TRAY SELECTION	0	0
046065	TM PRINT: PRINT HEAD TEST PATTERN	1	1
046071	TM PRINT: EJECT TRAY SELECTION	0	0
376393	SHEET PAUSE TRIGGER SENSOR SELECT	0	1
376394	RANDOM SHEET PAUSE ON TIMING	0	100

3. Set Ledger paper or A3 paper on the paper feeder, and execute TM043031 "HEAD TEST PATTERN PRINT".

- 4. Measure the amount of shift in the front-rear direction at the side edge of the paper automatically stopped in the Top Tray and the standard mark position.
- Remove the paper, restart the printer, repeat steps 2 to 4 three times, and check if the amount of shift is within the standard. Standard: ±7 mm
 - If the measured value exceeds the standard, go to step 6.
 - If the measured value is within the standard, go to step 8.




- 6. Disconnect FOLDER UNIT FG20 and IF UNIT FG20, and adjust the Docking Adjustment Plate of FOLDER UNIT FG20.
 - (1) Loosen the screw at the rear. (1 screw)
 - (2) Remove the screw at the front and fasten it to the slotted hole temporarily. (1 screw)
 - (3) Adjust the Docking Adjustment Plate.

Direction of paper shift from the standard mark	Direction of Adjustment Plate movement
Front side (A)	Rear side (a)
Rear side (B)	Front side (b)

- (4) Secure the screws. (2 screws)
- Important: Take care when disconnecting FOLDER UNIT FG20 and IF UNIT FG20 so that a load is not applied to the wire.
- 7. Reconnect FOLDER UNIT FG20 and IF UNIT FG20.
- 8. Restart the printer.

Installation is complete.

Auto-Control Stacking Tray Installation Procedure

Types of Applicable Printers For details, refer to "The Table of Applicable Printers."

The Paper Ejection Attachment is required in order to install the Groups [B], [C] models.

The Paper Ejection Attachment F10 and OPTION PCB FG10 are required in order to install the Group [E] models.

The Paper Ejection Attachment G10 and OPTION PCB FG10 are required in order to install the Group [F] models.

Nobody but Riso-authorized service representatives is allowed to install this unit.

Packing List

This package contains the following items.

Auto stacking tray1 unit
Auto stacking tray arms; RZ
Auto stacking control cable1 pc.
Cable protection cap; KR-61 1 pc.
Auto stacking tray support F 1 pc.
Auto stacking tray support R *1 *2 1 pc.
Auto stacking tray adapter; F *3 1 pc.
Auto stacking tray adapter; R *31 pc.
Thin damper1 pc.
Auto stacking tray arm lock; F 1 pc.
Auto stacking tray arm lock; R 1 pc.
Auto stacking tray storage catch 1 pc.
Magnet catcher bracket; Auto stacking
tray *31 pc.
Auto fence wire harness *2 *3 *41 pc.
Guide F; Fence
Guide R; Fence
Clamp *3 *4
Ferrite core *3 *41 pc.
Screws
Installation guide(This manual)1 copy
Declaration of Conformity (for EU only)1 copy
Auto stacking trav plate: F *4 1 pc.
Auto stacking tray plate: R *41 pc.
Magnet catcher plate: Auto stacking
trav *41 pc.
Auto fence wire harness 2: GD *5 1 pc.
This part is used for the Group [D],
These parts are used for the Group [A] models.
These parts are used for the Groups [B], [C] models

- *4 These parts are used for the Groups [E], [C] models.
- *5 This part is used for the Group [F] models.

= For the Group [F] models =

Important: Install the Paper Ejection Attachment G10 and OPTION PCB FG10 before proceeding the following procedures.









1. Attach a thin damper to the Auto stacking tray plate; R. (Binding screw M5x10, 2 pcs.)

2. Remove the axis from the Auto stacking tray support; F and fix it to the Auto stacking tray plate; F.

- 3. Attach the Auto stacking tray plate; F to the front side. (Double-washered screw M4x10, 2 pcs.)
- 4. Attach the Auto stacking tray plate; R(with a damper) to the rear side. (Double-washered screw M4x10, 2 pcs.)

 Fix the Auto stacking tray arms;RZ (2 pcs.) to the Auto stacking tray. (Binding screw M4x6, 2 pcs.)



(10 inch)

Marking

 Hook the Auto stacking tray with the shaft of the Auto stacking tray plate, insert the shaft bearings and secure them with screws. (Binding screw M4 x 6, 1 piece each)

Important!

- Attach the shaft bearing with "F" mark on the front side of the printer, and attach the one with "R" mark on the rear side.
- Be careful not to drop the Auto stacking tray until securing the shaft bearing.
- 7. Put the cable protection cap; KR-61 on the AF-I/F cable at 13 cm(5 inch) from the positioning mark.
 - **NOTE** : Take care not to put it in the opposite direction.
- 8. Make marks on the AF-I/F cable with a marker. It is at the distance 25 cm(10 inch) from the wire tie as shown in the illustration.
- 9. Cut off the wire clamper of the positioning mark.



10. Remove the two Top Covers. (Right: 3 screws, Left: 2 screws)



11. Remove four screws from the Engine PCB Bracket and open it.

- 12. Plug the connectors of Auto fence wire harness in CN1 on the OPTION-PCB.
- 13. Lead the Auto fence wire harness as shown in the illustration.
- 14. Secure the Auto fence wire harness and the AF-I/ F cable with five wire saddles.





- 15. Secure the AF-I/F cable(Cable protection cap; KR-61) on the frame.
- 16. Lead the Auto fence wire harness, the Auto fence wire harness2; GD and the AF-I/F cable as shown in the illustration, and connect them.
- 17. Secure the Auto fence wire harness2; GD and the AF-I/F cable with nine wire saddles and a edge saddle.











- Close the Control PCB Unit. (4 screws). And secure the ground wire as shown in the illustration at the left.
- 19. Close the Engine PCB Bracket.(4 screws)
- 20. Insert the connector of the AF-I/F cable into the auto stacking tray and secure them with screws.

- 21. Remove the screw on the Auto stacking tray and secure the AF-I/F cable with the clamp. **Important!**
 - Attach the clamp at the distance 25cm(10 inch) from the wire tie marked in step 8.
 - Change the mounting screw to the Binding screw M4x10 in the package.
- 22. Attach the Ferrite core on the AF-I/F cable as shown in the illustration at the left.
- 23. Remove the Magnet on the Auto stacking tray storage catch and attach it to the Magnet catcher plate; Auto stacking tray.







24. Fix the Magnet catcher plate; Auto stacking tray on the printer with a screw. (Double-washered screw M4x20, 2 pcs.)

25. Attach the Guide F; Fence and the Guide R; Fence to each Paper guide (side) with adhesive tapes on the plates.

Important!

- Align the edges of the Guide F; Fence and the Guide R; Fence to the top of the Paper guide and side of the square hole.
- Attach the Guide Fence marked with "F" to the front side and the one with "R" to the rear side.

- 26. Cut off the part of Right Side Cover; rear as shown in the illustration.
- 27. Replace all the covers of the printer.

Wide Stacking Tray Installation Procedure

Types of Applicable Printers	Packing List
The following printer models are the intended	This package contains the following items.
62A, 63A, 67A and 68A series	1. Wide stacking tray1 unit
	2. Wide stacking tray arm F1 pc.
"62A, 63A 67A and 68A series" are the model names of "ComColor."	3. Wide stacking tray arm R1 pc.
	4. Magnet catcher bracket; Wide stackng trayl pc.
	5. Magnet catch; SM-50P1 pc.
The Paper Ejection Attachment G10 is required	6. Wide stacking tray adaptor F1 pc.
to install this option to the Group [E] models.	7. Wide stacking tray adaptor Rl pc.
	8. Tray catcher plate1 pc.
	9. Stacking tray arm spacer
	10. Screws1 set
	11. Explanation label1 pc.
	12. Instruction label (2 types)1 pc. each
	13. Installation guide (This manual)1 copy
	Nobody but Riso-authorized service
	representatives is allowed to install this unit.

= For the Group [E] models =

Important: For the Group [E] models, Install the Paper Ejection Attachment G10 before proceeding the following procedures.



1. Secure the Tray catcher plate to the Wide stacking tray. (Binding screw M4x10, 1 pc. and Double-washered screw M3x8, 1 pc.)

NOTE: Double-washered screw M3x8 reuse of removal from the Wide stacking tray.

- Secure the Stacking tray arm spacers to the tray with the embossed sides facing up. (Binding screw M4x10, 2 pcs.)
- 3. Secure the Wide stacking tray arm F and R to the Wide stacking tray. (Binding screw M4x10, 4 pcs.)







- 4. Secure the Wide stacking tray adaptor F on the printer. (Double-washered screw M4x10, 2 pcs.)
- 5. Secure the Wide stacking tray adaptor R on the printer. (Double-washered screw M4x10, 2 pcs.)
- 6. Attach the Explanation label to the FU cover plate.

- 7. Fit the Wide stacking tray in the Wide stacking tray adaptors from above.
- 8. Stick the Instruction labels on the Paper receiving tray and the Paper stop respectively so that each label covers the previously af fixed ones.

 Secure the Magnet catch; SM-50P on the Magnet catcher bracket; Wide stacking tray. (Binding screw M4x8, 2 pcs.)



- Fix the Magnet catcher bracket; Wide stacking tray on the printer with screws (Double-washered screw M4x20, 2 pcs.)
 - **NOTE**: Fit the tab into the square hole of the Right cover.

[1-114]

IC Card Authentication Kit T Installation Procedure

▲ Installation has to be done by an authorized technical expert. Please read "TECHNICAL MANUAL" of the applicable model about work precautions.		
Types of Applicable Printers	Packing List	
The following printer models are the intended basic units for installing the IC Card Authentication Kit. 68A series 67A series 63A series 62A series "68A series," "67A series," "63A series" and "62A series" are the model names of "ComColor."	This package contains the following items.1. IC Card Reader1 pc.2. Velcro1 set3. Ferrite Core; SFT-59SN1 pc.4. Cable Sticker; KS-123 pcs.5. Key Code Sticker1 sheet6. License Certification1 sheet7. Declaration of Conformity(for EU only)1 sheet8. FCC Declaration of Conformity1 sheet9. Safety Information1 copy	
If the Scanner is installed and the Multifunction Finisher is not installed on the 62A series, order the Card Reader Base (060-75449) as a spare part.	10. Installation Procedure(this document) 1 copy	



- 1. Remove the two Top Covers. (Right: 3 screws, Left: 2 screws)
- 2. Remove the Right Side Cover; Rear. (4 screws)

1





USB cable Wire saddle 300mm 3. Remove the Rear Cover. (5 screws)

4. Open the Control PCB Unit towards the left. (4 screws)

- 5. Lead the USB cable as illustrated on the left. (Wire saddle; 8 pcs., Edge saddle; 1 pc.)
- 6. Replace the Control PCB Unit. (4 screws)





7. Replace the Rear Cover. (5 screws)

Important: Lead the USB cable through the hole on the Rear Cover.

- 8. Replace the Right Side Cover; Rear (4 screws)
- 9. Replace the two Top Covers. (Right: 3 screws, Left: 2 screws)
- 10. Connect the USB cable to the USB connector.

- 11. Insert the USB cable into the center groove.
- 12. Secure the IC Card Reader and printer by affixing Velcro.



- 13. Affix the Key Code Sticker on the printer.
- 14. Affix the Key Code Sticker on the License Certification.

Important: Be sure to give the License Certification to the administrator.

Installation is complete. Next, proceed to "Inputting the Key Code" on page 1-118.

=Inputting the Key Code =

Input the key code on the Key Code Sticker. The key code is a 12-digit number divided into three groups with hyphens.

	Test mode number	Key code
(1)	276001	ABCD
(2)	276002	EFGH
(3)	276003	IJKL

1. Start up the printer in the test mode, input Test mode number (1), and press the Start key.

2. Input the first four digits of the key code (ABCD), and press the Start key.

3. Input Test mode number (2), and press the Start key.

4. Input the middle four digits of the key code (EFGH), and press the Start key.

5. Input Test mode number (3), and press the Start key.

6. Input the last four digits of the key code (IJKL), and press the Start key.

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Card Feed Kit Installation Procedure

Types of Applicable Printers

The following printer models are the intended basic units for installing the Card Feed Kit.

62A, 63A, 67A and 68A series

"62A, 63A, 67A and 68A series" are the model names of "ComColor."

Nobody but Riso-authorized service representatives is allowed to install this unit.

- *1 These parts are used for the Groups [A], [H] and [I] models only.
- *2 These parts are used for the Groups [A], [G], [H], [J] and [K] models only.
- *3 This part is used for the Groups [G] and [J] models only.
- *4 This part is used for the Group [J] models only.

= For the Group [C] models =





Packing List

This	package	contains	the	following	items.
------	---------	----------	-----	-----------	--------

- Card Feed Unit 1 pc.
 Reverse Prevention ASSY *1 1 pc.
- 3. High Torque Clutch *1 1 pc.
- 4. Clutch Bracket *1 1 pc.
- 5. Detection Sensor *2......1 pc.
- 6. Star Gear *1......1 set
- 7. Card Feed Unit Junction Wire Harness *3 .1 pc.
- 9. Wire clamper *1 1 pc.
- 10. NK Clamper *4 1 pc.
- 11. Bearing Metal *1 1 pc.
- 12. Screws *2 1 set
- 13. User's Guide...... 1 copy
- 1. Slide the lock nob down and unlock the Stripper Unit.
- 2. Push the lever of the Stripper Unit and remove the Stripper Unit.

- 3. Install the Card Feed Unit.
- 4. Slide the lock nob up to lock the Card Feed Unit.

《Card Feed Unit Setup Procedure》

Explain to users about functions below and tell them how to set up if necessary.

Setting the Card Feed Unit

Explain to users how to set up for the Card Feed Unit and replace it to the Stripper Unit.

- Installing the Card Feed Unit \rightarrow Set the paper type to [Thick] on the Paper type Screen.
- Installing the Stripper Unit → Set the paper type to [Standard] on the Paper type Screen.

Refer to the User's Guide for details.

[1-121]

Envelope Feed Kit Installation Procedure

Types of Applicable Printers

The following printer models are the intended basic units for installing the Envelope Feed Kit.

62A, 63A, 67A and 68A series

"62A, 63A, 67A and 68A series" are the model names of "ComColor."

Nobody but Riso-authorized service representatives is allowed to install this unit.

Packing List

This package contains the following iten	1S.
1. Envelope Feeder	1 pc.
2. Adapter	2 pcs.

- 3. Guide (Black)*2 pc.
- 4. Installation guide (This manual).....1 copy
- 5. User's Guide.....1 copy
- * This part is used for the Group [C] models only.

= For the Group [C] models =



- 1. Remove the Guide (White) from the position marked "1." (Slotted screw 1pc.)
- Attach the Guide (Black) to the position marked "2." (Slotted screw 1pc.)

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HIGH CAPACITY FEEDER G10 Installation Procedure

⚠ Installation has to be done by an authorized technical expert. Please read "TECHNICAL MANUAL" of the applicable model about work precautions.

Applicable Model

This document describes procedures for the following model:

63A and 68A series

"63A series" and "68A series" are the model names of "COMCOLOR."

To use paper smaller than A4R, Remove the following parts.

- Paper Feed Platen Padding Cover; Front
- Paper Feed Platen Padding Cover; Rear

To use paper larger than A3, the following parts are additionally reguired.

- Paper Feed Padding Cover for A3W;
 Front
- Paper Feed Padding Cover for A3W; Rear

When installing the printer and this option at the same time, check printer's Installation Procedure Manual before starting the installation. This package may contain parts which are not required for this installation.

Some parts may need to be replaced with existing parts.

When installing the FACE Down FINISHER G10 and HIGH CAPACITY FEEDER G10 at the same time, install the HIGH CAPACITY FEEDER G10 first.

When the FACE Down FINISHER G10 is installed, first remove the FACE Down FINISHER G10 and installation plate, and then install the HIGH CAPACITY FEEDER G10.

Packing List

This package contains the following items.

1. High Capacity Feed	er 1 unit.
2. Middle Transfer Un	it 1 pc.
3. Connection Unit	
4. Middle Center Rear	Cover1 pc.
5. Middle Door Assy	
6. Metal	
7. Middle Door Bottor	n Hinge Plate 1 pc.
8. Middle Door Stoppe	er Assy 1 pc.
9. Connection Roller I	Drive
Transmission Assy.	
10. Connection Unit Ins	tallation Boss1 pc.
11. Coupling Bracket F	
12. Coupling Bracket R	1 pc.
13. Coupling Shaft Assy	⁷ 1 pc.
14. Printer Connection	Гор Cover 1 рс.
15. Sensor Cover	
16. Paper Feed I/F Com	munication
Wire Harnes	
17. Wire; Knip Open U	nit1 pc.
18. Separator Plate for I	High Capacity
Paper Feed Assy	
19. Gasket (30mm)	
20. Gasket (50mm)	
21. Gasket (60mm)	
22. LEVER H(blue) Lal	bel1 sheet
23. IL Short Harness	
24. Installation screw	
25. DKN-10 NK Clamp	1 pc.
26. Declaration of Conf	ormity1 sheet
27. FCC Declation of C	onformity 1 sheet
28. AC Inlet Warning L	abel1 sheet
29. Material Sheet(for C	HINA)1 sheet
30. Installation Procedu	re guide
(This document)	1 сору

<<High Capacity Feeder Unit Work>>





to the High Capacity Feeder.







- 4. Secure the Middle Rear Cover. (Binding sems screw M4x8, 4 pcs.)
- Resecure the Middle Upper Cover Assy in its original position. (Binding sems screw M4x8, 4pcs.)
- 6. Connect the Middle Upper Cover Assy harness with a connector.
- 7. Attach the AC Inlet Warning Label in the position on the Power Supply Cover shown in the figure at left.
- 8. Attach the Gaskets to the Middle Transfer Unit.
 - Important: Clean with alcohol before affixing the Gasket.
 - Use the Gaskets (50 mm) for the top two locations.
 - Use the Gaskets (60 mm) for the bottom locations.
 - Attach each Gasket to the position as shown in the figure at left.

Gasket (50 mm)

Gasket (60 mm)



- 9. Secure the Middle Door Bottom Hinge Plate.
 (Double-washered screw M4x10, 1 pc.)
- 10. Secure the Metal to the Middle Door Bottom Hinge Plate.



<<Printer Work>>

Remove the Paper Feed Platen Unit, Elevator Motor, External Paper Feed Unit, and all exterior covers on the front side, rear side, and paper feed side in advance. Open the Engine Board Mount and Power Board Mount.

Please read the "TECHNICAL MANUAL" for details about the procedures. The parts removed from steps 17 to 22 will not be reused.



- 17. Remove the parts (4 pcs.) shown in the figure to the left.
 - Note: Remove in the order of (1), (2), (3), (4) as illustrated on the left,

18. Remove the parts (2 pcs.) shown in the figure at left.





19. Remove the parts (3 pcs.) shown in the figure at left.

20. Remove the FFC Cable (Flexible Flat Cable) and Spring hook Rear ; Assy. (1 screw, 1 E-ring)

21. Remove the parts (3 pcs.) shown in the



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Feed Motor

0

C





23. Remove the External Paper Feed Motor from the External Paper Feed Motor Assy. (3 screws)

- 24. Remove the Spur Gear Assy m1x28+m1x36 from the External Paper Feed Drive Bracket. (1 E-ring)
- 25. Remove the Shaft Gear Assy, Metal (A), and Metal (B) from the External Paper Feed Drive Bracket.
 - Important: Metal (A) will be reused in step 27.
 - Metal (B) will not be reused.
 - The Shaft Gear Assy will not be reused.
- 26. Remove Spur Gear; mlx31x6 from the Connection Roller Drive Transmission Assy. (1 screw)

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- 27. Assemble the Connection Roller Drive Transmission Assy into the External Paper Feed Drive Bracket.
- Replace the Spur Gear Assy m1x28+m1x36 that was removed in step 24. (1 E-ring)
- 29. Replace the External Paper Feed Motor. (3 screws)



- 30. Attach the Spur Gear ; m1x31x6 that was removed in step 26 to the Connection Roller Drive Transmission Assy. (Double-washered screw M3x6, 1 pc.)
- 31. Remove the STUD_EXFEED and replace with the Connection Unit Installation Boss. (1 screw)

Sensor Cover

0



17

Driven Roller Base; Switch Back

0

32. Attach the Sensor Cover to the Driven Roller Base; Switch Back. (P-Tite screw M3x8; 1 pc.)



- 33. Attach the Wire; Knip Open Unit to the rear side of the Connection Unit.
 - Note: Secure with three Reuse bands, and connect the Connector.



Elevator Hole

- 34. Hook the Connection Unit on the rear and front side Connection Unit Installation Bosses (Connection Pins).
 - Note: Secure the Connection Unit so that the bottom hooks onto the Connection Unit Installation Bosses and STUD_EXFEED.

35. Lead the Wire; Knip Open Unit attached in step 33 through the Elevator Hole on the rear side.

[1-133]



[Front side]

[Rear side]

- 36. Secure the Connection Unit to the Printer.(Double-washered screw M4x10, 2 pcs.)
 - Note: Lock in place so that it is aligned with the Half Blanking used for positioning.
 - After attaching the Connection Unit, attach the M TRANS Upper Door Assy with the magnet and leave it in the open position.
- Attach Coupling Bracket F and R. (Double-washered screw M4x10, 4 pcs.)

38. Connect the Grounding Wire of the Connection Unit to Coupling Brackets F and R. (Double-washered screw M3x6, 2 pcs.)





39. Secure the Wire; Knip Open Unit pulled from the rear side in step 35 with a Reuse band, lead it through the Square bush, and then pull toward the board side.

40. Lead the Wire; Knip Open Unit pulled from the Square bush through the Wire Saddle, and connect it to CN32 of the Engine Board.

41. Pull in the Paper Feed I/F Communication Wire Harness from the rectangle hole on the Printer rear board.

Note: Attach so that the connector side is on the outer side of the rear board.

42. Attach the Paper Feed I/F Communication Wire Harness Connector to the Printer rear board. (Binding screw M3x8, 2 pcs.)







CN6 Engine Board CN24 IL Short Harness

- 43. Lead the Paper Feed I/F Communication Wire Harness through the Wire Saddles on the Printer rear board, and then pull it from the Square bush on the Engine Board toward the board side.
 - Secure ten wire saddles.

- 44. Connect the Paper Feed I/F Communication Wire Harness pulled from the Square bush to CN6 of the Engine Board.
- 45. Remove the Connector connected to CN24 of the Engine Board, and connect the IL Short Harness.

Note: Secure the Connector removed from CN24 with a Wire Saddle.

46. Return the Engine Board Mount and Power Board Mount to their original positions. (4 screws each)





- 47. Cut out the Connector part on the Left Side Cover; rear of the printer along the perforations, and replace the Left Side Cover; rear.
- 48. Replace the other covers and jam release dials.

- 49. Affix the LEVER H (blue) Label to the printer at the position illustrated on the left.
 - Important: Clean with alcohol before affixing the Label.

- 50. Press the High Capacity Feeder against the Printer.
 - Note: Connect the High Capacity Feeder to the outer sides of Coupling Bracket F and R.



Wire; Exit If 2 Connector



 Image: Complex Shaft Assy

- 51. Affix the DKN-10 NK Clamp to the printer at the position illustrated on the left. .
- 52. Connect the Wire; Exit If 2 Connector to the printer.
- 53. Secure the Wire; Exit If 2 Connector in the DKN-10 NK Clamp.

- 54. Press the High Capacity Feeder against the Printer.
 - Note: After connecting the High Capacity Feeder to the Printer, slide it to the front to set in place.

- 55. Open the Middle Door Assy, and lead the Coupled Shaft Assy through the hole of the Coupling Bracket.
 - Note: Adjust the height of the High Capacity Feeder from the Adjusters to align the shaft insertion holes.
- 56. Anchor the Coupling Shaft Assy. (Double-washered screw M4x10, 1 pc.)



- 57. Close the M TRANS Upper Door Assy so that it is touching on the Middle Upper Cover.
 - Important: Confirm that the M TRANS Upper Door Sen S Plate passes through the slit.
 - Move the M TRANS Upper Door Assy in both Direction A and Direction B as far as possible and Confirm that the M TRANS Upper Door Sen S Plate passes through the slit regardless of the direction it is moved in.
 - If the M TRANS Upper Door Sen S Plate does not pass through the slit or if it is touching the Middle Upper Cover, adjust the M TRANS Upper Door Sen S Plate. (1 screw)



- 58. Affix the gasket (30 mm) to the Printer Connection Top Cover.
 - Important: Clean with alcohol before affixing the Gasket.
- 59. Secure the Printer Connection Top Cover in the direction of the arrow. (Binding sems screw M4x8, 2 pcs.)
- 60. Plug the power cords of the High Capacity Feeder and the printer.
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HIGH CAPACITY STACKER G10 Installation Procedure

⚠ Installation has to be done by an authorized technical expert. Please read "TECHNICAL MANUAL" of the applicable model about work precautions.

Applicable Model

This document describes procedures for the following model:

63A and 68A series

"63A series" and "68A series" are the model names of "ComColor."

When installing the HIGH CAPACITY STACKER G10, this package and the GD Paper Ejection Attachment are required.

When installing the printer and this option at the same time, check printer's Installation Procedure Manual before starting the installation. This package may contain parts which are not required for this installation.

Some parts may need to be replaced with existing parts.

To move the HIGH CAPACITY STACKER G10, attach the Elevator Transport Support Bar and then raise the Adjustable Legs to the maximum level before moving it. Use caution as the frame may deform when moved.

Packing List

This package contains the following items.

1. High Capacity Stacker 1 pc.
2. I/F Communication Wire Harness 1 pc.
3. Slope Shape Cover 1 pc.
4. Cover Plate Assy; FU 1 pc.
5. De-electricity Brush; 105 3 pcs.
6. Bracket; Front 1 pc.
7. Bracket; Rear 1 pc.
8. Gap Fill Sponge 1 pc.
9. Turn Over Unit; Bottom Hinge 1 pc.
10. Turn Over Unit; Top Hinge 1 pc.
11. Metal
12. Turn Over Unit Door 1 pc.
13. Elevator Door 1 pc.
14. Closing Plate; Rear 1 pc.
15. Closing Plate; Right 1 pc.
16. Switch Trip Plate
17. Paper Receiving Tray 1 pc.
18. Carriage 1 pc.
19. Carriage handle 1 pc.
20. Handle lock bolt 4 pcs.
21. Handle lock nut
22. Auxiliary material 1 set
23. AC Inlet Warning Label 1 pc.
24. Installation Procedure guide
(this document)1 copy
25. Declaration of Conformity
(for EU only)1 sheet
26. FCC Declaration of Conformity 1 sheet
27. Material Sheet (for CHINA)1 sheet

<<Printer Procedures>>



- 1. Pull the I/F Communication Wire Harness in from the rectangle hole on the printer frame.
- 2. Secure the Joint Connector. (Binding screw M3x8; 2 pcs.)
- 3. Lead the I/F Communication Wire Harness as illustrated on the left. (Wire saddle; 4 pcs., Edge saddle; 1 pc.)

4. Lead the I/F Communication Wire Harness as illustrated on the left. (Wire saddle; 4 pcs.)





- 5. Lead the I/F Communication Wire Harness as illustrated on the left. (Wire saddle; 5 pcs.)
- 6. Lead the I/F Communication Wire Harness through the Square bush of the engine PCB mount, and pull toward the PCB.

- If there is no Option PCB, proceed to step 7.
- If there is an Option PCB, skip to step 8.
- 7. Secure the I/F Communication Wire Harness pulled from the Square bush with a wire saddle, and plug it in CN4 on the engine PCB.

8. Secure the I/F Communication Wire Harness pulled from the Square bush with two wire saddles, and plug it in CN2 on the Option PCB.



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- . Peel off the De-electricity Brush. (This is not reused.)
- 10. Attach the Cover Plate Assy; FU as shown in the figure at left.
 - Note: Press The Paper Ejection Wing toward both edges.
 - Important: Insert the edge of Cover Plate Assy; FU into the bottom of Transport Guide Plate, and attach it by moving it to the right and pushing it against the Paper Ejection Wing.



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- Attach the De-electricity Brush; 105. (3 pcs.)
 - Note: Align at the positions illustrated above.
 - Attach the rear side to Cover Plate Assy; FU.
 - Attach the center and front sides to the Guide Plate.

Replace the parts that were removed during installation of the GD Paper Ejection Attachment.

- 12. Cut off the part as shown in the illustration.
- 13. Replace the Exhaust Duct.
- 14. Return the PCB Boxes to their original positions and secure them with screws.
- 15. Replace the covers.



<<Removing the tapes on the HIGH CAPACITY STACKER G10>>

1. Before installation, remove the tapes [Offset Unit Area] on the product. 6 Important: Please be sure to remove Tape the tapes on the following parts. 0 - Offset Unit Area - Paper Receiving Tray Base Plate Area Co Ø 60 0 60 [Paper Receiving Tray Base Plate Area] Tape

<<Installation of the HIGH CAPACITY STACKER G10>>





 Press the Slope Shape Cover in the direction of the arrows to attach it to the Turn Over Unit; Top Board. (Plapoint screw (white) M3x6; 2 pcs.)

- 2. Affix the Gap Fill Sponge to the Slope Shape Cover.
 - Note: Align the front side with the front edge of the metal plate.
 - Align the top side with the top of the metal plate.

3. Remove the Elevator Unit Exterior Panel; Side. (4 screws)



Printer



- 4. Remove the Coupling Shaft Assy. (2 screws)
 - Note: The Coupling Shaft Assy is reused in step 7.
 - The screws are reused in step 10.

5. Connect the High Capacity Stacker Connector to the printer.

- 6. Connect the High Capacity Stacker to the printer.
- 7. Insert the Coupling Shaft Assy into the High Capacity Stacker.
 - Note: Insert the Coupling Shaft Assy into the Side Plate hole and the Bracket; Front hole.



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Bracket; Front

Coupling Shaft Assy



Do not remove the "Elevator Transport Support Bar" until adjustment of "Adjusters" ① to ④ is finished. Doing so during adjustment may deform the printer frame.



- 8. Rotate Adjuster ① to raise the High Capacity Stacker.
 - Important: Adjust the height so that the holes of the side plate are aligned with the screw holes of the Bracket; Front.



- 9. Rotate Adjuster ② to raise the High Capacity Stacker.
 - Important: Set the height so that the Coupling Shaft Assy is touching the top edge of the Bracket; Rear.
- 10. Screw the Coupling Shaft Assy into place. (2 screws)

Note: Reuse the screws removed in step 4.

- 11. Rotate Adjusters ③ and ④ to raise the High Capacity Stacker.
 - Important: Set the height so that the distance from the floor to the bottom of the High Capacity Stacker is the same for Adjustable Leg (1) to (4).





- 12. Attach the metal to the Turn Over Unit; Bottom Hinge.
- 13. Attach the Turn Over Unit; Bottom Hinge.(Double-washered screw M4 x 10; 2 pcs.)
 - Note: Insert the $\phi 6$ rod into the positioning holes and position it.

- Metal Turn Over Unit; Top Hinge
- 14. Attach the metal to the Turn Over Unit; Top Hinge.

15. Insert the bottom part of the Turn Over Unit Door shaft into the Turn Over Unit; Bottom Hinge.





- 16. Attach the Turn Over Unit; Top Hinge to the Turn Over Unit Door.
 - Note: Insert the upper part of the Turn Over Unit Door shaft into the Turn Over Unit; Top Hinge.

- 17. Attach the Turn Over Unit; Top Hinge. (Double-washered screw M4 x 10; 2 pcs.)
 - Note: Insert the $\phi 6$ rod into the positioning holes and position it.

- Televator Transport Support Bar
- 18. Remove the Elevator Transport Support Bar. (4 screws)



- 19. Attach the Elevator Transport Support Bar to the position indicated in the illustration to the left.
 - Note: Reuse the screws removed in step 18.



20. Attach the Elevator Door.

Note: Slide the High Capacity Stacker Door onto the High Capacity Stacker shafts.

When attaching the "Elevator Door", be sure to attach it while the "Adjusters" are in contact with the ground.

Use caution as the frame may deform when opening and closing the door.





User's Manual Case

21. Attach the Closing Plate; Rear. (Double-washered screw M4 x 10; 2 pcs.)

Note: Set the plate edge against the floor.

22. Attach the Closing Plate; Right. (Double-washered screw M4 x 10; 1 pc.)

Note: Set the plate edge against the floor.

23. Reattach the Elevator Unit Exterior Panel; Side in its original position. (4 screws)

- 24. Attach the Manual Case. (Stepped screw; 2 pcs. included in the Control Card package)
 - Note: Check with the user that installation is necessary before attaching it.





- 25. Check that the gaps at the top and the bottom of the Elevator Door are uniform and that the door opens and closes smoothly.
 - Note: Adjust the mounting position of the Turn Over Unit; Top Hinge and the Turn Over Unit; Bottom Hinge.

- 26. Attach the Switch Trip Plate to the Turn Over Unit Door. (Double-washered screw M3 x 6; 1 pc.)
- 27. Check that the Switch Trip Plate of the Turn Over Unit Door and the Set Switch of the High Capacity Stacker are aligned.
 - Important: Check that the Switch Trip Plate and Set Switch are properly fitted.
 - Note: Adjust the mounting position of the Switch Trip Plate.



- 28. Attach the Switch Trip Plate to the Elevator Door.(Double-washered screw M3 x 6; 1 pc.)
- 29. Check that the Switch Trip Plate of the Elevator Door and the Set Switch of the High Capacity Stacker are aligned.

Important: Check that the Switch Trip Plate and Set Switch are properly fitted.

Note: Adjust the mounting position of the Switch Trip Plate.



30. Attach the AC Inlet Warning Label.

Important: Clean up the attaching area with alchol beforehand.

- Note: Put the label that conforms to your language. When a corresponding language dose not exist, put the label written in English.
- 31. Plug the power cord into the HIGH CAPACITY STACKER G10.
- 32. Plug the power cord into the printer, and turn it on.
- 33. Change the setting value of the test mode [306006] (HCS lock settings) from def [1] to [0].
- 34. Enable the test mode [303002] (High Capacity Stacker Unlock HP Transportation Position), and lower the Elevator Unit to its lowest position.
 - Important: When you enable this test mode, do not place the "Carriage". Doing so may damage the "Elevator Unit" when the Elevator Unit is in operation.

<<Assembling the Carriage>>



- 1. Attach the Carriage Handle to the Carriage. (Handle lock bolt; 4 pcs., Handle lock nut; 4 pcs.)
 - Note: Insert the handle in the order shown by arrows (1) and (2) in the illustration.
- 2. Put the Paper Receiving Tray on the Carriage.
- 3. Check that the High Capacity Stacker Elevator Unit is lowered and set the Carriage.

<<Test Operation>>







1. Load A3 (or Ledger) paper on the Standard tray or the Feed tray 1-3 and activate the test mode [303007] (HCS fence center adjustment transport).

[Operation: The paper stops 200 mm from the Paper Output Slot.]

2. Activate the test mode [A3: 303016/ Ledger: 303015] (HCS fence A3 (or Ledger) width movement).

> [Operation: The side fences and end fence move to the A3 (or Ledger) paper positions.]

- 3. Remove the Top Cover. (4 screws)
- Loosen the Top Board fastening screws (8 red circles), and insert the φ4 pin into the adjustment hole (blue circle).

- 5. Look into the four inspection holes from the top, and adjust the Top Board position so that the positions of the paper and fence on the left and right (A-A', B-B') are the same.
- 6. Tighten the Top Board fastening screws (8 red circles) that were loosened in step 4.
- 7. Remove the $\varphi 4$ pin (blue circle).
- 8. Attach the Top Cover that was removed in step 3. (4 screws)

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Chapter 2. Exteriors and Maintenance Setup

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1. Cover Names









2. Disassembly and Reassembly

2-1. Right Front Door

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- 2-2. Left Front Door
- 2-3. Upper Inner Cover
- 2-4. Bottom Inner Cover
- 2-5. Middle Inner Cover
- 2-6. Left Inner Cover
- 2-7. Right Inner Cover
- 2-8. Bottom Left Inner Cover
- 2-9. Rear Cover
- 2-10. Top Right Cover
- 2-11. Top Left Cover
- 2-12. Bottom Left Side Cover
- 2-13. Upper Right Side Cover
- 2-14. Middle Right Side Cover
- 2-15. Bottom Right Side Cover
- 2-16. Front Door SW Assembly
- 2-17. Front Door Lock Solenoid
- 2-18. Front Door Sensor
- 2-19. Panel Unit

2-1. Right Front Door

(1) Remove the Right Front Door.

(Snap ring (1 pc))





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2-2. Left Front Door

(1) Remove the Left Front Door.

(Snap ring (1 pc))





2-3. Upper Inner Cover

(1) Remove the Upper Inner Cover.

(Round tip IT3C screw 3×10 (3 pcs))



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2-4. Bottom Inner Cover

(1) Remove the Bottom Inner Cover.

(Round tip IT3C screw 3×10 (2 pcs))



2-5. Middle Inner Cover

(1) Remove the Middle Inner Cover.

(Round tip IT3C screw 3×10 (6 pcs))



2-6. Left Inner Cover

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(1) Remove the Paper Jam Release Dial (G).

(Double-washer screw 3×8 (1 pc))

- Shift down the Paper Jam Release Lever (E).
- Remove the Left Inner Cover.

(Round tip IT3C screw 3×10 (3 pcs))



2-7. Right Inner Cover

(1) Remove the Upper Inner Cover.

(Refer to 2-3 in this chapter.)

(2) Remove the Right Inner Cover.

(Round tip IT3C screw 3×10 (4 pcs))



2-8. Bottom Left Inner Cover

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- (1) Dismount the Paper Feed Trays. (3 pcs)
- (2) Remove the Bottom Inner Cover.
 - (Refer to 2-4 in this chapter.)
- (3) Remove the Bottom Left Inner Cover. (Round tip IT3C screw 3×10 (3 pcs))



2-9. Rear Cover



(1) Remove the Rear Right Side Cover. (Round tip IT3C screw 3×10 (4 pcs))



(2) Remove the Rear Cover.

(Binding screw 3×8 (5 pcs))



* Remove the Rear Cover with the Rear Left Side Cover attached.

2-10. Top Right Cover

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(1) Remove the Top Right Cover.



2-11. Top Left Cover

(1) Remove the Top Left Cover.



[Reassembly Note]

Insert the tab on the front side into the slit on the front side frame.



2-12. Bottom Left Side Cover

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(1) Remove the Bottom Left Side Cover. (Round tip IT3C screw 3×10 (2 pcs))



2-13. Upper Right Side Cover

(1) Remove the Top Right Cover.

(Refer to 2-10 in this chapter.)

- (2) Remove the Upper Right Side Cover.
 - (Round tip IT3C screw 3×10 (2 pcs) /

Shoulder screw (2 pcs))



2-14. Middle Right Side Cover

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(1) Remove the Middle Right Side Cover. (Round tip IT3C screw 3×10 (2 pcs))



2-15. Bottom Right Side Cover

(1) Remove the Bottom Right Side Cover. (Round tip IT3C screw 3×10 (2 pcs))



2-16. Front Door SW Assembly

(1) Remove the Middle Inner Cover.

(Refer to 2-5 in this chapter.)

- (2) Disconnect a connector. (1 pc)
 - Remove the Front Door SW Assembly.
 (Round tip IT3C screw 4×10 (1 pc))



2-17. Front Door Lock Solenoid

(1) Remove the Middle Inner Cover.

(Refer to 2-5 in this chapter.)

- (2) Disconnect connectors. (2 pcs)
 - Remove the Front Door Lock Solenoid
 Assembly.

(Round tip IT3C screw 3×8 (3 pcs))



(3) Remove the Front Door Lock Solenoid. (Double-washer screw 3×5 (2 pcs))



2-18. Front Door Sensor

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- (1) Remove the Front Door Lock Solenoid Assembly. (Refer to 2-17 in this chapter.)
 - Remove the Front Door Sensor.



Front Door Lock Solenoid Assembly

2-19. Panel Unit

(1) Remove the Top Right Cover.

(Refer to 2-10 in this chapter.)

(2) Remove the Back Panel Cover.

(Small triple screw 3×6 (3 pcs))

- Pull off a reusable band. (1 pc)
- Disconnect connectors. (2 pcs)



(3) Remove the USB Cable Securing Plate. (Double-washer screw 3×6 (2 pcs))

- Disconnect a connector. (1 pc)
- Cut cord clamps. (3 locations)



(4) Remove the Panel Unit.

(Double-washer screw 3×8 (4 pcs))



3. Maintenance Positions

- 3-1. Engine Control PCB
- 3-2. Power Supply Unit
- 3-3. Controller Box

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- 3-4. Ink Tower Unit
- 3-5. Ink Cartridge Holder Unit

3-1. Engine Control PCB

- (1) Remove the Rear Cover.
 - (Refer to 2-9 in this chapter.)
- (2) Put the Engine Control PCB in the maintenance position.

(Round tip IT3C screw 3×8 (4 pcs))





3-2. Power Supply Unit

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- (1) Remove the Rear Cover.
 - (Refer to 2-9 in this chapter.)
- (2) Put the Power Supply Unit in the maintenance position.

(Round tip IT3C screw 3×8 (4 pcs))





3-3. Controller Box

- (1) Remove the Rear Cover.
 - (Refer to 2-9 in this chapter.)
- (2) Put the Controller Box in the maintenance position. (Round tip IT3C screw 3×8 (4 pcs))





3-4. Ink Tower Unit

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(1) Remove the Rear Cover.

(Refer to 2-9 in this chapter.)

- (2) Put the Engine Control PCB in the maintenance position. (Refer to 3-1 in this chapter.)
- (3) Put the Power Supply Unit in the maintenance position. (Refer to 3-2 in this chapter.)
- (4) Put the Controller Box in the maintenance position. (Refer to 3-3 in this chapter.)
- (5) Put the Ink Tower Unit in the maintenance position. (Round tip IT3C screw 3×8 (2 pcs))





3-5. Ink Cartridge Holder Unit

(1) Remove the Top Right Cover.

(Refer to 2-10 in this chapter.)

(2) Remove the Top Left Cover.

(Refer to 2-11 in this chapter.)

(3) Remove the Upper Inner Cover.

(Refer to 2-3 in this chapter.)

(4) Detach the Panel Wire Harness Plate.

(Pan-head double-washer screw 3×6 (2 pcs))

• Open a wire saddle and release running wires.



(5) Remove the Panel Base. (Round tip IT3C screw 4×10 (4 pcs))



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(6) Relocate the Panel Wire Harness Plate and the Panel Base to the left side of the printer together with the Operation Panel.



(7) Remove plastic thumbscrews. (2 pcs)



- (8) Raise up the Ink Cartridge Holder Unit.
 - * Prop it open with the Lock Bar.



- [Note] Securing the detached Operation Panel with the Panel Retaining Plate during maintenance operation
- (1) Remove the Panel Retaining Plate.

(Binding head screw 4×10 (2 pcs))



(2) Reattach the Panel Retaining Plate. (Binding head screw 4×10 (2 pcs))



(3) Secure the Operation Panel.(Pan head double-washer screw 3×6 (4 pcs))



	RISO SQUARE WEB VERSION	
CONFIDENTIAL	[2-18]	Exteriors and Maintenance Setup

[Memo]
RISO SQUARE WEB VERSION

[3-1]

Chapter 3. Structural Overview

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1. Printer Layout

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The following diagram shows the layout of the units that make up the printer.



Unit Names and Functions

Unit Name	Function
Standard Paper Feed Tray	Holds a stack of paper whose height is periodically adjusted during external paper feed operation.
External Paper Feed	Feeds one sheet of paper at a time from the Standard Paper Feed Tray to the registration section.
Internal Paper Feed Tray	Holds a stack of paper whose height is periodically adjusted during internal paper feed operation.
Internal Paper Pickup	Feeds one sheet of paper from the Internal Paper Feed Tray Unit to the Internal Paper Feed Transport Unit.
Internal Paper Feed	Transfers a sheet feeding from the Internal Paper Pickup Unit to the Vertical Paper Transfer Unit.
Vertical Transfer	Transfers a sheet feeding from the Internal Paper Feed Unit to the Registration Unit.
Registration	Feeds a sheet of paper received from the External Paper Feed Unit, Internal Paper Feed Unit, or Re-feed (duplex) paper route to the Transfer Belt Unit at a regular interval while rectifying paper skew.
Transfer Belt	Receives a sheet of paper from the Registration Unit and transfers a printed sheet further for duplex printing or paper ejection.
Paper Elevation	Transfers a printed sheet received from the Transfer Belt Unit to the Horizontal Paper Transfer Unit.
Horizontal Transfer	Transfers a received printed sheet to the FD Paper Ejection Unit or Switchback Entrance Unit.
FD Paper Ejection	Ejects a printed sheet received from the Horizontal Paper Transfer Unit onto the Face Down Paper Receiving Tray.
Switchback Entrance	Leads a printed sheet received from the Horizontal Paper Transfer Unit into the Switchback Unit.
Switchback	Reverses a received printed sheet and re-feeds it to the Registration Unit for reverse-side printing.
Ink Cartridge Holder	Holds ink cartridges, from which ink is supplied to ink paths through the Ink Supply Solenoid Valves.
Print Head Holder	Holds the Print Heads while keeping a specified gap between the Print Heads and the elevated Transfer Belt Unit.
Maintenance	Collects ink that is ejected from the Print Heads during cleaning operations and drains it into the Waste Ink Tank.
Waste Ink Tank	Stores waste ink generated during cleaning operations.

RISO Inc. Technical Operations

RISO SQUARE WEB VERSION

[3-3]

Structural Overview

2. Layout of Motors, Solenoids and Rollers



RISO SQUARE WEB VERSION
[3-4]

Structural Overview



RISO SQUARE WEB VERSION

[3-5]

Structural Overview

3. Layout of Sensors and Switches





4. Specifications

ComColor GL9730 / GL9730R / GL7430 / GL7430R

Model Name	ComColor GL9730/GD9730R: 68A01 ComColor GL7430/GD7430R: 68A03
Туре	Console
Color Support	5 colors (Cyan, Magenta, Yellow, Black, Gray)
Print Type	Line-type inkjet system
Ink Type	Oil-based pigment ink (Cyan, Magenta, Yellow, Black, Gray)
Print Resolution	Standard Black: 600 dpi (main scanning direction) × 600 dpi (sub-scanning direction) Cyan, Magenta, Yellow, Gray: 300 dpi (main scanning direction) × 300 dpi (sub-scanning direction) Fine Black: 600 dpi (main scanning direction) × 600 dpi (sub-scanning direction) Cyan, Magenta, Yellow, Gray: 300 dpi (main scanning direction) × 600 dpi (sub-scanning direction)
Number of Gray Levels	Black: 4 gray levels Cyan, Magenta, Yellow, Gray: 12 gray levels
Data Processing Resolution	 Standard Black: 600 dpi (main scanning direction) × 600 dpi (sub-scanning direction) Cyan, Magenta, Yellow, Gray: 300 dpi (main scanning direction) × 300 dpi (sub-scanning direction) Fine Black: 600 dpi (main scanning direction) × 600 dpi (sub-scanning direction) Cyan, Magenta, Yellow, Gray: 300 dpi (main scanning direction) × 600 dpi (sub-scanning direction) Line Smoothing 600 dpi (main scanning direction) × 600 dpi (sub-scanning direction)
Warm-up Time	2 min. 30 sec. or less (at room temperature of 23 °C (73.4 °F))
First Print Time ¹	5 sec. or less (A4-LEF ⁷)

		A4-LEF ⁷	Simplex: 165 ppm Duplex: 82 sheets/minute			
	ComColor GL9730/	Letter- LEF	Simplex: 160 ppm Duplex: 80 sheets/minute			
		A4	Simplex: 120 ppm Duplex: 60 sheets/minute			
		Letter	Simplex: 120 ppm Duplex: 60 sheets/minute			
	GL9730R	Legal	Simplex: 104 ppm Duplex: 44 sheets/minute			
		JIS-B4	Simplex: 102 ppm Duplex: 44 sheets/minute			
		A3	Simplex: 88 ppm Duplex: 42 sheets/minute			
Continuous Brint		Ledger	Simplex: 86 ppm Duplex: 42 sheets/minute			
Speed ²⁶		A4-LEF ⁷	Simplex: 140 ppm Duplex: 70 sheets/minute			
		Letter- LEF	Simplex: 140 ppm Duplex: 70 sheets/minute			
	ComColor	A4	Simplex: 108 ppm Duplex: 54 sheets/minute			
	GL7430/	Letter	Simplex: 108 ppm Duplex: 54 sheets/minute			
	GL7430R	Legal	Simplex: 90 ppm Duplex: 42 sheets/minute			
		JIS-B4	Simplex: 90 ppm Duplex: 42 sheets/minute			
		A3	Simplex: 78 ppm Duplex: 38 sheets/minute			
		Ledger	Simplex: 76 ppm Duplex: 38 sheets/minute			
Papar Siza	Standard T	ray	Maximum: 340 mm × 550 mm (13 3/8" × 21 5/8") Minimum: 90 mm × 148 mm (3 9/16" × 5 27/32")			
Feed Tra			Maximum: 297 mm × 432 mm (11 11/16" × 17") Minimum: 182 mm × 182 mm (7 3/16" × 7 3/16")			
Printable Area			314 mm × 548 mm (12 11/32" × 21 9/16")			
Guaranteed Pr	int Area ³		Standard: Margin width of 3 mm (1/8") Maximum: Margin width of 1 mm (3/64")			
Deper Weight	Standard T	ray	46 g/m ² to 210 g/m ² (12-lb bond to 56-lb bond) (plain paper)			
Faper Weight	Feed Tray		52 g/m ² to 104 g/m ² (14-lb bond to 28-lb bond) (plain paper)			
Paper Tray	Standard T	ray	Height up to 110 mm (4 5/16")			
Capacity	Feed Tray		Height up to 56 mm (2 3/16") (3 trays)			
Output Tray Ca	apacity		Height up to 60 mm (2 11/32")			
PDL (Page De	scription Lan	guage)	RISORINC/C IV			
Supported Prot	tocols		TCP/IP, HTTP, HTTPs (TLS), DHCP, ftp, Ipr, IPP, SNMP (SNMP v1), Port9100 (RAW port), IPv4, IPv6, IPSec (IKEv1)			
Network Interfa	ice		Ethernet 1000BASE-T/100BASE-TX/10BASE-T (2ch)			
Memory Capac	city		4 GB			
	Capacity		512 GB			
55D ·	Available S	pace	Approx. 370 GB			
Operating System			Linux			
Power Source			AC 100 V - 240 V, 50 Hz - 60 Hz, 12.0 A - 6.0 A			
			Max. 1,200 W			
Power Consumption			Ready ⁵ : 110 W or less			
	iption		Sleep ⁸ : 2 W or less			
			Stand-by: 0.3 W or less			
Operating Noise			Max. 66 dB (A) A4-LEF (Simplex) at the maximum print speed			

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A-weighted Sound Power Level ⁹	Max. 79 dB A4-LEF (Simplex) Monochrome/Color: 165 ppm (140 ppm for GL7430/GL7430R)
Operating Environment	Temperature: 15 °C to 30 °C (59 °F to 86 °F) Humidity: 40% to 70% RH (non-condensing)
Dimensions (W × D × H)	In use: 1,220 mm × 725 mm × 1,160 mm (48 1/32" × 28 9/16" × 45 11/16") With cover and tray closed: 1,160 mm × 705 mm × 1,015 mm (45 21/32" × 27 3/4" × 39 15/16")
Weight	Approx. 177 kg (390 lb)
Safety Information	 IEC60950-1 compliant, Indoor, pollution degree 2*, At altitudes of 2,000 m or lower * The pollution degree of the usage environment due to dirt and dust in the air. Degree "2" corresponds to a general indoor environment.
Dimensions When Operating (W × D × H)	With the front cover open and the operation panel in the upright position: 1,220 mm × 1,240 mm × 1,160 mm (48 1/32" × 48 13/16" × 45 21/32")

1 Within 10 minutes after the last print job

2 When using plain paper and recycled paper (85 g/m² (23-lb bond)), and standard density setting Chart used: Print measurement pattern [Color measurement sample 2 (JEITA standard pattern J6)]

3 The margin when printing envelopes is 10 mm (13/32").

The guaranteed area when printing images is the area enclosed within 3 mm (1/8") of the edges of the paper.

- 4 One gigabyte (GB) is calculated as 1 billion bytes.
- 5 Without printing and temperature adjustment operation
- 6 The continuous print speed varies depending on the type of optional output equipment connected. When using the face down finisher (A4-LEF Simplex / Letter-LEF Simplex) Without offset:

165 sheets/minute [for A4-LEF] / 160 sheets/minute [for Letter-LEF] (ComColor GL9730/GL9730R) 140 sheets/minute (ComColor GL7430/GL7430R)

With offset:

125 sheets/minute (ComColor GL9730/GL9730R)

115 sheets/minute (ComColor GL7430/GL7430R)

When using the high capacity stacker (A4-LEF Simplex / Letter-LEF Simplex)

Without offset:

165 sheets/minute [for A4-LEF] / 160 sheets/minute [for Letter-LEF] (ComColor GL9730/GL9730R) 140 sheets/minute (ComColor GL7430/GL7430R)

With offset:

110 sheets/minute (ComColor GL9730/GL9730R) 95 sheets/minute (ComColor GL7430/GL7430R)

- 7 LEF stands for "Long Edge Feed".
- 8 When setting [Power Consumption (in Sleep)] to [Low]
- 9 When using plain paper (64 g/m² (17-lb bond))

5. Option Compatibility

Product Name	ComColor GL9730	ComColor GL9430
Scanner HS7000	0	0
Scanner Stand FG10	0	0
Wide Stacking Tray	0	0
RISO Auto-Control Stacking Tray II	0	0
Multifunction Finisher FG20	0	0
Folder Unit FG20	0	0
Face Down Finisher G10	0	0
High Capacity Stacker G10	0	0
Wrapping Envelope Finisher G10	0	0
Perfect Binder G10	0	0
ComColorExpress FS2100C	0	0
PS Kit FG10	0	0
High Capacity Feeder G10	0	0
Envelope Feed Kit	0	0
Card Feed Kit	0	0
Additional 2000 Sheet Feeder FG20	0	0
IC Card Authentication Kit II	0	0
Option PCB FG10	0	0
Paper Ejection Attachment G10	0	0

	RISO SQUARE WEB VERSION	
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6. Cleaning and Replacement Parts List

Unit Name	Part Name	Cleaning Interval Page Count	Clear TM No.	Replacement Interval Page Count	Clear TM No.	* Self- Check Print Location
External Paper Feed Tray					04-4-110	
	Pickup Roller	-	-	200,000	04-4-111	1-(1)
(Chapter 4)	Scraper Roller	-	-	200,000	04-4-112	1-(2)
	Stripper Pad	-	-	200,000	04-4-113	1-(3)
Paper Tray 1					04-4-120	
	Pickup Roller	-	-	200,000	04-4-121	2-(1)
(Chapter E)	Scraper Roller	-	-	400,000	04-4-122	2-(2)
(Chapter 5)	Stripper Plate	-	-	300,000	04-4-123	2-(3)
	Oilless Metal	-	-	2,000,000	-	-
Paper Tray 2					04-4-130	
	Pickup Roller	-	-	200,000	04-4-131	3-(1)
(Charter 5)	Scraper Roller	-	-	400,000	04-4-132	3-(2)
(Chapter 5)	Stripper Plate	-	-	300,000	04-4-133	3-(3)
	Oilless Metal	-	-	2,000,000	-	-
Paper Tray 3					04-4-140	
	Pickup Roller	-	-	200,000	04-4-141	4-(1)
(Chapter 5)	Scraper Roller	-	-	400,000	04-4-142	4-(2)
(Chapter 3)	Stripper Plate	-	-	300,000	04-4-143	4-(3)
	Oilless Metal	-	-	2,000,000	-	-
Internal Paper Feed / Transfer						
	Internal Paper Feed Roller 1	500,000	-	2,000,000	-	-
	Internal Paper Feed Roller 2	500,000	-	2,000,000	-	-
	Internal Paper Feed Roller 3	500,000	-	2,000,000	-	-
(Chapter 5)	Internal Paper Merge Roller	500,000	-	2,000,000	-	-
	Bearing	-	-	2,000,000	-	-
	Bearings; Driven Roller	-	-	2,000,000	-	-
Vertical Transfer			04-4-250		04-4-150	
	Vertical Transfer Roller (Drive)	500,000	04-4-251	2,000,000	04-4-151	5-(1)-1
(Chapter 6)	Vertical Transfer Roller (Driven)	500,000	04-4-252	2,000,000	04-4-152	5-(1)-2
	Bearing	-	-	2,000,000	-	-
	Bearings; Driven Roller	-	-	2,000,000	-	-
Registration			04-4-260		04-4- <u>160</u>	
	Registration Roller	500.000	04-4-261	2,000.000	04-4-161	6-(1)
(Chapter 6)	Guide Roller	500,000	04-4-262	2,000,000	04-4-162	6-(2)

Transfer Belt		300,000	04-4-270		04-4-170	
(Chapter 7)	Transfer Belt	300,000	04-4-271	2,000,000	04-4-171	7-(1)
KG Roller		300,000	04-4-272	2,000,000	04-4-172	7-(2)
Paper Elevation			04-4-310		04-4-210	
	Paper Elevation Roller 1 (Drive)	500,000	04-4-311	2,000,000	04-4-211	11-(1)-1
	Paper Elevation Roller 1 (Driven)	500,000	04-4-312	2,000,000	04-4-212	11-(1)-2
(Chapter 8)	Paper Elevation Roller 2 (Drive)	500,000	04-4-313	2,000,000	04-4-213	11-(2)-1
	Paper Elevation Roller 2 (Driven)	500,000	04-4-314	2,000,000	04-4-214	11-(2)-2
	Bearing	-	-	2,000,000	-	-
Horizontal Transfer			04-4-300		04-4-200	
	Horizontal Transfer Roller 1 (Drive)	500,000	04-4-301	2,000,000	04-4-201	10-(1)-1
	Horizontal Transfer Roller 1 (Driven)	500,000	04-4-302	2,000,000	04-4-202	10-(1)-2
(Chapter 8)	Horizontal Transfer Roller 2 (Drive)	500,000	04-4-303	2,000,000	04-4-203	10-(2)-1
	Horizontal Transfer Roller 2 (Driven)	500,000	04-4-304	2,000,000	04-4-204	10-(2)-2
	Horizontal Transfer Roller 3 (Drive)	500,000	04-4-305	2,000,000	04-4-205	10-(3)-1
	Horizontal Transfer Roller 3 (Driven)	500,000	04-4-306	2,000,000	04-4-206	10-(3)-2
	Bearing	-	-	2,000,000	-	-
	Bearings; Driven Roller	-	-	2,000,000	-	-
FD Paper Ejection			04-4-320		04-4-220	
	FD Paper Ejection Roller (Drive)	500,000	04-4-321	2,000,000	04-4-221	12-(1)-1
	FD Paper Ejection Roller (Driven)	500,000	04-4-322	2,000,000	04-4-222	12-(1)-2
(Chapter 9)	Ejection Driven Wing Roller D	-	-	2,000,000	-	-
	Bearing	-	-	2,000,000	-	-
	Bearing SB; Driven Roller	-	-	2,000,000	-	-
	De-Electricity Brush	-	-	1,000,000	-	-
Switchback Entrance			04-4-300		04-4-200	
	SB Entrance Roller (Drive)	500,000	04-4-307	2,000,000	04-4-207	10-(4)-1
(Chapter 10)	SB Entrance Roller (Driven)	500,000	04-4-308	2,000,000	04-4-208	10-(4)-2
(Chapter 10)	Bearing	-	-	2,000,000	-	-
	Bearings; Driven Roller	-	-	2,000,000	-	-

Switchback			04-4-290		04-4-190	
	SB Roller (Drive)	500,000	04-4-291	2,000,000	04-4-191	9-(1)-1
	SB Roller (Driven)	500,000	04-4-292	2,000,000	04-4-192	9-(1)-2
(Chapter 10)	Re-Feed Roller (Drive)	-	04-4-293	2,000,000	04-4-193	9-(2)-1
(Chapter 10)	Re-Feed Roller (Driven)	-	04-4-294	2,000,000	04-4-194	9-(2)-2
	Bearing	-	-	2,000,000	-	-
	Bearings; Driven Roller	-	-	2,000,000	-	-
FU Paper Ejection	aper on		04-4-330		04-4-230	
	FU Paper Transport Roller (Drive)	500,000	04-4-331	2,000,000	04-4-231	13-(1)-1
(Chapter 9)	FU Paper Transport Roller (Driven)	500,000	04-4-332	2,000,000	04-4-232	13-(1)-2
	FU Paper Ejection Roller (Drive)	500,000	04-4-333	2,000,000	04-4-233	13-(2)-1
	FU Paper Ejection Roller (Driven)	500,000	04-4-334	2,000,000	04-4-234	13-(2)-2

* The self-check print is an informational print used to convey to the customer the goals of maintenance.

- TM 043050 "Prev Maint Check Print (Replace)"
- TM 043051 "Prev Maint Check Print (Clean)"

7. Driven Roller Spring List

Unit Name	Roller Name (Drive Side)	Part No.	Part Name	Quantity
Paper Elevation I Init	Paper Elevation Roller 1	050-55259-005	Transport Spring	4 pcs
	Paper Elevation Roller 2	000-00200-000	(Paper Elevation)	each
	Horizontal Transfer Roller 1		Transport Spring	4 ncs
Horizontal Transfer Unit	Horizontal Transfer Roller 2	050-55249-107	(Horizontal Transport)	each
	Horizontal Transfer Roller 3		(nonzontal manoport)	
ED Paper Ejection Unit	ED Paper Ejection Roller	050-62041-007	Paper Ejection	4
		000 02011 007	Pressure Spring	•
Switchback Entrance Unit	SB Entrance Roller	050-55249-107	Transport Spring	4
	CD Dollar			1
Switchback Unit		050-55249-107	Transport Spring	4 pcs
	Re-Feed Roller		(Horizontal Transport)	each
Vertical Transfer Unit	Vertical Transfer Roller	050-64307-101	Transport Spring (Switchback)	4
	Internal Paper Feed Roller 1			
Internal Paper Feed /	Internal Paper Feed Roller 2		Transport Spring (Horizontal Transport)	1 000
	Internal Paper Feed Roller 3	050-55249-107		each
	Internal Paper Merge Roller			00.011

8. Unit Action Test Mode List

Section/Unit	Roller Name	Roller Drive Source	Test Mode
	Standard Paper Feed	Paper Feed Tray Elevator Motor	05 0 040
External	Tray	(DC motor)	05-3-010
Paper Feed	Scraper Roller	External Paper Feed Motor (DC	
	Pickup Roller	motor)	05-2-002
	Paper Feed Tray Bottom		
	Plate 1		
	Paper Feed Tray Bottom	Tray 1 (, 2 or 3) Elevator Motor (DC	05-3-018
	Plate 2	motor)	05-3-019
	Paper Feed Tray Bottom		05-3-020
Internal	Plate 3		
Paper Feed	Internal Pickup Roller 1		
	Internal Pickup Roller 2		
	Internal Pickup Roller 3	Tray 1 (, 2 or 3) Pick Up Motor (DC	05-2-005
	Internal Scraper Roller 1	servo motor)	05-2-006
	Internal Scraper Roller 2		05-2-007
	Internal Scraper Roller 3		
	Internal Paper Feed		
	Roller 1		
linte un el	Internal Paper Feed		
Internal Deper Food (Roller 2	Internal Paper Feed Transport Motor	05 0 004
Trapel Feed /	Internal Paper Feed	(DC servo motor)	05-2-004
Transier	Roller 3		
	Internal Paper Merger		
	Roller		
Vertical	Vertical Transfer Roller	External Paper Feed Motor (DC	05-2-003
Transfer		servo motor)	00 2 000
Registration	Guide Roller	Driven	-
regionation	Registration Roller	Registration Motor (DC motor)	05-2-001
	Transfer Belt Driven Roller	Driven	-
Transfer Belt	Transfer Belt Drive Roller	Transfer Belt Motor (Brushless DC motor)	06-2-011
Paper	Paper Elevation Roller 1	Paper Elevation Transfer Motor 1 or 2	06-2-012
Elevation	Paper Elevation Roller 2	(DC motor)	06-2-013
	Horizontal Transfer	Horizontal Transfer Motor 1 (DC	06.0.016
	Roller 1	motor)	00-2-010
Horizontal	Horizontal Transfer		
Transfer	Roller 2	Horizontal Transfer Motor 2	06 2 017
	Horizontal Transfer	(Brushless DC motor)	00-2-017
	Roller 3		
Switchback	SB Entrance Roller	Horizontal Transfer Motor 2	06-2-017
Entrance		(Brushless DC motor)	
	FD Paper Ejection	FD Paper Ejection Flipper	06-2-031
Switchback	Flipper	Solenoid (Solenoid)	
	SB Roller	Switchback Transport Motor (DC motor)	06-2-014 / 015
	Re-Feed Roller	Re-Feed Motor (DC motor)	05-2-008
FD Paper	FD Paper Ejection	ED Paper Ejection Motor (DC motor)	07-2-001
Ejection	Roller		

[Memo]

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Chapter 4. External Paper Feed Section

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1. Overview

1-1. Basic Structure

This section comprises "Standard Paper Feed Tray Unit," "Stripper Unit," "Paper Feed Roller Assembly" and "External Paper Feed Pressure Assembly" (including the elevation mechanism). It sends a sheet of paper at a time from the Standard Paper Feed Tray to inside the printer.



1-2. Unit Structure

- (1) Standard Paper Feed Tray Unit
 - The Paper Feed Guides can be moved into position to match the width of paper loaded on the Standard Paper Feed Tray and then locked with the Paper Feed Guide Lock Lever.
 - The size of paper loaded on the Standard Paper Feed Tray is detected with the Paper Width Potentiometer and Paper Length Detection Sensor built in the tray.
 - If no paper is detected on the Standard Paper Feed Tray with the Paper Feed Tray Paper Detection Sensor, the tray moves down to the lower limit position.



Paper width to be determined based on the A/D value provided by the Paper Width Potentiometer



Paper Length Detection Sensor

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(2) External Paper Feed Unit

This unit is composed of the Stripper Unit, Paper Feed Roller Assembly, Feed Tray Upper Limit Adjustment Assembly and Paper Feed Pressure Assembly. The Scraper Roller and Pickup Roller are driven by the External Paper Feed Motor to feed one sheet of paper up to the Registration Roller at a time.



(3) Stripper Unit

This unit is composed of the Stripper Pad, Stripper Pressure Adjustment Mechanism and the Stripper Angle Adjustment Mechanism. A sheet of paper is picked up from a stack of paper loaded on the Standard Paper Feed Tray with the Pickup Roller and Stripper Pad.

(4) Paper Feed Pressure Assembly

The Scraper Roller can be controlled with the Paper Feed Pressure Lever. It contacts paper with its own weight when the lever is set to "Standard", and with its own weight and spring pressure when the lever is set to "Card Stock."

(5) External Paper Feed Motor

Located outside the Rear Frame, the motor drives the Pickup Roller Drive Shaft in the forward direction and drives the Vertical Transfer Roller in the reverse direction.

1-3. Mechanisms and Operations

(1) Paper Feed Tray Elevation Mechanism

• The rise and descent of the Standard Paper Feed Tray is controlled by the Paper Feed Tray Elevator Motor, Paper Feed Tray Upper Limit Sensors A and B, Paper Feed Tray Lower Limit Sensor and Paper Feed Tray Elevation Switch.



- 1) Standard Paper Feed Tray elevation operation
 - The Standard Paper Feed Tray is raised by the Paper Feed Tray Elevator Motor and stopped at the specified upper limit position (when the Paper Feed Tray Upper Limit Sensor or Sensors are turned ON).
 - Three levels of upper limit positions are prepared in accordance with paper type through the use of the Paper Feed Tray Upper Limit Sensors A and B.
 - During printing, the Standard Paper Feed Tray is continuously raised to be at the upper limit position while paper is fed one sheet at a time by the paper feed rollers.

Thin paper	The paper feed tray upper limit position is detected when the Paper Feed Tray Upper Limit Sensor A turns on (the Paper Feed Tray Upper Limit Sensor B is off).
Standard	The paper feed tray upper limit position is detected when the Paper Feed Tray Upper Limit Sensor A turns on and then the Paper Feed Tray Upper Limit Sensor B turns on.
Card stock	The paper feed tray upper limit position is detected when the Paper Feed Tray Upper Limit Sensor B turns on and then the Paper Feed Tray Upper Limit Sensor A turns off.



- 2) Standard Paper Feed Tray lowering operation
 - The Standard Paper Feed Tray is lowered by the Paper Feed Tray Elevator Motor and stopped at the lower limit position (when the Paper Feed Tray Lower Limit Sensor is turned ON).
 - If paper runs out on the Standard Paper Feed Tray during printing operation, the tray is automatically lowered to the lower limit position.
- 3) Standard Paper Feed Tray Elevation Switch

This switch is used to raise or lower the Standard Paper Feed Tray manually.

• When the Tray is at the lower limit position;

Pressing this switch once raises the tray to the upper limit position. It can be raised only when the tray is at the lower limit position and when there is paper loaded on the tray (the same applies to positioning). Pressing the switch again during upward movement stops the upward movement.

• When the Tray is not at the lower limit position;

Holding down this switch lowers the tray. The tray stops when it reaches the lower limit position or when the switch is released.



- 4) Paper Feed Tray Elevator Safety Mechanism
 - During moving up/down or stopping the Standard Paper Feed Tray, safety is maintained by the Paper Feed Tray Upper Safety Switch and Paper Feed Tray Lower Safety Switch.
 - The Paper Feed Tray Upper Safety Switch is disengaged when the Paper Feed Cover is lifted up, and the Paper Feed Tray Lower Safety Switch is disengaged when the Lower Limit Frame is pushed down. The release of either switch is detected as an error in the paper feed tray section, causing the Paper Feed Tray Elevator Motor to stop.
 - If the Stripper Unit is removed, the Stripper Unit Set Switch turns OFF and the Paper Feed Tray Elevator Motor will not operate.
- (2) Paper Stripper Mechanism
 - Some sheets of paper on the Standard Paper Feed Tray are led into between the Pickup Roller and Stripper Pad through rotation of the Scraper Roller.
 - Additionally sheets are gripped and fed by the Pickup Roller and Stripper Pad so that only one sheet on top is led into the printer.
 - The Stripper Pad is pressed against the Pickup Roller with the force of the Stripper Spring, which prevents multiple sheets of paper from feeding together.
 - The Stripper Pad angle and stripper pressure can be adjusted with the Stripper Angle Adjusting Knob and Stripper Pressure Adjusting Knob.



- (3) Paper Feeding Mechanism
 - This section feeds a sheet of paper at a time from the Standard Paper Feed Tray to the paper transfer section. Feeding starts when a stack of paper is raised up to the paper feed position. The paper feed rollers pick a sheet from the stack of paper and pass it to the Registration Roller, which transfers the received sheet further.
 - The paper feed rollers feed a sheet of paper in time with the rotation of the registration roller and their operation period differs depending on a selected print mode.
 - The paper feed rollers, i.e. Pickup Roller and Scraper Roller, stop after feeding a sheet of paper by a certain range, while generating a buckle at the front end of the feeding sheet against the Registration Roller, and are led to rotate free while the feeding sheet is further transferred by the Registration Roller.
 - The Registration Sensor, which is located just before the registration roller, determines that paper misfeed has occurred if it does not detect a feeding sheet within a specified period.



(4) Paper Feed Pressure Selection Mechanism

The paper feed pressure of the Scraper Roller (scraping pressure) can be selected between two levels, standard (low) and card stock (high), by shifting the Paper Feed Pressure Lever to the left or the right.

A spring force is added to the weight of the Scraper Roller when the Paper Feed Pressure Lever is shifted to the right ("card stock"), thus increasing the paper feed pressure (scraping pressure).



- (5) Paper Feed Range Control
 - The paper feed range is automatically adjusted in accordance with the advancing speed of feeding sheets, thus ensuring proper generation of a buckle at the front end of feeding sheets against the Registration Roller.
 - It is judged by comparing the actual activation timing of the Registration Sensor with a predefined theoretical one whether a feeding sheet advances earlier or later than expected.
 - The paper feed range is extended or shortened by delaying or advancing the deceleration timing of the Pickup Roller and Scraper Roller, i.e. External Paper Feed Motor.
 - When judged later: Delays the deceleration timing of the External Paper Feed Motor.
 - When judged earlier: Advances the deceleration timing of the External Paper Feed Motor.
- (6) Supplementary Feed Action for Noise Reduction
 - The noise to be emitted when a paper buckle is flattened out on a feeding sheet during the secondary paper feed action with the Registration Roller is suppressed by buffering the resulting impact with a supplementary feed action.
 - When the Registration Motor is activated for the secondary paper feed, the External Paper Feed Motor is also activated to provide a feeding sheet with a supplementary feed action from behind with the Pickup Roller and Scraper Roller, thus preventing a paper buckle from being flattened out so quickly as to make a snap noise.
 - The external paper feed motor then stops operating after a predefined amount of time to prepare for the subsequent paper feed action.
 - The said supplementary feed action, which can be disabled through the test mode No. TM 056026 "P-FEED TRAY ASSIST CONTROL ON/OFF" individually for the respective paper types, is enabled by default, excluding "Card stock."

[Note] The supplementary feed action is automatically disabled without sufficient interval between regular feed actions if the length of feeding sheets is 175 mm or less, thus preventing possible multiple sheet feed. For custom paper formats, however, the said action will not be automatically disabled even if their length is 175 mm or less, unless they are registered as paper format, thus causing multiple sheet feed in some cases.



(7) Paper Volume Detection Mechanism

The volume of paper loaded on the Standard Paper Feed Tray is determined by checking the status of the Paper Feed Tray Paper Volume Sensors A and B when the tray is at the upper limit position, as indicated in the table below.



Paper Volume Sensor B

Paper volume and sensor status		Sensor Status		
		Paper Detection Sensor	Paper Volume Sensor A	Paper Volumr Sensor B
Paper volume	100%-50%	ON	OFF	OFF
	49%-31%	ON	OFF	ON
	30%–11%	ON	ON	ON
	10% or less	ON	ON	OFF
	No paper	OFF		

1-4. Unit Action Test Mode List

Unit Name	Sensor/Motor/etc.	Туре	Function	Test Mode
Paper Feed Tray Unit	Paper Feed Tray Elevator Motor	DC motor	Raises and lowers the Standard Paper Feed Tray.	05-3-016 05-3-017
	Paper Feed Tray Lower Limit Sensor	Interrupt type sensor	Detects the lower limit position of the Standard Paper Feed Tray.	05-1-003
	Paper Feed Tray Paper Length Detection Sensor	Reflection type sensor	Determines several regular paper formats.	05-1-016
	Paper Feed Tray Paper Detection Sensor	Reflection type sensor	Detects paper on the Standard Paper Feed Tray.	05-1-011
	Paper Feed Tray Paper Width Potentiometer	Potentiometer	Determines paper width (or regular formats) with high accuracy.	05-3-001 05-3-002 05-3-003
	Paper Feed Tray Lower Safety Switch	Microswitch	Stops the descent of the Standard Paper Feed Tray for safety.	04-1-005
External Paper Feed Unit	External Paper Feed Motor	DC servo motor	Drives the Pickup Roller, Scraper Roller and Vertical Transfer Roller.	05-2-002 05-2-003
	Paper Feed Tray Upper Safety Switch	Microswitch	Stops the elevation of the Standard Paper Feed Tray for safety.	04-1-005
	Paper Feed Tray Upper Limit Sensor A	Interrupt type sensor	Determines the corresponding upper limit position of a stack	05-1-001
	Paper Feed Tray Upper Limit Sensor B	Interrupt type sensor	Standard Paper Feed Tray for specified paper types.	05-1-002
	Paper Feed Tray Elevation Switch	Interrupt type sensor	Manually raises and lowers the Standard Paper Feed Tray.	05-1-056
	Stripper Unit Set Switch	Microswitch	Prevents the operation of the Standard Paper Feed Tray for safety when the Stripper Unit is dismounted.	04-1-009

1-5. Components and their Drive Source

Section	Roller	Drive Source
External Paper Feed	Pickup Roller	External Paper Feed Motor (DC ser
	Scraper Roller	motor)

2. Disassembly and Reassembly

- 2-1. Paper Feed Tray Elevator Motor Assembly
- 2-2. Standard Paper Feed Tray Unit
- 2-3. Paper Feed Tray Paper Detection Sensor
- 2-4. Paper Feed Tray Paper Width Potentiometer
- 2-5. Paper Feed Tray Paper Length Detection Sensor
- 2-6. Paper Feed Tray Lower Limit Sensor Assembly
- 2-7. External Paper Feed Motor Assembly
- 2-8. Stripper Unit Set Switch Assembly
- 2-9. External Paper Feed Unit
- 2-10. Paper Feed Tray Upper Limit Sensor A/B
- 2-11. Paper Feed Tray Upper Safety Switch
- 2-12. Paper Feed Tray Elevation Switch (Paper Feed Tray Elevation Button Sensor)
- 2-13. Paper Feed Tray Lower Safety Switch Assembly
- 2-14. Paper Feed Tray Paper Volume Sensor A/B
- 2-15. Pickup Roller
- 2-16. Scraper Roller
- 2-17. Stripper Unit
- 2-18. Stripper Pad

2-1. Paper Feed Tray Elevator Motor Assembly

- First raise the Standard Paper Feed Tray Unit to the upper limit position, then turn OFF the power.
- (2) Remove the Left Inner Cover.

(Refer to Chapter 2.)

(3) Detach a ground wire.

(Double-washer screw 3×8 (1 pc))

- Pull off a reusable band. (1 pc)
- Disconnect a connector. (1 pc)
- Remove the Elevator Spring (Front).
- Remove the Paper Feed Tray Elevator Motor Assembly.

(Double-washer screw 4×8 (1 pc), E-ring φ6 (1 pc))



Paper Feed Tray Elevator Motor Assembly

2-2. Standard Paper Feed Tray Unit

- (1) Lower the Standard Paper Feed Tray Unit to the lower limit, and then turn OFF the power.
- (2) Remove the Wire Harness Cover Guide and the Wire Harness Cover.

(Binding screw 3×8 (1 pc each))



(3) Disconnect the Paper Feed Tray Wire Harness from the connector and remove the Wire Harness Holder from the Paper Feed Tray Frame.



Wire Harness Holder (mylar)

* Note: The contact point of the Paper Feed Tray Wire Harness should face the rear side of the printer. (4) Remove the Hinge Cover.

(Binding screw 3×8 (1 pc))



(5) Remove the E-rings on the front and rear sides (φ6 (1 pc each)), and detach the Paper Feed Tray Retaining Plate (front).



Paper Feed Tray Retaining Plate



(6) Remove the Standard Paper Feed Tray Unit.

2-3. Paper Feed Tray Paper Detection Sensor

- (1) Lower the Standard Paper Feed Tray Unit to the lower limit, and then turn OFF the power.
- (2) Remove the Wire Harness Cover Guide and the Wire Harness Cover.

(Binding screw 3×8 (1 pc each))



(3) Disconnect the Paper Feed Tray Wire Harness from the connector and remove the Wire Harness Holder from the Paper Feed Tray Frame.



(4) Remove the Paper Feed Tray Cover
 (attached on the other side in the photo).
 (Binding P-tite screw (black) 4×10 (8 pcs))



(5) Remove the Paper Feed Tray Bottom Frame Assembly. (P-tite screw 3×10 (8 pcs))



Paper Feed Tray Bottom Frame Assembly

- (6) Remove the Paper Feed Tray Paper Detection Sensor.
- Disconnect the connector.



2-4. Paper Feed Tray Paper Width Potentiometer

- (1) Lower the Standard Paper Feed Tray Unit to the lower limit, and then turn OFF the power.
- (2) Remove the Wire Harness Cover Guide and the Wire Harness Cover.

(Binding screw 3×8 (1 pc each)) Wire Harness Cover Guide

(3) Disconnect the Paper Feed Tray Wire Harness from the connector and remove the Wire Harness Holder from the Paper Feed Tray Frame.



(4) Remove the Paper Feed Tray Cover(attached on the other side in the photo).(Binding P-tite screw (black) 4×10 (8 pcs))



(5) Remove the Paper Feed Tray Bottom Frame Assembly. (P-tite screw 3×10 (8 pcs))



Paper Feed Tray Bottom Frame Assembly

(6) Remove the Paper Feed Tray Paper Width Potentiometer.

(P-tite screw 3×10 (2 pcs))



(7) Disconnect a connector.



* Reassembly precautions:

Align the Paper Guide Rack Alignment Marks and the Spur Gear Alignment Mark when mounting the Paper Feed Tray Paper Width Potentiometer.



* After replacing the Paper Feed Tray Paper Width Potentiometer, always make "Paper Feed Tray Paper Width Potentiometer Adjustment."

Refer to "3. Adjustments" in this chapter.

2-5. Paper Feed Tray Paper Length Detection Sensor

- (1) Lower the Standard Paper Feed Tray Unit to the lower limit, and then turn OFF the power.
- (2) Remove the Wire Harness Cover Guide and the Wire Harness Cover.

(Binding screw 3×8 (1 pc each))



(3) Disconnect the Paper Feed Tray Wire Harness from the connector and remove the Wire Harness Holder from the Paper Feed Tray Frame.



(4) Remove the Paper Feed Tray Cover(attached on the other side in the photo).(Binding P-tite screw (black) 4×10 (8 pcs))



- (5) Remove the Paper Feed Tray Paper Length Detection Sensor.
- Disconnect a connector.

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2-6. Paper Feed Tray Lower Limit Sensor Assembly

- (1) Remove the Rear Cover Assembly. (Refer to Chapter 2.)
- (2) Put the Power Supply Unit in maintenance position. (Refer to Chapter 2.)
- (3) Disconnect a connector and pull off a reusable band. (1 pc each)
- Remove the Paper Feed Tray Lower Limit Sensor Assembly.

(Round tip IT3C screw 4×8 (1 pc))

Paper Feed Tray Lower Limit Sensor Assembly



2-7. External Paper Feed Motor Assembly

- (1) Lower the Standard Paper Feed Tray to the lower limit, and then turn OFF the power.
- (2) Remove the Rear Cover Assembly.
 - (Refer to Chapter 2.)
- (3) Put the Power Supply Unit in maintenance position. (Refer to Chapter 2.)
- (4) Put the Engine Control PCB in maintenance position. (Refer to Chapter 2.)
- (5) Pull off a reusable band. (1 pc)
- Disconnect connectors. (2 pcs)
- Remove the External Paper Feed Motor Assembly.

(Round tip IT3C screw 4×10 (3 pcs))



 Reassembly precautions:
 Check the engagement with the Pickup Roller Shaft.

2-8. Stripper Unit Set Switch Assembly

(1) Remove the External Paper Feed Unit. (Refer to 2-9 in this chapter.)



(2) Remove the Stripper Unit.

(Refer to 2-17 in this chapter.)

- (3) Remove the Stripper Unit Set SwitchAssembly. (Binding screw 3×8 (2 pcs))
- Disconnect a connector. (1 pc)





2-9. External Paper Feed Unit



- External Paper Feed Unit
- (1) Raise the Standard Paper Feed Tray to the upper limit position, and then turn OFF the power.
- (2) Remove the Left Inner Cover.

(Refer to Chapter 2.)

(3) Remove the Elevator Spring (Front).



 (4) Remove the Paper Feed Tray Elevator Motor Assembly. (Refer to 2-1 in this chapter.)
 Note: Hold the Standard Paper Feed Tray when detaching the Paper Feed Tray Elevator Motor Assembly.

(5) Remove the Paper Feed Roller Assembly. (Refer to 2-15 in this chapter.)

(6) Dismount the Standard Paper Feed Tray Unit. (Refer to 2-2 in this chapter.) (7) Remove the Elevator Reinforcement Plate. (Double-washer screw 4×8 (2 pcs))



(8) Remove the Lower Limit Safety Switch Spring (Front).



(9) Remove the Lower Limit Frame.(Double-washer screw 3×6 (1 pc))


(10) Remove the Elevator Guides (F and R).(Binding screw 4×8 (2 pcs each))



(11) Lower the Elevator Shaft and tilt the External Paper Feed Unit forward.(Round tip IT3C screw 4×10 (4 pcs))



(12) Disconnect connectors. (3 pcs)



- (13) Take out the External Paper Feed Unit.
- * In reassembly, shift the above connectors behind the rear side frame in advance.

2-10. Paper Feed Tray Upper Limit Sensor A/B

(1) Remove the Paper Feed Cover. (Binding screw 3×8 (2 pcs))



- (2) Disconnect connectors. (3 pcs)
- Remove the Paper Feed Tray Upper Limit Adjustment Assembly.

(Round tip IT3C screw 3×8 (3 pcs))



- (3) Disconnect connectors. (1 pc each)
- Remove the Paper Feed Tray Upper Limit Sensor A/B.



2-11. Paper Feed Tray Upper Safety Switch

(1) Remove the Paper Feed Tray Upper Limit Adjustment Assembly.

(Refer to 2-10 in this chapter.)

Remove the Paper Feed Tray Upper Safety Switch.

(Pan-head screw 3×14 (2 pcs))



- 2-12. Paper Feed Tray Elevation Switch (Paper Feed Tray Elevation Button Sensor)
- (1) Remove the Paper Feed Tray Upper Limit Adjustment Assembly. (Refer to 2-10 in this chapter.)
- (2) Remove the Paper Feed Tray Elevation Button.
- Disconnect a connector. (1 pc)
- Remove the Paper Feed Tray Elevation Button Sensor.



- 2-13. Paper Feed Tray Lower Safety Switch Assembly
- (1) Remove the Rear Cover Assembly.

(Refer to Chapter 2.)

- (2) Put the Power Supply Unit in maintenance position. (Refer to Chapter 2.)
- (3) Disconnect a connector. (1 pc)
- Remove the Paper Feed Tray Lower Safety Switch Assembly.

(Round tip IT3C screw 4×8 (1 pc))



- 2-14. Paper Feed Tray Paper Volume Sensor A/B
- (1) Remove the Rear Cover Assembly. (Refer to Chapter 2.)
- (2) Put the Power Supply Unit in maintenance position. (Refer to Chapter 2.)
- (3) Remove the Paper Feed Tray PaperVolume Sensor Assembly.(Round tip IT3C screw 4×8 (1 pc))



Paper Feed Tray Paper Volume Sensor B

(4) Disconnect connectors. (1 pc each)



(5) Remove the Paper Feed Tray Paper Volume Sensors A and B.

2-15. Pickup Roller

(1) Remove a snap ring from the Pickup Roller Shaft.



- (2) Remove the Paper Feed Roller Assembly by sliding it towards the front of the printer.
- Remove a metal collar.
- Remove a noise absorbing cushion roller.



(3) Remove the Pickup Roller. (Clip)



* When reassembling the Pickup Roller, make sure to install it so that the one way clutch is visible from the front side of the printer.

2-16. Scraper Roller

- (1) Remove a snap ring from the scraper roller shaft.
- Remove the Scraper Roller together with the shaft and a metal collar.





* When reassembling the Scraper Roller, make sure to install it so that the one way clutch is visible from the front side of the printer.

2-17. Stripper Unit

- (1) Slide the Lock Slide of the Stripper Unit downward.
- Push in the Lock Knob.
- Remove the Stripper Unit.



2-18. Stripper Pad

- (1) Remove the Stripper Unit. (Refer to 2-17 in this chapter.)
- (2) Remove the Stripper Pad.



(3) Detach the Stripper Pad (, which is attached with double-sided adhesive tape).



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3. Adjustments

3-1. Standard Paper Feed Tray Upper Limit Position

Adjust the upper limit position of the Standard Paper Feed Tray when it has changed due to wear of the Scraper Roller.

Make the adjustment by inserting a Phillips screwdriver into the adjustment hole on the Paper Feed Cover.

- \Rightarrow Turn clockwise to lower the upper limit position.
- \Rightarrow Turn counterclockwise to raise the upper limit position.
- * 1 screw turn lowers or raises the upper limit position by approx. 0.5 mm, without considering the backlash created when reversing the turning direction.
- * Target adjustment value: 1.5 to 2.5mm gap between the Pickup Roller and the Standard Paper Feed Tray (as indicated in the figure below).





3-2. Paper Feed Tray Paper Width Potentiometer (3 point compensation)

- (1) Load A3 size paper on the Standard Paper Feed Tray in the short-edge-feed (297 mm) direction and fit the Paper Feed Guides to paper edges. Execute the test mode No. TM 053001 "PAPER FEED TRAY WIDTH ADJUST (WIDE)."
- (2) Load A4 size paper on the Standard Paper Feed Tray in the short-edge-feed (210 mm) direction and fit the Paper Feed Guides to paper edges. Execute the test mode No. TM 053002 "PAPER FEED TRAY WIDTH ADJUST (MID.)."
- (3) Load A6 size paper on the Standard Paper Feed Tray in the short-edge-feed (105 mm, i.e. the length of A4 vertical bi-fold) direction and fit the Paper Feed Guides to paper edges. Execute the test mode No. TM 053003 "PAPER FEED TRAY WIDTH ADJUST (NRRW)."
- (4) Execute the test mode No. TM 055002 "P-FEED TRAY PAPER WIDTH DETECT CHECK" and check whether the panel display for each paper size is within the range specified below:
 - A3 width 2940 to 3000 (2970±30): 297±3 mm
 - A4 width 2070 to 2130 (2100±30): 210±3 mm
 - A6 width 1020 to 1080 (1050±30): 105±3 mm
 - [Note] When fitting the paper feed guides to paper edges, always slide them inward toward paper. (If they are slided outward for final positioning, the measured value of the potentiometer may be changed due to gear backlash, thus leading the adjustment results to be improper.)

3-3. External Paper Feed Amount (Paper Buckle Size)

The size of paper buckle to be formed before the registration roller can be adjusted by changing the operation period of the external paper feed motor. Adjust it through the corresponding test mode (TM 056017 "PFT PAPER BUCKLE") for the respective paper types in cases paper misfeed or jam frequently occurs possibly due to improper paper feed condition.

01: Standard / 02: Thin / 03: Thick / 04: Envelope / 05: Card stock / 06: U1 / 07: U2 / 08: U3 / 09: U4 / 10: U5 / 11: Low-weight paper

- [Default value] 10mm
- [Adjustment unit] 1mm

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Chapter 5. Internal Paper Feed Section

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1. Overview

1-1. Basic Structure

This section is composed of Internal Paper Feed Tray Unit, Internal Paper Pickup Unit and Internal Paper Feed Unit, and feeds paper, one sheet at a time, from the internal paper feed trays.



1-2. Unit Structure

(1) Internal Paper Feed Tray Unit

The Internal Paper Feed Tray units are inserted inside the bottom section of the printer and can hold paper whose format is up to A3/Ledger.

When closed, each tray is supported parallel in position by two Tray Catch Shafts on the rear side, which are inserted into two holes on the rear frame of the printer.

The related electrical components, such as Tray Set Switch, Paper Size Detection Sensor (4 pcs), Tray Elevator Motor and Paper Volume Sensors, are all mounted on the printer, leaving each tray without electrical components.

1) Tray Set Switch

Detects whether the Internal Paper Feed Tray is set in place.

2) Side Paper Guides

Hold a stack of paper whose width is between 180 and 300 mm, centering it through synchronous inward movement.

3) End Paper Guide

Slides to hold the trailing edge of paper.

4) Paper Size Detection Sensors (4 pcs)

Determine the size of loaded paper based on the position of the End Paper Guide.

5) Tray Elevator Motor

Raises the Tray Bottom Plate to prepare loaded paper for feeding operation.

6) Tray Paper Volume Sensor

Determines whether the remaining paper volume in the Internal Paper Feed Tray is less than 50% or not, based on its detection status when loaded paper is set at the upper limit position.



(2) Internal Paper Pickup Unit

The Internal Paper Pickup Unit transports paper from the Internal Paper Feed Tray to the Internal Paper Feed Unit and is equipped with the Tray Paper Detection Sensor and Tray Upper Limit Sensor.

1) Tray Pickup Motor

Drives the Internal Pickup Roller and Internal Scraper Roller to feed a sheet of paper from the Internal Paper Feed Tray.

2) Tray Upper Limit Sensor

Determines whether loaded paper is shifted up to the upper limit position for feeding operation in the Internal Paper Feed Tray.

3) Tray Paper Detection Sensor

Detects whether paper is loaded in the Internal Paper Feed Tray.





(3) Internal Paper Feed Unit

This unit is equipped with Internal Paper Feed Rollers (1, 2 and 3), which receive paper from the Internal Paper Feed Trays. At the junction point of the internal paper feed paths from the Internal Paper Feed Trays 2 and 3, besides, the Internal Paper Merge Roller is provided. These four rollers, which are all driven by the Internal Paper Feed Transport Motor, transport paper to the Vertical Transfer Unit, which is described in the next Chapter.



1-3. Mechanisms and Operations

(1) Internal Paper Loading Operation

- 1) When the Internal Paper Feed Tray is inserted into the printer, the Tray Elevator Motor rotates and raises the Tray Bottom Plate until the leading side of loaded paper is shifted up to the upper limit position, which is detected by the Tray Upper Limit Sensor.
- 2) When the Tray Elevator Motor stops rotating at the upper limit position, the volume of loaded paper is checked with the Tray Paper Detection Sensor and Paper Volume Sensor.
- 3) The Internal Stripper Plate and Internal Pickup Roller are separated when the Internal Paper Feed Tray is to be pulled out, thus allowing smooth tray pullout with paper grip released. The actuator of the Paper Detection Sensor, besides, is freed to avoid damage at the same time.
- 4) When a paper jam occurs, the internal paper pickup operation stops immediately, without lowering the Tray Bottom Plate.

- (2) Internal Paper Pickup Operation
 - 1) A sheet of paper is picked up from a loaded paper stack at a time by rotation of the Internal Pickup and Internal Scraper Rollers, which are driven by the Tray Pickup Motor, while keeping the paper stack set at the upper limit position.
 - 2) During paper feed operation, the Tray Elevator Motor operates to raise the Tray Bottom Plate (loaded paper stack) by a predefined range when the Tray Upper Limit Sensor is opened due to reduced paper stack volume, thus keeping an optimal position of paper stack for single sheet pickup during internal paper feed operation.
 - 3) When paper runs out, the printer stops operating with notification of depleted paper while keeping the Tray Bottom Plate raised. When the tray is pulled out from the printer, then, the coupling with the Tray Elevator Motor is disengaged, thus letting the Tray Bottom Plate descend under its own weight.
- (3) Internal Paper Feed Operation
 - 1) When a feeding sheet is detected by the Internal Paper Transfer Sensor, the Tray Pickup Motor is deactivated to stop the rotation of both the Internal Scraper Roller and Internal Pickup Roller, thus finishing the internal paper pickup operation, while regulating the rotation speed of the Tray Pickup Motor for the subsequent internal paper feed operation based on the slippage volume of the Internal Pickup Roller on the feeding sheet.
 - 2) A predefined amount of time after the Internal Paper Merge Sensor or Internal Paper Transfer Sensor 1 detects a feeding sheet, the External Paper Feed Motor is activated to rotate the Vertical Transfer Roller, thus feeding the coming sheet to the Registration Roller.
 - Simplex print: The Internal Paper Feed Transport Motor continues rotating.
 - Duplex print: The Internal Paper Feed Transport Motor is suspended when the Internal Paper Merge Sensor or Internal Paper Transfer Sensor 1 is opened and then resumes operation for the following sheet to feed.
 - 3) The Internal Paper Feed Rollers transfer the feeding sheet to the Vertical Transfer Roller, which feeds the sheet further to rectify paper skew in the Registration Unit through paper buckle formation and stops rotating.
 - 4) The amount of time is measured until the leading edge of the following sheet reaches the Vertical Transfer Sensor after the trailing edge of the current one passes through the said sensor. The timing at which paper reaches the Registration Roller is adjusted by changing the timing of paper transport speed reduction in accordance with the measurement result. (Refer to "Chapter 6 Registration Unit" for details.)
 - 5) The Internal Paper Feed Transport Motor stops to finish the internal paper feed operation when the final sheet has passed through the Registration Sensor.



(4) Internal Pickup Roller Slippage Adjustment

While paper feeds from the Internal Pickup Roller until the Vertical Transfer Roller, the delay of paper advance is measured in comparison with predefined theory values when paper reaches the Internal Paper Transfer Sensor 1, 2 or 3. Based on the measurement result, the rotation speed of the Internal Paper Feed Rollers, i.e. Internal Paper Feed Transport Motor, is changed between the Internal Paper Transfer Sensor 1, 2 or 3 and the Vertical Transfer Roller to adjust the timing of paper arrival at the said roller, thus ensuring stable internal paper feed from any Internal Paper Feed Tray.

When the Internal Paper Transfer Sensor 1, 2 or 3 detects the leading edge of paper, the adjustment amount of speed is determined according to the information provided by the sensor as follows:

- When the actual arrival timing is later than the theory one. (Delay occurred)
- ⇒ Accelerating the Internal Paper Feed Transport Motor.
- When the actual arrival timing is earlier than the theory one. (Advance occurred)
- ⇒ Decelerating the Internal Paper Feed Transport Motor.

(5) Internal Paper Feed Tray Paper Volume Detection Mechanism

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- 1) The remaining volume of paper stack in the Internal Paper Feed Tray is detected through the position of the Tray Bottom Plate, which is detected by the Tray Paper Volume Sensor, while using the Tray Paper Detection Sensor for paper presence check in the tray, as indicated below.
- 2) When the Internal Paper Feed Tray is set inside the printer with paper stack loaded, the Tray Bottom Plate is raised up to the standby position for internal paper feed.
- 3) When internal paper feed operation starts, then, the Tray Bottom Plate is intermittently raised according to the reduction of paper stack on it, thus leading the position of the corresponding light blocking plate to change for the Tray Paper Volume Sensor.
- 4) When the Tray Paper Volume Sensor is blocked by the said light blocking plate under the above-mentioned condition, it is assumed that the volume of paper stack loaded in the Internal Paper Feed Tray has been reduced to 50%.



Relationship of Remaining Volume and Sensors		Sensor status	
		Tray Paper Detection Sensor	Tray Paper Volume Sensor
Remaining volume of paper	50% or more	ON	OFF
	Less than 50%	ON	ON
	0%	OFF	ON



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(6) Paper Size , Paper Length, Leading/Trailing Edge Detection Mechanism

When the End Paper Guide moves, the sensor light block plate slides, moved by the link and gear mechanism, thus leading the detection status of four interrupt type sensors (Paper Size Detection Sensors) to change accordingly. The size of loaded paper is determined by the combination of detection (ON/OFF) status of the said sensors.





Although paper size is detected when paper is loaded in the tray, it may be erroneously detected by incorrect placement of the End Paper Guide or detection errors of the corresponding sensors in the tray. Therefore, paper length is finally determined through detection of the advancing paper edges (leading and trailing) by the Top Edge Sensor 1.

If the paper length which is determined by the Top Edge Sensor 1 differs from that detected through the position of the End Paper Guide beyond a predefined range, the former is to be applied to control a paper transport speed during the current operation.

As wrong paper size information may lead to ink stains on the Transfer Belt, besides, the Print Heads start or stop ink ejection according to paper edge detection by by the Top Edge Sensor 2, not based on the paper size information provided through the position of the Tray End Paper Guide. (Refer to 1.3.6 in Chapter 6.)

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1-4. Unit Action Test Mode List

Unit Name	Sensor/Motor/etc.	Туре	Function	Test Mode
Internal Paper Feed Tray Unit 1	Tray 1 Elevator Motor	DC motor	Raises the Tray Bottom Plate in the Tray 1.	05-3-018
	Tray 1 Paper Size Detection Sensors 1/2/3/4	Interrupt type sensor	Determines a paper size by a combination of four sensors and a pectinate light block plate in the Tray 1.	05-1-017 -018 -019 -020
	Tray 1 Paper Volume Sensor	Interrupt type sensor	Detects the paper volume in the Tray 1.	05-5-012
	Tray 1 Set Switch	Micro switch	Interlock safety switch for the Tray 1.	04-1-006
Internal Paper Pickup Unit 1	Tray 1 Paper Detection Sensor	Interrupt type sensor	Detects paper on the Tray Bottom Plate in the Tray 1.	05-1-012
	Tray 1 Upper Limit Sensor	Interrupt type sensor	Detects the upper limit of paper stack in the Tray 1.	05-1-004
	Tray 1 Pickup Motor	DC motor	Drives the Internal Pickupand Scraper Rollers 1.	05-2-005
Internal Paper Feed Tray Unit 2	Tray 2 Elevator Motor	DC motor	Raises the Tray Bottom Plate in the Tray 2.	05-3-019
	Tray 2 Paper Size Detection Sensors 1/2/3/4	Interrupt type sensor	Determines a paper size by a combination of four sensors and a pectinate light block plate in the Tray 2.	05-1-021 -022 -023 -024
	Tray 2 Paper Volume Sensor	Interrupt type sensor	Detects the paper volume in the Tray 2.	05-5-013
	Tray 2 Set Switch	Micro switch	Interlock safety switch for the Tray 2.	04-1-007
Internal Paper Pickup Unit 2	Tray 2 Paper Detection Sensor	Interrupt type sensor	Detects paper on the Tray Bottom Plate in the Tray 2.	05-1-013
	Tray 2 Upper Limit Sensor	Interrupt type sensor	Detects the upper limit of paper stack in the Tray 2.	05-1-005
	Tray 2 Pickup Motor	DC motor	Drives the Internal Pickupand Scraper Rollers 2.	05-2-006
Internal Paper Feed Tray Unit 3	Tray 3 Elevator Motor	DC motor	Raises the Tray Bottom Plate in the Tray 3.	05-3-020
	Tray 3 Paper Size Detection Sensors 1/2/3/4	Interrupt type sensor	Determines a paper size by a combination of four sensors and a pectinate light block plate in the Tray 3.	05-1-025 -026 -027 -028
	Tray 3 Paper Volume Sensor	Interrupt type sensor	Detects the paper volume in the Tray 3.	05-5-014
	Tray 3 Set Switch	Micro switch	Interlock safety switch for the Tray 3.	04-1-008

Unit Name	Sensor/Motor/etc.	Туре	Function	Test Mode
Internal Paper Pickup Unit 3	Tray 3 Paper Detection Sensor	Interrupt type sensor	Detects paper on the Tray Bottom Plate in the Tray 3.	05-1-014
	Tray 3 Upper Limit Sensor	Interrupt type sensor	Detects the upper limit of paper stack in the Tray 3.	05-1-006
	Tray 3 Pickup Motor	DC motor	Drives the Internal Pickupand Scraper Rollers 3.	05-2-007
Internal Paper Feed Unit	Internal Paper Transfer Sensor 1	Reflection type sensor	Determines the stop timing of the Internal Pickup Roller 1. Detects internal paper feed errors in the Tray 1 paper path.	05-1-043
	Internal Paper Transfer Sensor 2	Reflection type sensor	Determines the stop timing of the Internal Pickup Roller 2. Detects internal paper feed errors in the Tray 2 paper path.	05-1-045
	Internal Paper Transfer Sensor 3	Reflection type sensor	Determines the stop timing of the Internal Pickup Roller 3. Detects internal paper feed errors in the Tray 3 paper path.	05-1-047
	Internal Paper Merge Sensor	Reflection type sensor	Determines the start, acceleration and deceleration timings of the Vertical Transfer Roller. Detects vertical paper transfer errors.	05-1-048
	Internal Paper Feed Transport Motor	DC servo motor	Feeds paper from the Internal Paper Feed Tray to the Registration Roller.	05-2-004
	Internal Paper Feed Jam Release Door Switch	Micro switch	Detects whether the Internal Paper Feed Jam Release Door is closed or not.	05-1-057

1-5. Components and their Drive Source

Section/Unit	Component	Drive Source
Internal Paper Feed Tray	Internal Paper Feed Tray 1 Bottom Plate	Tray 1 Elevator Motor (DC motor)
	Internal Paper Feed Tray 2 Bottom Plate	Tray 2 Elevator Motor (DC motor)
	Internal Paper Feed Tray 3 Bottom Plate	Tray 3 Elevator Motor (DC motor)
Internal Paper Pickup	Internal Pickup Roller 1	Tray 1 Pickup Motor (DC servo motor)
	Internal Pickup Roller 2	Tray 2 Pickup Motor (DC servo motor)
	Internal Pickup Roller 3	Tray 3 Pickup Motor (DC servo motor)
	Internal Scraper Roller 1	Tray 1 Pickup Motor (DC servo motor)
	Internal Scraper Roller 2	Tray 2 Pickup Motor (DC servo motor)
	Internal Scraper Roller 3	Tray 3 Pickup Motor (DC servo motor)
Internal Paper Feed	Internal Paper Feed Roller 1	
	Internal Paper Feed Roller 2	Internal Paper Feed Transport Motor
	Internal Paper Feed Roller 3	(DCservo motor)
	Internal Paper Merge Roller	

2. Disassembly and Reassembly

- 2-1. Tray 1 Pickup Motor
- 2-2. Tray 2 Pickup Motor
- 2-3. Tray 3 Pickup Motor
- 2-4. Internal Paper Feed Unit
- 2-5. Internal Paper Transfer Sensor 1
- 2-6. Internal Paper Transfer Sensor 2
- 2-7. Internal Paper Transfer Sensor 3
- 2-8. Internal Paper Merge Sensor
- 2-9. Internal Paper Feed Roller 1
- 2-10. Internal Paper Feed Roller 2
- 2-11. Internal Paper Feed Roller 3
- 2-12. Internal Paper Merge Roller
- 2-13. Internal Paper Feed Transport Motor Assembly
- 2-14. Internal Paper Feed Jam Release Door Switch
- 2-15. Tray 1 Upper Limit Sensor & Tray 1 Paper Detection Sensor
- 2-16. Tray 2/3 Upper Limit Sensors & Tray 2/3 Paper Detection Sensors
- 2-17. Internal Tray Feed Rollers (Internal Pickup Rollers 1/2/3 & Internal Scraper Rollers 1/2/3)
- 2-18. Tray 1 Elevator Motor Assembly
- 2-19. Tray 2/3 Elevator Motor Assemblies
- 2-20. Tray 1/2/3 Set Switches
- 2-21. Tray 1/2/3 Paper Volume Sensors
- 2-22. Tray 1 Paper Size Detection Sensors (1/2/3/4)
- 2-23. Tray 2 Paper Size Detection Sensors (1/2/3/4)
- 2-24. Tray 3 Paper Size Detection Sensors (1/2/3/4)
- 2-25. Internal Stripper Plate

2-1. Tray 1 Pickup Motor



(1) Remove the Rear Cover Assembly.

(Refer to Chapter 2.)

- (2) Put the Power Supply Unit in maintenance position. (Refer to Chapter 2.)
- (3) Remove the Internal Paper Feed Unit.(Refer to 2-5 in this chapter.)
- (4) Open a wire saddle and disconnect connectors. (2 pcs)
- Remove the Tray 1 Pickup Motor.
 (Pan-head screw 3×5 (2 pcs))



2-2. Tray 2 Pickup Motor



(1) Remove the Rear Cover Assembly.

(Refer to Chapter 2.)

- (2) Put the Power Supply Unit in maintenance position. (Refer to Chapter 2.)
- (3) Remove the Internal Paper Feed Unit.(Refer to 2-5 in this chapter.)
- (4) Open a wire saddle and disconnect connectors. (2 pcs)
- Remove the Tray 2 Pickup Motor.

(Pan-head screw 3×5 (2 pcs))



2-3. Tray 3 Pickup Motor



(1) Remove the Rear Cover Assembly.

(Refer to Chapter 2.)

- (2) Put the Power Supply Unit in maintenance position. (Refer to Chapter 2.)
- (3) Remove the Internal Paper Feed Unit.(Refer to 2-5 in this chapter.)
- (4) Disconnect connectors. (2 pcs)
- Remove the Tray 3 Pickup Motor.
 (Pan-head screw 3×5 (2 pcs))



2-4. Internal Paper Feed Unit



- (1) Raise the Standard Paper Feed Tray to the upper limit position and turn off the power.
- (2) Remove the Left Inner Cover and the Bottom Inner Cover. (Refer to Chapter 2.)
- (3) Open the Internal Paper Feed Jam Release Door.



(4) Remove the Paper Feed Tray Lower Safety Switch Spring (Front).



(5) Remove the Lower Limit Frame.

(Double-washer screw 3×6 (1 pc))



(6) Remove the Wire Harness Cover.



(7) Disconnect connectors. (4 pcs)



(8) Remove the Jam Release Dial.

(Double-washer screw 3×8 (1 pc))



(9) Remove the Tray 1 Paper Feed Guide (Driven) Assembly.

(Round tip IT3C screw 4×10 (1 pc))



(10) Remove the Coupled Shaft Assembly. (Double-washer screw 4×10 (1 pc))



(11) Take out the Internal Paper Feed Unit. (Round tip IT3C screw 4×10 (4 pcs))



2-5. Internal Paper Transfer Sensor 1

- (1) Remove the Internal Paper Feed Unit. (Refer to 2-5 in this chapter.)
- (2) Remove the Tray 1 Guide Plate (Drive) Assembly. (Round tip IT3C screw 4×10 (4 pcs))



(3) Remove the Internal Paper Transfer Sensor 1 Assembly.

(Round tip IT3C screw 3×8 (1 pc))

• Disconnect a connector.



2-6. Internal Paper Transfer Sensor 2

- (1) Remove the Internal Paper Feed Unit.(Refer to 2-5 in this chapter.)
- (2) Remove the Internal Paper Transfer
 Sensor 2 Mounting Assembly.
 (Double-washer screw 3×8 (1 pc))
- Remove the Internal Paper Transfer Sensor
 2. (Double-washer screw 3×14 (1 pc))
- Disconnect a connector.



2-7. Internal Paper Transfer Sensor 3

- (1) Remove the Internal Paper Feed Unit.(Refer to 2-5 in this chapter.)
- (2) Remove the Internal Paper Transfer Sensor 3 Mounting Assembly.

(Double-washer screw 3×8 (1 pc))

- Remove the Internal Paper Transfer Sensor
 3. (Double-washer screw 3×14 (1 pc))
 - . (Double-washer sciew 3^14 (1
- Disconnect a connector.



2-8. Internal Paper Merge Sensor

- (1) Remove the Internal Paper Feed Unit.(Refer to 2-5 in this chapter.)
- (2) Remove the Internal Paper Merge Sensor.
- Disconnect a connector. (1 pc)



2-9. Internal Paper Feed Roller 1



- (1) Remove the Internal Paper Feed Unit.(Refer to 2-5 in this chapter.)
- (2) Loosen the securing screw on the Top Tensioner Block.
 - (Double-washer screw 3×8 (1 pc))
- Remove a timing belt.



(3) Remove a pulley.

(Double-washer screw 3×8 (1 pc))



(4) Remove the Tray 1 Guide Plate (Drive) Assembly. (Round tip IT3C screw 4×10 (4 pcs))



(5) Remove the Internal Paper Feed Roller 1. (Snap ring (2 pcs))



2-10. Internal Paper Feed Roller 2



- (1) Remove the Internal Paper Feed Unit.(Refer to 2-5 in this chapter.)
- (2) Loosen the securing screw on the Belt tensioner and release the tension on the timing belt.



(3) Remove a gear pulley.

(Pan-head double-washer screw 3×8 (1 pc))



(4) Remove the Internal Paper Feed Roller 2. (Snap ring (2 pcs))



2-11. Internal Paper Feed Roller 3



- (1) Remove the Internal Paper Feed Unit.(Refer to 2-5 in this chapter.)
- (2) Loosen the securing screw on the Belt tensioner and release the tension on the timing belt.

(Double-washer screw 3×8 (1 pc))



(3) Remove a pulley.

(Pan-head double-washer screw 3×8 (1 pc))



(4) Remove the Internal Paper Feed Roller 3. (Snap ring (2 pcs))



2-12. Internal Paper Merge Roller



- (1) Remove the Internal Paper Feed Unit.(Refer to 2-5 in this chapter.)
- (2) Remove the Internal Paper Feed Transport Motor. (Refer to 2-14 in this chapter.)
- (3) Remove a gear.(Pan-head double-washer screw 3×8 (1 pc))



(4) Remove the Internal Paper Merge Roller.

(Snap ring (2 pcs))



2-13. Internal Paper Feed Transport Motor Assembly

Internal Paper Feed Transport Motor Assembly



- (1) Remove the Internal Paper Feed Unit.(Refer to 2-5 in this chapter.)
- (2) Remove the Tray 1 Guide Plate (Drive) Assembly.

(Round tip IT3C screw 4×10 (4 pcs))



(3) Disconnect connectors. (2 pcs)• Pull off reusable bands. (3 pcs)



(4) Loosen the securing screw on the Belt tensioner and remove the timing belt. (Pan-head double-washer screw 3×8 (1 pc))

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 Remove the Internal Paper Feed Transport Motor Assembly.

(Pan-head double-washer screw 4×10 (4 pcs))



- 2-14. Internal Paper Feed Jam Release Door Switch
- (1) Remove the Internal Paper Feed Unit.(Refer to 2-5 in this chapter.)
- (2) Remove the Internal Paper Feed Jam Release Door Switch.

(Pan-head double-washer screw 3×14 (2 pcs))

• Disconnect a connector. (1 pc)



Internal Paper Feed Jam Release Door Switch

- 2-15. Tray 1 Upper Limit Sensor & Tray 1 Paper Detection Sensor
- (1) Remove the Rear Cover Assembly.

(Refer to Chapter 2.)

- (2) Remove the snap ring on the shaft of the Maintenance Unit Drive Assembly.
- Remove the Gear.

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(3) Shift the Ink Pan to the storage position.



(4) Move the Transfer Belt Unit to the upper limit position.



(5) Remove the External Paper Feed Unit.

(Refer to Chapter 4.)

(6) Remove the Vertical Transfer Unit.

(Binding head screw 3×8 (2 pcs))

• Disconnect a connector. (1 pc)





- (7) Remove the Tray 1 Upper Limit Sensor and Tray 1 Paper Detection Sensor.
- Disconnect connectors. (1 pc each)



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2-16. Tray 2/3 Upper Limit Sensors & Tray 2/3 Paper Detection Sensors

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- (1) Remove the External Paper Feed Unit. (Refer to Chapter 4.)
- (2) Remove the Internal Paper Feed Unit. (Refer to 2-5 in this chapter.)
- (3) Remove the Tray 2/3 Upper Limit Sensors and Tray 2/3 Paper Detection Sensors.
- Disconnect connectors. (1 pc each)



- 2-17. Internal Tray Feed Rollers (Internal Pickup Rollers 1/2/3 & Internal Scraper Rollers 1/2/3)
- (1) Pull off the Internal Paper Feed Tray Unit.
- (2) Remove the Internal Pickup Roller and Internal Scraper Roller.

(Snap ring (1 pc each))



* When reassembling, make sure to mount the Internal Pickup Roller and Internal Scraper Roller so that the clutch is visible from the front side.

2-18. Tray 1 Elevator Motor Assembly

- (1) Pull off the Internal Paper Feed Tray Unit 1.
- (2) Remove the Rear Cover Assembly.
 - (Refer to Chapter 2.)
- (3) Open wire saddles (2 pcs) and release running wires.
- Disconnect connectors. (3 pcs)
- Remove the Tray 1 Elevator Motor Assembly. (Round tip IT3C screw 4×10 (2 pcs))



2-19. Tray 2/3 Elevator Motor Assemblies

- (1) Pull off the Internal Paper Feed Tray Unit 2 (or 3).
- (2) Remove the Rear Cover Assembly. (Refer to Chapter 2.)
- (3) Put the Power Supply Unit in maintenance position. (Refer to Chapter 2.)
- (4) Open wire saddles (2 pcs) and release running wires.
- Disconnect connectors. (3 pcs)
- Remove the Tray 2 (or 3) Elevator Motor Assembly.

(Round tip IT3C screw 4×10 (2 pcs))



Tray 2 (or 3) Elevator Motor Assembly

2-20. Tray 1/2/3 Set Switches

(1) Remove the Tray 1 (, 2 or 3) Elevator Motor Assembly.

(Refer to 2-19 or 2-20 in this chapter.)

(2) Remove the Tray 1 (, 2 or 3) Set SwitchAssembly. (E-ring φ3 (1 pc))



Tray 1 (, 2 or 3) Elevator Motor Assembly



(3) Remove the Tray 1 (, 2 or 3) Set Switch. (Pan-head screw 3×14 (2 pcs))



2-21. Tray 1/2/3 Paper Volume Sensors

(1) Remove the Tray 1 (, 2 or 3) Elevator Motor Assembly.

(Refer to 2-19 or 2-20 in this chapter.)

(2) Remove the Tray Paper Volume Sensor Cover Plate.

(Round tip IT3C screw 3×8 (1 pc))



(3) Remove the Tray 1 (, 2 or 3) Paper Volume Sensor.



2-22. Tray 1 Paper Size Detection Sensors (1/2/3/4)

(1) Remove the Bottom Right Side Cover.

(Refer to Chapter 2.)

(2) Remove the Tray 1 Paper Size Detection Sensor Assembly.

(Round tip IT3C screw 3×8 (2 pcs))

• Disconnect a connector. (1 pc)



(3) Remove the Tray Paper Size Detection Sensor Cover. (Round tip IT3C screw 3×8 (2 pcs))



- (4) Remove the Tray 1 Paper Size Detection Sensor.
- Disconnect connectors. (1 pc each)



* Note: Align the reference holes when installing the assembly.
2-23. Tray 2 Paper Size Detection Sensors (1/2/3/4)

- (1) Remove the Bottom Right Side Cover.
 - (Refer to Chapter 2.)
- (2) Dismount the Waste Ink Tank.

(Refer to Chapter 12.)



(3) Remove the Tray 2 Paper Size Detection Sensor Assembly.

(Round tip IT3C screw 3×8 (2 pcs))

• Disconnect a connector. (1 pc)



(4) Remove the Tray Paper Size Detection Sensor Cover.

(Round tip IT3C screw 3×8 (2 pcs))



- (5) Remove the Tray 2 Paper Size Detection Sensor.
- Disconnect a connector. (1 pc each)



* Note: Align the reference holes when installing the assembly.

2-24. Tray 3 Paper Size Detection Sensors (1/2/3/4)

- (1) Remove the Bottom Right Side Cover.
 - (Refer to Chapter 2.)
- (2) Dismount the Waste Ink Tank.





(3) Take off the Waste Ink Tank Holder, unhooking the side arms from the bosses.



- (4) Take out the Tray 2 and Tray 3.
- (5) Remove the Tank Holder Base Spring.



(4) Remove the Tray 3 Paper Size Detection Sensor Assembly.

(Round tip IT3C screw 3×8 (2 pcs))

• Disconnect a connector. (1 pc)



(5) Remove the Tray Paper Size Detection Sensor Cover.

(Round tip IT3C screw 3×8 (2 pcs))



- (6) Remove the Tray 3 Paper Size Detection Sensor.
- Disconnect a connector. (1 pc each)



* Note: Align the reference holes when installing the assembly.

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2-25. Internal Stripper Plate

- (1) Pull off the Internal Paper Feed Tray Unit.
- (2) Remove the Internal Pickup Roller.

(Refer to 2-18 in this chapter.)

- (3) Remove the Internal Stripper Holder.
- Remove the Internal Stripper Plate. (It is attached with double-sided adhesive tape.)



3. Adjustments

3-1. Internal Stripper Plate Angle

The Internal Stripper Plate angle can be adjusted in a range of 1 to 6, with the standard value being 3, by turning the Internal Stripper Angle Adjustment Dial in the Stripper Plate Section of the Internal Paper Pickup Unit after pulling out the Internal Paper Feed Tray.

- → Turning the dial clockwise to 4 to 6: the Internal Stripper Plate angle increases. (This may correct multiple paper feed.)
- → Turning the dial counter-clockwise to 2 to 1: the Internal Stripper Plate angle decreases. (This may correct paper misfeed.)



3-2. Internal Paper Feed Upper Limit Position

To adjust the internal paper feed upper limit position, pull out the Internal Paper Feed Tray and remove the Bottom Left Inner Cover. You will then find a mark "U ∇ D" on the Internal Paper Pickup Unit as shown in the picture below.

Loosen the adjustment screw and move the whole unit in the U direction (left) to raise the internal paper feed upper limit position. If it is moved in the D direction (right), on the other hand, the said upper limit position is to be lowered.





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3-3. Alignment of End Paper Guide and Slider (Sensor Light Block Plate) on Internal Paper Feed Tray

The size of paper loaded in each Internal Paper Feed Tray is determined by the position of the End Paper Guide in the tray via the Slider provided under the bottom of the tray.

If the End Paper Guide is not correctly engaged with the Slider, therefore, the size of paper loaded in the Internal Paper Feed Tray cannot be determined correctly on the printer according to the actual paper size.

In such a case, follow the steps below to adjust their engagement position.

- (1) Take out the Internal Paper Feed Tray from the printer.
- (2) Remove paper from the tray.
- (3) Shift the End Paper Guide to the narrowest position and remove the Paper Size Detection Spring.



- (4) Shift the End Paper Guide to the widest position.
- (5) Turn over the Internal Paper Feed Tray and remove the Bottom Plate Gear Cover (metal plate). (P-tite screw 3×8 (4 pcs))



(6) Remove the gear.



(7) Slide the Slider to align its edge with the edge of the tray.



- (8) Re-attach the gear removed in step 6 and then re-attach the Bottom Plate Gear Cover (metal plate).
- (9) Re-attach the Paper Size Detection Spring removed in step (3).
 - * Make sure that the End Paper Guide is at the narrowest position when attaching the spring.
 - * The hooks on the Paper Size Detection Spring should be placed in the direction shown in the picture below when attached.





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[Memo]

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Chapter 6. Registration Section

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1. Overview

1-1. Basic Structure

This section is comprised of "Vertical Transfer Unit," "Registration Roller Unit" and "Paper Position Detection Unit."

In this section, a sheet, which feeds from the External Paper Feed Section, Internal Paper Feed Section or Switchback Section, is led to form a buckle at the front end for skew correction and feed further to the Transfer Belt (print) section.



1-2. Unit Structure

(1) Registration Roller Unit

The Registration Roller Unit is comprised of Registration Roller (rubber), Guide Roller (plastic), Registration Sensor and Top Edge Sensor 1.

The Guide Roller is pressed against the Registration Roller, which is driven by the Registration Motor with a gear, by the Guide Roller Pressure Spring to nip a sheet advancing between them firmly.



(2) Paper Position Detection Unit

The Paper Position Detection Unit is located between the Registration Roller and the front-row Print Heads and comprised of Paper Lift/Fold Detection Section (including Paper Lift Cap), which is equipped with Paper Lift Detection Sensor, and Paper Width Detection Section, which is equipped with CIS.



(3) Vertical Transfer Unit

The Vertical Transfer Unit includes the Vertical Transfer Roller, which is driven by the External Paper Feed Motor, Vertical Transfer Sensor, and Transfer Section Release Mechanism for jammed paper removal.



1-3. Mechanisms and Operations

(1) Registration Roller Operation

- 1) The Registration Roller suspends its rotation before a feeding sheet arrives from the External/ Internal Paper Feed or Switchback Section. When the feeding sheet arrives there, then, the leading edge of the said sheet gets contact with the Registration Roller for alignment to form a buckle at the front end, detected by the Registration Sensor.
- 2) The Registration Roller starts rotating at a predefined speed to transport a received sheet further and keeps rotating until the trailing edge of the said sheet passes through it. A predefined amount of time later, then, the Registration Roller suspends its rotation to receive the following feeding sheet.
- The Registration Sensor detects paper misfeed while multiple paper feed is detected by the Top Edge Sensor 1.
- 4) When paper misfeed occurs, the Registration Roller will not start rotating, while it suspends its rotation before the leading edge of advancing sheets reaches the Print Heads if multiple paper feed is detected, thus preventing multiple sheets from getting contact with the Print Heads. The Registration Roller also suspends its rotation when a paper jam occurs during paper feeding operation.

- (2) Vertical Paper Transfer
 - 1) When a predefined time passes after a sheet feeding from any of the Internal Paper Feed Trays reaches the Internal Paper Transfer Sensor 1 (for the Internal Paper Feed Tray 1) or the Internal Paper Merge Sensor (for the Internal Paper Feed Tray 2 or 3), advancing through the respective internal paper pickup and feed sections, the Vertical Transfer Roller starts rotating, driven by the External Paper Feed Motor via gears, to feed the coming sheet further to the Registration Roller.
 - 2) As the Registration Roller is not rotating when the leading edge of the feeding sheet reaches there, the advancing sheet forms a buckle at the front end, held by the Registration Roller, to be parallel with the Registration Roller Shaft, thus correcting possible paper skew in feeding.
 - 3) A predefined amount of time after the feeding sheet reaches the Vertical Transfer Sensor, the Vertical Transfer Roller slows down to reduce the noise generated when the leading edge of the feeding sheet gets contact with the Registration Roller, and then suspends its rotation when a paper buckle is formed.
 - 4) When the Vertical Transfer Roller resumes its rotation to assist the advance of the feeding sheet, it is rotated faster than the Registration Roller while the latter advances the coming sheet to prevent backward tension on the sheet.

The Vertical Transfer Roller stops rotating along with the deactivation of the External Paper Feed Motor to end the paper advance assist action when the trailing edge of the feeding sheet passes through the Vertical Transfer Sensor.

 If a paper jam is detected by the Vertical Transfer Sensor, the External Paper Feed Motor, Tray (1, 2 or 3) Pickup Motor and Internal Paper Feed Transport Motor all stop operation immediately.

(3) Registration Roller Contact Timing Adjustment

- The timing at which a feeding sheet gets contact with the Registration Roller is adjusted in accordance with the amount of time taken until the leading edge of the following sheet reaches the Vertical Transfer Sensor after the trailing edge of the current one passes through the said sensor.
- 2) Regarding the above-mentioned amount of time, i.e. paper feed interval, theoretical values are predefined on the printer for the respective paper sizes, assuming that it should be constant when feeding sheets of an identical size, with which actually measured ones are to be compared to determine whether the current paper feed is earlier or later than expected, thus changing the deceleration timing of rotation speed of the Vertical Transfer Roller to adjust the contact timing of feeding sheets against the Registration Roller accordingly.

- (4) Paper Advance Assist Action
 - In the Vertical Transfer Unit, the Vertical Transfer Roller does not only transfers the feeding sheet but also assists it to smoothly advance further beyond the Registration Roller by changing the rotation speed and making an extra rotation as described below, through which the following positive effects can be expected.
 - To prevent paper slippage during further feeding by the Registration Roller, which is to be caused by backward tension through the resistance of transfer rollers along the paper path.
 - To reduce the noise generated when clearing buckle on paper during further paper feed by the Registration Roller.
 - 2) Unlike during paper feeding from the External Paper Feed Section, much more backward tension can be applied to feeding sheets during paper feeding from the Internal Paper Feed Trays due to resistance of transfer rollers arranged along their path, thus causing possible paper slippage during further paper feed by the Registration Roller.
 - 3) To reduce such backward tension, feeding sheets are to be assisted to advance through the Vertical Transfer Section by leading the Vertical Transfer Roller to resume its rotation through the reverse operation of the External Paper Feed Motor when the Registration Roller starts rotating.



(5) Functions of Paper Position Detection Unit

The Paper Position Detection Unit is located between the Registration Roller and the Print Head Section and comprised of Paper Lift Detection (including a paper ceiling guide) and Paper Width Detection Sections.

1) Paper lift (undulation) detection

The lift (undulation) of coming sheets which is large enough to get contact with the Print Heads is to be detected in this unit to suspend operation before the sheets in question reach the Print Heads, thus prompting an operator to take them out from inside the printer. If the lift (undulation) of a coming sheet is large enough, it contacts the Detection Gate in this unit and pushes it up to activate the corresponding detection sensor, thus leading the current operation to be suspended. The curls-up at the corners of sheets can also be detected through this mechanism.



2) Lateral paper position detection

• Image centering

The rear-side edge of coming sheets is detected by CIS (Contact Image Sensor) to locate the front-side one of the same sheets based on their paper format information, thus leading the Print Heads to print images in center alignment.

• Masking (Side margin generation)

The original images that may be located outside the lateral position of coming sheets, which is detected as described above, besides, are converted to blanks through masking processing to provide predefined side margins on printed sheets, thus preventing images to be printed out of coming sheets.



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- * The operation of CIS can be disabled separately for each paper type through the following test mode.
 - TM No. 046036 "CIS MASK MODE" (0: Disabled, 1: Enabled)
 - (The default value is "0" for "Envelope.")

When the parameter is set to "0" (Disabled) in the above test mode, the parameters specified in the the following test modes are to be applied for image centering.

- TM No. 026006 "PTF IMAGE CENTER ADJ PARAMETER"
- TM No. 046046 "TRAY1 IMAGE CENTER MASK OFF"
- TM No. 046047 "TRAY2 IMAGE CENTER MASK OFF"
- TM No. 046048 "TRAY3 IMAGE CENTER MASK OFF"

Regarding masking (side margin generation), on the other hand, the parameters specified in the following test modes are to be applied in the same case.

- TM No. 046049 "IMAGE MASK (RIGHT)" / TM No. 046050 "IMAGE MASK (LEFT)"

Regarding the top and end margins, they are predefined as "5mm" and can be decreased to "3mm" in an item ("Printable Area" in the "System" category) in the Administrator menu.

For envelopes, the dedicated test modes are prepared to enable masking volumes (margins) to be specified separately as follows:

- TM No. 046051 "ENVELOPE IMAGE MASK (TOP)"
- TM No. 046052 "ENVELOPE IMAGE MASK (BOTTOM)"
- TM No. 046053 "ENVELOPE IMAGE MASK (RIGHT)"
- TM No. 046054 "ENVELOPE IMAGE MASK (LEFT)"
- (6) Paper Leading and Trailing Edge Detection

<Paper length detection>

The length of coming sheets is determined by detecting their leading and trailing edges with the Top Edge Sensor 1.

In case the paper length detected here is different from an original one, which is detected on or registered for the Standard Paper Feed Tray or the Internal Paper Feed Trays, the subsequent operation will differ as described below, depending on whether an original paper format is a standard or registered one and how much the difference is.

Original paper format	More than 10mm shorter than an original paper length (format)	More than 10mm longer than an original paper length (format)	
Standard	In simplex printing, operation continues, keeping an original paper format.	Operation is suspended with paper jam error (for the initial sheet) or W056-1300 notification.	
Custom (Registered)	In duplex printing, operation is suspended with W056-1300* notification.		
Custom (Unregistered)	Operation continues, applying the detected	paper format instead of an original one.	

* W056-1300: Check paper size.

<Ink ejection start/stop timings>

The ink ejection start timing is determined by the Top Edge Sensor 2 (or 1 as backup) while the stop timing is determined by the Top Edge Sensor 1.

The Print Heads start ink ejection a predefined amount of time after the leading edge of a coming sheet is detected by the Top Edge Sensor 2 and stop it a predefined amount of time after the trailing edge of the same sheet is detected by the Top Edge Sensor 1. In case the Top Edge Sensor 2 cannot detect the leading edge of the coming sheet, however, the earlier information concerning the leading edge detection of the same sheet by the Top Edge Sensor 1 is to be applied as a trigger to lead the Print Heads to start ink ejection. The said detection failure by the Top Edge Sensor 2 may occur under any of the following conditions because the said sensor is a reflective-type photo sensor.

- 1. A frame is pre-printed along the edges of applied sheets.
- 2. Applied sheets have low reflectivity, possibly with colored background.
- 3. Another side is to be printed in duplex printing while applying the sheets which satisfy both of the above conditions 1 and 2.



(7) Multiple Paper Feed Detection

- 1) Multiple sheets can feed together, without separated by the Pickup Roller and Stripper Pad (Plate), from the External or Internal Paper Feed Unit. This phenomenon, called "multiple paper feed," is designed to be detected by the Top Edge Sensor 1 to prevent the resulting stack of multiple sheets from damaging the Print Heads through collision.
- 2) The luminous energy of light which passes through feeding sheets and is received by the Top Edge Sensor 1 is compared between the initial feeding sheet and the following ones to detect multiple paper feed.
- 3) If the received luminous energy for the subsequent feeding sheets is less than for the initial one beyond a predefined volume, it is determined that multiple paper feed has occurred, thus suspending paper feeding operation.

- 4) Though multiple paper feed is not to be detected for the initial feeding sheet under the default system configuration, under which the luminous energy measured for the said sheet is applied as the comparison base for the subsequent ones, it could become detectable even for the initial one through the parameter change in the test mode TM No. 066006 "MULTIPLE P-FEED DETECT START TIMING" while applying a predefined value as the comparison base for the initial one for a selected paper type.
- 5) If a paper source is switched (e.g. Standard Tray to Tray 1) according to the Paper tray relay mode during printing, on the other hand, the initial luminous energy data acquisition will be made anew.
- 6) Multiple paper feed detection is inactive for sheets feeding from the Switchback Unit in duplex print.



1-4. Unit Action Test Mode List

Unit Name	Sensor/Motor/etc.	Туре	Function	Test Mode
Vertical Transfer Unit	Vertical Transfer Sensor	Reflection type sensor	Detects vertical paper transfer errors.	05-1-049
Registration Roller Unit	Registration Motor	DC servo motor	Drives the Registration Roller	05-2-001
	Top Edge Sensor 1 (Emission)	Transmissive type sensor	Detects the length of feeding sheets. Detects multiple paper feed. Determines the start timing of ink ejection as a backup when the Top Edge Sensor 2 does not function.	06-1-003
	Top Edge Sensor 1 (Reception)	Transmissive type sensor		06-1-003
	Registration Sensor (Emission)	Transmissive type sensor	Detects the leading edge of feeding sheets in front of the Registration Roller to control paper feed operation and check whether paper feeds up to and through the Registration Roller.	05-1-052
	Registration Sensor (Reception)	Transmissive type sensor		05-1-052
Paper Position Detection Unit	CIS	CIS	Detects the lateral paper position.	04-3-021
	Paper Lift Detection Sensor	Interrupt type sensor	Detects paper lift (undulation).	06-1-004
Print Head Holder Unit	Top Edge Sensor 2	Reflection type sensor	For generating the ink drop start timing	

1-5. Components and their Drive Source

Section/Unit	Component	Drive Source
Vertical Transfer	Vertical Transfer Roller	External Paper Feed Motor (DC servo motor)
Registration	Guide Roller	(Driven by the Registration Roller.)
	Registration Roller	Registration Motor (DC servo motor)

2. Disassembly and Reassembly

- 2-1. Vertical Transfer Unit
- 2-2. Vertical Transfer Sensor
- 2-3. Vertical Transfer Roller (Drive)
- 2-4. Paper Position Detection Unit
- 2-5. Paper Lift Detection Sensor Assembly
- 2-6. CIS
- 2-7. Registration Sensor (Reception) and Top Edge Sensor 1 (Reception)
- 2-8. Registration Sensor (Emission) and Top Edge Sensor 1 (Emission)
- 2-9. Top Edge Sensor 2
- 2-10. Guide Roller
- 2-11. Registration Roller
- 2-12. Registration Motor Assembly

2-1. Vertical Transfer Unit



- (1) If the Transfer Belt Unit is not at the lowest position, execute the test mode TM No.
 093020 to operate the Transfer Belt Elevation Motor so that the Transfer Belt Unit comes to the lowest position.
- (2) Remove the Left Inner Cover.

(Refer to Chapter 2.)

(3) Loosen the securing screw on the Vertical Transfer Unit Connector Cover and slide the cover to the right.

(Double-washer screw screw 3×6 (1 pc))

• Disconnect a connector.



(4) Remove securing screws and take out the Vertical Transfer Unit.

(Round tip IT3C screw 3×8 (2 pcs))



2-2. Vertical Transfer Sensor

(1) Remove the Vertical Transfer Unit.

(Refer to 2-1 in this chapter.)

(2) Remove the Sensor Cover.

(Binding P-tight screw 4×10 (1 pc))



- (3) Remove the Vertical Transfer Sensor.
- Disconnect a connector.



2-3. Vertical Transfer Roller (Drive)

- (1) Remove the Vertical Transfer Unit.
 - (Refer to 2-1 in this chapter.)
- (2) Remove the Sensor Covers (2 pcs).

(Binding P-tight screw (1 pc each))

• Remove a gear.

(Double-washer screw 3×6 (1 pc))



(3) Remove the Vertical Transfer Roller.

- Remove snap rings. (2 pcs.)
- Open the Vertical Transfer Unit Jam Release
 Door.
- Remove bearings.



2-4. Paper Position Detection Unit



- (1) If the Transfer Belt Unit is not at the lowest position, execute the test mode TM No.
 093020 to operate the Transfer Belt Elevation Motor so that the Transfer Belt Unit comes to the lowest position.
- (2) Execute the test mode No. TM 093027 to shift the Ink Pan to the storage position.
- (3) With the Front Door open, turn off the power.
- (4) Remove the Middle Inner Cover.

(Refer to Chapter 2.)

- (5) Disconnect a connector. (1 pc)
- Open a wire saddle. (1 pc.)
- Remove the Paper Position Detection Unit. (Double-washer screw 4×8 (1 pc))



(5) Disconnect a connector. (1 pc)



Note: Make sure that the connector and wire harness are tucked behind the rear frame of the printer before securing the Paper Position Detection Unit.

2-5. Paper Lift Detection Sensor Assembly

- (1) Remove the Paper Position Detection Unit. (Refer to 2-4 in this chapter.)
- (2) Remove the Paper Lift Detection Sensor Assembly.

(Double-washer screw 3×6 (1 pc))



Note: When installing the Paper Lift Detection Sensor Assembly, make sure that the positions of the light block plate and the sensor are correct.

2-6. CIS

- (1) Remove the Paper Position Detection Unit. (Refer to 2-4 in this chapter.)
- (2) Disconnect connectors. (1 pc each)
- Remove the CIS Assembly.

(Double-washer screw 3×6 (2 pcs))



(3) Remove the CIS Retaining Plates.

(Pan-head P-tight screw 3×8 (2 pcs each))



Note: Alcohol is not allowed to be used for cleaning the CIS glass.

- 2-7. Registration Sensor (Reception) and Top Edge Sensor 1 (Reception)
- (1) Pull off reusable bands and disconnect connectors. (1 pc each)
- Detach the Registration Sensor (Reception) and the Top Edge Sensor 1 (Reception) from the brackets.



Note: Make sure not to mix up sensors when re-attaching them. (One uses a ferrite core while the other does not.)



2-8. Registration Sensor (Emission) and Top Edge Sensor 1 (Emission)

- (1) If the Transfer Belt Unit is not at the lowest position, execute the test mode TM No.
 093020 to operate the Transfer Belt Elevation Motor so that the Transfer Belt Unit comes to the lowest position.
- (2) Pull off reusable bands, open wire saddles and disconnect connectors. (1 pc each)
 - Detach the Registration Sensor (Emission) and the Top Edge Sensor 1 (Emission) from the brackets.



2-9. Top Edge Sensor 2

- (1) If the Transfer Belt Unit is not at the lowest position, execute the test mode TM No.
 093020 to operate the Transfer Belt Elevation Motor so that the Transfer Belt Unit comes to the lowest position.
- (2) Execute the test mode No. TM 093027 to shift the Ink Pan to the storage position.
- (3) With the Front Door open, turn off the power.
- (4) Detach the Top Edge Sensor 2. (Double-washer screw 3×6 (2 pcs))
 - * The securing screw on the far side is not required to be removed.



(4) Disconnect a connector. (1 pc.)



2-10. Guide Roller



- (1) If the Transfer Belt Unit is not at the lowest position, execute the test mode TM No.
 093020 to operate the Transfer Belt Elevation Motor so that the Transfer Belt Unit comes to the lowest position.
- (2) Remove the Guide Roller Tension Spring.



- (3) Remove a snap ring (on the front side).
 - Take out the Guide Roller.



* Always close the Vertical Transfer Unit Jam Release Door after completing this work.

- 2-11. Registration Roller
- * Always make image adjustments referring to "13-1-9. Parameters and Adjustment Procedure When Parts are Replaced" after replacing the registration roller.
- (1) If the Transfer Belt Unit is not at the lowest position, execute the test mode TM No.
 093020 to operate the Transfer Belt Elevation Motor so that the Transfer Belt Unit comes to the lowest position.
- (2) Remove the Middle Inner Cover.

(Refer to Chapter 2.)

(3) Remove the Left Inner Cover.

(Refer to Chapter 2.)

(4) Remove the Registration Jam Release Dial.

(Double-washer screw 3×8 (1 pc))



(5) Remove the Guide Roller Tension Spring.



(6) Put a spanner on the shaft end of the Registration Roller.

(* The spanner is used to keep the rolle from turning.)



(7) Remove the Rear Cover Assembly.

(Refer to Chapter 2.)

- (8) Put the Engine Control PCB in maintenance position.(Refer to Chapter 2.)
- (9) Remove a washered screw on another shaft end of the Registration Roller on the rear side .
- (10) Take off a bearing on the rear end of the shaft. (Double-washer screw 3×6 (1 pc))



(11) Take off the spanner and remove a bearing on the front end of the shaft.

(Double-washer screw 3×8 (1 pc))



(12) Slide the Registration Roller toward the front side and disengage the drive gear on the rear side.

Then pull out the roller from the opening on the front side.

2-12. Registration Motor Assembly



(1) Remove the Rear Cover Assembly.

(Refer to Chapter 2.)

- (2) Put the Engine Control PCB in maintenance position. (Refer to Chapter 2.)
- (3) Disconnect connectors. (2 pcs.)
- Remove the Registration Motor Assembly. (Round tip IT3C screw 4×8 (4 pcs))



3. Adjustments

3-1. Alignment of Registration Roller and Transfer Belt Unit

<Adjustment Overview>

The alignment of the Registration Roller should be adjusted after replacing it or its unit.

<Adjustment Procedures>

Refer to Section 2-5 "Registration Roller Direction Adjustment" in Chapter 13 "Image Adjustment."

3-2. Contact Image Sensor (CIS)

<Adjustment Overview>

The luminous energy of light sources applied in the CIS can be uneven, thus causing differences in the brightness of emitting light. To compensate such differences, the sensitivity of CIS pixels can be adjusted through shading compensation, thus ensuring that the full width of feeding sheets can be scanned with even brightness.

In the said adjustment, which should be made each time the CIS or Paper Position Detection Unit is replaced, thin paper is to be scanned by CIS and the resultant measured value to be memorized as a white-level reference value.

This adjustment, which is to be simultaneously made for both CISs on the front and rear sides, can also be made separately for them.

<Adjustment Procedures>

1) Prepare a strip of paper, whose size is 364 x 60 mm for full-range adjustment or 297 × 60 mm for half-range adjustment, using A3 (or B4)-size or A4-size blank sheet of thin paper.



- 2) Execute the test mode TM No. 093020 to operate the Transfer Belt Elevation Motor so that the Transfer Belt Unit comes to the lowest position.
- 3) Open the Right Front Door.
- 4) Place the strip of paper prepared in step 1 on the Transfer Belt so that it is aligned as shown in the pictures below.

[For full-range adjustment or half-range adjustment (front-side CIS)]



Note: Make sure that the paper strip does not cover the Position Adjustment Pin Fitting Part.



[For half-range adjustment (rear-side CIS)]



- The distance between the short edge of the paper strip and the side edge of the front-side plastic part (black) under the Transfer Belt should be approximately 70 mm.
- 5) Close the Right Front Door.
- 6) Execute the test mode for CIS shading compensation.
 - --> TM No. 043024 "FRONT & REAR CIS SHADING" for full-range adjustment
 - --> TM No. 043023 "FRONT CIS SHADING" for half-range adjustment (front-side CIS)
 - --> TM No. 043022 "REAR CIS SHADING" for half-range adjustment (rear-side CIS)
- 7) Open the Right Front Door and remove the paper strip on the Transfer Belt.

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<Adjustment Result Check>

- 1) Place A4-size blank sheet of thin paper at the center on the Transfer Belt while aligning the edge of the sheet with the tail end of the Transfer Belt.
- 2) Close the Right Front Door.
- 3) Execute the test mode TM No. 043021 "CIS OPERATION CHECK."
- 4) Open the Right Front Door and remove the sheet on the Transfer Belt.
- 5) Close the Right Front Cover.
- 6) Execute the following test modes and check the values.

<Checking the white level>

- TM No. 045083 "FRONT CIS PAPER LEVEL DETECT"
- TM No. 045073 "REAR CIS PAPER LEVEL DETECT"
- The indicated value should be: 100 ± 5

<Checking the black level>

- TM No. 045084 "FRONT CIS BELT LEVEL DETECT"
- TM No. 045074 "REAR CIS BELT LEVEL DETECT"

The indicated value should be: 25 or below

<Checking the paper width>

- TM No. 045071 "CIS PAPER WIDTH DETECT"

The indicated value should be: 2100 ± 10

- 7) If any of the indicated values is outside the given range, make the above-mentioned adjustment again.
- 8) After confirming that the said values are all within the given range, execute the test mode TM No. 043011 "ADJUST PARAMETER SAVE."
 - * After executing this test mode, the factory default values, which are to be retrieved when executing the test mode TM No. 014002 "FACTORY DEFAULT," are overwritten with the saved parameters.

3-3. Sensor Luminous Energy

Follow the procedures below to adjust the luminous energy of sensors after replacing the following sensors: Registration Sensor, Top Edge Sensor 1 and Top Edge Sensor 2.

(1) Registration Sensor and Top Edge Sensor 1 (transmissive type sensor)

- 1) Load at least 10 sheets of thin paper, whose format is either A3 or A4-LEF, on the Standard Paper Feed Tray.
- 2) Raise the Standard Paper Feed Tray to the upper limit position by pressing the Paper Feed Tray Elevation Switch or executing the test mode TM No. 053016 "PFT UPPER LIMIT POSITION MOVE."
- 3) Execute the test mode TM No. 053011 "REGIST & TOP EDGE SNSR 1 ADJ AUTO FEED" to feed a sheet of paper until the light paths of the corresponding sensors, i.e. Registration Sensor and Top Edge Sensor 1, are blocked by the said sheet by driving the External Paper Feed Motor and Registration Motor.
- 4) Execute the test mode TM No. 053012 "REGIST & TOP EDGE SENSOR 1 AUTO ADJUST" to automatically adjust the luminous energy of the Registration Sensor and Top Edge Sensor 1.
- 5) Remove the fed sheet by pulling it out from the paper feed tray side after the adjustment is completed.
- * The Registration Sensor and Top Edge Sensor 1 are adjusted at the same time. Always clean the sensors before adjustment.
- (2) Top Edge Sensor 2 (reflection type sensor)
 - Confirm that the Transfer Belt Unit is at the upper limit position.
 If not, execute the test mode TM No. 093022 "BP ELEVATOR MOTOR TO UP" to operate the Transfer Belt Elevation Motor so that the Transfer Belt Unit comes to the upper limit position.
 - Execute the test mode TM No. 063001 "TOP EDGE SENSOR 2 AUTO ADJUST" to automatically adjust the luminous energy of the Top Edge Sensor 2. The Transfer Belt Elevation Motor and Transfer Belt Fans start operating and the Top Edge Sensor 2 emits light for automatic adjustment of luminous energy.
 - * Paper is not required for this adjustment, for which the black part of the Transfer Belt is applied as an adjustment base. Therefore, always clean the Transfer Belt before adjustment.

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Chapter 7. Transfer Belt Section

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1. Overview

1-1. Basic Structure

The Transfer Belt Section is composed of the Transfer Belt Unit.

The Transfer Belt receives sheets feeding from the Registration Roller, and then transports them to the Paper Elevation Section or FU Paper Ejection Section (optional).



1-2. Unit Structure

(1) Transfer Belt Unit

The Transfer Belt Unit is composed of Transfer Belt, Transfer Belt Motor, Transfer Belt Suction Fans (4 pcs.), Transfer Belt HP Sensor and Transfer Belt Motor FG Sensor (Encoder).



- 1) A printed sheet is transported by the Transfer Belt, which is traveling, driven by the Transfer Belt Motor, to the Paper Elevation Unit or FU Paper Ejection Unit (option).
- 2) The Transfer Belt Unit is raised and lowered by the Transfer Belt Elevation Motor, held at corners by the BP Wires, and mounts the Maintenance Unit when cleaning the Print Heads.
- 3) The Transfer Belt Unit is kept parallel to the Print Heads with the alignment pins protruding from the Print Head Holder with a predefined gap secured with the Gap Adjusters during printing.
- 4) Even when a paper jam occurs, the Transfer Belt Unit is lowered as well.
- 5) The Transfer Belt HP sensor detects the rotational home position of the Transfer Belt once per lap to trigger the transfer belt profile application during printing.
- 6) The Transfer Belt Motor FG Sensor (Encoder) detects the traveling speed fluctuation of the Transfer Belt to calibrate the ink ejection timing accordingly, thus keeping printed images without uneven density.



(2) KG Rollers

The metal rollers, KG Rollers, are aligned parallel before and behind the Print Heads to prevent undulating parts of advancing sheets from getting contact with the Print Heads. They are coated with ceramic and φ 6.75 mm in diameter, except on both ends, where their diameter is increased to φ 8 mm to get close contact with the Transfer Belt, with a pressure applied by the KG Springs, to be driven to rotate along.



1-3. Mechanisms and Operations

(1) Paper Transport Mechanism

- The Transfer Belt Unit receives a sheet feeding from the Registration Roller and transports it while holding it on the traveling Transfer Belt with suction air, which is generated by the Transfer Belt Suction Fans.
- 2) The Transfer Belt travels in a trapezoidal shape, with tension applied by such rollers as Transfer Belt Drive Roller, Transfer Belt Driven Roller, Idler Roller and Tension Roller, driven by the Transfer Belt Motor via the Transfer Belt Drive Roller.



- 3) In case the Transfer Belt skews, it can be rectified by adjusting the tension applied to the Transfer Belt by the Tension Roller while turning the adjustment screw on the Tension Spring on the front side.
- 4) The Transfer Belt Motor, which is a brushless DC motor, drives the Transfer Belt Drive Roller via the timing belt, thus leading the Transfer Belt to travel at a constant speed.
- (2) Raising and Lowering the Transfer Belt Unit
 - 1) The Transfer Belt Unit is raised or lowered by means of four wires suspended from the Print Head Holder, driven by the Transfer Belt Elevation Motor, to be shifted into the printing, maintenance or paper jam release position.
 - 2) The BP Wires are secured by the BP Wire Hooks incorporated in the Transfer Belt Unit, which hold the BP Wires with Wire Anchors (Balls).



Print position Standard paper feed position (Upper limit position) Card stock paper feed position 1st envelope paper feed position 2nd envelope paper feed position	After the Transfer Belt Upper Limit Sensor is turned ON (blocked), the Transfer Belt Unit is elevated a specified amount and then stops. At that time, by allowing the torque limiter to rotate freely, the Transfer Belt Unit is positioned at level. To adjust the gap below the Print Heads according to paper type, the Gap switching mechanism is used to change the stopping position of the Transfer Belt Unit.
Maintenance position (Cleaning position)	This is the position for Print Head cleaning. When the Transfer Belt Unit is at the lower limit position, the Ink Pan moves to the maintenance position on the Transfer Belt and the Transfer Belt Unit is then elevated a specified amount, thus leading the Ink Pan to get contact with the Print Head Holder and the torque limiter to rotate freely.
Lower limit position (Paper jam release position, position when ink pan moves to maintenance position)	The Transfer Belt Unit stops descending when the Transfer Belt Lower Limit Sensor is turned ON (blocked). Then, the Transfer Belt Elevation Motor reverses its rotation to elevate the Transfer Belt Unit and the Transfer Belt Unit stops elevating when the Transfer Belt Lower Limit Sensor is turned OFF (opened).

3) The Transfer Belt Unit upper limit position is determined by the contact of the unit but not the Transfer Belt Upper Limit Sensor. In that sense, the "Upper Limit Sensor" actually works as "Nearly Upper Limit Sensor."

Transfer Belt Upper Limit Sensor detection -> Transfer Belt Unit in contact with Print Head Holder (upper limit position) -> Torque limiter free rotation -> Transfer Belt Elevation Motor stop

- 4) The Transfer Belt Unit moves along the Elevation Guide on the rear side to ensure stable travel. It is lowered to the lower limit position when the power is turned OFF or a paper jam occurs, while it joins to the pins protruding from the Print Head Holder Unit for alignment at the upper limit position.
- 5) A certain amount of small gap is kept between the Transfer Belt and the Print Heads during printing.
- (3) Transfer Belt Unit Alignment
 - The Gap Adjusters, which are fixed at 4 corners on the Print Head Holder, secure an even gap between the Transfer Belt and the Print Heads, keeping them parallel to each other. They are also positioned so that the BP Wires run through their center, with the Transfer Belt Unit Side Frame held underneath with the BP Wire Hooks.
 - 2) The Print Head Holder, besides, is also equipped with the Transfer Belt Alignment Pins, which are inserted into the Alignment Guide and Reference Holes of the Transfer Belt Unit, to set the Transfer Belt Unit parallel to both the Print Head Holder and the Registration Roller during printing (paper transport).



(4) Head Gap Adjustment Operation

- 1) The gap between the Print Head Nozzles and the Transfer Belt is to be widened according to paper type by means of the Gap Adjusters, thus preventing a thicker sheet, such as card stock and envelopes, from damaging the Print Head Nozzles through unexpected contact.
- 2) Four kinds of the said gap, i.e. head gap, are prepared for the following paper types: standard paper, card stock, envelope type 1 and envelope type 2.



- 1. When the Transfer Belt Unit descends a specified amount from the upper limit position (initial adjustment point), the inner boss of the Gap Adjuster Cap moves to one of switching points while rotating along the Rotary Guide groove.
- 2. Stepwise head gap setting points are prepared at the ends of the Rotary Guide groove and the inner boss of the Gap Adjuster Cap is led into one of them after the switching point while rotating along the Rotary Guide groove as well, thus changing the head gap level from standard paper to card stock, standard paper or card stock to envelope type 1 (or 2).
- The Transfer Belt Unit is then raised to be level to the Print Head Holder through free rotation of the torque limiter for the Transfer Belt Elevation Motor, thus finishing the head gap switching operation.

- 4. To return the head gap to the initial level (for standard paper), the Transfer Belt Unit is lowered until the Gap Adjusters are separated from it and is raised again to the upper limit position.
- 5. The head gap level for envelopes can be selected between type 1 and type 2 through the Administrator menu. When "Standard" is selected, the envelope type 1 is to be applied as head gap, while the envelope type 2 is to be applied when "Wide" is selected.
- (5) Transfer Belt Unit Operational Level Detection
 - 1) It is detected with the Transfer Belt Unit Level Detectors (at 4 locations) whether the Transfer Belt Unit is positioned level for printing.
 - 2) When the Transfer Belt Unit is raised to print on standard paper or card stock, all four Transfer Belt Unit Level Detectors should be set non-conductive, while they are to be set conductive when printing on envelopes.
 - 3) If any one of them is not led to be non-conductive or conductive in the above cases, however, it is assumed that the Transfer Belt Unit is not positioned level, thus leading the Transfer Belt Unit to be repositioned.
 - 4) If not all Transfer Belt Unit Level Detectors become non-conductive or conductive even after the repositioning of the Transfer Belt Unit, the current print job is suspended, assuming that an error has occurred in the elevation of the Transfer Belt Unit.



(6) BP Wire Loosening Detection

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The loosened BP Wires, which may be caused during its unwinding, are to be detected on the front left side to prevent errors in the elevation of the Transfer Belt Unit.



(7) Ink Droplet Landing Position Adjustment (Ink Ejection Timing Adjustment)

The ink droplet landing position, i.e. ink ejection timing, is automatically adjusted to compensate for the unevenness of the Transfer Belt and the vibration and eccentricity of the Transfer Belt Driven Roller, thus ensuring the precision of ink droplet landing positions on the sheets transported by the Transfer Belt.



As depicted to the left, the peripheral speed of the Transfer Belt may vary due to the difference of the distance from the center of the Transfer Belt Driven Roller to the core layer of the Transfer Belt caused by the unevenness of the Transfer Belt and the vibration and eccentricity of the Transfer Belt Driven Roller, thus causing the shift of ink droplet landing positions on sheets traveling underneath.

Therefore, the individual profile data of the Transfer Belt (unevenness) and Transfer Belt Driven Roller (vibration and eccentricity) are required to be input in advance through the corresponding test modes, which are described below, when any of them is replaced, thus readjusting the ink ejection timing to secure constant ink droplet landing positions even with the renewed combination of the said components.

For entering the Transfer Belt profile data (Fourier-transformed values for belt unevenness): - TM No. 046012 (BELT PROFILE DATA INPUT)

- To be executed when the Transfer Belt is replaced.
- The Transfer Belt HP Sensor determines the starting point to apply the Transfer Belt profile data.

For entering the Transfer Belt Driven Roller profile data (Values for roller vibration and eccentricity):

- TM No. 046022 (ROLLER PROFILE AMPLITUDE INPUT)

- TM No. 046023 (ROLLER PROFILE PHASE INPUT)
 - To be executed when the Transfer Belt Driven Roller or the Transfer Belt FG Sensor (Encoder) is replaced, or when the link of the Transfer Belt Driven Roller and the Transfer Belt FG Sensor (Encoder) is released.

1-4. Unit Action Test Mode List

Unit Name	Sensor/Motor/etc.	Туре	Function	Test Mode
Transfer Belt Unit	Transfer Belt Motor	Brushless DC motor	Drives the Transfer Belt.	06-2-011
	Transfer Belt Suction Fan 1	Blower fan	Pulls an advancing sheet	06-2-001
	Transfer Belt Suction Fan 2	Blower fan	onto the Transfer Belt.	06-2-002
	Transfer Belt FG Sensor (Encoder)	Interrupt type sensor	Determines the ink ejection timing. Reads the Transfer Belt Driven Roller profile.	06-1-002
	Transfer Belt HP Sensor	Interrupt type sensor	Reads the Transfer Belt profile.	06-1-001
	Transfer Belt Upper Limit Sensor	Interrupt type sensor	Detects that the Transfer Belt Unit is at the upper limit position.	09-1-076
	Transfer Belt Lower Limit Sensor	Interrupt type sensor	Detects that the Transfer Belt Unit is at the lower limit position.	09-1-075

1-5. Components and their Drive Source

Section/Unit	Component	Drive Source
Transfer Belt	Transfer Belt Driven Roller	Driven
	Transfer Belt Drive Roller	Transfer Belt Motor (Brushless DC motor)

2. Disassembly and Reassembly

- 2-1. Transfer Belt Unit
- 2-2. Transfer Belt HP Sensor
- 2-3. Transfer Belt Motor Assembly
- 2-4. Transfer Belt FG Sensor (Encoder) Assembly
- 2-5. Transfer Belt
- 2-6. Transfer Belt Upper Limit Sensor
- 2-7. Transfer Belt Lower Limit Sensor
- 2-8. Transfer Belt Suction Fans
- 2-9. Transfer Belt Elevation Motor Assembly
- 2-10. BP Wire Unit
- 2-11. Gap Adjuster
- 2-12. KG Roller

- 2-1. Transfer Belt Unit
- * Be careful not to touch the Print Heads during this work.
- (1) If the Transfer Belt Unit is not at the bottom position, execute the test mode TM No.
 093020 "BP ELEVATOR MOTOR TO DOWN."
- (2) Execute the test mode TM No. 093027 "INK PAN STORAGE POSITION" to move the Ink Pan to the storage position.
- (3) With the Front Right Door open, turn off the power.
- (4) Remove the Middle Inner Cover.

(5) Remove the Bottom Inner Cover.

(Refer to Chapter 2.)

(6) Remove a ground wire.

(Round tip IT3C screw 3x8 (1 pc.))

• Disconnect connectors. (4 pcs.)



(6) Lower the Transfer Belt Unit manually until the BP Wires become slack.

⁽Refer to Chapter 2.)

(7) Unhook the BP Wires from the BP Wire Hooks. (4 locations)



[Note]

Push down the BP Wire Lock with a flathead screwdriver to release it from the BP Wire Hook in diassembly.



(8) Loosen the mounting screws of the Elevation Guide, slide the Guide upward and and fix it temporarily.



(Round tip IT3C screw 3×8 (4 pcs))

(9) Remove the Transfer Belt Unit from the front side.

Important:

Ensure that the Wire Anchors (Balls) are firmly hooked in the BP Wire Hooks or BP Wire Lock when reassembling the Transfer Belt Unit.





* The slit part of the BP Wire Lock should face you when secured to the BP Wire Hook.

[Note]

After reassembling the Transfer Belt Unit, always make the transfer belt skew adjustment (in 3-2 in this chapter) and refer to "1-9. Parameters and Adjustment Procedure When Parts are Replaced" in Chapter 13.

2-2. Transfer Belt HP Sensor

(1) Remove the BP Front Cover.

(Refer to Chapter 2.)

- (2) Remove the Transfer Belt HP Sensor.(Double-washered screw 3×8 (1 pc))
- (3) Disconnect a connector. (1 pc)



2-3. Transfer Belt Motor Assembly



Transfer Belt Motor Assembly

- (1) Remove the Transfer Belt Unit. (Refer to 2-1 in this chapter.)
- (2) Loosen the securing screw on the BeltTensioner to loosen tension on the TimingBelt. (Double-washered screw 4×10 (1 pc))
- (3) Disconnect connectors. (2 pcs)
- Remove the Transfer Belt Motor Assembly.
 (Double-washered screw 4×10 (4 pcs))



[Note] Always secure the Belt Tensioner after reassembly.

2-4. Transfer Belt FG Sensor (Encoder) Assembly

* Do not remove this part unless it is damaged.

(1) Remove the Transfer Belt Unit.

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(Refer to 2-1 in this chapter.)

- (2) Disconnect a connector. (1 pc)
- Remove a reusable band. (1 pc)
- Remove the Transfer Belt FG sensor (Encoder) Assembly.

(Double-washered screw 3×30 (1 pc) and binding screw 3×8 (1 pc))



2-5. Transfer Belt



Important:

- 1) Do not remove the front frame of the Transfer Belt Unit.
- Do not separate the Transfer Belt FG Sensor (Encoder) from the Transfer Belt Driven Roller.
- * After installing a new Transfer Belt, always make image adjustment, following the procedures described in "1-9. Parameters and Adjustment Procedure When Parts are Replaced" in Chapter 13.
- (1) Remove the Transfer Belt Unit. (Refer to 2-1 in this chapter.)
- * Be careful not to drop the nuts in the following steps. (Keep the paper transport side facing down during work.)

- (2) Fix the Front Tension Roller Assembly and the Rear Tension Roller Assembly with a 4mm-diameter shaft to release tension on the Transfer Belt.
- (3) Remove the fixing screw on the bearing for the Transfer Belt Driven Roller on the front side. (Double-washered screw 3×6 (1 pc.))





(4) Remove the BP Guide. (Round tip IT3C screw 4×10 (3 pcs))



- (5) Remove bearings for the Tension Roller and Idler Roller. (6 mm dia. E-ring (1 pc. each))
- Remove a bearing for the Transfer Belt Drive Roller. (8 mm dia. E-ring (1 pc.))



(5) Remove the securing screw of the Transfer Belt FG Sensor (Encoder).

(Binding screw 3×6 (1 pc))

• Pull off a reusable band (1 pc) for the wire harness of the Transfer Belt FG Sensor (Encoder) and disconnect a connector (1 pc).



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(6) Remove a ground wire.

(Round tip IT3C screw 3×8 (1 pc))



(7) Remove the securing screws of the Deelectricity Brush Assembly and detach the rear frame of the Transfer Belt Unit.
(Double-washered screw 4×10 (4 pcs), Black binding P-tight screw 4×10 (7 pcs)).



(8) Pull out the Transfer Belt Driven Roller with the Transfer Belt FG Sensor (Encoder) attached.



(9) Slide off the Transfer Belt.



* When reassembling the Transfer Belt, make sure that the HP detection mark (slot) comes to the front side.



2-6. Transfer Belt Upper Limit Sensor

- (1) If the Transfer Belt Unit is not at the bottom position, execute the test mode TM No.
 093020 "BP ELEVATOR MOTOR TO DOWN."
- (2) Execute the test mode TM No. 093027 "INK PAN STORAGE POSITION" to move the Ink Pan to the storage position.
- (3) Remove the Sensor Shield.

(Binding screw 3×6 (1 pc))



- (3) Disconnect a connector. (1 pc)
- Remove the Transfer Belt Upper Limit Sensor.



2-7. Transfer Belt Lower Limit Sensor

- (1) If the Transfer Belt Unit is not at the bottom position, execute the test mode TM No.
 093020 "BP ELEVATOR MOTOR TO DOWN."
- (2) Execute the test mode TM No. 093027 "INK PAN STORAGE POSITION" to move the Ink Pan to the storage position.
- (3) Remove the Sensor Shield.

(Binding screw 3×6 (1 pc))



- (4) Disconnect a connector. (1 pc)
- Remove the Transfer Belt Lower Limit Sensor.



Transfer Belt Lower Limit Sensor

2-8. Transfer Belt Suction Fans

(1) Remove the Transfer Belt. (Refer to 2-5 in this chapter.)



(2) Remove the Bottom Fan Cover. (Round tip IT3C screw 3×8 (3 pcs))



- (3) Disconnect connectors. (1 pc each)
- Cut wire bands.
- Remove the Transfer Belt Suction Fans.



2-9. Transfer Belt Elevation Motor Assembly



- (1) If the Transfer Belt Unit is not at the bottom position, execute the test mode TM No.
 093020 "BP ELEVATOR MOTOR TO DOWN."
- (2) Remove the Paper Elevation Unit.

(Refer to 2-1 in Chapter 8.)

(3) Remove the Transfer Belt Elevation Motor Cover. (Double-washered screw 4×8 (1 pc))



- (3) Disconnect connectors. (2 pcs)
- Remove the Transfer Belt Elevation Motor Assembly.

(Double-washered screw 4×8 (2 pcs))



2-10. BP Wire Unit

- (1) If the Transfer Belt Unit is not at the bottom position, execute the test mode TM No.093020 "BP ELEVATOR MOTOR TO DOWN."
- (2) Execute the test mode TM No. 093027 "INK PAN STORAGE POSITION" to move the Ink Pan to the storage position.
- (3) Remove the Right Top Cover and Left Top Cover. (Refer to Chapter 2.)
- (4) Remove the Top Inner Cover.

(Refer to Chapter 2.)

(5) Open a wire saddle, remove securing screws and release the Panel Wire Harness Plate and the Panel Base.

> (Double-washered screw 3×6 (2 pcs)) (Round tip IT3C screw 4×10 (4 pcs))



(6) Move the Panel Wire Harness Plate and the Panel Base to the left side of the printer.



(7) Remove the plastic thumbscrews (4×10).



(8) Raise up the Ink Cartridge Holder Unit.* Prop it open with the Lock Bar.



(9) Remove the Middle Inner Cover.

(Refer to Chapter 2.)

(10) Lower the Transfer Belt Unit manually until. the BP Wires become slack.



(11) Release the BP Wires from the BP Wire Hooks. (at 4 locations)



(12) Remove securing screws and slide off the Horizontal Paper Feed Unit.

(Double-washered screw 3×8 (5 pcs))

• Disconnect connectors. (3 pcs)



(13) Remove the Paper Elevation Unit. (Refer to 2-1 in Chapter 8.)

- (14) Remove the Horizontal Paper Feed GuideRail. (Double-washered screw 4×8 (2 pcs))
- Remove the Horizontal Paper Feed Guide Rail Mounting Bracket.

(Double-washered screw 4×8 (1 pc))



(15) Remove the Print Head Holder Cover 1. (Round tip IT3C screw 3×8 (4 pcs))



(16)Remove the Print Head Holder Cover . .(Double-washered screw 3×8 (4 pcs), Round tip IT3Cscrew 3×8 (2 pcs))



(17) Remove the Print Head Drive PCBs (3 pcs).(Double-washered screw 3×8 (2 pcs each))



(18) Remove the Transfer Belt Elevation MotorAssembly. (Refer to 2-9 in this chapter.)

Work on the Left Side

(1) Remove the U-Shaped Plate.

(Double-washered screw 3×8 (1 pc))

- (2) Remove a snap ring.
- (3) Slide the torque limiters (2 pcs) and BP Wire Holder to the right and off the end.
- (4) Remove a parallel pin, which are used to stop the rotation of the outer torque limiter.



Work on the Right Side

(1) Remove the U-Shaped Plate.

(Double-washered screw 3×8 (1 pc))

- (2) Slide the torque limiters (2 pcs) and BPWire Holder to the left and off the end.
- (3) Remove a parallel pin, which are used to stop the rotation of the outer torque limiter.
- (4) Remove an E-ring.
- (5) Slide out the BP Wire Elevation Shaft to the right.



- [BP Wire Unit on the front left side]
- (1) Release the BP Wire from the BP Wire Guide.

<How to release the BP Wire from the BP Wire Guide>



- (2) Remove the BP Wire Loosening Detection Spring.
- (3) Remove the BP Wire Loosening Detection Plate. (Snap ring)
- (4) Remove the BP Wire Wheel Guide on the front side.

(Double-washered screw 3×6 (1 pc))



- [BP Wire Unit on the rear left side]
- (1) Remove the BP Wire from the BP Wire Guide.
- (2) Remove the BP Wire Wheel Guide on the rear side. (Double-washered screw 3×6 (1 pc))





BP Wire Unit (on the left side)

[BP Wire Unit on the front right side]

- Remove the BP Wire Wheel Guide on the front side. (Double-washered screw 3×6 (1 pc))
- (2) Remove the BP Wire Pulley BracketAssembly. (Double-washered screw 4×8 (1 pc))



- [BP Wire Unit on the rear right side]
- (1) Remove the BP Wire from the BP Wire Guide.
- (2) Remove the BP Wire Wheel Guide on the rear side. (Double-washered screw 3×6 (1 pc))





BP Wire Unit (on the right side)

Reassembly precautions:

- Completely pull out the BP Wire from the BP Wire Pulley before attaching the BP Wire Unit.
- Before attaching the torque limiter, direct it so that the square projection is at a right angle to the grooves for a parallel pin.

For that purpose, insert a parallel pin first and then the torque limiter into the BP Wire Elevation Shaft. Then turn the shaft so that the projection of the torque limiter is aligned with the securing screw hole on the shaft.

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Important:

If the screw to be used to secure the BP Wire Wheel Guide is longer than the original one, it may interfere with the operation of the Paper Position Detection Unit, thus causing paper jam.

Therefore, always use the original screw, whose length is 6mm when attaching the BP Wire Wheel Guide.



<Sectional view of the BP Wire Pulley on the External Paper Feed Section side>





Direction of the BP Wire winding on the BP Wire Pulley from the stopper ball at the end.



Direction of the BP Wire winding on the BP Wire Pulley from the stopper ball at the end.



2-11. Gap Adjuster

- (1) If the Transfer Belt Unit is not at the bottom position, execute the test mode TM No.
 093020 "BP ELEVATOR MOTOR TO DOWN."
- (2) Execute the test mode TM No. 093027 "INK PAN STORAGE POSITION" to move the Ink Pan to the storage position.
- (3) With the Front Right Door open, turn off the power.
- (4) Remove the Middle Inner Cover.

(Refer to Chapter 2.)

- (5) Remove the Bottom Inner Cover.
 - (Refer to Chapter 2.)
- (6) Lower the Transfer Belt Unit manually until the BP Wires become slack.
- (7) Unhook the BP Wires from the BP Wire Hooks. (4 locations)



(8) Remove the BP Wire Locks (on front side) or the BP Wire Stoppers (on rear side).



(9) Pull off the Gap Adjusters.



Transfer Belt Unit Tension Spring



<Reassembly Note>

Fit the convex on the inner wall of the Gap Adjuster Cap to the cutout of the Rotary Guide and slide it along the groove.



Cutout

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2-12. KG Roller

- (1) If the Transfer Belt Unit is not at the bottom position, execute the test mode TM No.093020 "BP ELEVATOR MOTOR TO DOWN."
- (2) Execute the test mode TM No. 093027 "INK PAN STORAGE POSITION" to move the Ink Pan to the storage position.
- (3) With the Front Right Door open, turn off the power.
- (4) Remove the Middle Inner Cover.
- (5) Pull down the front end of the KG Roller off the holder on the Print Head Holder Unit and take out the KG Roller.





[Important]

When remounting the KG Rollers, make sure that the Roller Supports are set under the Shaft Retainers (yellow).



[Remark]

Manual Shift of the Ink Pan to Storage Position

- Remove a snap ring on the shaft of the Maintenance Unit Drive Assembly on the rear side of the printer.
- Pull off a gear from the shaft.



(2) Hold up the Ink Pan toward the right and turn it to the storage position.



<Transfer Belt Unit areas which are not allowed to be held during disassembly>

Always hold other areas than indicated in the figures below when handling the Transfer Belt Unit during disassembly and reassembly works.

Never hold the Belt Platen Plate Assembly because it may be deformed when held, thus causing deformed print images or Transfer Belt skew.

Areas not allowed to be held



• Areas allowed to be held

3. Adjustments

3-1. Ink Droplet Landing Position (Ink Ejection Timing)

Transfer Belt Section Adjustment	Belt Profile Compensation	Roller Profile Compensation	
When replacing the Transfer Belt Unit	Input the 12 values of belt profile data and one belt profile check digit shown on the label of the cover in the corresponding test mode.	Input two values of roller profile data (amplitude and phase) shown on the label of the cover in the corresponding test mode.	
When replacing the Transfer Belt	Input the 12 values of belt profile data and one belt profile check digit shown on the label provided with the Transfer Belt in the corresponding test mode.	Not applied	
When replacing or disassembling the Transfer Belt FG Sensor (Encoder) or Transfer Belt Driven Roller	Not applied	Select two values of roller profile data (amplitude and phase) from the output sample patterns and input them in the corresponding test mode.	

<Adjustment Overview>

The ink droplet landing position is affected by the unevenness of the Transfer Belt and the vibration and eccentricity of the Transfer Belt Driven Roller. Therefore, it is required to adjust the ink ejection timing to make the ink droplet landing position as constant as possible to secure stable print image quality with any combination of the Transfer Belt and the Transfer Belt Driven Roller.

<Belt Profile Compensation>

		BEL	T_PRO	7:	1075	ROL	L_PRC
		1:	0140	8:	0004	1:	0281
		2:	1024	9:	0012	2:	0237
		3:	1026	10:	1064		
		4:	0163	11:	8000		
		5:	1151	12:	0442		
S.N	25100028	6:	1000	13:	9529		

[Belt profile and roller profile compensation values shown on the Transfer Belt Unit]

After replacing the Transfer Belt Unit or Transfer Belt, enter the test mode and input the unique compensation values shown on the label.

- (1) Execute the test mode TM 046012 "BELT PROFILE DATA INPUT" and input the compensation values (No. 1 to 12) unique to the transfer belt.
- (2) Execute the test mode TM 046013 "BELT PROFILE CHECK DIGIT INPUT" and input the check digit (No. 13) provided with the transfer belt profile data.
- (3) Execute the test mode TM 043041 "BELT PROFILE DATA" to update and save the transfer belt profile data. If the corresponding data is incorrect, an error will be displayed. (The data will be updated and saved automatically if the power is turned off and on after the data is input.)

<Roller Profile Compensation>

The amount of deviation (vibration and eccentricity) of the Transfer Belt Driven Roller is quantified and used in image adjustment. This compensation procedure is also required when the Transfer Belt FG Sensor (Encoder) and the Transfer Belt Driven Roller are separated.

When replacing the Transfer Belt Unit;

Input the two values of roller profile data (amplitude and phase) shown on the label of the cover in the corresponding test mode.

When replacing or disassembling the Transfer Belt FG Sensor (Encoder) or Transfer Belt Driven Roller;

Amplitude entry

- (1) Load A3 paper on the Standard Paper Feed Tray. (16 sheets or more)
- (2) Execute the test mode TM 043027 "ROLLER PROFILE AMPLITUDE PRINT."
- (3) 16 sheets are printed continuously, producing a black (K-4L) pattern with horizontal lines.
- (4) Check printed patterns. The amplitude of deviation is 0100 in the first sheet, 0200 in the second sheet, and thus increases in increments of 100 up to 1600.
- (5) Check the shading of the seams between the Print Heads. Select the amplitude of the pattern with the least density variation.
- (6) Enter the selected amplitude value in the test mode TM 046022 "ROLLER PROFILE AMPLITUDE INPUT."
- (7) Execute the test mode TM 043028 "ROLLER PROFILE DATA" to update the saved data with the entered value. (The saved data will be updated automatically if the power is turned off and on.)

Phase entry

- (1) Load A3 paper on the Standard Paper Feed Tray. (18 sheets or more
- (2) Execute the test mode TM 043026 "ROLLER PROFILE PHASE PRINT."
- (3) 18 sheets are printed continuously, producing a black (K-4L) pattern with horizontal lines.
- (4) Check printed patterns. The phase is 0 in the first sheet, 20 in the second sheet, and thus continues up to 340.
- (5) Check the shading of the seams between the Print Heads. Select the phase of the pattern with the least shading variation.
- (6) Enter the selected phase value in the test mode TM 046023 "ROLLER PROFILE PHASE INPUT.".
- (7) Execute the test mode TM 043028 "ROLLER PROFILE DATA" to update the saved data with the entered value. (The saved data will be updated automatically if the power is turned off and on.)
 - Note: 1. Make the roller profile compensation for amplitude first and then for phase.
 - 2. The entered belt profile data and roller profile data are saved in the HDD and Engine control PCB.

If any of the parts described above is replaced, the said saved data will be retrieved and applied automatically.



<Output pattern of TM 043026 and TM 043027>

3-2. Transfer Belt Skew Correction

<Adjustment Overview>

Perform this adjustment after replacing the Transfer Belt or when removing the Transfer Belt to replace the Transfer Belt Suction Fan, etc.

The improper mounting of the Transfer Belt may cause deformation of the edge face of the belt or print image defects such as vertical KCMYG color misalignment.

Confirm that the Transfer Belt is always close to the front side and does not run over the Belt Flange while traveling.

<Adjustment Instructions>

- (1) If the Transfer Belt Unit is not at the bottom position, execute the test mode TM No. 093020 "BP ELEVATOR MOTOR TO DOWN" to lower the said unit to the bottom.
- (2) Remove the Middle Inner Cover and the Bottom Inner Cover. (Refer to Chapter 2.)
- (3) Raise the Transfer Belt Unit by approximately 30 mm manually.
- (4) Remove the BP Front Cover. (Binding head screw 4x8 (1 pc), round tip IT3C screw 3×8 (2 pcs))



(5) Set the Transfer Belt Skew Adjustment Jig on the Transfer Belt Pate at the BP Wire on the front right side.



Note: The Transfer Belt Skew Adjustment Jig is different in shape and thickness for GD/GL series and for FW/FT series.

- (6) Execute the test mode TM No. 093022 "BP ELEVATION MOTOR TO UP" to shift up the Transfer Belt Unit to the upper limit position.
- (7) Execute the test mode TM No. 062011 "TRANSFER BELT MOTOR" to drive the Transfer Belt.
- (8) Tighten the cap screw to move the Transfer Belt to the rear side so that the gap between the side edge of the belt and the Belt Flange may become about 1 to 2 mm on the front side.
 - Note: If the Transfer Belt does not move to the rear side even when the cap screw is tightened; Move the Front Tension Roller Assembly to the left, return the cap screw to the center of the scale and tighten the cap screw again.

Note: Use a mirror to view from below the Transfer Belt Unit.



- (9) Loosen the cap screw by half a turn at a time until the Transfer Belt starts moving to the front side.
 - Note: If the Transfer Belt does not move to the front side even when the cap screw is loosened to the end;

Move the Front Tension Roller Assembly to the right, return the cap screw to the center of the scale and loosen the cap screw until the Transfer Belt starts moving to the front side.

- Note: Wait about 1 minute before loosening the cap screw again to confirm the result of the current action.
- (10) When the Transfer Belt starts moving to the front side, make another half turn of the cap screw and tighten the nut firmly to lock the cap screw.
- (11) Execute the test mode TM No. 093020 "BP ELEVATION MOTOR TO DOWN" to shift down the Transfer Belt Unit to the bottom position again.
- (12) Remove the Transfer Belt Skew Adjustment Jig.
- (13) Execute the test mode TM No. 093022 "BP ELEVATION MOTOR TO UP" to shift up the Transfer Belt Unit to the upper limit position again.
- (14) Execute the test mode TM No. 062011 "TRANSFER BELT MOTOR" to drive the Transfer Belt.
- (15) Make the Transfer Belt run for about three minutes to confirm that the front side edge of the Transfer belt is in contact with the belt flange without deflected nor lifted.



3-3. Transfer Belt Alignment

<Adjustment Overview>

If the Transfer Belt Unit and Registration Roller are not parallel to each other, a sheet whose leading edge is aligned by the Registration Roller will skew on the Transfer Belt, thus causing deviation of ink droplet landing positions (vertical KCMYG color misalignment) on prints. Perform this adjustment in such a case. This adjustment is also required when the Transfer Belt Unit, Transfer Belt or Transfer Belt Suction Fan is replaced.

<Adjustment Instructions>

For adjustment instructions, refer to "2-4. BP Direction Adjustment" in "Chapter 13 Image Adjustment".



(Top view)

[Memo]

[8-1]

Chapter 8. Paper Transfer Section

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1. Overview

1-1. Basic Structure

The Paper Transfer Section is composed of the Paper Elevation Unit and the Horizontal Transfer Unit, which receives the printed sheet transported from the Transfer Belt Unit and then passes it to the Face-down Paper Ejection Section.



1-2. Unit Structure

(1) Paper Elevation Unit

- This unit is composed of Paper Elevation Rollers 1 and 2, Paper Elevation Transfer Motors 1 and 2 and Paper Elevation IN Sensor.
- The Paper Elevation Transfer Motors 1 and 2 drive the Paper Elevation Rollers 1 and 2 respectively.



(2) Horizontal Transfer Unit

- This unit is composed of Horizontal Transfer Rollers 1, 2 and 3, Horizontal Transfer Motors 1 and 2 and Horizontal Transfer Sensor.
- The Horizontal Transfer Motor 1 drives the Horizontal Transfer Roller 1 and the Horizontal Transfer Motor 2, which is mounted on the rear frame of the printer, drives the Horizontal Transfer Rollers 2 and 3.



[8-4]

1-3. Mechanisms and Operations

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(1) Paper Transfer Mechanism

- 1) The rollers in this section start rotating simultaneously when printing starts, and stop rotating at the end of a print job.
- 2) The said rollers (one, several or all, depending on paper length) rotate at the same speed as the traveling speed of the Transfer Belt so that image printing performance may not be affected on the Transfer Belt with extra tension on the tail part of a received sheet.
- 3) They are then accelerated to a predefined speed, but not with a sheet whose length is 433mm or more, when the received sheet leaves the Transfer Belt a predefined amount of time after the Paper Elevation IN Sensor detects the leading edge of the said sheet.
 - When ejected: Accelerated to the paper ejection speed, which differs depending on paper format and type and corresponds to the regular rotation speed of the FD Paper Ejection Roller.
 - * The FD Paper Ejection Roller is accelerated from the regular rotation speed to eject a received sheet when it leaves the Horizontal Transfer Roller 3 a predefined amount of time after the FD Paper Ejection Sensor detects the leading edge of the said sheet.
 - When re-feeding: Accelerated to the paper re-feed speed, which differs depending on paper format and type and corresponds to the rotation speed of the Re-feed Roller.
- 4) The rotation speed of the above-mentioned rollers returns to the original one, i.e. the traveling speed of the Transfer Belt, when the said roller or rollers finish transferring the received sheet a predefined amount of time after the Paper Elevation IN Sensor detects the trailing edge of the said sheet.
 - * The remaining rollers keep rotating at a predefined speed, i.e. paper ejection speed or paper re-feed speed, during printing operation.
- 5) The Paper Elevation IN Sensor and Horizontal Transfer Sensor detect if received sheets are transferred properly through this section.


<Paper-length-based roller rotation speed transition patterns for to-be-ejected sheets>

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<Paper-length-based roller rotation speed transition patterns for re-feeding sheets>



1-4. Unit Action Test Mode List

Unit Name	Sensor/Motor	Туре	Function	Test Mode
Paper Elevation	Paper Elevation Transfer Motor 1	DC servo motor	Drives the Paper Elevation Roller 1 to transfer printed sheets.	06-2-012
	Paper Elevation Transfer Motor 2	DC servo motor	Drives the Paper Elevation Roller 2 to transfer printed sheets.	06-2-013
Offic	Paper Elevation IN Sensor	Reflective type sensor	Detects whether printed sheets enter the Paper Elevation Unit properly.	06-1-005
Horizontal Transfer Unit	Horizontal Transfer Motor 1	DC servo motor	Drives the Horizontal Transfer Roller 1 to transfer printed sheets further.	06-2-016
	Horizontal Transfer Motor 2	Brushless DC motor	Drives the Horizontal Transfer Rollers 2 & 3 to transfer printed sheets further.	06-2-017
	Horizontal Transfer Sensor	Reflective type sensor	Detects whether printed sheets enter the Horizontal Transfer Unit properly. Triggers the activation of the FD Paper Ejection Flipper Solenoid.	06-1-006

1-5. Components and their Drive Source

Section/Unit	Component	Drive Source
Paper	Paper Elevation Roller 1	Paper Elevation Transfer Motor 1 (DC servo motor)
Elevation	Paper Elevation Roller 2	Paper Elevation Transfer Motor 2 (DC servo motor)
Horizontal Transfer	Horizontal Transfer Roller 1	Horizontal Transfer Motor 1 (DC servo motor)
	Horizontal Transfer Roller 2	Harizantal Transfer Mater 2 (Prushlass DC mater)
	Horizontal Transfer Roller 3	

2. Disassembly and Reassembly

- 2-1. Paper Elevation Unit
- 2-2. Paper Elevation Transfer Motor 1
- 2-3. Paper Elevation Transfer Motor 2
- 2-4. Paper Elevation Roller 1
- 2-5. Paper Elevation Roller 2
- 2-6. Paper Elevation IN Sensor
- 2-7. Paper Elevation Driven Rollers 1 (Lower Paper Elevation (Driven) Assembly)
- 2-8. Paper Elevation Driven Rollers 2 (Upper Paper Elevation (Driven) Assembly)
- 2-9. Horizontal Transfer Unit
- 2-10. Horizontal Transfer Roller 1
- 2-11. Horizontal Transfer Roller 2
- 2-12. Horizontal Transfer Roller 3
- 2-13. Horizontal Transfer Sensor
- 2-14. Horizontal Transfer Driven Rollers (Front)
- 2-15. Horizontal Transfer Driven Rollers (Rear)
- 2-16. Horizontal Transfer Motor 1 Assembly
- 2-17. Horizontal Transfer Motor 2 Assembly

2-1. Paper Elevation Unit



- (1) Remove the Top Right Cover.
 - (Refer to Chapter 2.)
- (2) Remove the Upper Right Side Cover.
 - (Refer to Chapter 2.)
- (3) Remove the Middle Right Side Cover.

(Refer to Chapter 2.)

(4) Remove the FU Plate.

(Round tip IT3C screw 4×10 (2 pcs), binding head screw 4x8 (2 pcs))



- (5) Disconnect connectors. (2 pcs)
- Remove the Paper Elevation Unit.

(Round tip IT3C screw 3×8 (4 pcs))



2-2. Paper Elevation Transfer Motor 1

(1) Remove the Paper Elevation Unit.

(Refer to 2-1 in this chapter.)

- (2) Remove the Timing Belt (144).
- Remove the Paper Elevation Transfer Motor
 1. (Pan-head screw 3×5 (2 pcs))
- Disconnect a connector.



2-3. Paper Elevation Transfer Motor 2

(1) Remove the Paper Elevation Unit.

(Refer to 2-1 in this chapter.)

- (2) Remove the Timing Belt (118).
- Remove the Paper Elevation Transfer Motor 2. (Pan-head crew 3×5 (2 pcs))
- Disconnect a connector.



2-4. Paper Elevation Roller 1



- (1) Remove the Paper Elevation Unit. (Refer to 2-1 in this chapter.)
- (2) Remove the Timing Belt (144).
- Remove a pulley. (E-ring φ6 (1 pc))



(3) Remove bearings on both ends. (Snap ring (1 pc each))





(4) Remove the Paper Elevation Roller 1.

2-5. Paper Elevation Roller 2



- (1) Remove the Paper Elevation Unit. (Refer to 2-1 in this chapter.)
- (2) Remove the Timing Belt (118).
- Remove a pulley. (E-ring φ 6 (1 pc))





(4) Remove the Paper Elevation Roller 2.

2-6. Paper Elevation IN Sensor



(1) Remove the Paper Elevation Unit.

(Refer to 2-1 in this chapter.)

(2) Remove the Paper Elevation IN Sensor Assembly.

(Double-washer screw 3×8 (1 pc))

- Remove the Paper Elevation IN Sensor.
 (Pan-head screw 3×14 (1 pc))
- Disconnect a connector. (1 pc)



(3) Remove bearings on both ends. (Snap ring (1 pc each))

2-7. Paper Elevation Driven Rollers 1 (Lower Paper Elevation (Driven) Assembly)



(1) Push the Lower Paper Elevation (Driven) Assembly near the hinged support toward the rear side to release the hinged support projection from the Assembly.

[Note]

The Lower Paper Elevation (Driven) Assembly should remain closed.



(2) Take out the Lower Paper Elevation (Driven) Assembly toward you.



(3) Remove the Bearing Stoppers.

(P-tite screw 3×8 (2 pcs each))

• Remove the Driven Roller Bearings.

(2 pcs each)

• Take off the Paper Elevation Driven Rollers 1.



- 2-8. Paper Elevation Driven Rollers 2 (Upper Paper Elevation (Driven) Assembly)
- (1) Remove the Paper Elevation Unit. (Refer to 2-1 in this chapter.)
- (2) Turn open the Lower Paper Elevation (Driven) Assembly.

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(3) Take off the Upper Paper Elevation (Driven) Assembly from the frame of the Paper Elevation Unit.



(4) Remove the Bearing Stoppers.

(P-tite screw 3×8 (2 pcs each))

• Remove the Driven Roller Bearings.

(2 pcs each)

• Take off the Paper Elevation Driven Rollers 2.



2-9. Horizontal Transfer Unit



(1) Remove the Middle Inner Cover.

(Refer to Chapter 2.)

(2) Move the Front Door Lock Lever to the locked position. (Push up the Arm Solenoid.)



- (3) Disconnect connectors. (3 pcs)
- Slide out the Horizontal Transfer Unit toward
 - you. (Double-washer screw 3×8 (5 pcs))



* Reassembly precautions:

Slide the unit into the printer with the lock lever of the Horizontal Transfer Guide (Driven Front) Assembly locked in place.



2-10. Horizontal Transfer Roller 1



- (1) Take out the Horizontal Transfer Unit. (Refer to 2-9 in this chapter.)
- (2) Remove the Jam Release Rail (Feed) Assembly.
- Remove the Jam Release Rail (Ejection) Assembly.
- Remove the Horizontal Transfer Guide (Driven Front) Assembly.



(3) Remove a bearing on the front side.

(Snap ring (1 pc))



(4) Remove a pulley and the Timing Belt (120) on the rear side. (E-ring φ 6 (1 pc))



- (5) Remove a bearing on the rear side. (Snap ring (1 pc))
- Take off the Horizontal Transfer Roller 1.



2-11. Horizontal Transfer Roller 2



- (1) Take out the Horizontal Transfer Unit. (Refer to 2-9 in this chapter.)
- (2) Remove the Jam Release Rail (Feed) Assembly.
- Remove the Jam Release Rail (Ejection) Assembly.
- Remove the Horizontal Transfer Guide (Driven Front) Assembly.



(3) Remove a bearing on the front side.

(Snap ring (1 pc))



 (4) Remove E-rings on the shafts of the Horizontal Transfer Rollers 2 and 3.
 (E-ring φ4 (1 pc each))



(5) Slide pulleys on the shafts in the direction of the arrows.



(6) Pull off the Cap Ring and a plastic washer
 from the shaft of the Horizontal Transfer
 Roller 3. (E-ring φ4 (1 pc))

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(7) Pull off a plastic washer, the Timing Belt(318) and a pulley from the roller shaft.

(E-ring φ4 (1 pc))



- (8) Remove a bearing.
 - (E-ring φ4 (1 pc), Snap ring (1 pc))
- Remove the Horizontal Transfer Roller 2.



2-12. Horizontal Transfer Roller 3



(1) Take out the Horizontal Transfer Unit.

(Refer to 2-9 in this chapter.)

- (2) Remove the Jam Release Rail (Feed) Assembly.
- Remove the Jam Release Rail (Ejection)
 Assembly.
- Remove the Horizontal Transfer Guide (Driven Front) Assembly.



- (3) Remove a bearing on the front side.
 - (Snap ring (1 pc))



 (4) Remove E-rings on the shafts of the Horizontal Transfer Rollers 2 and 3.
 (E-ring φ4 (1 pc each))



- (5) Slide pulleys on the shafts in the direction of the arrows.
- Pull off a plastic washer from the shaft of the Horizontal Transfer Roller 2.(E-ring φ4 (1 pc))



- (6) Pull off the Cap Ring, a plastic washer and a pulley from the roller shaft while taking off the Timing Belt (318) . (E-ring φ 4 (1 pc))
- Remove a bearing. (Snap ring (1 pc))
- Take off the Horizontal Transfer Roller 3.



2-13. Horizontal Transfer Sensor

- (1) Take out the Horizontal Transfer Unit. (Refer to 2-9 in this chapter.)
- (2) Remove the Jam Release Rail (Feed) Assembly.
- Remove the Jam Release Rail (Ejection)
 Assembly.
- Remove the Horizontal Transfer Guide (Driven Front) Assembly.



(3) Remove the Horizontal Transfer Sensor Assembly.

(Binding-head P-tite screw 4×10 (2 pcs))



(4) Remove the Horizontal Transfer Sensor.

(Binding head screw 3×6 (1 pc))

• Disconnect a connector. (1 pc)



2-14. Horizontal Transfer Driven Rollers (Front)

- (1) Remove the Middle Inner Cover.
 - (Refer to Chapter 2.)
- (2) Move the Jam Release Rail (Ejection) Assembly to the left.

(Double-washered screw 3×8 (1 pc))



(3) Take out the Horizontal Transfer Guide (Driven Front) Assembly.



(4) Remove the Bearing Stoppers.

(P-tite screw 3×8 (2 pcs each))

• Remove the Driven Roller Bearings.

(2 pcs each)

• Take off the Horizontal Transfer Driven Rollers (Front).



2-15. Horizontal Transfer Driven Rollers (Rear)

- (1) Take out the Horizontal Transfer Unit. (Refer to 2-9 in this chapter.)
- (2) Remove the Jam Release Rail (Feed) Assembly.
- Remove the Jam Release Rail (Ejection)
 Assembly.
- Remove the Horizontal Transfer Guide (Driven Front) Assembly.



- (3) Disconnect a connector. (1 pc)
- Remove Horizontal Transfer Motor 1
 Assembly.

(Double-washered screw 3×8 (2 pcs))

 Remove the Horizontal Transfer Guide Support Assembly.

(Double-washered screw 4×8 (1 pc))



- (4) Disconnect a connector. (1 pc)
- Slide off the Horizontal Transfer Guide (Driven Rear) Assembly while lifting it up at an angle.
 (Snap ring (1 pc))



(5) Remove the Bearing Stoppers.

(P-tite screw 3×8 (2 pcs each))

• Remove the Driven Roller Bearings.

(2 pcs each)

• Take off the Horizontal Transfer Driven Rollers (Rear).



Note:

Do not remove the Horizontal Transfer Positioning Pin Mounting Bracket Assembly.



2-16. Horizontal Transfer Motor 1 Assembly

- (1) Remove the Horizontal Transfer Unit. (Refer to 2-9 in this chapter.)
- (2) Remove the Jam Release Rail (Feed) Assembly.
- Remove the Jam Release Rail (Ejection)
 Assembly.
- Remove the Horizontal Transfer Guide (Driven Front) Assembly.



- (3) Disconnect a connector. (1 pc)
- Remove the Horizontal Transfer Motor 1
 Assembly.

(Double-washer screw 3×8 (2 pcs))



2-17. Horizontal Transfer Motor 2 Assembly



(1) Remove the Rear Cover.

(Refer to Chapter 2.)

- (2) Put the Engine Control PCB in the maintenance position. (Refer to Chapter 2.)
- (3) Put the Ink Tower Unit in the maintenance position. (Refer to Chapter 2.)
- (4) Open wire saddles to release running wires.(4 pcs)
- Remove reusable bands. (3 pcs)
- Disconnect connectors. (2 pcs)
- Remove the Horizontal Transfer Motor 2
 Assembly.

(Round tip IT3C screw 4×10 (2 pcs))



[Memo]

[9-1]

Chapter 9. Paper Ejection Section

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1. Overview

1-1. Basic Structure

The FD Paper Ejection Section is composed of the FD Paper Ejection Unit, FD Paper Ejection Paper Guide Unit and FD Paper Receiving (Ejection) Tray Unit. In this section, printed sheets, which are transported through the Horizontal Transfer Unit, are ejected and stacked onto the FD Paper Receiving (Ejection) Tray.



1-2. Unit Structure

(1) FD Paper Ejection Unit

This unit is equipped with the FD Paper Ejection Motor, FD Paper Ejection Roller, FD Paper Ejection Sensor and FD Paper Ejection Full Sensor and ejects printed sheets received from the Horizontal Transfer Unit onto the FD Paper Receiving (Ejection) Tray.

When printed sheets are to be ejected, the FD Paper Ejection Flipper (Gate) is opened, with the FD Paper Ejection Flipper Solenoid deactivated, while it is closed, with the said solenoid activated, when they are to be transferred to the Switchback Section to be re-fed for reverse-side printing in duplex print jobs.



1-3. Mechanisms and Operations

(1) Paper Path Switching (FD Paper Ejection Flipper Operation)

The FD Paper Ejection Flipper (Gate), which is driven by the FD Paper Ejection Flipper Solenoid, determines whether the printed sheets transferred from the Horizontal Transfer Unit are to be ejected onto the FD Paper Receiving (Ejection) Tray or transferred further into the Switchback Entrance Unit for reverse-side printing in duplex print jobs.

- 1) When the FD Paper Ejection Flipper Solenoid is deactivated, the FD Paper Ejection Flipper (Gate) is opened, thus leading advancing sheets up to the FD Paper Receiving (Ejection) Tray.
- 2) When the said solenoid is activated, on the other hand, the FD Paper Ejection Flipper (Gate) is closed to open the paper path leading into the Switchback Entrance Unit.
- 3) The FD Paper Ejection Flipper Solenoid is to be activated a predefined amount of time after the leading edge of a sheet advancing through the Horizontal Transfer Unit has been detected by the Horizontal Transfer Sensor, while it is to be deactivated a predefined amount of time after the trailing edge of the same sheet has been detected by the same sensor.
 - * The said predefined amount of time varies depending on the rotation speed of the Horizontal Transfer Motor 2, i.e. Horizontal Transfer Rollers 2 and 3. (Refer to Chapter 8.)





(2) Face Down Paper Ejection

The FD Paper Ejection Roller, which is driven by the FD Paper Ejection Motor, receives transferred printed sheets while rotating at the same speed as the Horizontal Transfer Rollers do, and then changes the rotation speed to a specified level to eject received sheets onto the FD Paper Receiving (Ejection) Tray when they leaves the Horizontal Transfer Roller 3 a predefined amount of time after the FD Paper Ejection Sensor detects the leading edge of the said sheets.

The paper ejection speed of the FD Paper Ejection Roller is determined according to paper format and type and can be adjusted in the test modes TM No. 076001 to 076015 separately for the respective paper formats and types.

The rotation speed of th FD Paper Ejection Roller returns to the same level as of the Horizontal Transfer Rollers when the trailing edge of ejected sheets has passed through the FD paper Ejection Roller, i.e. a predefined amount of time after the FD Paper Ejection Sensor was opened.



(3) Full Paper Stacking Detection

When the FD Paper Ejection Full Sensor remains blocked while 3 printed sheets are ejected and stacked on the FD Paper Receiving (Ejection) Tray in succession, it is determined that the said tray has become full, thus leading paper feed operation to stop and all printed sheets remaining inside the printer to be ejected before stopping the operation of the FD Paper Ejection Motor (Roller), with the error message W024-1150 (FD Paper Ejection Tray Full) displayed. This error message is cleared when the FD Paper Ejection Full Sensor and the FD Paper Ejection

Paper Detection Sensor are both opened.

If the FD Paper Ejection Full Sensor is already blocked when another print job is requested, besides, the said error message is also displayed to prevent the start of the requested job.

(4) FD Paper Ejection Paper Guide Operation

The FD Paper Ejection Paper Guides are to be positioned to meet the width of ejected sheets, thus leading ejected sheets to be stacked on the FD Paper Receiving (Ejection) Tray in order.



1) Home positioning

The FD Paper Ejection Paper Guides are moved to the home position in the following cases.

- When the printer is powered up.
- When the print job which was interrupted while the said guides were in action is resumed.
- When the printer is reset to the initial setting.

2) Position control

It is to be determined based on the following conditions whether and where the FD Paper Ejection Paper Guides are to be moved when a print job is started: current guides' position, guides' destination and stacked sheet presence.

Relative destination position	Stacked sheets	Ejection Paper Guide action
Identical to current guides' position		No action
Outside current guides' position		Move to the destination.
Incide ourrent guidee' position	Present	No action
Inside current guides position	Absent	Move to the destination.
	Present	Move to the home position.
Unidentified	Absent	Move to the destination via the home position.

(5) FD Paper Receiving (Ejection) Tray Unit

This unit receives and stacks printed sheets ejected from the FD Paper Ejection Unit, while guiding printed sheets which re-feed for reverse-side printing from the Switchback section during duplex print jobs.



FD Paper Receiving Tray Mounting Brackets





Switchback Paper Guide (6) Face Up Paper Ejection (Optional)

Another paper path can be opened for face-up paper ejection by installing the FU Paper Ejection Unit (optional) inside the printer, thus enabling the connection of an optional stacking or finishing device, such as Auto-control Stacking Tray and Multifunction Finisher, to the printer. The additional FU Paper Ejection Unit consists of the FU Paper Ejection Flipper Unit and FU Paper Transfer Unit.



1) FU Paper Ejection Flipper Unit

When the FU Paper Ejection Flipper Solenoid is activated, the FU Paper Ejection Flipper is turned up to open the path to the FU paper ejection, thus leading printed sheets coming from the Transfer Belt Section to an optional stacking or finishing device, such as Auto-control Stacking Tray and Multifunction Finisher. When the said solenoid is deactivated, on the other hand, the flipper is lowered to lead coming printed sheets into the Paper Elevation Unit to eject them onto the FD Paper Receiving (Ejection) Tray.

2) FU Paper Transfer Unit

• The FU Paper Transport Roller, which is driven by the FU Paper Transport Motor, starts rotating as soon as printing operation starts, while the FU Paper Ejection Roller, which is driven by the FU Paper Ejection Jump Motor, starts rotating when the FU Paper Ejection Sensor detects the leading edge of a feeding sheet.

- The FU Paper Transport and Ejection Rollers both rotate at the same speed as the Transfer Belt to avoid extra tension on a sheet advancing on the Transfer Belt during printing, while the FU Paper Ejection Roller accelerates the rotation speed to eject received printed sheets when their trailing edge has passed through the FU Paper Ejection Sensor and resumes the original rotation speed a predefined amount of time after the said sensor detects the leading edge of the following printed sheet.
- A one-way clutch is built in the FU Paper Transport and Ejection Rollers to prevent backward tension on a passing sheet when it is to be ejected into the Multifunction Finisher while pulled by the reception roller of the said finisher.
- This unit can be opened wide to enable jammed sheets to be removed. With this unit open, the 24V power supply is interrupted there for safety.

[Note]

- The rotation (ejection) speed of the FU Paper Ejection Roller is further increased when card stock is to be ejected into the Auto-control or Wide Stacking Tray.
- The FU Paper Ejection Wings change their position according to paper format and type when the Auto-control or Wide Stacking Tray is mounted, while they remain fully opened with the Multifunction finisher connected.

1-4. Unit Action Test Mode List

Unit Name	Sensor/Motor	Туре	Function	Test Mode
FD Paper Ejection Unit	FD Paper Ejection Motor	DC motor	Drives the FD Paper Ejection Roller.	07-2-001
	FD Paper Ejection Sensor	Reflective type sensor	Determines the timing of speed-up and slowdown of the FD Paper Ejection Roller. Detects whether printed sheets reach or pass through the FD Paper Ejection Unit.	07-1-002
	FD Paper Ejection Full Sensor	Reflective type sensor	Detects full paper stacking on the FD Paper Receiving (Ejection) Tray.	07-1-003
	FD Paper Ejection Flipper Solenoid	Solenoid	Turns up the FD Paper Ejection Flipper to change the paper path.	06-2-031
FD Paper	FD Paper Ejection Paper Guide Motor	Pulse motor	Moves the FD Paper Ejection Paper Guides.	07-3-001
Paper Guide Unit	FD Paper Ejection Paper Guide HP Sensor	Interrupt type sensor	Determines the home position of the FD Paper Ejection Paper Guides.	07-1-005
FD Paper Receiving (Ejection) Tray Unit	FD Paper Ejection Paper Detection Sensor	Reflective type sensor	Detects if printed sheets remain stacked on the FD Paper Receiving (Ejection) Tay.	07-1-004
	FU Paper Ejection Jump Motor	DC motor	Drives the FU Paper Ejection Roller.	07-2-011
	FU Paper Transport Motor	DC motor	Drives the FU Paper Transport Roller.	07-2-012
FU Paper Ejection Unit (Optional)	FU Paper Ejection Sensor	Reflective type sensor	Determines the timing of speed-up and slowdown of the FU Paper Ejection Roller. Detects whether printed sheets reach or pass through the FU Paper Ejection Unit.	07-1-011
	FU Paper Ejection Flipper Solenoid	Solenoid	Turns up the FU Paper Ejection Flipper (Gate) to change the paper path.	06-2-032
	FU Paper Ejection Jam Release Door Switch	Micro switch	Safety switch	07-1-010

1-5. Components and their Drive Source

Section/Unit	Component	Drive Source
FD Paper Ejection	FD Paper Ejection Roller	FD Paper Ejection Motor (DC motor)
ELL Paper Ejection	FU Paper Transport Roller	FU Paper Transport Motor (DC motor)
	FU Paper Ejection Roller	FU Paper Ejection Jump Motor (DC motor)

2. Disassembly and Reassembly

- 2-1. FD Paper Receiving (Ejection) Tray Unit
- 2-2. FD Paper Ejection Paper Detection Sensor
- 2-3. FD Paper Ejection Paper Guide Unit
- 2-4. FD Paper Ejection Paper Guide Motor Assembly
- 2-5. FD Paper Ejection Paper Guide HP Sensor
- 2-6. FD Paper Ejection Unit
- 2-7. FD Paper Ejection Roller
- 2-8. FD Paper Ejection Motor
- 2-9. FD Paper Ejection Full Sensor Assembly
- 2-10. FD Paper Ejection Flipper Solenoid
- 2-11. FD Paper Ejection Sensor
- 2-12. FU Paper Ejection Unit
- 2-13. FU Paper Transport Motor
- 2-14. FU Paper Ejection Flipper Solenoid
- 2-15. FU Paper Ejection Wing Motor Assembly
- 2-16. FU Paper Ejection Jump Motor Assembly
- 2-17. FU Paper Ejection Sensor
- 2-18. FU Paper Ejection Wing HP Sensor
- 2-19. FU Paper Transport Roller
- 2-20. FU Paper Ejection Roller

2-1. FD Paper Receiving (Ejection) Tray Unit

(1) Remove the FD Paper Receiving (Ejection) Tray Unit. (Binding screw 4×8 (2 pcs))



(2) Disconnect a connector. (1 pc)



2-2. FD Paper Ejection Paper Detection Sensor

- (1) Remove the FD Paper Receiving (Ejection) Tray Unit. (Refer to 2-1 in this chapter.)
- (2) Remove the FD Paper Ejection Paper Detection Sensor.
- Disconnect a connector. (1 pc)



2-3. FD Paper Ejection Paper Guide Unit



(1) Remove the Top Left Cover.

(Refer to Chapter 2.)

- (2) Remove the FD Paper Receiving (Ejection) Tray Unit. (Refer to 2-1 in this chapter.)
- (3) Disconnect connectors. (2 pcs)



(4) Remove a ground wire.

(Double-washered screw 3×6 (1 pc))

 Take out the FD Paper Ejection Paper Guide Unit. (Double-washered screw 4×8 (2 pcs))



2-4. FD Paper Ejection Paper Guide Motor Assembly

- (1) Remove the FD Paper Ejection Paper Guide Unit. (Refer to 2-3 in this chapter.)
- (2) Remove the FD Paper Ejection Paper Guide HP Sensor Assembly.

(Pan-head P-tite screw 3×8 (2 pcs))



- (3) Disconnect a connector. (1 pc)
- Pull off a reusable band. (1 pc)
- •Remove the FD Paper Ejection Paper Guide Motor Assembly.

(Binding head screw 3×6 (2 pcs), pan-head P-tite screw 3×8 (1 pc))



2-5. FD Paper Ejection Paper Guide HP Sensor

- (1) Remove the FD Paper Ejection Paper Guide Unit. (Refer to 2-3 in this chapter.)
- (2) Remove the FD Paper Ejection Paper Guide HP Sensor Assembly.

(Pan-head P-tite screw 3×8 (2 pcs))



- (3) Disconnect a connector. (1 pc)
- •Remove the FD Paper Ejection Paper Guide HP Sensor.



2-6. FD Paper Ejection Unit



- (1) Remove the Top Left Cover.
 - (Refer to Chapter 2.)
- (2) Remove the FD Paper Receiving (Ejection) Tray Unit. (Refer to 2-1 in this chapter.)
- (3) Remove the FD Paper Ejection Paper Guide Unit. (Refer to 2-3 in this chapter.)
- (4) Remove the FD Paper Ejection Paper Guide Unit Mounting Bracket F.

(Round tip IT3C screw 4×10 (1 pc))



(5) Remove the FD Paper Ejection End Wall.

(Binding screw 4×8 (2 pcs))



(6) Disconnect connectors. (2 pcs)



(7) Remove the FD Paper Ejection Jam Release Dial.

(Double-washered screw 3×8 (1 pc))



(8) Take out the FD Paper Ejection Unit.(Round tip IT3C screw 4×10 (2 pcs))



2-7. FD Paper Ejection Roller

(1) Remove the FD Paper Ejection Unit.

(Refer to 2-6 in this chapter.)

- (2) Remove the FD Paper Ejection Drive Guide Assembly. (P-tite screw 4×10 (2 pcs))
- Disconnect a connector. (1 pc)



- (3) Pull off a gear from an end of the roller shaft. (E-ring φ6 (1 pc))
- Remove the FD Paper Ejection Roller.
 (Snap ring (2 pcs))



2-8. FD Paper Ejection Motor

- (1) Remove the FD Paper Ejection Unit. (Refer to 2-6 in this chapter.)
- (2) Disconnect a connector. (1 pc)



(3) Remove the FD Paper Ejection Motor. (Double-washer screw 3×5 (2 pcs))



Note: When reassembling, secure the motor while pushing it in the direction indicated by the yellow arrow.

2-9. FD Paper Ejection Full Sensor Assembly

(1) Remove the FD Paper Ejection Unit.

(Refer to 2-6 in this chapter.)



(2) Remove the FD Paper Ejection Full Sensor Assembly.

(Double-washer screw 3×6 (1 pc))

• Disconnect a connector. (1 pc)
2-10. FD Paper Ejection Flipper Solenoid

- (1) Remove the FD Paper Ejection Unit.
 - (Refer to 2-6 in this chapter.)
- (2) Remove the FD Paper Ejection Drive Guide Assembly. (P-tite screw 4×10 (2 pcs))
 - Disconnect a connector. (1 pc)



- (3) Remove the FD Paper Ejection FlipperSolenoid. (Pan-head screw 3×5 (2 pcs))
- Disconnect a connector. (1 pc)





2-11. FD Paper Ejection Sensor

(1) Remove the FD Paper Ejection Unit. (Refer to 2-6 in this chapter.)



- (2) Remove the FD Paper Ejection Sensor.
- Disconnect a connector. (1 pc)



2-12. FU Paper Ejection Unit

- (1) Remove the Rear Cover and Rear Right Side Cover. (Refer to Chapter 2.)
- (2) Remove the FU Paper Ejection Unit.

(Double-washered screw 4×8 (4 pcs))

• Disconnect connectors. (2 pcs)



2-13. FU Paper Transport Motor

- (1) Remove the Rear Cover and Rear RightSide Cover. (Refer to Chapter 2.)
- (2) Put the Controller PCB in the maintenance position. (Refer to Chapter 2.)
- (3) Remove the FU Paper Transport Motor Assembly.

(Double-washered screw 4×6 (3 pcs))

- Open a wire saddle and release running wires.
- Disconnect connectors. (2 pcs)





- (4) Pull off a gear from the motor shaft.(Hex socket set screw 4×5 (2 pcs))
- (5) Detach the FU Paper Transport Motor from the assembly bracket.

(Round tip IT3C screw 3×6 (4 pcs))

2-14. FU Paper Ejection Flipper Solenoid

- (1) Take out the FU Paper Ejection Unit. (Refer to 2-12 in this chapter.)
- (2) Remove the FU Paper Ejection Flipper Spring.
- (3) Detach the FU Paper Ejection Flipper Drive Plate from the end of the flipper shaft.

(Round tip IT3C screw 3×6 (1 pc))

(4) Remove the FU Paper Ejection Flipper Solenoid Assembly.

(Round tip IT3C screw 3×6 (2 pcs))



(5) Detach the FU Paper Ejection FlipperSolenoid from the assembly bracket.(Double-washer screw 3×6 (2 pcs))

2-15. FU Paper Ejection Wing Motor Assembly

- (1) Take out the FU Paper Ejection Unit. (Refer to 2-12 in this chapter.)
- (2) Remove the FU Paper Ejection Transport Guide Plate (Top A) Assembly.

(E-ring φ4 (1 pc))

- Pull off reusable bands. (2 pcs)
- Disconnect a connector. (1 pc)





(3) Remove the FU Paper Ejection Star Roller Base Assembly.

(Round tip IT3C screw 3×6 (2 pcs))



(4) Remove the FU Paper Ejection Transport Guide Plate (Bottom A) Assembly.(Round tip IT3C screw 3×6 (4 pcs))



(5) Remove the FU Paper Ejection Wing Rail Assembly.

(Round tip IT3C screw 3×6 (2 pcs))

Disconnect connectors. (2 pcs)



(6) Remove the FU Paper Ejection Wing Motor Assembly.

(Round tip IT3C screw 3×6 (2 pcs))



2-16. FU Paper Ejection Jump Motor Assembly

- (1) Take out the FU Paper Ejection Unit. (Refer to 2-12 in this chapter.)
- (2) Remove the FU Paper Ejection Transport Guide Plate (Top A) Assembly.

(E-ring φ4 (1 pc))

- Pull off reusable bands. (2 pcs)
- Disconnect a connector. (1 pc)





(3) Remove the FU Paper Ejection Star Roller Base Assembly.

(Round tip IT3C screw 3×6 (2 pcs))



(4) Remove the FU Paper Ejection Transport Guide Plate (Bottom A) Assembly.(Round tip IT3C screw 3×6 (4 pcs))



(5) Remove the FU Paper Ejection Wing Rail Assembly.

(Round tip IT3C screw 3×6 (2 pcs))

Disconnect connectors. (2 pcs)





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(6) Remove the FU Paper Ejection Jump Motor Assembly.

(Round tip IT3C screw 3×6 (3 pcs))

• Disconnect a connector. (1 pc)



2-17. FU Paper Ejection Sensor

- (1) Take out the FU Paper Ejection Unit. (Refer to 2-12 in this chapter.)
- (2) Remove the FU Paper Ejection Transport Guide Plate (Top A) Assembly.

(E-ring φ4 (1 pc))

- Pull off reusable bands. (2 pcs)
- Disconnect a connector. (1 pc)





(3) Remove the FU Paper Transport RollerCovers. (Round tip IT3C screw 3×6 (2 pcs))



- (4) Remove the FU Paper Ejection Sensor.(Double-washered screw 3×8 (1 pc))
- Disconnect a connector. (1 pc)



2-18. FU Paper Ejection Wing HP Sensor

- (1) Take out the FU Paper Ejection Unit. (Refer to 2-12 in this chapter.)
- (2) Remove the FU Paper Ejection Transport Guide Plate (Top A) Assembly.

(E-ring φ4 (1 pc))

- Pull off reusable bands. (2 pcs)
- Disconnect a connector. (1 pc)





(3) Remove the FU Paper Ejection Star Roller Base Assembly.

(Round tip IT3C screw 3×6 (2 pcs))



(4) Remove the FU Paper Ejection Transport Guide Plate (Bottom A) Assembly.(Round tip IT3C screw 3×6 (4 pcs))



(5) Remove the FU Paper Ejection Wing Rail Assembly.

(Round tip IT3C screw 3×6 (2 pcs))

Disconnect connectors. (2 pcs)





- (6) Remove the FU Paper Ejection Wing HP Sensor. (Round tip IT3C screw 3×6 (1 pc))
- Disconnect a connector. (1 pc)



2-19. FU Paper Transport Roller

- (1) Take out the FU Paper Ejection Unit. (Refer to 2-12 in this chapter.)
- (2) Remove the FU Paper Ejection Flipper Spring.
- (3) Detach the FU Paper Ejection Flipper Drive Plate from the end of the flipper shaft.

(Round tip IT3C screw 3×6 (1 pc))

- (4) Remove the FU Paper Ejection Flipper.
- Remove E-rings (φ6 and φ4 (2 pcs)) on both ends of the flipper shaft.
- Pull off metal collars (2 pcs) from both ends of the flipper shaft.



(5) Detach the FU Paper Ejection Transport Guide Plate (Top A) Assembly.

(E-ring φ4 (1 pc))



(6) Remove the FU Paper Ejection Transport Guide Plate (Bottom A) Assembly.(Round tip IT3C screw 3×6 (4 pcs))



- (7) Take off the FU Paper Transport Roller.
- Remove E-rings φ6 (2 pcs) on both ends of the roller shaft.
- Pull off a gear from the rear end of the roller shaft.
- Pull off metal collars (2 pcs) from both ends of the roller shaft.



2-20. FU Paper Ejection Roller

- (1) Take out the FU Paper Ejection Unit. (Refer to 2-12 in this chapter.)
- (2) Remove the FU Paper Ejection Flipper Spring.
- (3) Detach the FU Paper Ejection Flipper Drive Plate from the end of the flipper shaft.

(Round tip IT3C screw 3×6 (1 pc))

- (4) Remove the FU Paper Ejection Flipper.
- Remove E-rings (φ6 and φ4 (2 pcs)) on both ends of the flipper shaft.
- Pull off metal collars (2 pcs) from both ends of the flipper shaft.



(5) Detach the FU Paper Ejection Transport Guide Plate (Top A) Assembly.

(E-ring φ4 (1 pc))



(6) Remove the FU Paper Ejection TransportGuide Plate (Bottom A) Assembly.(Round tip IT3C screw 3×6 (4 pcs))



(7) Detach the FU Paper Ejection Wing Rail Assembly.

(Round tip IT3C screw 3×6 (2 pcs))



- (8) Remove an E-ring φ 4 (1 pc) and pull off a gear from the rear end of the roller shaft.
- (9) Take off the FU Paper Ejection Roller.
- Remove E-rings φ4 (2 pcs) on both ends of the roller shaft.
- Pull off metal collars (2 pcs) from both ends of the roller shaft.



3. Adjustments

3-1. Alignment of FD Paper Ejection Paper Guides

The FD Paper Ejection Paper Guide Racks should be positioned as indicated in the pictures below when they are engaged with the corresponding pinion gear to reattach the FD Paper Ejection Paper Guide Motor Assembly to the FD Paper Ejection Paper Guide Unit.



FD Paper Ejection Paper Guide Motor Assembly

In contact with the rib



3-2. Positioning of FU Paper Ejection Flipper Solenoid

The FU Paper Ejection Flipper Solenoid should be positioned as indicated in the pictures below when reattached to the FU Paper Ejection Unit.

1. Attach the FU Paper Ejection Flipper Solenoid to the bracket without tightening the securing screws.



2. Press the plunger of the solenoid to the left against the solenoid body.



[Note] Make sure that the claw tips of the FU Paper Ejection Flipper should be in contact with the FU Paper Ejection Flipper Guide Plate.



3. Secure the FU Paper Ejection Flipper Solenoid while pressing it to the right, so that the it may be in close contact with the E-ring on the plunger.



[10-1]

Chapter 10. Switchback Section

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1. Overview

1-1. Basic Structure

The Switchback Section is composed of the Switchback Entrance Unit and the Switchback Unit. In this section, printed sheets, which are transferred from the Horizontal Transfer Unit, is reversed and passed to the Registration Section.



1-2. Unit Structure

The Switchback Entrance Unit, which is composed of the SB Entrance Roller and SB Entrance Sensor, receives printed sheets transferred from the Horizontal Transfer Unit and passes them to the Switchback Unit, which then reverses and re-feeds them to the Registration Roller for reverseside printing, while equipped with the following components: Switchback Transport Motor, Re-Feed Motor, SB Roller, Re-Feed Roller, Switchback Sensor and Re-Feed Sensor.



1-3. Mechanisms and Operations

(1) Paper Transport Direction Reversal

- 1) During duplex printing, the printed sheets transferred through the Horizontal Transfer Unit are led by the FD Paper Ejection Flipper (Gate) to the SB Entrance Roller for transport direction reversal. A predefined amount of time after the SB Entrance Sensor detects the leading edge of a coming sheet, the SB Roller, driven by the Switchback Transport Motor, starts rotating and then slows down a predefined amount of time after the same sheet passes through the said sensor.
- 2) When the distance from the SB Roller to the trailing edge of the said sheet becomes a predefined value (20 mm at default) after it reached the SB Roller, the SB Roller, i.e. Switchback Transport Motor, stops to suspend paper transfer.
 - * The said value can be changed through the test mode TM No. 066022 "SB Roller Paper Trailing Edge Length."
- 3) After a predefined amount of time passes, then, the Switchback Transport Motor reverses rotation, thus driving the SB roller in reverse to transfer the received sheet to the Re-Feed Roller.



- (2) Paper Re-Feed
 - 1) When the SB Roller starts reverse rotation, the Re-Feed Roller simultaneously starts rotating, driven by the Re-Feed Motor, to feed the received sheet to the Registration Roller.
 - 2) The SB Roller and Re-Feed Roller then slow down a predefined number of motor pulses after the Re-Feed Sensor detects the leading edge of a re-feeding sheet.
 - 3) The SB Roller stops rotating a predefined amount of time after the re-feeding sheet passes through the Switchback Sensor. When the re-feeding sheet is elongated, however, it stops rotating at the same time as the Re-Feed Roller does.
 - 4) The Re-Feed Roller stops rotating a predefined number of motor pulses after the Registration Sensor detects the leading edge of the re-feeding sheet.



(3) Supplementary Re-feed Action for Noise Reduction

- The noise to be emitted when a paper buckle is flattened out on a re-feeding sheet during the secondary paper re-feed action with the Registration Roller is suppressed by buffering the resulting impact with a supplementary re-feed action.
- When the Registration Motor is activated for the secondary paper re-feed, the Re-Feed Motor is also activated to provide a re-feeding sheet with a supplementary re-feed action from behind with the Re-Feed Roller, thus preventing a paper buckle from being flattened out so quickly as to make a snap noise.
- The Re-Feed Motor then stops operating when the re-feeding sheet passes through the Re-Feed Sensor to prepare for the subsequent paper re-feed action.
- The Switchback Transport Motor also operates while synchronized with the Re-Feed Motor when a re-feeding sheet is elongated.

1-4. Unit Action Test Mode List

Unit Name	Sensor/Motor	Туре	Function	Test Mode
Switchback Entrance Unit	Horizontal Transfer Motor 2	Brushless DC motor	Drives the SB Entrance Roller to lead transferred sheets into the Switchback Entrance Unit.	06-2-017
	SB Entrance Sensor	Reflective type sensor	Detects whether printed sheets enter the Switchback Entrance Unit properly. Determines the rotation start and slowdown timings for the the SB Roller.	06-1-021
Switchback Unit	Switchback Transport Motor	DC servo motor	Drives the SB roller to reverse the paper transport direction.	06-2-014 06-2-015
	Re-Feed Motor	DC servo motor	Drives the Re-Feed Roller to re- feed transported sheets.	05-2-008
	Switchback Sensor	Reflective type sensor	Determines the rotation stop timing for the SB Roller.	06-1-023
	Re-Feed Sensor	Re lective type sensor	Determines the rotation slowdown and stop timings for the SB Roller and Re-Feed Roller.	06-1-022

1-5. Components and their Drive Source

Section/Unit	Component	Drive Source
Switchback Entrance Unit	SB Entrance Roller	Horizontal Transfer Motor 2 (Brushless DC motor)
Switchback	SB Roller	Switchback Transport Motor (DC servo motor)
Unit	Re-Feed Roller	Re-Feed Motor (DC servo motor)

2. Disassembly and Reassembly

- 2-1. Switchback Unit
- 2-2. SB Roller
- 2-3. SB Driven Roller (SB Driven Guide Assembly)
- 2-4. Re-Feed Roller
- 2-5. Re-Feed Driven Roller (Re-Feed Driven Guide Assembly)
- 2-6. Switchback Transport Motor
- 2-7. Re-Feed Motor
- 2-8. Switchback Sensor
- 2-9. Re-Feed Sensor
- 2-10. Switchback Jam Release Door Switch
- 2-11. Switchback Entrance Unit
- 2-12. SB Entrance Roller
- 2-13. SB Entrance Sensor Assembly
- 2-14. SB Entrance Driven Roller

2-1. Switchback Unit



- (1) Lower the Standard Paper Feed Tray to the lower limit position and turn OFF the power.
- (2) Remove the FD Paper Receiving (Ejection) Tray Unit. (Refer to Chapter 9.)
- (3) Remove the FD Paper Ejection Paper Guide Unit. (Refer to Chapter 9.)
- (4) Remove the FD Paper Ejection Unit.

(Refer to Chapter 9.)

- (5) Remove the Switchback Entrance Unit. (Refer to 2-11 in this chapter.)
- (6) Remove the Paper Feed Cover.
- Open the Switchback Jam Release Door.



(7) Disconnect connectors. (1 pc on the front / 4 pcs on the rear)





(8) Take out the Switchback Unit. (Round tip IT3C screw 4×10 (4 pcs))



2-2. SB Roller



(1) Take out the Switchback Unit.

(Refer to 2-1 in this chapter.)

(2) Remove the SB Pulley Cover. (Round tip IT3C screw 3×8 (1 pc))



(3) Shift the belt tensioner to the left to loosen the tension on the Timing Belt (340) and take off the belt.

(Double-washer screw 3×6 (1 pc))

• Pull off a pulley from the roller shaft.

(E-ring φ6 (1 pc))



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(4) Remove the Switchback Sensor Assembly. (Round tip IT3C screw 3×8 (2 pcs))



- (5) Remove bearings on both ends of the roller shaft. (Snap ring (1pc each))
- Take out the SB Roller.





2-3. SB Driven Roller (SB Driven Guide Assembly)

(1) Take out the Switchback Unit.

(Refer to 2-1 in this chapter.)

- (2) Open the Switchback Jam Release Door.
- (3) Take out the SB Driven Guide Assembly.
- Slide off the support shaft by pressing the red-circled area.



(4) Remove the Bearing Stoppers.

(P-tite screw 3×8 (2 pcs each))

• Remove the Driven Roller Bearings.

(2 pcs each)

• Take off the SB Driven Roller.



2-4. Re-Feed Roller



(1) Take out the Switchback Unit.

(Refer to 2-1 in this chapter.)

(2) Shift up the belt tensioner to loosen the tension on the Timing Belt (216) and take off the belt.

(Double-washer screw 3×6 (1 pc))

• Pull off a pulley from the roller shaft. (E-ring φ6 (1 pc))



- (3) Remove bearings on both ends of the roller shaft. (Snap ring (1pc each))
- Take out the Re-Feed Roller.







2-5. Re-Feed Driven Roller (Re-Feed Driven Guide Assembly)

(1) Take out the Switchback Unit.

(Refer to 2-1 in this chapter.)

(2) Shift up the belt tensioner to loosen the tension on the Timing Belt (216) and take off the belt.

(Double-washer screw 3×6 (1 pc))

• Pull off a pulley from the roller shaft. (E-ring $\phi 6$ (1 pc))



(3) Remove the Re-Feed Driven Guide Assembly.

(Round tip IT3C screw 3×8 (3 pcs on the front / 3 pcs on the rear)





(4) Remove the Upper Re-Feed Drive Guide. (Double-washer screw 3×8 (4 pcs))



- (5) Remove the Re-Feed Driven Guide.
 - (P-tite screw 3×8 (3 pcs))



- (6) Remove the Bearing Stoppers.
 - (P-tite screw 3×8 (2 pcs each))
- Remove the Driven Roller Bearings.

(2 pcs each)

• Take off the Re-Feed Driven Roller.



- 2-6. Switchback Transport Motor
- (1) Take out the Switchback Unit.

(Refer to 2-1 in this chapter.)

(2) Remove the SB Pulley Cover.

(Round tip IT3C screw 3×8 (1 pc))



(3) Shift the belt tensioner to the left to loosen the tension on the Timing Belt (340) and take off the belt.

(Double-washer screw 3×6 (1 pc))



(4) Shift up the belt tensioner to loosen the tension on the Timing Belt (216) and take off the belt.

(Double-washer screw 3×6 (1 pc))

• Pull off a pulley from the roller shaft. (E-ring $\phi 6$ (1 pc))



(5) Remove the SB Motor Cover. (Round tip IT3C screw 3×8 (2 pcs))



(6) Remove the Switchback Transport Motor. (Pan-head screw 3×5 (2 pcs))



(7) Disconnect a connector.



Note:

When reattaching the motor, be careful not to connect a wrong connector.

- For Switchback Transport Motor \rightarrow <u>Blue</u> <u>band</u> attached on the connector wire harness
- For Re-Feed Motor \rightarrow <u>No color band</u> attached on the connector wire harness



2-7. Re-Feed Motor

- (1) Take out the Switchback Unit.
 - (Refer to 2-1 in this chapter.)
- (2) Shift up the belt tensioner to loosen the tension on the Timing Belt (216) and take off the belt.

(Double-washer screw 3×6 (1 pc))



(3) Remove the SB Motor Cover. (Round tip IT3C screw 3×8 (2 pcs))



(4) Remove the Re-Feed Motor.

(Pan-head screw 3×5 (2 pcs))



(5) Disconnect a connector.



Note:

When reattaching the motor, be careful not to connect a wrong connector.

- For Switchback Transport Motor \rightarrow <u>Blue</u> <u>band</u> attached on the connector wire harness
- For Re-Feed Motor \rightarrow <u>No color band</u> attached on the connector wire harness



2-8. Switchback Sensor

- (1) Take out the Switchback Unit.
 - (Refer to 2-1 in this chapter.)
- (2) Remove the Switchback Sensor Assembly. (Round tip IT3C screw 3×8 (2 pcs))



(3) Detach the Switchback Sensor from the bracket. (Pan-head screw 3×14 (1 pc))
Disconnect a connector.



2-9. Re-Feed Sensor

(1) Take out the Switchback Unit.

(Refer to 2-1 in this chapter.)

- (2) Detach the Re-Feed Sensor.
- Disconnect a connector.



2-10. Switchback Jam Release Door Switch

- (1) Take out the Switchback Unit.
 - (Refer to 2-1 in this chapter.)
- (2) Remove the Switchback Jam Release Door Switch Assembly. (E-ring φ3 (1 pc))



(3) Detach the Switchback Jam Release Door Switch from the bracket.

(Pan-head screw 3×14 (2 pcs))

• Disconnect a connector.



2-11. Switchback Entrance Unit



(1) Remove the Left Inner Cover.

(Refer to Chapter 2.)

- (2) Pull off a reusable band. (1 pc)
- Disconnect a connector. (1 pc)



(3) Open the Switchback Jam Release Door.

• Take out the Switchback Entrance Unit.

(Round tip IT3C screw 4×10 (2 pcs))



2-12. SB Entrance Roller

- (1) Take out the Switchback Entrance Unit. (Refer to 2-11 in this chapter.)
- (2) Pull off a gear from the roller shaft.

(E-ring φ6 (1 pc))

(3) Remove bearings on both ends.



(4) Remove the SB Entrance Roller.

2-13. SB Entrance Sensor Assembly

- (1) Take out the Switchback Entrance Unit. (Refer to 2-11 in this chapter.)
- (2) Remove the SB Entrance Sensor Assembly.

(Round tip IT3C screw 3×8 (2 pcs))

• Disconnect a connector. (1 pc)



2-14. SB Entrance Driven Roller

- (1) Take out the Switchback Entrance Unit. (Refer to 2-11 in this chapter.)
- (2) Remove the Bearing Stoppers.

(P-tite screw 3×8 (2 pcs each))

• Remove the Driven Roller Bearings.

(2 pcs each)

• Take off the SB Entrance Driven Roller.



[11-1]

Chapter 11. Ink Flow Section

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Note:

Gray ink is indicated as "G" in this manual. However, in Chapter 16 Panel Messages and Chapter 17 Test Modes, it is written as "XXX Sensor P (R, Gr), as shown in the following examples.

Example 1: Pressurized Ink Tank Ink Level Detection Sensor P (R, Gr)

Example 2: Ink Cartridge Detection Sensor P (R, Gr)

"P" indicates one color added to the normal four colors of K, C, M, and Y, and corresponds to either R (Red) or Gr (Gray).

1. Overview

1-1. Basic Structure

The Ink Flow Section, which is composed of the Ink Cartridge Holder Unit, Ink Tower Unit and Print Head Holder Unit, supplies ink from ink cartridges, circulates ink inside the Ink Tower Unit and ejects ink from the Print Heads.

By circulating ink, besides, air bubbles or foreign particles in ink are prevented from entering the Print Heads from other ink flow paths and the ink temperature is kept within an appropriate range.



[11-3]

1-2. Unit Structure

(1) Ink Cartridge Holder Unit

This unit holds ink cartridges and supplies ink in response to the ink replenishment request from the Ink Tower Unit. It also reads the ink profile data recorded in the tag attached to an ink cartridge and provides the information required to guarantee expected performance of ink during printing.

Ink cartridges are firmly held by the Ink Cartridge Joints to connect to the ink flow path.



Component Name	Function	Туре
Ink Supply Solenoid Valve	Supplies ink in an ink cartridge to the Negative Pressure Tank.	Solenoid valve
Ink Cartridge Joint	Connects an ink cartridge to the ink flow path.	Joint
Ink Cartridge Release Cam	Pushes the Ink Cartridge Joint to connect it to an ink cartridge.	Cam
Ink Cartridge Release Cam Motor	Rotates the Ink Cartridge Release Cam.	DC motor
Ink Cartridge Pan	Collects ink that overflows from ink cartridges and drains it down towards the Waste Ink Tank.	-
Ink Cartridge Joint Spring	Pushes away the Ink Cartridge Joint when an ink cartridge is removed.	Spring
Ink Cartridge Holder Bottom Plate	Guides an ink cartridge when it is inserted into and removed from the Ink Cartridge Holder Unit.	-

(2) Ink Tower Unit

This unit circulates ink to ensure that ink flows into the Print Heads under a preferable condition.



• Overflow Ink Pan (Sub-unit)

This sub-unit receives the ink that overflows from the Ink Cartridge Holder Unit and the Ink Tower Unit.


• Pressurization and Negative Pressure Tanks (Sub-unit)

These sub-units, which are both located lower than the Print Heads, stores ink separately for the respective colors. An ink level sensor, which is placed inside, detects whether the volume of ink is adequate or not inside to determine the start timing of ink replenishment or Ink Circulation Pump operation. An ink filter is also provided inside the Pressurization Tank to remove foreign particles from the circulating ink.



Negative Pressure Tank Ink Level Sensor • Pressure Regulation Unit (Sub-unit)

This sub-unit, which is composed of Pressurization Common Air Chamber, that is connected to all color Pressurization Tanks, Negative Pressure Common Air Chamber, that is also connected to all color Negative Pressure Tanks, and Air Pump, that is jointed to the Pressurization Common Air Chamber, regulates the pressures inside the Pressurization and Negative Pressure Tanks by driving the Air Pump and operating the following valves: Pressurization Tank Air Valve, Negative Pressure Tank Air Valve, Positive Pressure Regulator Valve, Negative Pressure Regulator Valve and Air Regulator Valve.



[11-7]

- Heat Exchanger (Sub-unit)
 - Ink Cooling Unit

Based on the Print Head Thermistor temperature, this unit cools down the circulating ink to keep the said ink temperature within a suitable range for printing with a radiator, which is in contact with the ink flow paths, and a cooling fan for the radiator.

- Ink Heating Unit

Based on the Print Head Thermistor temperature, this unit heats up the circulating ink to keep the said ink temperature within a suitable range for printing with an ink heater.



[11-8]

<Main component names and functions>

Component Name	Function	Туре
Pressurization Tank	Sends ink up to the Print Heads using air pressure and circulates the ink inside.	_
Negative Pressure Tank	Collects ink from the Print Heads using negative air pressure.	
Pressurization (Negative Pressure) Tank Ink Level Sensor	Detects the volume of ink in the Pressurization (Negative Pressure) Tank.	Reed switch
Pressurization (Negative Pressure) Common Air Chamber	Connects to the respective Pressurization (Negative Pressure) Tanks and supplies common pressure to them.	_
Pressurization (Negative Pressure) Tank Pressure Sensor	Located in the Pressurization (Negative Pressure) Common Air Chamber and converts air pressure to a voltage signal for measurement.	Pressure sensor
Pressurization (Negative Pressure) Tank Air Valve	Adjusts the pressure on the pressurization (negative pressure) side.	3-way solenoid valve
Positive (Negative) Pressure Regulator Valve	Fine-adjusts the pressure on the pressurization (negative pressure) side.	3-way solenoid valve
Ink Circulation Pump	Shifts the ink inside the Negative Pressure Tank to the Pressurization Tank.	Piston pump
Air Pump	Located between the Pressurization and Negative Pressure Common Air Chambers, and generates positive and negative pressures.	Diaphragm pump
Air Regulator Valve	Adjusts the air volume while generating pressure using the air pump.	3-way solenoid valve
Ink Filter	Located inside the Pressurization Tank and removes foreign particles from the circulating ink.	Filter
Air Filter	Prevents foreign particles from entering the ink flow system.	Filter
Heat Sink	Ink flow path, made of aluminum alloy, that cools down the flowing ink while applying air from the Ink Cooling Fan.	—
Ink Cooling Fan	Located along the ink path between the Pressurization Tank and the Ink Bath and cools down the flowing ink.	Fan
Ink Heater	Heats the ink flowing into the Ink Bath from the Pressurization Tank.	AC heater
Heater Temperature Sensor	Placed on the Ink Heater and detects the heater temperature.	Thermistor
Ink Temperature Sensor	Located at the exit of the Ink Heater and detects ink temperature.	Thermistor
Overflow Ink Pan	Placed below the Ink Flow Section and receives overflowed ink.	_
Overflow Tank Ink Level Sensor	Placed in the Overflow Ink Pan and detects whether the Overflow Tank is full of ink.	Reed switch

(3) Print Head Holder Unit

This unit consists of Print Heads, Ink Baths that store the ink supplied from the Ink Tower Unit and distribute it evenly into the Print Heads, BP (Hoisting) Wire Units that shift up and down the Transfer Belt Unit, Transfer Belt Elevation Motor and Print Head Control PCBs.

(For detailed descriptions about the BP (Hoisting) Wire Units, refer to Chapter 7 "Transfer Belt Section.")



Ink Baths and Print Heads

The Ink Bath stores the ink supplied from the Ink Tower Unit and distributes it evenly into Print Heads through their inflow ports. It also receives the ink that was not consumed for printing from the Print Heads through their outflow ports and returns it into the Ink Tower Unit to allow it to be used again for printing. The Print Head, which is composed of two columns of nozzles, arranged at a 300dpi interval, ejects two colors of ink, except color K, at the same time during printing.



[11-10]

1-3. Mechanisms and Operations

(1) Ink Circulation Model



- 1) Ink is circulated with the following components as main players: Print Heads, Pressurization Tanks, Negative Pressure Tanks, Ink Circulation Pumps and Air Pump.
- 2) The Print Head is equipped with piezoelectric elements, which are arranged in an ink pool and to whose end nozzle plates are attached. On the nozzle plates, besides, tiny holes are regularly opened.
- 3) The piezoelectric element is deformed to eject ink drops.
- 4) Ink circulates even while the printer is idle, in order to regulate ink temperature and prevent ink clogging.
- 5) Ink is circulated, driven by the difference in air pressure between the Pressurization Tank and the Negative Pressure Tank. By keeping the air pressure in the Pressurization Tank higher than in the Negative Pressure Tank, the ink stored in the Pressurization Tanks is sent to the Print Heads through the Ink Bath.
- 6) The difference of air pressure between the Pressurization Tank and the Negative Pressure Tank is generated and maintained by the Air Pump.
- 7) The remaining volume of ink that was not consumed in the Print Heads is collected and returned to the Negative Pressure Tank through the Ink Bath.
- 8) When the ink level is lowered further than a specific point in the Pressurization Tank, the Ink Circulation Pump starts operating to replenish ink there from the Negative Pressure Tank.

[11-11]

(2) Ink Flow Overview



- Ink circulates through the ink flow route. Ink flows out from the Pressurization Tanks to the Print Heads, and then back to the Negative Pressure Tanks, forced by the difference of air pressure between the Pressurization Tanks and the Negative Pressure Tanks. The Ink Circulation Pump leads the ink pooling inside the Negative Pressure Tanks into the Pressurization Tanks.
- 2) The Ink stored inside ink cartridges is supplied to the Print Heads through the Negative Pressure Tanks and Pressurization Tanks. The ink that was not consumed during printing returns to the Negative Pressure Tanks and is circulated again. The ink volumes inside the Pressurization and Negative Pressure Tanks are detected by the respective ink level sensors to keep appropriate ink volumes there.
- 3) The Air Pump is located between the Pressurization Common Air Chamber and the Negative Pressure Common Air Chamber to keep the air pressure inside the Pressurization and Negative Pressure Tank constant in cooperation with the Positive and Negative Pressure Regulator Valves while monitoring the air pressure levels inside the respective tanks with the Pressure Sensors. (The air pressures inside the respective color Pressurization Tanks and Negative Pressure Tanks are regulated all together through the corresponding Common Air Chambers.)
- 4) An ink filter is provided in each Pressurization Tank to prevent tiny air bubbles or foreign particles from entering the Print Heads.

- 5) The Ink Heater, Heat Sink and Ink Cooling Fan are placed along the ink flow route to keep the temperature of the flowing (circulating) ink within the specified range.
- (3) Basic Ink Flow Operation
 - Air pressure control inside the Pressurization and Negative Pressure Tanks
 This operation maintains the air pressure inside the Pressurization and Negative Pressure
 Tanks within a specific range.

<Operation Mechanism>

- A diaphragm air pump is installed between the Pressurization and Negative Pressure Common Air Chambers.
- The Negative Pressure Tanks are depressurized and the Pressurization Tanks are pressurized by sending the air inside the Negative Pressure Common Air Chamber to the Pressurization Common Air Chamber using the Air Pump,
- Meniscus is formed with ink at the exits of Print Head Nozzles by making the negative air pressure, which pulls ink, higher than the positive air pressure, which pushes ink.
- The Pressure Sensor located in each Common Air Chamber measures the air pressure inside the corresponding tanks through the resident Common Air Chamber to keep the achieved air pressures inside the respective tanks as constant as possible by opening the Positive or Negative Pressure Regulator Valve.
 - ⇒ When the air pressure in the Pressurization Common Air Chamber exceeds an allowable level;

the Positive Pressure Regulator Valve is opened to let out air, thus lowering the air pressure inside.

⇒ When the air pressure in the Negative Pressure Common Air Chamber drops beyond an allowable level;

the Negative Pressure Regulator Valve is opened to suck air, thus raising the pressure inside.

• When the air pressure rises or drops beyond the allowable level simultaneously inside both the Pressurization Tank and the Negative Pressure Tank, the Air Pump stops operating.

RISO SQUARE WEB VERSION

[11-13]



2) Air Regulator Valve control

This operation reduces the amount of time required to generate specified levels of air pressure inside the Pressurization and Negative Pressure Tanks and minimizes pressure fluctuations during ink circulation.

<Operation Mechanism>

- When generating specified levels of air pressure from atmospheric pressure inside the Pressurization and Negative Pressure Tanks, the Air Regulator Valve is opened to generate the required levels of air pressure rapidly using both thick and narrow tubes.
- A little before the air pressure inside the said tanks has reached the specified levels, the Air Regulator Valve is closed to limit available air tubes to the narrow one, thus reducing shifting air volume to slow down the air pressure transition speed.

RISO SQUARE WEB VERSION [11-14]



[Ink meniscus formation mechanism over Print Head Nozzles]

- 3) Ink Supply Solenoid Valve and other valve operation
- (1) When ink circulation is stopped (Power OFF / Standby mode)

Meniscus is formed with ink at Print Head nozzle exits by keeping the air pressure inside both the Pressurization and Negative Pressure Tanks at the atmospheric pressure level, thus preventing ink from dripping from the Print Head nozzles.

<Operation Mechanism>

• When the power is off, or the printer is in standby mode, the Pressurization Tank and Negative Pressure Tank Air Valves are both opened to maintain the air pressure inside the Pressurization and Negative Pressure Tanks at the atmospheric pressure level without circulating ink.

- Under the above condition, meniscus is formed with ink at Print Head nozzle exits through the water head level difference between the ink inside the Print Heads and that in the Pressurization and Negative Pressure Tanks.
- (2) When ink is circulating (during such operations as ink temperature adjustment and printing) Air bubbles or foreign particles in ink are prevented from entering the Print Heads from other ink flow paths through ink circulation. The temperature of the circulating ink, besides, is kept within an appropriate range with the Ink Heater, Heat Sink and Ink Cooling Fan. <Operation Mechanism>
 - 1. Ink circulation
 - Ink is sent from the Pressurization Tank to the Print Heads by applying air pressure inside the Pressurization Tank with the Air Pump.
 - The ink that was not consumed during printing is returned to the Negative Pressure Tank from the Print Heads, pulled by the negative air pressure in the Negative Pressure Tank.
 - The Ink Circulation Pump shifts ink from the Negative Pressure Tank to the Pressurization Tank.
 - 2. Ink supply during printing
 - When ink is required to be replenished, the Ink Supply Solenoid Valve is opened and ink is sucked out from an ink cartridge and led into the Negative Pressure Tank by the difference in the liquid head levels inside the ink cartridge and the Negative Pressure Tank and the negative air pressure inside the Negative Pressure Tank that is generated by the Air Pump.

	Power OFF	Ink Circulation	Ink Supply During Printing
Ink Supply Solenoid Valve	Closed	Closed	Open
Positive Pressure Regulator Valve	Closed	Closed (During ini	itial pressure generation)
Negative Pressure Regulator Valve	Closed	Open or Closed (During pressure maintenance)	
Pressurization Tank Air Valve	Open	Closed	Closed
Negative Pressure Tank Air Valve	Open	Closed	Closed
Air Pump	OFF	ON or OFF	ON or OFF
Ink Circulation Pump	OFF	ON or OFF	OFF



[Air pump pressure regulation action]

[11-15]

4) Ink Level Control in the Pressurization and Negative Pressure Tanks

The ink levels inside the Pressurization and Negative Pressure Tanks are controlled to ensure proper operations during ink supply from ink cartridges and ink circulation in the Ink Tower Unit.

<Operation Mechanism>

The ink levels inside the Pressurization and Negative Pressure Tanks are checked at a predefined interval by the corresponding Ink Level Sensors provided to the respective color tanks during printing operation to determine whether ink replenishment or tank-to-tank transfer is required.





<Ink Level Sensor status>

(1) When the Ink Level Sensor is ON on the negative pressure side while OFF on the pressurization side;

The Ink Circulation Pump starts operating to send ink from the Negative Pressure Tank to the Pressurization Tank. (The Ink Circulation Pump stops when the Negative Pressure Tank. (The Ink Circulation Pump stops when the Negative Pressure Tank Ink Level Sensor is turned OFF.)

- (2) When the Ink Level Sensor is ON on the pressurization side; The Ink Circulation Pump stops operating while printing operation and ink circulation action continue.
- (3) When the Ink Level Sensor is OFF on the negative pressure side while ON on the pressurization side;

The Ink Supply Solenoid Valve is opened to replenish ink into the Negative Pressure Tank from an ink cartridge. When the Negative Pressure Tank Ink Level Sensor is turned ON, the Ink Supply Solenoid Valve is closed to finish ink replenishment.

- * If the Negative Pressure Tank Ink Level Sensor has not been turned ON within a predefined amount of time since the Ink Supply Solenoid Valve was opened to replenish ink, the said valve is closed and the request message for ink cartridge replacement is notified on the Operation Panel Displa
- 5) Ink Temperature Regulation

The temperature of the circulating ink is regulated so that it may stay within a specific range to secure a suitable condition of ink for printing.

<Operation Mechanism>

The circulating ink is cooled down by a cooling fan through a heat sink and heated up by a heater. The temperature of the circulating ink is measured at several points by the Ink Temperature Sensors.



6) Initial Ink Replenishment

Ink is required to be replenished all through the ink flow paths after replacing the Print Heads or the Ink Tower Unit.

<Operation Mechanism>

- The Ink Supply Solenoid Valve is opened to lead ink into the Negative Pressure Tank from an ink cartridge through the difference in the liquid head levels inside the ink cartridge and Negative Pressure Tank.
- When the Negative Pressure Tank Ink Level Sensor is turned ON, then, the Ink Supply Solenoid Valve is closed to finish ink replenishment from the ink cartridge while the Ink Circulation Pump starts operating to send ink from the Negative Pressure Tank to the Pressurization Tank. (If the Negative Pressure Tank Ink Level Sensor is turned OFF during this operation, the ink replenishment from the ink cartridge is resumed.)
- When the Pressurization Tank Ink Level Sensor is turned ON through the above operation, the ink inside the Pressurization Tank starts to be circulated into and back from the Print Heads with required air pressures applied to both the Pressurization and Negative Pressure Tanks.

7) Cleaning Operation

The surface of Print Heads is periodically cleaned to prevent air bubbles or foreign particles from clogging the Print Head nozzles, by forcing ink out of the Print Head nozzles with the air pressure from the Air Pump and wiping the Print Head face with Wiper Blades. For detailed descriptions about the operation mechanism, refer to Chapter 12 "Waste Ink Drainage Section."

(4) Print Head Cooling Fan Operation

To prevent the temperature of Print Heads from rising over a specific range, air is blown onto the Print Heads to cool them down. A blower fan and a suction fan are provided to force air through from the front side to the rear side of the printer.

To cool down Print Heads, the Head Drive IC Cooling Fans FL/FR suck cool air from outside on the front side while the Head Drive IC Cooling Fans RU/RD exhaust heated air inside on the rear side.



The Print Heads may be required to be replaced due to print image problems, such as ink miss firing, unbalanced image density, or mechanical damages.

Follow the procedure described below when replacing Print Heads. For detailed replacement steps, refer to 2-18 in this chapter.

<Replacement procedure>

1-4. Print Head Replacement

- 1) Mount the Print Head Replacement Jig on the Print Head.
- 2) Remove the Print Head only while leaving the print head replacement jig where it is.
- 3) Install a new Print Head while guiding it into position with the existing jig.
- 4) Check print image and make image adjustment if required.
- 5) Dismount the Print Head Replacement Jig after confirming that images are printed properly.

[Print Head Replacement Jigs]

As there are three kind of Print Head Replacement Jigs, take care not to mix them during replacement works.

- (1) Print Head Replacement-dedicated Jig
- (2) Print Head No.1/3/5 Adjustment-added Replacement Jig (Print Head angle and position adjustment)
- (3) Print Head No.2/4/6 Adjustment-added Replacement Jig (Print Head angle and position adjustment)



[Print Head Mounting Covers]

Three forms of covers are laid over the openings around the Print Heads in the Print Head Holder to prevent air turbulence around the Print Head nozzles, which may affect image quality on prints through resultant ink mists or smudges.

Therefore, never forget to return the said covers to their original locations whenever they are removed during Print Head replacement.



1-5. Unit Action Test Mode List

Unit Name	Sensor/Motor/etc.	Туре	Test Mode
1	Ink Circulation Pump K		09-2-031
	Ink Circulation Pump C	1	09-2-032
	Ink Circulation Pump M	Trochoid pump	09-2-033
	Ink Circulation Pump Y		09-2-034
2	Ink Circulation Pump G		09-2-035
	Pressurization Tank Ink Level Sensor K		09-1-012
	Pressurization Tank Ink Level Sensor C		09-1-013
	Pressurization Tank Ink Level Sensor M	Reed switch	09-1-014
	Pressurization Tank Ink Level Sensor Y		09-1-015
	Pressurization Tank Ink Level Sensor G		09-1-016
	Negative Pressure Tank Ink Level Sensor K		09-1-017
	Negative Pressure Tank Ink Level Sensor C]	09-1-018
	Negative Pressure Tank Ink Level Sensor M	Reed switch	09-1-019
	Negative Pressure Tank Ink Level Sensor Y		09-1-020
Ink Tower Unit	Negative Pressure Tank Ink Level Sensor G		09-1-021
	Over low Ink Level Sensor	Reed switch	09-1-022
	Ink Temperature Thermistor K, C, M, Y and G	Thermistor	09-5-001
	Heater Temperature Thermistor	Thermistor	
	Ink Cooling Fan	Axial flow fan	09-2-001
	Ink Heater	AC heater	09-3-071
	Negative Pressure Tank Air Valve		09-1-009
	Negative Pressure Regulator Valve	3-way solenoid	09-1-011
	Pressurization Tank Air Valve	valve	09-1-008
	Positive Pressure Regulator Valve		09-1-010
	Air Pump	Diaphragm pump	09-2-011
	Pressurized Tank Pressure Sensor	Pressure sensor	09-5-003
	Negative Pressure Tank Pressure Sensor	Pressure sensor	09-5-004
	Air Regulator Valve	3-way solenoid valve	09-2-012
	Head Drive IC Cooling Fan FR		08-2-001
	Head Drive IC Cooling Fan RU		08-2-002
Print Head Holder Unit	Head Drive IC Cooling Fan FL		08-2-003
	Head Drive IC Cooling Fan RD		08-2-004
	Transfer Belt Elevation Motor	Brushless DC motor	09-3-020 09-3-021 09-3-022
	BP Wire Loose Detection Switch	Microswitch	04-1-001

Ink Cartridge Holder Unit	Ink Supply Solenoid Valve K		09-3-051
	Ink Supply Solenoid Valve C		09-3-052
	Ink Supply Solenoid Valve M	Z-way solenolu	09-3-053
	Ink Supply Solenoid Valve Y		09-3-054
	Ink Supply Solenoid Valve G		09-3-055
	Ink Cartridge Release Cam Motor	DC motor	09-3-031
	Ink Cartridge Release Cam HP Sensor		09-1-074
	Ink Cartridge Detection Sensor K		09-1-041
	Ink Cartridge Detection Sensor C	Interrupt type	09-1-042
	Ink Cartridge Detection Sensor M	sensor	09-1-043
	Ink Cartridge Detection Sensor Y		09-1-044
	Ink Cartridge Detection Sensor G		09-1-045

2. Disassembly and Reassembly

- 2-1. Ink Cartridge Release Cam Motor
- 2-2. Ink Cartridge Release Cam HP Sensor
- 2-3. Ink Cartridge Detection Sensors
- 2-4. Ink Supply Solenoid Valve (C)
- 2-5. Ink Supply Solenoid Valves (G/K)
- 2-6. Ink Supply Solenoid Valves (Y/M)
- 2-7. Ink Tower Unit
- 2-8. Pressurization-Negative Pressure Tank Assembly (K, C, M, Y or G)
- 2-9. Pressurization Tank Air Valve
- 2-10. Negative Pressure Tank Air Valve
- 2-11. Positive Pressure Regulator Valve Assembly
- 2-12. Negative Pressure Regulator Valve Assembly
- 2-13. Pressurization Tank Pressure Sensor
- 2-14. Negative Pressure Tank Pressure Sensor
- 2-15. Air Pump
- 2-16. Ink Cooling Fan Assembly
- 2-17. Air Regulator Valve
- 2-18. Print Head
- 2-19. Ink Drainage

2-1. Ink Cartridge Release Cam Motor

- (1) Put the Ink Cartridge Holder Unit in the maintenance position. (Refer to Chapter 2.)
- (2) Detach the Ink Cartridge Release Cam Motor from the bracket.

(Pan-head screw 3×5 (2 pcs))



- (3) Disconnect a connector. (1 pc)
- (4) Open an edge saddle (1 pc) and wire saddles (2 pcs) to release the running wires.



2-2. Ink Cartridge Release Cam HP Sensor

- (1) Remove the Top Right Cover.
 - (Refer to Chapter 2.)
- (2) Remove the Top Left Cover.
 - (Refer to Chapter 2.)
- (3) Remove the Ink Cartridge Release Cam HP Sensor.
- (4) Disconnect a connector. (1 pc)



2-3. Ink Cartridge Detection Sensors

- (1) Pull off the corresponding ink cartridge.
- (2) Remove the Top Right Cover.

(Refer to Chapter 2.)

(3) Remove the Top Left Cover.

(Refer to Chapter 2.)

- (4) Remove the Ink Cartridge Detection Sensor.
- (5) Disconnect a connector. (1 pc)



2-4. Ink Supply Solenoid Valve (C)

(1) Remove the Top Right Cover.

(Refer to Chapter 2.)

(2) Remove the Top Left Cover.

(Refer to Chapter 2.)

- (3) Drain ink from the Ink Supply SolenoidValve (C). (Refer to 2-19 in this chapter.)
- (4) Remove the Ink Supply Solenoid Valve (C) along with the bracket.

(Round tip IT3C screw 4×10 (1 pc))

• Detach the Ink Supply Solenoid Valve (C) from the bracket.

(Pan-head screw 3×5 (2 pcs))

• Disconnect a connector. (1 pc)



(5) Cut the Ink Supply Tube at the position where the C-marked band is wrapped around it.

2-5. Ink Supply Solenoid Valves (G/K)

(1) Remove the Top Right Cover.

(Refer to Chapter 2.)

(2) Remove the Top Left Cover.

(Refer to Chapter 2.)

(3) Drain ink from the Ink Supply Solenoid Valves (G) and (K).

(Refer to 2-19 in this chapter.)

(4) Remove the Ink Supply Valves (G) and (K) along with the bracket.

(Round tip IT3C screw 4×10 (1 pc))

• Detach the Ink Supply Solenoid Valves (G) and (K) from the bracket.

(Pan-head screw 3×5 (2 pcs each))

• Disconnect a connector. (1 pc)



(5) Cut the Ink Supply Tubes at the position where the G (or K)-marked band is wrapped around them.

2-6. Ink Supply Solenoid Valves (Y/M)

(1) Remove the Top Right Cover.

(Refer to Chapter 2.)

(2) Remove the Top Left Cover.

- (Refer to Chapter 2.)
- (3) Drain ink from the Ink Supply Solenoid Valves (Y) and (M).

(Refer to 2-19 in this chapter.)

(4) Remove the Ink Supply Valves (Y) and (M) along with the bracket.

(Round tip IT3C screw 4×10 (1 pc))

• Detach the Ink Supply Solenoid Valves (Y) and (M) from the bracket.

(Pan-head screw 3×5 (2 pcs each)) • Disconnect connectors. (1 pc each)

- Ink Supply Solenoid Valve (Y) Ink Supply Solenoid Valve (M)
- (5) Cut the Ink Supply Tubes at the position where the Y (or M)-marked band is wrapped around them.

2-7. Ink Tower Unit

(1) Drain ink from the Ink Tower Unit.

(Refer to 2-19 in this chapter.)

- (2) Put the Ink Tower Unit in the maintenance position. (Refer to Chapter 2.)
- (3) Disconnect connectors. (13 pcs)





(4) Pull out the Ink Circulation Tubes connected to the Ink Baths for both ink inflow into and ink outflow from the Print Heads.



- (5) Dismount the Ink Tower Unit.
- <Reassembly procedure>
- (1) Mount a new Ink Tower Unit.
- (2) Connect the removed Ink Circulation Tubes to the Ink Baths.
- (3) Connect connectors. (13 pcs)
- (4) Attach the External Filter to the Ink Tower Unit.
 - * If the External Filter is not available, execute the test mode TM 093011 "INK INITIAL FILLING" 15 times.



- (5) Set ink cartridges on the printer.
- (6) Execute the following test modes to fill and circulate ink inside the Ink Tower Unit.
 - TM 093011 "INK INITIAL FILLING"
 - TM 093069 "EXTL FILTER INK CIRC (BLEED AIR)"
 - TM 093070 "EXTERNAL FILTER INK CIRCULATION"
 - * Ink is to be circulated for a specified amount of time.
- (5) Detach the External Filter.

- 2-8. Pressurization-Negative Pressure Tank Assembly (K, C, M, Y or G)
- (1) Remove the Rear Cover.
 - (Refer to Chapter 2.)
- (2) Put the Ink Tower Unit in the maintenance position. (Refer to Chapter 2.)
- (3) Drain ink from the Pressurization-Negative Pressure Tank Assembly to be replaced.

(Refer to 2-19 in this chapter.)

- (4) Remove the Ink Circulation Tubes from the said assembly.
- (5) Remove the said assembly.

(Double-washer screw 3×8 (4 pcs))



* The picture above shows the positions of the securing screws of the said assembly for color G.

<Reassembly procedure>

- Cut the end of the removed Ink Circulation Tubes by about 10mm and connect them to a new Pressurization-Negative Pressure Tank Assembly.
- (2) Attach the new assembly.

(Double-washer screw 3×8 (4 pcs))

- (3) Replace the corresponding Ink Circulation Pump PCB.
 - (2 connectors / Binding screw 3x6 (4 pcs))
 - * The Pressurization-Negative Pressure Tank Assembly and the Ink Circulation Pump PCB should always be replaced together.



- (4) Clamp the Ink Drain Tube connected to the Pressurization Tank with a forceps.



- (5) Pull off the Ink Drain Tube from the nozzle of the Overflow Ink Pan.
- (6) Insert the removed end of the Ink DrainTube into the slit of the Overflow Ink Pan.



- (7) Take off the forceps from the Ink Drain Tube to drain colorless liquid into the Ink Overflow Pan.
- (8) Put the open end of the Ink Drain Tube on the nozzle of the Overflow Ink Pan.
- (9) Activate the Ink Circulation Pump for about 10 seconds through the corresponding test mode to shift colorless liquid inside the Negative Pressure Tank into the Pressurization Tank and further into the Overflow Ink Pan.

<Test modes to activate the Ink Circulation Pump>

- TM 092031: Ink circulation pump for color K
- TM 092032: Ink circulation pump for color C
- TM 092033: Ink circulation pump for color M
- TM 092034: Ink circulation pump for color Y
- TM 092035: Ink circulation pump for color G
- (10) Execute the test mode TM 093011 (INK INITIAL FILLING) to replenish ink into the Pressurization and Negative Pressure Tanks through ink circulation operation.

2-9. Pressurization Tank Air Valve

- (1) Remove the Rear Cover.
 - (Refer to Chapter 2.)
- (2) Put the Ink Tower Unit in the maintenance position. (Refer to Chapter 2.)
- (3) Remove air tubes from the Pressurization Tank Air Valve.
- (4) Remove the Pressurization Tank Air Valve. (Pan-head screw 3×5 (2 pcs))
- (5) Disconnect a connector. (1 pc)



* Notes for reassembly Cut the open end of the removed air tubes about 10mm before reassembly.

2-10. Negative Pressure Tank Air Valve

(1) Remove the Rear Cover.

(Refer to Chapter 2.)

- (2) Put the Ink Tower Unit in the maintenance position. (Refer to Chapter 2.)
- (3) Remove air tubes from the Negative Pressure Tank Air Valve.
- (4) Remove the Negative Pressure Tank AirValve. (Pan-head screw 3×5 (2 pcs))
- (5) Disconnect a connector. (1 pc)



* Notes for reassembly Cut the open end of the removed air tubes about 10mm before reassembly.

2-11. Positive Pressure Regulator Valve Assembly

(1) Remove the Rear Cover.

(Refer to Chapter 2.)

- (2) Put the Ink Tower Unit in the maintenance position. (Refer to Chapter 2.)
- (3) Remove the air tubes extending from the Positive Pressure Regulator Valve Assembly from the Pressurization Common Air Chamber Assembly and the Air Release Joint.
- (4) Remove the Positive Pressure Regulator Valve Assembly.

(Round tip IT3C screw 3×8 (2 pcs))

• Disconnect a connector. (1 pc)



(5) Remove the cover from the Positive Pressure Regulator Valve.

(P-tight screw 3×8 (4 pcs))

2-12. Negative Pressure Regulator Valve Assembly

- (1) Remove the Rear Cover.
 - (Refer to Chapter 2.)
- (2) Put the Ink Tower Unit in the maintenance position. (Refer to Chapter 2.)
- (3) Remove the air tubes extending from the Negative Pressure Regulator Valve Assembly from the Negative Common Air Chamber Assembly and the Air Release Joint.
- (4) Remove the Negative Pressure Regulator Valve Assembly.

(Round tip IT3C screw 3×8 (2 pcs))

• Disconnect a connector. (1 pc)



(5) Remove the cover from the Negative Pressure Regulator Valve.

(P-tight screw 3×8 (4 pcs))

2-13. Pressurization Tank Pressure Sensor

- (1) Remove the Rear Cover.
 - (Refer to Chapter 2.)
- (2) Put the Ink Tower Unit in the maintenance position.(Refer to Chapter 2.)
- (3) Remove the Ink Supply Solenoid Valve Tray. (P-tite screw 3×10 (2 pcs))



- (4) Remove the Pressurization Tank Pressure Sensor. (P-tite screw 3×8 (2 pcs))
- (5) Disconnect a connector. (1 pc)



2-14. Negative Pressure Tank Pressure Sensor

(1) Remove the Rear Cover.

(Refer to Chapter 2.)

- (2) Put the Ink Tower Unit in the maintenance position. (Refer to Chapter 2.)
- (3) Disconnect a connector. (1 pc)
- (4) Remove the Negative Pressure TankPressure Sensor. (P-tite screw 3×8 (2 pcs))



2-15. Air Pump

(1) Remove the Rear Cover.

(Refer to Chapter 2.)

- (2) Put the Ink Tower Unit in the maintenance position. (Refer to Chapter 2.)
- (3) Remove the Air Pump.

(Double-washer screw 3×10 (2 pcs))

- Disconnect a connector. (1 pc)
- Remove an air tube from the Air Pump.



* Notes for reassembly Cut the open end of the removed air tube about 10mm before reassembly.

2-16. Ink Cooling Fan Assembly

- (1) Remove the Rear Cover.
 - (Refer to Chapter 2.)
- (2) Remove the Ink Cooling Fan Assembly.

(P-tite screw 3×10 (6 pcs))

• Disconnect a connector. (1 pc)



2-17. Air Regulator Valve

(1) Remove the Rear Cover.

(Refer to Chapter 2.)

- (2) Put the Ink Tower Unit in the maintenance position. (Refer to Chapter 2.)
- (3) Remove the Ink Supply Solenoid Valve Tray. (P-tite screw 3×10 (2 pcs))



(4) Remove the Air Regulator Valve. (Pan-head screw 3×5 (2 pcs))

• Disconnect a connector. (1 pc)



- (5) Remove an air tube from the Air Regulator Valve.
- * Notes for reassembly Cut the open end of the removed air tube about 10mm before reassembly.

2-18. Print Head

[Replacement steps]

- 1) Removing Print Head Tubes
- 2) Dismounting Print Heads
- 3) Remounting Print Heads
- 4) Setting Print Head parameters
- 5) Adjusting Print Heads (if required)
- <Step 1: Removing Print Head Tubes>
- (1) Set the parameter at "1" (Enabled) in the test mode TM 096017 "HEAD REPLACE MODE" and turn off the printer.
 - * Make sure that the ink pan is placed on the transfer belt unit before turning off the printer.
- (2) Put the Ink Cartridge Holder Unit in the maintenance position. (Refer to Chapter 2.)
- (3) Dismount the Horizontal Transfer Unit.

(Refer to Chapter 8.)

(4) Remove the Horizontal Transfer Guide Rail. (Double-washer screw 4×8 (2 pcs))



(5) Remove the Print Head Holder Top Cover. (Round tip IT3C screw 3×8 (4 pcs))



(6) Remove the Rear Cover.

(Refer to Chapter 2.)

(7) Put the Controller Box and the Ink Tower Unit in the maintenance position.

(Refer to Chapter 2.)

(8) Open wire saddles (10 pcs) and release the wires and LAN cables which are connected to the Head Drive PCBs.



(9) Detach the corresponding Head Drive PCB or PCBs together with the bracket.

(Double-washer screw 3×8 (2 pcs each))

- When replacing the Print Heads for color K or C, detach the Head Drive PCB (for color C/M), HDR1.
- When replacing the Print Heads for color M, Y or G, detach both the Head Drive PCB (for color C/M), HDR1, and the Head Drive PCB (for color Y/G), HDR0.



(10) Shift the Head Drive PCB (for color C/M), HDR1, and put it on the hooks of the Upper Left Stay of the printer.



* When replacing the Print Heads for color M, Y or G, shift the Head Drive PCB (for color Y/G), HDR0, to the space opened after the shift of the Head Drive PCB (for color C/M), HDR1, subsequently.

Head Drive PCB (for color C/M) / [HDR 1] Head Drive PCB (for color Y/G) / [HDR 0]



- (11) Disconnect two FPCs (Flexible Printed Circuits) from the Print Head to be replaced while disconnecting the surrounding FPCs as well from the corresponding Head Drive PCB to secure the sight for the said Print Head during replacement.
- (12) Free the Ink Baths beside the said Print Head.
- (13) Remove two Print Head Mounting Cover Assemblies (one for the front and the other for the rear) on the said Print Head.
 (Double-washer screw 3×14)



Print Head Mounting Cover Assembly

(1 pc for each))





(15) Remove the Print Head Tubes from the Print Head.



- <Step 2: Dismounting Print Heads>
- * When dismounting the Print Head No.1 or No.2, shift the Rear Cylindrical Ducts.



- Attach the Print Head Replacement Jig (the replacement-dedicated one) to the Print Head to be replaced and secure it temporarily.
 - * When using the Adjustment-added Replacement Jig, refer to "Note: Dismounting and remounting with the Adjustment-added Replacement Jig" on page 11-41, regarding the dismounting and remounting procedures of Print Heads.



- Lead the rear-side positioning boss of the jig to be in close contact with the Print Head. (Note 1)
- Unlock the the Adjustment Pin and confirm that the bottom end of the said pin is in close contact with the Print Head on the other side. (Note 2)

(Under this condition, the groove on the Adjustment Pin should be on the same level as the top of the Lock Lever. (Note 3)) [Important]

Never push down the Adjustment Pin.



- (2) Secure the Print Head Replacement Jig firmly.
- (3) Pull up the Adjustment Pin to separate its bottom end from the Print Head.



(4) Remove securing screws and take out the Print Head by holding it up while pushing it toward the rear side.



<Step 3: Remounting Print Heads>

 Mount a replacement Print Head while taking care not to let the bottom-side nozzle face hit other Print Heads or the neighboring Ink Baths.



(2) Unlock the Adjustment Pin of the Print Head Replacement Jig.



- Lead the rear-side positioning boss of the jig to be in close contact with the Print Head. (Note 1)
- Unlock the the Adjustment Pin and confirm that the bottom end of the said pin is in close contact with the Print Head on the other side. (Note 2)

(Under this condition, the groove on the Adjustment Pin should be on the same level as the top of the Lock Lever. (Note 3)) [Important]

Never push down the Adjustment Pin.





- (4) Pull up the Adjustment Pin and detach the Print Head Replacement Jig from the Print Head. (2 screws)
- (5) Connect the free ends of the Print Head Tubes (4 tubes (2 tubes for each color)).[Precautions]

Take care not to connect wrong color tubes nor to mix the Print Head ports between IN and OUT because two different color Print Heads are combined into one unit, except for color K.

- (6) Connect the free ends of FPCs (Flexible Printed Circuits) to the corresponding Head Drive PCB.
- (7) Power on the printer to lead the initial ink filling operation to start.
- (8) While the Ink Circulation Pump is operating, remove forcipes on the Print Head Tubes connected to the mounted Print Head, first for inflow ink (IN) then for outflow ink (OUT).

[Precautions]

Make sure that no ink leaks from the mounted (replaced) Print Head or its periphery.



<Step 4: Setting Print Head parameters>

Execute the test mode TM 023027 "HEAD REPLACEMENT PARAMETER" to enter the AL values and the recommended voltage values.



[Parameter setting procedure]

- Select the color or colors, "K," "CM" or "YG," of the mounted (replaced) Print Head.
- Select the mounting position of the said Print Head.
- Enter the AL values and the recommended voltage values for the said Print Head, referring to the label attached to its FPC as shown on the following page.
 - For color K: Head 1 is for K1 and Head 2 is for K2.
 - For color CM: Head 1 is for C and Head 2 is for M.
 - For color YG: Head 1 is for Y and Head 2 is for G.



<Step 5: Adjusting Print Heads>

Check print images and adjust the mounting position of the corresponding Print Head with the Print Head Adjustment-added Replacement Jig and/or the image processing parameters of the said Print Head through the corresponding test modes if required. (Refer to Chapter 13 "Image Adjustment."

[Neutral setting of the Print Head Adjustmentadded Replacement Jig]





[Print Head mounting position adjustment]

- Attach the Print Head Adjustment-added Replacement jig to the Print Head whose mounting position is to be adjusted.
- (2) Loosen the securing screws of the said Print Head.
- (3) Turn the adjustment screws for the Adjustment Knob and Pin in accordance with the values indicated in the corresponding test modes. (For detailed descriptions, refer to 2-2 & 2-3 in Chapter 13.)
- (4) Tighten the securing screws of the Print Head and detach the jig from the Print Head after adjustment.
[Note]

Dismounting and remounting with the Adjustment-added Replacement Jig

(1) Set the Print Head Adjustment-added Replacement Jig at the neutral condition.[Important]

Make sure that the plate spring is unlocked.



(2) Attach the jig to the Print Head to be replaced and secure it temporarily.(Double-washer screw 3x6 (2pcs))

[Precautions]

Be careful that the Adjustment Knob should not run on the Print Head Securing Bracket.





(3) Lock the plate spring to secure the Print Head with the spring pressure without backlash.



- (4) Secure the Print Head Replacement Jig firmly. (Double-washer screw 3×6 (2 pcs))
- (5) Unlock the plate spring.
- (6) Remove securing screws and take out the Print Head as indicated below.

(Dedicated screw 3x8 (2 pcs))

1) Pull the Print Head toward you.



2) Lift the Print Head until the Print Head Securing Bracket comes off the jig on the rear side.



3) Tilt up the Print Head and push it out toward the rear side.



 Confirm that the Print Head Securing Bracket comes off the jig on the front side as well and take out the Print Head by holding it up.



- (7) Mount a replacement Print Head by following the procedures in the step (6) in the reverse order.
- (8) If no adjustment is required for the mounting position of the replacement Print Head, detach the Print Head Replacement Jig from the Print Head. (2 screws)
- (9) Take the steps (5) to (8) on page 11-39 for the remaining Print Head remounting procedures.

2-19. Ink Drainage

Ink is to be drained into the Waste Ink Tank through the following procedure with the power ON.

- * The ink drainage procedure is identical for both single and multiple color inks.
- (1) If the Transfer Belt Unit is not at the bottom position, execute the test mode TM 093020 "BP ELEVATOR MOTOR TO DOWN."
- (2) Execute the test mode TM 093028 "INK PAN ON-BELT POSITION."
- (3) Set the parameter in the test mode TM 096025 "INK TEMPERATURE ADJUST ON/OFF" to "1" (OFF).
- (4) Remove ink cartridges.
 - * If the Waste Ink Tank is dismounted from its holder to the floor at this stage, ink may be drained faster thanks to a larger difference in the liquid head level between the corresponding components.

[Precaution]

Take care not to smudge the floor with ink when dismounting the Waste Ink Tank.

- (5) Clamp the Ink Drain Tube extending from the corresponding Pressurization Tank with a forceps.
- (6) Pull off the said Ink Drain Tube from the nozzle of the Overflow Ink Pan.



(7) Insert the removed end of the Ink Drain Tube into the slit of the Overflow Ink Pan.



(8) Take off the forceps from the Ink Drain Tube to drain ink from the Pressurization Tank into the Overflow Ink Pan.

[Precautions]

- 1. Be sure to perform this procedure for one color at a time.
- 2. Be careful of ink dripping from the Ink Drain Tube.
- Straighten the open end of the Ink Drain Tube if it is bent. Otherwise, ink may not be drained smoothly.
- 4. Confirm that ink is flowing out through the Ink Drain Tube.
- (9) Activate the Ink Circulation Pump for about 10 seconds through the corresponding test mode to shift ink from the Negative Pressure Tank to the Pressurization Tank and further into the Overflow Ink Pan.

<Test modes to activate the Ink Circulation Pump>

- TM 092031: Ink Circulation Pump for color K
- TM 092032: Ink Circulation Pump for color C
- TM 092033: Ink Circulation Pump for color M
- TM 092034: Ink Circulation Pump for color Y
- TM 092035: Ink Circulation Pump for color G

(10) Open the Ink Supply Solenoid Valve 10 times through the corresponding test mode to force the ink inside the Ink Supply Tube to drop into the Negative Pressure Tank.

[Precautions]

Make sure that ink cartridges have already been removed.

<Test modes to activate the Ink Supply Solenoid Valve>

- TM 092036: Ink Supply Solenoid Valve for color K
- TM 092037: Ink Supply Solenoid Valve for color C
- TM 092038: Ink Supply Solenoid Valve for color M
- TM 092039: Ink Supply Solenoid Valve for color Y
- TM 092040: Ink Supply Solenoid Valve for color G
- (11) Repeat the operation in step 9.
- (12) Set the parameter in the test mode TM096017 "HEAD REPLACE MODE" to "1" (Enabled) and turn off the power.
- (13) Pull out the Print Head Tube from the ink inflow (IN) port of any single Print Head of the corresponding color to drain the ink inside all Print Heads of the said color into the Negative Pressure Tank for about 30 seconds.

 * If the Print Head Tubes are pulled off from both the ink inflow (IN) and outflow (OUT) ports of the Print Head, ink may not be drained completely from all Print Heads.



[Precautions]

- Be careful of ink dripping from the Print Head Tubes.
- Drain ink from both nozzle arrays of Print Heads for color K.
- (14) Reconnect the removed Print Head Tube.
- (15) Turn on the power with the Front Door opened (the Front Door SW OFF).
- (16) Repeat the operation in step 9.

[Note] Ink filling operation

- * Make sure that 500ml or more of ink remains inside the ink cartridge to be applied.
- Replace the existing Ink Drain Tube with a new one and connect it to the Pressurization Tank and the nozzle of the Overflow Ink Pan.
- (2) Load an ink cartridge into the printer.
- (3) Finish the current test mode.
- (4) Close the Front Door to actuate the Front Door SW, which leads the ink filling operation to start.

[12-1]

Chapter 12. Waste Ink Drainage Section

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1. Overview

1-1. Basic Structure

The Waste Ink Drainage Section is composed of the Maintenance Unit and Waste Ink Tank Unit and performs the ink drainage operation in which the ink collected in the Ink Pan is poured out into the Waste Ink Tank through a tube.



1-2. Unit Structure

(1) Maintenance Unit

This unit is composed of the Ink Pan, which receives the ink ejected from the Print Heads during a cleaning action, and the Wiper, which cleans the Print Head nozzle surface, and pushed against the Print Head Holder Unit by the elevated Transfer Belt Unit.

During printing, the Ink Pan is retracted into the space on the right side of the Transfer Belt Unit in order to avoid contact with the said unit, which moves up and down all the while.



(2) Waste Ink Tank Holder Unit

- This unit is equipped with a holder on which the Waste Ink Tank is placed and sensors which detect the position of the holder, which is lowered under the weight of the mounted Waste Ink Tank, that gradually increases according as collected waste ink is drained inside from the Ink Pan, thus notifying the absence of the said tank or its remaining capacity.
- This unit is also equipped with an ink leakage (overflow) detection sensor, which detects whether waste ink overflows from the Waste Ink Tank.



1-3. Mechanisms and Operations

(1) Ink Pan Shift (for Print Head Maintenance)

When maintaining the Print Heads for cleaning, the Ink Pan is shifted from the retreat (storage) position to under the Print Head Holder Unit (Print Heads) through the rotation of the Ink Pan Shift Shaft, which is driven by the Maintenance Unit Drive Motor via a series of gears.

When the maintenance operation finishes, then, it is shifted back to the retreat (storage) position so as not to interfere with the elevation of the Transfer Belt Unit in preparation for printing operation.

It is, besides, detected by the Ink Pan Open and Storage Position Sensors whether the Ink Pan is placed at the Print Head maintenance position or the retreat (storage) position.

<Print Head maintenance operation preparation steps>

1. The Transfer Belt Unit is lowered to the bottom position.



- The Maintenance Unit Drive Motor starts operating to shift the Ink Pan to under the Print Head Holder Unit (Print Heads).
- 3. The Ink Pan Arm Fulcrum Pins get contact with the Ink Pan Arm Stoppers, thus stopping the shift of the Ink Pan to leave the Ink Pan on the Transfer Belt Unit while turning the Maintenance Unit Drive Assembly to the right to release the driving force of the motor for overload protection.
- 4. The light blocking plate attached at the base of the rear-side Ink Pan Shift Arm blocks the light path of the Ink Pan Open Position Sensor, thus leading the Maintenance Unit Drive Motor to stop operating a predefined amount of time later.
 - * The Maintenance Unit Drive Motor keeps operating even after the Ink Pan Arm Fulcrum Pins get contact with the Ink Pan Arm Stoppers.





6. The Ink Pan Positioning Pins are then engaged with the alignment holes on the Print Head Holder Unit to lead the Ink Pan to be in close contact with the Print Head Holder Unit, thus stopping the elevation of the Transfer Belt Unit and setting the Wiper under the Print Heads for cleaning.

<Post-Print-Head-maintenance-operation wrap-up steps>

- 1. The Transfer Belt Unit is lowered to the bottom position.
- 2. The Maintenance Unit Drive Motor starts operating to shift back the Ink Pan to the retreat (storage) position.
- 3. The light blocking plate attached at the base of the rear-side Ink Pan Shift Arm blocks the light path of the Ink Pan Storage Position Sensor.
- 4. The Maintenance Unit Drive Motor stops operating a predefined amount of time later. The Ink Pan is now retracted into the retreat (storage) position.

(2) Print Head Wiping

Paper dust, foreign particles or residual excess ink, which is expected to stick on the Print Head nozzle surface, is removed by applying the Wiper Blades against the surface of Print Head nozzles while moving them with the Wiper Motor as described below.

- 1. After ink ejection operation is completed, the Wiper Motor starts operating to shift the Wiper from the home position.
- 2. The Wiper travels to the front end until its base hits the opposite-side frame of the Ink Pan, cleaning the surface of Print Head nozzles all the while. The Wiper Motor then stops operating.
- 3. The Transfer Belt Unit is lowered to the bottom position.
- 4. The Wiper Motor restarts operating, reversing the rotation direction, to lead the Wiper to travel back to the original (home) position on the rear side of the Ink Pan.
- 5. When the Wiper Blade HP Sensor, which is located on the rear side of the Ink Pan, is blocked by the Wiper Base, the Wiper Motor stops operating a predefined amount of time later, with the Wiper Base in contact with the rear-side frame of the Ink Pan.



(3) KG Roller Retreat in Wiping

The KG Rollers are pushed up, by the KG Roller Lifters located on both sides of the Ink Pan, into the retreat spaces inside the Print Head Holder Unit during Print Head maintenance (wiping) operation to avoid contact with the Wiper Blades.



(4) Cleaning Operation

Several types of Print Head cleaning operations are prepared to prevent air bubbles or foreign particles from interfering ink ejection from Print Head nozzles, thus preventing missing or blurred images on prints.

- 1) Generating pressure
 - The pressure inside the Pressurization Tank is increased to a predefined level by activating the Air Pump while closing the Pressurization Tank Air Valve to create a closed space. During the above operation, the Negative Pressure Tank Air Valve is opened so that negative pressure may not be applied to the Print Heads from the Negative Pressure Tank.
 - Two different levels of pressure, which are controlled by a Pressure Sensor in the tank, are generated in the above operation to enable two different cleaning powers, i.e. normal and strong, to be selected for Print Head cleaning operations.
- 2) Ejecting ink from Print Head nozzles
 - The Air Pump stops when the pressure inside the Pressurization Tank reaches the predefined level. Thereafter, ink is forced to be ejected from the Print Head nozzles into the Ink Pan while closing the Negative Pressure Tank Air Valve to contain the generated pressure.

3) Wiping Print Head nozzles

- After ink is ejected into the Ink Pan, the Pressurization Tank Air Valve is opened for half a tick to generate wiping pressure.
- The surface of the Print Head nozzles are wiped by the Wiper Blades.

- 4) Draining waste ink
 - After the wiping operation finishes, the Pressurization Tank Air Valve and the Negative Pressure Tank Air Valve are both opened to lead the Print Heads into the idle condition.
 - The Ink Pan is tilted to drain waste ink inside into the Waste Ink Tank.

(Cleaning-engaged component status transition)

0	Status				
Component	Pressure generation	Ink ejection	Wiping		
Ink Supply Solenoid Valve	Closed	Closed	Closed		
Positive Pressure Regulator Valve	Closed	Closed	Closed		
Negative Pressure Regulator Valve	Closed	Closed	Closed		
Pressurization Tank Air Valve	Closed	Closed	Brief open -> Closed		
Negative Pressure Tank Air Valve	Open	Closed	Closed		
Air Pump	In operation	In pause	In pause		
Ink Circulation Pump	In pause	In pause	In pause		

* The ink levels of the respective tanks are regulated by the Ink Circulation Pump and Ink Sensors after cleaning operation.

- (5) Cleaning Operation Types
 - Normal cleaning (Test mode TM 093001: NORMAL CLEANING)
 To ensure smooth ink ejection from Print Head nozzles during printing through an advanced cleaning operation with forced ink ejection from Print Head nozzles with normal pressure and subsequent wiping on their surface with blades.
 - Strong cleaning (Test mode TM 093002: STRONG CLEANING)
 To take the same action as in normal cleaning but with higher pressure to address the ink ejection problems which cannot be solved through normal cleaning.
 - 3) Extra cleaning (Test mode TM 093003: EXTRA CLEANING)

To repeat strong cleaning operation 3 times and then execute ink circulation operation for 5 minutes. This type of cleaning is to be applied when ink sedimentation or aggregation occurs in Print Head nozzles without operation for a long period, thus causing a large-scale misdirection of ink droplets or ink clogs on Print Head nozzles which cannot be removed through normal or strong cleaning.

4) Anti-MD recovery action (Test modes TM 093078 to 093083: K (C, M, Y or G)-MD RECOVERY ACTION)

This function repeats a solid color print pattern printing and Normal Cleaning for the number of To repeat solid-image printing and subsequent normal cleaning operation the number of times specified in the test mode TM 096112 "MD RECOVERY-REPEAT Q'TY SETTING" separately for each ink color.

Subsequently, the number of prints specified in the test mode TM 096111 "MD RECOVERY-PRINT Q'TY SETTING" are made with another solid-image pattern to allow an operator to check the result of the said recovery action against MD (misdirection of ink droplets). 5) Anti-MD recovery cleaning (Test modes TM 093090 to 093094: K (C, M Y or G)-MD RECOVERY CLEANING)

To generate a predefined level of pressure for ink ejection and energize the Print Heads to force ink to be ejected from their nozzles. The surface of Print Head nozzles is then wiped with Wiper Blades.

[Note]

- Normal and strong cleaning operations can be executed through the "Print Head Cleaning" option in the Maintenance menu as well.
- (6) Periodical Cleaning Operation
- 1) Automatic cleaning

To execute the same operation as in normal cleaning automatically when a specified number of prints, which can be changed through the "Cleaning Cycle Setting" option in the Administrator menu, has been made since last cleaning action.

The print volume range to be specified: 500 to 3000 prints (Default value: 1000 prints).

2) Recovery cleaning

To execute a given cleaning operation, as described below, automatically if a specified amount of time has already passed since last cleaning action at power-on or at the start of printing operation.

- Normal cleaning (TM 096006 "NORMAL CLEANING LEAVE TIME"): 8 to 240 hours (Default: 8 hours)
- Strong cleaning (TM 096007 "STRONG CLEANING LEAVE TIME"): 7 to 60 days (Default: 7 days)
- Extra cleaning (TM 096008 "EXTRA CLEANING LEAVE TIME"): 7 to 120 days (Default: 90 days)
- * The timer is reset to "0" when any cleaning operation is executed.

(7) Waste Ink Tank Full Detection

The remaining capacity of the Waste Ink Tank is detected through the status combination of three sensors, which are placed in a line along the Waste Ink Tank Holder Base, i.e. Waste Ink Tank Pre-near Full Sensor, Waste Ink Tank Near Full Sensor and Waste Ink Tank Full Sensor. The positional relationship between the light block plate attached to the Waste Ink Tank Holder and the above-mentioned sensors changes as shown below until the Waste Ink Tank becomes full through waste ink drainage.



	Waste Ink Tank not mounted	Waste Ink Tank mounted	Pre-near full	Near full	Full
Waste Ink Tank Pre-near Full Sensor	OFF	ON	OFF	OFF	OFF
Waste Ink Tank Near Full Sensor	OFF	ON or OFF	ON	ON	OFF
Waste Ink Tank Full Sensor	OFF	OFF	OFF	ON	ON
Printer's status	Inoperable with "No Waste Ink Tank" display	Operable without any notification	Operable without any notification	Operable with "Near full" display	Inoperable with "Full" display

* It can be checked in the test mode TM 095020 "WASTE INK TANK PRE-NEAR-FULL DETECT" whether the Waste Ink Tank is in the pre-near full status or not (1: in the pre-near full status).

1-4. Unit Action Test Mode List

Unit Name	Sensor/Motor/etc.	Туре	Function	Test Mode
	Maintenance Unit Drive Motor	DC motor	Deploys and stores the Ink Pan.	09-3-027 09-3-028
	Ink Pan Storage Position Sensor	Interrupt type	Detects whether the Ink Pan is properly stored.	09-1-071
Maintenance Unit	Ink Pan Open Position Sensor	sensor	Detects whether the Ink Pan is properly deployed.	09-1-072
	Wiper Motor	Stepping motor	Shifts the Wiper back and forth in the Ink Pan.	09-3-016 09-3-017
	Wiper Blade HP Sensor	Interrupt type sensor	Detects whether the Wiper Blade is at the home position.	09-1-073
Waste Ink Tank	Waste Ink Tank Pre-near Full Sensor		Detect the remaining	09-1-064
Unit	Waste Ink Tank Near Full Sensor	Interrupt type sensor	capacity of the Waste Ink	09-1-062
	Waste Ink Tank Full Sensor			09-1-063
Ink Leakage Detection	Ink Leakage Detection Sensor	Interrupt type sensor	Detects whether waste ink overflows from the Waste Ink Tank.	09-1-085

2. Disassembly and Reassembly

- 2-1. Ink Pan Assembly
- 2-2. Wiper Motor Assembly
- 2-3. Wiper Blade HP Sensor Assembly
- 2-4. Ink Pan Storage Position Sensor
- 2-5. Ink Pan Open Position Sensor
- 2-6. Maintenance Unit Drive Motor
- 2-7. Waste Ink Tank Near Full Sensor and Waste Ink Tank Full Sensor
- 2-8. Waste Ink Tank
- 2-9. Ink Leakage Detection Sensor

Waste Ink Tank Near Full Sensor and Waste Ink Tank Full Sensor

2-1. Ink Pan Assembly

- Make sure that the Transfer Belt Unit is in the bottom position and the Ink Pan Assembly is in the Print Head maintenance position.
- (2) Remove the Middle Right Side Cover.

```
(Refer to Chapter 2.)
```

(3) Remove the Bottom Right Side Cover.

(Refer to Chapter 2.)

(4) Remove the Ink Pan Shift Arm Shafts.

(Snap ring (1 pc each))



Ink Pan Shift Arm Shaft

- (5) Take out the Ink Pan Assembly.
 - Disconnect a connector. (1 pc)
 - Remove a reusable band.
 - Pull off the Waste Ink Drainage Tube.



Precaution:

When you put back this assembly, do not twist the waste ink drainage tube.

2-2. Wiper Motor Assembly

(1) Remove the Ink Pan Assembly.

(Refer to 2-1 in this chapter.)

(2) Remove the KG Lifters. (4 pcs)



- (3) Disconnect a connector. (1 pc each)
- Remove the Wiper Motor Assembly.



Note:

Shift the Wiper Unit until the Wiper Blade HP Sensor Blocking Plate comes out of the said sensor in advance.

2-3. Wiper Blade HP Sensor Assembly

- (1) Remove the Ink Pan Assembly.
 - (Refer to 2-1 in this chapter.)
- (2) Remove the Wiper Blade HP Sensor Assembly. (P-tite screw 3×8 (1 pc))
 - Disconnect a connector. (1 pc)



2-4. Ink Pan Storage Position Sensor

(1) Remove the Middle Right Side Cover.

(Refer to Chapter 2.)

- (2) Remove the Ink Pan Storage Position Sensor.
 - Disconnect a connector. (1 pc)



2-5. Ink Pan Open Position Sensor

- (1) Remove the Middle Right Side Cover.
 - (Refer to Chapter 2.)
- (2) Remove the Ink Pan Open Position Sensor Assembly. (P-tite screw 3×8 (1 pc))
 - Disconnect a connector. (1 pc)
 - Pull off the Ink Pan Open Position Sensor from the bracket.



2-6. Maintenance Unit Drive Motor

(1) Remove the Rear Cover.

(Refer to Chapter 2.)

- (2) Remove a spring.
 - Disconnect a connector. (1 pc)
 - Remove the Maintenance Unit Drive Motor Assembly. (E-ring φ6 (1 pc))



(3) Remove the Motor Cover.

(Round tip IT3C screw 3×8 (3 pcs))



(4) Remove the Maintenance Unit Drive Motor. (Double-washer screw 3×5 (2 pcs))



- 2-7. Waste Ink Tank Near Full Sensor and Waste Ink Tank Full Sensor
- (1) Remove the Rear Cover.

(Refer to Chapter 2.)

(2) Open the Sub Power Supply Unit.

(Round tip IT3C screw 3×8 (4 pcs))



(3) Detach the Internal Paper Feed Drive PCB
 Ass'y. (Round tip IT3C screw 4×8 (2 pcs) /
 Double-washer screw 4×8 (2 pcs))



(4) Remove the Waste Ink Tank Sensor Assembly. (Double-washered screw 3×8 (1 pc))



- (5) Remove the Waste Ink Tank Sensor Cover. (Double-washered screw 3×8 (1 pc))
 - Disconnect a connector. (1 pc each)



- 2-8. Waste Ink Tank Pre-near Full Sensor
- (1) Remove the Rear Cover.

(Refer to Chapter 2.)

(2) Open the Sub Power Supply Unit.

(Round tip IT3C screw 3×8 (4 pcs))



 (3) Detach the Internal Paper Feed Drive PCB Ass'y. (Round tip IT3C screw 4×8 (2 pcs) / Double-washer screw 4×8 (2 pcs))



(4) Remove the Waste Ink Tank Sensor Assembly. (Double-washered screw 3×8 (1 pc))



- (5) Remove the Waste Ink Tank Sensor Cover. (Double-washered screw 3×8 (1 pc))
 - Disconnect a connector. (1 pc)



- 2-9. Waste Ink Tank
- (1) Remove the Bottom Right Side Cover.

(Refer to Chapter 2.)

- (2) Detach the Exit Hose Bracket.
- (3) Remove the Tank Cap from the Waste Ink Tank.



(4) Hook the removed Tank Cap upside down on the Cap Holder.







(5) Put a replacement Tank Cap, which is removed from a new Waste Ink Tank, on the existing one.



(6) Dismount the Waste Ink Tank.



Precaution: Take care not to let ink drop from the Tank Cap or Ink Tubes.

2-10. Ink Leakage Detection Sensor

(1) Remove the Bottom Right Side Cover.

(Refer to Chapter 2.)

(2) Dismount the Waste Ink Tank.

(Refer to 2-8 in this chapter.)

(3) Take off the Waste Ink Tank Holder, unhooking the side arms from the bosses.





- (4) Take out the Tray 2 and Tray 3.
- (5) Remove the Tank Holder Base Spring.



- (6) Remove the Ink Leakage Detection Sensor Assembly. (P-tite screw 3×8 (1 pc))
 - Disconnect a connector. (1 pc)





[13-1]

Chapter13. Image Adjustment

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1. Image Adjustment Overview

1-1. Image Adjustment Parameters

You can use automatic image adjustment and manual image adjustment. In automatic image adjustment, the parameters are adjusted automatically based on scanned image patterns. In manual image adjustment, on the other hand, the said parameter values are to be manually entered based on printed test pattern images.

The printer has the following image adjustment functions. (The numbers next to the adjustment names are test mode numbers.)

For details and precautions on the parameters, see "1-6. Image Adjustment Parameter List."

See also "1-5. Adjustment Item and Order after Component Replacement."

Print Head Angle Adjustment / 023004	Adjusts the Print Heads so that they become perpendicular to the paper transfer direction.
Print Head Position Adjustment / 023005	Adjusts the Print Head positions in the lengthwise direction of nozzles.
Transfer Belt (BP) Direction Adjustment / 023002	Aligns the Transfer Belt orientation with the Print Head Holder Unit orientation.
Registration Roller Direction Adjustment / 023003	Aligns the Registration Roller with the Transfer Belt Unit.

<Functions for calculating parameters for adjustment mechanisms>

<Functions for updating parameters automatically (automatic image adjustment)>

Print Timing Rough Adjustment / 023001	Adjusts the print timing roughly.
Print Timing Fine Adjustment / 023010	Adjusts the print timing finely.
Overlap Width Adjustment / 023011	Adjusts the nozzle movement range of individual Print Heads.
Print Timing Fine & Overlap Width Adjustment / 023006	Executes the test modes TM 023010 and TM 023011 together in a single scanning action.
Print Head Density Adjustment / 023008	Makes print density even between neighboring nozzle lanes of Print Heads.
Print Head Density Adjust- ment (K300dpi) / 023108	Makes print density even between neighboring nozzle lanes of K-color Print Heads.
Image Elongation Adjustment / 023009	Compensates image extension in the paper transfer direction. (standalone function)

<Functions for specifying parameters manually (manual image adjustment)>

Print Head Edge Density Adjustment / 023007	Compensates print density within about 0.5 mm area from the edge of Print Heads.
Top Print Margin	Adjusts the margin at the top of prints.
Adjustment / 023021	(standalone function)

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End Print Margin Adjustment / 023021	Adjusts the margin at the end of prints. (standalone function)
Side Mask Range Adjustment / 023022	Adjusts the margin at the right and left sides of prints. (standalone function)
X Direction Adjustment / 023024	Adjusts the lateral print position (in X direction) for individual Print Heads with reference to color K.
Y Direction Adjustment / 023025	Adjusts the ink ejection timing from each nozzle array.
Print Head Overlap Amount Adjustment / 023026	Adjusts the overlap range of images printed by the edge nozzle lanes of neighboring Print Heads.
Print Head Density Compensation / 023023	Compensates the difference in print density between Print Heads.
Print Head Density Compen- sation (K300dpi) / 023123	Compensates the difference in print density between K- color Print Heads.
Image Expansion Correction / 026005	Compensates image extension or shrinkage in the paper transfer direction. (standalone function)

1-2. Required Equipment for Automatic Image Adjustment

- Optional scanner HS7000
- A3 or Ledger-size high-quality paper
 - * If the printer is not equipped with an optional scanner HS7000, use a PC and a general scanner (a recommended one is preferable) for automatic image adjustment instead.

<Recommended general scanner models>

EPSON: GT-7400U, GT-F520, GT-S640 or GT-S650 series

[Paper format selection for image adjustment]

Function name Printer model		A3		Ledger		
	Unit		mm		inch	
	Scanner type	HS7000	General ones	HS7000	General ones	
Print timing rough a	djustment	-	A4 LEF	Letter LEF	Letter LEF	
Transfer belt (BP) d	irection adjustment			Lottor SEE	Lottor SEE	
Registration roller di	rection adjustment					
Print head angle ad	ustment				Letter LEF	
Print timing fine adju	ustment	A3	A4 LEF			
Overlap width adjus	tment					
Print head density a	djustment					
Top/end print marging	n adjustment		A3			
Side mask adjustme	ent	A4 LEF	ΔΔΙΕΕ			
Image elongation ad	ljustment			LellerLEF		
X direction adjustment						
Y direction adjustment		Δ3				
Print head overlap amount adjustment			A3			
Print head density compensation						
Print head edge der	sity adjustment					

* Load specified size of paper on the Standard Paper Feed Tray of the printer.

1-3. Basic Image Adjustment Procedures

[Automatic image adjustment]

- (1) Enter the test mode.
- (2) Select the corresponding test mode item for a desired image adjustment parameter.
- (3) Print out a required quantity of measurement pattern sheets. (Refer to the lower table on page 13-7.)
- (4) Place a printed measurement pattern sheet on the scanner. For certain pattern sheets, a gap is required along the Original Guides on the Stage Glass.
- (5) Scan the measurement pattern sheet placed on the Stage Glass. No specific scanning quantity nor order exists in this operation.

<Making gaps at measurement pattern sheet placement on the scanner>

Place a measurement pattern sheet on the Stage Glass of the scanner while keeping a 3-to-4-mm space along the left-side and rear-side Original Guides. The reasons why such a space is required are;

- 1) To recognize the edges of the sheet precisely during scanning with the Stage Cover opened.
- 2) To recognize the position of pattern images on the sheet precisely.

[Manual image adjustment]

- (1) Enter the test mode and select the corresponding test mode item for a desired image adjustment parameter.
- (2) Make test prints and check printed pattern images on them to enter required parameter values.

1-4. Notes and Precautions in Image Adjustment

- (1) Make sure that the Front Doors are closed, with the Middle Inner Cover attached, during image adjustment.
- (2) Be sure to execute the test mode TM 023041 "IMAGE ADJUST PARAMETER SAVE" before starting image adjustment so that the current image adjustment parameter values may be saved into the SSD, which can be retrieved through the test mode TM023042 "IMAGE ADJUST PARAMETER RETRIEVE" if required later. The said parameter values registered on the PCBs are to be overwritten when the current image adjustment is completed.

- (3) When the current image adjustment is completed, write the adjusted parameter values in the dedicated backup area on the Engine Control PCB using the test mode TM043011 "ADJUST PARAMETER SAVE," which are to be retrieved when the test mode TM014002 "FACTORY DEFAULT" is executed.
- (4) Use matte (high-quality) inkjet paper of an appropriate size when printing out measurement pattern sheets to be scanned for image adjustment.
- (5) The parameter values updated through image adjustments are saved in the Engine Control PCB and retained even if the printer is turned off.
- (6) The parameter values are updated at the following timings during image adjustment
 - When scanning is completed in automatic image adjustment
 - When the [Close (End)] button or the [Test print] key is pressed in manual image adjustment.
- (7) It is not necessary to scan all printed measurement pattern sheets nor to scan them in order of printout since the scanned data is averaged.
- (8) Place a measurement pattern sheet straight along the Original Guides on the Stage Glass for scanning. If it is placed at an angle, the accuracy of automatic image adjustment will be lowered. The allowable range of tilted sheet placement is about 1 mm shift from top to bottom for A3-size paper.
- (9) Flatten a measurement pattern sheet during scanning, for example by putting a weight such as a stack of paper on the sheet, because images may be defocused, thus leading to imprecise image adjustment, if the sheet is deformed off the Stage Glass.
 - * Be careful not to allow a stack of paper to protrude out of the sheet if it is used as a weight.

Action	Test mode No.	Descriptions
Resident data storage	023041	Stores the current image adjustment parameter data registered on the Engine Control PCB into the SSD.
Stored data retrieval	023042	Retrieves the image adjustment parameter data which was stored in the SSD through the above-described test mode (TM 023041).
Adjusted data storage	043011	Stores the updated image adjustment parameter data into the dedicated data backup area on the Engine Control PCB.
Factory default recovery	014002	Retrieves the updated image adjustment parameter data from the dedicated data backup area on the Engine Control PCB and lead them to reside in the current parameter data area on the same PCB and the SSD (as mirroring).

<Parameter value data management (backup)>



*1. Mirroring: To back up the current (updated) image adjustment parameter data stored on the Engine Control PCB into the SSD to retrieve them in case the said PCB is replaced due to damage.

1-5. Adjustment Item and Order after Component Replacement

The image adjustment procedure differs depending on what component is to be replaced. However, the basic adjustment order is common, regardless of the replaced component, as follows: print timing adjustment -> overlap width adjustment -> print density adjustment. The exemplary adjustment execution orders are indicated in the table below.

		Component to be replaced			
Adjustment item	Туре	Transfer	Transfer	Registration	Print
		Belt Unit	Belt	Roller	Head
Transfer Belt skew	Mechanical	1	1	×	×
Print Head profile data entry / 023027	Profile entry	×	×	×	1
Print Head angle / 023004	Auto image	×	×	×	2
Print Head position / 023005	Auto image	×	×	×	3
Transfer Belt direction / 023002	Auto image	2	2	×	×
Registration Roller direction / 023003	Auto image	×	×	1	×
Transfer Belt profile data entry	Profile entry	3	3	×	×
Transfer Belt Roller profile data entry	Profile entry	4	×	×	×
Transfer Belt stretch data clear / 064001	Data refresh	5	4	2	4
Transfer Belt maintenance count reset / 063011	Data refresh	6	5	3	5
Print timing-rough / 023001	Auto image	7	6	4	6
Print timing fine & overlap width / 023006	Auto image	8	7	5	7
(Print timing-fine / 023010)*1	Auto image	-	-	-	-
(Overlap width / 023011)*1	Auto image	-	-	-	-
Image elongation / 023009	Auto image	9	8	×	×
Print Head density / 023008	Auto image	×	×	×	8
Print Head density (K300dpi) / 023108	Auto image	×	×	×	9
Print Head edge density / 023007	Manual image	10	9	×	10
Top/end print margin / 023021	Manual image	11	10	×	×
Side mask range / 023022	Manual image	12	11	×	×
X-direction image position / 023024*2	Manual image	(8)	×	×	(7)
Y-direction image position / 023025*2	Manual image	(7,8)	(6,7)	(4,5)	(6,7)
Print Head overlap amount / 023026*2	Manual image	(8)	×	×	(7)
Print Head density compensation / 023023 (023123)*2	Manual image	×	×	×	(8,9)

*1: The adjustment items which are prepared to enable separate execution of the adjustment item "Print timing-fine & overlap width"

*2: The adjustment items which are prepared to enable manual execution of the corresponding ones whose adjustment is to be automatically made

[Note]

- 1. Always execute "Transfer Belt stretch data clear" and "Transfer Belt maintenance count reset" before taking the adjustment step "Print timing-fine & overlap width" (or "Print timing-fine").
- 2. Image adjustment may not be correctly made if it is executed in a wrong order. This does not apply to standalone functions. (Refer to 1-1. "Image Adjustment Parameters.")
- Always enter the corresponding profile data (AL values and recommended voltage values) first through the test mode TM023027 when replacing the Print Head. (Refer to "Step 4: Setting print head parameters" on page 11-39 in Chapter 11 "Ink Flow Section."
- 4. Use the Print Head adjustment-added replacement jig when adjusting the Print Head mounting position. (Refer to 1-4 "Print Head Replacement" in Chapter 11 "Ink Flow Section.")

1-6. Image Adjustment Parameter List

ltem	Test mode No.	Allowable value range	Setting value range	1-step shift range	Shift direction	Pattern type	Sheet placement for scan
Print Head angle adjustment	023004	±1 or less	_	1/8 turn (1 turn = 56 μm)	[+] = Screw clockwise / The front end moves up.	5	With 3-4 mm gap / Stage Cover opened
Print Head position adjustment	023005	±1 or less	<u>+</u> 0.5mm	1/8 turn (1 turn = 40 μm)	[+] = Screw clockwise / The print head moves to the front.	2	With 3-4 mm gap / Stage Cover opened.
Transfer Belt direction adjustment	023002	±1 or less	<u>+</u> 15	1 step (= 0.032 mm) 15 steps (= 0.48 mm)	[+] = Counter- clockwise (To the left)	2	With 3-4 mm gap / Stage Cover opened
Registration Roller direction adjustment	023003	<u>+</u> 0.1mm or less	<u>+</u> 1 mm	1 step (Eccentric cam = 10 μm / With a feeler gauge	[+] = More gap	2	With 3-4 mm gap / Stage Cover opened

<Functions for calculating parameters for adjustment mechanisms>

Note 1: Print a measurement pattern sheet and scan it at 400dpi. Then make a manual adjustment. Note 2: A measurement pattern sheet should be appressed against the Stage Glass.

<Functions for updating parameters automatically (automatic image adjustment)>

ltem	Test mode No.	Recommended print quantity	Pattern type	Sheet placement for scan
Print timing rough adjustment	023001	1 to 2 sheets	1	Without gap / Stage Cover closed
Print timing fine & overlap width adjustment	023006	4 to 5 sheets	2	With 3-4mm gap / Stage Cover opened.
Print timing fine adjustment	023010	4 to 5 sheets	2	With 3-4mm gap / Stage Cover opened
Overlap width adjustment	023011	4 to 5 sheets	2	With 3-4mm gap / Stage Cover opened
Image elongation adjustment	023009	_	2	With 3-4mm gap / Stage Cover opened
Print head density adjustment	023008 / 023108	-	3	Without gap / Stage Cover closed

Note 1: Print a measurement pattern sheet and scan it at 400dpi.

Note 2: A measurement pattern sheet should be appressed against the Stage Glass when the Stage Cover is opened.

ltem	Test mode No.	Target value	Allowable value range	Setting value range	1-step shift range	Shift direction
Print Head edge density adjustment	023007	-	-	1 to 20	-	_
Top/end print margin adjustment	023021	Top-5.0 End-2.5	<u>+</u> 0.5	<u>+</u> 70 (<u>+</u> 100 for end margin with Top Edge Sensor 1)	1 (=0.1mm) 1 mm = 10	Top: [+] = More margin End: [+] = Less margin
Side mask range adjustment	023022	2.5	<u>+</u> 0.5	<u>+</u> 100	1 (=0.1mm) 1 mm = 10	[+] = More mask (margin)
Print Head density compensation	023023 / 023123	-	_	<u>+</u> 100	1 (=0.01V)	[+] = Darker
X direction adjustment	023024	0	<u>+</u> 1 dot	<u>Note 1</u>	1 (=1/85 dot) 1 mm = 1000	[+] = To the left (the rear side)
Y direction adjustment	023025	0	<u>+</u> 1 dot	<u>+</u> 3000	[For color K] 1 (=1/64 dot) 1 mm = 756 [For color C, M, Y or G] 1 (=1/32 dot) 1 mm = 378	[+] = To the bottom of page
Print Head overlap amount adjustment	023026	-	-	<u>(Note 2)</u> to 3000	1 (= 1 μm) 1 mm = 1000	[+] = Less overlap amount
Image expansion correction	026005	-	_	960 to 1040	1 (= 0.1%)	[+] = Extended

<Functions for specifying parameters manually (manual image adjustment)>

Note 1: The absolute value of TM 023024 should be smaller than the minimum absolute value in the TM023026 parameter list. When the minimum absolute value is 2000, for example, the setting value range in TM 023024 is "-1999 to +1999."

Note 2: The minimum value of TM 023026 should be larger than the maximum absolute value in the TM023024 parameter list. When the maximum absolute value is 2000, for example, the minimum setting value in TM 023026 is "2001."

<Comparison table between automatic and manual image adjustments>

ltem	Automatic image adjustment	Manual image adjustment		
Y-direction print position	Print timing rough adjustment / 023001	Y direction adjustment / 023025		
adjustment	Print timing fine adjustment / 023010	r direction adjustment / 020020		
X-direction print position		X direction adjustment / 023024		
adjustment	Overlap width adjustment / 023011	Print Head overlap amount adjustment / 023026		
Print Head print density adjustment	Print Head density adjustment / 023008 & 023108	Print Head density compensation / 023023 & 023123		
Image stretch/shrinkage compensation	Image elongation adjustment / 023009	Image expansion correction / 026005		

<<Supplement>>

[Parameter data storage and retrieval]

ltem	Test mode No.	Descriptions		
Resident image adjustment data storage	023041	Stores the current image adjustment parameter data registered on the Engine Control PCB into the SSD.		
Stored image adjustment data retrieval	023042	Retrieves the image adjustment parameter data which was stored in the SSD through the above-described test mode (TM 023041).		
Adjusted image adjustment data storage	043011	Stores the updated image adjustment parameter data into the dedicated data backup area on the Engine Control PCB.		
SSD data storage	013044	 Stores (copies) the data saved in the SSD into a USB drive. <data procedure="" storage=""></data> (1) Insert a USB drive to the printer and execute TM 013044 (SSD VALUE STORE). (2) Turn off and on the printer with the sub power key. (3) Storing (copying) is performed during startup of the printer. (4) Remove the USB drive after the startup of the printer is completed. [Information to be retained] Information that can be set in administrator mode / User information, group information and card ID / Job management information / Stock management information / Favorites and POP information / Account records (current and history) / REv and Remote Agent data / Setting values of test modes related to data edition to be saved in SSD [Information not to be retained] Job data and data saved in boxes / Non-volatile mirrored data of the Engine Control PCB / Temporarily saved data for image adjustment [Note] Executing TM 013044 or TM 013045 immediately after inserting a USB drive may cause W349-0280-6. In this case, take the following action. (1) Insert a USB drive, wait five seconds and execute the test mode. (2) If W349-0280-6 occurs, execute the test mode again. 		
SSD data retrieval	013045	 Retrieves (copies) the stored data from a USB drive into the SSD. * This test mode item is not displayed in the menu. It can be executed only by inputting the test mode item number with numeric keys. Besides, the test mode item name is not displayed in the operation screen (to hide the operation mechanism of this test mode). <data procedure="" retrieval=""></data> (1) After replacing SSD, insert a USB drive containing the data for restoration into the printer and execute TM 013045 (SSD VALUE RESTORE). (2) Turn off and on the printer with the sub power key. (3) Restoring is performed during startup of the printer. (4) Remove the USB drive after the startup of the printer is completed and press the sub power key to restart the printer. (5) After the startup of the printer is completed, confirm that the required data is restored successfully. * For information to be retained, see the descriptions of TM 013044. [Note] Executing TM 013044 or TM 013045 immediately after inserting a USB drive may cause W349-0280-6. In this case, take the following action. (1) Insert a USB drive, wait five seconds and execute the test mode. (2) If W349-0280-6 is displayed, execute the test mode again. 		

2. Image Adjustment Test Modes

2-1. Image Adjustment Test Mode Menu

Test Mode	To finish, press the HOME key							
02 6 077	All	<u>S</u> ensor	<u>D</u> rive	<u>U</u> nit	Initialize	Data <u>M</u> onitor	Data <u>E</u> dit	
Category	023001 PRINT TIMING ROUGH ADJUSTMENT							
[02]Image	023002 BP DIRECTION ADJUSTMENT							
	023003	03 REGISTRATION ROLLER DIRECTION ADJ						
	023004	HEAD ANGLE ADJUSTMENT						
	023005	HEAD POSITION ADJUSTMENT						
	023006	PRINT TIMING FINE&OVERLAP WIDTH ADJ						
	023007	HEAD EDG	E DENSITY	ADJUSTME	NT			
Test Mode	To finish, p	oress the HO	ME key					
02 6 077	All	<u>S</u> ensor	<u>D</u> rive	<u>U</u> nit	<u>I</u> nitialize	Data <u>M</u> onitor	Data <u>E</u> dit	
Category	023008 HEAD DENSITY ADJUSTMENT							
[02]Image	023009 IMAGE ELONGATION ADJUSTMENT							
Adjustment	023010	023010 PRINT TIMING FINE ADJUSTMENT						
	023011	023011 OVERLAP WIDTH ADJUSTMENT						
	023021	023021 TOP END POSITION ADJUSTMENT						
	023022	SIDE MASK	(ADJUSTME	INT			$\frac{2}{4}$	
	023023	DENSITY C	OMPENSAT	ION				
Test Mode	To finish, p	oress the HO	ME key					
02 6 077	All	<u>S</u> ensor	<u>D</u> rive	<u>U</u> nit	Initialize	Data <u>M</u> onitor	Data <u>E</u> dit	
Category	023024	X DIRECTIO	ON ADJUSTI	MENT				
[02]Image	023025 Y DIRECTION ADJUSTMENT							
	023026 OVERLAP AMOUNT ADJUSTMENT							
	023027	HEAD REPI	ACEMENT	PARAMETE	R			
	023041	IMAGE AD	UST PARAN	IETER SAVE	E			
	023042 IMAGE ADJUST PARAMETER RETRIEVE							
	023043 IMAGE ADJUST FILE TRANSMIT							

[Automatic image adjustment (Operation for updating print-image-related parameters automatically)]

To calculate and update the print-image-related parameters automatically by scanning and analyzing printed measurement pattern sheets.

2-2. Print Head Angle Adjustment (TM 023004)

<< Overview>>

This operation leads the Print Heads to be perpendicular to the paper transport direction (an advancing printing sheet). From the scanned image of a printed measurement pattern, the lengthwise directions of the respective Print Heads are detected and the adjustment values required to lead all Print Heads to be perpendicular to the paper transport direction are calculated to be indicated as the number of rotations of the Print Head Angle Adjustment Screw.

<<Procedure>>

- (1) Print the Measurement Pattern 1 through the test mode TM023004.
- (2) Scan the printed Measurement Pattern 1.
- (3) Print out the adjustment value sheet.
- (4) Fit the Print Head Adjustment Jig to the Print Head whose angle is to be adjusted and fix the jig with screws.
- (5) Adjust the mounting position of the corresponding Print Head according to the adjustment values indicated on the printed sheet and then remove the Print Head Adjustment Jig.

(For how to perform manual adjustment and use the Print Head Adjustment Jig, see Chapter 11 "Ink Flow Section.")


Α	23004		Close
HEAD	ANGLE ADJUSTMENT		
(1) S	et Matt coated paper on the paper feed		
tray	and print the test pattern sneet.		Print
(2) 5	(2) Scan the test nattern sheet		
(_) -			Scan
(3) A	djust the machine		
with	the calculated parameters.	Pi pi	rint the arameters

<Printed adjustment value sheet>

Positive (+): Turn the screw clockwise. Negative (-): Turn the screw counterclockwise. (in increments of 1/8 turn)



An example of a measurement pattern print (enlarged image of Pattern 1)



RISO Inc. Technical Operations

2-3. Print Head Position Adjustment (TM 023005)

<< Overview>>

This operation leads the Print Heads to align in the lengthwise direction. From the scanned image of a printed measurement pattern, the relative positions of the Cyan/Magenta and Yellow/Gray Print Heads against the Black(K) ones are detected and the adjustment values required to lead all Cyan/Magenta and Yellow/Gray Print Heads to align with the Black(K) ones are calculated to be indicated as the rotation amount of the Print Head Position Adjustment Screw.

When adjusting the position of the Black(K) Print Head (e.g., when the Black(K) Print Head is replaced), on the other hand, apply the adjustment values (a certain or averaged measurement values) for the Cyan/Magenta and Yellow/Gray ones in the corresponding lane while inverting their positive and negative signs.

<<Procedure>>

- (1) Print the Measurement Pattern 2 through the test mode TM023005.
- (2) Scan the printed Measurement Pattern 2.
- (3) Print out the adjustment value sheet.
- (4) Fit the Print Head Adjustment Jig to the Print Head whose position is to be adjusted and fix the jig with screws.
- (5) Adjust the mounting position of the corresponding Print Head according to the adjustment values indicated on the printed sheet and then remove the Print Head Adjustment Jig.

(For how to perform manual adjustment and use the Print Head Adjustment Jig, see Chapter 11 "Ink Flow Section.")



A	23005	Close
HEA	D POSITION ADJUSTMENT	
(1) s tray	Set Matt coated paper on the paper feed and print the test pattern sheet.	Print
(2)	Scan the test pattern sheet.	Scan
(3) with	Adjust the machine of the calculated parameters.	Print the parameters

<Printed adjustment value sheet>

Positive (+): Turn the screw clockwise. Negative (-): Turn the screw counterclockwise. (in increments of 1/8 turn)



An example of a measurement pattern print (enlarged image of Pattern 2)



[13-15]

2-4. Transfer Belt Direction Adjustment (TM 023002)

<< Overview>>

This operation leads the Transfer Belt Unit to be parallel to the Print Head Holder Unit (Registration Roller). From the scanned image of a printed measurement pattern, the parallelism of the Transfer Belt Unit to the Print Head Holder Unit (Registration Roller) is detected and the adjustment value required to lead the Transfer Belt Unit to be parallel to the Print Head Holder Unit (Registration Roller) is calculated to be indicated as the amount of scale steps according to which the Transfer Belt Unit is to be shifted.

<<Procedure>>

- (1) Print the Measurement Pattern 2 through the test mode TM023002.
- (2) Scan the printed Measurement Pattern 2.
- (3) Confirm the adjustment value displayed in the said test mode window on the Operation Panel.
- (4) Adjust the securing position of the Transfer Belt Unit by shifting the corresponding adjustment lever according to the displayed adjustment value.
 - * Make sure that the Transfer Belt Unit is positioned at the bottom before the above adjustment.



<Reference alignment of Transfer Belt Unit and Registration Roller> (Top view)

RISO SQUARE WEB VERSION [13-17]



Transfer Belt Unit



- * Shift the Adjustment Lever by the adjustment value (scale step amount) indicated on the Operation Panel Display.
 - [+] : Shift to the left.
 - -[-]: Shift to the right.

2-5. Registration Roller Direction Adjustment (TM 023003)

<< Overview>>

This operation leads the Registration Roller to be parallel to the Print Head Holder Unit. From the scanned image of a printed measurement pattern, the parallelism of the Registration Roller to the Print Head Holder Unit is detected and the adjustment value required to lead the Registration Roller to be parallel to the Print Head Holder Unit is calculated to be indicated as the amount of gap to be increased or decreased beside the corresponding adjustment plate.

<<Procedure>>

- (1) Print the Measurement Pattern 2 through the test mode TM023003.
- (2) Scan the printed Measurement Pattern 2.
- (3) Confirm the adjustment value displayed in the said test mode window on the Operation Panel.
- (4) Adjust the securing position of the Registration Roller by shifting the corresponding adjustment screw according to the displayed adjustment value.

[When the gap is increased;



<Printing paper feed direction shift with Registration Roller direction adjustment>

RISO SQUARE WEB VERSION [13-19]



[Adjustment note]

- 1) Check the current Reference gap with a feeler gauge before adjustment.
- 2) Widen or narrow the Reference gap by the amount indicated on the Operation Panel Display by shifting the Adjustment Screw to the right or the left.
 - [+] : Shift to the right to widen the gap.
 - [-] : Shift to the left to narrow the gap.
- 3) Tighten the securing screws while keeping the Reference gap as adjusted without removing the feeler gauge.

2-6. Print Timing Rough Adjustment (TM 023001)

<<Overview>>

The ink ejection timing of Print Head nozzles are to be roughly adjusted through this operation to align their print positions horizontally.

In case printed images are horizontally misaligned in any sections on prints, it is required to advance or delay the ink ejection timing of the Print Head nozzles in the corresponding sections to compensate for the said misalignment.

The said compensation is normally to be made in two ways, roughly (through this operation) and then finely, to ensure print image alignment through regular image adjustment procedures.

<<Procedure>>

RISO Inc. Technical Operations

- (1) Print the Measurement Pattern 3 through the test mode TM023001.
- (2) Scan the printed Measurement Pattern 3 once or twice.

T	А	23001	Close
	PRIN	T TIMING ROUGH ADJUSTMENT	-
	(1) S tray	et Matt coated paper on the paper feed and print the test pattern sheet.	
		Sheet 2 🗸 🔺	Print
	(2) 5	can the test pattern sheet.	
			Sam

An example of a measurement pattern print (enlarged image of Pattern 3)



[13-20]

2-7. Print Timing Fine Adjustment (TM 023010)

<< Overview>>

The ink ejection timing of print head nozzles are to be finely adjusted through this operation to align their print positions horizontally.

This operation should be executed after the Print timing rough adjustment (TM023001) on the previous page. Printed images are to be strictly aligned in color and outline.

<<Procedure>>

- (1) Print the Measurement Pattern 2 through the test mode TM023010.
- (2) Scan the printed Measurement Pattern 2 four or five times.

T	А	23010	Close		
	PRIN	T TIMING FINE ADJUSTMENT			
	(1) Set Matt coated paper on the paper feed tray and print the test pattern sheet.				
IC A		Sheet 2	Print		
	(2) 5	can the test pattern sheet.			
			Scan		
	_				



2-8. Overlap Width Adjustment (TM 023011)

<< Overview>>

This operation determines the range of bordering Print Head nozzles to be operative in the respective Print Heads to ensure proper overlap of print data at the seams of neighboring Print Heads, thus preventing blank or darker vertical lines from running on prints as shown below.

This operation should be executed after the Print timing rough and fine adjustments (TM023001 and TM023010) on the previous pages.

<<Procedure>>

- (1) Print the Measurement Pattern 2 through the test mode TM023011.
- (2) Scan the printed Measurement Pattern 2 four or five times.

А	23011	Close	
OVER	RLAP WIDTH ADJUSTMENT		
(1) Set Matt coated paper on the paper feed tray and print the test pattern sheet.			
LC A	Sheet 2	Print	
(2) 5	can the test pattern sheet.		
		Scan	
4			

- When no overlap range exists;



- When the overlap range is too wide;





- When the overlap range is proper;

2-9. Print Head Density Adjustment (TM 023008 / TM023108)

<< Overview>>

The print head drive correction voltage is calculated in this operation, thus ensuring even print density among neighboring print head lanes.

<<Procedure>>

- (1) Print the Measurement Pattern 5 through the test mode TM023008 or TM023108.
- (2) Scan the printed Measurement Pattern 5 four or five times.

Ţ	А	23008		Close	
	HEAD	DENSITY ADJUSTMENT			1
	(1) S trav	et Matt coated paper on the paper feed and print the test pattern sheet.			I
70				Print	
A	(2) 5	can the test pattern sheet.			
	(3) F	esult			
					1
4	_		_		

An example of a measurement pattern print (Pattern 5)



RISO Inc. Technical Operations

2-10. Image Elongation Adjustment (TM 023009)

<< Overview>>

The lengthwise (paper-transport-direction) extension of printed images is automatically corrected through this operation.

<<Procedure>>

- (1) Print the measurement pattern 2 through the test mode TM023009.
- (2) Scan the printed Measurement Pattern 2.

T	А	23009	Close
	IMAG	E ELONGATION ADJUSTMENT	
IC	(1) S tray	et Matt coated paper on the paper feed and print the test pattern sheet.	Print
	(2) 5	can the test pattern sheet.	Scan

[Manual image adjustment (Operation for adjusting print-image-related parameters manually)]

2-11. Print Head Edge Density Adjustment (TM 023007)

<< Overview>>

The density of images printed by the Nozzles located within approx. 0.5mm from both side edges of the respective Print Heads is to be adjusted through this operation to prevent seam lines from appearing between neighboring Print Heads due to heightened print density resulting from duplicated ink drops from neighboring Print Head Nozzles.

The number (volume) of ink drops ejected from the said Print Head Nozzles is adjusted by applying the corresponding correction coefficients to their basic values according to the configuration of parameters specified in this test mode.

The Overlap width adjustment (TM023011) is required to be made in advance to determine the Print Head Nozzles whose ink ejection volume is to be adjusted in this operation.

<<Procedure>>

- (1) Enter the test mode TM023007 and specify the color for which the Print Head edge density is to be adjusted.
- (2) Touch the [Proof] button and print the measurement pattern 4.
- (3) Check the printed measurement pattern 4 and mark solid blocks where a seam line appears least apparent in the columns 1 to 5, at 10 points in total as shown in the figure on the following page.
 - * If blank or darker vertical lines appear in solid blocks, re-adjust the overlap width (range) of Print Head Nozzles through the test mode TM023011 and make this adjustment all over again.
- (4) Enter the ID numbers of marked solid blocks into the corresponding entry fields in the displayed screen. The solid blocks are numbered in order (1 to 20) from the top to the bottom in the respective columns.
 - * Be careful not to take the numbering in reverse order or enter the ID numbers into wrong entry fields. You can find a location mark at the top left corner of the solid block column section on a pattern print.
 - * The bigger the ID number is, the lighter the printed image density becomes at the print head edges.



2-12. Top / End Margin Adjustment (TM 023021)

<< Overview>>

The top and bottom (end) margins on prints are to be adjusted by changing the corresponding parameters related to the Top Edge Sensors 1 and 2 through this operation. The top margin is defined as the distance by which a feeding sheet advances after its leading edge is detected by the Top Edge Sensors 1 and 2 before images start to be printed on it, while the bottom (end) margin is determined as the distance by which a printed sheet advances after the Top Edge Sensor 1 detects its trailing edge before the operation of the Print Heads finishes.

<<Procedure>>

- (1) Enter the test mode TM023021 and select the sensor, 1 or 2, whose parameters are to be adjusted.
- (2) Touch the [Proof] button for the selected sensor and print the measurement pattern 6.
- (3) Measure the top and bottom (end) margins on the given pattern print and change the parameter value or values for the corresponding sensor in the displayed screen so that the top and bottom (end) margins may be confined within expected ranges, i.e. 5mm at the top and 2.5mm at the bottom (end).
 - * The per-step variation range: 0.1mm (10 steps=1mm)
 - * The positive (+) value variation direction: More margin for the top edge / Less margin for the bottom (end) one

For Top edge 🔪	A TOP	23021 END POSITION ADJUSTME	NT	Cancel	ОК	
sensor 1	Sen	isor 1	Trailing and mark lengt			1
For Top edge sensor 2	C A Sen	4 × A			Proof	- Refer to
	Тор	-11 🔽 🔺	Trailing end mask lengt	h	Proof	the note below.

[Note]

- If no measurement pattern is printed at the bottom end of the given pattern print, it is assumed that no bottom (end) margin is currently provided. In this case, add a required bottom (end) margin first by changing the parameter setting for the Top Edge Sensor 1.
- The parameter setting for the Top Edge Sensor 2 has no influence on the bottom (end) margin width to be adjusted through this operation. Therefore, it is sufficient to change the same one for the Top Edge Sensor 1 alone to adjust the bottom (end) margin width.

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2-13. Side Mask Adjustment (TM 023022)

<< Overview>>

The side margins on prints are to be adjusted through this operation. The side margins adjusted here are to be equally applied to all colors.

<<Procedure>>

- (1) Confirm which parameter is selected in the [Printable Area] option in the Administrator menu, "Standard" or "Maximum."
- (2) Enter the test mode TM023022 and print the measurement pattern 7 by touching the [Proof] button..
- (3) Measure the left and right side margins on the given pattern print and change the parameter values in the displayed screen so that the side margins may be confined within expected ranges, i.e. 2.5mm for "Standard" and 0.5mm for "Maximum" printable area.
 - * The per-step variation range: 0.1mm (10 steps=1mm)
 - * The positive (+) value variation direction: More margin



2-14. X Direction Adjustment (TM 023024)

<< Overview>>

The horizontal (X-direction) ink drop landing positions are to be adjusted for horizontal color layer alignment through this operation for individual color C, M, Y and G Print Head Nozzle Arrays while comparing them with the counterparts for color K as reference.

<<Procedure>>

- (1) Enter the test mode TM023024 and print the measurement pattern 9 by touching the [Proof] button.
- (2) Check printed patterns for alignment with color K lines for the respective colors C, M, Y and G in each numbered column representing the mounting position of Print Heads and change the corresponding parameter values in the displayed screen so that all color C, M, Y and G lines may be aligned with the color K ones.
 - * The per-step shift range: 1/85 dot (1000 steps=1mm)
 - * The positive (+) value shift direction: To the left (rear) side



An example of a measurement pattern print (Pattern 9)



If horizontal ink drop landing positions are not aligned, K/C, K/M, K/Y or K/G vertical lines do not fully overlap and gaps or dark color bands appear between solid color blocks.

2-15. Y Direction Adjustment (TM 023025)

<< Overview>>

The ink ejection timings from the print head nozzle arrays are to be adjusted for vertical color layer alignment through this operation for individual colors K, C, M, Y and G.

<<Procedure>>

- (1) Enter the test mode TM023025 and print the measurement pattern 10 by touching the [Proof] button.
- (2) Check printed patterns for alignment with color K lines for the respective colors K, C, M, Y and G in each numbered section representing the mounting position of print heads and change the corresponding parameter values in the displayed screen so that all color K, C, M, Y and G lines may be aligned with the color K ones.

It is recommended that the color K lines in the section 3 or 4 should be aligned first as reference before make adjustments for other colors, including color K in other sections than the said reference one.

- * The per-step shift range: 1/64 dot (756 steps=1mm) for color K / 1/32 dot (378 steps=1mm) for other colors C, M, Y and G
- * The positive (+) value shift direction: To the bottom of page



An example of a measurement pattern print (Pattern 10)



2-16. Print Head Overlap Amount Adjustment (TM 023026)

<< Overview>>

The overlap ranges of images printed by the edge nozzle lanes of neighboring Print Heads are to be adjusted through this operation for individual colors K, C, M, Y and G.

<<Procedure>>

- (1) Enter the test mode TM023026 and print the measurement pattern 11 by touching the [Proof] button.
- (2) Check printed patterns for overlapped image range between the sections representing the mounting position of print heads for the respective colors K, C, M, Y and G and change the corresponding parameter values in the displayed screen so that no gap nor dark color band may appear in a gradation color bar in any color.
 - * The per-step variation range: 1µm (1000 steps=1mm)
 - * The positive (+) value variation direction: Less overlap range



An example of a measurement pattern print (Pattern 11)



If the overlap image range is not properly defined, vertical gaps or darker color bands appear in the gradation color bars of the corresponding colors.

2-17. Print Head Density Compensation (TM 023023 / TM023123)

<< Overview>>

The Print-Head-originated unevenness of density in printed images is to be corrected through this operation for individual colors K, C, M, Y and G while changing the level of the voltage applied to the corresponding Print Head.

<<Procedure>>

- (1) Enter the test mode TM023023 (or TM023123) and print the measurement pattern 8 of the color whose print density balance is to be checked, i.e. K, C, M, Y, G, YC (light green) or YM (orange), by touching the corresponding color name button in the [Proof] line.
- (2) Check printed patterns for print density balance over the sections representing the mounting position of Print Heads for the selected color and change the corresponding parameter values in the displayed screen so that print density may become even over all said sections.
 - * The per-step variation range: 0.01V
 - * The positive (+) value variation direction: Darker in density



An example of a measurement pattern print (Pattern 8)





[Note]

- If it is difficult to correct the print density balance, especially after replacing multiple Print Heads of the same color simultaneously, it is recommended to correct the print density balance through an automatic image adjustment application software.
- If it is difficult to check the print density balance for color Y, you can apply an optical filter to a measurement pattern print to facilitate the recognition of density unevenness in pattern images or check it with the measurement pattern print for color YC or YM.

3. Image Adjustment Application

A dedicated application software, which is intended to be installed on a mobile PC with a portable scanner connected, is available for image adjustment on the printer which is not equipped with the Scanner HS7000.

Measurement pattern prints are scanned on the said portable scanner and their image data are sent to the printer's system through this application over the network for automatic image adjustments on the printer.

3-1. Required System Configuration

- Applicable OS: Windows 10/8/8.1/7
- Connection: a regular LAN cable between a PC and the LAN port for PC (LAN0) on the printer
- [Note] The PC IP address should be reconfigured for image adjustment before running this application to allocate a unique address to the corresponding PC under the same network segment (Subnet mask) as of the printer.

3-2. Application Overview

- [SELECT SOURCE] screen: To select a source scanner model.
- [SELECT IP ADDRESS] screen: To specify the IP address of the connected printer.
- [SCAN] screen: To select the scanning conditions, i.e. resolution and paper size, and initiate a scanning action.

[Screen 1]	[Screen 2]
Select Source: Source: CaneScan LibE 220 200 (32-32) EPSON DS-5D000 5.31 (32-32) EPSON DS-5D000 #0.000 5.31 (32-32) EPSON ES-10000 8.49 (32-32) EPSON ES-611000 3.49 (32-32) Select WIA-EPSON GT-S650 1.0 (32-32) Cancel	Select IP address
[Screen 3] Image ADJ Tool	
Resolution Paper size © 300¢pi © 400¢pi © Letter	
Scan	
Back Finish	251

3-3. Application Usage in Image Adjustment

You should take the following steps to make image adjustments on the printer using a portable scanner through the dedicated application software.

Step	PC/Scanner	Printer	Remarks
1	Connect the scanner to your PC.	_	
2	Connect your PC to the printer	using a LAN cable.	LAN0 port on the printer
3	Run the application and select a scanner.	_	See [Screen 1] on the previous page.
4	Specify the printer's IP address.	—	See [Screen 2] on the previous page.
5	Confirm that the [SCAN] screen is displayed.	—	See [Screen 3] on the previous page.
6	_	Enter a desired image adjustment test mode.	
7	_	Touch the [Print] button there to make a measure-ment pattern print.	
8	Place the given measurment pattern print on the scanner.	_	Align the leading edge of the printed sheet to the guide edge of the scanner.
9	Select the scan resolution and paper size on the application. *1	—	
10	Click on the [Scan] button to start a scanning action.	_	
11	—	Touch the [Scan] button on the test mode screen.	
12		Exit the test mode after confirming the selected image adjustment has ended properly without any error message.	

*1: Select "300dpi" as scanning resolution and "A4" as paper size when adjusting the print density among neighboring print head lanes through the test mode TM023008 "Head Density Adjustment."

- Notes:
- You will be able to advance to Step 5 even if you set a wrong IP address in Step 4
 without confirmation communication between your PC and the printer. If your PC cannot
 communicate with the printer in the following step, therefore, click on the [Back] button to
 specify a correct IP address in the [SELECT IP ADDRESS] screen (Screen 2).
- If required to scan multiple measurement pattern prints for a selected image adjustment test mode, repeat Step 10 without advancing to Step 11 until you finish scanning all of the corresponding prints.

Chapter 14 Overall Wiring Diagrams

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1. Wiring Diagrams (Printer)

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1-03	Power Supply Section 2
1-04	Board-To-Board (Engine - Main Unit Relay)
1-05	Board-To-Board (Engine - Harness Relay, I-PF)
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1-12	Front Actuator / Paper Detection Section
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1-19	Horizontal Transfer Section
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1-26	Ink Cartridge Holder Unit Section
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1-28	Ink Tower Unit Analog Sensor
1-29	Ink Flow Path
1-30	RFID Section

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[14-4]

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RISO SQUARE WEB VERSION

[14-6]

Board-To-Board (Engine Main Unit Relay) [14-7]

RISO

SQUARE WEB

VERSION

1

1-04

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1-05.
Board
-To-Bc
oard (E
ingine
- Harr
ness F
Relay,
I-PF





1-06. Board-To-Board (Panel - Engine/Controller/IP)

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1.0

[14-9]





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1-08.

Board-To-Board

1



[14-11]





[14-12]
1-10. Interlock Area



[14-13]



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1-12. Front Actuator / Paper Detection Section





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[14-16]









Overall Wiring Diagrams

RISO SQUARE WEB VERSION

[14-18]



Overall Wiring Diagrams

RISO SQUARE WEB VERSION

[14-19]



[14-20]









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1.0

RISO SQUARE WEB VERSION [14-22]











+5V

Tray 1 Paper Detection Sensor

Tray 1 Upper Limit Sensor

Tray 2 Paper Detection Sensor

Tray 2 Upper Limit Sensor

Tray 3 Paper Detection Sensor

Tray 3 Upper Limit Sensor

+5V

B ò

Internal Paper

Merge Sensor

+5V

B

Internal Paper

Transfer Sensor 1 +5V टि 百 Internal Paper

Transfer Sensor 2

+5V

Sensor 3

-0-Internal Paper Feed

Jam Release Door Switch

B

à

È

+5V

+5V

+5V

+5V

+5V

JST. 03XR-6Y-P

JST: 03XR-6Y-P

JST: 03XR-6Y-P

JST 03XR-6Y-P

JST: 03XR-6Y-P

IST 03XR-6Y-P

JST: 03XR-6Y-P

JST: 03XR-6Y-P

JST: 03XR-6Y-P

061-53036

Internal Paper Transfer Sensor 1 Wire Harness

UL10272/AWG26

061-53036:

UL10272/AWG26

AMP: 2-292254-4 04 03 02 01

JST: 04XR-6Y-P

N.C 02 N.C 03

AMP: 2-179228-4

AMP: 179227-1 (Contact)

04

1 01

01

01 01

058-53011:

Main Unit Set Switch Lead Wire

Internal Paper Transfer JST: 03XR-6Y-P

0- 02 N.C

01

Overall Wiring Diagrams

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RISO SQUARE WEB VERSION [14-26]

CONFIDENTIAL

1-23.

Internal Paper Feed

Шe



[14-26]





RISO SQUARE WEB VERSION
[14-28]



RISO SQUARE WEB VERSION
[14-29]



Ink Supply Solenoid Valve (G)

JST: 02XR-6H-P

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VERSION

[14-30]

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Ink Tower

Unit Ink

Leve

Sensor

Overall Wiring Diagrams



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Overall Wiring Diagrams

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1-29. Ink Flow Path

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[14-32]



1-30. RFID Section



2. Wiring Diagrams (Accessories)

Drawing No.	Description
2-01	Option PCB Overall Wiring Diagram
2-02	Board-To-Board (Engine - Option)
2-03	Multifunction Finisher FG20
2-04	Auto-control Stacking Tray
2-05	Rotary Beacon Light (Patlite)
2-06	Coin/Card Vendor
2-07	Scanner HS7000
2-08	IC Card Authentication Kit / FS2100C
2-09	Face Down Finisher G10
2-10	Perfect Binder (With Option PCB)
2-11	Perfect Binder (Without Option PCB)
2-12	High Capacity Feeder Overall Wiring Diagram
2-13	HCF Power Supply Section
2-14	HCF Elevator Section
2-15	HCF Front Section / PU Section
2-16	HCF Intermediate Transport Section
2-17	HCF-Printer I/F Section
2-18	HCF Intermediate Connection Unit Section
2-19	Wrapping Envelope Finisher Overall Wiring Diagram
2-20	WEF Power Supply Section
2-21	WEF-Printer I/F Section (With Option Board)
2-22	WEF-Printer I/F Section (Without Option Board)
2-23	WEF Control PCB
2-24	WEF Drive PCB A 1
2-25	WEF Drive PCB A 2
2-26	WEF Drive PCB B 1
2-27	WEF Drive PCB B 2
2-28	High Capacity Stacker Overall Wiring Diagram
2-29	HCS Power Supply Section
2-30	HCS Switchback Section
2-31	HCS Elevator Section
2-32	HCS Switch and Interlock Section
2-33	HCS Paper Ejection Section Actuator
2-34	HCS Paper Ejection Section Sensor
2-35	HCS Offset Guide Section
2-36	HCS Paper Ejection Unit Section
2-37	HCS-Printer I/F Section (With Option Board)
2-38	HCS-Printer I/F Section (Without Option Board)

RISO SQUARE WEB VERSION
[14-35]



* Note: Connect the top LAN port to the printer when installed.





[14-36]





2-04. Auto-control Stacking Tray







* Note: Connect the Patlite as shown in either 1, 2, or 3.



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* Note: Connect the Coin or Card Vendor Unit as shown in either Reference 1, 2, or 3.

Reference 1: Connecting Only a Coin Vendor

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Reference 2: Connecting a Coin Vendor and Card Vendor



Reference 3: Connecting Only a Card Vendor



2-07. Scanner HS7000







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Overall Wiring Diagrams

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[14-43]





RISO SQUARE WEB VERSION

[14-44]

Overall Wiring Diagrams



Overall Wiring Diagrams

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[14-45]

2-12. High Capacity Feeder Overall Wiring Diagram







[14-47]

061-50030 061-50030 052-53018 XF-EV-RLY-PCB XF-EV-RLY-PCB Elevator Motor Relay Wire Harness +36V-EIL 061-50031 CN1 061-53080 MTR 01 0 01 01 XF-PFO-CTL-PCB ¢ Paper Feed Tray Movable Wire Harness MTR2 CN4 CN4 XA2P 01 01 02 02 03 03 04 04 05 05 06 06 07 07 08 08 SMP2P SMR2P MTR Elevator Motor 01 01 02 02 03 03 052-53019 Elevator Motor Drive Wire Harness MTR1 MTR MTR MTR MTR MTR GND MTR MTR MTR CN10 CN1 01 02 03 04 MTR 01 01 02 02 Paper Feed Tray Unit N.C. MTR2 XA2P 08 08 09 09 10 10 052-12030 Paper Feed Tray Wire Harness XA4P 052-1203 Paper Detection Sensor Relay Wire Harness +5145 061-53078 CN2 MTR2 MTR2 MTR2 MTR2 MTR2 GND +5V Vout 01 02 03 Relay ront Sensor Wire Harness N.C. N.C. 03 03 02 02 01 01 6 6 Vout +5V GND Vout +5V CN2 CN14 01 01 02 02 03 03 04 04 05 05 06 06 04 GND A01 A02 A03 CT3P¹ Paper Detection Senso Vout +5V MiniCT4P MiniCT4P 18 18 05 0 052-12032 03 A03 04 A04 05 A05 06 A06 07 A07 N.C. 08 A08 N.C. 09 A09 N.C. GN 19 19 20 20 21 21 22 22 MiniCT6F Paper Length Detection Sensor Relay Wire Harness +5V-S Vout Vout GND
 22
 22

 23
 23

 24
 24

 25
 25

 26
 26

 27
 27
 GND SW MiniCT6P GND CT3P Paper Length MiniCT3P MiniCT3P A10 A11
 11
 A11

 12
 A12

 13
 A13

 14
 A14

 15
 A15

 16
 A16

 17
 A17

 18
 A18

 19
 B01

 20
 B02

 21
 B03

 23
 B06

 25
 B07

 26
 B08

 27
 B09

 28
 B10
 Detection Sensor 030-51059 FE27P FE27P Safety Switch-Assembly Push Pin CN3 CN3 01 01 02 02 03 03 N.C 04 04 04 04 03 03 N.C. 02 02 01 01 GND 03 <u>a</u> 01 02 e 02 01 2 03 01 2 03 N.C. 02 -0 Ś +51 Paper Feed Tray Lower Limit Switch MiniCT4P MiniCT4P CT3P CT3P -> To 061-50064-45 \bigcirc To Paper Feed Tray Internal Grounding Section To Elevator Unit Grounding Section B11 B12 B13 B14 B15 B16 36 B18 MiniCT36P 030-51059 Safety Switch-Assembly Push Pin CN13 01 01 02 03 N.C. 04 GND N.C. 02 -0 03 02 01 Š +5V +5V GND CT3P CT3P Paper Feed Tray Upper Limit Switch 07 N.C. sw IN C 10 N.C. SW GND 058-53011 Main Unit Set Switch Lead Wire 13 N.C. 13 14 +5V N.C. 02 03 -0 Ò MiniCT14P N.C. N.C. 03 02 N.C. 01 Stripper Switch

CT4P

CT4P(Blue)

2-14. HCF

Elevator Section

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RISO SQUARE WEB VERSION

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Overall Wiring Diagrams





Overall Wiring Diagrams

RISO SQUARE WEB VERSION

[14-51]

2-18. HCF Intermediate Connection Unit Section









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Overall Wiring Diagrams

2-23. WEF Control PCB



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RISO SQUARE WEB VERSION
[14-58]

Overall Wiring Diagrams



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RISO SQUARE WEB VERSION
[14-61]





+5V

+5V

+5V





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RISO SQUARE WEB VERSION
[14-63]

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1.0







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Overall Wiring Diagrams

2-33. HCS Paper Ejection Section Actuator



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2-34. HCS Paper Ejection Section Sensor









Overall Wiring Diagrams

RISO SQUARE WEB VERSION

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RISO SQUARE WEB VERSION

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Overall Wiring Diagrams

[15-1]

Chapter 15. Electrical Components

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1. PCB Overview

1-1. PCB Types

Major PCBs

- (1) Power Supply Unit (PS33-NWW)
- (2) Heater Drive Unit
- (3) Engine Control PCB (X5-ENGINE-PCB; H)
- (4) Option PCB (XF-OPTION-PCB)
- (5) Controller PCB Unit; H2 (Controller Box)
 - Controller PCB (motherboard)
 - Image Processing PCB (XF-IP-PCB; MH)
- (6) Internal Paper Feed Drive PCB (X5-I-PF-PCB)
- (7) Head Drive PCB (X5-HDR-PCB: A3 0/1/2)

Other PCBs

- Operation Panel (Operation Panel Unit; H (En/Pic))
- Main Unit Relay PCB (X5-BODY-PCB)
- Harness Relay PCB (HNS-RLY-PCB)
- Paper Feed Tray PCB (X5-PF-TRAY-PCB)
- Ink RFID PCB (for ink cartridge detection)
- Model Code RFID PCB (for printer model detection)
- Sub Power Supply Unit (SWF240P-24)

1-2. PCB Layout



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Sub Power Supply Unit +24V/-24V



Operation Panel Unit; H (En/Pic)

Key input processing

Power supply

CF2

CF2

FPGA ROM

MCU

FPGA ROM

MCU

FPGA ROM

MCU

Sele

Analoc

Select

Analog

Analog

DC-DC x12

Head voltage

DC-DC

lead voltage

DC-DC x12

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Configuration

PCB

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2. PCB Function and Replacement

2-1. Controller PCB

[Replacement prerequisites]

- (1) The Backup Battery should be installed on the replacement Controller PCB.
- (2) The Main Memory should be installed on the replacement Controller PCB.

[Replacement procedure]

- (1) Turn off the printer and the main power switch.
- (2) Remove the Rear Cover and Rear Right Side Cover.
- (3) Remove the securing screws on the Controller PCB Unit (Controller Box) and put the unit (box) in the maintenance position. (IT3C screw 3×8 (4 pcs))
- (4) Remove the Controller Box Cover. (Double-washer screw 3×6 (3 pcs))



- (5) Disconnect connectors.
- (6) Remove the Image Processing PCB. (Refer to "2-4. Image Processing PCB" in this chapter.)
- (7) Replace the Controller PCB. (Double-washer screw 3×6 (4 pcs) and Hex screw (2 pcs)).
- (8) After replacing the Controller PCB, set date and time through the "Clock/Date" option in the Administrator Menu.



[Functions]

The Controller PCB has the following functions.

Data conversion

Converts the data received from a computer, scanner or USB drive into graphical ones.

- <Original data format to be received>
- From a computer: RINC/CIV format data (unique compressed bitmap-based data) generated with a dedicated GDI printer driver.
- From a scanner: CMYK image data, which are also to be resized, rotated 90 degrees or paginated on the printer.

Data transfer

Transfers the converted graphical data to the Image Processing PCB.

Job management

Manages requested jobs whose data are received from a computer or a scanner.

Operation panel unit control

Controls the Operation Panel Unit.

Firmware program download

Imports firmware package files from a USB drive and updates them on the corresponding PCBs, including the ones for optional devices.

System control

Controls the overall system on the printer.

Scanner control

Controls an optionally connected scanner, i.e. Scanner HS7000.

User authentication

Controls an optionally connected user authentication device.

Data backup for Engine Control PCB

Backs up the mechanical parameters and counter values saved in the Engine Control PCB into the SSD.

Image adjustment

Refer to Chapter 13.

External interface control

Controls the signal connection and data communication with external devices.



* Viewed from the bottom of the printer.

LAN1 port: For extra use LAN0 port: For PC USB port (2 ports (USB3.0 x 2)): For scanner, IC card authentication kit or USB drive

2-2. SSD

[Replacement prerequisites]

The Engine Control PCB or the printer model card should not be replaced together with the SSD.

[Replacement procedure]

- (1) Turn off the printer and the main power switch.
- (2) Remove the Rear Cover and Rear Right Side Cover.
- (3) Remove the securing screws on the Controller PCB Unit (Controller Box) and put the unit (box) in the maintenance position. (IT3C screw 3×8 (4 pcs))
- (4) Remove the Controller Box Cover. (Double-washer screw 3×6 (3 pcs))
- (5) Replace the SSD. (Double-washer screw 3x4 (4 pcs))
- (6) Turn on the printer and download the same package version of firmware as before replacement or an updated one. Unexpected operations may be noted if an older package version of firmware is downloaded.
- (7) After the printer automatically restarts, execute the test mode TM 014012 "EXCHANGE SSD INITIALIZE."
- (8) Reboot the printer and enter the Administrator mode settings and user account data.



[Guided SSD Replacement Procedures]

Step 1: Remove the damaged SSD.



Step 2: Install a new SSD and reboot the printer.





Step 3: Download the same package version of firmware as before SSD replacement_or an updated one.





Step 4: The printer will be automatically rebooted after the firmware download is completed.

Step 5: Execute the test mode TM 014012 "EXCHANGE SSD INITIALIZE."

Step 6: Restart the printer and enter the Administrator mode settings and user account data.


2-3. Battery

[Replacement procedure]

- (1) Turn off the printer and the main power switch.
- (2) Remove the Rear Cover and Rear Right Side Cover.
- (3) Remove the securing screws on the Controller PCB Unit (Controller Box) and put the unit (box) in the maintenance position. (IT3C screw 3x8 (4 pcs))
- (4) Remove the Controller Box Cover. (Double-washer screw 3x6 (3 pcs))
- (5) Cut off a zip tie and detach the Battery from the Controller PCB.
- (6) Attach a new Battery and fix it with a zip tie to the PCB.
- (7) Turn on the printer and set date and time through the "Clock/Date" option in the Administrator Menu.



[15-14]

2-4. Image Processing PCB

[Replacement procedure]

- (1) Turn off the printer and the main power switch.
- (2) Remove the Rear Cover and Rear Right Side Cover.
- (3) Remove the securing screws on the Controller PCB Unit (Controller Box) and put the unit (box) in the maintenance position. (IT3C screw 3x8 (4 pcs))
- (4) Remove the Controller Box Cover. (Double-washer screw 3x6 (3 pcs))





- (5) Disconnect connectors.
- (6) Remove the Image Processing PCB from the Controller PCB Unit (Controller Box). (Double-washer screw 3x6 (3 pcs))
- (7) Replace the Image Processing PCB. (Binding screw 3x6 (6 pcs))
- (8) Turn on the printer and download the same package version of firmware as before replacement or an updated one. Unexpected operations may be noted if an older package version of firmware is downloaded.





[Functions]

Processes the graphical data (image data), which are generated on and transferred from the Controller PCB, in the ways described below, and sends them to the Head Drive PCB. <Processing on the Image Processing PCB>

- Divides data to be allocated to individual Print Heads.
- Compensates the print position by Print Heads.
- Adjusts the overlap amount of print data by neighboring Print Heads.
- Adjusts the print density balance among Print Heads.
- Adjusts the margin amount to be provided around print images.

2-5. Head Drive PCB (0: Y&G / 1: C&M / 2: K)

[Replacement procedure]

- (1) Turn off the printer and the main power switch.
- (2) Put the Ink Cartridge Holder Unit in the maintenance position. (Refer to Chapter 2.)
- (3) Dismount the Horizontal Transfer Unit. (Refer to Chapter 8.)
- (4) Remove the Horizontal Transfer Guide Rail. (Double-washer screw 4×8 (2 pcs))
- (5) Remove the Print Head Holder Top Cover. (Round tip IT3C screw 3×8 (4 pcs))
- (6) Disconnect the Flexible Print Head Cables (FPCs [Flexible Printed Circuits]) from the Head Drive PCB.
- (7) Disconnect connectors.

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- (8) Loosen the securing screws on the Head Drive PCB Bracket and slide off the bracket. (Double-washer screw 3×8 (2 pcs each))
- (9) Detach the Head Drive PCB from the bracket and attach a new one there. (Double-washer screw 3x6 (6 pcs))
- (10) Turn on the printer and download the same package version of firmware as before replacement or an updated one. Unexpected operations may be noted if an older package version of firmware is downloaded.



[Note]

- It may be easier to disconnect wires and a LAN cable from the Head Drive PCB and reconnect them during PCB replacement if they are made slack on the rear side of the printer in advance, by opening wire saddles (at 9 locations) and release running wires and cables as shown below. To handle the said wires and cables, remove the Rear Cover and put the Control PCB Unit (Control Box) and the Ink Tower Unit in the maintenance position.
- It is also recommended to make slack the said wires and cables when relocating the Head Drive PCBs to replace or adjust the Print Heads.



<LAN cable wiring for the respective Head Drive PCBs>



2-6. Engine Control PCB

[Replacement prerequisites]

- (1) The Engine Control PCB should not be replaced together with the SSD or the printer model card.
- (2) The Engine Control PCB should be a brand-new one when replaced.

[Replacement procedure]

- (1) Turn off the printer and the main power switch.
- (2) Remove the Rear Cover.
- (3) Disconnect connectors.
- (4) Remove the Option PCB if it is installed. (Double-washer screw 3×6 (4 pcs))
- (5) Dismount the existing Engine Control PCB and mount a new one. (Binding screw 3×6 (9 pcs))
- (6) Turn on the printer and download the same package version of firmware as before replacement or an updated one. Unexpected operations may be noted if an older package version of firmware is downloaded.

When the firmware download is completed and the printer is restarted, the counter values and the test mode parameters required for the Engine Control PCB are automatically retrieved from the SSD and written into the flash memory on the Engine Control PCB.





[Guided Engine Control PCB Replacement Procedures]

Step 1: Execute the test mode TM 013041 "TEST MODE VALUE STORE" to store the test mode parameter values related to data edit into the SSD if possible.

Step 2: Dismount the existing (damaged) Engine Control PCB.

↓ Remove PCB



Step 3: Mount a new Engine Control PCB and reboot the printer.

SSD	Engine control PCB (new)
Data storage area for engine control PCB Adjustment values for engine control PCB (including image adjustment values) O Counter data	Adjustment value storage area Adjustment values for engine control PCB (including image adjustment values) O Counter data
User information storage area Administrator mode settings User account data Image adjustment value backup area Image adjustment data	Adjustment value backup area Adjustment values for engine control PCB (including image adjustment values) O Counter data
Firmware storage area	Firmware storage area



Step 4: Download the same package version of firmware as before replacement or an updated one.



<Notes on replacement of the Engine Control PCB>

When replacing the Engine Control PCB, make sure to back up the current parameter values specified for the printer through the test modes concerning data edition, which are stored in the memory on the Engine Control PCB and whose details are described in 4-6. "Data Edit (E)" modes in Chapter 17.

Always execute the test mode TM 013041 (TEST MODE VALUE STORE) to save the test mode parameter values in the SSD before replacing the Engine Control PCB if possible, which can be retrieved from the SSD through the test mode TM 013042 (TEST MODE VALUE RESTORE) after replacing the Engine Control PCB.

[Functions]

The Engine Control PCB has the following functions.

- Power supply control (transition to and recovery from the sleep mode)
- System management (printer model code management, internal data management, error processing and execution of test modes)
- Ink supply control (ink identification, filling, circulation and replenishment as well as waste ink disposal)
- Print Head maintenance control (Print Head cleaning, etc.)
- Paper transport control
- Print control (image creation and adjustment)
- Optional device control
- · Control of actuators, sensors, etc. required for the functions above

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2-7. Main Unit Relay PCB

[Replacement procedure]

- (1) Turn off the printer and the main power switch.
- (2) Remove the Rear Cover.
- (3) Remove the securing screws on the Engine Control PCB and put the PCB in the maintenance position. (IT3C screw 3x8 (4 pcs))
- (4) Disconnect connectors.
- (5) Remove the existing Main Unit Relay PCB and attach a new one. (Binding screw 3×6 (4 pcs))



2-8. Internal Paper Feed Drive PCB

[Replacement procedure]

- (1) Turn off the printer and the main power switch.
- (2) Remove the Rear Cover.
- (3) Remove the securing screws on the Sub Power Supply Unit and turn open the unit. (IT3C screw 3x8 (4 pcs))
- (4) Disconnect connectors.
- (5) Remove the existing Internal Paper Feed Drive PCB and attach a new one. (Binding screw 3×6 (4 pcs))





2-9. Power Supply PCB (Power Supply Unit)

[Replacement procedure]

- (1) Turn off the printer and the main power switch.
- (2) Press the sub power key on the Operation Panel to discharge the Power Supply PCB.
- (3) Remove the Rear Cover and Rear Left Side Cover.
- (4) Disconnect connectors.
- (5) Dismount the existing Power Supply Unit and mount a new one. (IT3C screw 3×8 (4 pcs))



[Note]

If you want to detach the Power Supply PCB from the whole unit, remove the Power Supply PCB Cover (IT3C screw 3×6 (5 pcs)) and remove the securing screws (IT3C screw 3×6 (12 pcs) on it.



[Functions]

Supplies required voltages to all devices including optional ones. The supplied voltages are +5 V, +12 V, \pm 24 V and +35.5 V, which are then subdivided according to the consuming system.

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2-10. Sub Power Supply PCB

[Replacement procedure]

- (1) Turn off the printer and the main power switch.
- (2) Press the sub power key on the Operation Panel to discharge the Power Supply PCB.
- (3) Remove the Rear Cover.
- (4) Remove the Sub Power Supply PCB Cover. (Double-washer screw 3x8 (4pcs))
- (5) Disconnect connectors (3 pcs each).
- (6) Dismount the existing Sub Power Supply PCB and mount a new one. (Binding screw 3×6 (4 pcs each))



2-11. Option PCB

Communicates with the paper-feeding-or-finishing-related and system-related optional devices.

2-12. Fuses and Voltages

[Fuse list]

Power Supply PCB

Fuse	Rating	Voltage to be controlled	Power supply PCB Connector Pin No.	PCB to be controlled	Component to be controlled
F001	15A	AC input	_		For failure in primary circuit
F804	3.15A	+35.5V(OP)	CN3-3	Option PCB CN9	35.5 V for optional devices
F803	3.15A	+35.5V(H)	CN6-1,2,3	Head drive PCB CN22	For driving Print Heads
F903	3.15A	+24V(OP)	CN4-3	Option PCB CN9	24 V for optional devices
F902	8A	+24V(H)	CN5-1,5	Head drive PCB CN22	For driving Print Heads
F901	8A	-24V(H)	CN5-3,7	Head drive PCB CN22	For driving Print Heads

* Only replaceable fuses are listed in the table above. (F401 and F501 should not be replaced.)

Heater Drive PCB

Fuse	Rating	Power supply system	Heater drive PCB Connector Pin No.	PCB to be controlled	Component to be controlled
F002	10A	AC input	CN020-1,5	_	Ink heater



<Power Supply PCB (layout of connectors and fuses)>

[Caution] Be careful of electric shock due to possible remaining electric charge within this section.



<Heater Drive PCB (layout of connectors and fuses)>

[Caution] Be careful of electric shock due to possible remaining electric charge within this section.

<Sub Power Supply PCB (layout of connectors and fuses)>



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[15-29]

Voltage	Destination
+12V	Controller PCB Unit Image Processing PCB (XF-IP-PCB) Operation Panel LCD display
+5VSB	Operation Panel Unit
+35.5V(A)	35.5V Actuators
+35.5V(OP)	Option PCB (XF-OPTION-PCB)
+35.5V(H)	Head Drive PCB (X5-HDR-PCB) Print Heads
+24V(A)	24V Actuators
+24V(OP)	Option PCB (XF-OPTION-PCB)
+24V(H)	Head Drive PCB (X5-HDR-PCB) Print Heads
+5V	Engine Control PCB (X5-ENGINE-PCB) Main Unit Relay PCB (X5-BODY-PCB) Internal Paper Feed Drive PCB (X5-I-PF-PCB)
-24V(H)	Head Drive PCB (X5-HDR-PCB) for color K Print Heads for color K
+24V(SUB)	Head Drive PCB (X5-HDR-PCB) for other colors than K Print Heads for other colors than K
-24V(SUB)	Head Drive PCB (X5-HDR-PCB) for other colors than K Print Heads for other colors than K

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3. Interlock Circuits

The interlock circuits disable the operation of components, such as gear mechanisms, to ensure operator's safety while an operator is touching the inside of the printer, for example to remove jammed sheets.



4. Downloading Firmware Data

4-1. Firmware Data Types and Configuration

The firmware data whose types are shown in the table below are contained in the LIALL package and provided through a USB drive.

Firmware type		Functions	Storage location
	LIPS	 Printer system control Print job management User interface Network interface 	SSD
LREG	 Printer operation control Paper transport control Ink supply control Optional device control 	Engine Control PCB	
	LIALL	 Data transfer (Controller PCB → Head Drive PCB) 	Image Processing PCB
LIALL		Print Head operation control	Head Drive PCB
		 Operation Panel control Key control LED control Touch panel control 	Operation Panel PCB
	LRGFB	Scanner controlImage scanningImage processing	Scanner Main PCB
LRGAF		 Scanner Auto Document Feeder control Paper transport control 	Auto Document Feeder Main PCB

4-2. Notes on Downloading Firmware Data

To download the firmware data, use a USB drive that contains only one revision of GL series firmware data package (LIALL).

[Precaution]

When preparing a USB drive for download;

- 1. Do not include any other revision of GL series firmware data.
- Do not include any other ComColor series firmware data. (Because the firmware data packages have the same identifiers among all ComColor series models, thus disabling their model recognition.)

4-3. Firmware Data Download Procedure

[Preparation for downloading]

- 1. Make sure that the printer is turned off (the sub power switch on the Operation Panel is turned off).
- 2. Insert the USB memory device containing LIALL (firmware data package) into the USB port (one of the two ports) on the right side of the Operation Panel.
- 3. Turn on the printer. (Then the preparation for data import starts.)
- 4. If an error is detected in the firmware data package, the ongoing processing is canceled and the corresponding error code (S094 or S095) is displayed. If no error is detected, the information below is displayed to request an operator to take a next action.

	1.2.003(*)	LIALL	1.3.003
-LIPS	1.2.003	-LIPS	1.3.003
-LREG	1.2.000	-LREG	1.3.000
-LRPL	2.2.003	-LRPL	2.3.003
-LRGFB	3.1.000	-LRGFB	3.1.000
-LRGAF	1.0.000	-LRGAF	1.0.000

[Starting downloading]

- 5. Check the current and new version numbers of firmware data package displayed on the Operation Panel display and take one of the following actions.
 - To download updated data only, press [Start key].
 - To replace all the current data with the new ones, press [Stop key].
 - To cancel downloading, press [Reset key].
- 6. During downloading, a message indicating that downloading is in progress is displayed. While this message is indicated, pull off the inserted USB memory device. [Note] If you fail to pull it off during the said period, a downloading process will start again.
- 7. If an error occurs during downloading, the corresponding error code (S094 or S095) is displayed, while a download error for optional devices is shown as "U***."
 - U193 (For Multifunction Finisher)
 - U194 (For Face Down Finisher)
 - U195 (Scanner)
 - **RISO Inc. Technical Operations**

LIALL	1.2.003(*)	->	1.3.003		²
LIPS	1.2.003	->	1.3.003	Done	
LREG	1.2.000	->	1.3.000		
LRPL	2.2.003	->	2.3.003		
LRGFB	3.1.000	->	3.1.000	Skip	
LRGAF	1.0.000	->	1.0.000	Skip	

[Ending downloading]

8. When the download has finished, the power will automatically turn OFF and then ON to complete the download.

Electrical Components

[Memo]

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Chapter 16. Panel Messages

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1. Definition of Words and Terms

Abbreviation	Description
AS	Auto-control stacking tray
EXF	Additional 2000 sheet feeder (Expansion feeder)
FD	Face down
FDF	Face down finisher
FU	Face-up
FW	Firmware
HCF	High capacity feeder
HCS	High capacity stacker
MFF	Multifunction finisher
PB	Perfect binder
WEF	Wrapping envelope finisher

2. Error Code Configuration

Error codes consist of 1 alphabet and 9 digits and are sectioned in the following manner.

AAAA-BBBB-CC (Example: S012-3456-78)

Each section indicates the following.

Section	Description
AAAA	Error type
BBBB	Error point
CC	Variation code

2-1. Error Type

The error type, which consists of "type code" and "section code," indicates the current error category, providing hints for required error recovery actions according to the categorized error causes.

2-2. Error Point

The error point, which is a 4-digit number (0001 to 9999), indicates the error location and status based on the error location categorization in the table below.

Error point	Error location
0001 to 0999	System related (PMS, power supply unit, software and operation panel)
1000 to 1999	Engine related (paper feed and transport)
2000 to 2499	Print head related (print head, ink)
2500 to 2999	Optional paper feed equipment related
3000 to 3999	Optional finishing or stacking equipment related
4000 to 4999	Scanner related
5000 to 5499	PS (PostScript) controller related
5500 to 5999	Other optional equipment related
6000 to 6499	Security related

2-3. Variation Code

Variation codes, which are 2-digit numbers (01 to 99), are prepared when different detection agents, processes or causes exist for a notified error event (code) as follows.

- Error detection agent (1 = PMS, 2 = Engine Control PCB, etc.)
- Error detection process (1 = PMS panel-related software, 2 = PMS printoperation-related software, etc.)
- Error causing process (1 = encryption process, 2 = decoding process, etc.)

3. Type Code

Type code	Error type	Description
S	Service engineer call	An entire-system-related trouble which requires a service engineer to be addressed.
U	Unit error	A specific-component-related trouble which requires a service engineer to be addressed.
Z	Setting check request	An operator-action-inducing error, which is triggered by the activation of an interlock switch.
Х	Paper jam	Printing paper transport error
Y	Ink-or-consumable- related notification	Insufficient volume of ink or other consumables, or excessive volume of waste ink.
W	Warning	Operational precautions or warnings
Ι	Information	Maintenance-or-ink-related notification for operators

3-1. Type Code Comparison Table

Type code	Responder	Disabled operation	Notification	Operator error recovery
S	Service	All	Anytime	Not available
U	engineer			
Z		Operations		A 'I I I /' I I'
х		affected by	During error	Available (including
Y	Operator	the notified	affected operations	voluniary receivery)
W		error event		Available (A specific action may be required.)
I	Service engineer	None		Not required

3-2. Type Code S: Service Engineer Call

[Description]

A trouble that affects the entire system and requires an intervention by a service engineer to be addressed, including the cases the said trouble occurs in a specific section of the printer while preventing its operation totally.

[Error code clearance]

Turn OFF the printer (Sub power key OFF).

* A service engineer, however, is to be required to address the root cause of the notified error event.

This error code may be cleared by pressing the Reset key on the Operation Panel when the corresponding error status can be resolved without power-off.

[System response]

<When an error occurs>

To interrupt the current operation immediately while taking care not to trigger other failures.

<Before error code clearance>

To disable other operations than test mode execution. (Even under this error code, it is possible to enter the test mode and clear the current error code to enable the execution of other desired test mode operations.)

<After error code clearance>

To reset the system while preventing the resumption of an interrupted operation.

3-3. Type Code U: Unit Error

[Description]

A trouble that affects a specific component of equipment and requires an intervention by a service engineer to be addressed, including the cases the said trouble occurs in a connected accessory, while keeping printing operation enabled.

[Error code clearance]

Press the Reset key on the Operation Panel or turn OFF the printer (Sub power key OFF).

* A service engineer, however, is to be required to address the root cause of the notified error event.

This error code can also be cleared by changing the paper source or output destination when a trouble occurs in the following sections (components).

- Paper Tray 1, 2 or 3
- Standard Paper Feed Tray
- FU Paper Ejection Section
- FD Paper Ejection Section (only when a stacking or finishing accessory is connected through the FU Paper Ejection Section)

[System response]

<When an error occurs>

To interrupt the current operation immediately while taking care not to trigger other failures.

<Before error code clearance>

To disable the operations to be executed by the component affected by the notified error event while keeping any other operations available. (Even under this error code, it is possible to enter the test mode and execute desired test mode operations.)

<After error code clearance>

To reset the system while preventing the resumption of an interrupted operation.

3-4. Type Code Z: Setting Check Request

[Description]

A request to an operator to check if a door or cover is firmly closed, which is triggered by the activation of an interlock switch.

[Error code clearance]

Close the indicated door or cover firmly to deactivate the corresponding interlock switch.

[System response]

<When an error occurs>

To interrupt the current operation immediately while taking care not to trigger other failures.

<Before error code clearance>

To disable the operations to be executed in the section including the indicated component while keeping any other operations available. (Even under this error code, it is possible to enter the test mode and execute desired test mode operations.)

<After error code clearance>

To resume an interrupted operation.

* There are some cases the interrupted operation cannot be resumed, which is noted in the [Remarks] column in the error code list.

3-5. Type Code X: Paper Jam

[Description]

A trouble in paper feed, transport or ejection.

[Error code clearance]

Remove jammed sheets and take requested actions, such as closing an indicated door or cover.

[System response]

<When an error occurs>

To interrupt the current operation immediately while taking care not to trigger other failures and to prompt an operator to remove jammed sheets inside with the corresponding error location display if required.

<Before error code clearance>

To disable the operations to be executed in the section with jammed sheets while keeping any other operations available. (Even under this error code, it is possible to enter the test mode and execute desired test mode operations.)

<After error code clearance>

To drive the corresponding paper transport mechanism to eject jammed sheets that may remain inside and to resume an interrupted operation.

* There are some cases the interrupted operation cannot be resumed, which is noted in the [Remarks] column in the error code list.

3-6. Type Code Y: Ink-or-Consumable-Related Notification

[Description]

A notification of remaining ink or other consumable volume or remaining Waste Ink Tank capacity.

[Error code clearance]

Replace the notified ink or other consumable cartridge or dismount the full Waste Ink Tank.

[System response]

<When an error occurs>

To continue the current operation as long as possible and interrupt it at a preferred timing.

<Before error code clearance>

To disable the operations to be executed with the indicated ink or other consumables, or the Waste Ink Tank, while keeping any other operations available. (Even under this error code, it is possible to enter the test mode and execute desired test mode operations.)

<After error code clearance> To resume an interrupted operation.

3-7. Type Code W: Warning

[Description]

Precautions or warnings to request an operator to suspend the current operation.

[Error code clearance]

Close the displayed error code window.

[System response]

<When an error occurs>

To continue the current operation as long as possible and interrupt it at a preferred timing.

<Before error code clearance>

None (No limited operation)

<After error code clearance>

To resume an interrupted operation.

* The steps to be taken to resume the interrupted operation may differ depending on the indicated error code, which is noted in the [Remarks] column in the error code list.

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3-8. Type Code I: Information

[Description]

Notification in relation to maintenance operation or ink handling, which does not require the interruption of the current operation.

[Error code clearance]

Close the displayed error code window. * A service engineer, however, is to be required to address the notified issue.

[System response]

<When an error occurs>
To continue the current operation while displaying the corresponding error code.
<Before error code clearance>

None (No limited operation)

<After error code clearance> None (Without an interrupted operation)

[16-11]

Panel Messages

4. Erro	Point 0001 Through 0999 (System Related)					
Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S601	1		Engine control PCB error (Check sum error)	Checksum error has been detected in communication between CPU-RX on the Engine control PCB.	Turn OFF the printer. (Sub power key OFF)	The printer stops after ejecting the sheets remaining inside.
S601	2		Engine control PCB error (Time-out error)	CPU has detected time-out error in communication between CPU-RX on the Engine control PCB.	Turn OFF the printer. (Sub power key OFF)	The printer stops after ejecting the sheets remaining inside.
S098	3		Software error on CPU (Paper feed)	The paper-feed-related control software (on the CPU side) has detected a sequence error.	Turn OFF the printer. (Sub power key OFF)	The printer stops after ejecting the sheets remaining inside.
S098	4		Software error on RX (Paper feed)	The paper-feed-related control software (on the RX side) has detected a sequence error.	Turn OFF the printer. (Sub power key OFF)	The printer stops after ejecting the sheets remaining inside.
S601	5		Engine control PCB error (Parity, overrun etc.)	The CPU has detected a hardware error (parity, overrun, etc.) with communication between the CPU and RX on the Engine control PCB.	Turn OFF the printer. (Sub power key OFF)	The printer stops after ejecting the sheets remaining inside.
S099	6		Software error on CPU (Paper feed)	An irregular status transition has been detected with the paper-feed-related control software (on the CPU side).	Turn OFF the printer. (Sub power key OFF)	The printer stops after ejecting the sheets remaining inside.
S099	7	1 to 9	Software error on RX (Paper feed)	An irregular status transition (incorrect logic) has been detected with the paper- feed-related control software (on the RX side) during the following actions. Variation code (Actions): - 1: Processing an emergency stop error - 2: Clearing an emergency stop error - 3: Processing a recovery error - 4: Clearing a recovery error - 5: Processing a curled paper feed error - 6: Making a computing - 7: Processing the receipt of an internal request - 8: Processing the completion of an internal request - 9: Detecting incorrect data	Turn OFF the printer. (Sub power key OFF)	
S099	8	1 to 4	Software error on CPU (Paper feed)	A parameter defect has been detected with the paper-feed-related control software (on the CPU side). Variation code (Details): - 1: The paper ID of the image formation notification notified from the RX of the Engine control PCB was "0". - 2: The paper ID of the image formation notification notified from the RX of the Engine control PCB could not be recognized on the SH side of the Engine control PCB could not be recognized on the SH side of the Engine control PCB could not be recognized on the SH side of the Engine control PCB CB was an undefined value. - 4: In a state where the image formation notification notified from the RX of the Engine control PCB has not been notified to the print-sequence-related software, a new image formation notification was received from the RX of the Engine control PCB has not been notified to the print-sequence-related software, a new image formation notification was received from the RX of the Engine control PCB.	Turn OFF the printer. (Sub power key OFF)	
S601	9		Engine control PCB error (5V input)	A 5 V input error of the Engine control PCB has been detected at power-on. (This is caused by a disconnected connector between the power supply unit and Engine control PCB or a failure of the power supply unit.)	Turn OFF the printer. (Sub power key OFF)	
S099	10		Software error (Paper feed)	The paper-feed-related control software has detected a sequence error of the tray elevator, which indicates that the paper-feed-related control software has received a "request of paper feed from a tray which is not in the upper limit position" from the print-sequence-related software.	Turn OFF the printer. (Sub power key OFF)	The printer stops after ejecting the sheets remaining inside.
S601	11		Firmware mismatch	The printer firmware version did not match with that of the Engine control PCB at power-on.	Turn OFF the printer. (Sub power key OFF)	
S099	12		Inappropriate output destination	The FU paper ejection unit has been specified as output destination when it is not mounted.	Turn OFF the printer. (Sub power key OFF)	
S099	13		Software error (Paper transport)	During paper transport, the next reservation or stop request has not come in within 1 minute.	Turn OFF the printer. (Sub power key OFF)	The ptinter stops.
S097	14	1 to 2	24V power supply error	A 24 V power supply error has been detected. Variation code (When): - 1: Upon activation (when the sub power is turned ON or when recovering from the sleep mode (power consumption setting: low)) - 2: During operation (after the sub power is turned ON or after recovering from the sleep mode (power consumption setting: normal))	Turn OFF the printer. (Sub power key OFF)	Variation code: - 1: An error notification is provided after the initial communication completes. If a 5 V power supply error and a 24 V power supply error are detected at the same time, only a notification of the 24 V power supply error is provided. - 2: If a 5 V power supply error and a 24 V power supply error are detected at the same time, only a notification of the 24 V power supply error is provided.
S097	15	1 to 2	5V power supply error	A 5 V power supply error has been detected. Variation code: - 1: Upon activation (when the sub power turned ON or when recovering from the sleep mode (power consumption setting: low)) - 2: During operation (after the sub power turned ON or after recovering from the sleep mode (power consumption setting: normal))	Turn OFF the printer. (Sub power key OFF)	Variation code: - 1: An error notification is provided after the initial communication completes. If a 5 V power supply error and a 24 V power supply error are detected at the same time, only a notification of the 24 V power supply error is provided. - 2: If a 5 V power supply error and a 24 V power supply error are detected at the same time, only a notification of the 24 V power supply error is provided.
W111	16		Pressure-bonded paper printing not ready	Pressure-bonded paper printing is not ready. Even though pressure-bonded paper has been specified as paper type, a paper tray without pressure-bonded paper loaded has been selected.	Execute one of the following to continue. (1) Touch the [Continue] button. [Remarks] *2 (2) Touch the [Change Tray] button and select another paper feed tray than the High capacity feed unit. [Remarks] *1 (3) Touch the [Change Tray] button, change the paper feed tray to the High capacity feed unit, and then touch the [Continue] button. [Remarks] *2 (4) Touch the [Cancel] button. (5) Delete the current print job.	*1 The job will automatically restart after the error recovery. *2 The job will be manually restarted after the error recovery.

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Panel Messages

Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S601	18	1 to 2	Engine control PCB error (Watchdog timer actuation)	A watchdog timer actuation has been detected on the Engine control PCB during the following event. Variation code (Events):	Turn OFF the printer. (Sub power key OFF)	
				- 1: System down - 2: Other than system down		
S611	20		PMS-Engine communication error	PMS-Engine communication error. Three consecutive code errors have been detected in the command sent to the Engine contol PCB by PMS. (THIRD CEHCK SUM ERROR)	Turn OFF the printer. (Sub power key OFF)	The printer stops after ejecting the sheets remaining inside.
S611	21		PMS-Engine communication error	PMS-Engine communication error. Three consecutive code errors have been detected in the response command sent to PMS by the Engine control PCB. (THIRD CHECK SUM ERROR)	Turn OFF the printer. (Sub power key OFF)	The printer stops after ejecting the sheets remaining inside.
S611	22	1 to 3	PMS-Engine communication error (PCI time-out error)	PMS-Engine communication error. A PCI time-out error has been detected without a reply to the response command from the Engine control PCB to PMS. Variation code (Causes): - 1: Not identified (The PCI is in a normal state.) - 2: The PCI PCB could not be recognized - 3: The PCI identifier number could not be recognized	Turn OFF the printer. (Sub power key OFF)	The printer stops after ejecting the sheets remaining inside.
S611	23		PMS-Engine communication error	PMS-Engine communication error. The command code of the command sent by PMS to the Engine control PCB is undefined. (COMMAND ERROR)	Turn OFF the printer. (Sub power key OFF)	The printer stops after ejecting the sheets remaining inside.
S611	24		PMS-Engine communication error	PMS-Engine communication error. Three consecutive code errors has been alternately detected in the commands sent from PMS to the Engine control PCB and the response commands from the Engine control PCB to PMS.	Turn OFF the printer. (Sub power key OFF)	The printer stops after ejecting the sheets remaining inside.
S611	25		PMS-Engine communication error	PMS-Engine communication error. The response command from the Engine control PCB to PMS unit differs from the request command sent from PMS to the Engine control PCB.	Turn OFF the printer. (Sub power key OFF)	The printer stops after ejecting the sheets remaining inside.
S611	26		PMS-Engine communication error (DATAREJECT)	PMS-Engine communication error. Code error detection codes (DATAREJECT) have been consecutively returned 3 or more times in the header portion of the commands sent from PMS to the Engine control PCB.	Turn OFF the printer. (Sub power key OFF)	The printer stops after ejecting the sheets remaining inside.
S611	27		PMS-Engine communication error (DATA ERROR)	PMS-Engine communication error. A parameter error code (DATA ERROR) has been returned in the response command sent from the Engine control PCB to PMS.	Turn OFF the printer. (Sub power key OFF)	The printer stops after ejecting the sheets remaining inside.
S611	28		PMS-Engine communication error (DATA ERROR)	PMS-Engine communication error. A parameter error code (DATA ERROR) has been returned in the header portion of the command sent from PMS the Engine control PCB.	Turn OFF the printer. (Sub power key OFF)	The printer stops after ejecting the sheets remaining inside.
S611	29		PMS-Engine communication error (Discrete sequence number)	PMS-Engine communication error. A discrete sequence number has been detected upon reception of the command sent from PMS to the Engine control PCB.	Turn OFF the printer. (Sub power key OFF)	The printer stops after ejecting the sheets remaining inside.
S611	30		PMS-Engine communication error (Discrete sequence number)	PMS-Engine communication error. A discrete sequence number has been detected upon reception of the response command sent from the Engine control PCB to PMS.	Turn OFF the printer. (Sub power key OFF)	The printer stops after ejecting the sheets remaining inside.
S098	31		PMS-Engine communication error (CDB_INVALIDITY)	PMS-Engine communiation error. The command has become invalid due to an incorrect reception sequence of the command sent from PMS to the Engine control PCB. (CDB_INVALIDITY)	Turn OFF the printer. (Sub power key OFF)	The printer stops after ejecting the sheets remaining inside.
S098	32		PMS-Engine communication error	PMS-Engine communication error. It has been detected that the size of the parameter portion of the response command sent from the Engine control PCB to PMS is less than the minimum size.	Turn OFF the printer. (Sub power key OFF)	The printer stops after ejecting the sheets remaining inside.
S099	33		PMS PCB error	The PCI device has become unable to be recognized on the PMS PCB during operation.	Turn OFF the printer. (Sub power key OFF)	
S099	34		Mirror restoration error	The mirroring restoration process (process of restoring the non-volatile data in the Engine control PCB) has not been completed within a certain amount of time.	Turn OFF the printer. (Sub power key OFF)	
S091	35		PMS-Engine communication error	In the initial communication immediately after the power was turned ON, the model control information containing the model code has not been notified by the Engine control PCB to PMS within a certain amount of time.	Turn OFF the printer. (Sub power key OFF)	
S600	36		PMS PCB error	The PCI device cannot be recognized on the PMS PCB. (In the process of establishing a PCI connection within the print-operation-related software in PMS, a PCI device non-detection error code has been returned from the recording data generation unit driver.)	Turn OFF the printer. (Sub power key OFF)	The printer stops after ejecting the sheets remaining inside.
S099	37		PMS software error	In the job output process by the print-operation-related software in PMS, the page information file has not been obtained from the stated directory.	Turn OFF the printer. (Sub power key OFF)	The printer stops after ejecting the sheets remaining inside.
S099	38		PMS software error	In the job output process by the print-operation-related software in PNAS, it has been detected that the format of the page information file differs from the stated one.	Turn OFF the printer. (Sub power key OFF)	The printer stops after ejecting the sheets remaining inside.
S099	39		PMS software error	In the image developing process by the print-operation-related software in PMS, the PRN file has not been obtained from the stated directory.	Turn OFF the printer. (Sub power key OFF)	The printer stops after ejecting the sheets remaining inside.
S099	40		PMS software error	In the image development process by the print-operation-related software in PMS, it has been detected that the type of job within the page information file is incorrect.	Turn OFF the printer. (Sub power key OFF)	The printer stops after ejecting the sheets remaining inside.

[16-13]

Panel Messages

Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S099	41	1 to 5	PMS software error	In the image development process by the print-operation-related software in PMS, an incorrect value has been detected in the printable size data. Variation code (Related events): - 1: An illegal setting ID notification between the Engine control PCB and PMS during a mail-making job with the Wrapping envelope finisher - 2 to 3: - - 4: A missing ID in the administration table for mailing form sheet data - 5: An illegal sequence in a start command for a mail-making job with the Wrapping envelope finisher	Turn OFF the printer. (Sub power key OFF)	The printer stops after ejecting the sheets remaining inside.
S099	42		PMS software error	An error code has been returned as the return value of the system call called up within PMS.	Turn OFF the printer. (Sub power key OFF)	The printer stops after ejecting the sheets remaining inside.
S099	43		PMS software error	An error code has been returned as the return value of the file access function called up within PMS.	Turn OFF the printer. (Sub power key OFF)	The printer stops after ejecting the sheets remaining inside.
S614	44		PMS-Panel communication error	A sequence error has occurred or an inappropriate value has been detected in communication between the PMS PCB and the Operatoin panel PCB.	Turn OFF the printer. (Sub power key OFF)	The printer stops after ejecting the sheets remaining inside.
S092	45		Firmware error	It has been detected at power-on that the Operation panel firmware was not completely downloaded, possibly due to a failure in downloading operation.	Turn OFF the printer. (Sub power key OFF) * For a fundamental solution, it is necessary to download the firmware.	All operations will be suspended.
S095	46		Download error (PMS or Panel)	The compressed firmware package data decompression process has failed in the firmware download operation.	Hold down Start key.	The firmware download will be cancelled.
S095	47		Download error (PMS or Panel)	It has been determined that the format of the header file decompressed from the firmware package data is incorrect (the contents of the package data are incorrect).	Hold down Start key.	The firmware download will be cancelled.
S095	48	1 to 7	Download error (PMS or Panel)	Operation panel firmware download error Variation code (Details): - 1: Incorrect data format (The header of the received firmware data has a different format from the stated one.) - 2: Mismatched firmware ID code (It has been determined that the firmware for a different model was received because the ID code of the header of the received firmware data differs from that recorded in the panel.) - 3: Checksum error (A checksum error has been detected in the received firmware data.) - 4: Preliminary processing failure for update (Failure in code flash library initialization or boot cluster number acquisition or wrong boot cluster number acquisition.) - 5: Boot area rewrite failure (Failure in rewriting the code flash memory in the boot area.) - 6: Application area rewrite failure (Failure in rewriting the code flash memory in the application area. The rewriting has been completed in the boot area.) - 7: Boot area switch failure (Failure in switching the boot area before reboot.)	Hold down Start key.	After informing the firmware update failure, the the firmware update process will be interrupted.
W077	49		Incorrect firmware download	When the power is turned ON, it has been detected that non-compatible data were tried to be downloaded. [Note] For FW: With HDD Data Encryption function activated, the firmware V.2.x or lower was tried to be downloaded on the firmware V 3.x or higher. For GD: With HDD Data Encryption function activated, the firmware V.1.x or lower was tried to be downloaded on the firmware V 2.x or higher.	Touch the [Close] button.	Without the download confirmation screen displayed, this error message is indicated after power-on. As this error occurs during idle, there is no job restart
W017	50		Controller SSD full	The SSD is about to be full. [Conditions] - The space available on the SSD has become 5 GB or less. - The space available on the SSD is 5 GB or less when starting a copy, scanning, or USB print operation. - The space available on the SSD is 5 GB or less when a job is received. - The space allocated for unlimited jos on the SSD has become 500 MB or less.	Touch the [Close] button. "For a fundamental solution, perform one of the following so that the space available for users on the SSD may become 5 GB or more (or S00 MB or more for unlimited jobs). (1) Delete jobs in the storage box. (2) Delete job data at the completion of current jobs. "If this error occurs while processing a new job, it may be resolved by itself as the job under processing is automatically deleted at that time.	 New jobs cannot be accepted for copy, scanning, PC print, or USB print operation. The jobs under processing (stand-by, developing, printing, awaiting instructions) are to be finished. They will not be resumed after error recovery Touch the [Close] button to close the error message and transition to the "Processing" tab in the Print mode.
W017	51		Controller SSD full	The SSD is full. [Conditions] - The space available on the SSD has become 1 GB or less.	Touch the [Close] button. "For a fundamental solution, perform one of the following so that the space available for users on the SSD may become 5 GB or more. (1) Delete jobs in the storage box. (2) Delete job data at the completion of current jobs. "If this error occurs while processing a new job, it may be resolved by itself as the job under processing is automatically deleted at that time.	New jobs cannot be accepted for copy, scanning, PC print, Or USB print operation. The jobs under processing (stand-by, developing, printing, awaiting instructions) are to be interrupted with an error. The finished jobs will not be saved even if they are specified to do so. * This error message is to make an emergency stop in case the space available has become 1 GB after resuming the current job, which was suspended with the error code W017- 0050 (a "Controller HDD full." Touch the [Close] button to close the error message and transition to the "Processing" tab in the Print mode.
S098	52		SSD failure	It has been detected when mounting the SSD upon system activation that the SSD partition is broken. (the partition cannot be mounted.) * The Operation panel may not work when this error occurs.	Turn OFF the printer. (Sub power key OFF)	
W053	53	1 to 2	USB drive mount error	The USB drive could not be mounted to save data, such as scanned image files, there. Variation code (Type of files to be saved): - 1: Scanned image files - 2: Other than scanned image files	Execute one of the following. (1) Disconnect the USB drive (2) Touch the [Cancel] button (3) Touch the [Retry] button When the variation code is 1, the error can also be resolved by touching the [Save to Internal HDD (SSD)] button	When the variation code is 1, it is possible to restart the job manually after error recovery. When the variation code is 2, job restart process does not exist because this error occurs without jobs.

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
W049	54	1 to 3	USB drive save error	Data, such as scanned image and its information files, could not be saved on the USB drive because the USB drive is write-protected or cannot be accessed due to another reason. Variation code (Type of files to be saved): - 1: Scanned image files - 2: Storage box files - 3: Other than the above	After disconnecting the USB drive, execute one of the following to resolve this error according to the variation code. When the variation code is 1, touch the [Cancel] button, the [Retry] button or the [Save to Internal HDD] button. When the variation code is 2, Touch the [Close] button. When the variation code is 3, touch the [Cancel] button or the [Retry] button.	When the variation code is 1, it is possible to restart the job manually after error recovery. When the variation code is 2 or 3, job restart process does not exist because this error occurs without jobs.
S098	59		PMS PCB error	It has been detected during the size check of the memory (DRAM) installed on the PMS at power-on that the machine information or optional equipment configuration does not match the size configuration of the installed memory.	Turn OFF the printer. (Sub power key OFF)	The entire system is suspended.
W048	60	1 to 5	Duplicate file name on USB	A file could not be saved on the USB drive because the same name file already exists there. Variation code (Type of files to be saved): - 1: Account record (history) - 2: Charge count - 3: Detailed count - 4: User count list - 5: Web transmission failure data	Execute one of the following. (1) Touch the [Continue] button. (2) Touch the [Stop] button.	Job restart process does not exist because this error occurs without jobs.
W049	61	1 to 3	USB memory save error	A file could not be saved on the USB drive because all available file names are already in use. Variation code (Type of files to be saved): - 1: Scanned image files - 2: Storage box files - 3: Other than the above	After disconnecting the USB drive, execute one of the following to resolve this error according to the variation code. When the variation code is 1, touch the [Cancel] button, the [Retry] button or the [Save to Internal HDD (SSD) button. When the variation code is 2, Touch the [Close] button. When the variation code is 3, touch the [Cancel] button or the [Retry] button.	When the variation code is 1, it is possible to restart the job manually after error recovery. When the variation code is 2 or 3, job restart process does not exist because this error occurs without jobs.
W049	62	1 to 3	USB memory save error	The space available on the USB drive is less than the size of the file to be saved. Variation code (Type of files to be saved): - 1: Scanned image files - 2: Storage box files - 3: Other than the above	After disconnecting the USB drive, execute one of the following to resolve this error according to the variation code When the variation code is 1, touch the [Cancel] button, the [Retry] button or the [Save to Internal HDD (SSD)] button. When the variation code is 2, Touch the [Close] button. When the variation code is 3, touch the [Cancel] button or the [Retry] button.	When the variation code is 1, it is possible to restart the job manually after error recovery. When the variation code is 2 or 3, job restart process does not exist because this error occurs without jobs.
U001	63		Scanner communication error	It has been detected by the PMS that the full-speed mode is applied in USB communication with the scanner instead of the high-speed one.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * The following actions could also clear this error message. - Plug off the scanner cable and connect it again. - Pug off the power cable of the scanner and connect it again.	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
W049	64	1 to 3	USB memory save error	Files could not be copied into the USB drive because 100 or more files already exist in the folder. Variation code (Type of files to be saved): - 1: Scanned image files - 2: Storage box files - 3: Other than the above	After disconnecting the USB drive, execute one of the following to resolve this error according to the variation code. When the variation code is 1, touch the [Cancel] button, the [Retry] button or the [Save to Internal HDD (SSD)] button. When the variation code is 2, Touch the [Close] button. When the variation code is 3, touch the [Cancel] button or the [Retry] button.	When the variation code is 1, it is possible to restart the job manually after error recovery. When the variation code is 2 or 3, job restart process does not exist because this error occurs without jobs.
1006	65		Outgoing queue near full	When the power was turned ON, the system was reset or waked up, or data was written into the send queue, it has been detected that the capacity of the send queue for the web remote function (RRA) is close to the limit. (80% of the capacity has been occupied.) * The above will not be detected when the RRA function is not activated ("0: OFF" is selected in TM01-6-041 "RA Remote Function Setting.")	Execute one of the following. (1) Touch the [Close] button. (2) Execute TM01-3-014 "TRANSMIT FAIL DATA USB SAVE" (3) Set TM01-6-041 "RA Remote Funciton Setting" at "0.0FF." (4) Execute TM01-3-015 "RA Transmit Data Forced Delete." "For a fundamental solution, check settings in TM01-6- 061 "AUTHENTICATION SERVER CONNECTION" and configure them so that communication is correctly conducted between the machine and the web remote (RRA) server.	Even if the RRA function is deactivated ("0: OFF" is selected in TM01-6-041 "RA Remote Function Setting."), the data in the send queue for the web remote function (RRA) will not be deleted.
S600	66		PMS PCB error	It has bee detected that the PMS case fan is not operating.	Turn OFF the printer. (Sub power key OFF) *For a fundamental solution, check the connection of the PMS case fan and replace it if required.	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
S604	67	1 to 7	Panel PCB error	The access to non-volatile data of the panel firmware has failed. Variation code (Details): - 1: Data delete error (An error has occurred while executing the block delete command for data flash library.) - 2: Blank check error (An error has occurred while executing the blank check command for data flash library.) - 3: Data writication error (An error has occurred while executing the verify check command for data flash library.) - 4: Data write error (An error has occurred while executing the write command for data flash library.) - 5: Data read error (An error has occurred while executing the write command for data flash library.) - 5: Data read error (An error has occurred while executing the read command for data flash library.) - 6: Incorrect area access (An access has been made over the block border or into an unused area for data flash library.) - 7: Checksum error (The data read from data flash library with a specified parameter does not match the given checksum.)	Turn OFF the printer. (Sub power key OFF)	The access to the data flash library will be interrupted, indicating a relevant error code. When the variation code is any one from 1 to 6, a dedicated write error command is sent before error code indication in case touch panel coordinate correction or threshold adjustment value is being written at error occurrence. When the variation code is 7, the default value is applied in case touch panel coordinate correction or threshold adjustment value is being read at error occurrence.

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S099	70		Mirroring error	Although mirroring was executed for counter data or test mode setting values, the mirroring file could not be correctly created for backup in the SSD on PMS. - The write of mirroring data on SSD has failed 3 or more times. - A CRC error has been detected when verifying data after writing mirroring data on SSD.	Turn OFF the printer. (Sub power key OFF)	
S099	71		Mirroring error	Although mirroring was executed for counter data or test mode setting values, the mirroring file saved in the SSD on PMS could not be restored due to its defects. - A CRC error has been detected when loading mirroring data from the SSD	Turn OFF the printer. (Sub power key OFF)	
S099	73	1 to 7	PMS communication error	6 minutes have passed without response from the PMS modules, though the initial communication start command was sent from the "Job-status- or System-status- related software" on PMS to them. Variation code (Software type): - 1: Print-operation-related software - 2: USB-connected-equipment-related software - 3: Operation-panel-related software - 4: Network-related software - 5: Image-adjustment-related software - 6: User-information-retention/update- or Security-related software - 7: RIP-related software	Turn OFF the printer. (Sub power key OFF)	
S099	74	1 to 7	PMS communication error	21 minutes have passed without response from the PMS modules, though the communication start command for power-off preparation was sent from the "Job- status- or System-status-related software" on PMS to them. Variation code (Software type): - 1: Print-operation-related software - 2: USB-connected-equipment-related software - 3: Operation-ponent-related software - 4: Network-related software - 5: Image-adjustment-related software - 6: Use-information-releated software - 6: Use-information-related software - 7: RIP-related software	Turn OFF the printer. (Sub power key OFF)	
S099	75	1 to 2	Software error (System control)	An error has been detected by PMS while processing the software in the "system-control-related modules." Variation code (Software type): - 1: Print-operation-related software - 2: Job-status- or System-status-related software	Turn OFF the printer. (Sub power key OFF)	
S611	76		PMS-Engine communication error	Communication could not be established for PCI communication between the Engine control PCB and PMS unit.	Turn OFF the printer. (Sub power key OFF)	
W098	77		USB file read error	An error has been detected during the processing by the "USB-connected- equipment-related software" on the PMS. (There is an error in the pre-scanning check information that has been sent from the operation panel to the "USB-connected-equipment-related software" on the PMS.)	Touch the [Close] button.	Job restart process does not exist because this error occurs without jobs.
S096	80	1 to 3	Head drive PCB 2 error	Head Drive PCB (HDR PCB) 2 Error (K on 5C models) * Head Drive PCBs (HDR PCBs) are labeled 2, 1 and 0 in the order of vicinity to the Engine control PCB. Variation code (Details): - 1: The Head Drive PCB (HDR PCB) 2 is not connected. - 2: The Head Drive PCB (HDR PCB) 2 is not compatible with the current printer. - 3: The ASIC-mounted Recording data generation PCB (IP PCB) and the FPGA- mounted Head Drive PCB (HDR PCB) 2 are installed together.	Turn OFF the printer. (Sub power key OFF) * For a fundamental solution, connect the PCB.	
S096	81	1 to 3	Head drive PCB 1 error	Head Drive PCB (HDR PCB) 1 Error (C/M on 5C models) * Head Drive PCBs (HDR PCBs) are labeled 2, 1 and 0 in the order of vicinity to the Engine control PCB. Variation code (Details): - 1: The Head Drive PCB (HDR PCB) 1 is not connected. - 2: The Head Drive PCB (HDR PCB) 1 is not compatible with the current printer. - 3: The ASIC-mounted Recording data generation PCB (IP PCB) and the FPGA- mounted Head Drive PCB (HDR PCB) 1 are installed together.	Turn OFF the printer. (Sub power key OFF) * For a fundamental solution, connect the PCB.	
S096	82		IP PCB disconnected	The Recording data generation PCB (IP PCB) is not connected.	Turn OFF the printer. (Sub power key OFF) * For a fundamental solution, connect the PCB.	
S096	84		Controller PCB disconnected	The Controller PCB is not connected.	Turn OFF the printer. (Sub power key OFF) * For a fundamental solution, connect the PCB.	
S096	85		CIS PCB disconnected	The CIS PCB is not connected.	Turn OFF the printer. (Sub power key OFF) * For a fundamental solution, connect the PCB.	
S096	86	1 to 3	Head drive PCB 0 error	Head Drive PCB (HDR PCB) 0 Error (Y/R or Y/Gr on 5C models) * Head Drive PCBs (HDR PCBs) are labeled 2, 1 and 0 in the order of vicinity to the Engine control PCB. Variation code (Details): - 1: The Head Drive PCB (HDR PCB) 0 is not connected. - 2: The Head Drive PCB (HDR PCB) 0 is not compatible with the current printer. - 3: The ASIC-mounted Recording data generation PCB (IP PCB) and the FPGA- mounted Head Drive PCB (HDR PCB) 0 are installed together.	Turn OFF the printer. (Sub power key OFF) * For a fundamental solution, connect the PCB.	

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S096	88	1 to 3	Head drive PCB connection error	Image signal connection error between Head Drive PCB (HDR PCB) and IP PCB * Head Drive PCBs (HDR PCBs) are labeled 2, 1 and 0 in the order of vicinity to the engine control PCB. Variation code (HDR PCB type): - 1: HDR PCB 2 - 2: HDR PCB 1 - 3: HDR PCB 0	Turn OFF the printer. (Sub power key OFF) * For a fundamental solution, connect the PCB.	
S098	89		P (, R or Gr)-color ink tag antenna failure	P (, R or Gr) color ink tag antenna failure (RUN signal OFF)	Turn OFF the printer. (Sub power key OFF)	This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models
S098	90		K-color ink tag antenna failure	K color ink tag antenna failure (RUN signal OFF)	Turn OFF the printer. (Sub power key OFF)	
S098	91		C-color ink tag antenna failure	C color ink tag antenna failure (RUN signal OFF)	Turn OFF the printer. (Sub power key OFF)	
S098	92		M-color ink tag antenna failure	M color ink tag antenna failure (RUN signal OFF)	Turn OFF the printer. (Sub power key OFF)	
S098	93		Y-color ink tag antenna failure	Y color ink tag antenna failure (RUN signal OFF)	Turn OFF the printer. (Sub power key OFF)	
S601	94		Engine control PCB error (Model code tag antenna failure)	Model code TAG antenna failure	Turn OFF the printer. (Sub power key OFF)	
S099	95		No model code TAG	No model code TAG detected.	Turn OFF the printer. (Sub power key OFF)	
S099	96		Incorrect model code TAG	Incorrect model code TAG	Turn OFF the printer. (Sub power key OFF)	
S603	101	1 to 20	Head drive PCB 1 error	Head Drive PCB (HDR PCB) 1 Error (C/M on SC models) * Head Drive PCBs (HDR PCBs) are labeled 2, 1 and 0 in the order of vicinity to the engine control PCB. Variation code (Details): - 1: Incorrect attachment of the Head Drive PCB (HDR PCB) has been detected - 2: Data verification error (drive waveform writing error) - 3: Data verification error (initialization error of the sub CPU of the Head Drive PCB (HDR PCB)) - 4: - 9: The sub CPU has detected a software error (control error) - 9: The sub CPU has detected a software error (trap error) - 10: The sub CPU has detected a software error (trap error) - 11: The sub CPU has detected a software error (trap error) - 12: An FPGA power supply error has been detected - 13: Configuration data is not written on the flash memory - 14: A time-out error has been detected writing the orfiguration of the FPGA - 15: A time-out error has been detected writing on the flash memory - 17: An error has been detected writing on the flash memory - 18: An error has been detected writing on the flash memory - 19: A data size error has been detected writing the flash memory - 20: An error related to the flash memory has been detected	Turn OFF the printer. (Sub power key OFF)	Because the error code specifications are inherited from CC2 series, variation code 4 remains vacant.
S098	102	1 to 5	IP PCB error	Recording data generation PCB (IP PCB) program error Variation code (Details): - 1: The FPGA cannot be initialized on the Recording data generation PCB (IP PCB). - 2: The READY signal of the FPGA does not become active on the Recording data generation PCB (IP PCB). - 3: The READY signal of the FPGA does not become inactive on the Recording data generation PCB (IP PCB). - 4: The DONE signal of the FPGA does not become active on the Recording data generation PCB (IP PCB). - 5: Configuration data does not exist within the FLASH on the Recording data generation PCB (IP PCB), preventing PCB configuration.	Turn OFF the printer. (Sub power key OFF)	
S098	103	1 to 5	IP PCB error	Color data transmission delay from the Recording data generation PCB (IP PCB) to the Head Drive PCB (HDR PCB) (The Recording data generation PCB (IP PCB) has not responded to the DREQ signal of any color output from the corresponding Head Drive PCB (HDR PCB) during 3 encoder pulses or more.) Variation code (HDR PCB type): - 1: K Head Drive - 2: C Head Drive - 3: M Head Drive - 4: Y Head Drive - 5: P (R or Gr) Head Drive	Turn OFF the printer. (Sub power key OFF)	Variation code 5 is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models
S098	104	1 to 2	K-color image control error	K image control error Variation code (Details): -1: The Recording data generation PCB (IP PCB) has detected an image control error for K color. -2: The firmware has detected an image control error for the color K. (An image forwarding interruption by the hardware has not occurred.) * The misdetection of the trailing edge of advancing sheets may cause this error code. (Additional notes in Remarks.)	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. * Additional notes for variation code 2: - The light intensity adjstment on the Top edge sensor could prevent this error. - The usage of perforated sheets is to be checked.
S098	105	1 to 2	C-color image control error	C image control error Variation code (Details): -1: The Recording data generation PCB (IP PCB) has detected an image control error for C color. -2: The firmware has detected an image control error for the color C. (An image forwarding interruption by the hardware has not occurred.) * The misdetection of the trailing edge of advancing sheets may cause this error code. (Additional notes in Remarks.)	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. * Additional notes for variation code 2: - The light intensity adjstment on the Top edge sensor could prevent this error. - The usage of perforated sheets is to be checked.

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S098	106	1 to 2	M-coor image control error	M image control error Variation code (Details): - 1: The Recording data generation PCB (IP PCB) has detected an image control error for M color. - 2: The firmware has detected an image control error for the color M. (An image forwarding interruption by the hardware has not occurred.) * The misdetection of the trailing edge of advancing sheets may cause this error code. (Additional notes in Remarks.)	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. * Additional notes for variation code 2: - The light intensity adjstment on the Top edge sensor could prevent this error. - The usage of perforated sheets is to be checked.
S098	107	1 to 2	Y-color image control error	Y image control error Variation code (Details): - 1: The Recording data generation PCB (IP PCB) has detected an image control error for Y color. - 2: The firmware has detected an image control error for the color Y. (An image forwarding interruption by the hardware has not occurred.) * The misdetection of the trailing edge of advancing sheets may cause this error code. (Additional notes in Remarks.)	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. * Additional notes for variation code 2: - The light intensity adjstment on the Top edge sensor could prevent this error. - The usage of perforated sheets is to be checked.
\$602	108	1 to 7	IP PCB error	An error has been detected during communication between the Recording data generation PCB (IP PCB) and the PMS PCB Variation code (Communication types): - 1: Command communication from the PMS PCB to the IP PCB - 2: Status communication from the IP PCB to the PMS PCB - 3: An INTA notification time-out from the IP PCB - 4: Data communication from the IP PCB to the PMS PCB - 5: Data communication from the IP PCB to the PMS PCB - 6: Status change notification from the IP PCB to the PMS PCB - 7: Recording data acquisition notification from the IP PCB to the PMS PCB	Turn OFF the printer. (Sub power key OFF)	
W083	110	1 to 6	Receving data buffer underrun error	The volume of print data required by any Print head from K11 to K61 has exceeded the data volume forwarded from the Recording data generation PCB (IP PCB), causing data forwarding datay. (It has been detected that the required volume of print data has not been forwarded from the Recording data generation PCB (IP PCB) yet, at the start of ink ejection from any Print head from K11 to K61.) Variation code (Print head ID): - 1: Head K11 - 2: Head K21 - 3: Head K31 - 4: Head K51 - 6: Head K61	Execute one of the following. (1) Touch the [Confirm] button. *1 (2) Clear the Type X error code, which is expected to be indicated as well as this one. *2	The ink ejection from Print heads stops. The current operation is suspended after ejecting all fed sheets inside the printer while interrupting paper feeding. When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print heads containing another color than K are referred to as "K12" to "K62." As printed images may have been disturbed, the current operation is required to be interrupted. However, it can be resumed by making a software reset on the IP PCB and Head Drive (HDR) PCB. '1 It is possible to restart the job manually after error recovery. '2 The job restarts automatically after error recovery.
W083	111	1 to 6	Receving data buffer underrun error	The volume of print data required by any Print head from C1 to C6 has exceeded the data volume forwarded from the Recording data generation PCB (IP PCB), causing data forwarding delay. (It has been detected that the required volume of print data has not been forwarded from the Recording data generation PCB (IP PCB) yet, at the start of ink ejection from any Print head from C1 to C6.) Variation code (Print head ID): -1: head C1 -2: head C1 -3: Head C3 -4: Head C3 -4: Head C4 -5: head C5	Execute one of the following. (1) Touch the [Confirm] button. *1 (2) Clear the Type X error code, which is expected to be indicated as well as this one. *2	The ink ejection from Print heads stops. The current operation is suspended after ejecting all fed sheets inside the printer while interrupting paper feeding. As printed images may have been disturbed, the current operation is required to be interrupted. However, it can be resumed by making a software reset on the IP PCB and Head Drive (HDR) PCB. '1 It is possible to restart the job manually after error recovery. '2 The job restarts automatically after error recovery.
W083	112	1 to 6	Receving data buffer underrun error	The volume of print data required by any Print head from M1 to M6 has exceeded the data volume forwarded from the Recording data generation PCB (IP PCB), causing data forwarding delay. (It has been detected that the required volume of print data has not been forwarded from the Recording data generation PCB (IP PCB) yet, at the start of ink ejection from any Print head from M1 to M6.) Variation code (Print head ID): -1: Head M1 -2: Head M1 -2: Head M2 -3: Head M2 -3: Head M3 -4: Head M5 -6: Head M5 -6: Head M6	Execute one of the following. (1) Touch the [Confirm] button. *1 (2) Clear the Type X error code, which is expected to be indicated as well as this one. *2	The ink ejection from Print heads stops. The current operation is suspended after ejecting all fed sheets inside the printer while interrupting paper feeding. As printed images may have been disturbed, the current operation is required to be interrupted. However, it can be resumed by making a software reset on the IP PCB and Head Drive (HDR) PCB. '1 It is possible to restart the job manually after error recovery. '2 The job restarts automatically after error recovery.
W083	113	1 to 6	Receving data buffer underrun error	The volume of print data required by any Print head from Y1 to Y6 has exceeded the data volume forwarded from the Recording data generation PCB (IP PCB), causing data forwarding delay. (It has been detected that the required volume of print data has not been forwarded from the Recording data generation PCB (IP PCB) yet, at the start of ink ejection from any Print head from Y1 to Y6.) Variation code (Print head ID): - 1: Head Y1 - 2: Head Y2 - 3: Head Y2 - 3: Head Y4 - 5: Head Y4 - 5: Head Y6	Execute one of the following. (1) Touch the [Confirm] button. *1 (2) Clear the Type X error code, which is expected to be indicated as well as this one. *2	The ink ejection from Print heads stops. The current operation is suspended after ejecting all fed sheets inside the printer while interrupting paper feeding. As printed images may have been disturbed, the current operation is required to be interrupted. However, it can be resumed by making a software reset on the IP PCB and Head Drive (HDR) PCB. *1 It is possible to restart the job manually after error recovery. *2 The job restarts automatically after error recovery.
S098	114	1 to 2	System error	The Recording data generation PCB (IP PCB) has detected an excess print speed or print speed decline. Variation code (Detection type): - 1: - - 2: A print speed decline	Turn OFF the printer. (Sub power key OFF)	Because the error code specifications are inherited from CC2 series, variation code 1 remains vacant.
S099	116		Firmware error	An error has been detected in the image control buffer of the engine firmware.	Turn OFF the printer. (Sub power key OFF)	
S601	117		Engine control PCB error	An operation failure is suspected on the CIS device because the said device has not responded (has not been activated) within a predefined amount of time.	Turn OFF the printer. (Sub power key OFF)	

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S099	118	1 to 2	Image formation error	An error has been detected in color definition information in the "image formation module" during system initialization or print job processing. Variation code (Detection timing): - 1: System initialization - 2: Print job processing	Turn OFF the printer. (Sub power key OFF)	
S099	119	1 to 5	Image formation error	A color image address error has been detected in the "image formation module." Variation code (Color types): - 1: K color - 2: C color - 3: M color - 4: Y color - 5: P (, R or Gr) color	Turn OFF the printer. (Sub power key OFF)	Variation code 5 is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models
S096	120	1 to 2	Ink cooling fan disconnected	The Ink cooling fan 1 or 2 is disconnected. (The connection detection signal for the Ink cooling fan 1 or 2 is inactive.) Variation code (Troubled components): - 1: Ink cooling fan 1 - 2: Ink cooling fan 2	Turn OFF the printer. (Sub power key OFF) * For a fundamental solution, connect the corresponding wires to the PCB.	
W083	121	1 to 6	Receving data buffer underrun error	The volume of print data required by any Print head from K12 to K62 has exceeded the data volume forwarded from the Recording data generation PCB (IP PCB), causing data forwarding delay. (It has been detected that the required volume of print data has not been forwarded from the Recording data generation PCB (IP PCB) yet, at the start of ink ejection from any Print head from K12 to K62.) Variation code (Print head ID): -1: Head K12 - 2: Head K12 - 3: Head K32 - 3: Head K32 - 5: Head K52 - 5: Head K52 - 5: Head K52	Execute one of the following. (1) Touch the [Confirm] button. *1 (2) Clear the Type X error code, which is expected to be indicated as well as this one. *2	 The ink ejection from Print heads stops. The current operation is suspended after ejecting all fed sheets inside the printer while interrupting paper feeding. When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 500dpi, on the other hand, the print heads containing another color than K are referred to as "K12" to "K62." The print heads containing K in both of the above cases are then referred to as "K11" to "K61." As printed images may have been disturbed, the current operation is required to be interrupted. However, it can be resumed by making a software reset on the IP PCB and Head Drive (HDR) PCB. 'I It is possible to restart the job manually after error recovery. '2 The job restarts automatically after error recovery.
W083	122	1 to 6	Receving data buffer underrun error	The volume of print data required by any Print head from P (R or Gr) 1 to M (, R or G) 6 has exceeded the data volume forwarded from the Recording data generation PCB (IP PCB), causing data forwarding delay. (It has been detected that the required volume of print data has not been forwarded from the Recording data generation PCB (IP PCB) yet, at the start of ink ejection from any Print head from P (R or Gr) 1 to P (R or Gr) 6.) Variation code (Print head ID): - 1: Head P (R or Gr) 1 - 2: Head P (R or Gr) 2 - 3: Head P (R or Gr) 3 - 4: Head P (R or Gr) 5 - 6: Head P (R or Gr) 6	Execute one of the following. (1) Touch the [Confirm] button. *1 (2) Clear the Type X error code, which is expected to be indicated as well as this one. *2	The ink ejection from Print heads stops. The current operation is suspended after ejecting all fed sheets inside the printer while interrupting paper feeding. This is also applicable to the following: - R of SC (KCMYR) models - Gr of SC (KCMYG) models As printed images may have been disturbed, the current operation is required to be interrupted. However, it can be resumed by making a software reset on the IP PCB and Head Drive (HDR) PCB. '1 It is possible to restart the job manually after error recovery. '2 The job restarts automatically after error recovery.
S096	123	1 to 4	Head drive IC cooling fan disconnected	A Head drive IC cooling fan is disconnected. (The connection detection signal for a Head drive IC cooling fan is inactive.) Variation code (Detected items): - 1: Head drive IC cooling fan FR - 2: Head drive IC cooling fan FL - 3: Head drive IC cooling fan RR - 4: Head drive IC cooling fan RL	Turn OFF the printer. (Sub power key OFF) * For a fundamental solution, connect the corresponding wires to the PCB.	
S096	124		Overflow tank ink level sensor disconnected	The Overflow tank ink level sensor is disconnected. (The connection detection signal for the Overflow tank ink level sensor is inactive.)	Turn OFF the printer. (Sub power key OFF) * For a fundamental solution, connect the corresponding wires to the PCB.	
S096	125	1 to 5	Pressurization tank ink sensor disconnected	Any color Pressurization tank ink sensor is disconnected. (The connection detection signal for any color Pressurization tank ink sensor is inactive.) Variation code (Color): - 1: K - 2: C - 3: M - 4: Y - 5: P (R or Gr)	Turn OFF the printer. (Sub power key OFF) * For a fundamental solution, connect the corresponding wires to the PCB.	Variation code 5 is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models
S096	126	1 to 5	Negative pressure tank ink sensor disconnected	Any color Negative pressure tank ink sensor is disconnected. (The connection detection signal for any color Negative pressure tank ink sensor is inactive.) Variation code (Color): - 1: K - 2: C - 3: M - 4: Y - 5: P (R or Gr)	Turn OFF the printer. (Sub power key OFF) * For a fundamental solution, connect the corresponding wires to the PCB.	Variation code 5 is also applicable to the following: - R of 5C (KCMVR) models - Gr of 5C (KCMYGr) models
S096	129		Pressurization tank air valve disconnected	The Pressurization tank air valve is electrically disconnected. (The connection detection signal for the Pressurization tank air valve is inactive.)	Turn OFF the printer. (Sub power key OFF) * For a fundamental solution, connect the corresponding wires to the PCB.	
S096	130		Negative pressure tank air valve disconnected	The Negative pressure tank air valve is electrically disconnected. (The connection detection signal for the Negative pressure tank air valve is inactive.)	Turn OFF the printer. (Sub power key OFF) * For a fundamental solution, connect the corresponding wires to the PCB.	

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S096	133	1 to 5	Ink supply solenoid valve disconnected	Any color Ink supply solenoid valve is electrically disconnected. (The connection detection signal for any color Ink supply solenoid valve is inactive.) Variation code (Color): - 1: K - 2: C - 3: M - 4: Y - 5: P (R or Gr)	Turn OFF the printer. (Sub power key OFF) * For a fundamental solution, connect the corresponding wires to the PCB.	Variation code 5 is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models
S603	134	1 to 20	Head Drive PCB 0 error	Head Drive PCB (HDR PCB) 0 Error (Y/R or Y/G on 5C models) * Head Drive PCBs (HDR PCBs) are labeled 2, 1, and 0 in the order of vicinity to the Engine control PCB. Variation code (Details): - 1: Incorrect attachment of the Head Drive PCB (HDR PCB) has been detected - 2: Data verification error (drive waveform writing error) - 3: Data verification error (drive waveform writing error) - 3: Data verification error (initialization error of the sub CPU of the Head Drive PCB (HDR PCB)) - 4: - - 8: The sub CPU has detected a software error (control error) - 9: The sub CPU has detected a software error (grameter error) - 10: The sub CPU has detected a software error (rap error) - 12: An FPGA power supply error has been detected - 13: Configuration data is not written on the flash memory - 14: A time-out error has been detected during the configuration of the FPGA - 15: A nime-out error has been detected while writrig on the flash memory - 17: An error has been detected while verifying the flash memory - 18: An error has been detected while verifying the flash memory - 19: A data size error has been detected while verifying the flash memory - 20: An error related to the flash memory - 20: An error related to the flash memory	Turn OFF the printer. (Sub power key OFF)	Because the error code specifications are inherited from EX series, variation code 4 remains vacant.
S098	135	1 to 2	P (, R or Gr)-color image control error	P (R or Gr) image control error Variation code (Details): - 1: The Recording data generation PCB (IP PCB) has detected an image control error for P (, R or Gr) color. - 2: The firmware has detected a data control error for P (, R or Gr) color. (An image forwarding interruption by the hardware has not courred.) * The misdetection of the trailing edge of advancing sheets may cause this error code. (Additional notes in Remarks.)	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models * Additional notes for variation code 2: - The light intensity adjstment on the Top edge sensor could prevent this error. - The usage of perforated sheets is to be checked.
S606	136	1 to 4	Head Drive PCB 2 error (Power)	Head Drive PCB (HDR PCB) 2 Error (K on 5C units) * Head Drive PCBs (HDR PCBs) are labeled 2, 1 and 0 in the order of vicinity to the Engine control PCB. Variation code (Details): - 1: 24 V input voltage error detected. - 2: 35 V input voltage error detected. - 3: -24 V input voltage error detected. - 4: PMS detected 24V or 5V input voltage error	Turn OFF the printer. (Sub power key OFF)	
S606	137	1 to 4	Head Drive PCB 1 error (Power)	Head Drive PCB (HDR PCB) 1 Error (C/M on 5C models) * Head Drive PCBs (HDR PCBs) are labeled 2, 1 and 0 in the order of vicinity to the Engine control PCB. Variation code (Details): - 1: 24 V input voltage error detected. - 2: 35 V input voltage error detected. - 3: -24 V input voltage error detected. - 4: PMS detected 24V or 5V input voltage error	Turn OFF the printer. (Sub power key OFF)	
S097	138	1 to 4	Head Drive PCB 0 error (Power)	Head Drive PCB (HDR PCB) 0 Error (Y/R or Y/G on 5C models) * Head Drive PCBs (HDR PCBs) are labeled 2, 1 and 0 in the order of vicinity to the Engine control PCB. Variation code (Details): - 1: 24 V input voltage error detected. - 2: 35 V input voltage error detected. - 3: -24 V input voltage error detected. - 3: -24 V input voltage error detected. - 3: -24 V input voltage error detected. - 4: PMS detected 24V or 5V input voltage error	Turn OFF the printer. (Sub power key OFF)	
S099	139	1 to 6	Head Drive PCB error (Drop count control)	A drop count control error has been detected on Head Drive PCB (HDR PCB) Variation code (Details): - 1 to 3: The Print head drop count value has been updated at an incorrect occasion. - 4 to 6: An incorrect value has been detected in the Print head drop count.	Turn OFF the printer. (Sub power key OFF)	
S099	140		System error on CPU	An OS-operation-related system error has been detected on the CPU side.	Turn OFF the printer. (Sub power key OFF)	
S099	141	1 to 2	System error	A mechanical action error has occurred in the Maintenance-unit-control-related module. Variation code (Details): - 1: Irregular status transition detected. - 2: Time-out error with a specified action unfinished within a specific period	Turn OFF the printer. (Sub power key OFF)	
S099	142	1 to 9	System error	An irregular status transition has been detected in the Ink-circulation-unit-control- related module. Variation code (Details): - 1 to 9: Error type (1 to 9) for the illegal sequence detected by the Ink-control- related module	Turn OFF the printer. (Sub power key OFF)	
S099	143		System error	The Ink-supply-unit-control-related module has detected an irregular status transition.	Turn OFF the printer. (Sub power key OFF)	

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S099	144	1 to 2	Software error (Ink temperature)	An error has been detected in the Ink temperature adjustment unit control software. Variation code (Details): - 1: The Ink-temperature-adjustment-unit-control-related module has detected an irregular status transition. - 2: The temperature value used for ink temperature adjustment, which is to be specified in Test Mode, is out of the valid range defined in specifications, preventing proper temperature control.	Turn OFF the printer. (Sub power key OFF)	
S099	145	1 to 9	Software error (System control)	System-control-related module error The following software error (information overflow, no-response, etc.) has been detected in the System-control-related module on the Engine control PCB. Variation code (Details): - 1: An unspecified software error - 2: Image adjustment or data forwarding process error - 3: Download process error - 4: PMS-crelated data transmission/reception process error - 5: PMS-related data transmission/reception process error - 7: Information overflow for paper ejection notification command in the process of status change notification to PMS - 8: Information overflow for completed setting notification command in the process of status change notification to PMS - 9: No information response for test mode setting range acquisition command from the Test mode control module	Turn OFF the printer. (Sub power key OFF)	
S099	146	1 to 9	Software error (Error recovery)	Error-recovery-control-related module error The following software error, excluding the variation code 1, has been detected in the Error-recovery-control-related module on the Engine control PCB. Variation code (Details): - 1: An irregular status transition (in the Error-control-related module) - 2: An irregular status transition - 3: Exclusive status error in paper jam re-detection process - 4: Incorrect recovery type at the start of recovery process - 5: Incorrect recovery information during internal recovery information configuration - 7: Incorrect recovery information during internal recovery information acquisition - 8: Retry time-out error without receipt of phased control action request of the Maintenance unit during cleaning recovery operation - 9: Retry time-out error without receipt of cleaning retry action request during cleaning recovery operation	Turn OFF the printer. (Sub power key OFF)	
S099	147		Test mode error	An undefined test mode number has been notified.	Turn OFF the printer. (Sub power key OFF)	
S099	148	3 to 9	Software error (HDR control)	HDR control module software error Variation code (Details): - 3: A parameter error has been detected in the HDR control module. - 4: An irregular operation has been detected in the HDR control module. - 5: An irregular operation has been detected in the sub CPU for Head Drive PCB (HDR PCB) 1. - 7: A parameter error has been detected in the CIS control module. - 8: An irregular operation has been detected in the CIS control module. - 9: An irregular operation has been detected in the CIS control module. - 9: An irregular operation has been detected in the CIS control module. - 9: An irregular operation has been detected in the CIS control module.	Turn OFF the printer. (Sub power key OFF)	
S099	149	1 to 3	Software error (PMS communication)	PMS communication driver error Variation code (Details): - 1: A parameter error has been detected in the PMS communication driver. - 2: An irregular operation has been detected in the PMS communication driver. - 3: The data overflow of flag addresses used for notification of recording data acquisition to PMS through ITI interruption has been detected in the PMS communication driver.	Turn OFF the printer. (Sub power key OFF)	
S099	150	1 to 9	Software error on Engine control PCB	Print-sequence-related software error on the Engine control PCB Variation code (Details): - 1: An unspecified print-sequence-related software error - 2: A time-out with the response from the paper-transfer-related control software - 3: A time-out with the response the communication control software for finishing equipment" - 5: A time-out with the response from the count-control-related software - 6: A time-out with the response from the count-control-related software - 6: A time-out with the lock prior to setting cancellation - 7: A time-out with the lock prior to setting cancellation - 8: A time-out with the generation of restart information - 9: The Paper ejection tray is invalid	Turn OFF the printer. (Sub power key OFF)	
S099	151		Incorrect sheet queue operation	An incorrect operation of the "sheet queue" has been detected.	Turn OFF the printer. (Sub power key OFF)	

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S099	152	1 to 8	Software error on Engine control PCB	Print reservation information management software error on the Engine control PCB Variation code (Details): - 1: An operation error or time-out 2: A time-out (40 sec) of a subordinate module in job deletion (*1) - 3: A time-out (50 sec) of a subordinate module at print stop (*1) - 4: A time-out (50 sec) of a subordinate module at print stop (*1) - 5: A time-out (50 sec) of a subordinate module at print stop (*1) - 6: 7: A time-out (180 sec) with the locking process at the receipt of a job deletion command by the engine firmware (*2) - 8: A time-out (10 sec) with the generation of the restart information for the print- sequence-related software - Paper-transfer-related control software - Communication control software - Print-sequence-related software	Turn OFF the printer. (Sub power key OFF)	
W200	153	1 to 2	Print data reception delay	The information required to start print is lacking. Variation code (Detected by): - 1: PMS (The initial page data (2-page data in duplex print) has not been received yet when resuming a job.) - 2: Engine control PCB (The print reservation information management software has detected a time-out (3 min.) of commands from PMS at print start.) * The said time-out has occurred because print cannot be started without sufficient JOB commands.	Execute one of the following. (1) Touch the [Continue] button (2) Touch the [Cancel] button	* This error will be less likely to occur if the job is output again after changing the output destination to [Await Order] or [Storage]. Job restart process does not exist because this error occurs without jobs.
S099	154	1 to 13	Image formation error	Image formation module error Variation code (Details): - 1: An unspecific parameter error - 2: An operational error - 3: A parameter error at print start - 4: A parameter error at image formation - 5: A parameter error at image formation - 6: Transfer ID is set at 0 at image formation - 7: An image formation request to a processed page or one in processing - 8: A hardware driver parameter error - 9: Hardware driver control error - 10: An Image-related parameter error - 11: Unfinished drop count calculation processing for the preceding page at the end of image formation - 13: A side masking control error at image formation	Turn OFF the printer. (Sub power key OFF)	
S099	155	1 to 9	Software error on Engine control PCB (System conrol)	System-control-related module error on the Engine control PCB Variation code (Details): -1: Variable length memory area shortage -2: A pre-idling-status-related error -3: A response error of the paper-transfer-related control software in the roller profile test modes -4: An incorrect status transition -5: A time-out error in the "Store/Restore Data" test mode operation -6: A parameter error in the manual data storage or restoration operation -7: An incorrect status transition in the "Store/Restore Data" test mode operation -8: An incorrect status error upon completion of setting cancellation operation -9: A reception timing error of the status acquisition command for setting cancellation end	Turn OFF the printer. (Sub power key OFF)	
S099	156	1 to 9	Software error on Engine control PCB (System conrol)	System-control-related module error on the Engine control PCB Variation code (Details): - 1: A time-out with setting cancellation ending - 2: A notification parameter error from the print control module - 3: An initialization error - 4: A wakeup operation error - 5: A Transfer belt descent error at paper jam - 6: An unexpected value of control variables - 7: - 8: A time-out 1 of Engine counter information 1 acquisition command (PMS- Engine communication error) - 9: A time-out 2 of Engine counter information 1 acquisition command (PMS- Engine communication error)	Turn OFF the printer. (Sub power key OFF)	
S099	157	1 to 9	Software error (Error recovery)	Error-recovery-control-related module error Variation code (Details): - 1: A retry time-out without receipt of mechanical initialization request in recovery operation during cleaning - 2: A retry time-out without receipt of recovery operation for initial ink filling - 3: An incorrect recovery phase during emergency stop processing in recovery operation for initial ink filling - 4: An incorrect recovery phase during emergency stop processing in recovery operation for initial ink filling - 5: A retry time-out without receipt of prior operation request for ink replacement in recovery operation for initial ink filling - 6: A retry time-out without receipt of prior operation request for ink replacement in recovery operation at ink depletion - 7: A retry time-out without receipt of prior operation request in recovery operation at ink depletion - 8: A retry time-out without receipt of prior operation request for jam removal in recovery operation at paper jam - 9: A retry time-out without receipt of prior operation request for jam removal in recovery operation at paper jam	Turn OFF the printer. (Sub power key OFF)	

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S099	158	1 to 3	Software error (Error recovery)	Error-recovery-control-related module error Variation code (Details): - 1: A retry time-out without receipt of mechanical initialization request at closure of a single cover in recovery operation at paper jam - 2: A retry time-out without receipt of prior operation request for lock release in recovery operation at Front door lock release - 3: A retry time-out without receipt of mechanical initialization request at closure of a single cover in mechanical recovery operation	Turn OFF the printer. (Sub power key OFF)	
S099	160	1 to 2	Ink temperature adjustment error	Ink temperature adjustment error Variation code (Details): - 1: The link temperature adjustment request cannot be accepted within a prescribed amount of time - 2: The link circulation operation did not start after a predefined amount of time, regardless of activation of the Ink heater at power-on.	Turn OFF the printer. (Sub power key OFF)	
S099	161		Ink temperature adjustment error	The ink circulation action has been interrupted during the ink temperature adjustment that requires ink circulation.	Turn OFF the printer. (Sub power key OFF)	
S099	162	1 to 9	Software error (Mechanical control)	Machanical-control-related module error Variation code (Details): - 1: The movement to the print position has not finished within a prescribed amount of time during mechanical actions for print preparation. Or, the paper transfer preparation completion has not been notified within a predefined amount of time. - 2: The Print head gap adjustment operation by the Tansfer belt unit has not finished within a predefined amount of time during mechanical actions for print preparation. - 3: The auxiliary operation sequence for print preparation has not finished within a predefined amount of time. - 4: The paper feed tray switching operation or ink circulation operation for print preparation has not finished within a predefined amount of time. - 5: The machiannical actions for normal Print head cleaning or Misdirection recovery have not finished within a predefined amount of time. - 6: The mechanical actions for strong Print head cleaning ne not finished within a predefined amount of time. - 7: The Suction fan operations in the Transfer belt unit have not finished within a predefined amount of time. - 8: The Maintenance-unit-related processes have not finished within a predefined amount of time in various mechanical actions. - 9: The ink-circulation-related processes have not finished within a predefined amount of time in various mechanical actions.	Turn OFF the printer. (Sub power key OFF)	
S099	163	1 to 7	Software error (Mechanical control)	Machanical-control-related module error Variation code (Details): - 1: The combined processes for Maintenance unit and ink circulation have not finished within a predefined amount of time in various mechanical actions. - 2: The audiary operation sequence for mechanical initialization has not finished within a predefined amount of time. - 3: In the paper-transfer-related test modes involving machanical actions, an operation completion has not been notified from the paper-transfer-related control software within a predefined amount of time. - 4: A requested operation cannot be executed without mechanical initialization. - 5: The Print head driving processes have not finished within a predefined amount of time during the Misdirection recovery operation. - 6: The fitting action has not finished within a predefined amount of time in test modes. - 7: The Transfer belt home positioning process has not finished within a predefined amount of time during mechanical initialization.	Turn OFF the printer. (Sub power key OFF)	
S099	164	1 to 2	Software error (Mechanical action request)	Machanical action request time-out error Variation code (Details): - 1: The status remains BUSY even when a prescribed amount of time has passed after a mechanical action request was made. - 2: The fitting actoin has not finished even when a prescribed amount of time has passed after a mechanical action request was made.	Turn OFF the printer. (Sub power key OFF)	
S099	165	1 to 3	Software error (TAG information management)	TAG information management software error Variation code (Details): - 1: An operation error. - 2: Communication buffer overflow. - 3: No notification of "no ink" error from the TAG-access-related software against the ink depletion notificatoin from the TAG information management software.	Turn OFF the printer. (Sub power key OFF)	
S099	166	1 to 6	Software error on Engine control PCB (Power supply conrol)	Power supply control module error on the Engine control PCB Variation code (Control type): - 1: Paper transfer control - 2: TAG control - 3: Mechanism control - 4: Counter control - 5: Multifunction finisher control - 6: Image formation control	Turn OFF the printer. (Sub power key OFF)	
S093	167	1 to 6	Test mode execution error	A test mode status error has been notified to indicate that the corresponding test mode has not finished correctly for the following. Variation code (Software type): - 1: Print head drive software on the Engine control PCB - 2: Print-sequence-related software on the Engine control PCB - 3: Paper-transfer-related software on the Engine control PCB - 4: Finishing equipment communication control software - 5: Count-control-related software - 6: TAG-access-related software	Turn OFF the printer. (Sub power key OFF)	

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Panel Messages

Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S099	168	1 to 5	CIS error	Side registration control module (CIS) error Variation code (Details): - 1: The page information count of a side registration control (CIS) request has become full. - 2: The leading edge of paper has been detected even without a side registration control (CIS) request - 3: The trailing edge of paper has been detected even without a side registration control (CIS) request - 4: The trailing edge of paper has been detected before the leading edge of paper. - 5: The leading edge of paper has been detected before the trailing edge of paper.	Turn OFF the printer. (Sub power key OFF)	
S099	170	1 to 9	Flash memory error	Flash memory error Variation code (Details): - 1: The rights to access the flash memory cannot be acquired - 2: The adjustment value writing area of the flash memory cannot be accessed - 3: The writing ID for the flash memory is out of the predefined range. - 4: An odd-number address has been specified for access to the flash memory. - 5: An odd-number data size has been specified for access to the flash memory. - 6: A larger size of data than the predefined maximum one has been specified for access to the flash memory. - 7: There is no available space or writing tag on the flash memory. - 8: The access to the flash memory has not finished within a prescribed amount of time - 9: The value of the corresponding writing area on the flash memory is not initialized.	Turn OFF the printer. (Sub power key OFF)	
S099	171	1 to 5	Flash memory error	Flash memory error Variation code (Error types): - 1: Uploading is not possible as the corresponding flash memory shadow area is in the writing status. - 2: Writing is not possible as the corresponding flash memory shadow area is in the uploading status. - 3: A request has been made for writing into an area outside the flash memory. - 4: Flash memory error 13 - 5: Non-volatile data management model error	Turn OFF the printer. (Sub power key OFF)	
W057	172		Adjustment values not saved	TM01-4-001 "TEST MODE CLEAR (ALL)," TM04-4-001 "TEST MODE CLEAR (ENGINE)" or TM01-4-002 "FACTORY DEFAULT" cannot be executed because there is no backup data on the flash memory without activating TM04-3-011 "ADJUST PARAMETER SAVE."	Touch the [Close] button.	An error that occurs only in test modes. Job restart process does not exist because this error occurs without jobs.
S099	173	1 to 10	Software error on PMS	A failure of a resident process in the PMS (This error code will be indicated if it has been detected by the periodical PMS check that a resident process does not exist there.) Variation code (Module in PMS): 1: Network-related software 2: USB-connected-equipment-related software 3: Objeration-panel-related software 4: Job/System-status-related software 5: Print-operation-related software 6: Image-adjustment-related software 7: User-nformation-storage/update-related or security-related software 7: OS-operation-related software 9: Device-driver-related software 10: RIP-related software	Turn OFF the printer. (Sub power key OFF)	
S099	174		Software error (CAN driver)	CAN (Controller Area Network) driver transmission software error The CAN driver transmission unit has detected a software error.	Turn OFF the printer. (Sub power key OFF)	
S098	175		Hardware error (CAN driver)	CAN (Controller Area Network) driver transmission hardware error The CAN driver transmission unit has detected a hardware error.	Turn OFF the printer. (Sub power key OFF)	
S099	176		Software error (CAN driver)	CAN (Controller Area Network) driver reception software error The CAN driver reception unit has detected a software error.	Turn OFF the printer. (Sub power key OFF)	
S098	177		Hardware error (CAN driver)	CAN (Controller Area Network) driver reception hardware error The CAN driver reception unit has detected a hardware error.	Turn OFF the printer. (Sub power key OFF)	
S098	178		Hardware error (CAN driver)	CAN (Controller Area Network) driver circuit error The CAN driver unit has detected a circuit error.	Turn OFF the printer. (Sub power key OFF)	
S099	180		Software error (Image formation)	An irregular status transition has been detected within the image formation module.	Turn OFF the printer. (Sub power key OFF)	
S604	181		Panel PCB error	Touch panel IC error (IC activation failure) The Touch panel IC activation process has not finished within a certain period of time after Sub-power-on.	Turn OFF the printer. (Sub power key OFF)	An error notification is provided after the initial communication completes. Keeps waiting for the activation of the Touch panel IC.
S604	182		Panel PCB error	Touch panel IC error (Touch panel threshold adjustment failure) The threshold could not be determined within a certain times of threshold adjustment or the threshold adjustment test mode operation has not finished within a certain period of time.	Turn OFF the printer. (Sub power key OFF)	An error notification is provided after discarding the received command. Ack is to be returned.

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S614	183	1 to 2	PMS-Panel communication error	Operation panel firmware reception command error Variation code (Details): - 1: Undefined command (A command which is not defined in the PMS-panel communication specifications was received from the PMS.) - 2: Data length mismatch (The data length of the received command did not match the one defined in the command code listed in the PMS-panel communication specifications.)	Turn OFF the printer. (Sub power key OFF)	An error notification is provided after discarding the received command. Ack is to be returned.
5099	184	1 to 24	Operation panel firmware error	Operation panel firmware error A logically improbable parameter value has appeared in the following. Variation code (Programs): -1: Main routine -2: Version information -3: System administration manager -4: Instruction system manager -5: Notification system manager -6: Download manager -7: Log manager -8: PMS communication driver (reception side) -9: PMS communication driver (reception side) -9: PMS communication driver (reception side) -9: PMS communication driver -11: Timer operation driver -12: LCD backlight driver -13: LED driver -14: Buzzer driver -15: Key scan driver -16: Touch panel origin correction -17: Touch panel origin correction -18: Data flash driver -19: Manufacturing line inspection driver -20: General-purpose I/O driver -21: Avardware timer driver -22: Asynchronous serial communication driver -23: Synchronous serial communication driver -24: L2C communication driver	Turn OFF the printer. (Sub power key OFF)	
S099	185	1 to 2	Test mode parameter error	The specified test mode parameter is out of allowable range. Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Turn OFF the printer. (Sub power key OFF)	
W258	186		No data reception for final blank page in PS duplex print	The final blank page data have not been received in a PS (Post Script) duplex print job. * This error may occur when the page count is odd for the corresponding PS document.	Touch the [Close] button.	
W258	187		PMS software error	In the job output process by the print-operation-related software in PMS, it has been detected that the format of the page information file differs from the stated one.	Touch the [Close] button.	The printer stops after ejecting the sheets remaining inside. The suspended print job is to be resumed. * When the suspended prnt job cannot be resumed, another error code, S099-0038, is to be displayed under the said condition.
S097	190		Power supply error (24 VA)	24 VA voltage failure It has not been detected that 24 VA voltage is applied even though it was provided from the power supply.	Turn OFF the printer. (Sub power key OFF)	
S097	191		Power supply error (24 VB)	24 VB voltage failure It has not been detected that 24 VB voltage is applied even though it was provided from the power supply.	Turn OFF the printer. (Sub power key OFF)	
S097	192		Power supply error (24 VBIL)	24 VBIL voltage failure It has not been detected that 24 VBIL voltage is applied even though it was provided from the power supply.	Turn OFF the printer. (Sub power key OFF)	
S097	193		Power supply error (24VC)	24 VC voltage failure It has not been detected that 24 VC voltage is applied even though it was provided from the power supply.	Turn OFF the printer. (Sub power key OFF)	
S097	194		Power supply error (36V)	36 V voltage failure It has not been detected that 36 V voltage is applied even though it was provided from the power supply.	Turn OFF the printer. (Sub power key OFF)	
S097	196	1 to 3	Power supply error	A Head Drive PCB (HDR PCB) has detected a voltage error while energizing the Print head power supply unit. Variation code (HDR PCB types): - 1: Head Drive PCB (HDR PCB) 2 (K on 5C models) - 2: Head Drive PCB (HDR PCB) 1 (C/M on 5C models) - 3: Head Drive PCB (HDR PCB) 0 (V/R or V/G on 5C models) * Head Drive PCBs (HDR PCBs) are labeled 2, 1, and 0 in the order of vicinity to the Standard paper feed tray.	Turn OFF the printer. (Sub power key OFF)	
S041	198	1 to 3	CIS baseline voltage error	The baseline voltage (Vblank) of the CIS could not be read properly at the start of printing. Variation code (Location): - 1: On the left (rear) side - 2: On the right (front) side - 3: On both left and right sides	Turn OFF the printer. (Sub power key OFF)	
U195	200		Download error (Scanner)	The program data transmission to the scanner has failed when downloading programs for FB (Flatbed)or AF (Auto feeder).	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	The program download for FB or AF will be terminated as a failure. The scanner operates using the existing program before the said program download succeeds,
U002	201		Scanner communication error	An undefined command has been received from the scanner during communication with the scanner.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) It may also be possible to clear this error code by reconnecting or rebooting the scanner.	The process in progress will be terminated as a failure. Once the scanner has been reconnected or rebooted, or the PMS has been rebooted, the operation will restart from the initial communication with the scanner, resuming the process in progress before this error occurred.

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
U001	202		Scanner connection error	There is no response from the scanner during communication with the scanner.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) It may also be possible to clear this error code by reconnecting or rebooting the scanner.	The process in progress will be terminated as a failure. Once the scanner has been reconnected or rebooted, or the PMS has been rebooted, the operation will restart from the initial communication with the scanner, resuming the process in progress before this error occurred.
U002	203		Scanner communication error	Incorrect PMS scan parameter (Upload start command) setting at the start of scanning operation	Press the Reset key, or turn OFF the printer. (Sub power key OFF) It may also be possible to clear this error code by reconnecting or rebooting the scanner.	The process in progress will be terminated as a failure. Once the scanner has been reconnected or rebodted, or the PMS has been rebodted, the operation will restart from the initial communication with the scanner, resuming the process in progress before this error occurred.
U002	204		Scanner communication error	The header information sent from the scanner to the PMS is corrupt.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) It may also be possible to clear this error code by reconnecting or rebooting the scanner.	The process in progress will be terminated as a failure. Once the scanner has been reconnected or rebooted, or the PMS has been rebooted, the operation will restart from the initial communication with the scanner, resuming the process in progress before this error occurred.
U002	205		Scanner communication error	The scanner communication program has failed to secure memory.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) It may also be possible to clear this error code by reconnecting or rebooting the scanner.	The process in progress will be terminated as a failure. Once the scanner has been reconnected or rebooted, or the PMS has been rebooted, the operation will restart from the initial communication with the scanner, resuming the process in progress before this error occurred.
U195	206		Download error (Scanner)	The program data file could not be opened when downloading programs for FB (Flatbed)or AF (Auto feeder).	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	The program download for FB or AF will be terminated as a failure. The scanner operates using the existing program before the said program download succeeds,
U002	207		Scanner communication error	The data acquired from the scanner in the data monitoring test modes could not be written onto the HDD (or SSD).	Press the Reset key, or turn OFF the printer. (Sub power key OFF) It may also be possible to clear this error code by reconnecting or rebooting the scanner.	The selected data monitoring test mode will be terminated as a failure.
U002	210		Scanner communication error	In the test mode TM21-3-022 "SCANNER PARAMETER PRINT," the scanner information data acquired from the scanner could not be opened.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) It may also be possible to clear this error code by reconnecting or rebooting the scanner.	The corresponding test mode will be terminated as a failure.
U002	211		Scanner communication error	The scanned image data acquired form the scanner could not be opened.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) It may also be possible to clear this error code by reconnecting or rebooting the scanner.	The current scanning opertaion will be terminated as a failure. Once the scanner has been reconnected or rebooted, or the PMS has been rebooted, the operation will restart from the initial communication with the scanner, resuming the process in progress before this error occurred.
U002	213		Scanner communication error	The scanned image data acquired form the scanner could not be saved.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) It may also be possible to clear this error code by reconnecting or rebooting the scanner.	The current scanning opertaion will be terminated as a failure. Once the scanner has been reconnected or rebooted, or the PMS has been rebooted, the operation will restart from the initial communication with the scanner, resuming the process in progress before this error occurred.
U002	215		Scanner communication error	The scanned image data could not be acquired from the scanner.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) It may also be possible to clear this error code by reconnecting or rebooting the scanner.	The current scanning opertaion will be terminated as a failure. Once the scanner has been reconnected or rebooted, or the PMS has been rebooted, the operation will restart from the initial communication with the scanner, resuming the process in progress before this error occurred.
U002	216		Scanner communication error	In the test mode TM21-3-022 "SCANNER PARAMETER PRINT," the data to be printed could not be acquired from the scanner.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) It may also be possible to clear this error code by reconnecting or rebooting the scanner.	The corresponding test mode will be terminated as a failure.
U002	217		Scanner communication error	Any of the following errors exists on the scanner when starting scanning. - No profile exists for intermittent shading settings. - An unspecific error (without an inspection gig connected) - Image data tranmissoin error (without an inspection jig connected) - Not in stand-by status (without an inspection jig connected) - AF unit in Busy status (without an inspection jig connected)	Press the Reset key, or turn OFF the printer. (Sub power key OFF) It may also be possible to clear this error code by reconnecting or rebooting the scanner.	The current scanning opertaion will be terminated as a failure. Once the scanner has been reconnected or rebooted, or the PMS has been rebooted, the operation will restart from the initial communication with the scanner, resuming the process in progress before this error occurred.
U002	218		Scanner communication error	It has not been determined within 30 seconds whether another original is to be scanned through AF or not.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) It may also be possible to clear this error code by reconnecting or rebooting the scanner.	The current AF scanning opertaion will be terminated as a failure. Once the scanner has been reconnected or rebooted, or the PMS has been rebooted, the operation will restart from the initial communication with the scanner, resuming the process in progress before this error occurred.
U001	219		Scanner connection error	The scanner is not connected nor powered on. (The 5V signal cannot be detected from the USB cable connected to the scanner.)	Press the Reset key, or turn OFF the printer. (Sub power key OFF) It may also be possible to clear this error code by reconnecting or rebooting the scanner.	The process in progress will be terminated as a failure. Once the scanner has been reconnected or rebooted, or the PMS has been rebooted, the operation will restart from the initial communication with the scanner, resuming the process in progress before this error occurred.
U001	220		Scanner connection error	The firmware for the scanner could not be found. - There was no response from the scanner when the start command was transmitted to the scanner at the initial communication. - The program Ver.0.00 has been received form the scanner at the initial communication.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) It may also be possible to clear this error code by reconnecting or rebooting the scanner. * The scanner firmware may also be required to be downloaded.	The initial communication with the scanner will be terminated as a failure. Once the scanner firmware has been downloaded, the scanner has been reconnected or rebooted, or the PMS has been rebooted, the operation will restart from the initial communication with the scanner.
S089	221		Scanner communication error	The communication command version received from the scanner at the initial communication is not correct.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) It may also be possible to clear this error code by reconnecting or rebooting the scanner.	The initial communication with the scanner will be terminated as a failure. Once the scanner has been reconnected or rebooted, or the PMS has been rebooted, the operation will restart from the initial communication with the scanner.

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Panel Messages

Туре	Point	vc	Summary	Description	Recovery Action	Remarks
W040	222		Paused job deleted	When the "Confirm" window or the "Setting" window, which is to be opened with a touch of the [Change Setting] button in the former window, is displayed for a paused print job, the corresponding print job has been deleted via the Riso Console.	Touch the [Close] button.	The corresponding print job cannot be resumed after error recovery.
S099	223		Print color mode mismatch	It has been detected that the print color mode does not match the color parameters of print images.	Turn OFF the printer. (Sub power key OFF)	The print operation, which will be resumed by rebooting the printer, is to be interrupted.
W047	224		Image adjustment failed	The "Measurement pattern" data acquired through the scanner was not proper for image adjustment through the selected test mode. (Incorrect data was generated when images were adjusted using the measurement pattern acquired through the scanner.)	Touch the [Close] button.	The corresponding test mode will be terminated as a failure. This error code is to be indicated only in the test mode. Job restart process does not exist because this error occurs without jobs.
W058	225		CIS auto adjustment failed	The baseline voltage (Vblank) of the CIS on the left (rear) side could not be read properly in CIS shading compensation or operation confirmation,	Touch the [Close] button.	This error code is to be indicated only in the test mode. Job restart process does not exist because this error occurs without jobs.
W058	226	1 to 4	CIS auto adjustment failed	Shading compensation error with the CIS on the left (rear) side Variation code (Details): - 1: The paper required for shading compensation was not placed in the prescribed position. - 2: - - 3: - - 4: The paper required for shading compensation could not be detected.	Touch the [Close] button.	This error code is to be indicated only in the test mode. Job restart process does not exist because this error occurs without jobs.
W058	227		CIS auto adjustment failed	The CIS output level could not be compensated within ±5% through the shading compensation of the CIS on the left (rear) side.	Touch the [Close] button.	This error code is to be indicated only in the test mode. Job restart process does not exist because this error occurs without jobs.
W059	228		CIS operation check failed	The paper edge could not be detected during operation check of the CIS on the left (rear) side.	Touch the [Close] button.	This error code is to be indicated only in the test mode. Job restart process does not exist because this error occurs without jobs.
1008	229	1 to 2	Belt maintenance request	Transfer belt maintenance request for smudge removal Variation code (Causes): - 1: The Transfer belt density measured by the CIS reached 30% or more. - 2: The CIS-detected paper width or paper center was out of the prescribed range or displaced beyond the prescribed limit.	Touch the [Close] button. *For a fundamental solution, clean the Transfer belt so that the CIS-measured belt density may become less than 30%. Or, replace it with a new one.	
W093	230	1 to 3	Email address error	Failed to send mail due to faulty recipient settings. An SMTP response code indicating a transmission error (550, 551 or 553) was received after mail transmission. Variation code (SMTP response code): - 1: 550 (No recipient mailbox) - 2: 551 (No selected recipient) - 3: 553 (Invalid recipient mailbox name)	Touch the [Close] button.	Job restart process does not exist because this error occurs without jobs.
W094	231	1 to 3	Mail server setting error	Failed to send mail due to faulty mail server settings. An SMTP response code indicating a transmission error (432 534 or 535) was received after mail transmission. Variation code (SMTP response code): - 1: 432 (Password change is required.) - 2: 534 (The authentication mechanism is too weak.) - 3: 535 (Authentication error)	Touch the [Close] button.	Job restart process does not exist because this error occurs without jobs.
W095	232		Mail server over limit	Failed to send mail due to over-allocation of storage area in the mail server. An SMTP response code indicating a transmission error, 552 (Over-allocation of client storage area), was received after mail transmission. *Mainly caused by oversized mail data	Touch the [Close] button.	Job restart process does not exist because this error occurs without jobs.
W096	233	1 to 8	Email transmission error (Server- originated)	Failed to send mail due to a mail server error. An SMTP response code indicating a transmission error (421, 450, 451, 452, 454, 521, 530 or 554) was received after mail transmission. Variation code (SMTP response code): - 1: 421 (Service temporarily unavailable) * - 2: 450 (Mail box temporarily unavailable) - 3: 451 (Server local error) - 4: 452 (Memory shortage in file system) - 5: 454 (Temporary authentication failure) - 6: 521 (Mail rejection) * - 7: 530 (Access rejection) - 8: 554 (Other processing failures) * * In the event of a time-out error, variation code 1, 6, or 8 is to be indicated.	Touch the [Close] button.	Job restart process does not exist because this error occurs without jobs.
W097	234	1 to 6	Email transmission error (Client- originated)	Failed to send mail due to faulty mail data An SMTP response code indicating a transmission error (500 through 504 or 538) was received after mail transmission. Variation code (SMTP response code): - 1: 500 (Syntax error) - 2: 501 (Parameter error) - 3: 502 (Unavailable command) - 4: 503 (Incorrect command order) - 5: 504 (No command parameter) - 6: 538 (No encryption required for the requested authentication mechanism)	Touch the [Close] button.	Job restart process does not exist because this error occurs without jobs.
W060	235	1 to 2	Failed access to scan destination server	Failed to access the scan destination server without the corresponding account there or due to incorrect server address. Variation code (Error types): - 1: Invalid server address - 2: No account in server	Touch the [Close] button.	Job restart process does not exist because this error occurs without jobs.

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
W060	236	1 to 3	Failed access to scan destination server	Failed data transfer to the scan destination server due to a communication error therewith or a process time-out. Variation code (Error types): - 1: No directory in the scan destination server - 2: Unable to write data into the directory of the scan destination server - 3: Process time-out during data transmission (storage)	Touch the [Close] button.	Job restart process does not exist because this error occurs without jobs.
W060	237		Failed access to scan destination server	Incorrect settings on the scan destination server. * e.g., invalid characters included in the scan destination server address.	Touch the [Close] button.	Job restart process does not exist because this error occurs without jobs.
W061	238		No scan data server storage	No scan data storage into the scan destination server without available file names (All available file names are already in use in the said server.)	Touch the [Close] button.	Job restart process does not exist because this error occurs without jobs.
W061	239		No scan data server storage	No scan data storage into the scan destination server due to excessive data size. (The said data file, i.e. ZIP (TIFF or JPG) or PDF file, size is over the processing limit (2GB), preventing its storage into the server.)	Touch the [Close] button.	Job restart process does not exist because this error occurs without jobs.
W014	240		Envelope setting error	An incompatible setting, i.e. Duplex print or Face-down straight tray output, has been specified while selecting the paper tray whose paper type setting is [Envelope],	Execute one of the following. (1) Touch the [Change Tray] button and select another paper tray whose paper type setting is not [Erwelope]. Then touch the [Continue] button. (*) (2) Touch the [Change Tray] button and change the paper type setting for the selected tray to another than [Envelope]. Then touch the [Continue] button. (*) * When the selected tray is the Standard paper tray, touch the [Continue] button to clear this error. If not, the error will be cleared automatically. [Remarks *1] (3) Touch the [Stop] button. (4) Delete the current print job.	Print operation will not be resumed automatically. * 1 For the Standard paper tray, it will be resumed with a touch-panel operation after error clearance. For other trays, on the other hand, it will be automatically resumed after error clearance.
S095	241	1 to 6	Download error (PMS or Panel)	PMS download error Variation code (Details): - 1: The path and file name of PMS firmware are not specified. - 2: The script for performing the update does not exist within PMS firmware. - 3: The script for performing the update does not exist in the prescribed location. - 4: Failed to downlad PMS firmware though it was successfully expanded. - 5: The PMS firmware with the specified path and file name does not exist. - 6: Failed to expand PMS firmware.	Press the [Start] key.	
W064	242		SSD initialization error	The SSD could not be initialized after rebooting the system.	Touch the [Close] button.	This error code is to be indicated only in the test mode. Job restart process does not exist because this error occurs without jobs.
W067	244	1 to 4	Riso Remote Agent communication error	Failed to communicate with the RRA (Riso Remote Agent) server. Variation code (Details): - 1: A network connection cannot be established with the RRA server (No ping response) - 2: A time-out error after connection to the RRA server. - 3: Proxy connection failed. - 4: Proxy authentication failed. <possible abobe="" cases="" code="" error="" for="" indication="" the=""> - Failed communication during 'Send Error History'' operation in the Administrator mode. - Failed communication during the test mode TM01-3-031 "ADMIN SERVER COMMUNICATION TEST." - Failed authentication for the proxy server though it is requested. - Failed authentication for the proxy server though it is requested.</possible>	Touch the [Close] button.	Job restart process does not exist because this error occurs without jobs.
W068	245		Transfer belt stain detection	Stains have been detected on the Transfer belt by the CIS at the start of or during print.	Execute one of the following. (1) Touch the [Continue] button. (2) Touch the [Cancel] button. (3) Delete the current print job.	Print operation can be resumed with a touch-panel operation after error clearance.
S099	246		Package firmware mismatch	Mismatch of the downloaded package firmware versions, whose data is saved in the HDD (or SSD) by PMS, with those notified by the Engine control PCB at power-on. * Firmwares concerned: SH, RX, TAG, HDR FPGA, IP FPGA, HDR Sub Microcomputer and Panel.	Turn OFF the printer. (Sub power key OFF)	
W070	247	1 to 4	Unfinished test modes	Test mode errors Variation code (Causes): - 1: Existence of exclusive conditions (*) - 2: Incompatible Model card - 3: Misc. (*) - 4: No applicable color (When an error is detected by the Engine control PCB, the PMS determines the cause of the error by referring to the status notified by the Engine control PCB.) * For the error variation code 1 or 3, the error status will be cleared by re- entering the test mode from the initial mode selection window.	Touch the [Close] button.	This error code is to be indicated only in the test mode. Job restart process does not exist because this error occurs without jobs.
S601	248		Engine control PCB error	Failed to acquire the value for the initial engine count after the power was turned ON.	Turn OFF the printer. (Sub power key OFF)	
S098	250		SSD database failure	SSD database access error An error has been detected when a database control (or inquiry) command was issued.	Turn OFF the printer. (Sub power key OFF)	The system operation is suspended.
S098	251		SSD database failure	SSD database failure An error has been notified from the SSD database when accessed.	Turn OFF the printer. (Sub power key OFF)	The system operation is suspended.

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Panel Messages

Туре	Point	vc	Summary	Description	Recovery Action	Remarks
W070	252		Unfinished test modes	Automatic speed adjustment failure The resultant motor speed adjustment value was not valid (betwenn -20 and +50) when executing the test mode TM06-3-006 "BP MOTOR SPEED AUTO ADJUST."	Touch the [Close] button.	This error code is to be indicated only in the test mode. Job restart process does not exist because this error occurs without jobs.
S098	253		SSD connection failure	An SSD connection failure has been detected during the preceding printer energization. (It has been found at power-on that there exists a record of SSD connection failure detection during the preceding printer energization.)	Turn OFF the printer. (Sub power key OFF)	
W070	254		SSD encryption notification	It has been noted in the following test modes that the SSD is encrypted through the "SSD data encryption" function in the Administrator menu. - TM No. 01-3-044 "SSD VALUE STORE" - TM No. 13-045 "SSD VALUE RESTORE" - TM No. 31-3-010 "EXTL-CONTROLLER RINC DATA SAVE USB"	Touch the [Close] button.	
W047	255		Image adjustment failed	No adjustment image file found in USB drive for the test mode TM02-3-043 "IMAGE ADJUST FILE TRANSMIT." * Be sure that adjustment image files have been downloaded into the USB drive in advance for this test mode.	Touch the [Close] button.	The corresponding test mode will be terminated as a failure. This error code is to be indicated only in the test mode. Job restart process does not exist because this error occurs without jobs.
U001	256		Scanner connection error	The connected scanner is incompatible with a 2-color model (PMS). * The scanner firmware upgrade is required to make the scanner compatible with 2-color models. * This error code will appear at the connection of the scanner or power-on because the scanner's property is to be checked at the initial communication.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) It may also be possible to clear this error code by reconnecting or rebooting the scanner.	The initial communication with the scanner will be terminated as a failure. Once the scanner firmware has been downloaded, the scanner has been reconnected or rebooted, or the PMS has been rebooted, the operation will restart from the initial communication with the scanner.
U001	257		Scanner connection error	The connected scanner is incompatible with a printer. * This error code will appear at the connection of the scanner or power-on because the scanner's property is to be checked at the initial communication.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) Connect a compatible scanner.	The initial communication with the scanner will be terminated as a failure. Once the scanner firmware has been downloaded, the scanner has been reconnected or rebooted, or the PMS has been rebooted, the operation will restart from the initial communication with the scanner.
U090	262		Error history clear error	Corrupted error table in database The error table in the corresponding database is to be initialized. (In cases the error table is found to be corrupted at power-on, the printer will be activated, clearing the said error table)	None *This error will be automatically cleared on the PMS.	No error code display * This error code is to be recorded only in the error history and will be displayed or printed through the test mode TM01- 5-011 "ERROR HISTROY DISPLAY."
W088	263	1 to 3	Kerberos Server error	Failed to communicate with the Kerberos server. * Detected only when the external server authentication function is enabled. Variation code (Details): - 1: Failed to access an external Kerberos server Without a secondary server configured, this error code will be displayed when the communication to the primary server and the login with the cache have both failed. With a secondary server configured, on the other hand, it will be displayed when the communication to the secondary server and the login with the cache have both failed. - 2: The search login name used upon communication with an external Kerberos server is incorrect.	Touch the [Close] button.	Check the following settings to make sure that they are correct. - Kerberos server - DNS server - Reaim name - Search login name - Search password Job restart process does not exist because this error occurs without jobs.
W089	264		LDAP Server error	Failed to communicate with the LDAP server. (Failed to access an external Active Directory.) * Detected only when the external server authentication function is enabled. Without a secondary server configured, this error code will be displayed when the communication to the primary server and the login with the cache have both failed. With a secondary server configured, on the other hand, it will be displayed when the communication to the secondary server and the login with the cache have both failed.	Touch the [Close] button.	Check the following settings to make sure that they are correct. - LDAP server - DNS server - IC card ID properties - User ID properties - Search root - Search root Job restart process does not exist because this error occurs without jobs.
W090	265		External server synchronization error	Failed to communicate with an external server without its synchronization with PMS. Without a secondary server configured, this error code will be displayed when the communication to the primary server and the login with the cache have both failed. With a secondary server configured, on the other hand, it will be displayed when the communication to the secondary server and the login with the cache have both failed.	Touch the [Close] button.	Check the following settings to make sure that they are correct. - NTP server settings Job restart process does not exist because this error occurs without jobs.
W098	267		USB file access error	Configuration file upload error on USB drive (e.g. in case of "Charge count print data CSV file upload") Possible causes are as follows. - No corresponding file on USB drive - Invalid configuration - Incorrect file format	Touch the [Close] button.	Job restart process does not exist because this error occurs without jobs.
W015	270		No factory default data to be restored	No data to be restored on HDD (or SSD) with the test mode TM01-3-013 "ENGINE FACTORY VALUE RESTORE."	Touch the [Close] button.	This error code is to be indicated only in the test mode. Job restart process does not exist because this error occurs without jobs.
W222	271	1 to 2	Failure in RRA server confirmation	The RRA (Riso Remote Agent) server has failed to be confirmed during the test mode TM01-3-031 "ADMIN SERVER COMMUNICATION TEST." Variation code (Causes): - 1: Unconfirmed proxy server name - 2: Unconfirmed RRA server name	Touch the [Close] button.	This error code is to be indicated only in the test mode. Job restart process does not exist because this error occurs without jobs.
W222	272	1 to 3	Failure in HTTP communication with RRA server	The HTTP communication with the RRA (Riso Remote Agent) server has failed during the test mode TM01-3-031 "ADMIN SERVER COMMUNICATION TEST." Variation code (Causes): - 1: Failed proxy server authentication - 2: Failed data transmission through HTTP - 3: Failed data reception through HTTP	Touch the [Close] button.	This error code is to be indicated only in the test mode. Job restart process does not exist because this error occurs without jobs.

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Panel Messages

Туре	Point	vc	Summary	Description	Recovery Action	Remarks
W223	273	1 10 to 17 20 to 27	Failure in firmware acquision from RRA server	The downloadable firmware list has failed to be acquired from the RRA (Riso Remote Agent) server has failed or the connection with the RRA server has been terminated during acquisition of downloadable firmware from the said server. Variation code (Causes): - 1: BUSY status in communication modules - 10: Failure in preparation for communication with RRA server - 11: RRA server connection failure - 12: RRA server connection failure - 13: RRA server connection failure - 14: RRA server data transmission failure - 15: RRA server data transmission failure - 16: RRA server data transmission failure - 17: Other RRA server failures - 10: Failure in preparation for communication with proxy server - 20: Failure in preparation for communication with proxy server - 21: Proxy server connection failure - 22: Proxy server connection failure - 23: Proxy server data transmission failure - 24: Proxy server data transmission failure - 25: Proxy server data transmission failure - 25: Proxy server data transmission failure - 26: Proxy server authentication failure - 27: Other Proxy server failures	Touch the [Close] button.	The current firmware acquisition processing can be resumed by touching the [Resume] button in the displayed screen when it is interrupted due to RRA server connection termination.
W224	274	1 to 10	Error in firmware acquired from RRA server	An error has been found in the firmware acquired from the RRA (Riso Remote Agent) server or during processing the acquired firmware. Variation code (Details): - 1: Parameter error - 2: Configuration information error - 3: Data file error - 3: Data file error - 5: Decryption error - 6: Data comination failure - 7: Data mismatch - 8: Internal processing error - 9: Result notification time-out - 10: Other errors	Touch the [Close] button.	
W147	275		Folder storage unavailable	Storage box not available without free space due to excessive file quantity.	Touch the [Close] button.	It is not possible to resume operation after error recovery. This error code is not to be displayed when a print job file is stored on the printer through PC operation (printer driver) or a stored print job file is copied.
W227	277	1 to 5	No firmware acquisition from RRA server	A target firmware cannot be acquired from the RRA (Riso Remote Agent) server due to its absence or usage prohibition. Variation code (Causes): - 1: Illegal firmware data - 2: RRA server internal system error - 3: BUSY status in RRA server - 4: Error response from RRA server - 5: Other errors in RRA server	Touch the [Close] button.	The current firmware acquisition processing can be resumed by touching the [Resume] button in the displayed screen
W228	278		No backup firmware at reboot	No backup firmware has not been found at reboot during firmware restoration processing though it existed for the said processing before reboot.	Touch the [Close] button.	
W070	279		RRA server operation in process	It has been noted during the below-listed test modes that the RRA (Riso Remote Agent) server is still operating to download a requested firmware into the printer or upload the current operation log from the printer. < Corresponding test modes> - TM01-3-031 "ADMIN SERVER COMMUNICATION TEST" - TM01-3-016 "BUFFERED OPERATION LOG USB STORAGE" [Note] In the above case, "Acquiring" (or "Transmitting") or "In pause" is to be displayed as status message in the "Firmware Download" or "Operation Log Transmission" function in the Administrator Menu.	Touch the [Close] button.	This error code is not to be displayed when the said Administrator Menu function is canceled or completed before executing the said test modes.
W349	280	1 to 9	USB storage/restoration failure	The configuration (setting) data has failed to be stored into the USB drive from the SSD or restored from the USB drive onto the SSD. Variation code (Causes): - 1: Incompatible model - 2: No available space on USB drive - 3: Serial number mismatch - 3: SSD access error - 4: PMS version number mismatch - 5: SSD access error - 6: USB drive access error - 7: Data error - 8: - - 9: -	Touch the [Close] button.	The corresponding test mode will be terminated as a failure. This error code is to be indicated only in the test mode. Job restart process does not exist because this error occurs without jobs.
S090	281		Model data error	An unexpected parameter combination of ink color configuration and model code has been detected by the PMS at the initial communication between the PMS and the Engine control PCB at power-on.	Turn OFF the printer. (Sub power key OFF)	
S088	282		Memory shortage error 2	The free memory space has decreased beyond the secondary threshold level. (Much less free memory)	Turn OFF the printer. (Sub power key OFF)	The printer is to be rebooted when the [Close] button is touched.
S089	283		Firmware mismatch	A mismatch has been detected between the model code on the Engine control PCB and the PMS firmware type at the initial communication between the PMS and the Engine control PCB at power-on.	Turn OFF the printer. (Sub power key OFF)	
S099	284	1 to 4	Software error on PMS	An error has been detected in a PMS module during transition to S3 power saving mode. Variation code (Error module): - 1: Print-operation-related software - 2: USB-connected-equipment-related software - 3: Operation-panel-related software - 4: Network-related software	Turn OFF the printer. (Sub power key OFF)	

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S099	285	1 to 4	Software error on PMS	An error has been detected in a PMS module during transition to the sleep mode. Variation code (Error module): - 1: Print-operation-related software - 2: USB-connected-equipment-related software - 3: Operation-panel-related software - 4: Network-related software	Turn OFF the printer. (Sub power key OFF)	
S099	286	1 to 4	Software error on PMS	An error has been detected in a PMS module during transition to the backlight- OFF mode. Variation code (Error module): - 1: Print-operation-related software - 2: USB-connected-equipment-related software - 3: Operation-panet-related software - 3: Operation-panet-related software - 4: Network-related software	Turn OFF the printer. (Sub power key OFF)	
S099	287	1 to 4	Software error on PMS	An error has been detected in a PMS module during recovery from the power saving mode. Variation code (Error module): - 1: Print-operation-related software - 2: USB-connected-equipment-related software - 3: Operation-panel-related software - 4: Network-related software	Turn OFF the printer. (Sub power key OFF)	
W092	288		USB connection error	A USB connection error has been detected while writing data into the USB drive. (A USB drive has been removed while writing data for file copy or folder creation there.)	Touch the [Close] button.	The current operation will be interrupted when the USB drive is removed. It is not possible to resume operation after error recovery.
W106	289		No Wrapping envelope finisher action	The Wrapping envelope finisher operation has been requested though the said equipment is not available.	Execute one of the following. - Touch the [Close] button. - Delete the current print job.	The message prompting an operator to delete the current print job is to be displayed. It is not possible to resume operation after error recovery.
W072	290		No Perfect binder action	The Perfect binder operation has been requested though the said equipment is not powered nor connected.	Execute one of the following. - Touch the [Close] button. - Delete the current print job.	The message prompting an operator to delete the current print job is to be displayed. It is not possible to resume operation after error recovery.
W074	291		Memory shortage error 1	The free memory space has decreased beyond the primary threshold level. (Less free memory)	Touch the [Close] button.	The message prompting an operator to reboot the printer is to be displayed. This error code only appears once when the free memory space has decrease beyond the primary threshold level for the first time. Job restart process does not exist because this error occurs without lobs
W226	292	1 10 to 17 20 to 27	Failure in transmitting operation log to RRA server (Communication error)	An operation log has failed to be transmitted (uploaded) to the RRA (Riso Remote Agent) server due to a communication error. Variation code (Causes): - 1: BUSY status in communication modules - 10: Failure in preparation for communication with RRA server - 11: RRA server connection failure - 12: RRA server connection time-out - 13: RRA server data transmission failure - 14: RRA server data transmission failure - 15: RRA server atta transmission failure - 16: RRA server atta transmission failure - 17: Other RRA server failures - 20: Failure in preparation for communication with proxy server - 21: Proxy server connection failure - 22: Proxy server data transmission failure - 23: Proxy server data transmission failure - 24: Proxy server data transmission failure - 25: Proxy server communication time-out - 26: Proxy server authentication failure - 27: Other Proxy server failures	Touch the [Close] button.	The interrupted operation log uploadng processing can be resumed by touching the [Resume] button in the displayed screen.
W226	293	1 to 10	Failure in transmitting operation log to RRA server (Printer's internal system error)	An operation log has failed to be transmitted (uploaded) to the RRA (Riso Remote Agent) server due to a printer's internal system error. Variation code (Causes): - 1: Parameter error - 2: Configuration information error - 3: Data file error - 3: Data file error - 4: Encryption error - 6: Data comination failure - 7: Data mismatch - 8: Internal processing error - 9: Result notification time-out - 10: Other errors	Touch the [Close] button.	The interrupted operation log uploadng processing may be resumed by touching the [Resume] button in the displayed screen when the indicated variation code is "10."
W226	294	1 to 5	Failure in transmitting operation log to RRA server (RRA server failure)	An operation log has failed to be transmitted (uploaded) to the RRA (Riso Remote Agent) server due to the said server failure. Variation code (Causes): - 1: llegal operation log data - 2: RRA server internal system error - 3: BUSY status in RRA server - 4: Error response from RRA server - 5: Other errors in RRA server	Touch the [Close] button.	The interrupted operation log uploadng processing can be resumed by touching the [Resume] button in the displayed screen.
1021	297		Irregular power shoutdown	The power was not shut down in a proper way. When the printer was not in standby mode, the main power switch was turned OFF, the power cable was disconnected or the power supply failed.	None *This error will be automatically cleared on the PMS.	No error code display * This error code is to be recorded only in the error history and will be displayed or printed through the test mode TM01- 5-011 "ERROR HISTROY DISPLAY."

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
W014	301	1 to 2	Envelope setting error	An incompatible setting, i.e. Triple fold, has been specified on the Multifunction finisher while selecting the paper tray whose paper type setting is [Envelope], Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Execute one of the following. (1) Touch the [Change Tray] button and select another paper tray whose paper type setting is not [Envelope]. Then touch the [Continue] button. (*) (2) Touch the [Change Tray] button and change the paper type setting for the selected tray to another than [Envelope]. Then touch the [Continue] button. (*) * When the selected tray is the Standard paper tray, touch the [Continue] button to clear this error. If not, the error will be cleared automatically. [Remarks *1] (3) Touch the [Stop] button. (4) Delete the current print job.	Print operation will not be resumed automatically. * 1 For the Standard paper tray, it will be resumed with a touch-panel operation after error clearance. For other trays, on the other hand, it will be automatically resumed after error clearance.
W014	302	1 to 2	Envelope setting error	An incompatible setting, i.e. Double fold, has been specified on the Multifunction finisher while selecting the paper tray whose paper type setting is [Envelope], Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Execute one of the following. (1) Touch the [Change Tray] button and select another paper tray whose paper type setting is not [Envelope]. Then touch the [Continue] button. (*) (2) Touch the [Change Tray] button and change the paper type setting for the selected tray to another than [Envelope]. Then touch the [Continue] button. (*) * When the selected tray is the Standard paper tray, touch the [Continue] button to clear this error. If not, the error will be cleared automatically. [Remarks *1] (3) Touch the [Stap] button. (4) Delete the current print job.	Print operation will not be resumed automatically. * 1 For the Standard paper tray, it will be resumed with a touch-panel operation after error clearance. For other trays, on the other hand, it will be automatically resumed after error clearance.
W014	303	1 to 2	Envelope setting error	An incompatible setting, i.e. Z-fold, has been specified on the Multifunction finisher while selecting the paper tray whose paper type setting is [Envelope], Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Execute one of the following. (1) Touch the [Change Tray] button and select another paper tray whose paper type setting is not [Ervelope]. Then touch the [Continue] button. (*) (2) Touch the [Change Tray] button and change the paper type setting for the selected tray to another than [Ervelope]. Then touch the [Continue] button. (*) * When the selected tray is the Standard paper tray, touch the [Continue] button to clear this error. If not, the error will be cleared automatically. [Remarks *1] (3) Touch the [Stop] button. (4) Delete the current print job.	Print operation will not be resumed automatically. * 1 For the Standard paper tray, it will be resumed with a touch-panel operation after error clearance. For other trays, on the other hand, it will be automatically resumed after error clearance.
W014	304	1 to 2	Envelope setting error	An incompatible setting, i.e. Staple, has been specified on the Multifunction finisher while selecting the paper tray whose paper type setting is [Envelope], Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Execute one of the following. (1) Touch the [Change Tray] button and select another paper tray whose paper type setting is not [Ervelope]. Then touch the [Continue] button. (*) (2) Touch the [Change Tray] button and change the paper type setting for the selected tray to another than [Ervelope]. Then touch the [Continue] button. (*) * When the selected tray is the Standard paper tray, touch the [Continue] button to clear this error. If not, the error will be cleared automatically. [Remarks *1] (3) Touch the [Stap] button. (4) Delete the current print job.	Print operation will not be resumed automatically. * 1 For the Standard paper tray, it will be resumed with a touch-panel operation after error clearance. For other trays, on the other hand, it will be automatically resumed after error clearance.
W014	305	1 to 2	Envelope setting error	An incompatible setting, i.e. Punch, has been specified on the Multifunction finisher while selecting the paper tray whose paper type setting is [Envelope], Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Execute one of the following. (1) Touch the [Change Tray] button and select another paper tray whose paper type setting is not [Ervelope]. Then touch the [Continue] button. (*) (2) Touch the [Change Tray] button and change the paper type setting for the selected tray to another than [Ervelope]. Then touch the [Continue] button. (*) * When the selected tray is the Standard paper tray, touch the [Continue] button to clear this error. If not, the error will be cleared automatically. [Remarks *1] (3) Touch the [Stop] button. (4) Delete the current print job.	Print operation will not be resumed automatically. * 1 For the Standard paper tray, it will be resumed with a touch-panel operation after error clearance. For other trays, on the other hand, it will be automatically resumed after error clearance.
W014	306		Envelope setting error	An incompatible setting, i.e. Booklet binding, has been specified on the Multifunction finisher while selecting the paper tray whose paper type setting is [Ernelope], Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Execute one of the following. (1) Touch the [Change Tray] button and select another paper tray whose paper type setting is not [Envelope]. Then touch the [Continue] button. (*) (2) Touch the [Change Tray] button and change the paper type setting for the selected tray to another than [Envelope]. Then touch the [Continue] button. (*) * When the selected tray is the Standard paper tray, touch the [Continue] button to clear this error. If not, the error will be cleared automatically. [Remarks *1] (3) Touch the [Stop] button. (4) Delete the current print job.	Print operation will not be resumed automatically. * 1 For the Standard paper tray, it will be resumed with a touch-panel operation after error clearance. For other trays, on the other hand, it will be automatically resumed after error clearance.

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
W014	307	1 to 2	Envelope setting error	An incompatible setting, i.e. Stacking tray output, has been specified on the Multifunction finisher while selecting the paper tray whose paper type setting is [Envelop], Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Execute one of the following. (1) Touch the [Change Tray] button and select another paper tray whose paper type setting is not [Envelope]. Then touch the [Continue] button. (*) (2) Touch the [Change Tray] button and change the paper type setting for the selected tray to another than [Envelope]. Then touch the [Continue] button. (*) * When the selected tray is the Standard paper tray, touch the [Continue] button to clear this error. If not, the error will be cleared automatically. [Remarks *1] (3) Touch the [Stop] button. (4) Delete the current print job.	Print operation will not be resumed automatically. * 1 For the Standard paper tray, it will be resumed with a touch-panel operation after error clearance. For other trays, on the other hand, it will be automatically resumed after error clearance.
W199	308		Incompatible paper size for cover sheet	An incompatible paper size has been selected as cover sheets for the "Add Cover" function, causing stapling position mismatch between a cover and a body.	Touch the [Close] button.	It is not possible to resume operation after error recovery.
W050	309	1 to 2	Incompatible paper size for a selected output tray	An incompatible paper size has been selected while specifying the Top tray on the Multifunction finisher as output destination. Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Touch the [Close] button.	It is not possible to resume operation after error recovery.
W050	310	1 to 2	Incompatible paper size for a selected output tray	An incompatible paper size has been selected while specifying the Stacking tray on the Multifunction finisher as output destination. Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Touch the [Close] button.	It is not possible to resume operation after error recovery.
W050	311	1 to 2	Incompatible paper size for a selected output tray	An incompatible paper size has been selected while specifying the Facedown offset staple tray as output destination. Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Touch the [Close] button.	It is not possible to resume operation after error recovery.
W091	312	1 to 2	Incompatible paper size for staple	An incompatible paper size has been selected for stapling. Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Touch the [Close] button.	It is not possible to resume operation after error recovery.
W091	313	1 to 2	Incompatible paper size for punch	An incompatible paper size has been selected for punching on the Multifunction finisher. Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Touch the [Close] button.	It is not possible to resume operation after error recovery.
W054	314	1 to 2	Incompatible paper size for folding	An incompatible paper size has been selected for triple folding on the Multifunction finisher. Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Touch the [Close] button.	It is not possible to resume operation after error recovery.
W054	315	1 to 2	Incompatible paper size for folding	An incompatible paper size has been selected for double folding on the Multifunction finisher. Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Touch the [Close] button.	It is not possible to resume operation after error recovery.
W054	316	1 to 2	Incompatible paper size for folding	An incompatible paper size has been selected for Z-folding on the Multifunction finisher. Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Touch the [Close] button.	It is not possible to resume operation after error recovery.
W076	317	1 to 2	Incompatible paper size for booklet binding	An incompatible paper size has been selected for booklet binding on the Multifunction finisher. Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Touch the [Close] button.	It is not possible to resume operation after error recovery.
W084	318	1 to 2	Incompatible paper size for offset stacking	An incompatible paper size has been selected for offset stacking. Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Touch the [Close] button.	It is not possible to resume operation after error recovery.
1011	320		PMS battery empty	The battery is empty on the PMS, leading the internal clock to indicate the wrong current date. * The internal clock is reset each time the printer is powered off if the PMS battery is empty. [Note] In the above case, the voltage value of V_BAT in the hardware monitor reads 2.1V or less.	Touch the [Close] button. * For a fundamental solution, replace the battery on the PMS and correct the clock.	

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
W014	325	1 to 2	Envelope setting error	An incompatible setting, i.e. Facedown stacking, has been specified on the High capacity stacker while selecting the paper tray whose paper type setting is [Envelope], Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Execute one of the following. (1) Touch the [Change Tray] button and select another paper tray whose paper type setting is not [Erwelope]. Then touch the [Continue] button. (*) (2) Touch the [Change Tray] button and change the paper type setting for the selected tray to another than [Erwelope]. Then touch the [Continue] button. (*) * When the selected tray is the Standard paper tray, touch the [Continue] button to clear this error. If not, the error will be cleared automatically. [Remarks *1] (3) Touch the [Stop] button.	Print operation will not be resumed automatically. * 1 For the Standard paper feed tray, it will be resumed with a touch-panel operation after error clearance. For other trays, on the other hand, it will be automatically resumed after error clearance.
W014	326	1 to 2	Envelope setting error	The Wrapping envelope finisher has been specified as output destination while selecting the paper tray whose paper type setting is [Envelope], Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Execute one of the following. (1) Touch the [Change Tray] button and select another paper tray whose paper type setting is not [Ervelope]. Then touch the [Continue] button. (*) (2) Touch the [Change Tray] button and change the paper type setting for the selected tray to another than [Ervelope]. Then touch the [Continue] button. (*) * When the selected tray is the Standard paper tray, touch the [Continue] button to clear this error. If not, the error will be cleared automatically. [Remarks *1] (3) Touch the [Stop] button. (4) Delete the current print job.	Print operation will not be resumed automatically. * 1 For the Standard paper tray, it will be resumed with a touch-panel operation after error clearance. For other trays, on the other hand, it will be automatically resumed after error clearance.
W014	327	1 to 2	Envelope setting error	The Perfect binder has been specified as output destination while selecting the paper tray whose paper type setting is [Envelope], Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Execute one of the following. (1) Touch the [Change Tray] button and select another paper tray whose paper type setting is not [Envelope]. Then touch the [Continue] button. (*) (2) Touch the [Change Tray] button and change the paper type setting for the selected tray to another than [Envelope]. Then touch the [Continue] button. (*) * When the selected tray is the Standard paper tray, touch the [Continue] button to clear this error. If not, the error will be cleared automatically. [Remarks *1] (3) Touch the [Stop] button. (4) Delete the current print job.	Print operation will not be resumed automatically. * 1 For the Standard paper tray, it will be resumed with a touch-panel operation after error clearance. For other trays, on the other hand, it will be automatically resumed after error clearance.
W208	331		Operation panel setting check	Overlay print job error due to mismatched overlay page format or irregular operations, as described below. - The overlay page format (size and orientation) does not match original (base) images. - The corresponding overlay page data has been deleted in the middle of overlay print through the RISO Console. - The image quality of the corresponding overlay page data is specified for higher processing speed.	Touch the [Close] button.	It is not possible to resume operation after error recovery.
W208	332		Operation panel setting check	Perfect book binding print job error due to improper job settings The current print job settings for perfect book binding are not possible with the selected original document data. For example, a cover sheet may be specified while selecting an original document file without cover page data.	Touch the [Close] button.	It is not possible to resume operation after error recovery.
W209	333		Storage data unavailable	No available storage box data for overlay page in overlay print.	Touch the [Close] button.	It is not possible to resume operation after error recovery.
W140	400		External system communication error 1	Failed to communicate with an external system. Failed to access an external system-link application server while the external system-link or cloud function was enabled.	Touch the [Close] button.	Job restart process does not exist because this error occurs without jobs.
W141	401		External system license error	This printer is not registered in the list of available devices on the external system. (A license error has been notified by the external system.)	Touch the [Close] button.	Job restart process does not exist because this error occurs without jobs.
W145	403		External system communication error 2	A communication error with the external system has been detected while manipulating jobs on the external system.	Touch the [Close] button.	It is not possible to resume operation after error recovery.
W211	404		Browser closure error	An error has been detected while closing the buit-in browser.	Touch the [Close] button.	It is not possible to resume the suspended operation after error recovery.
W210	405		Browser boot-up error	An error has been detected while booting up the buit-in browser.	Touch the [Close] button.	It is not possible to resume the suspended operation after error recovery.
W211	406		Browser display error	An error has been detected while displaying the buit-in browser.	Touch the [Close] button.	It is not possible to resume the suspended operation after error recovery.
W145	409	1 to 3	External system communication error 2	Scanned data could not be saved on the cloud server with CloudToScan. Variation code (Causes): - 1: Insufficient free space in cloud storage - 2: Unauthorized to access the save destination path (applicable for Microsoft SharePoint only) - 3: No save destination path	Touch the [Close] button.	It is not possible to resume operation after error recovery.
W145	410	1	External system communication error 2	Unable to print a file on the cloud server with PullPrint. Variation code (Causes): - 1: Locked by a password.	Touch the [Close] button.	It will not be possible to restart the job after releasing the error.

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
1022	450	1 to 10	SSD almost full	The storage data volume is close to the SSD capacity limit. * This error code is to be displayed only once when the storage data volume exceeds any of the SSD ultization ratios specified in variation codes. Variation code (SSD utilization ratio): - 1: 90% - 2: 91% - 3: 92% - 4: 93% - 5: 94% - 6: 95% - 7: 96% - 8: 97% - 9: 98% - 10: 99%		This error code is not to be displayed at power-on and wake- up from the sleep mode.
S098	451		SSD full	The storage data volume has reached the SSD capacity limit (100%).		
W570	500		RINC data print error	Incompatible print data format A simple RINC-format file, which is generated on the barcode application and incompatible with this printer, has been received as a print job, causing a print error.	Execute one of the following. (1) Touch the [Close] button. (2) Delete the current print Job.	It is not possible to resume the suspended operation after error recovery.
S600	511		PMS PCB error	The rotation speed of the fan on the PMS PCB, which is checked once every second, is not at the prescribed level, possibly due to its mechanical or electrical failure.	Turn OFF the printer. (Sub power key OFF)	
S096	512		PMS PCB error	The PCIe socket on the PMS PCB, whose status is checked at power-on and at communication errors between PCBs, is not firmly inserted.	Turn OFF the printer. (Sub power key OFF)	
S602	515		IP PCB error	The I2C device on the Recording data generation PCB (IP PCB) does not respond.	Turn OFF the printer. (Sub power key OFF)	
S099	516		IP PCB error	The I2C device on the Recording data generation PCB (IP PCB) cannot be opened.	Turn OFF the printer. (Sub power key OFF)	
S601	521		Engine control PCB error	The configuration of FPGA on the Engine control PCB, which is checked at power-on, is not completed, possibly due to ROM or FOGA failure, or ROM data corruption.	Turn OFF the printer. (Sub power key OFF)	
S601	522		Engine control PCB error	The Interface wire harness between the Recording data generation PCB (IP PCB) and the Engine control PCB, whose status is checked at power-on and at communication errors between PCBs, is disconnected.	Turn OFF the printer. (Sub power key OFF)	
S601	523		Engine control PCB error	An Interface wire harness between the Engine control PCB and the Head Drive PCB (HDR PCB) or between the Head Drive PCBs (HDR PCBs), whose status is checked at power-on and at communication errors between PCBs, is disconnected.	Turn OFF the printer. (Sub power key OFF)	It cannot be detected what Head Drive PCB (HDR PCB) is not connected to the Engine control PCB as a result of disconnection of the said interface wire harness.
S601	524	1 to 99	Engine control PCB error	Cascade connection wires between the Engine control PCB and Head Drive PCB (HDR PCB) or between Head Drive PCBs (HDR PCBs), whose status is checked at power-on and at communication errors between PCBs, are disconnected. Or, the number of connected Head Drive PCBs (HDR PCBs), which is also checked at power-on and at communication errors between PCBs, is more than designated. Variation code (Error point): - 1: Between Engine control PCB and Head Drive (HDR) PCB 2 - 2: Between Head Drive (HDR) PCB 2 and Head Drive (HDR) PCB 1 - 3: Between Head Drive (HDR) PCB 1 and Head Drive (HDR) PCB 0 - 4 to 98: - - 99: More Head Drive (HDR) PCBs than designated	Turn OFF the printer. (Sub power key OFF)	
S601	525		Engine control PCB error	24 V power current input error on the Engine control PCB at power-on The 24 V power current is not supplied to the Engine control PCB, possibly due to disconnection of the corresponding connector on the power supply unit or the Engine control PCB, or a failure of the power supply unit.	Turn OFF the printer. (Sub power key OFF)	
S601	526		Engine control PCB error	35 V power current input error on the Engine control PCB at power-on The 35 V power current is not supplied to the Engine control PCB, possibly due to disconnection of the corresponding connector on the power supply unit or the Engine control PCB, or a failure of the power supply unit itself.	Turn OFF the printer. (Sub power key OFF)	
S601	527		Engine control PCB error	It has been detected at power-on that a fuse is blown on the Engine control PCB.	Turn OFF the printer. (Sub power key OFF)	
S601	528		Engine control PCB error	Head Drive PCB (HDR PCB) interrupt error An error has occurred while processing an interrupt signal from the Head Drive PCB (HDR PCB).	Turn OFF the printer. (Sub power key OFF)	
S601	529		Head drive PCB error	Head Drive PCB (HDR PCB) preparation error The Head Drive PCBs (HDR PCBs) do not become available.	Turn OFF the printer. (Sub power key OFF)	
S602	531		IP PCB error	It has been detected at power-on or at a communication error between PCBs that the protection circuit of the regulator for the power current VCCINT 1.0V was triggered on the Recording data generation PCB (IP PCB), possibly due to a short circuit or a failure of the regulator itself.	Turn OFF the printer. (Sub power key OFF)	
S602	532		IP PCB error	It has been detected at power-on or at a communication error between PCBs that the protection circuit of the regulator for the power current VCCAUX 1.8V was triggered on the Recording data generation PCB (IP PCB), possibly due to a short circuit or a failure of the regulator itself.	Turn OFF the printer. (Sub power key OFF)	
S602	533		IP PCB error	It has been detected at power-on or at a communication error between PCBs that the protection circuit of the regulator for the power current AVCC 1.0V was triggered on the Recording data generation PCB (IP PCB), possibly due to a short circuit or a failure of the regulator itself.	Turn OFF the printer. (Sub power key OFF)	

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S602	534		IP PCB error	It has been detected at power-on or at a communication error between PCBs that the protection circuit of the regulator for the power current AVTT 1.8V was triggered on the Recording data generation PCB (IP PCB), possibly due to a short circuit or a failure of the regulator itself.	Turn OFF the printer. (Sub power key OFF)	
S602	535		IP PCB error	It has been detected at power-on or at a communication error between PCBs that the protection circuit of the regulator for the power current VCCO 1.35V was triggered on the Recording data generation PCB (IP PCB), possibly due to a short circuit or a failure of the regulator itself.	Turn OFF the printer. (Sub power key OFF)	
S602	536		IP PCB error	It has been detected at power-on or at a communication error between PCBs that the protection circuit of the high-side switch for the power current VCCO 3.3V was triggered on the Recording data generation PCB (IP PCB), possibly due to a short circuit.	Turn OFF the printer. (Sub power key OFF)	
S602	537	1 to 2	IP PCB error	The configuration of FPGA on the Recording data generation PCB (IP PCB), which is checked at power-on, is not completed. Variation code (Causes): - 1: ROM or FOGA failure, or ROM data corruption - 2: Unusual FPGA configuration status	Turn OFF the printer. (Sub power key OFF)	
S096	538		IP PCB error	The Interface wire harness between the Recording data generation PCB (IP PCB) and the Engine control PCB, whose status is checked at power-on and at communication errors between PCBs, is disconnected on the IP PCB.	Turn OFF the printer. (Sub power key OFF)	
S602	539		IP PCB error	The Interface wire harness between the Recording data generation PCB (IP PCB) and the Head Drive (HDR) PCB 2, whose status is checked at power-on and at communication errors between PCBs, is disconnected on the IP PCB.	Turn OFF the printer. (Sub power key OFF)	
S602	540		IP PCB error	The Interface wire harness between the Recording data generation PCB (IP PCB) and the Head Drive (HDR) PCB 1, whose status is checked at power-on and at communication errors between PCBs, is disconnected on the IP PCB.	Turn OFF the printer. (Sub power key OFF)	
S602	541		IP PCB error	The Interface wire harness between the Recording data generation PCB (IP PCB) and the Head Drive (HDR) PCB 0, whose status is checked at power-on and at communication errors between PCBs, is disconnected on the IP PCB.	Turn OFF the printer. (Sub power key OFF)	
S602	542		IP PCB error	Incorrect wire connection, such as print color control signal wire interchange, between Head Drive PCB (HDR PCB) and the Recording data generation PCB (IP PCB)	Turn OFF the printer. (Sub power key OFF)	
S605	543	30 to 40	Head drive PCB 2 error	Head Drive PCB (HDR PCB) 2 Error (detected by Sub CPU thereof) (K on SC models) * Head Drive PCBs (HDR PCBs) are labeled 2, 1 and 0 in the order of vicinity to the Engine control PCB. Variation code (Error points): = 30: No FPGA configuration data = 31: Initiation time-out for FPGA configuration = 32: Completion time-out for FPGA configuration = 33: EEPROM data virite error = 34: EEPROM data virite arror = 35: EEPROM data virite arror = 36: EEPROM data virite arror = 36: EEPROM data virite arror = 36: EEPROM data virite arror = 37: Dther EEPROM errors = 38: Disconnection of the Interface wire harness on the Engine control PCB = 39: Access time-out on the Engine control PCB = 40: Errors on the Engine control PCB	Turn OFF the printer. (Sub power key OFF)	When the PMS cannot recognize the printer's model and find an error point, the error detected by the sub CPU on the Head Drive PCB (HDR PCB) 2 is notified with the corresponding variation code.
S605	544	30 to 40	Head drive PCB 1 error	Head Drive PCB (HDR PCB) 1 Error (detected by Sub CPU thereof) (C/M on SC models) * Head Drive PCBs (HDR PCBs) are labeled 2, 1 and 0 in the order of vicinity to the Engine control PCB. Variation code (Error points): - 30 to 40: Same as of S605-543 (Refer there for details.)	Turn OFF the printer. (Sub power key OFF)	When the PMS cannot recognize the printer's model and find an error point, the error detected by the sub CPU on the Head Drive PCB (HDR PCB) 1 is notified with the corresponding variation code.
S605	545	30 to 40	Head drive PCB 0 error	Head Drive PCB (HDR PCB) 0 Error (detected by Sub CPU thereof) (Y/R or Y/G on 5C models) * Head Drive PCBs (HDR PCBs) are labeled 2, 1 and 0 in the order of vicinity to the Engine control PCB. Variation code (Error points): - 30 to 40: Same as of S605-543 (Refer there for details.)	Turn OFF the printer. (Sub power key OFF)	When the PMS cannot recognize the printer's model and find an error point, the error detected by the sub CPU on the Head Drive PCB (HDR PCB) 0 is notified with the corresponding variation code.

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S605	546	1 to 99	Head drive PCB 2 error	Head Drive PCB (HDR PCB) 2 Error (detected by Sub CPU thereof) (K on 5C models) * Head Drive PCBs (HDR PCBs) are labeled 2, 1 and 0 in the order of vicinity to the Engine control PCB. Variation code (Error points): Head voltage failure 1 to 6: At to A6 Head (Positive side) - 9 to 14: At to A6 Head (Positive side) - 7 to 22: Bt to B6 Head (Positive side) - 26 to 30: Bt to B6 Head (Nk flow-in side) - 41 to 46: At to A6 Head (Ink flow-in side) - 41 to 46: At to A6 Head (Ink flow-in side) - 41 to 54: Bt to B6 Head (Ink flow-in side) - 57 to 62: Bt to B6 Head (Ink flow-in side) - 57 to 62: Bt to B6 Head (Ink flow-in side) - 73: Communication error with IP PCB - 74: Extended IO access error - 73: Common tead - 81 to 86: Head 1 to 6 - 87: Common Head - 88: Unspecified Head + Head SU power failure - 98 to 94: Head 1 to 6 - 95: Common Head - 96: Unspecified Head - 97: Common Head - 96: Unspecified Head - 97: Common Head - 96: Unspecified Head - 96: Unspecified Head - 97: Common Head - 96: Unspecified Head - 96: Unspecified Head - 97: Common Head - 98: Software error on HDR PCB - 97: to 98: Software error 1 to 3	Turn OFF the printer. (Sub power key OFF)	When the PMS cannot recognize the printer's model and find an error point, the error detected by the sub CPU on the Head Drive PCB (HDR PCB) 2 is notified with the corresponding variation code.
S605	547	1 to 99	Head drive PCB 1 error	Head Drive PCB (HDR PCB) 1 Error (detected by Sub CPU thereof) (C/M on SC models) * Head Drive PCBs (HDR PCBs) are labeled 2, 1 and 0 in the order of vicinity to the Engine control PCB. Variation code (Error points): - 1 to 99: Same as of S605-546 (Refer there for details.)	Turn OFF the printer. (Sub power key OFF)	When the PMS cannot recognize the printer's model and find an error point, the error detected by the sub CPU on the Head Drive PCB (HDR PCB) 1 is notified with the corresponding variation code.
S605	548	1 to 99	Head drive PCB 0 error	Head Drive PCB (HDR PCB) 0 Error (detected by Sub CPU thereof) (Y/R or Y/G on 5C models) * Head Drive PCBs (HDR PCBs) are labeled 2, 1 and 0 in the order of vicinity to the Engine control PCB. Variation code (Error points): - 1 to 99: Same as of S605-546 (Refer there for details.)	Turn OFF the printer. (Sub power key OFF)	When the PMS cannot recognize the printer's model and find an error point, the error detected by the sub CPU on the Head Drive PCB (HDR PCB) 0 is notified with the corresponding variation code.
S603	551		Head drive PCB error	It has been detected at power-on or at a communication error between PCBs that the protection circuit of the regulator for the FPGA power current (1.11/2.5V) was triggered on the Head Drive PCB (HDR PCB), possibly due to a short circuit or a failure of the regulator itself.	Turn OFF the printer. (Sub power key OFF)	
S603	552		Head drive PCB error	The configuration of FPGA on the Head Drive PCB (HDR PCB), which is checked at power-on, is not completed, possibly due to ROM or FOGA failure, or ROM data corruption.	Turn OFF the printer. (Sub power key OFF)	
S603	553		Head drive PCB error	The Interface wire harness between the Head Drive PCB (HDR PCB) and the Engine control PCB, whose status is checked at power-on and at communication errors between PCBs, is disconnected on the Head Drive PCB (HDR PCB).	Turn OFF the printer. (Sub power key OFF)	
S603	554		Head drive PCB error	An Interface wire harness between the Head Drive PCBs (HDR PCBs), whose status is checked at power-on and at communication errors between PCBs, is disconnected.	Turn OFF the printer. (Sub power key OFF)	
S613	555	1 to 3	Engine-HDR 2 communication error	Head Drive PCB (HDR PCB) 2 connection error Variation code (Details): - 1: The Interface wire harness between the Head Drive PCB (HDR PCB) and the Recording data generation PCB (IP PCB), whose status is checked at power-on and at communication errors between PCBs, is disconnected on the Head Drive PCB (HDR PCB). - 2: No signal from the Recording data generation PCB (IP PCB). The LAN cable between the Head Drive PCB (HDR PCB) and the Recording data generation PCB (IP PCB), whose status is checked at communication errors between PCBs, is disconnected. - 3: The Interface wire harness between the Head Drive PCB (HDR PCB) and the Engine control PCB is disconnected	Turn OFF the printer. (Sub power key OFF)	
S613	556	1 to 3	Engine-HDR 1 communication error	Head Drive PCB (HDR PCB) 1 connection error Variation code (Details): - 1: The Interface wire harness between the Head Drive PCB (HDR PCB) and the Recording data generation PCB (IP PCB), whose status is checked at power-on and at communication errors between PCBs, is disconnected on the Head Drive PCB (HDR PCB). - 2: No signal from the Recording data generation PCB (IP PCB). The LAN cable between the Head Drive PCB (HDR PCB) and the Recording data generation PCB (IP PCB), whose status is checked at communication errors between PCBs, is disconnected. - 3: The Interface wire harness between the Head Drive PCB (HDR PCB) and the Engine control PCB is disconnected	Turn OFF the printer. (Sub power key OFF)	
S603	560	1 to 4	Head drive PCB error	FPGA error on Head Drive PCB (HDR PCB) for K-color Head nozzle row 1 Variation code (Error types): - 1: FPGA reset error (An error has occurred in FPGA control register.) - 2: FPGA memory error (An error has occurred during FPGA memory test.) - 3: Encoder input error (FPGA encoder input signal has an error.) - 4: Power failure detection by FPGA (FPGA has detected a power failure.)	Turn OFF the printer. (Sub power key OFF)	When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads K and C) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print head row containing another color than K is referred to as row 2. The print head row containing K in both of the above cases is then referred to as row 1.

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S603	561	1 to 4	Head drive PCB error	FPGA error on Head Drive PCB (HDR PCB) for C color Variation code (Error types): - 1: FPGA reset error (An error has occurred in FPGA control register.) - 2: FPGA memory error (An error has occurred during FPGA memory test.) - 3: Encoder input error (FPGA encoder input signal has an error.) - 4: Power failure detection by FPGA (FPGA has detected a power failure.)	Turn OFF the printer. (Sub power key OFF)	
S603	562	1 to 4	Head drive PCB error	FPGA error on Head Drive PCB (HDR PCB) for M color Variation code (Error types): - 1: FPGA reset error (An error has occurred in FPGA control register.) - 2: FPGA memory error (An error has occurred during FPGA memory test.) - 3: Encoder input error (FPGA encoder input signal has an error.) - 4: Power failure detection by FPGA (FPGA has detected a power failure.)	Turn OFF the printer. (Sub power key OFF)	
S603	563	1 to 4	Head drive PCB error	FPGA error on Head Drive PCB (HDR PCB) for Y color Variation code (Error types): - 1: FPGA reset error (An error has occurred in FPGA control register.) - 2: FPGA memory error (An error has occurred during FPGA memory test.) - 3: Encoder input error (FPGA encoder input signal has an error.) - 4: Power failure detection by FPGA (FPGA has detected a power failure.)	Turn OFF the printer. (Sub power key OFF)	
S603	564	1 to 4	Head drive PCB error	FPGA error on Head Drive PCB (HDR PCB) for K-color Head nozzle row 2 Variation code (Error types): - 1: FPGA reset error (An error has occurred in FPGA control register.) - 2: FPGA memory error (An error has occurred during FPGA memory test.) - 3: Encoder input error (FPGA encoder input signal has an error.) - 4: Power failure detection by FPGA (FPGA has detected a power failure.)	Turn OFF the printer. (Sub power key OFF)	When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads K and C) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print head row containing another color than K is referred to as row 2. The print head row containing K in both of the above cases is then referred to as row 1.
S603	565	1 to 4	Head drive PCB error	FPGA error on Head Drive PCB (HDR PCB) for P color Variation code (Error types): - 1: FPGA reset error (An error has occurred in FPGA control register.) - 2: FPGA memory error (An error has occurred during FPGA memory test.) - 3: Encoder input error (FPGA encoder input signal has an error.) - 4: Power failure detection by FPGA (FPGA has detected a power failure.)	Turn OFF the printer. (Sub power key OFF)	
S613	573	1 to 3	Engine-HDR 0 communication error	Head Drive PCB (HDR PCB) 0 connection error Variation code (Details): - 1: The Interface wire harness between the Head Drive PCB (HDR PCB) and the Recording data generation PCB (IP PCB), whose status is checked at power-on and at communication errors between PCBs, is disconnected on the Head Drive PCB (HDR PCB). - 2: No signal from the Recording data generation PCB (IP PCB). The LAN cable between the Head Drive PCB (HDR PCB) and the Recording data generation PCB (IP PCB), whose status is checked at communication errors between PCBs, is disconnected. - 3: The Interface wire harness between the Head Drive PCB (HDR PCB) and the Engine control PCB is disconnected	Turn OFF the printer. (Sub power key OFF)	
S613	580	1 to 13	Engine-HDR 2 communication error	Head Drive PCB (HDR PCB) 2 communication error (K on SC models) * Head Drive PCBs (HDR PCBs) are labeled 2, 1 and 0 in the order of vicinity to the Engine control PCB. Variation code (Error types): - 1: A communication error with the Recording data generation PCB (IP PCB) - 2: A communication loopback value error with the Recording data generation PCB (IP PCB) - 3: An extended IO access error - 4: An access error from the Engine control PCB - 5: An irregular command from the Engine control PCB - 6: A failed data transmission from another PCB - 8: A lock error in data transmission from another PCB - 9: Other errors in data transmission from another PCB - 10: A failed data reception by another PCB - 11: A time-out data reception by another PCB - 12: A lock error in data reception by another PCB - 12: A lock error in data reception by another PCB - 12: A lock error in data reception by another PCB - 13: Cither errors in data reception by another PCB - 13: Other errors in data reception by another PCB	Turn OFF the printer. (Sub power key OFF)	
S613	581	1 to 13	Engine-HDR 1 communication error	Head Drive PCB (HDR PCB) 1 communication error (C/M on SC models) * Head Drive PCBs (HDR PCBs) are labeled 2, 1 and 0 in the order of vicinity to the Engine control PCB. Variation code (Error types): - 1: A communication loopback value error with the Recording data generation PCB (IP PCB) - 2: A communication loopback value error with the Recording data generation PCB (IP PCB) - 3: An extended IO access error - 4: An access error from the Engine control PCB - 5: An irregular command from the Engine control PCB - 6: A failed data transmission from another PCB - 8: A lock error in data transmission from another PCB - 9: Other errors in data transmission from another PCB - 10: A failed data reception by another PCB - 11: A time-out data reception by another PCB - 12: A lock error in data reception by another PCB - 12: A lock error in data reception by another PCB - 12: A lock error in data reception by another PCB - 12: A lock error in data reception by another PCB - 13: Other errors in data reception by another PCB	Turn OFF the printer. (Sub power key OFF)	

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S613	582	1 to 13	Engine-HDR 0 communication error	Head Drive PCB (HDR PCB) 0 communication error (Y/R or Y/G on 5C models) * Head Drive PCBs (HDR PCBs) are labeled 2, 1 and 0 in the order of vicinity to the Engine control PCB. Variation code (Error types): - 1: A communication error with the Recording data generation PCB (IP PCB) - 2: A communication loopback value error with the Recording data generation PCB (IP PCB) - 3: An extended IO access error - 4: An access error from the Engine control PCB - 5: An irregular command from the Engine control PCB - 6: A failed data transmission from another PCB - 8: A lock error in data transmission from another PCB - 9: Other errors in data transmission from another PCB - 10: A failed data reception by another PCB - 11: A time-out data reception by another PCB - 12: A lock error in data transmission from another PCB - 11: A time-out data reception by another PCB - 12: A lock error in data transmission from Engine PCB - 12: A lock error in data transmission from another PCB - 13: Other errors in data reception by another PCB - 13: Other errors in data reception by another PCB	Turn OFF the printer. (Sub power key OFF)	
S602	591	1 to 3	IP PCB error	Incompatible Recording data generation PCB (IP PCB) installed Variation code (Error types): - 1: The type is different. - 2: The combination with the Engine control PCB is not correct, which is to be detected at power-on. - 3: The combination with the printer's model setting and the PCB configuration data is not correct, which is to be detected at power-on. * Including the cases when the configuration data is golden only.	Turn OFF the printer. (Sub power key OFF)	
S602	592	1 to 4	IP PCB error	Recording data generation PCB (IP PCB) communication error (with the Engine control PCB) Variation code (Error types): - 1: A time-out in PCB initiation process - 2: An error in data transmission from the Engine control PCB - 3: An error in data reception by the Engine control PCB - 4: An interrupt error	Turn OFF the printer. (Sub power key OFF)	
W220	601		Print speed control error	The Recording data generation PCB (IP PCB) has detected the print speed has exceeded the given limit during printing operation.	Execute one of the following. (1) Touch the [Confirm] button. [Remarks *1] (2) Clear the concurrent X-type error code. [Remarks *2]	The current print job is required to be suspended because it is suspected that print images might be deformed. The suspended print job can be resumed by applying a soft reset to the IP PCB and Head Drive PCB (HDR PCB). This error code may be indicated, resulting from the print job interruption caused by an X-type error. *1: A print job can be resumed with a touch-panel operation after error clearance. *2: A print job will be automatically resumed after error clearance.
W221	602		USB drive recognition error	The USB drive could not be recognized properly when mounting, probably due to its premature removal during data access.	Touch the [Close] button.	Job restart process does not exist because this error occurs without jobs. This recognition error is to be detected when a USB drive is re-mounted after its premature removal during data access. It is recommended to reboot the printer though the USB drive can be recognized properly if it is re-mounted after a while.
W083	605		PMS-IP data transmission not completed	It has been detected at the start of print data transfer from the Recording data generation PCB (IP PCB) to the Head Drive PCB (HDR PCB) that the corresponding print data transfer from the PMS to the Recording data generation PCB (IP PCB) has not been completed yet.	Execute one of the following. (1) Touch the [Confirm] button. *11 (2) Clear the Type X error code, which is expected to be indicated as well as this one. *2	As printed images may have been disturbed, the current operation is required to be interrupted. However, it can be resumed by making a software reset on the IP PCB and Head Drive (HDR) PCB. *11 tis possible to restart the job manually after error recovery. *2 The job restarts automatically after error recovery.

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
5. Erro	r Point	1000 TI	nrough 1999 (Engine Rela	ated)		
W004	1000	1 to 3	No paper or incompatible-format paper loaded (on Standard feed tray)	The following status has been detected while the Standard paper feed tray is specified as paper source. - No paper exists on the Standard paper feed tray. - The format of paper on the Standard paper feed tray is not compatible with the specified finisher function. - The format of paper on the Standard paper feed tray is not identical with original page format for print jobs for which a finishing option, such as stapling, punch, fold and booklet-making, is specified. * This error code appears only when a print job is specified. Variation code (Error type): - 1: No loaded paper or incompatible paper format with the specified finisher function (detected by the PMS at the start of a print job). - 2: Paper has run out during a print job (detected by the Engine control PCB). - 3: No loaded paper vion, such as stapling, punch, fold and booklet-making, is specified. (detected by the Engine control PCB).	Execute one of the following. (1) Place paper on the Standard paper feed tray and touch the [Continue] button. [Remarks] *1 (2) Touch the [Change Tray] button and select another Paper tray than the Standard paper feed tray. [Remarks] *2 (3) Touch the [Stop] button. (4) Delete the current print job.	The current print job will be on hold or suspended. *1: A print job can be resumed with a touch-panel operation after error clearance. ?2: A print job will be automatically resumed after error clearance.
W005	1001	1 to 3	No paper or incompatible-format paper loaded (on Paper tray 1)	The following status has been detected while the Paper tray 1 is specified as paper source No paper exists on the Paper tray 1 The format of paper on the Paper tray 1 is not compatible with the specified finisher function The format of paper on the Paper tray 1 is not identical with original page format for print jobs for which a finishing option, such as stapling, punch, fold and booklet-making, is specified. * This error code appears only when a print job is specified. Variation code (Error type): - 1: No loaded paper vion a print job (detected by the Engine control PCB) 2: Paper has run out during a print job (detected by the Engine control PCB) 3: No loaded paper whose format is detined with original page format in jobs for which a finishing option, such as stapling, punch, fold and booklet-making, is specified (detected by the Engine control PCB).	Execute one of the following. (1) Load paper on Paper tray 1. [Remarks] *1 (2) Touch the [Change Tray] button and select another Paper tray than Paper tray 1. [Remarks] *1 (3) Touch the [Change Tray] button, select the Standard paper feed tray and touch the [Continue] button. [Remarks] *2 (4) Touch the [Stop] button. (5) Delete the current print job.	The current print job will be on hold or suspended. *1: A print job will be automatically resumed after error clearance. *2: A print job can be resumed with a touch-panel operation after error clearance.
W006	1002	1 to 3	No paper or incompatible-format paper loaded (on Paper tray 2)	The following status has been detected while the Paper tray 2 is specified as paper source No paper exists on the Paper tray 2 The format of paper on the Paper tray 2 is not compatible with the specified finisher function The format of paper on the Paper tray 2 is not identical with original page format for print jobs for which a finishing option, such as stapling, punch, fold and booklet-making, is specified. * This error code appears only when a print job is specified. Variation code (Error type): - 1: No loaded paper vions at the start of a print job 2: Paper has run out during a print job (detected by the Engine control PCB) 3: No loaded paper whose format is diplication which a finishing option, such as stapling, punch, fold and booklet-making, is specified (detected by the Engine control PCB).	Execute one of the following. (1) Load paper on Paper tray 2. [Remarks] *1 (2) Touch the [Change Tray] button and select another Paper tray than Paper tray 2. [Remarks] *1 (3) Touch the [Change Tray] button, select the Standard paper feed tray and touch the [Continue] button. [Remarks] *2 (4) Touch the [Stop] button. (5) Delete the current print job.	The current print job will be on hold or suspended. *1: A print job will be automatically resumed after error clearance. *2: A print job can be resumed with a touch-panel operation after error clearance.
W007	1003	1 to 3	No paper or incompatible-format paper loaded (on Paper tray 3)	The following status has been detected while the Paper tray 3 is specified as paper source No paper exists on the Paper tray 3 The format of paper on the Paper tray 3 is not compatible with the specified finisher function The format of paper on the Paper tray 2 is not identical with original page format for print jobs for which a finishing option, such as stapling, punch, fold and booklet-making, is specified. * This error code appears only when a print job is specified. Variation code (Error type): - 1: No loaded paper or incompatible paper format with the specified finisher function (detected by the PMS at the start of a print job) 2: Paper has run out during a print job (detected by the Engine control PCB) 3: No loaded paper orimats is denical with original page format jobs for which a finishing option, such as stapling, punch, fold and booklet-making, is specified (detected by the Engine control PCB).	Execute one of the following. (1) Load paper on Paper tray 3. [Remarks] *1 (2) Touch the [Change Tray] button and select another Paper tray than Paper tray 3. [Remarks] *1 (3) Touch the [Change Tray] button, select the Standard paper feed tray and touch the [Continue] button. [Remarks] *2 (4) Touch the [Stop] button. (5) Delete the current print job.	The current print job will be on hold or suspended. *1: A print job will be automatically resumed after error clearance. *2: A print job can be resumed with a touch-panel operation after error clearance.
W045	1004	1 to 2	Incompatible paper format mixture	Incompatible paper format mixture with Z-fold printing Another paper format mixture than listed below has been specified with Z-fold printing. - A4 LEF & A3 / B5 LEF & B4 / Letter LEF & Ledger * The prerequisite settings for Z-fold printing with multiple paper formats, i.e. Paper tray auto selection and [Mixed size original] function, could be neglected. Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Execute one of the following. (1) Touch the (Close) button. (2) Delete the current print job.	The current print job will be on hold or suspended. It is not possible to resume the suspended operation after error recovery.
W002	1005	1 to 2	No applicable type paper	No applicable-type (format and category or format only) paper loaded on the paper trays specified under auto paper tray selection The paper whose formar and category (or format only) have been specified for the current print job has run out on the corresponding auto-selected paper trays or is not specified as paper type label on any paper tray specified under auto paper tray selection. *This error code appears only when a print job is specified. Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Execute one of the following. (1) Replenish the corresponding-type paper on emptied paper trays or change the paper loaded on any auto-selected paper tray to the corresponding-type one. Then touch the (Continue) button if required. [Remarks *1] (2) Touch the [Change Tray] button and select a non-auto-selected paper tray if it exists. Then touch the [Continue] bitton if required. [Remarks *1] (3) Touch the [Change Tray] button and include a paper tray whose labeled paper type is the same as specified in the current print job into the list of auto-selected paper trays if it exists. [Remarks *1] (4) Touch the [Continue] button. (5) Touch the [Stop] button. (6) Delete the current print job.	Print operation will not be resumed automatically. * 1 For the Standard paper feed tray, It will be resumed with a touch-panel operation after error clearance. For other trays, on the other hand, it will be automatically resumed after error clearance.

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Panel Messages

Туре	Point	vc	Summary	Description	Recovery Action	Remarks
W018	1006	1 to 2	Incompatible paper format	Incompatible paper format with the specified output paper tray Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Execute one of the following. (1) Touch the [Close] button. (2) Delete the current print job.	Print operation will not start. It is not possible to start the current print job even after error recovery.
Z009	1007		Paper tray 1 not in position	The Tray 1 set Sw has been set OFF without paper jam errors in advance, thus notifying that the Paper tray 1 is open (not set in position). * Another error code, Z025-1250, will be indicated if the said switch is set OFF due to paper jam recovery.	Close Paper tray 1.	
Z010	1008		Paper tray 2 not in position	The Tray 2 set Sw has been set OFF without paper jam errors in advance, thus notifying that the Paper tray 2 is open (not set in position). * Another error code, Z025-1251, will be indicated if the said switch is set OFF due to paper jam recovery.	Close Paper tray 2.	
Z011	1009		Paper tray 3 not in position	The Tray 3 set Sw has been set OFF without paper jam errors in advance, thus notifying that the Paper tray 3 is open (not set in position). * Another error code, Z025-1252, will be indicated if the said switch is set OFF due to paper jam recovery.	Close Paper tray 3.	
W003	1011		No paper loaded on printer	No paper loaded on the printer (on any paper tray) * Detected by the PMS while the printer is idle.	Load paper.	Print operation will not start.
W008	1012	1 to 2	No slip sheet loaded	Slip sheets are not loaded on the prnter or have run out during printing though their insertion is requested for the current print job. * This error code will not be indicated when slip sheets have run out after the current print job is completed. If no paper remains on any paper tray in this case, however, the error code which corresponds to the said condition will be indicated. Variation code (Detected by): - 1: PMS (at the start of a print job) - 2: Engine control PCB (at the start of paper feeding)	Execute one of the following. (1) Load slip sheets on the corresponding tray. If it is the Standard paper feed tray, touch the (Continue) button to start a print job. [Remarks] *1 (2) Touch the [Stop] button. (3) Delete the current print job.	Print operation will not start or wil be suspended. * 1 For the Standard paper feed tray, it will be resurned with a touch-panel operation after error clearance. For other trays, on the other hand, it will be automatically resurned after error clearance. <slip-sheet-applied functions=""> *Sort* in copy mode / Slip sheet insertion in print mode / Program printing in print mode</slip-sheet-applied>
W009	1013	1 to 2	No cover sheet loaded	Front cover sheets are not loaded on the printer or have run out during printing though their addition is requested for the current print job. * This error code will not be indicated when front cover sheets have run out after the current print job is completed. If no paper remains on any paper tray in this case, however, the error code which corresponds to the said condition will be indicated. Variation code (Detected by): - 1: PMS (at the start of a print job) - 2: Engine control PCB (at the start of paper feeding)	Execute one of the following. (1) Load front cover sheets on the corresponding tray. If it is the Standard paper feed tray, touch the [Continue] button to start a print job. [Remarks] *1 (2) Touch the [Stop] button. (3) Delete the current print job.	Print operation will not start or will be suspended. *1 For the Standard paper feed tray, It will be resumed with a touch-panel operation after error clearance. For other trays, on the other hand, It will be automatically resumed after error clearance. <front-cover-sheet-applied functions=""> *Add Cover* in copy and print modes / Booklet binding in print mode / Perfect binding in print mode</front-cover-sheet-applied>
W009	1014	1 to 2	No cover sheet loaded	Back cover sheets are not loaded on the printer or have run out during printing though their addition is requested for the current print job. * This error code will not be indicated when back cover sheets have run out after the current print job is completed. If no paper remains on any paper tray in this case, however, the error code which corresponds to the said condition will be indicated. Variation code (Detected by): - 1: PMS (at the start of a print job) - 2: Engine control PCB (at the start of paper feeding)	Execute one of the following. (1) Load back cover sheets on the corresponding tray. If it is the Standard paper feed tray, touch the [Continue] button to start a print job. [Remarks] ¹¹ (2) Touch the [Stop] button. (3) Delete the current print job.	Print operation will not start or be suspended. * 1 For the Standard paper feed tray, it will be resumed with a touch-panel operation after error clearance. For other trays, on the other hand, it will be automatically resumed after error clearance. <rear-cover-sheet-applied functions=""> *Add Cover' in copy mode</rear-cover-sheet-applied>
W043	1015	1 to 2	Incompatible slip sheet format	Incompatible slip sheet format with the specified output paper tray Variation code (Detected by): - 1: PMS (at the start of a print job) - 2: Engine control PCB (at the start of paper feeding)	Execute one of the following. (1) Load slip sheets of a compatible paper format on the corresponding tray. If it is the Standard paper feed tray, touch the [Continue] button to start a print job. [Remarks] *1 (2) Touch the [Stop] button. (3) Delete the current print job.	Print operation will not start. * 1 For the Standard paper feed tray, it will be resumed with a louch-panel operation after error clearance. For other trays, on the other hand, it will be automatically resumed after error clearance. <slip-sheet-applied functions=""> *Sort* in copy mode / Slip sheet insertion in print mode / Program printing in print mode</slip-sheet-applied>
W044	1016	1 to 2	Inapplicable cover sheet format	Inapplicable front cover sheet format for the current print job The paper format of front cover sheets is not identical with that of body text pages in the current print job. * The above-metioned paper format corresponds to the Z-folded one for Z-folding printing. Variation code (Detected by): - 1: PMS (at the start of a print job) - 2: Engine control PCB (at the start of paper feeding)	Execute one of the following. (1) Load front cover sheets of an applicable paper format on the corresponding tray. If it is the Standard paper feed tray, touch the [Continue] button to start a print job. [Remarks] *1 (2) Touch the [Stop] button. (3) Delete the current print job.	Print operation will not start. * 1 For the Standard paper feed tray, it will start with a touch- panel operation after error clearance. For other trays, on the other hand, it will automatically start after error clearance. <front-cover-sheet-applied functions=""> *Add Cover" in copy and print modes / Booklet binding in print mode / Perfect binding in print mode</front-cover-sheet-applied>
W044	1017	1 to 2	Inapplicable cover sheet format	Inapplicable back cover sheet format for the current print job The paper format of back cover sheets is not identical with that of body text pages in the current print job. * The above-metioned paper format corresponds to the Z-folded one for Z-folding printing. Variation code (Detected by): - 1: PMS (at the start of a print job) - 2: Engine control PCB (at the start of paper feeding)	Execute one of the following. (1) Load back cover sheets of an applicable paper format on the corresponding tray. If it is the Standard paper feed tray, touch the [Continue] button to start a print job. [Remarks] *1 (2) Touch the [Stop] button. (3) Delete the current print job.	Print operation will not start. * 1 For the Standard paper feed tray, it will start with a touch- panel operation after error clearance. For other trays, on the other hand, it will automatically start after error clearance. <back-cover-sheet-applied functions=""> *Add Cover* in copy mode</back-cover-sheet-applied>
W046	1018	1 to 2	No auto-selected tray setup	No paper tray can be assigned for operation through the "auto paper tray selection" function because no paper tray is specified for the said function. Variation code (Detected by): - 1: PMS (at the start of a print job) - 2: Engine control PCB (at the start of paper feeding)	Execute one of the following. (1) Touch the [Select Paper] button and select a desired paper tray. If the Standard paper feed tray is selected, touch the [Continue] button to start a print job. [Remarks] *1 (2) Specify desired paper trays for the "auto paper tray selection" function. If the Standard paper fred tray is specified for the said function, touch the [Continue] button to start a print job. [Remark] *1 (3) Touch the [Stop] button. (4) Delete the current print job.	Print operation will not start. * 1 For the Standard paper feed tray, it will start with a touch- panel operation after error clearance. For other trays, on the other hand, it will automatically start after error clearance.
S099	1021	1 to 2	Patlite (Rotary beacon light) undefined	Patlite (Rotary beacon light) undefined Variation code (Error types): - 1: Undefined Patlite (rotary beacon light) color (The light color specified by the Engine control PCB is undefined.) - 2: Undefined Patlite (rotary beacon light) operation (The light operation specified by the Engine control PCB is undefined.)	Turn OFF the printer. (Sub power key OFF)	

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Panel Messages

Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S097	1022		24V power supply error on Option PCB	A 24 V power supply error has been detected on the Option PCB.	Turn OFF the printer. (Sub power key OFF)	
S097	1023		24V/36V power supply error on Option PCB	A 24 V/36 V power supply error has been detected on the Option PCB.	Turn OFF the printer. (Sub power key OFF)	
S097	1024		24V-EX power supply error on Option PCB	A 24 V-EX power supply error has been detected on the Option PCB.	Turn OFF the printer. (Sub power key OFF)	
S098	1025	1 to 2	Front door sensor failure	Failure at Front door sensor (Front cover lock plate sensor) When locking/unlocking the Front door, a failure has been detected at the Front door sensor (a U-shaped, interruptive one). Variation code (Causes): - 1: - - 2: The sensor has been opened (unblocked) while the Front door should be locked.	Turn OFF the printer. (Sub power key OFF)	The check retry times prior to error detection can be specified in the test mode TM04-6-009 "FRONT COVER LOCK RETRY NUMBER."
W225	1026		Front door sensor or Front door lock solenoid failure	Failure at Front door sensor (Front cover lock plate sensor) or Front door lock solenoid The Front door sensor (a U-shaped, interruptive one) remains blocked while the Front door should be unlocked.	Touch the [Confirm] button	A suspended job will be automatically resumed after error recovery if it exists. The check retry times prior to error detection can be specified in the test mode TM04.6-009 "FRONT COVER LOCK RETRY NUMBER."
S002	1030	1 to 2	Paper feed tray elevator motor failure (on print jobs)	The Paper feed tray elevator motor has failed during a print job on a single paper source model. Variation code (Causes): - 1: Locked - 2: Overcurrent * Other error codes will be indicated if the said motor fails under another situation than mentioned above. - \$302-1180: Not during a print job on a single paper source model - U602-1181: During a print job on a multiple paper source model - U603-1182: Not during a print job on a multiple paper source model	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	This error will not be mechanically cleared only by pressing the Reset key though the error message is cleared. (The error status will be retained in the system.)
U645	1031	1 to 2	Tray 1 elevator motor failure	The Tray 1 elevator motor has failed while the printer is idle. * Another error code, U643-1170, will be indicated if the said motor fails during a print job. Variation code (Causes): - 1: Locked - 2: Overcurrent <possible conditions="" detection="" error=""> - The Tray 1 elevator motor has been operating beyond a predefined period. - The Tray 1 upper limit sensor is stained or damaged. - A jammed sheet remains near the Tray 1 upper limit sensor.</possible>	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	Job restart process does not exist because this error occurs without jobs. If the error message remains even after the recovery action to the left, pull out the Paper tray 1 and return it into position. If the Tray 1 upper limit sensor remains blocked even after the said action, another error code U645-1501 will be displayed. Though this error code might appear during a print job following the error code U642-1170, it would not be possible to resume the suspended print job after error recovery in this case. (In case this error occurs at the same time as the U642-1170- related one does, this error code will be indicated due to notification priority.)
U646	1032	1 to 2	Tray 2 elevator motor failure	The Tray 2 elevator motor has failed while the printer is idle. * Another error code, U643-1171, will be indicated if the said motor fails during a print job. Variation code (Causes): - 1: Locked - 2: Overcurrent <possible conditions="" detection="" error=""> - The Tray 2 elevator motor has been operating beyond a predefined period. - The Tray 2 upper limit sensor is stained or damaged. - A Jammed sheet remains near the Tray 2 upper limit sensor.</possible>	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	Job restart process does not exist because this error occurs without jobs. If the error message remains even after the recovery action to the left, pull out the Paper tray 2 and return it into position. If the Tray 2 upper limit sensor remains blocked even after the said action, another error code U646-1502 will be displayed. Though this error code might appear during a print job following the error code U643-1171, it would not be possible to resume the suspended print job after error recovery in this case. (In case this error occurs at the same time as the U643-1171- related one does, this error code will be indicated due to notification priority.)
U647	1033	1 to 2	Tray 3 elevator motor failure	The Tray 3 elevator motor has failed while the printer is idle. * Another error code, U644-1172, will be indicated if the said motor fails during a print job. Variation code (Causes): - 1: Locked - 2: Overcurrent <possible conditions="" detection="" error=""> - The Tray 3 elevator motor has been operating beyond a predefined period. - The Tray 3 upper limit sensor is stained or damaged. - A jammed sheet remains near the Tray 3 upper limit sensor.</possible>	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	Job restart process does not exist because this error occurs without jobs. If the error message remains even after the recovery action to the left, pull out the Paper tray 3 and return it into position. If the Tray 3 upper limit sensor remains blocked even after the said action, another error code U647-1503 will be displayed. Though this error code might appear during a print job following the error code U644-1172, it would not be possible to resume the suspended print job after error recovery in this case. (In case this error occurs at the same time as the U644-1172- related one does, this error code will be indicated due to notification priority.)
U610	1035	1 to 2	Internal paper feed transport motor failure (off print jobs)	The Internal paper feed transport motor has failed while the printer is idle. * Another error code, U616-1173, will be indicated if the said motor fails during a print job. Variation code (Causes): - 1: Locked - 2: Overcurrent	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
S009	1036		External paper feed motor failure	The External paper feed motor has failed in connection with the Vertical transfer rollers' actions during a print job.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
S009	1037	1 to 2	Registration motor failure	The Registration motor has failied during a print job. Variation code (Causes): - 1: Locked - 2: Overcurrent	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
S001	1038		Transfer belt motor failure	The Transfer belt motor has been locked. A motor lock signal has been detected for the operating Transfer belt motor 2 consecutive times during the 3ms-cycle polling (status check) since 1000 ms elapsed from the activation of the said motor.	Turn OFF the printer (Sub power key OFF)	

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Panel Messages

Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S028	1039	1 to 2	Paper elevation motor failure	The Paper elevation motor 1 has failed. Variation code (Causes): - 1: Locked - 2: Overcurrent	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	This corresponds to the ComColor X1 error code "S28: Upper transfer motor lock."
S028	1040	1 to 2	Paper elevation motor failure	The Paper elevation motor 2 has failed. Variation code (Causes): - 1: Locked - 2: Overcurrent	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	This corresponds to the ComColor X1 error code "S28: Upper transfer motor lock."
S030	1041	1 to 2	Switchback motor failure	The Switchback motor has failed. Variation code (Causes): - 1: Locked - 2: Overcurrent	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
S031	1042	1 to 2	Re-feed motor failure	The Re-feed motor has failed. Variation code (Causes): - 1: Locked - 2: Overcurrent	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
S012	1043		FD paper ejection motor failure (off print jobs / without optional FU paper ejection device)	The FD paper ejection motor has been locked while the printer is idle, without the optional Face-up paper ejection device attached. * Other error codes will be indicated if the said motor fails under another situation than mertioned above. - \$312-1190: During a print job on the printer without the optional Face-up paper ejection device attached - U612-1191: During a print job on the printer with the optional Face-up paper ejection device attached - U613-1192: Not during a print job on the printer with the optional Face-up paper ejection device attached	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U615	1044		FU paper transport motor failure (off print jobs)	The FU paper transport motor has been locked while the printer is idle. * Another error code, U614-1193, will be indicated if the said motor fails during a print job,	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U642	1045		Tray 1 upper limit sensor error	The Tray 1 upper limit sensor has been blocked, with the Paper tray 1 inserted, during a print job. * Another error code, W052-1955, will be indicated if the said sensor has been blocked when the Paper tray 1 was inserted while the printer was idle. <possible conditions="" detection="" error=""> - The Tray 1 upper limit sensor is stained or damaged. - A jammed sheet remains near the Tray 1 upper limit sensor.</possible>	Execute one of the following. (1) Touch the [Change Tray] button and select another paper tray than Paper tray 1. Then touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current print job.	In case the Tray 1 upper limit sensor is blocked when the Paper tray 1 is set in position, the Tray 1 elevator motor will be prevented from operating. Though this error is a U-type one, it is possible to restart the job manually after error recovery.
U643	1046		Tray 2 upper limit sensor error	The Tray 2 upper limit sensor has been blocked, with the Paper tray 2 inserted, during a print job. * Another error code, W052-1956, will be indicated if the said sensor has been blocked when the Paper tray 2 was inserted while the printer was idle. <possible conditions="" detection="" error=""> - The Tray 2 upper limit sensor is stained or damaged. - A jammed sheet remains near the Tray 2 upper limit sensor.</possible>	Execute one of the following. (1) Touch the [Change Tray] button and select another paper tray 12. Then touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current print job.	In case the Tray 2 upper limit sensor is blocked when the Paper tray 2 is set in position, the Tray 2 elevator motor will be prevented from operating. Though this error is a U-type one, it is possible to restart the job manually after error recovery.
U644	1047		Tray 3 upper limit sensor error	The Tray 3 upper limit sensor has been blocked, with the Paper tray 3 inserted, during a print job. * Another error code, W052-1957, will be indicated if the said sensor has been blocked when the Paper tray 3 was inserted while the printer was idle. <possible conditions="" detection="" error=""> - The Tray 3 upper limit sensor is stained or damaged. - A jammed sheet remains near the Tray 3 upper limit sensor.</possible>	Execute one of the following. (1) Touch the [Change Tray] button and select another paper tray than Paper tray 3. Then touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current print job.	In case the Tray 3 upper limit sensor is blocked when the Paper tray 3 is set in position, the Tray 3 elevator motor will be prevented from operating. Though this error is a U-type one, it is possible to restart the job manually after error recovery.
X001	1050	1 to 3	Paper jam (or slip) on Standard paper tray	Paper has slipped or jammed on the Standard paper feed tray during a print job. Variation code (Detection process): - 1: Paper has not reached the Registration sensor within a predefined amount of time (, which varies depending on paper feed speed). - 2: No encoder signal has been fed back to the External paper feed motor for a predefined amount of time. (Locked motor) - 3: Overcurrent has been detected in the External paper feed motor.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X011	1051	1 to 5	Paper jam in Upper-side vertical transfer section	The Registration sensor has not detected the paper feeding from an internal paper tray within a predefined amount of time (, which varies depending on paper feed speed) due to possible paper jam in the Upper part of the Vertical transfer section. Variation code (Paper feed source): - 1: Paper tray 1 - 2: Paper tray 2 - 3: Paper tray 3 - 4: - - 5: Additional 2000 sheet feeder	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X008	1052		Paper jam in Paper re-feed section	The Registration sensor has not detected the paper feeding from the Paper re- feed section within a predefined amount of time (, which varies depending on paper feed speed) due to possible paper jam in the Paper re-feed section.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X002	1058	1 to 7	Paper jam in Transfer belt section	The Top edge sensor 1 has not detected a feeding sheet within a predefined amount of time (, which varies depending on paper feed speed) due to possible paper jam before the Transfer belt. Variation code (Paper feed source): - 1: Standard paper feed tray - 2: Paper tray 1 - 3: Paper tray 2 - 4: Paper tray 3 - 5: Paper re-feed section - 6: High-capacity feeder - 7: Additional 2000 sheet feeder	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	

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Panel Messages

Туре	Point	VC	Summary	Description	Recovery Action	Remarks
X002	1059		Paper jam in Transfer belt section	The Paper elevation IN sensor has not detected an advancing printed sheet within a predefined amount of time (, which varies depending on paper advancing speed) due to possible paper jam on the Transfer belt.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X042	1060		Paper jam in Paper elevation transfer section	The Horizontal transfer sensor has not detected an advancing printed sheet within a predefined amount of time (, which varies depending on paper advancing speed) due to possible paper jam in the Paper elevation transfer section.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X005	1061		Paper jam in Horizontal transfer section	The SB entrance sensor has not detected an advancing printed sheet within a predefined amount of time (, which varies depending on paper advancing speed) due to possible paper jam in the Horizontal transfer section.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X007	1063		Paper jam in Paper re-feed section	The Re-feed sensor has not detected an advancing printed sheet within a predefined amount of time (, which varies depending on paper advancing speed) due to possible paper jam in the Paper re-feed section.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X003	1065		Paper jam in FU paper ejection transport section	The FU paper ejection sensor has not detected an advancing printed sheet within a predefined amount of time (, which varies depending on paper advancing speed) due to possible paper jam in the FU paper ejection transport section.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X051	1066		Paper jam in High-capacity feeder	The paper feeding from the High-capacity feeder has not passed through the Registration sensor within a predefined amount of time (, which varies depending on paper feed speed) due to possible paper jam in the said unit.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X006	1067		Paper jam in Switchback transport section	The Switchback sensor has not detected an advancing printed sheet within a predefined amount of time (, which varies depending on paper feed speed) due to possible paper jam in the Switchback transport section.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X005	1068		Paper jam in Horizontal transfer section	The FD paper ejection sensor has not detected an advancing printed sheet within a predefined amount of time (, which varies depending on paper advancing speed) due to possible paper jam in the Horizontal transfer section.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X001	1070		Paper jam on Standard paper tray	The paper feeding from the Standard paper feed tray has not passed through the Registration sensor within a predefined amount of time (, which varies depending on paper feed speed) due to possible paper jam on the Standard paper feed tray.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X011	1071	1 to 5	Paper jam in Upper-side vertical transfer section	The paper feeding from an internal paper tray has not passed through the Registration sensor within a predefined amount of time (, which varies depending on paper feed speed) due to possible paper jam in the Upper part of the Vertical transfer section. Variation code (Paper feed source): - 1: Paper tray 1 - 2: Paper tray 2 - 3: Paper tray 3 - 4: - - 5: Additional 2000 sheet feeder	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X008	1072		Paper jam in Switchback section	A re-feeding sheet has not passed through the Registration sensor within a predefined amount of time (, which varies depending on paper re-feed speed) due to possible paper jam in the Switchback section.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X002	1078	1 to 7	Paper jam in Transfer belt section	A feeding sheet has not passed through theThe Top edge sensor 1 within a predefined amount of time (, which varies depending on paper feed speed) due to possible paper jam around the Transfer belt. Variation code (Paper feed source): - 1: Standard paper feed tray - 2: Paper tray 1 - 3: Paper tray 2 - 4: Paper tray 3 - 5: Paper re-feed section - 6: High-capacity feeder - 7: Additional 2000 sheet feeder	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X042	1079		Paper jam in Paper elevation transfer section	An advancing printed sheet has not passed through the Paper elevation IN sensor within a predefined amount of time (, which varies depending on paper advancing speed) due to possible paper jam around the entrance of the Paper elevation transfer section.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X005	1080		Paper jam in Horizontal transfer section	An advancing printed sheet has not passed through the Horizontal transfer sensor within a predefined amount of time (, which varies depending on paper advancing speed) due to possible paper jam in the Horizontal transfer section.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X006	1081		Paper jam at the entrance of Switchback transport section	An advancing printed sheet has not passed through the SB entrance sensor within a predefined amount of time (, which varies depending on paper advancing speed) due to possible paper jam around the entrance of the Switchback transport section.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X007	1082		Paper jam in Switchback transport section	An advancing printed sheet has not passed through the Switchback sensor within a predefined amount of time (, which varies depending on paper advancing speed) due to possible paper jam in or beyond the Switchback transport section.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X008	1083		Paper jam around Paper re-feed section	An advancing printed sheet has not passed through the Re-feed sensor within a predefined amount of time (, which varies depending on paper advancing speed) due to possible paper jam in or beyond the Paper re-feed section.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
X028	1084		Paper jam on Face-down stacking tray	An advancing printed sheet has not passed through the FD paper ejection sensor within a predefined amount of time (, which varies depending on paper advancing speed) due to possible paper jam on the Face-down stacking tray.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X003	1085		Paper jam in FU paper ejection transport section	An advancing printed sheet has not passed through the FU paper ejection sensor within a predefined amount of time (, which varies depending on paper advancing speed) due to possible paper jam around the FU paper ejection transport section.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
Z032	1092		Stripper unit uninstalled	The Stripper unit has been detached (The Stripper unit set switch has been set OFF) without paper jam errors in advance. * Another error code, Z033-1259, will be indicated if the Stripper unit is detached (the said switch is set OFF) due to paper jam recovery.	Put back the Stripper unit. (Set ON the Stripper unit set switch.)	Though this error is a Z-type one, it is possible to restart the job manually after error recovery.
Z021	1095		Internal paper feed jam release door open	The Internal paper feed jam release door has been opened (The Internal paper feed jam release door switch has been set OFF) without paper jam errors in advance. * Another error code, Z028-1254, will be indicated if the said door is opened (the said switch is set OFF) due to paper jam recovery.	Close the Internal paper feed jam release door. (Set ON the Internal paper feed jam release door switch.)	
S002	1096		Paper feed tray status error (on print jobs)	It has been detected at the activation of the Paper feed tray elevator motor for starting a print job on a single paper source model that the Paper feed tray upper limit sensor and lower limit sensor are both blocked. * Other error codes will be indicated if the above-mentioned sensors' status is detected under another situation than mentioned above. = S302-1183: Without an ongoing print job on a single paper source model = U602-1184: During a print job on a multiple paper source model = U603-1185: Without an ongoing print job on a multiple paper source model = U603-1185: Without an ongoing print job on a multiple paper source model	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	The paper feed tray elevator motor will be prevented from operating to start a print job. This error will not be mechanically cleared only by pressing the Reset key though the error message is cleared. (The error status will be retained in the system.)
X032	1100	1 to 7	Excessive paper curl notification	When a feeding sheet has advanced 5mm beyond the Paper gate, it has been detected by the Paper lift detection sensor that the leading edge of the sheet excessively curls up. Variation code (Paper feed source): - 1: Standard paper feed tray - 2: Paper tray 1 - 3: Paper tray 2 - 4: Paper tray 2 - 4: Paper tray 3 - 5: Paper refeed sclion - 6: High-capacity feeder - 7: Additional 2000 sheet feeder	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X032	1101	1 to 7	Excessive paper roll notification	When a feeding sheet has advanced more than 5mm beyond the Paper gate, it has been detected by the Paper lift detection sensor that some part of the sheet excessively rolls. Variation code (Paper feed source): - 1: Standard paper feed tray - 2: Paper tray 1 - 3: Paper tray 2 - 4: Paper tray 3 - 5: Paper re-feed section - 6: High-capacity feeder - 7: Additional 2000 sheet feeder	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X014	1102	1 to 6	Multiple paper feed suspected	It is suspected that multiple sheets have fed at one time. (The passing light volume detected by the Top edge sensor 1 was less than detected in normal paper feed ing.) Variation code (Paper feed source): - 1: Standard paper feed tray - 2: Paper tray 1 - 3: Paper tray 2 - 4: Paper tray 3 - 5: High-capacity feeder - 6: Additional 2000 sheet feeder	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X002	1110		Paper jam in Transfer belt section	It has been detected at the start of print (paper feed) operation that jammed sheets still remain under the Registration sensor.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X002	1116		Paper jam in Transfer belt section	It has been detected at the start of print (paper feed) operation that jammed sheets still remain under the Top edge sensor 1.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X042	1117		Paper jam in Paper elevation transfer section	It has been detected at the start of print (paper feed) operation that jammed sheets still remain under the Paper elevation IN sensor.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X005	1118		Paper jam in Horizontal transfer section	It has been detected at the start of print (paper feed) operation that jammed sheets still remain under the Horizontal transfer sensor.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X006	1119		Paper jam at the entrance of Switchback transport section	It has been detected at the start of print (paper feed) operation that jammed sheets still remain under the SB entrance sensor.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X007	1120		Paper jam in Switchback transport section	It has been detected at the start of print (paper feed) operation that jammed sheets still remain under the Switchback sensor.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X008	1121		Paper jam around Paper re-feed section	It has been detected at the start of print (paper feed) operation that jammed sheets still remain under the Re-feed sensor.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X028	1122		Paper jam on Face-down stacking tray	It has been detected at the start of print (paper feed) operation that jammed sheets still remain under the FD paper ejection sensor.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
X003	1123		Paper jam in FU paper ejection transport section	It has been detected at the start of print (paper feed) operation that jammed sheets still remain under the FU paper ejection sensor.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X029	1124	1 to 3	Possible remaining paper in internal paper paths (due to emergency stop)	Feeding or printed sheets might be left in paper paths in the printer or Multifunction finisher as a result of the preceding emergency operation stop. Variation code (Causes of emergency stop): - 1: Any of the safety interlock switches was released on the printer or an error occurred on the Multifunction finisher. - 2: A per-copy job completion was not notified for the collating operation on the Face-down tray finisher within 10 seconds after the end of the said job. - 3: A feeding paper width mismatch, an underrun Print head operation or a print image misalignment was detected.	The subsequent error recovery action differs depending on the area where the said sheets remain.	
X030	1125		Possible remaining paper in internal paper paths (due to power failure)	Feeding or printed sheets might be left in paper paths in the printer or Multifunction finisher as a result of the preceding power failure.	The subsequent error recovery action differs depending on the area where the said sheets remain.	
W195	1127		Overlapped paper feed suspected	The trailing edge of a feeding sheet has been detected by the Top edge sensor 2 without the preceding detection of the leading edge of the said sheet by the side registration control module (CIS) due to possible overlapped paper feed. * In case the current operation is not suspended within 3 seconds after the above phenomenon, another error code, S099-0168-4, will be indicated, suspecting a CIS failure.	Touch the [Close] button.	The printer will come to an emergency stop, suspending the current operation. The suspended operation will be resumed with a touch-panel operation after error clearance.
S001	1130		Transfer belt operation error	The Belt HP sensor has not detected the home position of the Transfer belt within the predefined amount of time after the rotation speed of the Transfer belt motor has been stabilized.	Turn OFF the printer (Sub power key OFF)	The Transfer belt operation will be suspended.
S001	1131		Transfer belt operation error	The Belt HP sensor's status remains unchanged, keeping detecting the home position of the Transfer belt, though the Transfer belt motor has been activated.	Turn OFF the printer (Sub power key OFF)	The Transfer belt operation will be suspended.
S001	1132		Transfer belt operation error	The Belt HP sensor has not detected the home position of the Transfer belt within the period defined by the formula below, though the Transfer belt motor has been activated for the below-listed operations. <period-defining formula=""> (Transfer belt's perimeter) / (Transfer belt's travel speed) x 1.5 <corresponding operations=""> - Boot-up mechanical initialization - Recovery from the sleep mode - Activation of Print head replacement mode - Paper jam error recovery action</corresponding></period-defining>	Turn OFF the printer (Sub power key OFF)	The Transfer belt operation will be suspended.
S037	1140		Transfer belt profile entry error	Parameters No.1 to No.3 are not correctly entered in the test mode TM04- 6-012 "BELT PROFILE DATA INPUT." * This error code is to be indicated when executing the test mode TM04-3-041 "BELT PROFILE DATA."	Turn OFF the printer. (Sub power key OFF)	
S037	1141		Transfer belt profile entry error	Parameters No.4 to No.6 are not correctly entered in the test mode TM04- 6-012 "BELT PROFILE DATA INPUT." * This error code is to be indicated when executing the test mode TM04-3-041 "BELT PROFILE DATA."	Turn OFF the printer. (Sub power key OFF)	
S037	1142		Transfer belt profile entry error	Parameters No.7 to No.9 are not correctly entered in the test mode TM04- 6-012 "BELT PROFILE DATA INPUT." * This error code is to be indicated when executing the test mode TM04-3-041 "BELT PROFILE DATA."	Turn OFF the printer. (Sub power key OFF)	
S037	1143		Transfer belt profile entry error	Parameters No.10 to No.12 are not correctly entered in the test mode TM04- 6- 012 "BELT PROFILE DATA INPUT." * This error code is to be indicated when executing the test mode TM04-3-041 "BELT PROFILE DATA."	Turn OFF the printer. (Sub power key OFF)	
W024	1150		FD paper ejection tray full	The FD paper ejection tray is full of printed sheets.	Execute one of the following. (1) Touch the [Continue] button. [Remarks] *1 (2) Touch the [Stop] button. (3) Delete the current print job.	The suspended print job will be resumed with a touch-panel operation after error clearance. * 1 It is possible to continue the current print job by removing printed sheets from the tray before touching the [Continue] button. If the [Continue] button is touched without this removal action, however, this error code will be repeatedly indicated.
W041	1151		Auto-control stacking tray full	The Auto-control stacking tray is full of printed sheets.	Execute one of the following. (1) Touch the [Continue] button. [Remarks] *1 (2) Touch the [Stop] button. (3) Delete the current print job.	The suspended print job will be resumed with a touch-panel operation after error clearance. * 1 It is possible to continue the current print job by removing printed sheets from the tray before touching the [Continue] button. If the [Continue] button is touched without this removal action, however, this error code will be repeatedly indicated.
S040	1153		Transfer belt encoder failure	Failed to acquire the Transfer belt encoder count value. (The Transfer belt encoder pulse count which corresponds a 1-cycle travel of the Transfer belt is ±50% or more off the predefined value.)	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
W039	1154		No free output tray for continuous paper ejection	The auto output tray switch cannot work for the current "Continuous paper ejection" operation because all available output trays are full of printed sheets.	Execute one of the following. (1) Touch the [Continue] button. [Remarks] *1 (2) Touch the [Stop] button. (3) Delete the current print job.	The suspended print job will be resumed with a touch-panel operation after error clearance. * 1 It is possible to continue the current print job by removing printed sheets from the tray before touching the [Continue] button. If the [Continue] button is touched without this removal action, however, this error code will be repeatedly indicated.
S099	1155	1 to 2	Software error (Paper feed tray management)	Paper feed tray management module error Variation code (Causes): - 1: An irregular status transition has been detected in the paper feed tray management module. - 2: The parameter transferred from another module is not defined in the paper feed tray management module.	Turn OFF the printer. (Sub power key OFF)	

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S099	1160	1 to 2	Software error (Paper output tray management)	Paper ejection (output) tray management module error Variation code (Causes): - 1: An irregular status transition has been detected in the paper ejection (output) tray management module. - 2: The parameter transferred from another module is not defined in the paper ejection (output) tray management module.	Turn OFF the printer. (Sub power key OFF)	
U614	1168		FU paper ejection jump motor failure (on print jobs)	The FU paper ejection jump motor has been locked during a print job. * Another error code, U615-1169, will be indicated if the said motor has been locked while the printer is not processing a print job.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U615	1169		FU paper ejection jump motor failure (off print jobs)	The FU paper ejection jump motor has been locked while the printer is idle. * Another error code, U614-1168, will be indicated if the said motor has been locked during a print job.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U642	1170	1 to 2	Tray 1 elevator motor failure	The Tray 1 elevator motor has failed during a print job. * Another error code, U645-1031, will be indicated if the said motor fails while the printer is idle. Variation code (Causes): - 1: Locked - 2: Overcurrent <possible conditions="" detection="" error=""> - Ther Tray 1 elevator motor has been operating beyond a predefined period, - The Tray 1 upper limit sensor is stained or damaged. A jammed sheet remains near the Tray 1 upper limit sensor.</possible>	Execute one of the following. (1) Touch the [Change Tray] button and select another paper tray than Paper tray 1. Then touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current print job.	If the error message remains even after the recovery action to the left, pull out the Paper tray 1 and return it into position. If the Tray 1 upper limit sensor remains blocked even after the said action, another error code U645-1501 will be displayed. Though this error is a U-type one, it is possible to resume the suspended job manually after error recovery.
U643	1171	1 to 2	Tray 2 elevator motor failure	The Tray 2 elevator motor has failed during a print job. * Another error code, U646-1032, will be indicated if the said motor fails while the printer is idle. Variation code (Causes): - 1: Locked - 2: Overcurrent <possible conditions="" detection="" error=""> - Ther Tray 2 elevator motor has been operating beyond a predefined period, - The Tray 2 upper limit sensor is stained or damaged. - A jammed sheet remains near the Tray 2 upper limit sensor.</possible>	Execute one of the following. (1) Touch the [Change Tray] button and select another paper tray than Paper tray 2. Then touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current print job.	If the error message remains even after the recovery action to the left, pull out the Paper tray 2 and return it into position. If the Tray 2 upper limit sensor remains blocked even after the said action, another error code U646-1502 will be displayed. Though this error is a U-type one, it is possible to resume the suspended job manually after error recovery.
U644	1172	1 to 2	Tray 3 elevator motor failure	The Tray 3 elevator motor has failed during a print job. * Another error code, U647-1033, will be indicated if the said motor fails while the printer is idle. Variation code (Causes): - 1: Locked - 2: Overcurrent <possible conditions="" detection="" error=""> - Ther Tray 3 elevator motor has been operating beyond a predefined period, - The Tray 3 upper limit sensor is stained or damaged. - A jammed sheet remains near the Tray 3 upper limit sensor.</possible>	Execute one of the following. (1) Touch the [Change Tray] button and select another paper tray than Paper tray 3. Then touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current print job.	If the error message remains even after the recovery action to the left, pull out the Paper tray 3 and return it into position. If the Tray 3 upper limit sensor remains blocked even after the said action, another error code U647-1503 will be displayed. Though this error is a U-type one, it is possible to resume the suspended job manually after error recovery.
U616	1173	1 to 2	Internal paper feed transport motor failure (on print jobs)	The Internal paper feed transport motor has failed during a print job. * Another error code, U610-1035, will be indicated if the said motor fails while the printer is idle. Variation code (Causes): - 1: Locked - 2: Overcurrent	Execute one of the following. (1) Touch the [Change Tray] button and select the Standard paper feed tray. Then touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current print job.	Though this error is a U-type one, it is possible to resume the suspended job manually after error recovery.
U610	1176	1 to 2	Tray pickup motor failure (off print jobs)	The Tray pickup motor has failed while the printer is idle. * Another error code, U616-1177, will be indicated if the said motor fails during a print job. Variation code (Causes): - 1: Locked - 2: Overcurrent	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U616	1177	1 to 2	Tray pickup motor failure (on print jobs)	The Tray pickup motor has failed during a print job. * Another error code, U610-1176, will be indicated if the said motor fails while the printer is idle. Variation code (Causes): - 1: Locked - 2: Overcurrent	Execute one of the following. (1) Touch the [Change Tray] button and select the Standard paper feed tray. Then touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current print job.	Though this error is a U-type one, it is possible to resume the suspended job manually after error recovery.
U602	1181	1 to 2	Paper feed tray elevator motor failure (on print jobs)	The Paper feed tray elevator motor has failed during a print job on a multiple paper source model. Variation code (Causes): - 1: Locked - 2: Overcurrent * Other error codes will be indicated if the said motor fails under another situation than mentioned above. - \$002-1103: During a print job on a single paper source model - \$302-1180: Not during a print job on a single paper source model - U603-1182: Not during a print job on a multiple paper source model	Execute one of the following. (1) Touch the [Change Tray] button and select another tray than the Standard paper feed tray. Then touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current print job.	Though this error is a U-type one, it is possible to resume the suspended job manually after error recovery. This error will not be mechanically cleared only by taking any of the recovery actions to the left though the error message is cleared. (The error status will be retained in the system.)
U603	1182	1 to 2	Paper feed tray elevator motor failure (off print jobs)	The Paper feed tray elevator motor has failed while the printer is idle on a multiple paper source model. Variation code (Causes): - 1: Locked - 2: Overcurrent * Other error codes will be indicated if the said motor fails under another situation than mentioned above. - \$002-1030: During a print job on a single paper source model - \$302-1180: Not during a print job on a single paper source model - U602-1181: During a print job on a multiple paper source model	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	This error will not be mechanically cleared only by pressing the Reset key though the error message is cleared. (The error status will be retained in the system.)

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
U602	1184		Paper feed tray status error (on print jobs)	It has been detected at the activation of the Paper feed tray elevator motor for starting a print job on a multiple paper source model that the Paper feed tray upper limit sensor and lower both blocked. * Other error codes will be indicated if the above-mentioned sensors' status is detected under another situation than mentioned above. • S002-1096: During a print job on a single paper source model • U302-1183: Without an ongoing print job on a single paper source model • U603-1185: Without an ongoing print job on a multiple paper source model	Execute one of the following. (1) Touch the [Change Tray] button and select another tray than the Standard paper feed tray. Then touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current print job.	The paper feed tray elevator motor will be prevented from operating to start a print job. Though this error is a U-type one, it is possible to resume the suspended job manually after error recovery. This error will not be mechanically cleared only by taking any of the recovery actions to the left though the error message is cleared. (The error status will be retained in the system.)
U603	1185		Paper feed tray status error (off print jobs)	It has been detected at the activation of the Paper feed tray elevator motor without an ongoing print job on a multiple paper source model that the Paper feed tray upper limit sensor and lower limit sensor are both blocked. * Other error codes will be indicated if the above-mentioned sensors' status is detected under another situation than mentioned above. - S002-1096: During a print job on a single paper source model - U302-1183: Without an ongoing print job on a single paper source model - U602-1184: During a print job on a multiple paper source model	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	The paper feed tray elevator motor will be prevented from operating to start a print job. This error will not be mechanically cleared only by pressing the Reset key though the error message is cleared. (The error status will be retained in the system.)
S029	1187	1 to 2	Horizontal transfer motor 1 failure	The Horizontal transfer motor 1 has failed during a print job. Variation code (Causes): - 1: Locked - 2: Overcurrent	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	This corresponds to the ComColor X1 error code "S29: Upper transfer motor 1 lock."
S029	1188		Horizontal transfer motor 2 failure	The Horizontal transfer motor 2 has failed during a print job.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	This corresponds to the ComColor X1 error code "S29: Upper transfer motor 2 lock."
S312	1190		FD paper ejection motor failure (on print jobs / without optional FU paper ejection device)	The FD paper ejection motor has been locked during a print job on the printer without the optional Face-up paper ejection device attached. * Other error codes will be indicated if the said motor fails under another situation than mentioned above. - \$012-1043: Not during a print job on the printer without the optional Face-up paper ejection device attached - U612-1191: During a print job on the printer with the optional Face-up paper ejection device attached - U613-1192: Not during a print job on the printer with the optional Face-up paper ejection device attached - U613-1192: Not during a print job on the printer with the optional Face-up paper ejection device attached	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U613	1192		FD paper ejection motor failure (off print jobs / with optional FU paper ejection device)	The FD paper ejection motor has been locked during a print job on the printer with the optional Face-up paper ejection device attached. * Other error codes will be indicated if the said motor fails under another situation than mentioned above S012-1043: Not during a print job on the printer without the optional Face-up paper ejection device attached - U312-1106: During a print job on the printer without the optional Face-up paper ejection device attached - U312-110: During a print job on the printer with the optional Face-up paper ejection device attached - U312-110: During a print job on the printer with the optional Face-up paper ejection device attached - U313-119: During a print job on the printer with the optional Face-up paper ejection device attached	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U614	1193		FU paper transport motor failure (on print jobs)	The FU paper transport motor has been locked during a print job. * Another error code, U615-1044, will be indicated if the said motor fails while the printer is idle.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
W560	1195		Standard feed tray not available	While the Standard paper feed tray is not available, a print job specifying it as paper source has been received from PC. (The Standard paper feed tray cannot be specified as paper source on the operation panel on the printer when it is not available.) * This error code is to be indicated only on multiple paper source models.	Execute one of the following. (1) Touch the [Change Tray] button and select another tray than the Standard paper feed tray. (2) Touch the [Stop] button. (3) Delete the current print job.	A print job will start automatically after error clearance.
W561	1196		Paper tray 1 not available	While the Paper tray 1 is not available, a print job specifying it as paper source has been received from PC. (The Paper tray 1 cannot be specified as paper source on the operation panel on the printer when it is not available.)	Execute one of the following. (1) Touch the [Change Tray] button and select another tray than the Paper tray 1. If the Standard paper feed tray is selected, touch the [Continue] button to start a print job. [Remarks] *1 (2) Touch the [Stop] button. (3) Delete the current print job.	* 1 For the Standard paper tray, a print job will be started with a touch-panel operation after error clearance. For other trays, on the other hand, it will be automatically started after error clearance.
W562	1197		Paper tray 2 not available	While the Paper tray 2 is not available, a print job specifying it as paper source has been received from PC. (The Paper tray 2 cannot be specified as paper source on the operation panel on the printer when it is not available.)	Execute one of the following. (1) Touch the [Change Tray] button and select another tray than the Paper tray 2. If the Standard paper feed tray is selected, touch the [Continue] button to start a print job. [Remarks] *1 (2) Touch the [Stop] button. (3) Delete the current print job.	* 1 For the Standard paper tray, a print job will be started with a touch-panel operation after error clearance. For other trays, on the other hand, it will be automatically started after error clearance.
W563	1198		Paper tray 3 not available	While the Paper tray 3 is not available, a print job specifying it as paper source has been received from PC. (The Paper tray 3 cannot be specified as paper source on the operation panel on the printer when it is not available.)	Execute one of the following. (1) Touch the [Change Tray] button and select another tray than the Paper tray 3. If the Standard paper feed tray is selected, touch the [Continue] button to start a print job. [Remarks] *1 (2) Touch the [Stop] button. (3) Delete the current print job.	* 1 For the Standard paper tray, a print job will be started with a touch-panel operation after error clearance. For other trays, on the other hand, it will be automatically started after error clearance.
S098	1202		Registration sensor failure	A failure has been detected on the light receiving or emitting side of the Registration sensor. (Even if the DA volume of the Registration sensor is changed, the acquired AD value has not changed for a certain period.)	Turn OFF the printer. (Sub power key OFF)	This error will not be cleared by pressing the Reset key.
S098	1203		Top edge sensor 1 failure	A failure has been detected on the light receiving or emitting side of the Top edge sensor 1. (Even if the DA volume of the Top edge sensor 1 is changed, the acquired AD value has not changed for a certain period.)	Turn OFF the printer. (Sub power key OFF)	This error will not be cleared by pressing the Reset key.

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S098	1204		Top edge sensor 2 failure	A failure has been detected on the light receiving or emitting side of the Top edge sensor 2. (Even if the DA volume of the Top edge sensor 2 is changed, the acquired AD value has not changed for a certain period.)	Turn OFF the printer. (Sub power key OFF)	This error will not be cleared by pressing the Reset key.
S013	1206	1 to 4	Transfer belt suction fan failure	Any of the Transfer belt suction fans is disconnected. (The connection detection signal for the Transfer belt suction fan is inactive.) Variation code (Troubled components): - 1: Transfer belt suction fan FR - 2: Transfer belt suction fan RL - 3: Transfer belt suction fan RR - 4: Transfer belt suction fan RL	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
S096	1207		Solenoid counter disconnected	The solenoid counter is disconnected. (The connection detection signal for the solenoid counter is inactive.)	Turn OFF the printer. (Sub power key OFF) * For a fundamental solution, connect the corresponding wires to the PCB.	
S096	1208		FD paper ejection flipper disconnected	The FD paper ejection flipper is disconnected. (The connection detection signal for the FD paper ejection flipper is inactive.)	Turn OFF the printer. (Sub power key OFF) * For a fundamental solution, connect the corresponding wires to the PCB.	
S096	1209		Transfer belt encoder disconnected	The Transfer belt encoder is disconnected. (The ON edge of the Transfer belt encoder has not been detected by the SH until the rotation speed of the Transfer belt motor becomes stable after its activation (for approx. 360 ms).)	Turn OFF the printer. (Sub power key OFF) * For a fundamental solution, connect the corresponding wires to the PCB.	
Z005	1211		Front door open	The Left front door has been opened (The Left front door switch close signal has become inactive) without its lock release. * Another error code, Z022-1255, will be indicated if the said door is opened after its lock was released.	Close the Left front door.	
Z005	1212		Front door open	The Right front door has been opened (The Right front door switch close signal has become inactive) without its lock release. * Another error code, Z022-1256, will be indicated if the said door is opened after its lock was released.	Close the Right front door.	-
Z006	1213		Switchback jam release door open	The Switchback jam release door has been opened (The Switchback jam release door switch close signal has become inactive) without paper jam errors in advance. * Another error code, Z023-1257, will be indicated if the said door is opened due to paper jam recovery.	Close the Switchback jam release door.	
S012	1215		FD paper ejection paper guide motor failure (off print jobs / without optional FU paper ejection device)	The FD paper ejection paper guide motor has not stopped within the predefined amount of time after the FD paper ejection paper guide HP sensor was blocked during the home positioning action of the said paper guides on an idle printer without the optional Face-up paper ejection device attached. * Other error codes will be indicated if the above phenomenon occurs on another printer than mentioned above. > \$312-1242: On an operating printer without the optional Face-up paper ejection device attached - U612-1232: On an operating printer with the optional Face-up paper ejection device attached - U613-1240: On an idle printer with the optional Face-up paper ejection device attached	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
S012	1216		FD paper ejection paper guide motor failure (off print jobs / without optional FU paper ejection device)	The FD paper ejection paper guide motor has not stopped within the predefined amount of time after the FD paper ejection paper guide HP sensor was opened (unblocked) during the home positioning action of the said paper guides on an idle printer without the optional Face-up paper ejection device attached. * 'Other error codes will be indicated if the above phenomenon occurs on another printer than mentioned above. * 5312-1225: On an operating printer without the optional Face-up paper ejection device attached - U612-1233: On an operating printer with the optional Face-up paper ejection device attached - U613-1241: On an idle printer with the optional Face-up paper ejection device attached	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
S012	1217		FD paper ejection paper guide motor failure (off print jobs / without optional FU paper ejection device)	The FD paper ejection paper guide motor has not stopped within the predefined amount of time after the FD paper ejection paper guide HP sensor was blocked during the boot-up home positioning action of the said paper guides on an idle printer without the optional Face-up paper ejection device attached. * Other error codes will be indicated if the above phenomenon occurs on another printer than mentioned above. - \$312-1265: On an operating printer without the optional Face-up paper ejection device attached - U612-1234: On an operating printer with the optional Face-up paper ejection device attached - U613-1242: On an idle printer with the optional Face-up paper ejection device attached	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
S012	1218		FD paper ejection paper guide motor failure (off print jobs / without optional FU paper ejection device)	The FD paper ejection paper guide motor has not stopped within the predefined amount of time during the predefined paper format positioning action of the said paper guides on an idle printer without the optional Face-up paper ejection device attached. * Other error codes will be indicated if the above phenomenon occurs on another printer than mentioned above. * S312-1227: On an operating printer without the optional Face-up paper ejection device attached - U612-1235: On an operating printer with the optional Face-up paper ejection device attached - U613-1243: On an idle printer with the optional Face-up paper ejection device attached - U613-1243: On an idle printer with the optional Face-up paper ejection device attached - U613-1243: On an idle printer with the optional Face-up paper ejection device attached	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
U614	1220		FU paper ejection wing motor failure (on print jobs / with Auto-control or Wide stacking tray)	The FU paper ejection wing motor has not stopped within the predefined amount of time after the FU paper ejection wing HP sensor was blocked during the home positioning action of the said wings on an operating printer with the optional Auto- control or Wide stacking tray attached. * Other error codes will be indicated if the above phenomenon occurs on another printer than mentioned above.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U614	1221		FU paper ejection wing motor failure (on print jobs / with Auto-control or Wide stacking tray)	The FU paper ejection wing motor has not stopped within the predefined amount of time after the FU paper ejection wing HP sensor was opened (unblocked) during the home positioning action of the said wings on an operating printer with the optional Auto-control or Wide stacking tray attached.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U614	1222		FU paper ejection wing motor failure (on print jobs / with Auto-control or Wide stacking tray)	The FU paper ejection wing motor has not stopped within the predefined amount of time after the FU paper ejection wing HP sensor was blocked during the boot- up home positioning action of the said wings on an operating printer with the optional Auto-control or Wide stacking tray attached.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U614	1223		FU paper ejection wing motor failure (on print jobs / with Auto-control or Wide stacking tray)	The FU paper ejection wing motor has not stopped within the predefined amount of time during the predefined paper format positioning action of the said wings on an operating printer with the optional Auto-control or Wide stacking tray attached.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
S312	1224		FD paper ejection paper guide motor failure (on print jobs / without optional FU paper ejection device)	The FD paper ejection paper guide motor has not stopped within the predefined amount of time after the FD paper ejection paper guide HP sensor was blocked during the home positioning action of the said paper guides on an operating printer without the optional Face-up paper ejection device attached. * Other error codes will be indicated if the above phenomenon occurs on another printer than mentioned above. • S012-1215: On an idle printer without the optional Face-up paper ejection device attached • U613-1232: On an operating printer with the optional Face-up paper ejection device attached • U613-1240: On an idle printer with the optional Face-up paper ejection device attached	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
S312	1225		FD paper ejection paper guide motor failure (on print jobs / without optional FU paper ejection device)	The FD paper ejection paper guide motor has not stopped within the predefined amount of time after the FD paper ejection paper guide HP sensor was opened (unblocked) during the home positioning action of the said paper guides on an operating printer without the optional Face-up paper ejection device attached. * Other error codes will be indicated if the above phenomenon occurs on another printer than mentioned above. - S012-1216: On an idle printer without the optional Face-up paper ejection device attached - U612-1233: On an operating printer with the optional Face-up paper ejection device attached - U613-1241: On an idle printer with the optional Face-up paper ejection device attached	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
S312	1226		FD paper ejection paper guide motor failure (on print jobs / without optional FU paper ejection device)	The FD paper ejection paper guide motor has not stopped within the predefined amount of time after the FD paper ejection paper guide HP sensor was blocked during the boot-up home positioning action of the said paper guides on an operating printer without the optional Face-up paper ejection device attached. * Other error codes will be indicated if the above phenomenon occurs on another printer than mentioned above. - \$012-1217: On an idle printer without the optional Face-up paper ejection device attached - U612-1234: On an operating printer with the optional Face-up paper ejection device attached - U613-1242: On an idle printer with the optional Face-up paper ejection device attached	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
S312	1227		FD paper ejection paper guide motor failure (on print jobs / without optional FU paper ejection device)	The FD paper ejection paper guide motor has not stopped within the predefined amount of time during the predefined paper format positioning action of the said paper guides on an operating printer without the optional Face-up paper ejection device attached. • Other error codes will be indicated if the above phenomenon occurs on another printer than mentioned above. • S012-1218: On an idle printer without the optional Face-up paper ejection device attached • U612-1235: On an operating printer with the optional Face-up paper ejection device attached • U613-1243: On an idle printer with the optional Face-up paper ejection device attached • U613-1243: On an idle printer with the optional Face-up paper ejection device attached • U613-1243: On an idle printer with the optional Face-up paper ejection device attached	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U612	1232		FD paper ejection paper guide motor failure (on print jobs / with optional FU paper ejection device)	The FD paper ejection paper guide motor has not stopped within the predefined amount of time after the FD paper ejection paper guide HP sensor was blocked during the home positioning action of the said paper guides on an operating printer with the optional Face-up paper ejection device attached. * Other error codes will be indicated if the above phenomenon occurs on another printer than mentioned above S012-1215: On an idle printer without the optional Face-up paper ejection device attached - U312-1224: On an operating printer without the optional Face-up paper ejection device attached - U613-1240: On an idle printer with the optional Face-up paper ejection device attached	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
U612	1233		FD paper ejection paper guide motor failure (on print jobs / with optional FU paper ejection device)	The FD paper ejection paper guide motor has not stopped within the predefined amount of time after the FD paper ejection paper guide HP sensor was opened (unblocked) during the home positioning action of the said paper guides on an operating printer with the optional Face-up paper ejection device attached. * 'Other error codes will be indicated if the above phenomenon occurs on another printer than mentioned above. * S012-1216: On an idle printer without the optional Face-up paper ejection device attached - U312-1225: On an operating printer without the optional Face-up paper ejection device attached - U313-1241: On an idle printer with the optional Face-up paper ejection device attached	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U612	1234		FD paper ejection paper guide motor failure (on print jobs / with optional FU paper ejection device)	The FD paper ejection paper guide motor has not stopped within the predefined amount of time after the FD paper ejection paper guide HP sensor was blocked during the boot-up home positioning action of the said paper guides on an operating printer with the optional Face-up paper ejection device attached. * Other error codes will be indicated if the above phenomenon occurs on another printer than mentioned above. - S012-1217: On an idle printer without the optional Face-up paper ejection device attached - U312-1226: On an operating printer without the optional Face-up paper ejection device attached - U613-1242: On an idle printer with the optional Face-up paper ejection device attached	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U612	1235		FD paper ejection paper guide motor failure (on print jobs / with optional FU paper ejection device)	The FD paper ejection paper guide motor has not stopped within the predefined amount of time during the predefined paper format positioning action of the said paper guides on an operating printer with the optional Face-up paper ejection device attached. • Other error codes will be indicated if the above phenomenon occurs on another printer than mentioned above. • S012-1218: On an idle printer without the optional Face-up paper ejection device attached • U312-1237: On an operating printer without the optional Face-up paper ejection device attached • U313-1243: On an idle printer with the optional Face-up paper ejection device attached • U613-1243: On an idle printer with the optional Face-up paper ejection device attached	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U613	1240		FD paper ejection paper guide motor failure (off print jose / with optional FU paper ejection device)	The FD paper ejection paper guide motor has not stopped within the predefined amount of time after the FD paper ejection paper guide HP sensor was blocked during the home positioning action of the said paper guides on an idle printer with the optional Face-up paper ejection device attached. * Other error codes will be indicated if the above phenomenon occurs on another printer than mentioned above. > S012-1215: On an idle printer without the optional Face-up paper ejection device attached - US12-1224: On an operating printer without the optional Face-up paper ejection device attached - US12-1232: On an operating printer with the optional Face-up paper ejection device attached	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U613	1241		FD paper ejection paper guide motor failure (off print jobs / with optional FU paper ejection device)	The FD paper ejection paper guide motor has not stopped within the predefined amount of time after the FD paper ejection paper guide HP sensor was opened (unblocked) during the home positioning action of the said paper guides on an idle printer with the optional Face-up paper ejection device attached. * Other error codes will be indicated if the above phenomenon occurs on another printer with mentitoned above. > S012-1216: On an idle printer without the optional Face-up paper ejection device attached - U312-1225: On an operating printer without the optional Face-up paper ejection device attached - U812-1233: On an operating printer with the optional Face-up paper ejection device attached	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U613	1242		FD paper ejection paper guide motor failure (off print jobs / with optional FU paper ejection device)	The FD paper ejection paper guide motor has not stopped within the predefined amount of time after the FD paper ejection paper guide HP sensor was blocked during the boot-up home positioning action of the said paper guides on an idle printer with the optional Face-up paper ejection device attached. * Other error codes will be indicated if the above phenomenon occurs on another printer with mentioned above. > S012-1217: On an idle printer without the optional Face-up paper ejection device attached - U312-1226: On an operating printer without the optional Face-up paper ejection device attached - U812-1234: On an operating printer with the optional Face-up paper ejection device attached	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U613	1243		FD paper ejection paper guide motor failure (off print jobs / with optional FU paper ejection device)	The FD paper ejection paper guide motor has not stopped within the predefined amount of time during the predefined paper format positioning action of the said paper guides on an idle printer with the optional Face-up paper ejection device attached. * Other error codes will be indicated if the above phenomenon occurs on another printer than mentioned above. > S012-1218: On an idle printer without the optional Face-up paper ejection device attached - U312-1227: On an operating printer without the optional Face-up paper ejection device attached - U612-1235: On an operating printer with the optional Face-up paper ejection device attached	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
Z025	1250		Paper tray 1 not in position	The Tray 1 set Sw has been set OFF due to paper jam recovery action, thus notifying that the Paper tray 1 is open (not set in position). * Another error code, Z009-1007, will be indicated if the said switch is set OFF without paper jam errors in advance.	Close Paper tray 1.	
Z026	1251		Paper tray 2 not in position	The Tray 2 set Sw has been set OFF due to paper jam recovery action, thus notifying that the Paper tray 2 is open (not set in position). * Another error code, Z010-1008, will be indicated if the said switch is set OFF without paper jam errors in advance.	Close Paper tray 2.	

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Panel Messages

Туре	Point	vc	Summary	Description	Recovery Action	Remarks
Z027	1252		Paper tray 3 not in position	The Tray 3 set Sw has been set OFF due to paper jam recovery action, thus notifying that the Paper tray 3 is open (not set in position). * Another error code, Z011-1009, will be indicated if the said switch is set OFF without paper jam errors in advance.	Close Paper tray 3.	
Z024	1253		Standard feed tray error	The Paper feed tray upper or lower safety switch has been set OFF due to paper jam recovery action. * Another error code, Z008-1090, will be indicated if the said switch is set OFF without paper jam errors in advance.	Set ON the Paper feed tray upper or lower safety switch.	Though this error is a Z-type one, it is possible to restart the job manually after error recovery.
Z028	1254		Internal paper feed jam release door open	The Internal paper feed jam release door has been opened (The Internal paper feed jam release door switch has been set OFF) due to paper jam recovery action. * Another error code, Z021-1095, will be indicated if the said door is opened (the said switch is set OFF) without paper jam errors in advance.	Close the Internal paper feed jam release door. (Set ON the Internal paper feed jam release door switch.)	
Z022	1255		Front door open	The Left front door has been opened (The Left front door switch close signal has become inactive) after its lock was released to allow such operations as paper jam recovery and ink cartridge replacement. * Another error code, Z005-1211, will be indicated if the said door is opened without its lock release.	Close the Left front door.	
Z022	1256		Front door open	The Right front door has been opened (The Right front door switch close signal has become inactive) after its lock was released to allow such operations as paper jam recovery and ink cartridge replacement. * Another error code, Z005-1212, will be indicated if the said door is opened without its lock release.	Close the Right front door.	The Right front door is to be unlocked if the Transfer belt unit is at the bottom position.
Z023	1257		Switchback jam release door open	The Switchback jam release door has been opened (The Switchback jam release door switch close signal has become inactive) due to paper jam recovery action. * Another error code, Z006-1213, will be indicated if the said door is opened without paper jam errors in advance.	Close the Switchback jam release door.	
Z033	1259		Stripper unit uninstalled	The Stripper unit has been detached (The Stripper unit set switch has been set OFF) due to paper jam recovery action. * Another error code, Z032-1092, will be indicated if the Stripper unit is detached (the said switch is set OFF) without paper jam errors in advance.	Put back the Stripper unit. (Set ON the Stripper unit set switch.)	Though this error is a Z-type one, it is possible to restart the job manually after error recovery.
W564	1264		Standard feed tray not available (for slip or cover sheet paper source)	While the Standard paper feed tray is not available, a print job specifying it as paper source for slip or cover sheets has been received from PC. (The Standard paper feed tray cannot be specified as any paper source on the operation panel on the printer when it is not available.) * This error code is to be indicated only on multiple paper source models.	Touch the [Close] button.	It is not possible to start a print job after error recovery. <slip-sheet-applied functions=""> "Sort" in copy mode / Slip sheet insertion in print mode / Program printing in print mode <cover-sheet-applied functions=""> "Add Cover" in copy and print modes / Booklet binding in print mode / Perfect binding in print mode</cover-sheet-applied></slip-sheet-applied>
W565	1265		Paper tray 1 not available (for slip or cover sheet paper source)	While the Paper tray 1 is not available, a print job specifying it as paper source for slip or cover sheets has been received from PC. (The Paper tray 1 cannot be specified as any paper source on the operation panel on the printer when it is not available.)	Touch the [Close] button.	It is not possible to start a print job after error recovery. <slip-sheet-applied functions=""> "Sort" in copy mode / Slip sheet insertion in print mode / Program printing in print mode <cover-sheet-applied functions=""> "Add Cover" in copy and print modes / Booklet binding in print mode / Perfect binding in print mode</cover-sheet-applied></slip-sheet-applied>
W566	1266		Paper tray 2 not available (for slip or cover sheet paper source)	While the Paper tray 2 is not available, a print job specifying it as paper source for slip or cover sheets has been received from PC. (The Paper tray 2 cannot be specified as any paper source on the operation panel on the printer when it is not available.)	Touch the [Close] button.	It is not possible to start a print job after error recovery. <slip-sheet-applied functions=""> *Sort" in copy mode / Slip sheet insertion in print mode / Program printing in print mode <cover_sheet-applied functions=""> *Ad Cover" in copy and print modes / Booklet binding in print mode / Perfect binding in print mode</cover_sheet-applied></slip-sheet-applied>
W567	1267		Paper tray 3 not available (for slip or cover sheet paper source)	While the Paper tray 3 is not available, a print job specifying it as paper source for slip or cover sheets has been received from PC. (The Paper tray 3 cannot be specified as any paper source on the operation panel on the printer when it is not available.)	Touch the [Close] button.	It is not possible to start a print job after error recovery. <slip-sheet-applied functions=""> "Soft" in copy mode / Slip sheet insertion in print mode / Program printing in print mode <cover-sheet-applied functions=""> "Add Cover" in copy and print modes / Booklet binding in print mode / Perfect binding in print mode</cover-sheet-applied></slip-sheet-applied>
W056	1300		Paper length mismatch	It has been detected at the initial paper feed from the current paper tray, including the cases of auto paper tray switch in the "Continuos paper feeding" function, that the length of the feeding paper does not match the paper format data acquired from the current paper source. <error conditions?<br="">- The length of the feeding paper, which has been detected by the Top edge sensors, is by more than 10mm shorter or longer than the systematically acquired value as above but not as short or long as judged as custom-size paper. In simplex printing, however, this error code will be indicated only when the said length is longer than the said systematically-acquired value.</error>	Execute one of the following. (1) Touch the "Change Tray" button and select a paper tray on which the paper of the corresponding format is loaded. Then touch the "Continue" button. (2) Check the paper loading condition and format on the corresponding paper tray and touch the "Continue" button. (3) Touch the [Stop] button. (4) Delete the current print job.	Paper feed will be interrupted. The suspended print job will be resumed with a touch-panel operation after error clearance.
W051	1301		Recovery action request	An operator is requested to operate the printer to lower the Transfer belt unit for further paper jam recovery action after an emergency operation stop on the printer.	Touch the [Confirm] button.	Job restart process does not exist because this error code has nothing to do with job recovery procedures.
S099	1302		Software error	An unusual parameter has been transferred to the "paper-feed-related control software."	Turn OFF the printer. (Sub power key OFF)	
W073	1303		Paper width mismatch	The CIS has detected that the width of the feeding paper is 20mm or more narrower than the paper format data acquired from the current paper source.	Execute one of the following. (1) Touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current print job.	The suspended print job will be resumed with a touch-panel operation after error clearance.

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Panel Messages

Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S098	1310		Registration sensor adjustment failure	Failed to adjust the light intensity of the Registration sensor during the test mode TM05-3-012 "REGIST&TOP EDGE SENSOR 1 AUTO ADJUST." (The light intensity of the Registration sensor has not reached the tageted value through the said test mode adjustment.)	Turn OFF the printer. (Sub power key OFF)	The current test mode will be cancelled.
S098	1311		Top edge sensor 1 adjustment failure	Failed to adjust the light intensity of the Top edge sensor 1 during the test mode TM05-3-012 "REGIST&TOP EDGE SENSOR 1 AUTO ADJUST." (The light intensity of the Top edge sensor 1 has not reached the tageted value through the said test mode adjustment.)	Turn OFF the printer. (Sub power key OFF)	The current test mode will be cancelled.
S098	1312		Top edge sensor 2 adjustment failure	Failed to adjust the light intensity of the Top edge sensor 2 during the test mode TM06-3-001 "TOP EDGE SENSOR 2 AUTO ADJUST." (The light intensity of the Top edge sensor 2 has not reached the tageted value through the said test mode adjustment.)	Turn OFF the printer. (Sub power key OFF)	The current test mode will be cancelled.
S098	1313		Top edge sensor 2 adjustment failure	Failed to acquire the MAX A/D value during the test mode TM06-3-001 "TOP EDGE SENSOR 2 AUTO ADJUST." (The Transfer belt encoder pulse has not reached 10,000 counts within 2 seconds during the said test mode adjustment.)	Turn OFF the printer. (Sub power key OFF)	The current test mode will be cancelled.
U654	1350	1 to 2	De-curling roller actoin failure	The De-curling HP sensor's status does not change even after a predefined amount of time has passed since the start of the nipping or nip-releasing operation of the De-curling rollers, possibly due to missing driving force for the De-curling rollers. Variation code (When): - 1: During the nipping operatoin - 2: During the nip-releasing operation		
S098	1400		Engine control PCB FRAM write failure	Failed to write in the FRAM on the Engine control PCB.	Turn OFF the printer. (Sub power key OFF)	
S098	1401		Engine control PCB FRAM read failure	Failed to read from the FRAM on the Engine control PCB.	Turn OFF the printer. (Sub power key OFF)	
S099	1402		Mirror restoration failure	Failed to restore mirror data.	Turn OFF the printer. (Sub power key OFF)	
1001	1403		Maintenance call	It has been detected at power-on or system reset, including wake-up from the sleep mode, that the print count has reached the target value specified for maintenance call request.	Execute one of the following. (1) Touch the [Close] button. (2) Set the parameter in the test mode TM04- 6-001 "MAINTENANCE CALL SETTING" at [0].	
S099	1404	1 to 10	Software error (Count control)	Count-control-related software error Variation code (Error types): - 1: An unusual parameter has been provided for mirror data restoration. - 2: An unusual parameter has been provided for sheet reservation data restoration. - 3: An unusual parameter has been provided for detailed count acquisition. - 4: An unusual parameter has been provided for cleaning count acquisition. - 5: An unusual parameter has been provided for test modes. - 6: Software control error - 7: Software control error - 8: Software control error - 9: Software control error - 10: Software control error	Turn OFF the printer. (Sub power key OFF)	
S098	1405		Engine control PCB FLASH checksum error	A checksum error with the FLASH on the Engine control PCB.	Turn OFF the printer. (Sub power key OFF)	
S098	1406	1 to 5	Engine control PCB FRAM error	Engine control PCB FRAM error Variation code (Error types): - 1: Stored data checksum error - 2: Stored counter value error - 3: Stored counter value reset error (0 value recovery error) in factory default recovery operation - 5: Stored counter value error (with another value than 0) with a regular model card	Turn OFF the printer. (Sub power key OFF)	
S098	1407		Engine control PCB FLASH restorable data error	An error with the restorable data in the FLASH on the Engine control PCB.	Turn OFF the printer. (Sub power key OFF)	
S098	1408		Engine control PCB FRAM restorable data error	An error with the restorable data in the FRAM on the Engine control PCB.	Turn OFF the printer. (Sub power key OFF)	
S098	1409		Engine control PCB FLASH restorable data version mismatch	The restorable data in the FLASH on the Engine control PCB has a mismatched version assigned.	Turn OFF the printer. (Sub power key OFF)	
S098	1410		Engine control PCB FRAM restorable data version mismatch	The restorable data in the FRAM on the Engine control PCB has a mismatched version assigned.	Turn OFF the printer. (Sub power key OFF)	
S098	1411		Possible simultaneous replacement of Engine control PCB and PMS	The Engine control PCB and the PMS may have been replaced at the same time.	Turn OFF the printer. (Sub power key OFF)	
S098	1412		No restorable data in PMS	It has been detected in the test mode TM01-3-042 "TEST MODE VALUE RESTORE" that no restorable data exists in the PMS.	Turn OFF the printer. (Sub power key OFF)	
S098	1414		Counter value error at power-on	It has been detected at power-on that the counter value is unusual. (The counter value stored in the FRAM on the Engine control PCB is beyond the upper limit.)	Turn OFF the printer. (Sub power key OFF)	This error will not be cleared by pressing the Reset key.
S099	1415		Wake-up failure	Failed to wake up the mechanical system due to an S-type (Engine-related) error during the entry process into or in the duration of the sleep mode.	Turn OFF the printer. (Sub power key OFF)	

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Panel Messages

Туре	Point	vc	Summary	Description	Recovery Action	Remarks
X009	1421		Paper jam in Tray 1	The paper feeding from the Paper tray 1 has not reached the Internal paper transfer sensor 1 (the top one) within a predefined amount of time (, which varies depending on paper feed speed).	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X010	1422		Paper jam in Tray 2	The paper feeding from the Paper tray 2 has not reached the Internal paper transfer sensor 2 (the middle one) within a predefined amount of time (, which varies depending on paper feed speed).	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X012	1423		Paper jam in Internal paper feed section	The paper feeding from the Paper tray 3 has not reached the Internal paper merge sensor within a predefined amount of time (, which varies depending on paper feed speed).	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X012	1424		Paper jam in Internal paper feed section	The paper feeding from the Paper tray 2 has not reached the Internal paper merge sensor within a predefined amount of time (, which varies depending on paper feed speed).	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X012	1425	1 to 4	Paper jam in Internal paper feed section	The paper feeding from an internal paper tray has not reached the Vertical transfer sensor within a predefined amount of time (, which varies depending on paper feed speed). Variation code (Paper feed source): - 1: Paper tray 1 - 2: Paper tray 2 - 3: Paper tray 2 - 4: Addtional 2000 sheet feeder	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X026	1432		Paper jam in Tray 3	The paper feeding from the Paper tray 3 has not reached the Internal paper transfer sensor 3 (the bottom one) within a predefined amount of time (, which varies depending on paper feed speed).	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X011	1440		Paper jam in Vertical transfer section	The paper feeding from the Paper tray 1 has not passed through the Internal paper transfer sensor 1 (the top one) within a predefined amount of time (, which varies depending on paper feed speed).	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X012	1442		Paper jam in Internal paper feed section	The paper feeding from the Paper tray 2 has not passed through the Internal paper transfer sensor 2 (the middle one) within a predefined amount of time (, which varies depending on paper feed speed).	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X012	1443		Paper jam in Internal paper feed section	The paper feeding from the Paper tray 3 has not passed through the Internal paper merge sensor within a predefined amount of time (, which varies depending on paper feed speed).	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X012	1444		Paper jam in Internal paper feed section	The paper feeding from the Paper tray 2 has not passed through the Internal paper merge sensor within a predefined amount of time (, which varies depending on paper feed speed).	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X011	1445	1 to 4	Paper jam in Upper-side vertical transfer section	The paper feeding from an internal paper tray has not passed through the Vertical transfer sensor within a predefined amount of time (, which varies depending on paper feed speed). Variation code (Paper feed source): - 1: Paper tray 1 - 2: Paper tray 2 - 3: Paper tray 2 - 3: Paper tray 3 - 4: Additional 2000 sheet feeder	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X012	1452		Paper jam in Internal paper feed section	The paper feeding from the Paper tray 3 has not passed through the Internal paper transfer sensor 3 (the bottom one) within a predefined amount of time (, which varies depending on paper feed speed).	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X011	1460		Paper jam in Vertical transfer section	It has been detected at the start of paper feed operation that jammed sheets still remain over the Internal paper transfer sensor 1 (the top one).	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X012	1462		Paper jam in Internal paper feed section	It has been detected at the start of paper feed operation that jammed sheets still remain over the Internal paper transfer sensor 2 (the middle one).	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X012	1463		Paper jam in Internal paper feed section	It has been detected at the start of paper feed operation that jammed sheets still remain under the Internal paper merge sensor.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X011	1464		Paper jam in Vertical transfer section	It has been detected at the start of paper feed operation that jammed sheets still remain under the Vertical transfer sensor.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X012	1470		Paper jam in Internal paper feed section	It has been detected at the start of paper feed operation that jammed sheets still remain over the Internal paper transfer sensor 3 (the bottom one).	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X012	1473		Paper jam in Additional 2000 sheet feeder	The paper feeding from the Additional 2000 sheet feeder has not reached the Internal paper merge sensor within a predefined amount of time, which varies depending on the feeding speed.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
X012	1475		Paper jam in Additional 2000 sheet feeder	The paper feeding from the Additional 2000 sheet feeder has not passed through the Internal paper merge sensor within a predefined amount of time, which varies depending on the feeding speed.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
U645	1501		Tray 1 re-check request	An operator is requested to check the Paper tray 1 again because the said tray was set in place without rebooting the printer after the indication of the error code U642-1170. * This error code will not be indicated when using the "Continuous paper feed" function	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	In case an ongoing print job is interrupted due to the indication of this error code, it is not possible to resume it even after clearing the error code. The above case might occur if the U642-1170 error (Tray 1 elevator motor failure) is simultaneously detected without the said error code indication.
U646	1502		Tray 2 re-check request	An operator is requested to check the Paper tray 2 again because the said tray was set in place without rebooting the printer after the indication of the error code U643-1171. * This error code will not be indicated when using the "Continuous paper feed" function	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	In case an ongoing print job is interrupted due to the indication of this error code, it is not possible to resume it even after clearing the error code. The above case might occur if the U643-1171 error (Tray 2 elevator motor failure) is simultaneously detected without the said error code indication.
U647	1503		Tray 3 re-check request	An operator is requested to check the Paper tray 3 again because the said tray was set in place without rebooting the printer after the indication of the error code U644-1172. * This error code will not be indicated when using the "Continuous paper feed" function	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	In case an ongoing print job is interrupted due to the indication of this error code, it is not possible to resume it even after clearing the error code. The above case might occur if the U644-1172 error (Tray 3 elevator motor failure) is simultaneously detected without the said error code indication.
U645	1504		Tray 1 re-check request	An operator is requested to check the Paper tray 1 again after rebooting the printer because the said tray was set in place without removing the excessive amount of sheets inside notified with the indication of the error code W052-1955.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	Job restart process does not exist because this error occurs without jobs.
U646	1505		Tray 2 re-check request	An operator is requested to check the Paper tray 2 again after rebooting the printer because the said tray was set in place without removing the excessive amount of sheets inside notified with the indication of the error code W052-1956.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	Job restart process does not exist because this error occurs without jobs.
U647	1506		Tray 3 re-check request	An operator is requested to check the Paper tray 3 again after rebooting the printer because the said tray was set in place without removing the excessive amount of sheets inside notified with the indication of the error code W052-1957.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	Job restart process does not exist because this error occurs without jobs.
S098	1800		Engine control PCB communication error	Communication error between SH and TAG microcomputers on the Engine control PCB.	Turn OFF the printer. (Sub power key OFF)	
S098	1801	1 to 9	Engine control PCB-TAG communication error	Communication error between TAG modules and the Engine control PCB Variation code (Detected in): - 1: Model TAG module - 2: Black TAG module - 3: Cyan TAG module - 4: Magenta TAG module - 5: Yellow TAG module - 6: Engine control PCB - 7: Grey/Red TAG module - 8 through 9: -	Turn OFF the printer. (Sub power key OFF)	
S098	1810		Provisional TAG model ID mismatch	The temporary model code, which has been prepared based on the information acquired from both the provisional TAG and the Engine control PCB because the model ID stored in the said TAG did not match the relevant model information (region, grade, etc.) on the Engine control PCB, does not correspond with any existing model ID.	Turn OFF the printer. (Sub power key OFF)	
S098	1811		TAG model ID mismatch	The TAG model ID does not match the one derived from the model code stored in the said TAG.	Turn OFF the printer. (Sub power key OFF)	
S098	1812		Finalized TAG model ID mismatch	The model ID stored in the finalized TAG does not match the relevant model information (region, grade, etc.) on the Engine control PCB.	Turn OFF the printer. (Sub power key OFF)	
S090	1813		Model configuration error	An impossible combination of model components (region, grade and print size) has been applied in model configuration mode.	Turn OFF the printer. (Sub power key OFF)	The corresponding test mode will be terminated as a failure without changing the current configuration.
1003	1814		Provisional status notification	The printer is still under the provisional ID status. * This notification code will be indicated at power-on and system reset, including when waking up from the sleep mode.	Execute one of the following. (1) Touch the [Close] button. (2) Execute the test mode TM11-3-001 "MACHINE FINAL REGISTERING." (3) Wait until the provisional ID status period passes so that this notification message code may not be indicated any more. * For a fundamental solution, take the 2nd action above.	
S094	1900		Firmware download error (TAG microcomputer on Engine control PCB)	An error has been detected in the firmware data to be downloaded into the TAG microcomputer on the Engine control PCB through validity check at the start of firmware download operation.	Hold down the Start key.	Other firmware data than the one mentioned to the left will be downloaded as requested without interrupting the current firmware download operation. This error code will be indicated thereafter.
S094	1901		Firmware download error (TAG microcomputer on Engine control PCB)	No response has been detected from the TAG microcomputer loader program on the Engine control PCB at power-on or during firmware download operation.	Hold down the Start key.	The communication with the TAG microcomputer on the Engine control PCB will be terminated. The printer is to be normally activated when rebooted.
S094	1902		Firmware download error (TAG microcomputer on Engine control PCB)	The TAG microcomputer main program on the Engine control PCB has not been activated due to the absence of the said program in the system.	Hold down the Start key.	The communication with the TAG microcomputer on the Engine control PCB will be terminated. The printer is to be normally activated when rebooted.

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S094	1903		Firmware download error (TAG microcomputer on Engine control PCB)	A command error has been detected in the communication with the TAG microcomputer loader program on the Engine control PCB at power-on or during firmware download operation.	Hold down the Start key.	The communication with the TAG microcomputer on the Engine control PCB will be terminated. The printer is to be normally activated when rebooted. If this error has been detected during firmware download operation, however, other firmware data than the one for the TAG microcomputer will be downloaded as requested without interrupting the current operation and the printer is to be reactivated, requesting a recovery download operation.
S094	1904		Firmware download error (TAG microcomputer on Engine control PCB)	An I2C bus access error, including a time-out error, has been detected in the communication with the TAG microcomputer on the Engine control PCB at power- on or during firmware download operation.	Hold down the Start key.	The communication with the TAG microcomputer on the Engine control PCB will be terminated. The printer is to be normally activated when rebooted. If this error has been detected during firmware download operation, however, other firmware data than the one for the TAG microcomputer will be downloaded as requested without interrupting the current operation and the printer is to be reactivated, requesting a recovery download operation.
S094	1905		Firmware download error (TAG microcomputer FLASH memory on Engine control PCB)	A FLASH memory access error has been detected during data erasure or writing process for the TAG microcomputer on the Engine control PCB in firmware download operation.	Hold down the Start key.	Other firmware data than the one for the TAG microcomputer will be downloaded as requested without interrupting the current firmware download operation. The printer is to be reactivated, requesting a recovery download operation.
S094	1906		Firmware download error (TAG microcomputer FLASH memory on Engine control PCB)	A checksum error has been detected for the FLASH memory of the TAG microcomputer on the Engine control PCB during firmware download operation.	Hold down the Start key.	Other firmware data than the one for the TAG microcomputer will be downloaded as requested without interrupting the current firmware download operation. The printer is to be reactivated, requesting a recovery download operation.
S094	1910		Firmware download error (Paper- transport-related RX on Engine control PCB)	An error has been detected in the firmware data to be downloaded into the paper-transport-related RX on the Engine control PCB through validity check at the start of firmware download operation.	Hold down the Start key.	Other firmware data than the one mentioned to the left will be downloaded as requested without interrupting the current firmware download operation. This error code will be indicated thereafter.
S094	1911		Firmware download error (Paper- transport-related RX on Engine control PCB)	No response has been detected from the paper-transport-related RX loader program on the Engine control PCB at power-on or during firmware download operation.	Hold down the Start key.	The communication with the paper-transport-related RX on the Engine control PCB will be terminated. The printer is to be normally activated when rebooted.
S094	1912		Firmware download error (Paper- transport-related RX on Engine control PCB)	The paper-transport-related RX main program on the Engine control PCB has not been activated due to the absence of the said program in the system.	Hold down the Start key.	The communication with the paper-transport-related RX on the Engine control PCB will be terminated. The printer is to be normally activated when rebooted.
S094	1913		Firmware download error (Paper- transport-related RX on Engine control PCB)	A command error or a response time-out error has been detected in the communication with the paper-transport-related RX loader program on the Engine control PCB at power-on or during firmware download operation.	Hold down the Start key.	The communication with the paper-transport-related RX on the Engine control PCB will be terminated. The printer is to be normally activated when rebooted. If this error has been detected during firmware download operation, however, other firmware data than the one for the paper-transport-related RX will be downloaded as requested without interrupting the current operation and the printer is to be reactivated, requesting a recovery download operation.
S094	1914		Firmware download error (Paper- transport-related RX FLASH memory on Engine control PCB)	A FLASH memory access error has been detected during data erasure or writing process for the paper-transport-related RX on the Engine control PCB in firmware download operation.	Hold down the Start key.	Other firmware data than the one for the paper-transport- related RX will be downloaded as requested without interrupting the current firmware download operation. The printer is to be reactivated, requesting a recovery download operation.
S094	1915		Firmware download error (Paper- transport-related RX FLASH memory on Engine control PCB)	A checksum error has been detected for the FLASH memory of the paper- transport-related RX on the Engine control PCB during firmware download operation.	Hold down the Start key.	Other firmware data than the one for the paper-transport- related RX will be downloaded as requested without interrupting the current firmware download operation. The printer is to be reactivated, requesting a recovery download operation.
S092	1920		Firmware download error (on Engine control PCB)	The SH2A component on the Engine control PCB has detected at power-on that the required firmware data could not have been downloaded into the said PCB completely.	Turn OFF the printer. (Sub power key OFF) * For a fundamental solution, it is necessary to download all required firmware data.	All operations will be terminated.
S094	1921		Firmware download error (SH2A loader on Engine control PCB)	An error has been detected in the firmware data to be downloaded into the SH2A loader on the Ergine control PCB through validity check at the start of firmware download operation.	Hold down the Start key.	Other firmware data than the one mentioned to the left will be downloaded as requested without interrupting the current firmware download operation. The printer is to be reactivated, requesting a recovery download operation.
S094	1922		Firmware download error (SH2A sequencer on Engine control PCB)	An error has been detected in the firmware data to be downloaded into the SH2A sequencer on the Engine control PCB through validity check at the start of firmware download operation.	Hold down the Start key.	Other firmware data than the one mentioned to the left will be downloaded as requested without interrupting the current firmware download operation. The printer is to be reactivated, requesting a recovery download operation.
S094	1923		Firmware download error (SH2A FLASH memory on Engine control PCB)	A FLASH memory access error has been detected during data erasure or writing process for the SH2A loader or sequencer on the Engine control PCB in firmware download operation.	Hold down the Start key.	Other firmware data than the one for the SH2A loader or sequencer will be downloaded as requested without interrupting the current firmware download operation. The printer is to be reactivated, requesting a recovery download operation.
S094	1924		Firmware download error (SH2A FLASH memory on Engine control PCB)	A checksum error has been detected for the FLASH memory of the SH2A loader on the Engine control PCB during firmware download operation.	Hold down the Start key.	Other firmware data than the one for the SH2A loader will be downloaded as requested without interrupting the current firmware download operation. The printer is to be reactivated, requesting a recovery download operation.

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S094	1925		Firmware download error (SH2A FLASH memory on Engine control PCB)	A checksum error has been detected for the FLASH memory of the SH2A sequencer on the Engine control PCB during firmware download operation.	Hold down the Start key.	Other firmware data than the one for the SH2A sequencer will be downloaded as requested without interrupting the current firmware download operation. The printer is to be reactivated, requesting a recovery download operation.
S094	1926		Firmware download error (on Engine control PCB)	An error has been detected during the acquisition of the firmware data to be downloaded into the Engine control PCB at the start of firmware download operation.	Hold down the Start key.	Other firmware data than the one mentioned to the left will be downloaded as requested without interrupting the current firmware download operation. When the printer is rebooted, the Engine control PCB is to be activated with the firmware which resided before the current firmware download operation.
S094	1930		Firmware download error (FPGA on IP PCB)	An error has been detected in the firmware data to be downloaded for the FPGA configuration on the Recording data generation PCB (IP PCB) through validity check at the start of firmware download operation.	Hold down the Start key.	Other firmware data than the one mentioned to the left will be downloaded as requested without interrupting the current firmware download operation. The printer is to be reactivated, requesting a recovery download operation.
S094	1931		Firmware download error (FLASH memory on IP PCB)	A time-out error has been detected during FPGA configuration data erasure from the FLASH memory on the Recording data generation PCB (IP PCB) in firmware download operation.	Hold down the Start key.	Other firmware data than the one for FPGA configuration will be downloaded as requested without interrupting the current firmware download operation. The printer is to be reactivated, requesting a recovery download operation.
S094	1932		Firmware download error (FLASH memory on IP PCB)	A time-out error has been detected during FPGA configuration data writing on the FLASH memory on the Recording data generation PCB (IP PCB) in firmware download operation.	Hold down the Start key.	Other firmware data than the one for FPGA configuration will be downloaded as requested without interrupting the current firmware download operation. The printer is to be reactivated, requesting a recovery download operation.
S094	1933		Firmware download error (FPGA on IP PCB)	An error has been detected in the downloaded FPGA configuration data on the Recording data generation PCB (IP PCB) through verification after firmware download operation.	Hold down the Start key.	Other firmware data than the one for FPGA configuration will be downloaded as requested without interrupting the current firmware download operation. The printer is to be reactivated, requesting a recovery download operation.
S094	1934		Firmware download error (Paper- transport-related RX on Engine control PCB)	The paper-transport-related RX main program on the Engine control PCB has failed to be prepared for firmware download operation.	Hold down the Start key.	The communication with the paper-transport-related RX on the Engine control PCB will be terminated. The printer is to be normally activated when rebooted.
W069	1935		No prepared Paper tray for auto tray switch	No Paper tray is set in position and prepared for auto tray switching from the Standard paper feed tray.	Touch the [Confirm] button. Then set the Paper trays in place.	The suspended print job will be resumed with a touch-panel operation after error clearance.
1009	1936		Inapplicable Control card set (provisionally)	It has been detected during the provisional period that an inapplicable Control card is set on the printer.	Replace the existing Control card with an applicable one.	
W071	1937		Possible uncounted print ejection	Uncounted prints may have been ejected into an output tray, including optional stacking trays, due to a paper jam.	Touch the [Continue] button.	The suspended print job will be resumed with a touch-panel operation after error clearance.
W071	1939		Possible unfinished print ejection	Unfinished prints may have been ejected into an output tray, including optional stacking trays, due to a paper jam.	Touch the [Continue] button.	The suspended print job will be resumed with a touch-panel operation after error clearance.
S098	1940	1 to 2	IP PCB PLL reconfiguration error	PLL reconfiguration has failed on the Recording data generation PCB (IP PCB). Variation code (Causes): - 1: There is no PLL reconfiguration data. - 2: The PLL reconfiguration process has not been completed successfully.	Turn OFF the printer. (Sub power key OFF)	
W100	1947	2	No Perfect binder cover sheet of the specified format loaded	It has been detected at the start of cover sheet feeding in the current perfect binding print job with the Perfect binder that the cover sheets of the specified format are not loaded on the corresponding paper tray. Variation code (Detected by): - 2: Engine control PCB	Execute one of the following. 1. Load cover sheets of a correct format on the corresponding paper tray and touch the [Continue] button. * 2. Touch the [Paper Selection] button and change the paper format setting for the corresponding paper tray. * 3. Touch the [Stop] button. * Uhen the current print job. * When the cover sheet format is a custom one (an irregular one), the paper format should be predefined precisely for the corresponding paper tray on the printer. Otherwise, this error code will reappear even if cover sheets of a correct format are loaded there.	The suspended print job will be resumed with a touch-panel operation after error clearance for the primary and secondary error recovery actions to the left. The paper tray assignment for cover sheets cannot be changed during a print job.
W101	1948	2	No Perfect binder cover sheet loaded	It has been detected at the start of cover sheet feeding in the current perfect binding print job with the Perfect binder that no cover sheet is loaded on the corresponding paper tray. Variation code (Detected by): - 2: Engine control PCB	Execute one of the following. 1. Load cover sheets on the corresponding paper tray and touch the (Continue) button. 2. Touch the (Stop) button. 3. Delete the current print job.	The suspended print job will be resumed with a touch-panel operation after error clearance for the primary error recovery action to the left. The paper tray assignment for cover sheets cannot be changed during a print job.

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
W102	1949	1 to 2	No Perfect binder body text sheet loaded	It has been detected at the start of the current perfect binding print job with the Perfect binder that the body text sheets of the specified format are not loaded on the corresponding paper tray. Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Execute one of the following. 1. Load body text sheets of a correct format on the corresponding paper tray and touch the [Continue] button. * 2. Touch the [Change Tray] button and change the paper format setting for the corresponding paper tray. Then touch the [Continue] button. * 3. Touch the [Change Tray] button and select another paper tray. Then touch the [Continue] button. * 4. Touch the [Stop] button. 5. Delete the current print job. * When the body text sheet format is a custom one (an irregular one), the paper format should be predefined precisely for the corresponding paper tray on the printer. Otherwise, this error code will reappear even if body text sheets of a correct format are loaded there.	The suspended print job will be resumed with a touch-panel operation after error clearance for the first to third error recovery actions to the left.
W052	1955		Tray 1 upper limit sensor error (Paper overloading on Paper tray 1)	The Tray 1 upper limit sensor has been blocked when the Paper tray 1 was inserted, without preceding paper jam errors, while the printer was idle. * Another error code, U642-1045, will be indicated if the said sensor has been blocked during a print job. <possible conditions="" detection="" error=""> - The Paper tray 1 is overloaded.</possible>	Execute one of the following. (1) Reduce the volume of loaded sheets of paper on the corresponding paper tray. (2) Turn OFF the printer. (Sub power key OFF)	It is possible to start a print job with a touch-panel operation after error recovery.
W052	1956		Tray 2 upper limit sensor error (Paper overloading on Paper tray 2)	The Tray 2 upper limit sensor has been blocked when the Paper tray 2 was inserted, without preceding paper jam errors, while the printer was idle. * Another error code, U643-1046, will be indicated if the said sensor has been blocked during a print job. <possible conditions="" detection="" error=""> - The Paper tray 2 is overloaded.</possible>	Execute one of the following. (1) Reduce the volume of loaded sheets of paper on the corresponding paper tray. (2) Turn OFF the printer. (Sub power key OFF)	It is possible to start a print job with a touch-panel operation after error recovery.
W052	1957		Tray 3 upper limit sensor error (Paper overloading on Paper tray 3)	The Tray 3 upper limit sensor has been blocked when the Paper tray 3 was inserted, without preceding paper jam errors, while the printer was idle. * Another error code, U644-1047, will be indicated if the said sensor has been blocked during a print job. <possible conditions="" detection="" error=""> - The Paper tray 3 is overloaded.</possible>	Execute one of the following. (1) Reduce the volume of loaded sheets of paper on the corresponding paper tray. (2) Turn OFF the printer. (Sub power key OFF)	It is possible to start a print job with a touch-panel operation after error recovery.

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
6. Erro	r Point 2	2000 Tł	nrough 2499 (Print Head I	Related)		
S003	2000		Transfer belt elevation motor failure	The corresponding encoder pulse count has not reached the predefined value after the activation of the Transfer belt elevation motor.	Turn OFF the printer. (Sub power key OFF)	
S003	2001		Transfer belt elevation motor failure	It has been detected at the activation of the Transfer belt elevation motor that the said motor is not functioning (is locked).	Turn OFF the printer. (Sub power key OFF)	
S003	2002		Transfer belt unit elevation error	The BP upper limit sensor, which was once blocked when the Transfer belt unit was raised up to the top in a preparatory action, has not been blocked again during the following Transfer belt unit alignment (Print head gap adjustment) operation, thus leaving the said operation unfinished.	Turn OFF the printer. (Sub power key OFF)	
S003	2003		Transfer belt unit elevation error	The BP lower limit sensor remains blocked though the Transfer belt unit should have been raised up to the top.	Turn OFF the printer. (Sub power key OFF)	
S003	2004		Transfer belt unit elevation error	The BP upper limit sensor has been blocked though the Transfer belt unit should have been suspended at the maintenance (cleaning) position.	Turn OFF the printer. (Sub power key OFF)	
S003	2005		Transfer belt unit elevation error	The BP lower limit sensor remains blocked though the Transfer belt unit should have been raised up to the maintenance (cleaning) position.	Turn OFF the printer. (Sub power key OFF)	
S003	2006		Transfer belt unit descent error	The BP upper limit sensor remains blocked though the Transfer belt unit should have been lowered down to the bottom.	Turn OFF the printer. (Sub power key OFF)	
				An unusual status has been detected with the BP lower limit sensor when the		
S003	2007	1 to 2	BP lower limit sensor failure	Transfer belt unit was lowered down to the bottom. Variation code (Status): - 1: The BP lower limit sensor has been blocked again. (It should be opened (unblocked).) - 2: The BP lower limit sensor has been opened (unblocked) again before a regular reverse (elevation) action of the Transfer belt unit for the final positioning. (It should be blocked.)	Turn OFF the printer. (Sub power key OFF)	
S003	2008		Transfer belt unit descent error	The BP upper limit sensor remains blocked though the Transfer belt unit should have been lowered for the Transfer belt unit alignment (Print head gap adjustment) operation.	Turn OFF the printer. (Sub power key OFF)	
S003	2009		Transfer belt unit descent error	The light path of the BP lower limit sensor has been blocked though the Transfer belt unit should have been suspended for the Transfer belt unit alignment (Print head gap adjustment) operation	Turn OFF the printer. (Sub power key OFF)	
S003	2010		BP upper/lower limit sensor error	The BP upper limit sensor and BP lower limit sensor are both blocked.	Turn OFF the printer. (Sub power key OFF)	
			Transfor bolt unit algustion/descent	The PD wire leave detection switch has been turned ON, notifying that the PD		
S003	2011		error	wire (Transfer belt unit elevation wire) has been loosened.	Turn OFF the printer. (Sub power key OFF)	
S003	2012	1 to 8	Transfer belt unit alignment error (Standard/Card)	Any of the gap adjusters has not been made contact with the Print head holder in the Transfer belt unit alignment (Print head gap adjustment) operation for "Standard" (regular-weight paper) or "Card" (heavy-weight paper). Variation code (Paper type / Gap adjuster location): - 1: Standard / Rear ight - 5: Card / Rear light - 2: Standard / Rear ight - 6: Card / Rear light - 3: Standard / Front left - 7: Card / Front left - 4: Standard / Front night - 8: Card / Front night	Turn OFF the printer. (Sub power key OFF)	The power will be shut down.
S003	2013		Transfer belt elevation motor failure	The Transfer belt elevation motor has not stopped operation within a predefined amount of time since its activation.	Turn OFF the printer. (Sub power key OFF)	
S003	2014	1 to 5	Maintenance operation error	It has been detected that any of the following components is improperly positioned: Maintenance unit, Transfer belt unit or Wiper unit. Variation code (Troubled components/conditions): - 1: Improper relative positions of the Maintenance unit and the Transfer belt unit, due to which the initial positioning of the Maintenance unit is disabled. - 2: Wrong initial position the Wiper unit, due to which the Print head cleaning (wiping) operation is disabled. - 3: The Wiper unit detected to have been shifted from the latest resident position, where the said unit was placed at the end of the last cleaning (wiping) operation. - 4: The Transfer belt unit detected to have been shifted from the latest resident position, where the said unit was placed at the end of the last operation. - 5: The Maintenance unit detected to have been shifted from the latest resident position, where the said unit was placed at the end of the last operation.	Turn OFF the printer. (Sub power key OFF)	The power will be shut down.
S003	2015	1 to 8	Transfer belt unit alignment error (Envelope)	Ary of the gap adjusters has not been made contact with the Print head holder in the Transfer belt unit alignment (Print head gap adjustment) operation for "Envelope 1" or "Envelope 2." Variation code (Paper type / Gap adjuster location): -1: Envelope 1 / Rear left -2: Envelope 1 / Rear left -3: Envelope 2 / Rear left -3: Envelope 2 / Rear left -3: Envelope 2 / Rear left -4: Envelope 1 / Rear left -6: Envelope 2 / Rear left -7: Envelope 2 / Rear left -8: Envelope 2 / Pront left -8: Envelope 2 / Front left -8: Envelope 2 / Front right	Turn OFF the printer. (Sub power key OFF)	The power will be shut down.
S032	2020		Ink pan storage position sensor failure	Although the Maintenance unit (Ink pan) was retractred to the storage position, the Ink pan storage position sensor has not been blocked.	Turn OFF the printer. (Sub power key OFF)	
S032	2021		Ink pan operating position sensor failure	Although the Maintenance unit (Ink pan) was retractred to the storage position, the Ink pan operating position sensor remains blocked.	Turn OFF the printer. (Sub power key OFF)	
S032	2022		Ink pan storage position sensor failure	Although the Maintenance unit (Ink pan) was extracted from the storage position and reached the operational position, the Ink pan storage position sensor remains blocked.	Turn OFF the printer. (Sub power key OFF)	

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S032	2023		Ink pan operating position sensor failure	Although the Maintenance unit (Ink pan) was extracted from the storage position and reached the operational position, the Ink pan operating position sensor has not been blocked.	Turn OFF the printer. (Sub power key OFF)	
S032	2024		Maintenance unit drive motor failure	Although the Maintenance unit drive motor was activated, the said motor has not finished operation within a predefined amount of time.	Turn OFF the printer. (Sub power key OFF)	
S032	2025		Ink pan storage or operating position sensor failure	The Ink pan storage position sensor and the Ink pan operating position sensor are both blocked.	Turn OFF the printer. (Sub power key OFF)	
S032	2026		Maintenance unit operation error	 The Ink pan storage position sensor has been blocked before a predefined amount of time has passed since the Maintenance unit drive motor was activated to retract the Maintenance unit to the storage position. The Ink pan storage position sensor remains blocked within a predefined amount of time since the Maintenance unit drive motor was activated to extract the Maintenance unit from the storage position and suspend it at the standby position. 	Turn OFF the printer. (Sub power key OFF)	
S032	2027		Maintenance unit operation error	 The Ink pan operating position sensor has been blocked before a predefined amount of time has passed since the Maintenance unit drive motor was activated to extract the Maintenance unit from the storage position and place it at the operational position. The Ink pan operating position sensor remains blocked within a predefined amount of time since the Maintenance unit drive motor was activated to retract the Maintenance unit to the standby position. 	Turn OFF the printer. (Sub power key OFF)	
S033	2030		Wiper blade HP sensor failure	Although the Wiper unit was moved up to the rear end of the Maintenance unit, the Wiper blade HP sensor has not been blocked.	Turn OFF the printer. (Sub power key OFF)	
S033	2031		Wiper blade HP sensor failure	Although the Wiper unit was moved up to the front end of the Maintenance unit, the Wiper blade HP sensor remains blocked.	Turn OFF the printer. (Sub power key OFF)	
S033	2032		Wiper unit operation error	The Wiper unit was not shifted enough toward the front end of the Maintenance unit in the preceding operation. (The Wiper blade HP sensor has been blocked before the Wiper motor has operated for a predefined amount of time (pulses) to return the Wiper unit to the home position.)	Turn OFF the printer. (Sub power key OFF)	
S033	2033		Wiper unit operation error	The Wiper motor has not finished operating within a predefined amount of time. (The predefined number of pulses has not been counted within a predefined amount of time after the activation of the Wiper motor.)	Turn OFF the printer. (Sub power key OFF)	
S035	2035		Ink tower unit error	Ink has not been heated up to a predefined temperature within a predefined amount of time after ink heating was started due to excessive low ink temperature.	Turn OFF the printer. (Sub power key OFF)	
S035	2036		Ink tower unit error	Ink has not been cocled down to a predefined temperature within a predefined amount of time after ink cooling was started due to excessive high ink temperature.	Turn OFF the printer. (Sub power key OFF)	
S035	2037		Ink tower unit error	The ink temperature detected in the Ink bath or at the thermistor on the Print head is over the predefined level.	Turn OFF the printer. (Sub power key OFF)	
S035	2038		Ink tower unit error	The ink temperature detected in the Ink bath or at the thermistor on the Print head is below the predefined level.	Turn OFF the printer. (Sub power key OFF)	
S035	2039		Ink tower unit error	The Ink leakage detection sensor has detected leaked ink.	Turn OFF the printer. (Sub power key OFF)	
S034	2040		Ink release cam HP sensor failure	The Ink release cam HP sensor has not been blocked though the Ink release cam was turned to the home position.	Turn OFF the printer. (Sub power key OFF)	
S034	2041		Ink release cam motor failure	The lnk release cam HP sensor has not been blocked within a predefined amount of time after the lnk release cam motor was activated to turn the lnk release cam.	Turn OFF the printer. (Sub power key OFF)	
S036	2042		Air regulator valve failure	The Air regulator valve is electrically disconnected. (The connection detection signal is inactive for the Air regulator valve.)	Turn OFF the printer. (Sub power key OFF)	
S036	2043		Ink circulation pump failure	Ink has not been supplied to the Negative pressure ink tank while the initial ink filling operation was started.	Turn OFF the printer. (Sub power key OFF)	
S036	2044	1 to 4	Ink circulation pump failure	The pressurized (positive) pressure has reached an unusual level during its generation. Variation code (Operations during which the above event occurred): - 1: Initial ink filling - 2: Normal cleaning - 3: Strong cleaning - 4: Ink circulation	Turn OFF the printer. (Sub power key OFF)	
S036	2045	1 to 4	Ink circulation pump failure	The generation of the pressurized (positive) pressure has not been completed within a predefined amount of time. Variation code (Operations during which the above event occurred): - 1: Initial ink filling - 2: Normal cleaning - 3: Strong cleaning - 4: Ink circulation	Turn OFF the printer. (Sub power key OFF)	
S036	2046		Ink circulation pump failure	The pressure in the Pressurization tank, which is detected by the Pressurization tank pressure sensor, still remains 3 kPa or less while the negative pressure in the Negative pressure tank has reached the predefined level during ink circulation operation.	Turn OFF the printer. (Sub power key OFF)	

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
				The pressurized (positive) pressure has fluctuated beyond the allowable range while reculating the said pressure to maintain its current level.		
S036	2047	1 to 2	Ink circulation pump failure	Variation code (Operations during which the above event occurred): - 1: Initial link filling - 2: Ink circulation	Turn OFF the printer. (Sub power key OFF)	
				The Positive pressure regulator valve has remained opened for a predefined amount of time while regulating the pressurized (positive) pressure to maintain its current level.		
5036	2048	1 to 2	Ink circulation pump failure	Variation code (Operations during which the above event occurred): - 1: Initial ink filling - 2: Ink circulation	Turn OFF the printer. (Sub power key OFF)	
S036	2049	1 to 2	Ink circulation pump failure	The Positive pressure regulator valve has remained closed for a predefined amount of time while regulating the pressurized (positive) pressure to maintain its current level. Variation code (Operations during which the above event occurred): - 1: Initial ink filling	Turn OFF the printer. (Sub power key OFF)	
S036	2050		Ink circulation pump failure	The negative pressure has reached an unusual level during its generation in ink circulation operation.	Turn OFF the printer. (Sub power key OFF)	
S036	2051		Ink circulation pump failure	The generation of the negative pressure has not been completed within a predefined amount of time during ink circulation operation.	Turn OFF the printer. (Sub power key OFF)	
S036	2052		Ink circulation pump failure	The pressure in the Negative pressure tank, which is detected by the Negative pressure tank pressure sensor, still remains -4 kPa or less while the positive pressure in the Pressurization tank has reached the predefined level during ink circulation operation.	Turn OFF the printer. (Sub power key OFF)	
S036	2053		Ink circulation pump failure	The negative pressure has fluctuated beyond the allowable range while regulating the said pressure to maintain its current level during ink circulation operation.	Turn OFF the printer. (Sub power key OFF)	
S036	2054		Ink circulation pump failure	The Negative pressure regulator valve has remained opened for a predefined amount of time while regulating the negative pressure to maintain its current level during ink circulation operation.	Turn OFF the printer. (Sub power key OFF)	
S036	2055		Ink circulation pump failure	The Negative pressure regulator valve has remained closed for a predefined amount of time while regulating the negative pressure to maintain its current level during ink circulation operation.	Turn OFF the printer. (Sub power key OFF)	
				The pressure in the Negative pressure tank has not returned to the open air level while the ink circulation pump was neutralized to recover the idle status.		
S036	2056	1 to 4	Ink circulation pump failure	Variation code (Operations during which the above event occurred): - 1: Initial ink filling - 2: Normal cleaning - 3: Strong cleaning - 4: Ink circulation	Turn OFF the printer. (Sub power key OFF)	
S036	2057		Ink circulation pump failure	The Pressurization tank pressure sensor has kept detecting the pressure level which is higher than a predefined one in the Pressurization tank for a predefined amount of time.	Turn OFF the printer. (Sub power key OFF)	
S036	2058		Ink circulation pump failure	The Negative pressure tank pressure sensor has kept detecting the pressure level which is higher than a predefined one in the Negative pressure tank for a predefined amount of time.	Turn OFF the printer. (Sub power key OFF)	
S036	2059	1 to 2	Ink circulation pump failure	Ink has not been supplied to the Negative pressure ink tank while the ink circulation operation was started for the external filter. Variation code (Operational purposes): - 1: Air removal - 2: Regular action	Turn OFF the printer. (Sub power key OFF)	
S035	2060		Ink overflow error	The Overflow tank ink level sensor has been blocked. (Ink may overflow.)	Turn OFF the printer. (Sub power key OFF)	
S014	2061		Waste ink tank full	The Waste ink tank has become full, thus requesting its replacement. * 2 seconds or more have passed since the Waste ink tank near full sensor was opened (unblocked) while the Waste ink tank full sensor remained blocked.	Turn OFF the printer. (Sub power key OFF) * For a fundamental solution, unload the full Waste ink tank and mount an empty one.	
1002	2062		Waste ink tank near full	The Waste ink tank has become nearly full, thus expecting its approaching replacement. * 2 seconds or more have passed since the Waste ink tank full sensor was blocked while the Waste ink tank near full sensor remained blocked.	Execute one of the following. (1) Touch the [Close] button. (2) Unload the Waste ink tank.	This error code will be cleared when the Waste ink tank becomes full, indicating another error code, S014-2061.
S096	2063		No Waste ink tank mounted	The Waste ink tank is not mounted. * 2 seconds or more have passed since the Waste ink tank near full sensor was opened (unblocked) while the Waste ink tank full sensor was not blocked.	Turn OFF the printer. (Sub power key OFF) * For a fundamental solution, mount the Waste ink tank.	
S035	2065		Unusual ink temperature at Print heads	The ink temperatures measured at Print heads during cleaning operation were all unusual.	Turn OFF the printer. (Sub power key OFF)	
S035	2067	1 to 5	Ink circulation pump failure or Pressurization tank ink sensor failure (K color)	The Pressurization tank ink sensor K (for K color) has remained blocked for a predefined amount of time. Variation code (Operations during which the above event occurred): - 1: Initial ink filling - 2: Initial ink level adjustment - 3: Ink circulation pressure generation - 4: Ink circulation pressure regulation - 5: Strong cleaning	Turn OFF the printer. (Sub power key OFF)	

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S035	2068	1 to 5	Ink circulation pump failure or Pressurization tank ink sensor failure (C color)	The Pressurization tank ink sensor C (for C color) has remained blocked for a predefined amount of time. Variation code (Operations during which the above event occurred): - 1: Initial ink filling - 2: Initial ink level adjustment - 3: Ink circulation pressure generation - 4: Ink circulation pressure regulation - 5: Strong cleaning	Turn OFF the printer. (Sub power key OFF)	
S035	2069	1 to 5	Ink circulation pump failure or Pressurization tank ink sensor failure (M color)	The Pressurization tank ink sensor M (for M color) has remained blocked for a predefined amount of time. Variation code (Operations during which the above event occurred): - 1: Initial ink filling - 2: Initial ink level adjustment - 3: Ink circulation pressure generation - 4: Ink circulation pressure regulation - 5: Strong cleaning	Turn OFF the printer. (Sub power key OFF)	
S035	2070	1 to 5	Ink circulation pump failure or Pressurization tank ink sensor failure (Y color)	The Pressurization tank ink sensor Y (for Y color) has remained blocked for a predefined amount of time. Variation code (Operations during which the above event occurred): - 1: Initial ink filling - 2: Initial ink level adjustment - 3: Ink circulation pressure generation - 4: Ink circulation pressure regulation - 5: Strong cleaning	Turn OFF the printer. (Sub power key OFF)	
S035	2071	1 to 5	Ink circulation pump failure or Pressurization tank ink sensor failure (P, R or Gr color)	The Pressurization tank ink sensor P (for P color), R (for R color) or Gr (for Gr color) has remained blocked for a predefined amount of time. Variation code (Operations during which the above event occurred): - 1: Initial ink filling - 2: Initial ink level adjustment - 3: Ink circulation pressure generation - 4: Ink circulation pressure regulation - 5: Strong cleaning	Turn OFF the printer. (Sub power key OFF)	The Pressurization tank ink sensor R is for 5C (KCMYR) models. The Pressurization tank ink sensor Gr is for 5C (KCMYGr) models.
S035	2072	1 to 6	Ink circulation pump failure or Pressurization tank ink sensor failure (K color)	The Pressurization tank ink sensor K (for K color) has remained open (unblocked) for a predefined amount of time during the initial operation after ink cartridge replacement for K color due to the corresponding ink depletion notification. Variation code (Operations during which the above event occurred): - 1: Initial ink filling - 2: Initial ink filling - 3: Ink circulation pressure generation - 4: Ink circulation pressure regulation - 5: Strong cleaning - 6: Normal cleaning	Turn OFF the printer. (Sub power key OFF)	
S035	2073	1 to 6	Ink circulation pump failure or Pressurization tank ink sensor failure (C color)	The Pressurization tank ink sensor C (for C color) has remained open (unblocked) for a predefined amount of time during the initial operation after ink cartridge replacement for C color due to the corresponding ink depletion notification. Variation code (Operations during which the above event occurred): - 1: Initial ink filling - 2: Initial ink level adjustment - 3: Ink circulation pressure generation - 4: Ink circulation pressure regulation - 5: Strong cleaning - 6: Normal cleaning	Turn OFF the printer. (Sub power key OFF)	
S035	2074	1 to 6	Ink circulation pump failure or Pressurization tank ink sensor failure (M color)	The Pressurization tank ink sensor M (for M color) has remained open (unblocked) for a predefined amount of time during the initial operation after ink cartridge replacement for M color due to the corresponding ink depletion notification. Variation code (Operations during which the above event occurred): - 1: Initial ink filling - 2: Initial ink filling - 3: Ink circulation pressure generation - 4: Ink circulation pressure regulation - 5: Strong cleaning - 6: Normal cleaning	Turn OFF the printer. (Sub power key OFF)	
S035	2075	1 to 6	Ink circulation pump failure or Pressurization tank ink sensor failure (Y color)	The Pressurization tank ink sensor Y (for Y color) has remained open (unblocked) for a predefined amount of time during the initial operation after ink cartridge replacement for Y color due to the corresponding ink depletion notification. Variation code (Operations during which the above event occurred): - 1: Initial ink filling - 2: Initial ink level adjustment - 3: Ink circulation pressure generation - 4: Ink circulation pressure regulation - 5: Strong cleaning - 6: Normal cleaning	Turn OFF the printer. (Sub power key OFF)	
S035	2076	1 to 6	Ink circulation pump failure or Pressurization tank ink sensor failure (P, R or Gr color)	The Pressurization tank ink sensor P (for P color), R (for R color) or Gr (for Gr color) has remained open (unblocked) for a predefined amount of time during the initial operation after ink cartridge replacement for P, R or Gr color due to the corresponding ink depletion notification. Variation code (Operations during which the above event occurred): - 1: Initial ink filling - 2: Initial ink filling - 3: Ink circulation pressure generation - 4: Ink circulation pressure regulation - 5: Strong cleaning - 6: Normal cleaning	Turn OFF the printer. (Sub power key OFF)	The Pressurization tank ink sensor R is for 5C (KCMYR) models. The Pressurization tank ink sensor Gr is for 5C (KCMYGr) models.

[16-62]

Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S035	2077	1 to 7	Ink circulation pump failure or Negative pressure tank ink sensor failure (K color)	The Negative pressure tank ink sensor K (for K color) has remained blocked for a predefined amount of time. Variation code (Operations during which the above event occurred): - 1: Initial ink filling - 2: Initial ink level adjustment - 3: Ink circulation pressure generation - 4: Ink circulation pressure regulation - 5: Strong cleaning - 6: Normal cleaning - 7: Ink draining	Turn OFF the printer. (Sub power key OFF)	
S035	2078	1 to 7	Ink circulation pump failure or Negative pressure tank ink sensor failure (C color)	The Negative pressure tank ink sensor C (for C color) has remained blocked for a predefined amount of time. Variation code (Operations during which the above event occurred): - 1: Initial ink filling - 2: Initial ink level adjustment - 3: Ink circulation pressure generation - 4: Ink circulation pressure regulation - 5: Strong cleaning - 6: Normal cleaning - 7: Ink draining	Turn OFF the printer. (Sub power key OFF)	
S035	2079	1 to 7	Ink circulation pump failure or Negative pressure tank ink sensor failure (M color)	The Negative pressure tank ink sensor M (for M color) has remained blocked for a predefined amount of time. Variation code (Operations during which the above event occurred): - 1: Initial ink filling - 2: Initial ink level adjustment - 3: Ink circulation pressure generation - 4: Ink circulation pressure regulation - 5: Strong cleaning - 6: Normal cleaning - 7: Ink draining	Turn OFF the printer. (Sub power key OFF)	
S036	2080	1 to 7	Ink circulation pump failure or Negative pressure tank ink sensor failure (Y color)	The Negative pressure tank ink sensor Y (for Y color) has remained blocked for a predefined amount of time. Variation code (Operations during which the above event occurred): - 1: Initial ink filling - 2: Initial ink level adjustment - 3: Ink circulation pressure generation - 4: Ink circulation pressure regulation - 5: Strong cleaning - 6: Normal cleaning - 7: Ink draining	Turn OFF the printer. (Sub power key OFF)	
S035	2081	1 to 7	Ink circulation pump failure or Negative pressure tank ink sensor failure (P, R or Gr color)	The Negative pressure tank ink sensor P (for P color), R (for R color) or Gr (for Gr color) has remained blocked for a predefined amount of time. Variation code (Operations during which the above event occurred): - 1: Initial ink filling - 2: Initial ink level adjustment - 3: Ink circulation pressure generation - 4: Ink circulation pressure regulation - 5: Storng cleaning - 6: Normal cleaning - 7: Ink draining	Turn OFF the printer. (Sub power key OFF)	The Negative pressure tank ink sensor R is for 5C (KCMYR) models. The Negative pressure tank ink sensor Gr is for 5C (KCMYGr) models.
S035	2082	1 to 6	Ink circulation pump failure or Negative pressure tank ink sensor failure (K color)	The Negative pressure tank ink sensor K (for K color) has remained open (unblocked) for a predefined amount of time. Variation code (Operations during which the above event occurred): - 1: Initial ink filling - 2: Initial ink level adjustment - 3: Ink circulation pressure generation - 4: Ink circulation pressure regulation - 5: Strong cleaning - 6: Normal cleaning	Turn OFF the printer. (Sub power key OFF)	
S035	2083	1 to 6	Ink circulation pump failure or Negative pressure tank ink sensor failure (C color)	The Negative pressure tank ink sensor C (for C color) has remained open (unblocked) for a predefined amount of time. Variation code (Operations during which the above event occurred): - 1: Initial ink filling - 2: Initial ink level adjustment - 3: Ink circulation pressure generation - 4: Ink circulation pressure regulation - 5: Strong cleaning - 6: Normal cleaning	Turn OFF the printer. (Sub power key OFF)	
S035	2084	1 to 6	Ink circulation pump failure or Negative pressure tank ink sensor failure (M color)	The Negative pressure tank ink sensor M (for M color) has remained open (unblocked) for a predefined amount of time. Variation code (Operations during which the above event occurred): - 1: Initial ink filling - 2: Initial ink level adjustment - 3: Ink circulation pressure generation - 4: Ink circulation pressure regulation - 5: Strong cleaning - 6: Normal cleaning	Turn OFF the printer. (Sub power key OFF)	
S035	2086	1 to 6	Ink circulation pump failure or Negative pressure tank ink sensor failure (P, R or Gr color)	The Negative pressure tank ink sensor P (for P color), R (for R color) or Gr (for Gr color) has remained open (unblocked) for a predefined amount of time. Variation code (Operations during which the above event occurred): - 1: Initial ink filling - 2: Initial ink level adjustment - 3: Ink circulation pressure generation - 4: Ink circulation pressure regulation - 5: Strong cleaning - 6: Normal cleaning	Turn OFF the printer. (Sub power key OFF)	The Negative pressure tank ink sensor R is for 5C (KCMYR) models. The Negative pressure tank ink sensor Gr is for 5C (KCMYGr) models.

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Panel Messages

Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S035	2087	1 to 4	Ink circulation pump failure or Pressurization and/or Negative pressure tank ink sensor failure (K color)	The Pressurization and Negative pressure tank ink sensors K (for K color) have both remained blocked for a predefined amount of time. Variation code (Operations during which the above event occurred): - 1: Initial ink filling - 2: Initial ink level adjustment - 3: Ink circulation pressure generation - 4: Ink circulation pressure regulation	Turn OFF the printer. (Sub power key OFF)	
S035	2088	1 to 4	Ink circulation pump failure or Pressurization and/or Negative pressure tank ink sensor failure (C color)	The Pressurization and Negative pressure tank ink sensors C (for C color) have both remained blocked for a predefined amount of time. Variation code (Operations during which the above event occurred): - 1: Initial ink filling - 2: Initial ink level adjustment - 3: Ink circulation pressure generation - 4: Ink circulation pressure regulation	Turn OFF the printer. (Sub power key OFF)	
S035	2089	1 to 4	Ink circulation pump failure or Pressurization and/or Negative pressure tank ink sensor failure (M color)	The Pressurization and Negative pressure tank ink sensors M (for M color) have both remained blocked for a predefined amount of time. Variation code (Operations during which the above event occurred): - 1: Initial ink filling - 2: Initial ink level adjustment - 3: Ink circulation pressure generation - 4: Ink circulation pressure regulation	Turn OFF the printer. (Sub power key OFF)	
S035	2090	1 to 4	Ink circulation pump failure or Pressurization and/or Negative pressure tank ink sensor failure (Y color)	The Pressurization and Negative pressure tank ink sensors Y (for Y color) have both remained blocked for a predefined amount of time. Variation code (Operations during which the above event occurred): - 1: Initial ink filling - 2: Initial ink level adjustment - 3: Ink circulation pressure generation - 4: Ink circulation pressure regulation	Turn OFF the printer. (Sub power key OFF)	
S035	2091	1 to 4	Ink circulation pump failure or Pressurization and/or Negative pressure tank ink sensor failure (P, R or Gr color)	The Pressurization and Negative pressure tank ink sensors P (for P color), R (for R color) or Gr (for Gr color) have both remained blocked for a predefined amount of time. Variation code (Operations during which the above event occurred): - 1: Initial link filling - 2: Initial ink level adjustment - 3: Ink circulation pressure generation - 4: Ink circulation pressure regulation	Turn OFF the printer. (Sub power key OFF)	The Pressurization and Negative pressure tank ink sensors R are for 5C (KCMYR) models. The Pressurization and Negative pressure tank ink sensors Gr are for 5C (KCMYGr) models.
1023	2092		Waste ink tank pre-near full	The Waste ink tank has entered the pre-near full status, thus prompting the corresponding spare part (an empty Waste ink tank) preparation. * 2 seconds or more have passed since the Waste ink tank pre-near full sensor was opened (unblocked) while the Waste ink tank near full sensor remained blocked and the Waste ink tank full sensor remained open (unblocked).	Touch the [Close] button.	
S036	2094	1 to 5	Ink circulation pump failure	The Ink circulation pump is electrically disconnected or has failed to operate. Variation code (Affected ink color): - 1: K color - 2: C color - 3: M color - 4: Y color - 5: P (, R or Gr) color	Turn OFF the printer. (Sub power key OFF)	Variation code 5 is also applicable to the following: - R of 5C (KCMYR) models - G of 5C (KCMYGr) models
S036	2095	1 to 2	Ink circulation pump failure	The micro regulation pressure in the Pressurization tank, which is detected by the Pressurization tank pressure sensor, has become unusual. Variation code (Operations during which the above event occurred): - 1: Normal cleaning - 2: Strong cleaning	Turn OFF the printer. (Sub power key OFF)	
S036	2096	1 to 2	Ink circulation pump failure	The micro regulation pressure in the Negative pressure tank, which is detected by the Negative pressure tank pressure sensor, has become unusual. Variation code (Operations during which the above event occurred): - 1: Normal cleaning - 2: Strong cleaning	Turn OFF the printer. (Sub power key OFF)	
1005	2099	1 to 5	Non-dedicated ink cartridge provisionally loaded	It has been detected at power-on, system reset (including wake-up from the sleep mode) or ink cartridge placement that non-dedicated ink cartridges, which are not to be applicable at the end of the provisional ID status period, are loaded on the printer. Variation code (Corresponding ink color): - 1: K color - 2: C color - 3: M color - 4: Y color - 5: P (, R or Gr) color	Execute one of the following. (1) Touch the [Close] button. (2) Unload the corresponding ink cartridge. (3) Wait until the provisional ID status period passes so that this notification message code may not be indicated any more. * For a fundamental solution, load an dedicated ink cartridge.	Variation code 5 is also applicable to the following: - R of 5C (KCMYR) models - G of 5C (KCMYGr) models
Y001	2100		K-color ink cartridge empty	The K-color ink cartridge has been depleted. (The Pressurization tank ink sensor K (for K color) has not been blocked within a predefined amount of time since the corresponding Ink supply solenoid valve was opened.)	Replace the empty ink cartridge with a new one.	The Transfer belt unit is to be lowered in advance in ink cartridge replacement.
Y001	2101		C-color ink cartridge empty	The C-color ink cartridge has been depleted. (The Pressurization tank ink sensor C (for C color) has not been blocked within a predefined amount of time since the corresponding Ink supply solenoid valve was opened.)	Replace the empty ink cartridge with a new one.	The Transfer belt unit is to be lowered in advance in ink cartridge replacement.
Y001	2102		M-color ink cartridge empty	The M-color ink cartridge has been depleted. (The Pressurization tank ink sensor M (for M color) has not been blocked within a predefined amount of time since the corresponding Ink supply solenoid valve was opened.)	Replace the empty ink cartridge with a new one.	The Transfer belt unit is to be lowered in advance in ink cartridge replacement.

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
Y001	2103		Y-color ink cartridge empty	The Y-color ink cartridge has been depleted. (The Pressurization tank ink sensor Y (for Y color) has not been blocked within a predefined amount of time since the corresponding Ink supply solenoid valve was opened.)	Replace the empty ink cartridge with a new one.	The Transfer belt unit is to be lowered in advance in ink cartridge replacement.
Z003	2104		Wrong-color ink cartridge loaded for K color	Another color ink cartridge has been loaded as K-color one.	Unload the said ink cartridge. * For a fundamental solution, replace the said ink cartridge with the corresponding one.	The Transfer belt unit is to be lowered in advance in ink cartridge replacement.
Z003	2105		Wrong-color ink cartridge loaded for C color	Another color ink cartridge has been loaded as C-color one.	Unload the said ink cartridge. * For a fundamental solution, replace the said ink cartridge with the corresponding one.	The Transfer belt unit is to be lowered in advance in ink cartridge replacement.
Z003	2106		Wrong-color ink cartridge loaded for M color	Another color ink cartridge has been loaded as M-color one.	Unload the said ink cartridge. * For a fundamental solution, replace the said ink cartridge with the corresponding one.	The Transfer belt unit is to be lowered in advance in ink cartridge replacement.
Z003	2107		Wrong-color ink cartridge loaded for Y color	Another color ink cartridge has been loaded as Y-color one.	Unload the said ink cartridge. * For a fundamental solution, replace the said ink cartridge with the corresponding one.	The Transfer belt unit is to be lowered in advance in ink cartridge replacement.
Z004	2108		Incompatible ink cartridge loaded for K color	An incompatible ink cartridge has been loaded as K-color one.	Unload the imcompatible ink cartridge. * For a fundamental solution, replace the said ink cartridge with a compatible one.	The Transfer belt unit is to be lowered in advance in ink cartridge replacement.
Z004	2109		Incompatible ink cartridge loaded for C color	An incompatible ink cartridge has been loaded as C-color one.	Unload the imcompatible ink cartridge. * For a fundamental solution, replace the said ink cartridge with a compatible one.	The Transfer belt unit is to be lowered in advance in ink cartridge replacement.
Z004	2110	1 to 21	Incompatible ink cartridge loaded for M color	An incompatible ink cartridge has been loaded as M-color one.	Unload the imcompatible ink cartridge. * For a fundamental solution, replace the said ink cartridge with a compatible one.	The Transfer belt unit is to be lowered in advance in ink cartridge replacement.
Z004	2111		Incompatible ink cartridge loaded for Y color	An incompatible ink cartridge has been loaded as Y-color one.	Unload the imcompatible ink cartridge. * For a fundamental solution, replace the said ink cartridge with a compatible one.	The Transfer belt unit is to be lowered in advance in ink cartridge replacement.
Z004	2112		Tagless ink cartridge loaded for K color	A tagless ink cartridge has been loaded as K-color one.	Unload the tagless ink cartridge. * For a fundamental solution, replace the said ink cartridge with a tagged one.	The Transfer belt unit is to be lowered in advance in ink cartridge replacement.
Z004	2113		Tagless ink cartridge loaded for C color	A tagless ink cartridge has been loaded as C-color one.	Unload the tagless ink cartridge. * For a fundamental solution, replace the said ink cartridge with a tagged one.	The Transfer belt unit is to be lowered in advance in ink cartridge replacement.
Z004	2114	1 to 2	Tagless ink cartridge loaded for M color	A tagless ink cartridge has been loaded as M-color one.	Unload the tagless ink cartridge. * For a fundamental solution, replace the said ink cartridge with a tagged one.	The Transfer belt unit is to be lowered in advance in ink cartridge replacement.
Z004	2115		Tagless ink cartridge loaded for Y color	A tagless ink cartridge has been loaded as Y-color one.	Unload the tagless ink cartridge. * For a fundamental solution, replace the said ink cartridge with a tagged one.	The Transfer belt unit is to be lowered in advance in ink cartridge replacement.
Y001	2116		K-color ink cartridge empty	The K-color ink cartridge is empty. (The in-the-cartridge ink volume data recorded on the ink cartridge tag has been notified as -50%.)	Replace the empty ink cartridge with a new one.	The Transfer belt unit is to be lowered in advance in ink cartridge replacement.
Y001	2117		C-color ink cartridge empty	The C-color ink cartridge is empty. (The in-the-cartridge ink volume data recorded on the ink cartridge tag has been notified as -50%.)	Replace the empty ink cartridge with a new one.	The Transfer belt unit is to be lowered in advance in ink cartridge replacement.
Y001	2118		M-color ink cartridge empty	The M-color ink cartridge is empty. (The in-the-cartridge ink volume data recorded on the ink cartridge tag has been notified as -50%.)	Replace the empty ink cartridge with a new one.	The Transfer belt unit is to be lowered in advance in ink cartridge replacement.
Y001	2119		Y-color ink cartridge empty	The Y-color ink cartridge is empty. (The in-the-cartridge ink volume data recorded on the ink cartridge tag has been notified as -50%.)	Replace the empty ink cartridge with a new one.	The Transfer belt unit is to be lowered in advance in ink cartridge replacement.
Y001	2120		P (, R or Gr)-color ink cartridge empty	The P (, R or Gr)-color ink cartridge has been depleted. (The Pressurization tank ink sensor P (for P color), R (for R color) or Gr (for Gr color) has not been blocked within a predefined amount of time since the corresponding Ink supply solenoid valve was opened.)	Replace the empty ink cartridge with a new one.	The Transfer belt unit is to be lowered in advance in ink cartridge replacement. This is also applicable to the following: - Ar of SC (KCMYR) models - Gr of SC (KCMYGr) models
Z003	2121		Wrong-color ink cartridge loaded for P (, R or Gr) color	Another color ink cartridge has been loaded as P (, R or Gr)-color one.	Unload the said ink cartridge. * For a fundamental solution, replace the said ink cartridge with the corresponding one.	The Transfer belt unit is to be lowered in advance in ink cartridge replacement. This is also applicable to the following: - R of SC (KCMYR) models - Gr of SC (KCMYGr) models
Z004	2122	1 to 21	Incompatible ink cartridge loaded for P (, R or Gr) color	An incompatible ink cartridge has been loaded as P (, R or Gr)-color one.	Unload the imcompatible ink cartridge. * For a fundamental solution, replace the said ink cartridge with a compatible one.	The Transfer belt unit is to be lowered in advance in ink cartridge replacement. This is also applicable to the following: - R of SC (KCMYR) models - Gr of SC (KCMYGr) models
Z004	2123		Tagless ink cartridge loaded for P (, R or Gr) color	A tagless ink cartridge has been loaded as P (, R or Gr)-color one.	Unload the tagless ink cartridge. * For a fundamental solution, replace the said ink cartridge with a tagged one.	The Transfer belt unit is to be lowered in advance in ink cartridge replacement. This is also applicable to the following: - A of 5C (KCMYR) models - Gr of 5C (KCMYGr) models
W099	2124		Generic ink cartridge loaded	Generic ink cartridges, whose use was permitted through the "Non-RISO Ink Setting" option in the Administrator menu, have been loaded on the printer.	Touch the [Yes] or [No] button.	Job restart process does not exist because this error occurs without jobs.
Z002	2125		K-color ink cartridge not loaded	No K-color ink cartridge is loaded on the printer.	Load the corresponding ink cartridge.	

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
Z002	2126		C-color ink cartridge not loaded	No C-color ink cartridge is loaded on the printer.	Load the corresponding ink cartridge.	
Z002	2127		M-color ink cartridge not loaded	No M-color ink cartridge is loaded on the printer.	Load the corresponding ink cartridge.	
Z002	2128		Y-color ink cartridge not loaded	No Y-color ink cartridge is loaded on the printer.	Load the corresponding ink cartridge.	
Y001	2129		P (, R or Gr)-color ink cartridge empty	The P (, R or Gr)-color ink cartridge is empty. (The in-the-cartridge ink volume data recorded on the ink cartridge tag has been notified as -50%.)	Replace the empty ink cartridge with a new one.	The Transfer belt unit is to be lowered in advance in ink cartridge replacement. This is also applicable to the following: - R of 5C (KCMYCR) models - Gr of 5C (KCMYCR) models
Z002	2130		P (, R or Gr)-color ink cartridge not loaded	No P (, R or Gr)-color ink cartridge is loaded on the printer.	Load the corresponding ink cartridge.	This is also applicable to the following: - R of SC (KCMYR) models - Gr of SC (KCMYGr) models
1004	2131		K-color ink cartridge nearly empty	It has been detected at the end of a print job that the ink volume remaining in the K-color ink cartridge is less than a predefined percentage. * Once the above status is notified, it will not be notified during the subsequent print jobs any more as long as the said ink cartridge is not replaced.	Execute one of the following. (1) Touch the [Close] button. (2) Replace the said ink cartridge.	The predefined percentage can be changed in the test mode TM No. 01-6-095 "INK VOLUME DISPLAY ADJUST." If the said percentage is changed, the said status notification will be made once more.
1004	2132		C-color ink cartridge nearly empty	It has been detected at the end of a print job that the ink volume remaining in the C-color ink cartridge is less than a predefined percentage. * Once the above status is notified, it will not be notified during the subsequent print jobs any more as long as the said ink cartridge is not replaced.	Execute one of the following. (1) Touch the [Close] button. (2) Replace the said ink cartridge.	The predefined percentage can be changed in the test mode TM No. 01-6-095 "INK VOLUME DISPLAY ADJUST." If the said percentage is changed, the said status notification will be made once more.
1004	2133		M-color ink cartridge nearly empty	It has been detected at the end of a print job that the ink volume remaining in the M-color ink cartridge is less than a predefined percentage. * Once the above status is notified, it will not be notified during the subsequent print jobs any more as long as the said ink cartridge is not replaced.	Execute one of the following. (1) Touch the [Close] button. (2) Replace the said ink cartridge.	The predefined percentage can be changed in the test mode TM No. 01-6-095 "INK VOLUME DISPLAY ADJUST." If the said percentage is changed, the said status notification will be made once more.
1004	2134		Y-color ink cartridge nearly empty	It has been detected at the end of a print job that the ink volume remaining in the Y-color ink cartridge is less than a predefined percentage. * Once the above status is notified, it will not be notified during the subsequent print jobs any more as long as the said ink cartridge is not replaced.	Execute one of the following. (1) Touch the (Close) button. (2) Replace the said ink cartridge.	The predefined percentage can be changed in the test mode TM No. 01-6-095 "INK VOLUME DISPLAY ADJUST." If the said percentage is changed, the said status notification will be made once more.
1004	2135		P (, R or Gr)-color ink cartridge nearly empty	It has been detected at the end of a print job that the ink volume remaining in the P (, R or Gr)-color ink cartridge is less than a predefined percentage. * Once the above status is notified, it will not be notified during the subsequent print jobs any more as long as the said ink cartridge is not replaced.	Execute one of the following. (1) Touch the (Close) button. (2) Replace the said ink cartridge.	The predefined percentage can be changed in the test mode TM No. 01-6-095 "INK VOLUME DISPLAY ADJUST." If the said percentage is changed, the said status notification will be made once more. This is also applicable to the following: - R of SC (KCMYR) models - Gr of SC (KCMYGr) models
S005	2140	1 to 4	Print head K11 thermistor failure	It has been detected that the ink temperature on the ink inlet or outlet side of Print head K11, which is to be measured by thermistors, is beyond the specified range. (Wires may have been broken or clamped on thermistors.) Variation code (Detected at and by): - 1: Ink inlet side by CPU on the Engine control PCB - 2: Ink outlet side by CPU on the Engine control PCB - 3: Ink inlet side by Sub CPU on the HDR PCB - 4: Ink outlet side by Sub CPU on the HDR PCB	Turn OFF the printer (Sub power key OFF)	When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print heads containing another color than K are referred to as "K12" to "K62." The print heads containing K in both of the above cases are then referred to as "K11" to "K61."
S005	2141	1 to 4	Print head K21 thermistor failure	It has been detected that the ink temperature on the ink inlet or outlet side of Print head K21, which is to be measured by thermistors, is beyond the specified range. (Wires may have been broken or clamped on thermistors.) Variation code (Detected at and by): -1: Ink inlet side by CPU on the Engine control PCB -2: Ink outlet side by CPU on the Engine control PCB -3: Ink unlet side by Sub CPU on the HDR PCB -4: Ink outlet side by Sub CPU on the HDR PCB	Turn OFF the printer (Sub power key OFF)	When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print heads containing another color than K are referred to as "K12" to "K62." The print heads containing K in both of the above cases are then referred to as "K11" to "K61."
S005	2142	1 to 4	Print head K31 thermistor failure	It has been detected that the ink temperature on the ink inlet or outlet side of Print head K31, which is to be measured by thermistors, is beyond the specified range. (Wires may have been broken or clamped on thermistors.) Variation code (Detected at and by): -1: Ink inlet side by CPU on the Engine control PCB -2: Ink outlet side by CPU on the Engine control PCB -3: Ink inlet side by Sub CPU on the HDR PCB -4: Ink outlet side by Sub CPU on the HDR PCB	Turn OFF the printer (Sub power key OFF)	When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print heads containing another color than K are referred to as "K12" to "K62." The print heads containing K in both of the above cases are then referred to as "K11" to "K61."
S005	2143	1 to 4	Print head K41 thermistor failure	It has been detected that the ink temperature on the ink inlet or outlet side of Print head K41, which is to be measured by thermistors, is beyond the specified range. (Wires may have been broken or clamped on thermistors.) Variation code (Detected at and by): - 1: Ink inlet side by CPU on the Engine control PCB - 2: Ink outlet side by CPU on the Engine control PCB - 3: Ink inlet side by Sub CPU on the HDR PCB - 4: Ink outlet side by Sub CPU on the HDR PCB	Turn OFF the printer (Sub power key OFF)	When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print heads containing another color than K are referred to as "K12" to "K62." The print heads containing K in both of the above cases are then referred to as "K11" to "K61."
S005	2144	1 to 4	Print head K51 thermistor failure	It has been detected that the ink temperature on the ink inlet or outlet side of Print head KS1, which is to be measured by thermistors, is beyond the specified range. (Wires may have been broken or clamped on thermistors.) Variation code (Detected at and by): - 1: Ink inlet side by CPU on the Engine control PCB - 2: Ink outlet side by CPU on the Engine control PCB - 3: Ink inlet side by Sub CPU on the HDR PCB - 4: Ink outlet side by Sub CPU on the HDR PCB	Turn OFF the printer (Sub power key OFF)	When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print heads containing another color than K are referred to as "K12" to "K62." The print heads containing K in both of the above cases are then referred to as "K11" to "K61."

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S005	2145	1 to 4	Print head K61 thermistor failure	It has been detected that the ink temperature on the ink inlet or outlet side of Print head K61, which is to be measured by thermistors, is beyond the specified range. (Wires may have been broken or clamped on thermistors.) Variation code (Detected at and by): - 1: Ink inlet side by CPU on the Engine control PCB - 2: Ink outlet side by Sub CPU on the HDR PCB - 4: Ink outlet side by Sub CPU on the HDR PCB	Turn OFF the printer (Sub power key OFF)	When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print heads containing another color than K are referred to as "K12" to "K62." The print heads containing K in both of the above cases are then referred to as "K11" to "K61."
S005	2146	1 to 4	Print head C1 thermistor failure	It has been detected that the ink temperature on the ink inlet or outlet side of Print head C1, which is to be measured by thermistors, is beyond the specified range. (Wires may have been broken or clamped on thermistors.) Variation code (Detected at and by): - 1: Ink inlet side by CPU on the Engine control PCB - 2: Ink outlet side by CPU on the Engine control PCB - 3: Ink inlet side by Sub CPU on the HDR PCB - 4: Ink outlet side by Sub CPU on the HDR PCB	Turn OFF the printer (Sub power key OFF)	
S005	2147	1 to 4	Print head C2 thermistor failure	It has been detected that the ink temperature on the ink inlet or outlet side of Print head C2, which is to be measured by thermistors, is beyond the specified range. (Wires may have been broken or clamped on thermistors.) Variation code (Detected at and by): - 1: Ink inlet side by CPU on the Engine control PCB - 2: Ink outlet side by CPU on the Engine control PCB - 3: Ink inlet side by Sub CPU on the HDR PCB - 4: Ink outlet side by Sub CPU on the HDR PCB	Turn OFF the printer (Sub power key OFF)	
S005	2148	1 to 4	Print head C3 thermistor failure	It has been detected that the ink temperature on the ink inlet or outlet side of Print head C3, which is to be measured by thermistors, is beyond the specified range. (Wires may have been broken or clamped on thermistors.) Variation code (Detected at and by): - 1: Ink inlet side by CPU on the Engine control PCB - 2: Ink outlet side by CPU on the Engine control PCB - 3: Ink inlet side by Sub CPU on the HDR PCB - 4: Ink outlet side by Sub CPU on the HDR PCB	Turn OFF the printer (Sub power key OFF)	
S005	2149	1 to 4	Print head C4 thermistor failure	It has been detected that the ink temperature on the ink inlet or outlet side of Print head C4, which is to be measured by thermistors, is beyond the specified range. (Wires may have been broken or clamped on thermistors.) Variation code (Detected at and by): - 1: Ink inlet side by CPU on the Engine control PCB - 2: Ink outlet side by CPU on the Engine control PCB - 3: Ink inlet side by Sub CPU on the HDR PCB - 4: Ink outlet side by Sub CPU on the HDR PCB	Turn OFF the printer (Sub power key OFF)	
S005	2150	1 to 4	Print head C5 thermistor failure	It has been detected that the ink temperature on the ink inlet or outlet side of Print head CS, which is to be measured by thermistors, is beyond the specified range. (Wires may have been broken or clamped on thermistors.) Variation code (Detected at and by): - 1: Ink inlet side by CPU on the Engine control PCB - 2: Ink outlet side by CPU on the Engine control PCB - 3: Ink inlet side by Sub CPU on the HDR PCB - 4: Ink outlet side by Sub CPU on the HDR PCB	Turn OFF the printer (Sub power key OFF)	
S005	2151	1 to 4	Print head C6 thermistor failure	It has been detected that the ink temperature on the ink inlet or outlet side of Print head CG, which is to be measured by thermistors, is beyond the specified range. (Wires may have been broken or clamped on thermistors.) Variation code (Detected at and by): - 1: Ink inlet side by CPU on the Engine control PCB - 2: Ink outlet side by CPU on the Engine control PCB - 3: Ink inlet side by Sub CPU on the HDR PCB - 4: Ink outlet side by Sub CPU on the HDR PCB	Turn OFF the printer (Sub power key OFF)	
S005	2152	1 to 4	Print head M1 thermistor failure	It has been detected that the ink temperature on the ink inlet or outlet side of Print head M1, which is to be measured by thermistors, is beyond the specified range. (Wires may have been broken or clamped on thermistors.) Variation code (Detected at and by): - 1: Ink inlet side by CPU on the Engine control PCB - 2: Ink outlet side by CPU on the Engine control PCB - 3: Ink inlet side by Sub CPU on the HDR PCB - 4: Ink outlet side by Sub CPU on the HDR PCB	Turn OFF the printer (Sub power key OFF)	
S005	2153	1 to 4	Print head M2 thermistor failure	It has been detected that the ink temperature on the ink inlet or outlet side of Print head M2, which is to be measured by thermistors, is beyond the specified range. (Wires may have been broken or clamped on thermistors.) Variation code (Detected at and by): - 1: Ink inlet side by CPU on the Engine control PCB - 2: Ink outlet side by CPU on the Engine control PCB - 3: Ink inlet side by Sub CPU on the HDR PCB - 4: Ink outlet side by Sub CPU on the HDR PCB	Turn OFF the printer (Sub power key OFF)	
S005	2154	1 to 4	Print head M3 thermistor failure	It has been detected that the ink temperature on the ink inlet or outlet side of Print head M3, which is to be measured by thermistors, is beyond the specified range. (Wires may have been broken or clamped on thermistors.) Variation code (Detected at and by): - 1: Ink inlet side by CPU on the Engine control PCB - 2: Ink outlet side by CPU on the Engine control PCB - 3: Ink inlet side by Sub CPU on the HDR PCB - 4: Ink outlet side by Sub CPU on the HDR PCB	Turn OFF the printer (Sub power key OFF)	

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S005	2155	1 to 4	Print head M4 thermistor failure	It has been detected that the ink temperature on the ink inlet or outlet side of Print head M4, which is to be measured by thermistors, is beyond the specified range. (Wires may have been broken or clamped on thermistors.) Variation code (Detected at and by): - 1: Ink inlet side by CPU on the Engine control PCB - 2: Ink outlet side by CPU on the Engine control PCB - 3: Ink inlet side by Sub CPU on the HDR PCB - 4: Ink outlet side by Sub CPU on the HDR PCB	Turn OFF the printer (Sub power key OFF)	
S005	2156	1 to 4	Print head M5 thermistor failure	It has been detected that the ink temperature on the ink inlet or outlet side of Print head M5, which is to be measured by thermistors, is beyond the specified range. (Wires may have been broken or clamped on thermistors.) Variation code (Detected at and by): -1: Ink inlet side by CPU on the Engine control PCB -2: Ink outlet side by Stu CPU on the HDR PCB -4: Ink outlet side by Stu CPU on the HDR PCB	Turn OFF the printer (Sub power key OFF)	
S005	2157	1 to 4	Print head M6 thermistor failure	It has been detected that the ink temperature on the ink inlet or outlet side of Print head M6, which is to be measured by thermistors, is beyond the specified range. (Wires may have been broken or clamped on thermistors.) Variation code (Detected at and by): - 1: Ink inlet side by CPU on the Engine control PCB - 2: Ink outlet side by CPU on the Engine control PCB - 3: Ink inlet side by Sub CPU on the HDR PCB - 4: Ink outlet side by Sub CPU on the HDR PCB	Turn OFF the printer (Sub power key OFF)	
S005	2158	1 to 4	Print head Y1 thermistor failure	It has been detected that the ink temperature on the ink inlet or outlet side of Print head Y1, which is to be measured by thermistors, is beyond the specified range. (Wires may have been broken or clamped on thermistors.) Variation code (Detected at and by): - 1: Ink inlet side by CPU on the Engine control PCB - 2: Ink outlet side by CPU on the Engine control PCB - 3: Ink inlet side by Sub CPU on the HDR PCB - 4: Ink outlet side by Sub CPU on the HDR PCB	Turn OFF the printer (Sub power key OFF)	
S005	2159	1 to 4	Print head Y2 thermistor failure	It has been detected that the ink temperature on the ink inlet or outlet side of Print head Y2, which is to be measured by thermistors, is beyond the specified range. (Wires may have been broken or clamped on thermistors.) Variation code (Detected at and by): - 1: Ink inlet side by CPU on the Engine control PCB - 2: Ink outlet side by CPU on the Engine control PCB - 3: Ink inlet side by Sub CPU on the HDR PCB - 4: Ink outlet side by Sub CPU on the HDR PCB	Turn OFF the printer (Sub power key OFF)	
S005	2160	1 to 4	Print head Y3 thermistor failure	It has been detected that the ink temperature on the ink inlet or outlet side of Print head '3, which is to be measured by thermistors, is beyond the specified range. (Wires may have been broken or clamped on thermistors.) Variation code (Detected at and by): -1: Ink inlet side by CPU on the Engine control PCB -2: Ink outlet side by CPU on the Engine control PCB -3: Ink inlet side by Sub CPU on the HDR PCB -4: Ink outlet side by Sub CPU on the HDR PCB	Turn OFF the printer (Sub power key OFF)	
S005	2161	1 to 4	Print head Y4 thermistor failure	It has been detected that the ink temperature on the ink inlet or outlet side of Print head Y4, which is to be measured by thermistors, is beyond the specified range. (Wires may have been broken or clamped on thermistors.) Variation code (Detected at and by): - 1: Ink inlet side by CPU on the Engine control PCB - 2: Ink outlet side by CPU on the Engine control PCB - 3: Ink inlet side by Sub CPU on the HDR PCB - 4: Ink outlet side by Sub CPU on the HDR PCB	Turn OFF the printer (Sub power key OFF)	
S005	2162	1 to 4	Print head Y5 thermistor failure	It has been detected that the ink temperature on the ink inlet or outlet side of Print head Y5, which is to be measured by thermistors, is beyond the specified range. (Wires may have been broken or clamped on thermistors.) Variation code (Detected at and by): - 1: Ink inlet side by CPU on the Engine control PCB - 2: Ink outlet side by CPU on the Engine control PCB - 3: Ink inlet side by Sub CPU on the HDR PCB - 4: Ink outlet side by Sub CPU on the HDR PCB	Turn OFF the printer (Sub power key OFF)	
S005	2163	1 to 4	Print head Y6 thermistor failure	It has been detected that the ink temperature on the ink inlet or outlet side of Print head Y6, which is to be measured by thermistors, is beyond the specified range. (Wires may have been broken or clamped on thermistors.) Variation code (Detected at and by): - 1: Ink inlet side by CPU on the Engine control PCB - 2: Ink outlet side by Sub CPU on the HDR PCB - 3: Ink inlet side by Sub CPU on the HDR PCB - 4: Ink outlet side by Sub CPU on the HDR PCB	Turn OFF the printer (Sub power key OFF)	
S005	2165	1 to 4	Print head K12 thermistor failure	It has been detected that the ink temperature on the ink inlet or outlet side of Print head K12, which is to be measured by thermistors, is beyond the specified range. (Wires may have been broken or clamped on thermistors.) Variation code (Detected at and by): - 1: Ink inlet side by CPU on the Engine control PCB - 2: Ink outlet side by CPU on the Engine control PCB - 3: Ink unlet side by Sub CPU on the HDR PCB - 4: Ink outlet side by Sub CPU on the HDR PCB	Turn OFF the printer (Sub power key OFF)	When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print heads containing another color than K are referred to as "K12" to "K62." The print heads containing K in both of the above cases are then referred to as "K11" to "K61."

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S005	2166	1 to 4	Print head K22 thermistor failure	It has been detected that the ink temperature on the ink inlet or outlet side of Print head K22, which is to be measured by thermistors, is beyond the specified range. (Wires may have been broken or clamped on thermistors.) Variation code (Detected at and by): - 1: Ink inlet side by CPU on the Engine control PCB - 2: Ink outlet side by Sub CPU on the HDR PCB - 3: Ink inlet side by Sub CPU on the HDR PCB	Turn OFF the printer (Sub power key OFF)	When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print heads containing another color than K are referred to as "K12" to "K62." The print heads containing K in both of the above cases are then referred to as "K11" to "K61."
S005	2167	1 to 4	Print head K32 thermistor failure	It has been detected that the ink temperature on the ink inlet or outlet side of Print head K32, which is to be measured by thermistors, is beyond the specified range. (Wires may have been broken or clamped on thermistors.) Variation code (Detected at and by): - 1: Ink inlet side by CPU on the Engine control PCB - 2: Ink outlet side by CPU on the Engine control PCB - 3: Ink inlet side by Sub CPU on the HDR PCB - 4: Ink outlet side by Sub CPU on the HDR PCB	Turn OFF the printer (Sub power key OFF)	When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print heads containing another color than K are referred to as "K12" to "K62." The print heads containing K in both of the above cases are then referred to as "K11" to "K61."
S005	2168	1 to 4	Print head K42 thermistor failure	It has been detected that the ink temperature on the ink inlet or outlet side of Print head K42, which is to be measured by thermistors, is beyond the specified range. (Wires may have been broken or clamped on thermistors.) Variation code (Detected at and by): - 1: Ink inlet side by CPU on the Engine control PCB - 2: Ink outlet side by CPU on the Engine control PCB - 3: Ink inlet side by Sub CPU on the HDR PCB - 4: Ink outlet side by Sub CPU on the HDR PCB	Turn OFF the printer (Sub power key OFF)	When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print heads containing another color than K are referred to as "K12" to "K62." The print heads containing K in both of the above cases are then referred to as "K11" to "K61."
S005	2169	1 to 4	Print head K52 thermistor failure	It has been detected that the ink temperature on the ink inlet or outlet side of Print head K52, which is to be measured by thermistors, is beyond the specified range. (Wires may have been broken or clamped on thermistors.) Variation code (Detected at and by): - 1: Ink inlet side by CPU on the Engine control PCB - 2: Ink outlet side by CPU on the Engine control PCB - 3: Ink inlet side by Sub CPU on the HDR PCB - 4: Ink outlet side by Sub CPU on the HDR PCB	Turn OFF the printer (Sub power key OFF)	When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print heads containing another color than K are referred to as "K12" to "K62." The print heads containing K in both of the above cases are then referred to as "K11" to "K61."
S005	2170	1 to 4	Print head K62 thermistor failure	It has been detected that the ink temperature on the ink inlet or outlet side of Print head K62, which is to be measured by thermistors, is beyond the specified range. (Wires may have been broken or clamped on thermistors.) Variation code (Detected at and by): - 1: Ink inlet side by CPU on the Engine control PCB - 2: Ink outlet side by CPU on the Engine control PCB - 3: Ink inlet side by Sub CPU on the HDR PCB - 4: Ink outlet side by Sub CPU on the HDR PCB	Turn OFF the printer (Sub power key OFF)	When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print heads containing another color than K are referred to as "K12" to "K62." The print heads containing K in both of the above cases are then referred to as "K11" to "K61."
S005	2171	1 to 4	Print head P1 (, R1 or Gr1) thermistor failure	It has been detected that the ink temperature on the ink inlet or outlet side of Print thead P1 (, R1 or Gr1), which is to be measured by thermistors, is beyond the specified range. (Wires may have been broken or clamped on thermistors.) Variation code (Detected at and by): - 1: Ink inlet side by CPU on the Engine control PCB - 2: Ink outlet side by CPU on the Engine control PCB - 3: Ink inlet side by Sub CPU on the HDR PCB - 4: Ink outlet side by Sub CPU on the HDR PCB	Turn OFF the printer (Sub power key OFF)	This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models
S005	2172	1 to 4	Print head P2 (, R2 or Gr2) thermistor failure	It has been detected that the ink temperature on the ink inlet or outlet side of Print head P2 (, R2 or Gr2), which is to be measured by thermistors, is beyond the specified range. (Wires may have been broken or clamped on thermistors.) Variation code (Detected at and by): - 1: Ink inlet side by CPU on the Engine control PCB - 2: Ink outlet side by CPU on the Engine control PCB - 3: Ink inlet side by Sub CPU on the HDR PCB - 4: Ink outlet side by Sub CPU on the HDR PCB	Turn OFF the printer (Sub power key OFF)	This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models
S005	2173	1 to 4	Print head P3 (, R3 or Gr3) thermistor failure	It has been detected that the ink temperature on the ink inlet or outlet side of Print head P3 (, R3 or Gr3), which is to be measured by thermistors, is beyond the specified range. (Wires may have been broken or clamped on thermistors.) Variation code (Detected at and by): - 1: Ink inlet side by CPU on the Engine control PCB - 2: Ink outlet side by CPU on the HDR PCB - 3: Ink inlet side by Sub CPU on the HDR PCB - 4: Ink outlet side by Sub CPU on the HDR PCB	Turn OFF the printer (Sub power key OFF)	This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models
S005	2174	1 to 4	Print head P4 (, R4 or Gr4) thermistor failure	It has been detected that the ink temperature on the ink inlet or outlet side of Print head P4 (, R4 or Gr4), which is to be measured by thermistors, is beyond the specified range. (Wires may have been broken or clamped on thermistors.) Variation code (Detected at and by): - 1: Ink inlet side by CPU on the Engine control PCB - 2: Ink outlet side by CPU on the Engine control PCB - 3: Ink inlet side by SUC PU on the HDR PCB - 4: Ink outlet side by SUC PU on the HDR PCB	Turn OFF the printer (Sub power key OFF)	This is also applicable to the following: - R of 5C (KCMVR) models - Gr of 5C (KCMYGr) models
S005	2175	1 to 4	Print head P5 (, R5 or Gr5) thermistor failure	It has been detected that the ink temperature on the ink inlet or outlet side of Print head P5 (, R5 or Gr5), which is to be measured by thermistors, is beyond the specified range. (Wires may have been broken or clamped on thermistors.) Variation code (Detected at and by): - 1: Ink inlet side by CPU on the Engine control PCB - 2: Ink outlet side by CPU on the Engine control PCB - 3: Ink inlet side by SUb CPU on the HDR PCB - 4: Ink outlet side by CDU on the HDR PCB	Turn OFF the printer (Sub power key OFF)	This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models

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Panel Messages

Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S005	2176	1 to 4	Print head P6 (, R6 or Gr6) thermistor failure	It has been detected that the ink temperature on the ink inlet or outlet side of Print head P6 (, R6 or Gr6), which is to be measured by thermistors, is beyond the specified range. (Wires may have been broken or clamped on thermistors.) Variation code (Detected at and by): - 1: Ink intel side by CPU on the Engine control PCB - 2: Ink outlet side by CPU on the Engine control PCB - 3: Ink intel side by Sub CPU on the HDR PCB - 4: Ink outlet side by Sub CPU on the HDR PCB	Turn OFF the printer (Sub power key OFF)	This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models
S035	2200	3 to 4	Ink circulation pump failure or Pressurization and/or Negative pressure tank ink sensor failure (K color)	The Pressurization and Negative pressure tank ink sensors K (for K color) have both remained open (unblocked) for a predefined amount of time. Variation code (Operations during which the above event occurred): - 3: Ink circulation pressure generation - 4: Ink circulation pressure regulation	Turn OFF the printer. (Sub power key OFF)	
S035	2201	3 to 4	Ink circulation pump failure or Pressurization and/or Negative pressure tank ink sensor failure (C color)	The Pressurization and Negative pressure tank ink sensors C (for C color) have both remained open (urbiocked) for a predefined amount of time. Variation code (Operations during which the above event occurred): - 3: Ink circulation pressure generation - 4: Ink circulation pressure regulation	Turn OFF the printer. (Sub power key OFF)	
S035	2202	3 to 4	Ink circulation pump failure or Pressurization and/or Negative pressure tank ink sensor failure (M color)	The Pressurization and Negative pressure tank ink sensors M (for M color) have both remained open (urbiocked) for a predefined amount of time. Variation code (Operations during which the above event occurred): - 3: Ink circulation pressure generation - 4: Ink circulation pressure regulation	Turn OFF the printer. (Sub power key OFF)	
S035	2203	3 to 4	Ink circulation pump failure or Pressurization and/or Negative pressure tank ink sensor failure (Y color)	The Pressurization and Negative pressure tank ink sensors Y (for Y color) have both remained open (unblocked) for a predefined amount of time. Variation code (Operations during which the above event occurred): - 3: Ink circulation pressure generation - 4: Ink circulation pressure regulation	Turn OFF the printer. (Sub power key OFF)	
S035	2204	3 to 4	Ink circulation pump failure or Pressurization and/or Negative pressure tank ink sensor failure (P, R or Gr color)	The Pressurization and Negative pressure tank ink sensors P (for P color), R (for R color) or Gr (for G color) have both remained open (unblocked) for a predefined amount of time. Variation code (Operations during which the above event occurred): - 3: Ink circulation pressure generation - 4: Ink circulation pressure regulation	Turn OFF the printer. (Sub power key OFF)	The Pressurization and Negative pressure tank ink sensors R are for 5C (KCMYR) models. The Pressurization and Negative pressure tank ink sensors Gr are for 5C (KCMYGr) models.
S098	2230	1 to 4	Print head K11 nozzle drive voltage error	The CPU on the Engine control PCB or the sub CPU on the Head drive PCB (HDR PCB) has detected that the measured nozzle drive voltage excessively deviates from a preconfigured one for Print head K11. (The deviation of the nozzle drive voltage value acquired from the Head drive PCB (HDR PCB) from the preconfigured one saved in the register has exceeded 5V for Print head K11.) Variation code (Detected for and by): - 1: Positive value by CPU on the Engine control PCB - 3: Positive value by CPU on the Engine control PCB - 3: Positive value by Sub CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB	Turn OFF the printer. (Sub power key OFF)	When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print heads containing another color than K are referred to as "K12" to "K62." The print heads containing K in both of the above cases are then referred to as "K11" to "K61."
S098	2231	1 to 4	Print head K21 nozzle drive voltage error	The CPU on the Engine control PCB or the sub CPU on the Head drive PCB (HDR PCB) has detected that the measured nozzle drive voltage excessively deviates from a preconfigured one for Print head K21. (The deviation of the nozzle drive voltage value acquired from the Head drive PCB (HDR PCB) from the preconfigured one saved in the register has exceeded 5V for Print head K21.) Variation code (Detected for and by): - 1: Positive value by CPU on the Engine control PCB - 3: Positive value by CPU on the Engine control PCB - 3: Positive value by CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB	Turn OFF the printer. (Sub power key OFF)	When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print heads containing another color than K are referred to as "K12" to "K62." The print heads containing K in both of the above cases are then referred to as "K11" to "K61."
S098	2232	1 to 4	Print head K31 nozzle drive voltage error	The CPU on the Engine control PCB or the sub CPU on the Head drive PCB (HDR PCB) has detected that the measured nozzle drive voltage excessively deviates from a preconfigured one for Print head K31. (The deviation of the nozzle drive voltage value acquired from the Head drive PCB (HDR PCB) from the preconfigured one saved in the register has exceeded 5V for Print head K31.) Variation code (Detected for and by): - 1: Positive value by CPU on the Engine control PCB - 2: Negative value by CPU on the Engine control PCB - 3: Positive value by CPU on the IDR PCB - 4: Negative value by Sub CPU on the HDR PCB	Turn OFF the printer. (Sub power key OFF)	When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print heads containing another color than K are referred to as "K12" to "K62." The print heads containing K in both of the above cases are then referred to as "K11" to "K61."
S098	2233	1 to 4	Print head K41 nozzle drive voltage error	The CPU on the Engine control PCB or the sub CPU on the Head drive PCB (HDR PCB) has detected that the measured nozzle drive voltage excessively deviates from a preconfigured one for Print head K41. (The deviation of the nozzle drive voltage value acquired from the Head drive PCB (HDR PCB) from the preconfigured one saved in the register has exceeded 5V for Print head K41.) Variation code (Detected for and by): - 1: Positive value by CPU on the Engine control PCB - 2: Negative value by CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB	Turn OFF the printer. (Sub power key OFF)	When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print heads containing another color than K are referred to as "K12" to "K62." The print heads containing K in both of the above cases are then referred to as "K11" to "K61."

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S098	2234	1 to 4	Print head K51 nozzle drive voltage error	The CPU on the Engine control PCB or the sub CPU on the Head drive PCB (HDR PCB) has detected that the measured nozzle drive voltage excessively deviates from a preconfigured one for Print head K51. (The deviation of the nozzle drive voltage value acquired from the Head drive PCB (HDR PCB) from the preconfigured one saved in the register has exceeded 5V for Print head K51.) Variation code (Detected for and by): - 1: Positive value by CPU on the Engine control PCB - 3: Positive value by CPU on the Engine control PCB - 3: Positive value by Sub CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB	Turn OFF the printer. (Sub power key OFF)	When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print heads containing another color than K are referred to as "K12" to "K62." The print heads containing K in both of the above cases are then referred to as "K11" to "K61."
S098	2235	1 to 4	Print head K61 nozzle drive voltage error	The CPU on the Engine control PCB or the sub CPU on the Head drive PCB (HDR PCB) has detected that the measured nozzle drive voltage excessively deviates from a preconfigured one for Print head K61. (The deviation of the nozzle drive voltage value acquired from the Head drive PCB (HDR PCB) from the preconfigured one saved in the register has exceeded 5V for Print head K61.) Variation code (Detected for and by): - 1: Positive value by CPU on the Engine control PCB - 2: Negative value by CPU on the HDR PCB - 3: Positive value by Sub CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB	Turn OFF the printer. (Sub power key OFF)	When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print heads containing another color than K are referred to as "K12" to "K62." The print heads containing K in both of the above cases are then referred to as "K11" to "K61."
S098	2236	1 to 4	Print head C1 nozzle drive voltage error	The CPU on the Engine control PCB or the sub CPU on the Head drive PCB (HDR PCB) has detected that the measured nozzle drive voltage excessively deviates from a preconfigured one for Print head C1. (The deviation of the nozzle drive voltage value acquired from the Head drive PCB (HDR PCB) from the preconfigured one saved in the register has exceeded 5V for Print head C1.) Variation code (Detected for and by): - 1: Positive value by CPU on the Engine control PCB - 2: Negative value by CPU on the HDR PCB - 3: Positive value by Sub CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB	Turn OFF the printer. (Sub power key OFF)	
S098	2237	1 to 4	Print head C2 nozzle drive voltage error	The CPU on the Engine control PCB or the sub CPU on the Head drive PCB (HDR PCB) has detected that the measured nozzle drive voltage excessively deviates from a preconfigured one for Print head C2. (The deviation of the nozzle drive voltage value acquired from the Head drive PCB (HDR PCB) from the preconfigured one saved in the register has exceeded 5V for Print head C2.) Variation code (Detected for and by): - 1: Positive value by CPU on the Engine control PCB - 2: Negative value by CPU on the HDR PCB - 3: Positive value by Sub CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB	Turn OFF the printer. (Sub power key OFF)	
S098	2238	1 to 4	Print head C3 nozzle drive voltage error	The CPU on the Engine control PCB or the sub CPU on the Head drive PCB (HDR PCB) has detected that the measured nozzle drive voltage excessively deviates from a preconfigured one for Print head C3. (The deviation of the nozzle drive voltage value acquired from the Head drive PCB (HDR PCB) from the preconfigured one saved in the register has exceeded 5V for Print head C3.) Variation code (Detected for and by): - 1: Positive value by CPU on the Engine control PCB - 2: Negative value by CPU on the Engine control PCB - 3: Positive value by CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB	Turn OFF the printer. (Sub power key OFF)	
S098	2239	1 to 4	Print head C4 nozzle drive voltage error	The CPU on the Engine control PCB or the sub CPU on the Head drive PCB (HDR PCB) has detected that the measured nozzle drive voltage excessively deviates from a preconfigured one for Print head C4. (The deviation of the nozzle drive voltage value acquired from the Head drive PCB (HDR PCB) from the preconfigured one saved in the register has exceeded 5V for Print head C4.) Variation code (Detected for and by): - 1: Positive value by CPU on the Engine control PCB - 2: Negative value by CPU on the HDR PCB - 3: Positive value by Sub CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB	Turn OFF the printer. (Sub power key OFF)	
S098	2240	1 to 4	Print head C5 nozzle drive voltage error	The CPU on the Engine control PCB or the sub CPU on the Head drive PCB (HDR PCB) has detected that the measured nozzle drive voltage excessively deviates from a preconfigured one for Print head C5. (The deviation of the nozzle drive voltage value acquired from the Head drive PCB (HDR PCB) from the preconfigured one saved in the register has exceeded 5V for Print head C5.) Variation code (Detected for and by): - 1: Positive value by CPU on the Engine control PCB - 2: Negative value by CPU on the HDR PCB - 3: Positive value by Sub CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB	Turn OFF the printer. (Sub power key OFF)	
S098	2241	1 to 4	Print head C6 nozzle drive voltage error	The CPU on the Engine control PCB or the sub CPU on the Head drive PCB (HDR PCB) has detected that the measured nozzle drive voltage excessively deviates from a preconfigured one for Print head C6. (HDR PCB) from the preconfigured one saved in the register has exceeded 5V for Print head C6.) Variation code (Detected for and by): - 1: Positive value by CPU on the Engine control PCB - 2: Negative value by CPU on the Engine control PCB - 3: Positive value by CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB	Turn OFF the printer. (Sub power key OFF)	

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S098	2242	1 to 4	Print head M1 nozzle drive voltage error	The CPU on the Engine control PCB or the sub CPU on the Head drive PCB (HDR PCB) has detected that the measured nozzle drive voltage excessively deviates from a preconfigured one for Print head M1. (The deviation of the nozzle drive voltage value acquired from the Head drive PCB (HDR PCB) from the preconfigured one saved in the register has exceeded 5V for Print head M1.) Variation code (Detected for and by): - 1: Positive value by CPU on the Engine control PCB - 3: Positive value by CPU on the Engine control PCB - 3: Positive value by Sub CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB	Turn OFF the printer. (Sub power key OFF)	
S098	2243	1 to 4	Print head M2 nozzle drive voltage error	The CPU on the Engine control PCB or the sub CPU on the Head drive PCB (HDR PCB) has detected that the measured nozzle drive voltage excessively deviates from a preconfigured one for Print head M2. (The deviation of the nozzle drive voltage value acquired from the Head drive PCB (HDR PCB) from the preconfigured one saved in the register has exceeded 5V for Print head M2.) Variation code (Detected for and by): - 1: Positive value by CPU on the Engine control PCB - 2: Negative value by CPU on the Engine control PCB - 3: Positive value by Sub CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB	Turn OFF the printer. (Sub power key OFF)	
S098	2244	1 to 4	Print head M3 nozzle drive voltage error	The CPU on the Engine control PCB or the sub CPU on the Head drive PCB (HDR PCB) has detected that the measured nozzle drive voltage excessively deviates from a preconfigured on efo Print head M3. (The deviation of the nozzle drive voltage value acquired from the Head drive PCB (HDR PCB) from the preconfigured one saved in the register has exceeded 5V for Print head M3.) Variation code (Detected for and by): - 1: Positive value by CPU on the Engine control PCB - 2: Negative value by CPU on the Engine control PCB - 3: Positive value by CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB	Turn OFF the printer. (Sub power key OFF)	
S098	2245	1 to 4	Print head M4 nozzle drive voltage error	The CPU on the Engine control PCB or the sub CPU on the Head drive PCB (HDR PCB) has detected that the measured nozzle drive voltage excessively deviates from a preconfigured one for Print head M4. (The deviation of the nozzle drive voltage value acquired from the Head drive PCB (HDR PCB) from the preconfigured one saved in the register has exceeded 5V for Print head M4.) Variation code (Detected for and by): - 1: Positive value by CPU on the Engine control PCB - 2: Negative value by CPU on the Engine control PCB - 3: Positive value by CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB	Turn OFF the printer. (Sub power key OFF)	
S098	2246	1 to 4	Print head M5 nozzle drive voltage error	The CPU on the Engine control PCB or the sub CPU on the Head drive PCB (HDR PCB) has detected that the measured nozzle drive voltage excessively deviates from a preconfigured one for Print head M5. (HDR PCB) from the preconfigured one saved in the register has exceeded 5V for Print head M5.) Variation code (Detected for and by): - 1: Positive value by CPU on the Engine control PCB - 2: Negative value by CPU on the Engine control PCB - 3: Positive value by CPU on the HDR PCB - 4: Negative value by CPU on the HDR PCB	Turn OFF the printer. (Sub power key OFF)	
S098	2247	1 to 4	Print head M6 nozzle drive voltage error	The CPU on the Engine control PCB or the sub CPU on the Head drive PCB (HDR PCB) has detected that the measured nozzle drive voltage excessively deviates from a preconfigured one for Print head M6. (The deviation of the nozzle drive voltage value acquired from the Head drive PCB (HDR PCB) from the preconfigured one saved in the register has exceeded 5V for Print head M6.) Variation code (Detected for and by): - 1: Positive value by CPU on the Engine control PCB - 2: Negative value by CPU on the HDR PCB - 3: Positive value by Sub CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB	Turn OFF the printer. (Sub power key OFF)	
S098	2248	1 to 4	Print head Y1 nozzle drive voltage error	The CPU on the Engine control PCB or the sub CPU on the Head drive PCB (HDR PCB) has detected that the measured nozzle drive voltage excessively deviates from a preconfigured one for Print head Y1. (The deviation of the nozzle drive voltage value acquired from the Head drive PCB (HDR PCB) from the preconfigured one saved in the register has exceeded 5V for Print head Y1.) Variation code (Detected for and by): - 1: Positive value by CPU on the Engine control PCB - 2: Negative value by CPU on the HDR PCB - 3: Positive value by Sub CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB	Turn OFF the printer. (Sub power key OFF)	
S098	2249	1 to 4	Print head Y2 nozzle drive voltage error	The CPU on the Engine control PCB or the sub CPU on the Head drive PCB (HDR PCB) has detected that the measured nozzle drive voltage excessively deviates from a preconfigured one for Print head Y2. (The deviation of the nozzle drive voltage value acquired from the Head drive PCB (HDR PCB) from the preconfigured one saved in the register has exceeded 5V for Print head Y2.) Variation code (Detected for and by): - 1: Positive value by CPU on the Engine control PCB - 2: Negative value by Sub CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB	Turn OFF the printer. (Sub power key OFF)	

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Туре	Point	VC	Summary	Description	Recovery Action	Remarks
S098	2250	1 to 4	Print head Y3 nozzle drive voltage error	The CPU on the Engine control PCB or the sub CPU on the Head drive PCB (HDR PCB) has detected that the measured nozzle drive voltage excessively deviates from a preconfigured one for Print head Y3. (The deviation of the nozzle drive voltage value acquired from the Head drive PCB (HDR PCB) from the preconfigured one saved in the register has exceeded 5V for Print head Y3.) Variation code (Detected for and by): - 1: Positive value by CPU on the Engine control PCB - 3: Positive value by Sub CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB	Turn OFF the printer. (Sub power key OFF)	
S098	2251	1 to 4	Print head Y4 nozzle drive voltage error	The CPU on the Engine control PCB or the sub CPU on the Head drive PCB (HDR PCB) has detected that the measured nozzle drive voltage excessively deviates from a preconfigured one for Print head Y4. (The deviation of the nozzle drive voltage value acquired from the Head drive PCB (HDR PCB) from the preconfigured one saved in the register has exceeded 5V for Print head Y4.) Variation code (Detected for and by): - 1: Positive value by CPU on the Engine control PCB - 3: Positive value by CPU on the Engine control PCB - 3: Positive value by Sub CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB	Turn OFF the printer. (Sub power key OFF)	
S098	2252	1 to 4	Print head Y5 nozzle drive voltage error	The CPU on the Engine control PCB or the sub CPU on the Head drive PCB (HDR PCB) has detected that the measured nozzle drive voltage excessively deviates from a preconfigured one for Print head Y5. (The deviation of the nozzle drive voltage value acquired from the Head drive PCB (HDR PCB) from the preconfigured one saved in the register has exceeded 5V for Print head Y5.) Variation code (Detected for and by): - 1: Positive value by CPU on the Engine control PCB - 3: Positive value by CPU on the Engine control PCB - 3: Positive value by CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB	Turn OFF the printer. (Sub power key OFF)	
S098	2253	1 to 4	Print head Y6 nozzle drive voltage error	The CPU on the Engine control PCB or the sub CPU on the Head drive PCB (HDR PCB) has detected that the measured nozzle drive voltage excessively deviates from a preconfigured one for Print head Y6. (The deviation of the nozzle drive voltage value acquired from the Head drive PCB (HDR PCB) from the preconfigured one saved in the register has exceeded 5V for Print head Y6.) Variation code (Detected for and by): - 1: Positive value by CPU on the Engine control PCB - 2: Negative value by CPU on the Engine control PCB - 3: Positive value by Sub CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB	Turn OFF the printer. (Sub power key OFF)	
S098	2254	1 to 4	Print head K12 nozzle drive voltage error	The CPU on the Engine control PCB or the sub CPU on the Head drive PCB (HDR PCB) has detected that the measured nozzle drive voltage excessively deviates from a preconfigured one for Print head K12. (The deviation of the nozzle drive voltage value acquired from the Head drive PCB (HDR PCB) from the preconfigured one saved in the register has exceeded 5V for Print head K12.) Variation code (Detected for and by): - 1: Positive value by CPU on the Engine control PCB - 3: Positive value by CPU on the Engine control PCB - 3: Positive value by Sub CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB	Turn OFF the printer. (Sub power key OFF)	When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print heads containing another color than K are referred to as "K12" to "K62." The print heads containing K in both of the above cases are then referred to as "K11" to "K61."
S098	2255	1 to 4	Print head K22 nozzle drive voltage error	The CPU on the Engine control PCB or the sub CPU on the Head drive PCB (HDR PCB) has detected that the measured nozzle drive voltage excessively deviates from a preconfigured one for Print head K22. (The deviation of the nozzle drive voltage value acquired from the Head drive PCB (HDR PCB) from the preconfigured one saved in the register has exceeded 5V for Print head K22.) Variation code (Detected for and by): - 1: Positive value by CPU on the Engine control PCB - 2: Negative value by Sub CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB	Turn OFF the printer. (Sub power key OFF)	When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print heads containing another color than K are referred to as "K12" to "K62." The print heads containing K in both of the above cases are then referred to as "K11" to "K61."
S098	2256	1 to 4	Print head K32 nozzle drive voltage error	The CPU on the Engine control PCB or the sub CPU on the Head drive PCB (HDR PCB) has detected that the measured nozzle drive voltage excessively deviates from a preconfigured one for Print head K32. (The deviation of the nozzle drive voltage value acquired from the Head drive PCB (HDR PCB) from the preconfigured one saved in the register has exceeded 5V for Print head K32.) Variation code (Detected for and by): - 1: Positive value by CPU on the Engine control PCB - 2: Negative value by Sub CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB	Turn OFF the printer. (Sub power key OFF)	When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print heads containing another color than K are referred to as "K12" to "K62." The print heads containing K in both of the above cases are then referred to as "K11" to "K61."
S098	2257	1 to 4	Print head K42 nozzle drive voltage error	The CPU on the Engine control PCB or the sub CPU on the Head drive PCB (HDR PCB) has detected that the measured nozzle drive voltage excessively deviates from a preconfigured one for Print head K42. (The deviation of the nozzle drive voltage value acquired from the Head drive PCB (HDR PCB) from the preconfigured one saved in the register has exceeded 5V for Print head K42.) Variation code (Detected for and by): - 1: Positive value by CPU on the Engine control PCB - 2: Negative value by CPU on the HDR PCB - 3: Positive value by Sub CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB	Turn OFF the printer. (Sub power key OFF)	When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print heads containing another color than K are referred to as "K12" to "K62." The print heads containing K in both of the above cases are then referred to as "K11" to "K61."

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Panel Messages

Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S098	2258	1 to 4	Print head K52 nozzle drive voltage error	The CPU on the Engine control PCB or the sub CPU on the Head drive PCB (HDR PCB) has detected that the measured nozzle drive voltage excessively deviates from a preconfigured one for Print head K52. (The deviation of the nozzle drive voltage value acquired from the Head drive PCB (HDR PCB) from the preconfigured one saved in the register has exceeded 5V for Print head K52.) Variation code (Detected for and by): - 1: Positive value by CPU on the Engine control PCB - 2: Negative value by CPU on the HDR PCB - 3: Positive value by Sub CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB	Turn OFF the printer. (Sub power key OFF)	When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print heads containing another color than K are referred to as "K12" to "K62." The print heads containing K in both of the above cases are then referred to as "K11" to "K61."
S098	2259	1 to 4	Print head K62 nozzle drive voltage error	The CPU on the Engine control PCB or the sub CPU on the Head drive PCB (HDR PCB) has detected that the measured nozzle drive voltage excessively deviates from a preconfigured one for Print head K62. (The deviation of the nozzle drive voltage value acquired from the Head drive PCB (HDR PCB) from the preconfigured one saved in the register has exceeded 5V for Print head K62.) Variation code (Detected for and by): - 1: Positive value by CPU on the Engine control PCB - 2: Negative value by CPU on the HDR PCB - 3: Positive value by Sub CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB	Turn OFF the printer. (Sub power key OFF)	When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print heads containing another color than K are referred to as "K12" to "K62." The print heads containing K in both of the above cases are then referred to as "K11" to "K61."
S098	2260	1 to 2	Print head K1 nozzle drive waveform data configuration error	The drive waveform data configuration has not been finished successfully for the nozzle row 1 or 2 of Print head K1. (The DONE signal has not become active at the end of the said drive waveform data configuration.) Variation code (Troubled components): - 1: Nozzle row 1 - 2: Nozzle row 2	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print head nozzle rows containing another color than K are referred to as "Nozzle row 2." The print head nozzle rows containing K in both of the above cases are then referred to as "Nozzle row 1." On the printer whose print resolution for K is 300dpi, therefore, the variation code 2 will not be indicated.
S098	2261	1 to 2	Print head K2 nozzle drive waveform data configuration error	The drive waveform data configuration has not been finished successfully for the nozzle row 1 or 2 of Print head K2. (The DONE signal has not become active at the end of the said drive waveform data configuration.) Variation code (Troubled components): - 1: Nozzle row 1 - 2: Nozzle row 2	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi on the other hand, the print head nozzle rows containing another color than K are referred to as "Nozzle row 2." The print head nozzle rows containing K in both of the above cases are then referred to as "Nozzle row 1." On the printer whose print resolution for K is 300dpi, therefore, the variation code 2 will not be indicated.
S098	2262	1 to 2	Print head K3 nozzle drive waveform data configuration error	The drive waveform data configuration has not been finished successfully for the nozzle row 1 or 2 of Print head K3. (The DONE signal has not become active at the end of the said drive waveform data configuration.) Variation code (Troubled components): - 1: Nozzle row 1 - 2: Nozzle row 2	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print head nozzle rows containing another color than K are referred to as "Nozzle row 2." The print head nozzle rows containing K in both of the above cases are then referred to as "Nozzle row 1." On the printer whose print resolution for K is 300dpi, therefore, the variation code 2 will not be indicated.
S098	2263	1 to 2	Print head K4 nozzle drive waveform data configuration error	The drive waveform data configuration has not been finished successfully for the nozzle row 1 or 2 of Print head K4. (The DONE signal has not become active at the end of the said drive waveform data configuration.) Variation code (Troubled components): - 1: Nozzle row 1 - 2: Nozzle row 2	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print head nozzle rows containing another color than K are referred to as "Nozzle row 2." The print head nozzle rows containing K in both of the above cases are then referred to as "Nozzle row 1." On the printer whose print resolution for K is 300dpi, therefore, the variation code 2 will not be indicated.
S098	2264	1 to 2	Print head K5 nozzle drive waveform data configuration error	The drive waveform data configuration has not been finished successfully for the nozzle row 1 or 2 of Print head K5. (The DONE signal has not become active at the end of the said drive waveform data configuration.) Variation code (Troubled components): - 1: Nozzle row 1 - 2: Nozzle row 2	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print head nozzle rows containing another color than K are referred to as "Nozzle row 2." The print head nozzle rows containing K in both of the above cases are then referred to as "Nozzle row 1." On the printer whose print resolution for K is 300dpi, therefore, the variation code 2 will not be indicated.
S098	2265	1 to 2	Print head K6 nozzle drive waveform data configuration error	The drive waveform data configuration has not been finished successfully for the nozzle row 1 or 2 of Print head K6. (The DONE signal has not become active at the end of the said drive waveform data configuration.) Variation code (Troubled components): - 1: Nozzle row 1 - 2: Nozzle row 2	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print head nozzle rows containing another color than K are referred to as "Nozzle row 2." The print head nozzle rows containing K in both of the above cases are then referred to as "Nozzle row 1." On the printer whose print resolution for K is 300dpi, therefore, the variation code 2 will not be indicated.

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S098	2266	1	Print head C1 nozzle drive waveform data configuration error	The drive waveform data configuration has not been finished successfully for the nozzle row of Print head C1. (The DONE signal has not become active at the end of the said drive waveform data configuration.) Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2267	1	Print head C2 nozzle drive waveform data configuration error	The drive waveform data configuration has not been finished successfully for the nozzle row of Print head C2. (The DONE signal has not become active at the end of the said drive waveform data configuration.) Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2268	1	Print head C3 nozzle drive waveform data configuration error	The drive waveform data configuration has not been finished successfully for the nozzle row of Print head C3. (The DONE signal has not become active at the end of the said drive waveform data configuration.) Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2269	1	Print head C4 nozzle drive waveform data configuration error	The drive waveform data configuration has not been finished successfully for the nozzle row of Print head C4. (The DONE signal has not become active at the end of the said drive waveform data configuration.) Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2270	1	Print head C5 rozzle drive waveform data configuration error	The drive waveform data configuration has not been finished successfully for the nozzle row of Print head C5. (The DONE signal has not become active at the end of the said drive waveform data configuration.) Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2271	1	Print head C6 nozzle drive waveform data configuration error	The drive waveform data configuration has not been finished successfully for the nozzle row of Print head C6. (The DONE signal has not become active at the end of the said drive waveform data configuration.) Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2272	1	Print head M1 nozzle drive waveform data configuration error	The drive waveform data configuration has not been finished successfully for the nozzle row of Print head M1. (The DONE signal has not become active at the end of the said drive waveform data configuration.) Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2273	1	Print head M2 nozzle drive waveform data configuration error	The drive waveform data configuration has not been finished successfully for the nozzle row of Print head M2. (The DONE signal has not become active at the end of the said drive waveform data configuration.) Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2274	1	Print head M3 nozzle drive waveform data configuration error	The drive waveform data configuration has not been finished successfully for the nozzle row of Print head M3. (The DONE signal has not become active at the end of the said drive waveform data configuration.) Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2275	1	Print head M4 nozzle drive waveform data configuration error	The drive waveform data configuration has not been finished successfully for the nozzle row of Print head M4. (The DONE signal has not become active at the end of the said drive waveform data configuration.) Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2276	1	Print head M5 nozzle drive waveform data configuration error	The drive waveform data configuration has not been finished successfully for the nozzle row of Print head M5. (The DONE signal has not become active at the end of the said drive waveform data configuration.) Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S098	2277	1	Print head M6 nozzle drive waveform data configuration error	The drive waveform data configuration has not been finished successfully for the nozzle row of Print head M6. (The DONE signal has not become active at the end of the said drive waveform data configuration.) Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2278	1	Print head Y1 nozzle drive waveform data configuration error	The drive waveform data configuration has not been finished successfully for the nozzle row of Print head Y1. (The DONE signal has not become active at the end of the said drive waveform data configuration.) Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2279	1	Print head Y2 nozzle drive waveform data configuration error	The drive waveform data configuration has not been finished successfully for the nozzle row of Print head Y2. (The DONE signal has not become active at the end of the said drive waveform data configuration.) Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2280	1	Print head Y3 rozzle drive waveform data configuration error	The drive waveform data configuration has not been finished successfully for the nozzle row of Print head Y3. (The DONE signal has not become active at the end of the said drive waveform data configuration.) Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2281	1	Print head Y4 rozzle drive waveform data configuration error	The drive waveform data configuration has not been finished successfully for the nozzle row of Print head Y4. (The DONE signal has not become active at the end of the said drive waveform data configuration.) Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2282	1	Print head Y5 nozzle drive waveform data configuration error	The drive waveform data configuration has not been finished successfully for the nozzle row of Print head Y5. (The DONE signal has not become active at the end of the said drive waveform data configuration.) Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2283	1	Print head Y6 nozzle drive waveform data configuration error	The drive waveform data configuration has not been finished successfully for the nozzle row of Print head Y6. (The DONE signal has not become active at the end of the said drive waveform data configuration.) Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2290	1	Print head P1 (, R1 or Gr1) nozzle drive waveform data configuration error	The drive waveform data configuration has not been finished successfully for the nozzle row of Print head P1 (, R1 or Gr1). (The DONE signal has not become active at the end of the said drive waveform data configuration.) Variation code (Troubled components): - 1; Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2291	1	Print head P2 (, R2 or Gr2) nozzle drive waveform data configuration error	The drive waveform data configuration has not been finished successfully for the nozzle row of Print head P2 (, R2 or Gr2). (The DONE signal has not become active at the end of the said drive waveform data configuration.) Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2292	1	Print head P3 (, R3 or Gr3) nozzle drive waveform data configuration error	The drive waveform data configuration has not been finished successfully for the nozzle row of Print head P3 (, R3 or Gr3). (The DONE signal has not become active at the end of the said drive waveform data configuration.) Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2293	1	Print head P4 (, R4 or Gr4) nozzle drive waveform data configuration error	The drive waveform data configuration has not been finished successfully for the nozzle row of Print head P4 (, R4 or Gr4). (The DONE'signal has not become active at the end of the said drive waveform data configuration.) Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S098	2294	1	Print head P5 (, R5 or Gr5) nozzle drive waveform data configuration error	The drive waveform data configuration has not been finished successfully for the nozzle row of Print head P5 (, R5 or Gr5). (The DONE signal has not become active at the end of the said drive waveform data configuration.) Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2295	1	Print head P6 (, R6 or Gr6) nozzle drive waveform data configuration error	The drive waveform data configuration has not been finished successfully for the nozzle row of Print head P6 (, R6 or Gr6). (The DONE signal has not become active at the end of the said drive waveform data configuration.) Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2296	1 to 2	Print head K1 nozzle drive waveform data reset error	The drive waveform data reset has not been finished successfully for the nozzle row 1 or 2 of Print head K1. Variation code (Troubled components): - 1: Nozzle row 1 - 2: Nozzle row 2	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print head nozzle rows containing another color than K are referred to as "Nozzle row 2." The print head nozzle rows containing K in both of the above cases are then referred to as "Nozzle row 1." On the printer whose print resolution for K is 300dpi, therefore, the variation code 2 will not be indicated.
S098	2297	1 to 2	Print head K2 nozzle drive waveform data reset error	The drive waveform data reset has not been finished successfully for the nozzle row 1 or 2 of Print head K2. Variation code (Troubled components): - 1: Nozzle row 1 - 2: Nozzle row 2	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print head nozzle rows containing another color than K are referred to as "Nozzle row 2." The print head nozzle rows containing K in both of the above cases are then referred to as "Nozzle row 1." On the printer whose print resolution for K is 300dpi, therefore, the variation code 2 will not be indicated.
S098	2298	1 to 2	Print head K3 nozzle drive waveform data reset error	The drive waveform data reset has not been finished successfully for the nozzle row 1 or 2 of Print head K3. Variation code (Troubled components): - 1: Nozzle row 1 - 2: Nozzle row 2	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print head nozzle rows containing another color than K are referred to as "Nozzle row 2." The print head nozzle rows containing K in both of the above cases are then referred to as "Nozzle row 1." On the printer whose print resolution for K is 300dpi, therefore, the variation code 2 will not be indicated.
S098	2299	1 to 2	Print head K4 nozzle drive waveform data reset error	The drive waveform data reset has not been finished successfully for the nozzle row 1 or 2 of Print head K4. Variation code (Troubled components): - 1: Nozzle row 1 - 2: Nozzle row 2	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print head nozzle rows containing another color than K are referred to as "Nozzle row 2." The print head nozzle rows containing K in both of the above cases are then referred to as "Nozzle row 1." On the printer whose print resolution for K is 300dpi, therefore, the variation code 2 will not be indicated.
S098	2300	1 to 2	Print head K5 nozzle drive waveform data reset error	The drive waveform data reset has not been finished successfully for the nozzle row 1 or 2 of Print head K5. Variation code (Troubled components): - 1: Nozzle row 1 - 2: Nozzle row 2	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print head nozzle rows containing another color than K are referred to as "Nozzle row 2." The print head nozzle rows containing K in both of the above cases are then referred to as "Nozzle row 1." On the printer whose print resolution for K is 300dpi, therefore, the variation code 2 will not be indicated.
S098	2301	1 to 2	Print head K6 nozzle drive waveform data reset error	The drive waveform data reset has not been finished successfully for the nozzle row 1 or 2 of Print head K6. Variation code (Troubled components): - 1: Nozzle row 1 - 2: Nozzle row 2	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print head nozzle rows containing another color than K are referred to as "Nozzle row 2." The print head nozzle rows containing K in both of the above cases are then referred to as "Nozzle row 1." On the printer whose print resolution for K is 300dpi, therefore, the variation code 2 will not be indicated.
S098	2302	1	Print head C1 nozzle drive waveform data reset error	The drive waveform data reset has not been finished successfully for the nozzle row of Print head C1. Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2303	1	Print head C2 nozzle drive waveform data reset error	The drive waveform data reset has not been finished successfully for the nozzle row of Print head C2. Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S098	2304	1	Print head C3 nozzle drive waveform data reset error	The drive waveform data reset has not been finished successfully for the nozzle row of Print head C3. Variation code (Troubled components):	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. The variation code 2 remains vacant due to continued apolication of the error code system for the previous-series
S098	2305	1	Print head C4 nozzle drive waveform data reset error	 - 1: Nozzle row - 2: - The drive waveform data reset has not been finished successfully for the nozzle row of Print head C4. Variation code (Troubled components): 	Turn OFF the printer. (Sub power key OFF)	models, i.e. ComColor X1 models. The Reset key recovery is not available. The variation code 2 remains vacant due to continued
				 1: Nozzle row 2: - The drive waveform data reset has not been finished successfully for the nozzle 		application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2306	1	Print head C5 nozzle drive waveform data reset error	row of Print head C5. Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2307	1	Print head C6 nozzle drive waveform data reset error	The drive waveform data reset has not been finished successfully for the nozzle row of Print head C6. Variation code (Troubled components):	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. The variation code 2 remains vacant due to continued
				- 1: Nozzle row - 2: - The drive waveform data reset has not been finished successfully for the nozzle		application of the end code system of the previous-series models, i.e. ComColor X1 models.
S098	2308	1	Print head M1 nozzle drive waveform data reset error	row of Print head M1. Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2309	1	Print head M2 nozzle drive waveform data reset error	The drive waveform data reset has not been finished successfully for the nozzle row of Print head M2. Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2310	1	Print head M3 nozzle drive waveform data reset error	The drive waveform data reset has not been finished successfully for the nozzle row of Print head M3. Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2311	1	Print head M4 nozzle drive waveform data reset error	The drive waveform data reset has not been finished successfully for the nozzle row of Print head M4. Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2312	1	Print head M5 nozzle drive waveform data reset error	The drive waveform data reset has not been finished successfully for the nozzle row of Print head M5. Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2313	1	Print head M6 nozzle drive waveform data reset error	The drive waveform data reset has not been finished successfully for the nozzle row of Print head M6. Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2314	1	Print head Y1 nozzle drive waveform data reset error	The drive waveform data reset has not been finished successfully for the nozzle row of Print head Y1. Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2315	1	Print head Y2 nozzle drive waveform data reset error	The drive waveform data reset has not been finished successfully for the nozzle row of Print head Y2. Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2316	1	Print head Y3 rozzle drive waveform data reset error	The drive waveform data reset has not been finished successfully for the nozzle row of Print head Y3. Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2317	1	Print head Y4 nozzle drive waveform data reset error	The drive waveform data reset has not been finished successfully for the nozzle row of Print head Y4. Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2318	1	Print head Y5 nozzle drive waveform data reset error	The drive waveform data reset has not been finished successfully for the nozzle row of Print head Y5. Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2319	1	Print head Y6 nozzle drive waveform data reset error	The drive waveform data reset has not been finished successfully for the nozzle row of Print head Y6. Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S098	2320	1	Print head P1 (, R1 or Gr1) nozzle drive waveform data reset error	The drive waveform data reset has not been finished successfully for the nozzle row of Print head P1 (, R1 or Gr1). Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2321	1	Print head P2 (, R2 or Gr2) nozzle drive waveform data reset error	The drive waveform data reset has not been finished successfully for the nozzle row of Print head P2 (, R2 or Gr2). Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2322	1	Print head P3 (, R3 or Gr3) nozzle drive waveform data reset error	The drive waveform data reset has not been finished successfully for the nozzle row of Print head P3 (, R3 or Gr3). Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2323	1	Print head P4 (, R4 or Gr4) nozzle drive waveform data reset error	The drive waveform data reset has not been finished successfully for the nozzle row of Print head P4 (, R4 or Gr4). Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2324	1	Print head P5 (, R5 or Gr5) nozzle drive waveform data reset error	The drive waveform data reset has not been finished successfully for the nozzle row of Print head P5 (, R5 or Gr5). Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2325	1	Print head P6 (, R6 or Gr6) nozzle drive waveform data reset error	The drive waveform data reset has not been finished successfully for the nozzle row of Print head P6 (, R6 or Gr6). Variation code (Troubled components): - 1: Nozzle row - 2: -	Turn OFF the printer. (Sub power key OFF)	The Reset key recovery is not available. This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models The variation code 2 remains vacant due to continued application of the error code system for the previous-series models, i.e. ComColor X1 models.
S098	2332	1 to 4	Print head P1 (, R1 or Gr1) nozzle drive voltage error	The CPU on the Engine control PCB or the sub CPU on the Head drive PCB (HDR PCB) has detected that the measured nozzle drive voltage excessively deviates from a preconfigured one for Print head P1 (, R1 or Gr1). (The deviation of the nozzle drive voltage value acquired from the Head drive PCB (HDR PCB) from the preconfigured one saved in the register has exceeded 5V for Print head P1 (, R1 or Gr1).) Variation code (Detected for and by): - 1: Positive value by CPU on the Engine control PCB - 2: Negative value by CPU on the HDR PCB - 3: Positive value by Sub CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB	Turn OFF the printer. (Sub power key OFF)	This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models
S098	2333	1 to 4	Print head P2 (, R2 or Gr2) nozzle drive voltage error	The CPU on the Engine control PCB or the sub CPU on the Head drive PCB (HDR PCB) has detected that the measured nozzle drive voltage excessively deviates from a preconfigured one for Print head P2 (, R2 or Gr2). (The deviation of the nozzle drive voltage value acquired from the Head drive PCB (HDR PCB) from the preconfigured one saved in the register has exceeded 5V for Print head P2 (, R2 or Gr2).) Variation code (Detected for and by): - 1: Positive value by CPU on the Engine control PCB - 2: Negative value by CPU on the HDR PCB - 3: Positive value by Sub CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB	Turn OFF the printer. (Sub power key OFF)	This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models
S098	2334	1 to 4	Print head P3 (, R3 or Gr3) nozzle drive voltage error	The CPU on the Engine control PCB or the sub CPU on the Head drive PCB (HDR PCB) has detected that the measured nozzle drive voltage excessively deviates from a preconfigured one for Print head P3 (, R3 or Gr3). (The deviation of the nozzle drive voltage value acquired from the Head drive PCB (HDR PCB) from the preconfigured one saved in the register has exceeded 5V for Print head P3 (, R3 or Gr3).) Variation code (Detected for and by): - 1: Positive value by CPU on the Engine control PCB - 2: Negative value by CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB	Turn OFF the printer. (Sub power key OFF)	This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S098	2335	1 to 4	Print head P4 (, R4 or Gr4) nozzle drive voltage error	The CPU on the Engine control PCB or the sub CPU on the Head drive PCB (HDR PCB) has detected that the measured nozzle drive voltage excessively deviates from a preconfigured one for Print head P4 (, R4 or Gr4). (The deviation of the nozzle drive voltage value acquired from the Head drive PCB (HDR PCB) from the preconfigured one saved in the register has exceeded 5V for Print head P4 (, R4 or Gr4).) Variation code (Detected for and by): - 1: Positive value by CPU on the Engine control PCB - 2: Negative value by Sub CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB	Turn OFF the printer. (Sub power key OFF)	This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models
S098	2336	1 to 4	Print head P5 (, R5 or Gr5) nozzle drive voltage error	The CPU on the Engine control PCB or the sub CPU on the Head drive PCB (HDR PCB) has detected that the measured nozzle drive voltage excessively deviates from a preconfigured one for Print head P5 (. R5 or Gr5). (The deviation of the nozzle drive voltage value acquired from the Head drive PCB (HDR PCB) from the preconfigured one saved in the register has exceeded 5V for Print head P5 (. R5 or Gr5).) Variation code (Detected for and by): - 1: Positive value by CPU on the Engine control PCB - 2: Negative value by CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB	Turn OFF the printer. (Sub power key OFF)	This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models
S098	2337	1 to 4	Print head P6 (, R6 or Gr6) nozzle drive voltage error	The CPU on the Engine control PCB or the sub CPU on the Head drive PCB (HDR PCB) has detected that the measured nozzle drive voltage excessively deviates from a preconfigured one for Print head P6 (, R6 or Gr6). (The deviation of the nozzle drive voltage value acquired from the Head drive PCB (HDR PCB) from the preconfigured one saved in the register has exceeded 5V for Print head P6 (, R6 or Gr6).) Variation code (Detected for and by): - 1: Positive value by CPU on the Engine control PCB - 2: Negative value by CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB - 4: Negative value by Sub CPU on the HDR PCB	Turn OFF the printer. (Sub power key OFF)	This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models
S098	2338	1 to 16	Print head power failure (K11 to K61)	The Head drive PCB (HDR PCB) has detected a power failure in any Print head among K11 to K61. Variation code (Power failure types and troubled components): <5V power failure> - 1 to 6: K11 to K61 - 7: Overall - 8: Unspecified <24V power failure> - 9 to 14: K11 to K61 - 15: Overall - 16: Unspecified	Turn OFF the printer. (Sub power key OFF)	When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print heads containing another color than K are referred to as "K12" to "K62." The print heads containing K in both of the above cases are then referred to as "K11" to "K61."
S098	2339	1 to 16	Print head power failure (C1 to C6)	The Head drive PCB (HDR PCB) has detected a power failure in any Print head among C1 to C6. Variation code (Power failure types and troubled components): <\$V power failure> -1 to 6: C1 to C6 -7: Overall -8: Unspecified <24V power failure> -9 to 14: C1 to C6 -15: Overall -16: Unspecified	Turn OFF the printer. (Sub power key OFF)	
S098	2340	1 to 16	Print head power failure (M1 to M6)	The Head drive PCB (HDR PCB) has detected a power failure in any Print head among M1 to M6. Variation code (Power failure types and troubled components): <\$V power failure> - 1 to 6: M1 to M6 - 7: Overall - 8: Unspecified <24V power failure> - 9 to 14: M1 to M6 - 15: Overall - 16: Unspecified	Turn OFF the printer. (Sub power key OFF)	
S098	2341	1 to 16	Print head power failure (Y1 to Y6)	The Head drive PCB (HDR PCB) has detected a power failure in any Print head among Y1 to Y6. Variation code (Power failure types and troubled components): <5V power failure> - 1 to 6: Y1 to Y6 - 7: Overall - 8: Unspecified <24V power failure> - 9 to 14: Y1 to Y6 - 15: Overall - 16: Unspecified	Turn OFF the printer. (Sub power key OFF)	
S098	2342	1 to 16	Print head power failure (K12 to K62)	The Head drive PCB (HDR PCB) has detected a power failure in any Print head among K12 to K62. Variation code (Power failure types and troubled components): <\$V power failure> -1 to 6: K12 to K62 -7: Overall -8: Unspecified <24V power failure> -9 to 14: K12 to K62 -15: Overall -16: Unspecified -16: Unspecified	Turn OFF the printer. (Sub power key OFF)	When the print resolution for K is 600dpi, the whole print head unit (a pair of 300dpi print heads) is exclusively used for K. When the print resolution for K is 300dpi, on the other hand, the print heads containing another color than K are referred to as "K12" to "K62." The print heads containing K in both of the above cases are then referred to as "K11" to "K61."

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S098	2343	1 to 16	Print head power failure (P1 (, R1 or Gr1) to P6 (, R6 or Gr6))	The Head drive PCB (HDR PCB) has detected a power failure in any Print head among P1 (, R1 or Gr1) to P6 (, R6 or Gr6). Variation code (Power failure types and troubled components): <5V power failure> -1 to 6: P1 (, R1 or Gr1) to P6 (, R6 or Gr6) -7: Overall -8: Unspecified <24V power failure> -9 to 14: P1 (, R1 or Gr1) to P6 (, R6 or Gr6) -15: Overall -16: Unspecified	Turn OFF the printer. (Sub power key OFF)	This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models
Z060	2375		Generic ink usage rejected (K color)	The usage of the applied generic (Non-RISO) K-color ink cartridge has been rejected by an operator. (An operator has selected "No" in the W099 notification message window, which is to be displayed on the printer to which generic (Non-RISO) ink cartridges are allowed to be applied through the system configuration change in the administrator menu.)	Load a genuine ink cartridge.	This error code will not be cleared unless the rejected generic ink cartridge is unloaded, thus prohibiting the printer's operation. Job restart process does not exist because this error occurs without jobs.
Z060	2376		Generic ink usage rejected (C color)	The usage of the applied generic (Non-RISO) C-color ink cartridge has been rejected by an operator. (An operator has selected "No" in the W099 notification message window, which is to be displayed on the printer to which generic (Non-RISO) ink cartridges are allowed to be applied through the system configuration change in the administrator menu.)	Load a genuine ink cartridge.	This error code will not be cleared unless the rejected generic ink cartridge is unloaded, thus prohibiting the printer's operation. Job restart process does not exist because this error occurs without jobs.
Z060	2377		Generic ink usage rejected (M color)	The usage of the applied generic (Non-RISO) M-color ink cartridge has been rejected by an operator. (An operator has selected "No" in the W099 notification message window, which is to be displayed on the printer to which generic (Non-RISO) ink cartridges are allowed to be applied through the system configuration change in the administrator menu.)	Load a genuine ink cartridge.	This error code will not be cleared unless the rejected generic ink cartridge is unloaded, thus prohibiting the printer's operation. Job restart process does not exist because this error occurs without jobs.
Z060	2378		Generic ink usage rejected (Y color)	The usage of the applied generic (Non-RISO) Y-color ink cartridge has been rejected by an operator. (An operator has selected "No" in the W099 notification message window, which is to be displayed on the printer to which generic (Non-RISO) ink cartridges are allowed to be applied through the system configuration change in the administrator menu.)	Load a genuine ink cartridge.	This error code will not be cleared unless the rejected generic ink cartridge is unloaded, thus prohibiting the printer's operation. Job restart process does not exist because this error occurs without jobs.
Z060	2379		Generic ink usage rejected (P (, R or Gr) color)	The usage of the applied generic (Non-RISO) P- (, R- or Gr-) color ink cartridge has been rejected by an operator. (An operator has selected "No' in the W099 notification message window, which is to be displayed on the printer to which generic (Non-RISO) ink cartridges are allowed to be applied through the system configuration change in the administrator menu.)	Load a genuine ink cartridge.	This error code will not be cleared unless the rejected generic ink cartridge is unloaded, thus prohibiting the printer's operation. This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models Job restart process does not exist because this error occurs without jobs.
1020	2380		K-color ink expiration date approaching	The current K-color ink cartridge has passed its default best-before date, expecting its expiration date to come before long. * The current date recognized by the printer is beyond the default best-before date, which is calculated by adding the quality guarantee period to the production date of the said ink cartridge (recorded in the labeled ID tag). <ink calculation="" date="" expiration="" formula=""> [Ink expiration date] = Ink production date + Quality guarantee period + Extra usage period (Ink order allowance)</ink>	Touch the [Close] button. * For a fundamental solution, replace the said ink cartridge with a new one.	
1020	2381		C-color ink expiration date approaching	The current C-color ink cartridge has passed its default best-before date, expecting its expiration date to come before long. * The current date recognized by the printer is beyond the default best-before date, which is calculated by adding the quality guarantee period to the production date of the said ink cartridge (recorded in the labeled ID tag). <ink calculation="" date="" expiration="" formula=""> [Ink expiration date] = Ink production date + Quality guarantee period + Extra usage period (Ink order allowance)</ink>	Touch the [Close] button. * For a fundamental solution, replace the said ink cartridge with a new one.	
1020	2382		M-color ink expiration date approaching	The current M-color ink cartridge has passed its default best-before date, expecting its expiration date to come before long. * The current date recognized by the printer is beyond the default best-before date, which is calculated by adding the quality guarantee period to the production date of the said ink cartridge (recorded in the labeled ID tag). <ink calculation="" date="" expiration="" formula=""> [Ink expiration date] = Ink production date + Quality guarantee period + Extra usage period (Ink order allowance)</ink>	Touch the [Close] button. * For a fundamental solution, replace the said ink cartridge with a new one.	
1020	2383		Y-color ink expiration date approaching	The current Y-color ink cartridge has passed its default best-before date, expecting its expiration date to come before long. * The current date recognized by the printer is beyond the default best-before date, which is calculated by adding the quality guarantee period to the production date of the said ink cartridge (recorded in the labeled ID tag). <ink calculation="" date="" expiration="" formula=""> [Ink expiration date] = Ink production date + Quality guarantee period + Extra usage period (Ink order allowance)</ink>	Touch the [Close] button. * For a fundamental solution, replace the said ink cartridge with a new one.	
1020	2384		P- (, R- or Gr-) color ink expiration date approaching	The current P- (, R- or Gr-) color ink cartridge has passed its default best-before date, expecting its expiration date to come before long. * The current date recognized by the printer is beyond the default best-before date, which is calculated by adding the quality guarantee period to the production date of the said ink cartridge (recorded in the labeled ID tag). <ink calculation="" date="" expiration="" formula=""> [Ink expiration date] = Ink production date + Quality guarantee period + Extra usage period (Ink order allowance)</ink>	Touch the [Close] button. * For a fundamental solution, replace the said ink cartridge with a new one.	This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
1020	2385		K-color ink expiration date approaching	The current K-color ink cartridge has passed its custom best-before date, expecting its expiration date to come before long. * The current date recognized by the printer is beyond the custom best-before date which is predefined by an administrator. <ink calculation="" date="" expiration="" formula=""> [Ink expiration date] = Custom best-before date + Extra usage period (Ink order allowance)</ink>	Touch the [Close] button. * For a fundamental solution, replace the said ink cartridge with a new one.	
1020	2386		C-color ink expiration date approaching	The current C-color ink cartridge has passed its custom best-before date, expecting its expiration date to come before long. * The current date recognized by the printer is beyond the custom best-before date which is predefined by an administrator. <ink calculation="" date="" expiration="" formula=""> [Ink expiration date] = Custom best-before date + Extra usage period (Ink order allowance)</ink>	Touch the [Close] button. * For a fundamental solution, replace the said ink cartridge with a new one.	
1020	2387		M-color ink expiration date approaching	The current M-color ink cartridge has passed its custom best-before date, expecting its expiration date to come before long. * The current date recognized by the printer is beyond the custom best-before date which is predefined by an administrator. <ink calculation="" date="" expiration="" formula=""> [Ink expiration date] = Custom best-before date + Extra usage period (Ink order allowance)</ink>	Touch the [Close] button. * For a fundamental solution, replace the said ink cartridge with a new one.	
1020	2389		P- (, R- or Gr-) color ink expiration date approaching	The current P- (, R- or Gr-) color ink cartridge has passed its custom best-before date, expecting its expiration date to come before long. * The current date recognized by the printer is beyond the custom best-before date which is predefined by an administrator. <ink calculation="" date="" expiration="" formula=""> [Ink expiration date] = Custom best-before date + Extra usage period (Ink order allowance)</ink>	Touch the [Close] button. * For a fundamental solution, replace the said ink cartridge with a new one.	This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models
Y020	2390		K-color ink expiration date arrival	The current K-color ink cartridge has passed its expiration date. * The current date recognized by the printer is beyond the expiration date, which is calculated by adding the quality guarantee and extra usage periods to the production date of the said ink cartridge (recorded in the labeled ID tag). <ink calculation="" date="" expiration="" formula=""> [Ink expiration date] = Ink production date + Quality guarantee period + Extra usage period (Ink order allowance)</ink>	Unload the expired ink cartridge.	The Transfer belt unit is to be lowered in advance in ink cartridge replacement.
Y020	2391		C-color ink expiration date arrival	The current C-color ink cartridge has passed its expiration date. * The current date recognized by the printer is beyond the expiration date, which is calculated by adding the quality guarantee and extra usage periods to the production date of the said ink cartridge (recorded in the labeled ID tag). <ink calculation="" date="" expiration="" formula=""> [Ink expiration date] = Ink production date + Quality guarantee period + Extra usage period (Ink order allowance)</ink>	Unload the expired ink cartridge.	The Transfer belt unit is to be lowered in advance in ink cartridge replacement.
Y020	2392		M-color ink expiration date arrival	The current M-color ink cartridge has passed its expiration date. * The current date recognized by the printer is beyond the expiration date, which is calculated by adding the quality guarantee and extra usage periods to the production date of the said ink cartridge (recorded in the labeled ID tag). (Ink expiration date) = Ink production date + Quality guarantee period + Extra usage period (Ink order allowance)	Unload the expired ink cartridge.	The Transfer belt unit is to be lowered in advance in ink cartridge replacement.
Y020	2393		Y-color ink expiration date arrival	The current Y-color ink cartridge has passed its expiration date. * The current date recognized by the printer is beyond the expiration date, which is calculated by adding the quality guarantee and extra usage periods to the production date of the said ink cartridge (recorded in the labeled ID tag). <ink calculation="" date="" expiration="" formula=""> [Ink expiration date] = Ink production date + Quality guarantee period + Extra usage period (Ink order allowance)</ink>	Unload the expired ink cartridge.	The Transfer belt unit is to be lowered in advance in ink cartridge replacement.
Y020	2394		P- (, R- or Gr-) color ink expiration date arrival	The current P- (, R- or Gr-) color ink cartridge has passed its expiration date. * The current date recognized by the printer is beyond the expiration date, which is calculated by adding the quality guarantee and extra usage periods to the production date of the said ink cartridge (recorded in the labeled ID tag). <ink calculation="" date="" expiration="" formula=""> [Ink expiration date] = Ink production date + Quality guarantee period + Extra usage period (Ink order allowance)</ink>	Unload the expired ink cartridge.	The Transfer belt unit is to be lowered in advance in ink cartridge replacement. This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models
S036	2400		Ink circulation pump failure	The pressure in the Pressurization tank has passed the value specified in the test mode No.TM09-6-042 during 100%-duty operation of the Air pump in ink circulation pressure generation process.	Turn OFF the printer. (Sub power key OFF)	

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
7. Erro	r Point	2500 TI	nrough 2999 (Optional Pa	per Feed Equipment Related)		
U051	2520	1 to 3	HCF Feed tray elevator motor locked (off print jobs)	The HCF Feed tray elevator motor has been locked on the High-capacity feeder during the idle period of the printer which has a multiple paper source. Variation code (Events during which the said trouble occurred): - 1: Feed tray elevation - 2: Feed tray descent - 3: Feed tray servo actions * Other error codes will be indicated if the said motor is locked under another situation than mentioned above. - \$006-2505: During a print job on a single paper source model - \$007-2510: Not during a print job on a multiple paper source model - U050-2515: During a print job on a multiple paper source model	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	This error will not be mechanically cleared only by pressing the Reset key though the error message is cleared. (The error status will be retained in the system.)
U051	2521		HCF Pickup drive motor locked (off print jobs)	The HCF Pickup drive motor has been locked on the High-capacity feeder during the idle period of the printer which has a multiple paper source. * Other error codes will be indicated if the said motor is locked under another situation than mentioned above. = S006-2505: During a print job on a single paper source model = S007-2511: Not during a print job on a single paper source model = U050-2516: During a print job on a multiple paper source model	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	This error will not be mechanically cleared only by pressing the Reset key though the error message is cleared. (The error status will be retained in the system.)
U051	2522		HCF Intermediate feed motor locked (off print jobs)	The HCF Intermediate feed motor has been locked on the High-capacity feeder during the idle period of the printer which has a multiple paper source. * Other error codes will be indicated if the said motor is locked under another situation than mentioned above. - \$006-2507: During a print job on a single paper source model - \$007-2512: Not during a print job on a single paper source model - U050-2517: During a print job on a multiple paper source model	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	This error will not be mechanically cleared only by pressing the Reset key though the error message is cleared. (The error status will be retained in the system.)
U055	2523	1 to 9	HCF SH-DSP communication error	It has been detected on the SH side that a communication error occurred between SH (Shell) and DSP (Digital Signal Processor) on the High-capacity feeder. Variation code: - 1 to 9	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U055	2524	1 to 9	HCF SH-DSP communication error	It has been detected on the DSP side that a communication error occurred between SH (Shell) and DSP (Digital Signal Processor) on the High-capacity feeder. Variation code: - 1 to 9	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U055	2525		HCF Intermediate feed entrance sensor failure	The light volume detected by the HCF Intermediate feed entrance sensor on the Hgh-capacity feeder does not vary depending on the emitted light intensity. * Either the light-emitting or -receiving side of the HCF Intermediate feed entrance sensor may be broken.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U055	2526		HCF Intermediate feed entrance sensor adjustment error	The light intensity of the HCF Intermediate feed entrance sensor on the High- capacity feeder has failed to reach the target level during its automatic adjustment through the corresponding test mode.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U056	2527	1 to 9	HCF SH side error	It has been detected that an error occurred on the SH side of the High-capacity feeder. Variation code: - 1 to 9	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U056	2528	1 to 9	HCF DSP side error	It has been detected that an error occurred on the DSP (Digital Signal Processor) side of the High-capacity feeder. Variation code: - 1 to 9	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U051	2529		HCF Joint nip release motor failure (off print jobs)	The HCF Joint nip release motor has failed to operate as specified on the High- capacity feeder during the idle period of the printer which has a multiple paper source. * Other error codes will be indicated if the said motor is locked under another situation than mentioned above S006-2508: During a print job on a single paper source model - S007-2513: Not during a print job on a single paper source model - UD50-2518: During a print job on a multiple paper source model	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	This error will not be mechanically cleared only by pressing the Reset key though the error message is cleared. (The error status will be retained in the system.)
U051	2530		HCF Feed tray elevator motor overcurrent (off print jobs)	Overcurrent has been detected in the HCF Feed tray elevator motor on the High- capacity feeder during the idle period of the printer which has a multiple paper source. * Other error codes will be indicated if the said motor is locked under another situation than mentioned above S006-2509. During a print job on a single paper source model - S007-2514: Not during a print job on a single paper source model - U050-2519: During a print job on a multiple paper source model	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	Overcurrent detection has been introduced to protect the HCF Feed tray elevator motor. This error will not be mechanically cleared only by pressing the Reset key though the error message is cleared. (The error status will be retained in the system.)
U055	2531		HCF Model data acquisition failure	The model data stored in the EEPROM on the High-capacity feeder has failed to be acquired, thus leaving the High-capacity feeder a device unknown to the printer.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	This error code will be displayed at power-on.
S556	2535		HCF 36V power failure	A 36 V voltage error has been detected on the High-capacity feeder.	Turn OFF the printer. (Sub power key OFF)	
S556	2536		HCF 36VE power failure	A 36 VE voltage error has been detected on the High-capacity feeder.	Turn OFF the printer. (Sub power key OFF)	
S556	2537		HCF 24VE power failure	A 24 VE voltage error has been detected on the High-capacity feeder.	Turn OFF the printer. (Sub power key OFF)	
X051	2540		Paper jam in HCF	The paper feeding through the High-capacity feeder has not reached the HCF Intermediate feed entrance sensor within a predefined amount of time.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
X051	2541		Paper jam in HCF	The paper feeding through the High-capacity feeder has not passed through the HCF Intermediate feed entrance sensor within a predefined amount of time.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X051	2542		Paper jam in HCF	It has been detected at the start of print (paper feed) operation that jammed sheets still remain under the HCF Intermediate feed entrance sensor in the High- capacity feeder.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X051	2543		Paper jam in HCF	The paper feeding through the High-capacity feeder has not reached the HCF Intermediate feed exit sensor within a predefined amount of time.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X051	2544		Paper jam in HCF	The paper feeding through the High-capacity feeder has not passed through the HCF Intermediate feed exit sensor within a predefined amount of time.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X051	2545		Paper jam in HCF	It has been detected at the start of print (paper feed) operation that jammed sheets still remain under the HCF Intermediate feed exit sensor in the High- capacity feeder.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X051	2546		Paper jam in HCF	The paper feeding through the High-capacity feeder has not reached the HCF Pre-registration sensor within a predefined amount of time.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X051	2547		Paper jam in HCF	The paper feeding through the High-capacity feeder has not passed through the HCF Pre-registration sensor within a predefined amount of time.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X051	2548		Paper jam in HCF	It has been detected at the start of print (paper feed) operation that jammed sheets still remain under the HCF Pre-registration sensor in the High-capacity feeder.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X070	2550		Paper jam at the exit of HCF	The paper feeding from the High-capacity feeder has not reached the Registration sensor within a predefined amount of time, which varies depending on the feeding speed.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
Z050	2558		HCF Stripper unit uninstalled	The HCF Stripper unit has been detached (The HCF Stripper unit set switch has been set OFF) on the High-capacity feeder due to paper jam recovery action. * Another error code, 2049-2559, will be indicated if the HCF Stripper unit is detached (the said switch is set OFF) without paper jam errors in advance.	Put back the HCF Stripper unit. (Set ON the HCF Stripper unit set switch.)	
Z049	2559		HCF Stripper unit uninstalled	The HCF Stripper unit has been detached (The HCF Stripper unit set switch has been set OFF) on the High-capacity feeder without paper jam errors in advance. * Another error code, Z050-2558, will be indicated if the HCF Stripper unit is detached (the said switch is set OFF) due to paper jam recovery.	Put back the HCF Stripper unit. (Set ON the HCF Stripper unit set switch.)	
Z051	2560		HCF Paper feed tray error	The HCF Paper feed tray upper or lower safety switch has been set OFF on the High-capacity feeder.	Unload and reload paper on HCF.	
Z054	2561		HCF Intermediate feed unit door open	The HCF Intermediate feed unit door has been opened on the High-capacity feeder. (The HCF Intermediate feed unit door safety switch has been set OFF.)	Close the HCF Intermediate feed unit door. (Set ON the HCF Intermediate feed unit door safety switch.)	
Z068	2562		HCF Intermediate feed unit upper cover open	The HCF Intermediate feed unit upper cover has been opened on the High- capacity feeder. (The HCF Intermediate feed unit upper cover sensor has been blocked.)	Close the HCF Intermediate feed unit upper cover.	
W078	2580	1 to 3	No paper or incompatible-format paper loaded on HCF	The following status has been detected while the HCF Paper feed tray is specified as paper source. • No paper exists on the HCF Paper feed tray. • The format of paper on the HCF Paper feed tray is not compatible with a specified finishing option. • The format of paper on the HCF Paper feed tray is not identical with original page format for a print job for which a finishing option, such as stapling, punch, fold and booklet-making, is specified. * This error code appears only when a print job is specified. Variation code (Error status): - 1: Paper has been depleted on HCF Paper feed tray during a print job. (Detected by Engine control PCB) - 3: The format of paper loaded on HCF Paper feed tray is not idetical with original page format for a print job for which a finishing option, such as stapling, punch, fold and booklet-making, is specified.	Execute one of the following. (1) Place paper on the HCF Paper feed tray and touch the [Continue] button. [Remarks] *1 (2) Touch the [Change Tray] button and select another Paper tray than the HCF Paper feed tray. [Remarks] *2 (3) Touch the [Stop] button. (4) Delete the current print job.	The current print job will be on hold or suspended. *1: A print job can be resumed with a touch-panel operation after error clearance. *2: A print job will be automatically resumed after error clearance.
W191	2581		HCF Paper feed tray movement to maintenance position blocked	The paper feed tray has been unable to move to the maintenance position due to paper overloading on the High-capacity feeder during the corresponding test mode.	Touch the [Close] button.	Job restart process does not exist because this error occurs without jobs.
W190	2600		HCF paper overloading	Paper has been overloaded on the High-capacity feeder. (The HCF Paper feed tray upper and lower limit sensors have been blocked at the same time.)	Execute one of the following. (1) Touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current print job.	A print job can be resumed with a touch-panel operation after error clearance.
U056	2601		Undefined data in HCF data backup	Undefined data has been detected during data backup on the High-capacity feeder.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, upgrade the firmware for peripherals.	

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Panel Messages

Туре	Point	vc	Summary	Description	Recovery Action	Remarks
U055	2602		CRC error in HCF data backup	A CRC (Cycliv Redundancy Check) error has been detected during data backup on the High-capacity feeder.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, change the EEPROM on HCF.	
U055	2603		Recovery error of HCF backup data	Failed to recover the backup data on the High-capacity feeder.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, change the EEPROM on HCF.	
U055	2604		Illegal device information in HCF backup data	The device information in the backup data has been detected illegal on the High- capacity feeder.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, check if the EEPROM corresponding to the current device is installed or change the related PCB on HCF.	
U055	2605		Unusual EEPROM status on HCF	An unusual EEPROM status has been detected on the High-capacity feeder.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, check if the said EEPROM is correctly installed or change the EEPROM or the related PCB on HCF.	
U055	2606		lllegal EEPROM address on HCF	An illegal EEPROM address has been detected on the High-capacity feeder.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, upgrade the firmware for peripherals.	
U055	2607		Time-out error in communication with HCF EEPROM	The serial communication with EEPROM has not started within a predefined amount of time on the High-capacity feeder, causing a time-out error.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, change the EEPROM or the related PCB on HCF.	
U055	2608		Time-out error in communication with HCF EEPROM	The serial communication with EEPROM has not finished within a predefined amount of time on the High-capacity feeder, causing a time-out error.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, change the EEPROM or the related PCB on HCF.	
U055	2609		Data reception error in communication with HCF EEPROM	A data reception error has been detected during serial communication with EEPROM on the High-capacity feeder.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, change the EEPROM or the related PCB on HCF.	
U055	2610		Time-out error in communication with HCF EEPROM	Data reception has not finished within a predefined amount of time during serial communication with EEPROM on the High-capacity feeder, causing a time-out error.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, change the EEPROM or the related PCB on HCF.	
U055	2611		Flash memory writing failure on HCF	Failed to write data to flash memory on the High-capacity feeder.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, change the related PCB on HCF.	
U056	2612		Unusual data size in flash memory writing on HCF	It has been detected during writing data to flash memory on the High-capacity feeder that the current data size is unusual.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, upgrade the firmware for peripherals.	
U056	2613		Unusual data address in flash memory writing on HCF	It has been detected during writing data to flash memory on the High-capacity feeder that the current data address is unusual.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, upgrade the firmware for peripherals.	
U056	2614	1 to 9	HCF software control module error	An error has been detected in the HCF software control module on the High- capacity feeder.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, upgrade the firmware for peripherals.	
U056	2615	1 to 9	HCF software control module error	An error has been detected in the HCF software control module on the High- capacity feeder.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, upgrade the firmware for peripherals.	
U056	2616	1 to 9	HCF software control module error	An error has been detected in the HCF software control module on the High- capacity feeder.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, upgrade the firmware for peripherals.	
U056	2617	1 to 9	HCF software control module error	An error has been detected in the HCF software control module on the High- capacity feeder.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, upgrade the firmware for peripherals.	
U056	2618	1 to 9	HCF software control module error	An error has been detected in the HCF software control module on the High- capacity feeder.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, upgrade the firmware for peripherals.	
U056	2619	1 to 9	HCF software control module error	An error has been detected in the HCF software control module on the High- capacity feeder.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, upgrade the firmware for peripherals.	

RISO Inc. Technical Operations

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Panel Messages

Туре	Point	vc	Summary	Description	Recovery Action	Remarks
U650	2700	1 to 4	EXF Elevator motor failure (on print jobs)	An error has occurred in the operation of the EXF Tray elevator motor during a print job. Variation code (Error types): 1: The EXF Tray elevation limit sensor has not been blocked within a predefined amount of time since the EXF Tray elevator motor was activated to raise the EXF Feed tray. 2: The EXF Tray elevation limit sensor has not been opened within a predefined amount of time since the EXF Tray elevator motor was activated to lower the EXF Feed tray. 3: The EXF Tray elevation limit sensor has not been blocked again within a predefined amount of time since the EXF Tray elevator motor was activated to raise the EXF Feed tray for the initial tray repositoning action after lowering the said tray from the upper limit position until the said sensor was opened. 4: The EXF Tray elevator initis tensor has not been blocked within a predefined amount of time since the EXF Tray elevator motor was activated to raise the EXF Feed tray for operational tray repositioning for stable paper feed conditions. * Another error code, U651-2701, will be indicated if the said motor fails while the printer is idle.	Execute one of the following. (1) Touch the [Change Tray] button and change the paper source to another one than the Additional 2000 sheet feeder. Then touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current print job.	Though this error is a U-type one, It is possible to restart the job manually after error recovery. This error will not be mechanically cleared only by pressing the Reset key though the error message is cleared. (The error status will be retained in the system.)
U651	2701	1 to 3	EXF Elevator motor failure (off print jobs)	An error has occurred in the operation of the EXF Tray elevator motor while the printer is idle. Variation code (Error types): 1: The EXF Tray elevation limit sensor has not been blocked within a predefined amount of time since the EXF Tray elevator motor was activated to raise the EXF Feed tray. 2: The EXF Tray elevation limit sensor has not been opened within a predefined amount of time since the EXF Tray elevator motor was activated to lower the EXF Feed tray from the upper limit position. 3: The EXF Tray elevation initis tensor has not been blocked again within a predefined amount of time since the EXF Tray elevator motor started to raise the EXF Feed tray for the initial tray repositoning action after lowering the said tray from the upper limit position until the said sensor was opened. * Another error code, U651-2700, will be indicated if the said motor fails during a print job.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	This error will not be mechanically cleared only by pressing the Reset key though the error message is cleared. (The error status will be retained in the system.)
U650	2702	1	EXF Paper feed motor failure	The EXF Paper feed motor has failed to operate on the Additional 2000 sheet feeder. Variation code (Causes): - 1: Locked (The logic status has not changed for the EXF Paper feed motor FG sensor within a predefined amount of time since the activation of the said motor.)	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	This error will not be mechanically cleared only by pressing the Reset key though the error message is cleared. (The error status will be retained in the system.)
U650	2704	1 to 2	EXF Intermediate feed motor failure (on print jobs)	The EXF Intermediate feed motor has failed during a print job. Variation code (Causes): - 1: Locked (The logic status has not changed for the EXF Intermediate feed motor FG sensor within a predefined amount of time since the activation of the said motor.) - 2: Overcurrent * Another error code, U651-2705, will be indicated if the said motor fails while the printer is idle.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	This error will not be mechanically cleared only by pressing the Reset key though the error message is cleared. (The error status will be retained in the system.)
U651	2705	1 to 2	EXF Intermediate feed motor failure (off print jobs)	The EXF Intermediate feed motor has failed while the printer is idle. Variation code (Causes): - 1: Locked (The logic status has not changed for the EXF Intermediate feed motor FG sersor within a predefined amount of time since the activation of the said motor.) - 2: Overcurrent * Another error code, U650-2704, will be indicated if the said motor fails during a print job.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	This error will not be mechanically cleared only by pressing the Reset key though the error message is cleared. (The error status will be retained in the system.)
Z257	2707		Additional 2000 sheet feeder detached	The Additional 2000 sheet feeder has been detached from the printer. (The EXF connection sensor has been opened (unblocked).)	Attach the Additional 2000 sheet feeder to the printer.	
Z259	2709		EXF Top cover open	The Top cover has been opened on the Additional 2000 sheet feeder. (The EXF Top cover switch R has been set OFF.)	Close the Top cover.	
Z261	2711		EXF Feed tray not in position	The EXF Tray set switch has been set OFF, thus notifying that the EXF tray is open (not set in position).	Close Paper tray 1.	
W571	2720	1 to 2	No paper loaded on EXF	While the EXF Feed tray is specified as paper source, it has been detected that no paper is loaded there. * This error code appears only when a print job is specified. Variation code (Detected by): - 1: Engine control PCB - 2: PMS	Execute one of the following. (1) Place paper on the EXF Feed tray and touch the [Continue] button. [Remarks] *1 (2) Touch the [Change Tray] button and select another Paper tray than the EXF Feed tray. [Remarks] *2 (3) Touch the [Stop] button. (4) Delete the current print job.	The current print job will be on hold or suspended. *1: A print job can be resumed with a touch-panel operation after error clearance. *2: A print job will be automatically resumed after error clearance.
W572	2721	1 to 2	Inapplicable-format paper for cover sheets on EXF	It has been detected when starting or restarting a print job for which the "Add cover" option is specified to add front covers with the EXF Feed tray specified as front cover tray that the corresponding-format cover sheets are not loaded on the said tray. Variation code (Detected when): 1: When a print job starts. (Detected by PMS) 2: When front cover sheets start to feed. (Detected by Engine control PCB)	Execute one of the following. (1) Touch the [Close] button. (2) Delete the current print job.	It is not possible to resume the suspended print job after error recovery.

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
W572	2722	1 to 2	Inapplicable-format paper for cover sheets on EXF	It has been detected when starting or restarting a print job for which the "Add cover" option is specified to add back covers with the EXF Feed tray specified as back cover tray that the corresponding-format cover sheets are not loaded on the said tray. Variation code (Detected when): 1: When a print job starts. (Detected by PMS) 2: When back cover sheets start to feed. (Detected by Engine control PCB)	Execute one of the following. (1) Touch the [Close] button. (2) Delete the current print job.	It is not possible to resume the suspended print job after error recovery.
W573	2723	1 to 2	Incompatible-format paper loaded on EXF	The following status has been detected while the EXF Feed tray is specified as paper source The format of paper on the EXF Feed tray is not compatible with a specified finishing option The format of paper on the EXF Feed tray is not identical with original page format for a print job for which a finishing option, such as stapling, punch, fold and booklet-making, is specified This error code appears only when a print job is specified. Variation code (Error status): - 1: The format of paper loaded on the EXF Feed tray is not idetical with original page format for a print job for which a finishing option, such as stapling, punch, fold and booklet-making, is specified. Variation code (Error status): - 1: The format of paper loaded on the EXF Feed tray is not idetical with original page format for a print job for which a finishing option, such as stapling, punch, fold and booklet-making, is specified. Detected by Engine control PCB) - 2: Incompatible-format paper is loaded on the EXF Feed tray for a specified finishing option. (Detected by PMS)	Execute one of the following. (1) Place compatible-format paper on the EXF Feed tray and touch the [Continue] button. [Remarks] *1 (2) Touch the [Change Tray] button and select another Paper tray than the EXF Feed tray. [Remarks] *2 (3) Touch the [Stop] button. (4) Delete the current print job.	The current print job will be on hold or suspended. *1: A print job can be resumed with a touch-panel operation after error clearance. *2: A print job will be automatically resumed after error clearance.
X256	2726	1, 20 & 30	Paper jam in EXF	A feeding sheet has jammed in the Additional 2000 sheet feeder. Variation code (Detection process): - 1: A feeding sheet has not reached the EXF Intermediate feed sensor within a predefined amount of time. - 20: A feeding sheet has not passed through the EXF Intermediate feed sensor within a predefined amount of time. - 30: It has been detected at the start of print (paper feed) operation that jammed sheets still remain under the EXF Intermediate feed sensor.	Remove jammed sheets remaining in the Additional 2000 sheet feeder.	
U653	2731	1 to 99	EXF Software error	A software error has been detected on the Additional 2000 sheet feeder.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	The PCB should be replaced if this error remains even after repeated re-boot actions. A firmware download will be required, besides, unless the situation changes even after PCB replacement.
U652	2732	1 to 6	EXF EEPROM access error	An access error has been detected in EEPROM on the Additional 2000 sheet feeder. Variation code (Error types): - 1: Unusual status - 2: Illegal address - 3: Time-out in data transmission start processing - 4: Time-out in data transmisson completion processing - 5: Data reception error - 6: Time-out in data reception completion processing	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	The EEPROM should be replaced if this error remains even after repeated re-boot actions. A PCB replacement will be required, besides, unless the situation changes even after EEPROM replacement.
U652	2733	1 to 3	EXF Flash memory access error	An access error has been detected in the flash memory on the Additional 2000 sheet feeder. Variation code (Error types): - 1: Write error - 2: Illegal data size - 3: Illegal data address	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	The PCB should be replaced if this error remains even after repeated re-boot actions.
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Panel Messages

Туре	Point	vc	Summary	Description	Recovery Action	Remarks
8. Erro	r Point	3000 TI	nrough 3999 (Optional Fir	ishing or Stacking Equipment Related)		
U011	3003	1 to 2	MFF Punch unit failure (Punching action failure)	A punching action has failed on the Multifunction finisher. Variation code (Error types): - 1: The FM Punch HP sensor has not been blocked within a predefined amount of time since the activation of the FM Punch motor. - 2: The FM Punch HP sensor has not been opened (unblocked) within a predefined amount of time since the activation of the FM Punch motor.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	This error will not be mechanically cleared only by pressing the Reset key though the error message is cleared. (The error status will be retained in the system.)
U011	3005	1 to 2	MFF Punch unit failure (Puncher shift action failure)	The Puncher unit has not been shifted properly on the Multifunction finisher. Variation code (Error types): - 1: The FM Punch slide HP sensor has not been blocked within a predefined amount of time since the activation of the FM Punch slide motor. - 2: The FM Punch slide HP sensor has not been opened (unblocked) within a predefined amount of time since the activation of the FM Punch slide motor.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	This error will not be mechanically cleared only by pressing the Reset key though the error message is cleared. (The error status will be retained in the system.)
U011	3007	1 to 2	MFF Punch unit failure (Punching alignment action failure)	The Puncher unit has not been aligned properly on the Multifunction finisher. Variation code (Error types): - 1: The FM Punch side registration HP sensor has not been blocked within 1000 msec since the Puncher unit started to slide. - 2: The FM Punch side registration HP sensor has not been opened (unblocked) within 1000 msec since the Puncher unit started to slide, or it has been opened during moving the Puncher unit to the home position.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	This error will not be mechanically cleared only by pressing the Reset key though the error message is cleared. (The error status will be retained in the system.)
S099	3008	1 to 2	MFF command reception error	A command reception error has been detected on the Multifunction finisher. Variation code (Error types): - 1: Illegal command (The finisher has received an undefined command from the Engine control PCB on the printer.) - 2: Command transmission failure (Another command transmission has been started from the printer before the preceding command reception was finished on the finisher.)	Turn OFF the printer. (Sub power key OFF)	
S099	3009		MFF command transmission failure	The Multifunction finisher has failed to transmit a command to the Engine control PCB on the printer without enough space in the command transmission queue.	Turn OFF the printer. (Sub power key OFF)	
U193	3015		MFF Firmware download error	A data error has been detected during the integrity check of the firmware to be downloaded on the Multifunction finisher.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
W070	3016	1 to 3	MFF Test mode parameter storage/retrieval failure	The requested configuration parameters for the Multifunction finisher have failed to be stored or retrieved in the corresponding test mode operation. Variation code (Causes): - 1: Inconsistent parameter data could have been stored due to irregularity in the said data storage processing. - 2: No stored parameter data or inconsistent ones have been identified during their retrieval processing, thus interrupting the said processing. - 3: The current firmware version of the Multifunction finisher has been detected to be inconsistent with the one which was recognized when the target parameter data were stored, thus interrupting the current parameter data rerieval processing.	Touch the [Close] button.	The corresponding test mode items: - TM37-3-150 "FINISHER TM PARAMETER STORE" - TM37-3-151 "FINISHER TM PARAMETET RESTORE"
S098	3020		MFF Operational mode switching error	The operational mode cannot be properly switched between normal operation and the test mode on the Multifunction finisher.	Turn OFF the printer. (Sub power key OFF)	This error will not be cleared by pressing the Reset key. * The Multifunction finisher is required to be rebooted as well.
S098	3021		MFF Communication error	A communication error, such as parity mismatch, framing error and buffer overrun, has been detected between the Multifunction finisher and "Finisher-related communication control software" on the printer.	Turn OFF the printer. (Sub power key OFF)	
S098	3022		MFF Parameter configuration failure	It has been notified by the Multifunction finisher that the dedicated parameters have not been configured properly there through the corresponding test modes.	Turn OFF the printer. (Sub power key OFF)	This error will not be cleared by pressing the Reset key. * The Multifunction finisher is required to be rebooted as well.
S098	3023	1 to 4	MFF Firmware download not completed	The firmware download has not been completed on the Multifunction finisher yet, thus prohibiting normal operation to request the firmware download operation to be resumed. Variation code (Error locations): - 1: FM main CPU - 2: FF sub CPU - 3: FM punch sub CPU - 4: FB sub CPU	Turn OFF the printer. (Sub power key OFF)	This error will not be cleared by pressing the Reset key. * The Multifunction finisher is required to be rebooted as well.
S098	3024	1 to 3	MFF Communication error (FM main CPU and sub CPU)	An error has been detected during communication with sub CPUs by FM main CPU on the Multifunction finisher. Variation code (Error in communication with): - 1: FF sub CPU - 2: FM punch sub CPU - 3: FB sub CPU	Turn OFF the printer. (Sub power key OFF)	
S099	3025		MFF Software control error	An error has been detected in software control on the Multifunction finisher.	Turn OFF the printer. (Sub power key OFF)	
S098	3026		MFF Power supply failure	A 24V power supply failure on the Multifunction finisher. 24V power supply is lost when the main power is turned on or when an operation is interrupted with an error on the Multifunction finisher, even though all power relays are connected (all safety covers are firmly closed).	Turn OFF the printer. (Sub power key OFF)	

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S099	3030	1 to 2	Print-sequence-related software interface error with MMF (MFF)	The "Print-sequence-related software" has caused an interface trouble with the "Finisher-related communication control software" on the printer. Variation code (Causes): - 1: The "Print-sequence-related software" applied Interface function had another sequence timing than defined for the Multifunction finisher. - 2: Undefined parameters have been configured for the Multifunction finisher in the "Print-sequence-related software."	Turn OFF the printer. (Sub power key OFF)	
S099	3031	1 to 9	MFF Communication error	An error has been detected during communication with the Multifunction finisher. Variation code (Error types): - 1: Communication sequence error (The command received from the Multifunction finisher had another sequence timing than defined.) - 2: Communication command error (An undefined command has been received from the Multifunction finisher.) - 3: Communication parameter error (The command received from the Multifunction finisher had undefined parameters.) - 4: ACK signal reception error (Though the "Finisher-related communication control software" sent a command, the AKC signal has not been received from the Multifunction finisher within 40msec since the said command transmission in three consecutive times.) - 5: ACK signal sequence bit error (The sequence bit of the received AKC signal was not equal to the one of the corresponding command sent from the "Finisher- related communication control software.") - 7: Command checksum error (The "Finisher-related communication control software" has received a command with another sequence bit than expected.) - 7: Command checksum error (The "Finisher-related communication control software" has received a command with another checksum than calculated from the received values.) - 8: Command length error (The received command length was different from the one defined for the said Multifunction finisher command.) - 9: Synchronization sequence command packet error (with the "Finisher-related communication control software")	Turn OFF the printer. (Sub power key OFF)	
S099	3032	1 to 5	MFF Communication error	An error has been detected during communication with the Multifunction finisher. Variation code (Error types): - 1: ACK signal reception error (Though the "Finisher-related communication control software" sent a synchronization sequence packet, the AKC signal has not been received from the Multifunction finisher within 1 sec. since the said packet transmission in 60 consecutive times.) - 2: ACK signal sequence bit error (The sequence bit of the AKC signal sent in response to the synchronization sequence packet from the "Finisher-related communication control software" was "1.") - 3: No transmission data buffer (A command transmission has been started from the printer without free space in the transmission data buffer.) - 4: No reception data buffer (A command has been received on the printer without free space in the received a command from the Multifunction finisher within a predefined amount of time, causing a time-out error.)	Turn OFF the printer. (Sub power key OFF)	
S099	3033	1 to 3	MFF Print-sequence-related software interface error	An error has been detected during interface with the "Print-sequence-related software." Variation code (Error types): - 1: Sequence error (The "Finisher-related-communication-control-software"- applied Interface function had another sequence timing than defined for the Multifunction finisher.) - 2: Parameter error (Undefined parameters have been configured for the Multifunction finisher in the "Finisher-related communication control software.") - 3: Communication time-out error (A request notification has not been received from the "Finisher-related communication control software" within a predefined amount of time, causing a time-out error.)	Turn OFF the printer. (Sub power key OFF)	
S099	3034		MFF Finisher-related communication control software failure	A hardware-origin communication error has been detected in the "Finisher-related communication control software."	Turn OFF the printer. (Sub power key OFF)	
S099	3035		MFF Cover sheet reservation unfinished	The reservation processing for cover sheets has not been finished on the Multifunction finisher. (The cover sheet receipt interval time on the Multifunction finisher has been notified as "0xFFFF" in the consecutive 720 times.)	Turn OFF the printer. (Sub power key OFF)	
S099	3036	1 to 6	MFF Communication error	An error has been detected during communication with the Multifunction finisher. Variation code (Error types): - 1: Possible software status transition error - 2: Possible l/O register rewrite through software - 3: Power disconnected on the Multifunction finisher - 4: Possible electrical reset of the Option PCB - 5: Possible I/O register rewrite through software - 6: Possible I/O register rewrite through software	Turn OFF the printer. (Sub power key OFF)	
S099	3037	1 to 6	MFF Communication error	An error has been detected during communication with the Multifunction finisher. Variation code (Error types): - 1: Possible software status transition error - 2: Possible software status transition error - 3: Possible software status transition error - 4: Possible electrical reset of the Option PCB - 5: Possible I/O register rewrite through software - 6: Possible I/O register rewrite through software	Turn OFF the printer. (Sub power key OFF)	

[16-89]

Туре	Point	vc	Summary	Description	Recovery Action	Remarks
U011	3060	1 to 2	MFF Punch unit failure (Punching alignment action failure)	The Puncher unit has not been aligned properly on the Multifunction finisher. Variation code (Error types): - 1: The FM Punch side registration HP sensor has not been blocked within 400 msec since the activation of the FM Punch slide motor. - 2: The FM Punch side registration HP sensor has not been opened (unblocked) within 500 msec since the Puncher unit started to adjust side registration for punching.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U016	3061		MFF Stapler unit failure (Offset stacking action failure)	 The FM Stacker tray offset sensor has not been blocked within 1275 msec since the activation of the FM Stacker offset motor on the Multifunction finisher. The FM Stacker offset motor has not stopped even when 1275 msec passed since the activation of the said motor on the Multifunction finisher. 	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U012	3062	1 to 2	MFF Stapler unit failure (Front-side tamping action failure)	The front-side tamping action has failed in the Stapling section of the Multifunction finisher. Variation code (Error types): - 1: The FM Front tamper HP sensor has not been blocked within 800 msec since the activation of the FM Front tamper motor. - 2: The FM Front tamper HP sensor has been blocked again after the FM Front tamper motor stopped with the said sensor opened (unblocked).	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U012	3063	1 to 2	MFF Stapler unit failure (Rear-side tamping action failure)	The rear-side tamping action has failed in the Stapling section of the Multifunction finisher. Variation code (Error types): - 1: The FM Rear tamper HP sensor has not been blocked within 800 msec since the activation of the FM Rear tamper motor. - 2: The FM Rear tamper HP sensor has been blocked again after the FM Rear tamper motor stopped with the said sensor opened (unblocked).	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U012	3065	1	MFF Stapler unit failure (End wall opening action failure)	The End wall has not been opened properly in the Stapling section of the Multifunction finisher. Variation code (Error types): - 1: The FM End wall OPEN sensor has not been blocked within 300 msec since the activation of the FM End wall motor.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U012	3066	1	MFF Stapler unit failure (End wall closing action failure)	The End wall has not been closed properly in the Stapling section of the Multifunction finisher. Variation code (Error types): - 1: The FM End wall HP sensor has not been blocked within 300 msec since the activation of the FM End wall motor.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U012	3069	1 to 2	MFF Stapler unit failure (Pre-stacking nipping action failure)	The paper nipping action has not been performed properly during paper handling before tray stacking in the Stapling section of the Multifunction finisher. Variation code (Error types): - 1: The FM Eject nip HP sensor has not been blocked within 200 msec since the activation of the FM Eject nip motor or it has been opened again after the said motor stopped through its blockage. - 2: The FM Eject nip HP sensor has not been opened within 300 msec since the activation of the FM Eject nip motor or it has been blocked again after the said motor stopped through its blockage.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U012	3071	1 to 2	MFF Stapler unit failure (Shelf extension/retraction action failure)	The supporting shelf has not been extended or retracted properly in the Stapling section of the Multifunction finisher. Variation code (Error types): - 1: The FM Shelf HP sensor has not been blocked within 300 msec since the activation of the FM Shelf motor or it has been opened again after the said motor stopped through its blockage. - 2: The FM Shelf HP sensor has not been opened within 300 msec since the activation of the FM Shelf motor or its been opened within 300 msec since the activation of the FM Shelf motor or has been blocked again after the said motor stopped through its opening.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U012	3072	1	MFF Stapler unit failure (Stapling action failure)	Stacked sheets have not been stapled properly in the Stapling section of the Multifunction finisher. Variation code (Error types): - 1: The FM Stapler home sensor has not been opened within a predefined amount of time since the start of forward rotation of the FM Staple motor or it has not been blocked within a predefined amount of time since the start of reverse rotation of the said motor.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U012	3074	1 to 2	MFF Stapler unit failure (Stapler shifting action failure)	The Stapler has not been shifted properly before or after stapling in the Stapling section of the Multifunction finisher. Variation code (Error types): - 1: The FM Stapler slide HP sensor has not been blocked within 3000 msec since the activation of the FM Stapler slide motor or it has been opened again after the said motor stopped through its blockage. - 2: The FM Stapler slide HP sensor has not been opened within 3000 msec since the activation of the FM Stapler slide ride rot or it has been blocked again after the said motor stopped through its blockage.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U012	3076	1 to 2	MFF Stapler unit failure (Stapler alignment/return action failure)	The Stapler has not been aligned or returned properly in the Stapling section of the Multifunction finisher. Variation code (Error types): - 1: The FM Stapler slide center sensor has not been blocked within 3000 msec (or 200 msec) since the activation of the FM Stapler slide motor or it has been opened again after the said motor stopped through its blockage. - 2: The FM Stapler slide center sensor has not been opened within 150 msec since the activation of the FM Stapler slide comed within 150 msec since the activation of the FM Stapler slide motor or it has been blocked again after the said motor stopped through its opening.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	

[16-90]

Туре	Point	vc	Summary	Description	Recovery Action	Remarks
U012	3078	1 to 2	MFF Stapler unit failure (Pre-stapling paddling action failure)	The FM Sub paddles have not been shifted up and down properly to align stacked sheets for stapling in the Stapling section of the Multifunction finisher. Variation code (Error types): - 1: The FM Sub paddle HP sensor has not been blocked again within 300 msec since it was opened after the activation of the FM Paddle motor. [Note] It is suspected that stacked sheets have Jammed around the FM Stack eject sensor if the above phenomenon is detected except during the Sub paddle initializing operation. - 2: The FM Sub paddle HP sensor has not been opened within 600 msec since the activation of the FM Paddle motor.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U014	3081	1 to 2	MFF Fold unit failure (Initial folding preparation/finish action failure)	The FF Upper end guide has not been shifted up or down properly during the initial folding operation in the Folding section of the Multifunction finisher. Variation code (Error types): - 1: The FF Upper end guide HP sensor has not been blocked within a predefined amount of time since the activation of the FF Upper end guide elevation motor. - 2: The FF Upper end guide HP sensor has not been opened within a predefined amount of time since the activation of the FF Upper end guide elevation motor.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U014	3082	1 to 2	MFF Fold unit failure (Secondary folding preparation/finish action failure)	The FF Lower end guide has not been shifted up or down properly during the secondary folding operation in the Folding section of the Multifunction finisher. Variation code (Error types): - 1: The FF Lower end guide HP sensor has not been blocked within a predefined amount of time since the activation of the FF Lower end guide elevation motor. - 2: The FF Lower end guide HP sensor has not been opened within a predefined amount of time since the activation of the FF Lower end guide elevation motor.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U014	3083		MFF Fold unit failure (FF Tray solenoid failure)	The following event has occurred a predefined times: The FF Tray set SW or FF Tray +24V detect signal has not been set OFF within a predefined amount of time since the activation of the FF Tray solenoid in the Folding section of the Multifunction finisher. Or, The FF Tray +24V detect signal has not been set ON within a predefined amount of time since it was set OFF while the FF Tray set SW and FF Front cover SW are both set ON in the Folding section of the Multifunction finisher.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U016	3084		MFF Stacking tray elevation failure	The corresponding height sensor has not been blocked within 20000 msec since the Stacking tray started to elevate on the Multifunction finisher. The FM Stack tray elevation motor has not stopped within a predefined amount of time, which is determined according to the elevation range of the said tray, since its activation.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U016	3085		MFF Stacking tray excessive elevation	The Stacking tray has elevated beyond the limit on the Multifunction finisher. (The FM Stack tray upper limit sensor has been blocked.)	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U016	3086		MFF Stacking tray dscent failure	The Stacking tray has not been lowered even after the activation of the FM Stack tray elevation motor.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U017	3087	1 to 2	MFF Booklet unit failure (Front-side booklet tamping action failure)	The FB Front tamper has not been shifted properly during the front-side booklet tamping operation in the Booklet Making section of the Multifunction finisher. Variation code (Error types): - 1: The FB Front tamper HP sensor has not been blocked within a predefined amount of time since the FB Front tamper motor was started to return the FB Front tamper to the home position. - 2: The FB Front tamper HP sensor has not been opened (unblocked) within a predefined-pulse rotation period since the start of the FB Front tamper motor.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U017	3090	1 to 2	MFF Booklet unit failure (Booklet end guide shift failure)	The FB End guide has not been shifted properly during the booklet folding operation in the Booklet Making section of the Multifunction finisher. Variation code (Error types): - 1: The FB End guide HP sensor has not been blocked within 3500 msec since the FB End guide elevation motor was started to return the FB End guide to the home position. - 2: The FB End guide HP sensor has not been opened (unblocked) within a predefined-pulse rotation period since the start of the FB End guide elevation motor.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U017	3091	1 to 2	MFF Booklet unit failure (Rear-side booklet tamping action failure)	The FB Rear tamper has not been shifted properly during the front-side booklet tamping operation in the Booklet Making section of the Multifunction finisher. Variation code (Error types): - 1: The FB rear tamper HP sensor has not been blocked within a predefined amount of time since the FB Rear tamper motor was started to return the FB Rear tamper to the home position. - 2: The FB rear tamper HP sensor has not been opened (unblocked) within a predefined-pulse rotation period since the start of the FB Rear tamper motor.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
U017	3095	1 to 2	MFF Booklet unit failure (FB Knife folding/unfolding action failure)	The FB Knife has not been folded or unfolded properly during the booklet folding operation in the Booklet Making section of the Multifunction finisher. Variation code (Error types): - 1: The FB Knife HP sensor has not been blocked within a predefined amount of time since the FB Knife solenoid was deactivated to fold the FB knife, or the FB Knife HP sensor was open (unblocked) at the start of the FB knife unfolding action during a booklet print job. - 2: The FB Knife HP sensor has not been opened (unblocked) within a predefined amount of time since the FB Knife solenoid was activated to unfold the FB knife.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U017	3097		MFF Booklet unit failure (Booklet stapling action failure)	The "Stapler Ready" signal has not turned "Not Ready," i.e. The Booklet stapler has not been activated, within a predefined amount of time since the "Booklet Staple Start" signal was turned ON on the Multifunction finisher. The "Stapler Ready" signal still remains "Not Ready" or the Error signal has been detected ON after a predefined amount of time since detection of the "Stapler NG" signal on the Multifunction finisher. The Error signal has been detected ON just before the Booklet stapling action was ordered on the Multifunction finisher. The Error signal has been detected ON or the Ready signal has been detected OFF on the Booklet stapler during the Stapler power-on check processing when the power was turned on or the safety interlock circuit was closed on the Multifinction finisher.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U011	3098		MFF Punch unit failure (Punch mode setting error)	It has been detected by the FM Punch hole select sensor that the expected Puncher movement direction is improbable under the current punch mode (setup) on the Multifunction finisher. (It is suspected that the FM Punch hole select sensor is blocked though it should be opened.)	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
W343	3099		Inapplicable paper format for stapling on MFF	An inapplicable paper format has been specified for a print job with a stapling option, selecting "Multifunction finisher" as output destination, thus causing possible paper jam in the Stapling section on the Multifunction finisher.	Execute one of the following. (1) Touch the [Close] button. (2) Delete the current print job.	
W343	3100		Inapplicable paper format for stapling on MFF	An inapplicable paper format has been specified for a print job with a stapling option, selecting "Multifunction finisher" as output destination, thus causing possible staple jam in the Stapling section on the Multifunction finisher.	Execute one of the following. (1) Touch the [Close] button. (2) Delete the current print job.	
W3434	3101		Inapplicable paper format for booklet stapling on MFF	An inapplicable paper format has been specified for a print job with a booklet option, selecting "Multifunction finisher" as output destination, thus causing possible staple jam in the Booklet Making section on the Multifunction finisher.	Execute one of the following. (1) Touch the [Close] button. (2) Delete the current print job.	
U017	3102		MFF Booklet unit failure (FB Paper detection sensor failure)	A malfunction has been detected in the FB Paper detection sensor in the Booklet Making section of the Multifunction finisher.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
W112	3103		MFF Folder tray not opened (on print jobs)	The Folder tray has not been opened on the Multifunction finisher though the FF Tray release SW was pressed during a print job. * Another error code, W113-3104, will be indicated if the said event occurs while a printer is idle. * Another error code, U014-3083, will be indicated if the said event occurs 3 times in a row.	Execute either of the following. (1) Press the FF Tray release SW again. (2) Turn OFF the printer (Sub power key OFF).	The suspended print job is to be resumed with a touch-panel operation after error clearance.
W113	3104		MFF Folder tray not opened (off print jobs)	The Folder tray has not been opened on the Multifunction finisher though the FF Tray release SW was pressed while a printer is idle. * Another error code, W112-3103, will be indicated if the said event occurs during a print job. * Another error code, U014-3083, will be indicated if the said event occurs 3 times in a row.	Execute either of the following. (1) Press the FF Tray release SW again. (2) Turn OFF the printer (Sub power key OFF).	Job restart process does not exist because this error occurs without jobs.
U011	3118		Incompatible Punch unit mounted on MFF	An incompatible Punch unit has been mounted on the Multifunction finisher.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
Z014	3120		MFF Punch dust bin not installed	A punching job command has been received without the Punch dust bin installed in the Multifunction finisher.	Install the Punch dust bin in the Multifunction finisher.	
Z016	3121		MFF Interface unit front door open	The Interface unit front door has been opened on the Multifunction finisher. (The I/F module front door switch (FI Front door SW for FT and GL) has been set OFF.)	Close the Interface unit front door on the Multifunction finisher.	
Z017	3122		MFF Booklet unit not loaded	The Booklet unit has been unloaded from the Multifunction finisher. (The Booklet unit drawer connector has been disconnected.)	Load the Booklet unit into the Multifunction finisher.	
Z018	3123		MFF Front door open	The Front door has been opened on the Multifunction finisher. (The Finisher front door switch (FM Front door SW for FT and GL) has been set OFF.)	Close the Front door on the Multifunction finisher.	
Z020	3124		MFF Folder tray not in place	The Folder tray is not in place in the Multifunction finisher.	Set the Folder tray in place in the Multifunction finisher.	
W031	3125		MFF Stacking tray descent failure	Failed to lower the Stacking tray on the Multifunction finisher.	Execute one of the following. (1) Check the Stacking tray lower limit switch on the Multifunction finisher and release it if it is locked. (2) Touch the [Continue] button. (3) Touch the [Stop] button. (4) Delete the current print job.	The suspended print job will be resumed with a touch-panel operation after error clearance.
Z019	3126		MFF Fold unit front door open	The Fold unit front door has been opened on the Multifunction finisher. (The FF Front door SW has been set OFF.)	Close the Fold unit front door on the Multifunction finisher.	

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Panel Messages

Туре	Point	vc	Summary	Description	Recovery Action	Remarks
Y003	3200	1 to 2	MFF Punch dust bin full	The Punch dust bin has become full in the Punch unit in the Multifunction finisher, thus prompting punch dust disposal. Variation code (Detection conditions): - 1: The total count of punched sheet has reached 10,000. - 2: While notified that punch dust disposal is required for the Punch unit, it has been requested to print with punching specified as a finishing option.	Execute one of the following. (1) Discard punch dusts in the dust bin and touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current print job.	
Y004	3201	1 to 2	MFF Staple depletion in Stapler unit	Staples have been depleted in the Stapler unit on the Multifunction finisher, thus prompting their replenishment. Variation code (Detection conditions): - 1: The Low staple sensor has detected that few staples remain in the Stapler unit. (The number of staples remaining in the Stapler unit has been reduced to approximately 21.) - 2: While notified that staple replenishment is required for the Stapler unit, it has been requested to print with stapling specified as a finishing option.	Execute one of the following. (1) Replenish the Stapler unit with staples and touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current print job.	
Y005	3202	1 to 2	MFF Front staple depletion in Booklet unit	Front-side staples have been depleted in the Booklet unit on the Multifunction finisher, thus prompting their replenishment. Variation code (Detection conditions): - 1: The Stapler low staple F switch (Booklet front low staple sensor for FT) has detected that few staples remain on the front side of the Booklet unit. - 2: While notified that staple replenishment is required for the Booklet unit, it has been requested to print with booklet binding specified as a finishing option.	Execute one of the following. (1) Replenish the corresponding section in the Booklet unit with staples and touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current print job.	
Y005	3203	1 to 2	MFF Rear staple depletion in Booklet unit	Rear-side staples have been depleted in the Booklet unit on the Multifunction finisher, thus prompting their replenishment. Variation code (Detection conditions): - 1: The Stapler low staple R switch (Booklet rear low staple sensor for FT) has detected that few staples remain on the rear side of the Booklet unit. - 2: While notified that staple replenishment is required for the Booklet unit, it has been requested to print with booklet binding specified as a finishing option.	Execute one of the following. (1) Replenish the corresponding section in the Booklet unit with staples and touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current print job.	
Y014	3209		MFF Staple depletion in Stapler unit (withour stapling option)	It has been detected during a print job without a stapling option that staples are depleted in the Stapler unit on the Multifunction finisher, thus prompting their replenishment.	Execute either of the following. (1) Replenish the Stapler unit with staples. (2) Touch the [Close] button.	
W011	3219		MFF Stacking tray full (Mixed stacking)	The Stacking tray has become full of mixed stacks of stapled and non-stapled sheets on the Multifunction finisher, thus prompting stacked sheet removal.	Execute one of the following. (1) Remove stacked sheets from the Stacking tray and touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current print job.	The suspended print job will be resumed with a touch-panel operation after error clearance.
W010	3220	1 to 2	MFF Top tray full	The Top tray has become full on the Multifunction finisher, thus prompting stacked sheet removal. Variation code (Detection conditions): - 1: The FM Top tray full sensor has kept detecting a full stack of printed sheets ejected into the Top tray for 5 seconds. - 2: While notified that stacked sheets are required to be removed from the Top tray, it has been requested to print with the said tray as an output destination, or resume printing after a print job interruption due to such processings as automatic Print head cleaning, ink warming-up and link cooling-down, with the same tray specified as an output destination.	Execute one of the following. (1) Remove stacked sheets from the Top tray and touch the [Continue] button. * It takes 5 seconds to clear this error code after removing stacked sheets. (2) Touch the [Stop] button. (3) Delete the current print job.	The suspended print job will be resumed with a touch-panel operation after error clearance.
W011	3221	1 to 2	MFF Stacking tray full (Non-stapled stacking)	The Stacking tray has become full on the Multifunction finisher, thus prompting stacked sheet removal. Variation code (Detection conditions): - 1: The total count of printed sheets stacked on the Stacking tray on the Multifunction finisher has reached approx. 2,000 (for A4-LEF stacking) or 1,500 (for A3-SEF stacking), which varies depending on paper quality (thickness). Or, the total count of Z-folded sheets stacked on the Stacking tray has reached approx. 80 (for A3 or Ledger) or approx. 60 (for other-format sheets). Or, it has been determined that additional sheet stacking is difficult for the Stacking tray 2: While notified that stacked sheets are required to be removed from the Stacking tray, it has been requested to print with the said tray as an output destination, or resume printing after a print job interruption due to such processings as automatic Print head cleaning, ink warming-up and ink cooling- down, with the same tray specified as an output destination.	Execute one of the following, (1) Remove stacked sheets from the Stacking tray and touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current print job.	The suspended print job will be resumed with a touch-panel operation after error clearance.
W011	3222	1 to 2	MFF Stacking tray full (Stapled stacking)	The Stacking tray has become full of stacks of stapled sheets on the Multifunction finisher, thus prompting stacked sheet removal. Variation code (Detection conditions): - 1: The total count of stapled-sheet sets stacked on the Stacking tray has reached 200 or the total number of stacked stapled sheets has reached 2,000 for sheets whose leading edge width is 216mm or less, while it has reached 100 sets or 1,500 sheets for sheets whose leading edge width is more than 216mm. The said values, however, vary depending on paper quality (thickness) and set volume. - 2: While notified that stacked stapled sheets are required to be removed from the Stacking tray, it has been requested to print with the said tray as an output destination, or resume printing after a print job interruption due to such processings as automatic Print head cleaning, ink warming-up and ink cooling- down, with the same tray specified as an output destination.	Execute one of the following. (1) Remove stacked stapled sheets from the Stacking tray and touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current print job.	The suspended print job will be resumed with a touch-panel operation after error clearance.

RISO Inc. Technical Operations

US.RISO.COM ComColor GL Series Revision 1.0

[16-93]

Туре	Point	vc	Summary	Description	Recovery Action	Remarks
W012	3223	1 to 2	MFF Booklet tray full	The Booklet tray has become full of stacks of booklets on the Multifunction finisher, thus prompting booklet stack removal. Variation code (Detection conditions): - 1: The total count of booklets stacked on the Booklet tray has reached a predefined value, which varies depending on paper quality (thickness) and booklet volume. - 2: While notified that stacked booklets are required to be removed from the Booklet tray, it has been requested to print with the said tray as an output destination, or resume printing after a print job interruption due to such processings as automatic Print head cleaning, ink warming-up and ink cooling- down, with the same tray specified as an output destination.	Execute one of the following. (1) Remove stacked booklets from the Booklet tray and touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current print job.	The suspended print job will be resumed with a touch-panel operation after error clearance.
W013	3224	1 to 2	MFF Folder tray full	The Folder tray has become full of folded sheets on the Multifunction finisher, thus prompting folded sheet removal. Variation code (Detection conditions): - 1: The FF Tray full sensor has kept detecting a full stack of folded sheets ejected into the Folder tray for a predefined amount of time. - 2: While notified that stacked folded sheets are required to be removed from the Folder tray, it has been requested to print with the said tray as an output destination, or resume printing after a print job interruption due to such processings as automatic Print head cleaning, ink warming-up and ink cooling- down, with the same tray specified as an output destination.	Execute one of the following. (1) Remove stacked folded sheets from the Folder tray and touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current print job.	The suspended print job will be resumed with a touch-panel operation after error clearance.
W025	3225		MFF Stapler unit not mounted	A stapling operation has been requested on the printer while the attached Multifunction finisher is not equipped with the Stapler unit. * While notified that the Stapler unit is not mounted on the Multifunction finisher, it has been requested to print with stapling specified as an finishing option, or resume printing after a print job interruption due to such processings as automatic Print head cleaning, ink warming-up and ink cooling-down, with the same finishing option setting.	Execute one of the following. (1) Touch the [Close] button. (2) Delete the current print job.	It is not possible to resume operation after error recovery.
W026	3226		MFF Punch unit not mounted	A punching operation has been requested on the printer while the attached Multifunction finisher is not equipped with the Punch unit. * While notified that the Punch unit is not mounted on the Multifunction finisher, it has been requested to print with punching specified as an finishing option, or resume printing after a print job interruption due to such processings as automatic Print head cleaning, ink warming-up and ink cooling-down, with the same finishing option setting.	Execute one of the following. (1) Touch the [Close] button. (2) Delete the current print job.	It is not possible to resume operation after error recovery.
W027	3227		MFF Top tray not mounted	The Top tray has been specified as an output destination on the printer while the attached Multifunction finisher is not equipped with the Top tray. * While notified that the Top tray is not mounted on the Multifunction finisher, it has been requested to print with the said tray specified as an output destination, or resume printing after a print job interruption due to such processings as automatic Print head cleaning, ink warming-up and ink cooling-down, with the same output destination setting.	Execute one of the following. (1) Touch the [Close] button. (2) Delete the current print job.	It is not possible to resume operation after error recovery.
W028	3228		MFF Stacking tray not mounted	The Stacking tray has been specified as an output destination on the printer while the attached Multifunction finisher is not equipped with the Stacking tray. * While notified that the Stacking tray is not mounted on the Multifunction finisher, it has been requested to print with the said tray specified as an output destination, or resume printing after a print job interruption due to such processings as automatic Print head clearing, ink warming-up and ink cooling-down, with the same output destination setting.	Execute one of the following. (1) Touch the [Close] button. (2) Delete the current print job.	It is not possible to resume operation after error recovery.
W029	3229		MFF Booklet unit not mounted	A booklet binding operation has been requested on the printer while the attached Multifunction finisher is not equipped with the Booklet unit. * While notified that the Booklet unit is not mounted on the Multifunction finisher, it has been requested to print with booklet binding specified as an finishing option, or resume printing after a print job interruption due to such processings as automatic Print head cleaning, ink warming-up and ink cooling-down, with the same finishing option setting.	Execute one of the following. (1) Touch the [Close] button. (2) Delete the current print job.	It is not possible to resume operation after error recovery.
W030	3230		MFF Folder unit not mounted	A folding operation has been requested on the printer while the attached Multifunction finisher is not equipped with the Folder unit. * While notified that the Folder unit is not mounted on the Multifunction finisher, it has been requested to print with folding specified as an finishing option, or resume printing after a print job interruption due to such processings as automatic Print head cleaning, ink warming-up and ink cooling-down, with the same finishing option setting.	Execute one of the following. (1) Touch the (Close) button. (2) Delete the current print job.	It is not possible to resume operation after error recovery.
W020	3231		Unfinished print ejected into MFF Top tray	An unfinished print has been ejected into the Top tray on the Multifunction finisher. * It has been notified by the Multifunction finisher that an unfinished print was ejected into the Top tray.	Execute one of the following. (1) Touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current print job.	The suspended print job will be resumed with a touch-panel operation after error clearance.
W021	3232		Unfinished print ejected into MFF Stacking tray	An unfinished print has been ejected into the Stacking tray on the Multifunction finisher. * It has been notified by the Multifunction finisher that an unfinished print was ejected into the Stacking tray	Execute one of the following. (1) Touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current print job.	The suspended print job will be resumed with a touch-panel operation after error clearance.
W022	3233		Unfinished print ejected into MFF Booklet tray	An unfinished print has been ejected into the Booklet tray on the Multifunction finisher. * It has been notified by the Multifunction finisher that an unfinished print was ejected into the Booklet tray.	Execute one of the following. (1) Touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current print job.	The suspended print job will be resumed with a touch-panel operation after error clearance.
W023	3234		Unfinished print ejected into MFF Folder tray	An unfinished print has been ejected into the Folder tray on the Multifunction finisher. * It has been notified by the Multifunction finisher that an unfinished print was ejected into the Folder tray.	Execute one of the following. (1) Touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current print job.	The suspended print job will be resumed with a touch-panel operation after error clearance.
W019	3235		MFF Reboot request in test mode	The Multifunction finisher is required to be rebooted as a step for validating the parameters changed in test modes.	Touch the [Close] button. * The above is just to clear the inidicated error code.	It is not possible to resume operation after error recovery.

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
W031	3236	1 to 2	MFF Stacking tray descent failure	Failed to lower the Stacking tray on the Multifunction finisher. Variation code (Detection conditions): - 1: The FM Paper top detection sensor or FM Staple paper top detection sensor has not been opened within a predefined amount of time since the Stacking tray started to descend 3 times in succession. - 2: While notified that the Stacking tray lower limit switch is set ON, thus prohibiting the descent of the Stacking tray specified as an output destination, or resume printing after a print job interruption due to such processings as automatic Print head cleaning, ink warming-up and ink cooling-down, with the same output destination setting.	Execute one of the following. (1) Check the Stacking tray lower limit switch on the Multifunction finisher and release it if it is locked. Besides, check if the Stacking tray is not blocked by an object underneath or a neighboring wall. (2) Touch the [Continue] button. (3) Touch the [Stop] button. (4) Delete the current print job.	The suspended print job will be resumed with a touch-panel operation after error clearance.
W032	3237		MFF Stapler unit not available	A stapling operation has been requested on the printer while the Stapler unit is not available on the attched Multifunction finisher. * While notified that the Stapler unit is unavailable or unidentified on the Multifunction finisher, it has been requested to print with stapling specified as an finishing option, or resume printing after a print job interruption due to such processings as automatic Print ead cleaning, ink warming-up and ink cooling- down, with the same finishing option setting.	Execute one of the following. (1) Touch the [Close] button. (2) Delete the current print job.	It is not possible to resume operation after error recovery.
W033	3238		MFF Punch unit not available	A punching operation has been requested on the printer while the Punch unit is not available on the attched Multifunction finisher. * While notified that the Punch unit is unavailable or unidentified on the Multifunction finisher, it has been requested to print with punching specified as an finishing option, or resume printing after a print job interruption due to such processings as automatic Print head cleaning, ink warming-up and ink cooling- down, with the same finishing option setting.	Execute one of the following. (1) Touch the [Close] button. (2) Delete the current print job.	It is not possible to resume operation after error recovery.
W034	3239		MFF Top tray not available	The Top tray has been specified as an output destination on the printer while the said tray is not available on the attched Multifunction finisher. * While notified that the Top tray is unavailable or unidentified on the Multifunction finisher, it has been requested to print with the said tray specified as an output destination, or resume printing after a print job interruption due to such processings as automatic Print head cleaning, ink warming-up and ink cooling- down, with the same output destination setting.	Execute one of the following. (1) Touch the (Close) button. (2) Delete the current print job.	It is not possible to resume operation after error recovery.
W035	3240		MFF Stacking tray not available	The Stacking tray has been specified as an output destination on the printer while the said tray is not available on the attched Multifunction finisher. "While notified that the Stacking tray is unavailable or unidentified on the Multifunction finisher, it has been requested to print with the said tray specified as an output destination, or resume printing after a print job interruption due to such processings as automatic Print head cleaning, ink warming-up and ink cooling- down, with the same output destination setting.	Execute one of the following. (1) Touch the [Close] button. (2) Delete the current print job.	It is not possible to resume operation after error recovery.
W036	3241		MFF Booklet unit not available	A booklet binding operation has been requested on the printer while the Booklet unit is not available on the attched Multifunction finisher. * While notified that the Booklet unit is unavailable or unidentified on the Multifunction finisher, it has been requested to print with booklet binding specified as an finishing option, or resume printing after a print job interruption due to such processings as automatic Print head cleaning, ink warming-up and ink cooling- down, with the same finishing option setting.	Execute one of the following. (1) Touch the [Close] button. (2) Delete the current print job.	It is not possible to resume operation after error recovery.
W037	3242		MFF Folder unit not available	A folding operation has been requested on the printer while the Folder unit is not available on the attched Multifunction finisher. * While notified that the Folder unit is unavailable or unidentified on the Multifunction finisher, it has been requested to print with folding specified as an finishing option, or resume printing after a print job interruption due to such processings as automatic Print head cleaning, ink warming-up and ink cooling- down, with the same finishing option setting.	Execute one of the following. (1) Touch the [Close] button. (2) Delete the current print job.	It is not possible to resume operation after error recovery.
W018	3243		Inapplicable paper format specified for MFF	An inapplicable paper format, which is described below, has been specified for a print job whose output destination is "Multifunction finisher." - Paper width: 100mm or less or 330mm or more - Paper length: 148mm or less or 488mm or more	Execute one of the following. (1) Touch the [Close] button. (2) Delete the current print job.	Paper feed operation is to be prohibited. It is not possible to resume operation after error recovery.
W126	3244	1 to 2	Facedown finisher not mounted	A Facedown-tray stapling operation has been requested on the printer which is not equipped with the Facedown finisher is not mounted, it has been requested to print with Facedown-tray stapling specified as an finishing option, or resume printing after a print job interruption due to such processings as automatic Print head cleaning, ink warming-up and ink cooling-down, with the same finishing option setting. Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Execute one of the following. (1) Touch the [Close] button. (2) Delete the current print job.	It is not possible to resume operation after error recovery.
W127	3245	1 to 2	HCS disconnected	The High-capacity stacker has been specified as an output destination on the printer from which the said equipment is disconnected. Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Execute one of the following. (1) Touch the [Close] button. (2) Delete the current print job.	It is not possible to resume operation after error recovery.
W127	3246		HCS illegal test mode action	The test mode TM No. 30-3-002 "HCS LOCK RELEASE HP POSITION SHIFT" has been illegally executed when the HCS tray set sensor and HCS tray carrier sensor are both opened (unblocked), with the Stacking tray and Tray carrier unloaded from the High-capacity stacker, which is enabled to operate through the parameter setting (at "0") in another test mode TM No. 30-6-006 "HCS LOCK SETTING."	Touch the [Close] button.	It is not possible to resume the current test mode operation after error recovery.
W136	3247		Auto-control stacking tray not mounted	The Auto-control stacking tray has been specified as an output destination on the printer which is not equipped with the said tray. * While notified that the Auto-control stacking tray is not mounted, it has been requested to print with the said tray specified as an output destination, or resume printing after a print job interruption due to such processings as automatic Print head cleaning, ink warming-up and ink cooling-down, with the same output destination setting.	Execute one of the following. (1) Touch the [Close] button. (2) Delete the current print job.	It is not possible to resume operation after error recovery.

RISO Inc. Technical Operations

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
W137	3248		Wide stacking tray not mounted	The Wide stacking tray has been specified as an output destination on the printer which is not equipped with the said tray. * While notified that the Wide stacking tray is not mounted, it has been requested to print with the said tray specified as an output destination, or resume printing after a print job interruption due to such processings as automatic Print head cleaning, ink warming-up and ink cooling-down, with the same output destination setting.	Execute one of the following. (1) Touch the [Close] button. (2) Delete the current print job.	It is not possible to resume operation after error recovery.
W016	3301		AS Side paper guide action failure (Paper guide HP sensor failure) (on print jobs)	The Paper guide HP sensor has not been blocked within 5000msec since the Paper guide pulse motor was activated to open wide the Side paper guides to the home position on the Auto-control stacking tray during a print job. * Another error code, W107-3311, will be indicated if the above event occurs while the printer is idle.	Execute one of the following. (1) Touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current print job.	It is not possible to resume operation after error recovery.
W016	3302		AS Side paper guide action failure (Paper guide HP sensor failure) (on print jobs)	The Paper guide HP sensor has not been opened (unblocked) within 5000msec since the Paper guide pulse motor was activated to shift inward the Side paper guides from the home position on the Auto-control stacking tray during a print job. * Another error code, W107-3312, will be indicated if the above event occurs while the printer is idle.	Execute one of the following. (1) Touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current print job.	It is not possible to resume operation after error recovery.
W016	3304		AS Paper stopper action failure (Paper stopper HP sensor failure) (on print jobs)	The Paper stopper HP sensor has not been blocked within 5000msec since the Paper stopper pulse motor was activated to retract the Paper stopper to the home position on the Auto-control stacking tray during a print job. * Another error code, W107-3314, will be indicated if the above event occurs while the printer is idle.	Execute one of the following. (1) Touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current print job.	It is not possible to resume operation after error recovery.
W016	3305		AS Paper stopper action failure (Paper stopper HP sensor failure) (on print jobs)	The Paper stopper HP sensor has not been opened (unblocked) within 5000msec since the Paper stopper pulse motor was activated to advance the Paper stopper from the home position on the Auto-control stacking tray during a print job. * Another error code, W107-3315, will be indicated if the above event occurs while the printer is idle.	Execute one of the following. (1) Touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current print job.	It is not possible to resume operation after error recovery.
W107	3311		AS Side paper guide action failure (Paper guide HP sensor failure) (off print jobs)	The Paper guide HP sensor has not been blocked within 5000msec since the Paper guide pulse motor was activated to open wide the Side paper guides to the home position on the Auto-control stacking tray while the printer is idle. * Another error code, W016-3301, will be indicated if the above event occurs during a print job.	Touch the [Close] button.	Job restart process does not exist because this error occurs without jobs.
W107	3312		AS Side paper guide action failure (Paper guide HP sensor failure) (off print jobs)	The Paper guide HP sensor has not been opened (unblocked) within 5000msec since the Paper guide pulse motor was activated to shift inward the Side paper guides from the home position on the Auto-control stacking tray while the printer is ide. * Another error code, W016-3302, will be indicated if the above event occurs during a print job.	Touch the [Close] button.	Job restart process does not exist because this error occurs without jobs.
W107	3314		AS Paper stopper action failure (Paper stopper HP sensor failure) (off print jobs)	The Paper stopper HP sensor has not been blocked within 5000msec since the Paper stopper pulse motor was activated to retract the Paper stopper to the home position on the Auto-control stacking tray while the printer is idle. * Another error code, W016-3304, will be indicated if the above event occurs during a print job.	Touch the [Close] button.	Job restart process does not exist because this error occurs without jobs.
W107	3315		AS Paper stopper action failure (Paper stopper HP sensor failure) (off print jobs)	The Paper stopper HP sensor has not been opened (unblocked) within 5000msec since the Paper stopper pulse motor was activated to advance the Paper stopper from the home position on the Auto-control stacking tray while the printer is idle. * Another error code, W016-3305, will be indicated if the above event occurs during a print job.	Touch the [Close] button.	Job restart process does not exist because this error occurs without jobs.
U014	3325		MFF Folder unit failure	The Folder unit has become unavailable on the Multifunction finisher due to mechanical defects, such as sensor or motor failures and cable disconnection, during a print job in which a folding operation is specified as a finishing option.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a parmanent solution, solve the mechanical problem responsible for the current error event.	It is possible to resume a print job by selecting another finishing option than folding on the Multifunction finisher.
U016	3326		MFF Stacking tray failure	The Stacking tray has become unavailable on the Multifunction finisher due to mechanical defects, such as sensor or motor failures and cable disconnection, during a print job in which the Stacking tray is specified as an output destination.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a parmanent solution, solve the mechanical problem responsible for the current error event.	It is possible to resume a print job by selecting another output destination than the Stacking tray on the Multifunction finisher.
U019	3327		MFF Booklet unit failure	The Booklet unit has become unavailable on the Multifunction finisher due to mechanical defects, such as sensor or motor failures and cable disconnection, during a print job in which a booklet binding operation is specified as a finishing option.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a parmanent solution, solve the mechanical problem responsible for the current error event.	It is possible to resume a print job by selecting another finishing option than booklet binding on the Multifunction finisher.
U052	3358		FDF Communication error	The command to be transmitted from the printer as communication sequence has not been received on the Facedown finisher.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U052	3359		FDF Communication error	A communication error has occurred during UART communication between the main and sub CPUs on the main PCB on the Facedown finisher.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U053	3360		FDF Main PCB error (Main CPU)	An error, such as watchdog timer activation, has occurred in the main CPU on the main PCB on the Facedown finisher.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U053	3361		FDF Main PCB error (Sub CPU)	An error, such as watchdog timer activation, has occurred in the sub CPU on the main PCB on the Facedown finisher.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
U054	3362	1 to 2	FDF Ejection roller elevation motor failure (Ejection roller elevation HP sensor failure)	The Paper ejection roller has failed to be raised or lowered property on the Facedown finisher. Variation code (Failed when): - 1: When raised (The Ejection roller elevation HP sensor has not been blocked within a predefined-pulse period since the Ejection roller elevation motor was activated to raise the Paper ejection roller up to the home position.) - 2: When lowered (The Ejection roller rule to the home position.) - 2: When lowered (The Ejection roller elevation HP sensor has not been opened (unblocked) within a predefined-pulse period since the Ejection roller elevation motor was activated to lower the Paper ejection roller from the home position.)	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U054	3363	1 to 2	FDF Transport motor failure (Rake roller elevation HP sensor failure)	The Rake roller has failed to be raised or lowered property on the Facedown finisher. Variation code (Failed when): - 1: When raised (The Rake roller elevation HP sensor has not been blocked within a predefined-pulse period since the Transport motor was activated to raise the Rake roller up to the home position.) - 2: When lowered (The Rake roller elevation HP sensor has not been opened (unblocked) within a predefined-pulse period since the Transport motor was activated to lower the Rake roller from the home position.)	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U054	3364	1 to 2	FDF Front tamper motor failure (Front guide plate HP sensor failure)	The Front guide (alignment) plate has failed to be shifted properly on the Facedown finisher. Variation code (Failed when): - 1: When returning to home (The Front guide plate HP sensor has not been blocked within a predefined-pulse period since the Front tamper motor was activated to shift the Front guide (alignment) plate to the home position during initialization operation.) - 2: When leaving from home (The Front guide plate HP sensor has not been opened (unblocked) within a predefined-pulse period since the Front tamper motor was activated to shift the Front guide (alignment) plate off the home position during initialization operation.)	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U054	3365	1 to 2	FDF Rear tamper motor failure (Rear guide plate HP sensor failure)	The Rear guide (alignment) plate has failed to be shifted properly on the Facedown finisher. Variation code (Failed when): - 1: When returning to home (The Rear guide plate HP sensor has not been blocked within a predefined-pulse period since the Rear tamper motor was activated to shift the Rear guide (alignment) plate to the home position during initialization operation.) - 2: When leaving from home (The Rear guide plate HP sensor has not been opened (unblocked) within a predefined-pulse period since the Rear tamper motor was activated to shift the Rear guide (alignment) plate off the home position during initialization operation.)	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U054	3366	1 to 2	FDF Stapler slide motor failure (Stapler slide HP sensor failure)	The Stapler ass'y has failed to be shifted properly on the Facedown finisher. Variation code (Failed when): - 1: When returning to home (The Stapler slide HP sensor has not been blocked within a predefined-pulse period since the Stapler slide motor was activated to slide the Stapler ass'y to the home position during initialization operation.) - 2: When leaving from home (The Stapler slide HP sensor has not been opened (unblocked) within a predefined-pulse period since the Stapler slide motor was activated to slide the Stapler ass'y off the home position during initialization operation.)	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U054	3367	1 to 3	FDF Stapler clinching unit action error	An operational error has occurred in the Clinching unit of the Stapler ass'y on the Facedown finisher. Variation code (Error types): - 1: Unclenching failure (The Clinching unit HP sensor has not been blocked within a predefined amount of time since the start of reverse action of the Clinching unit inthe Stapler ass'y, which was triggered by the opening of the Jam release top cover after a staple jam on the Facedown finisher.) - 2: Clinching failure (The Clinching unit HP sensor has not been opened (unblocked) within a predefined amount of time since the start of clinching action in the Stapler ass'y.) - 3: Staple preparation failure (The Clinching unit HP sensor has not been blocked and then opened (unblocked) within a predefined amount of time since the start of staple preparation action in the Stapler ass'y.)	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U054	3368	1 to 2	FDF Reverse roller elevation motor failure (Reverse roller elevation HP sensor failure)	The Paper reverse roller has failed to be raised or lowered property on the Facedown finisher. Variation code (Failed when): - 1: When raised (The Reverse roller elevation HP sensor has not been blocked within a predefined-pulse period since the Reverse roller elevation motor was activated to raise the Paper reverse roller up to the home position.) - 2: When lowered (The Reverse roller elevation HP sensor has not been opened (unblocked) within a predefined-pulse period since the Reverse roller elevation motor was activated to lower the Paper reverse roller from the home position.)	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U054	3369	1 to 4	FDF Tray elevation motor failure	The Paper stacking tray has failed to be raised or lowered properly on the Facedown finisher. Variation code (Error types): - 1: Over-the-limit elevation (The Stacking tray upper limit sensor has been blocked while raising the Paper stacking tray.) - 2: Intermittent elevation error (The logical value derived from the status of the Tray paper top detection sensors has not reached a targeted one within a predefined amount of time since the Tray elevation motor was activated to raise the Paper stacking tray up to a target point.) - 3: Intermittent descent error (The logical value derived from the status of the Tray paper top detection sensors has not reached a targeted one within a predefined amount of time since the Tray elevation motor was activated to lower the Paper stacking tray up to (No clock pubse has been detected from the Tray elevation motor for a predefined amount of time during the operation of the said motor.)	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
U054	3370	1 to 5	FDF Tray shift motor failure (Tray shift sensor failure)	The Paper stacking tray has failed to be shifted properly on the Facedown finisher. Variation code (Error types): - 1: The Tray shift sensor (rear) has not been opened (unblocked) within a predefined amount of time since the Tray shift motor was activated to shift the Paper stacking tray to the front. - 2: The Tray shift sensor (front) has not been blocked within a predefined amount of time since the Tray shift sensor (rear) was opened (unblocked) withe shifting the Paper stacking tray to the front. - 3: The Tray shift sensor (front) has not been opened (unblocked) within a predefined amount of time since the Tray shift sensor (rear) was opened (unblocked) within a predefined amount of time since the Tray shift sensor (rear) has not been blocked within a predefined amount of time since the Tray shift sensor (front) was opened (unblocked) while shifting the Paper stacking tray to the rear. - 4: The Tray shift sensor (rear) has not been blocked within a predefined amount of time since the Tray shift sensor (front) was opened (unblocked) while shifting the Paper stacking tray to the rear. - 5: No clock pulse has been detected from the Tray shift motor for a predefined amount of time during the operation of the said motor.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U057	3371		FDF EEPROM write error	The write on the EEPROM has failed on the main PCB in the Facedown finisher.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U057	3372		FDF EEPROM access error	An unusual status has been detected at the "Busy" signal terminal of the accessed EEPROM on the main PCB in the Facedown finisher.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U054	3373	1 to 2	FDF Staple scratch protection arm motor failure	The Staple scratch protection arm has failed to act during initialization or stapling operation on the Facedown finisher. Variation code (Failed action): - 1: Arm protrusion - 2: Arm retraction	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U054	3374	1 to 2	FDF Cooling fan motor lock	A Cooling fan motor has been locked on the Facedown finisher. Variation code (Troubled locations): - 1: On the Power supply unit - 2: On the System relay unit	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	The transfer of received sheets is to be interrupted.
U058	3380	1 to 2	FDF Stapling failure	An operational error has been detected during stapling on the Facedown finisher. Variation code (Error types): - 1: The Clinching unit has not returned to the home position in the Stapler ass'y within a predefined amount of time since the start of clinching operation. - 2: A staple has not been prepared in the Stapler ass'y even when a staple preparation action was repeated for a predefined number of times.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
X052	3388		Paper jam at the entrance of FDF	A printed sheet ejected from the printer has not reached the FDF transfer sensor on the Facedown finisher within a predefined amount of time since a paper ejection signal was received from the printer.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	The suspended print job will be automatically resumed after error clearance.
X052	3389		Paper jam at the entrance of FDF	An ejected sheet entering the Facedown finisher has not passed through the FDF transfer sensor within a predefined-pulse operation of the FDF Intermediate motor since the said sensor was blocked.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	The suspended print job will be automatically resumed after error clearance.
X052	3392		Paper jam in FDF (Before Stapler ass'y)	An ejected sheet advancing through the Facedown finisher has not reached the FDF Entrance sensor within a predefined-pulse operation of the FDF Transfer motor since the advancing sheet reached the FDF Transfer roller.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	The suspended print job will be automatically resumed after error clearance.
X052	3393		Paper jam in FDF (Before Stapler ass'y)	An ejected sheet advancing through the Facedown finisher has not passed through the FDF Entrance sensor within a predefined-pulse operation of the FDF Transfer motor since the said sensor was blocked.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	The suspended print job will be automatically resumed after error clearance.
X052	3394		Paper jam in FDF (Beyond Stapler ass'y)	The FDF Stapler buffer tray paper detection sensor has not detected an initial sheet of prints which are to feed into the FDF Stapler buffer tray for stapling on the Facedown finisher within a predefined amount of time since the start of the said feeding operation.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	The suspended print job will be automatically resumed after error clearance.
X052	3395		Paper jam in FDF (Beyond Stapler ass'y)	The FDF Stapler buffer tray paper detection sensor has not been opened (unblocked) within a predefined amount of time since the start of the action for ejecting a finished set of stapled prints from the FDF Stapler buffer tray on the Facedown finisher.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	The suspended print job will be automatically resumed after error clearance.
X052	3400		Paper remaining in FDF due to job interruption through cover opening	The FDF Jam release cover (to be opened for jammed sheet removal) or FDF Stapler cartridge cover (to be opened for staple cartridge change) has been opened, i.e. the corresponding interlock switch has been set OFF, during operation, thus causing ejected sheets to remain inside the Facedown finisher.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	The suspended print job will be automatically resumed after error clearance.
X052	3401		Jammed sheets remaining in FDF	When the FDF Finishing motor has operated for a predefined amount of time after the power was turned on or any opened unit cover was closed, it has been detected that jammed sheets still remain in the Facedown finisher.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	The suspended print job will be automatically resumed after error clearance.
Y007	3418		FDF staple depleted	Staples have been depleted in the Stapler unit on the Facedown finisher.	Execute one of the following. (1) Replace the existing staple cartridge with a new one in the Facedown finisher and touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current print job.	
Z052	3423		FDF Jam release cover open	The FDF Jam release cover has been opened on the Facedown finisher. (The corresponding interlock switch has been set OFF.)	Close the opened cover.	
Z053	3424		FDF Staple cartridge cover open	The FDF Staple cartridge cover has been opened on the Facedown finisher. (The corresponding interlock switch has been set OFF.)	Close the opened cover.	

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
W079	3453		FDF Paper stacking tray full	It has been determined, based on any of the below-described conditions, that the Paper stacking tray is full on the Facedown finisher. <conditions> - The Stacking tray lower limit sensor has been blocked. - A predefined number of stapled sheet sets, which can be specified in the test mode No. TM24-6-022 "FDF FULL DETECTION COUNT," have been stacked on the said tray. - A predefined number of smaller-than-B5-format or custom-format sheets have been stacked without stapled on the said tray while the parameter is set at "0" (Limited) in the test mode No. TM24-6-021 "FDF LOAD CAPACITY LIMIT SELECT (B5)."</conditions>	Execute one of the following. (1) Remove the stacked sheets and touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current print job.	The suspended print job will be resumed with a touch-panel operation after error clearance.
W038	3455		FDF stapling job capacity limit	The number of stapled sheet sets stacked on the Paper stacking tray on the Facedown finisher has reached the capacity limit of the said tray, which varies depending on paper type (thickness) and size, thus suspending the current print job.	Execute one of the following. (1) Touch the [Continue] button. (2) Touch the [Stop] button.	The suspended print job will be resumed with the FDF- stapling operation cancelled once the stacked sets are taken out from the Paper stacking tray on the Facedown finisher.
W042	3456		Paper remaining on FDF Stapler buffer tray	Another print job has been requested while ejected printed sheets still remain on the FDF Stapler buffer tray to be stapled for the preceding job on the Facedown finisher.	Execute one of the following. (1) Remove the remaining sheets and touch the [Continue] button. (2) Touch the [Stop] button.	The suspended print job will be resurned with a touch-panel operation after error clearance.
W128	3457		Paper remaining on FDF Stapler buffer tray	The printed sheets which could not be stapled still remain on the FDF Stapler buffer tray on the Facedown finisher, thus hindering an error recovery action, i.e. returning the Stapler ass'y to the home position, in response to the U058-3380 (FDF Stapling failure) error.	Remove the remaining sheets.	
W342	3458		FDF Stapling job cancelled	The current print job for which stapling operation is specidied on the Facedown finisher has been cancelled.	Touch the [Close] button.	The cancelled print job cannot be resumed, while the following print job in queue will be started with a touch-panel operation after error clearance.
1010	3483	1 to 3	FDF part replacement (Rollers)	It has been detected at power-on or during operation that the replacement time has come for some rollers on the Facedown finisher. Variation code (Components to be replaced): - 1: Ceramic rollers, e.g. FDF Transfer rollers (Determined based on the total count of transferred sheets) - 2: FDF Rake roller (Determined based on the total count of sheets fed (raked) for staping) - 3: FDF Reverse roller (Determined based on the total count of sheets ejected without stapled)	Touch the [Close] button.	
1010	3484		FDF part replacement (De- electricity brushes)	It has been detected at power-on or during operation that the replacement time has come for some de-electricity brushes on the Facedown finisher. (Determinded based on the total count of ejected sheets)	Touch the [Close] button.	
1010	3485	1 to 2	FDF part replacement (Motors)	It has been detected at power-on or during operation that the replacement time has come for some motors on the Facedown finisher. Variation code (Components to be replaced): - 1: Stacking tray elevation motor (Determined based on the total count of motor operations) - 2: Stacking tray shift motor (Determined based on the total count of motor operations)	Touch the [Close] button.	
1010	3486		FDF part replacement (Stapler ass'y wire harness)	It has been detected at power-on or during operation that the replacement time has come for FDF Stapler assy wire harness on the Facedown finisher. (Determinded based on the total count of sliding actions of the FDF Stapler ass'y)	Touch the [Close] button.	
U009	3489		WEF Gluing motor lock	The WEF Gluing motor lock has been detected during warming-up (pad wetting operation). * After the above error, the WEF Gluing motor HP sensor status is to be checked because the gluing edge, which is to be checked by the said sensor, is assumed to remain unchanged without the said motor action.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U009	3490		WEF Tamping motor lock	The WEF Tamping motor has been locked.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U009	3491		WEF Ejection elevation motor lock	The WEF Ejection elevation motor has been locked.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U009	3492		WEF Ejection motor lock	The WEF Ejection motor has been locked.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
S093	3493	1 to 6	WEF Test mode failure	A motor operation error has occurred during the corresponding test mode on the Wrapping envelope finisher. Or the selected test mode does not function. Variation code (Error types): - 1: Execution failure - 2: Luminous energy automatic adjustment failure for the WEF Form edge detection sensor without sheet to be measured in the Introduction section - 3: Luminous energy automatic adjustment failure due to the WEF Form edge detection sensor matfunction (Even when the light emitting amount of the WEF Form edge detection sensor matfunction (Even when the light receiving voltage remains less than 3.0 V.) - 4: Front door opened during test mode operation - 5: No Tamper unit shift to the hitting point without preparatory standby action (The WEF Top tamper HP sensor remains blocked or the WEF End tamper HP sensor remains open (unblocked).) - 6: WEF Gluing motor lock during pad wetting operation	Turn OFF the printer. (Sub power key OFF)	

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Panel Messages

Туре	Point	vc	Summary	Description	Recovery Action	Remarks
U009	3494		WEF Hardware initialization failure	The hardware initialization has failed on the Wrapping envelope finisher due to motor home positioning failure, motor lock or temperature sensor malfunction, etc.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	-
U129	3495		WEF Sheet data acquisition failure	It has not been confirmed what envelope form sheets are loaded on the printer for what size of enclosures without the corresponding sheet reservation data.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U129	3496		WEF Sheet transfer interruption failure	The sheet transfer has failed to be interrupted as commanded.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U009	3497		WEF Top tamp motor home positioning failure	The WEF Top tamp motor has failed to be set at the home position due to timing belt disengagement or the corresponding HP sensor malfunction, etc.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U009	3498		WEF Tamper nip motor home positioning failure	The WEF Tamper nip motor has failed to be set at the home position due to the said motor failure or the corresponding HP sensor malfunction, etc.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U009	3499		WEF Body fold set motor home positioning failure	The WEF Body fold set motor (flipper) has failed to be set at the home position due to timing belt disengagement or the corresponding HP sensor malfunction, etc.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U009	3500		WEF Form entrance nip motor home positioning failure	The WEF Form entrance nip motor has failed to be set at the home position due to the said motor failure or the corresponding HP sensor malfunction, etc.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U009	3501		WEF Gluing motor home positioning failure	The WEF Gluing motor has failed to be set at the home position due to the said motor failure or the corresponding HP sensor malfunction, etc.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
X054	3502		Enclosure (Body) sheet jam in WEF	An enclosure (body) sheet has not reached the WEF Tamper ejection sensor within a predefined amount of time since it passed through the WEF Guide sensor in the Wrapping envelope finisher.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X054	3503		Enclosure (Body) sheet jam in WEF	An enclosure (body) sheet has not reached the WEF Body fold entrance sensor within a predefined amount of time since it passed through theWEF Tamper ejection sensor in the Wrapping envelope finisher.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X054	3504		Enclosure (Body) sheet jam in WEF	An enclosure (body) sheet has not reached the WEF Wrapping entrance sensor within a predefined amount of time since it passed through the WEF Body fold entrance sensor in the Wrapping envelope finisher.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X054	3505		Enclosure (Body) sheet jam in WEF	An enclosure (body) sheet has not reached the WEF Wrapping stand-by sensor within a predefined amount of time since it passed through the WEF Wrapping entrance sensor in the Wrapping envelope finisher.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X054	3506		Enclosure (Body) sheet jam at the entrance of WEF	An enclosure (body) sheet ejected from the printer has not reached the WEF Guide sensor within a predefined amount of time since the output of a paper ejection signal on the printer.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X054	3507		Envelope form sheet jam in WEF	An envelope form sheet has not reached the WEF Form entrance sensor within a predefined amount of time since it passed through the WEF Guide sensor in the Wrapping envelope finisher.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X054	3508		Envelope form sheet jam in WEF	An envelope form sheet has not reached the WEF Wrapping sensor within a predefined amount of time since the activation of the WEF Form registration motor in the Wrapping envelope finisher.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X054	3509		Envelope form sheet jam in WEF	An envelope form sheet has not reached the WEF Form registration sensor within a predefined amount of time since it passed through the WEF Form entrance sensor in the Wrapping envelope finisher.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X054	3510		Envelope form sheet jam in WEF	An envelope form sheet has not reached the WEF Gluing sensor within a predefined amount of time since it passed through the WEF Wrapping sensor in the Wrapping envelope finisher.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X054	3511		Envelope form sheet jam in WEF	An envelope form sheet has not reached the WEF Flap gluing ejection sensor within a predefined amount of time since it passed through the WEF Gluing sensor in the Wrapping envelope finisher.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X054	3512		Envelope form sheet jam in WEF	An envelope form sheet has not reached the WEF Compression exit sensor within a predefined amount of time since it passed through the WEF Flap gluing ejection sensor in the Wrapping envelope finisher.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X054	3513		Finished mail jam in WEF	A finished mail has not reached the WEF Eject elevation edge sensor within a predefined amount of time since it passed through the WEF Compression exit sensor in the Wrapping envelope finisher.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X054	3514		Enclosure (Body) sheet jam at the entrance of WEF	An enclosure (body) sheet has not passed through the WEF Guide sensor within a predefined amount of time.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	

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Panel Messages

Туре	Point	vc	Summary	Description	Recovery Action	Remarks
X054	3515		Envelope form sheet jam at the entrance of WEF	An envelope form sheet has not passed through the WEF Guide sensor within a predefined amount of time.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X054	3516		Envelope form sheet jam in WEF	An envelope form sheet has not passed through the WEF Wrapping sensor in the Wrapping envelope finisher within a predefined amount of time.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X054	3517		Finished mail jam in WEF	A finished mail has not passed through the WEF Compression exit sensor in the Wrapping envelope finisher within a predefined amount of time.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
U009	3518		WEF Flap fold motor lock	The WEF Flap fold motor has been locked.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
X054	3519		Jammed sheet remaining at the entrance of WEF	A jammed enclosure or envelope form sheet still remains at the WEF Guide sensor.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X054	3520		Jammed enclosure (body) sheet remaining in WEF	A jammed enclosure (body) sheet still remains at the WEF Body fold entrance sensor in the Wrapping envelope finisher.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X054	3521		Jammed enclosure (body) sheet remaining in WEF	A jammed enclosure (body) sheet still remains at the WEF Top tamper sensor in the Wrapping envelope finisher.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X054	3522		Jammed enclosure (body) sheet remaining in WEF	A jammed enclosure (body) sheet still remains at the WEF Tamper ejection sensor in the Wrapping envelope finisher.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X054	3523		Jammed enclosure (body) sheet remaining in WEF	A jammed enclosure (body) sheet still remains at the WEF Wrapping entrance sensor in the Wrapping envelope finisher.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X054	3524		Jammed enclosure (body) sheet remaining in WEF	A jammed enclosure (body) sheet still remains at the WEF Wrapping stand-by sensor in the Wrapping envelope finisher.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X054	3525		Jammed envelope form sheet remaining in WEF	A jammed envelope form sheet still remains at the WEF Form entrance sensor in the Wrapping envelope finisher.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X054	3526		Jammed envelope form sheet remaining in WEF	A jammed envelope form sheet still remains at the WEF Form registration sensor in the Wrapping envelope finisher.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X054	3527		Jammed envelope form sheet remaining in WEF	A jammed envelope form sheet still remains at the WEF Wrapping sensor in the Wrapping envelope finisher.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X054	3528		Jammed envelope form sheet remaining in WEF	A jammed envelope form sheet still remains at the WEF Gluing sensor in the Wrapping envelope finisher.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X054	3529		Jammed envelope form sheet remaining in WEF	A jammed envelope form sheet still remains at the WEF Flap gluing ejection sensor in the Wrapping envelope finisher.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X054	3530		Jammed finished envelope remaining in WEF	A jammed finished envelope still remains at the WEF Compression exit sensor in the Wrapping envelope finisher.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X054	3531		Enclosure sheet jam in WEF	An envelope form sheet has not passed through the WEF Tamper ejection sensor in the Wrapping envelope finisher.within a predefined amount of time.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X054	3532		WEF Enclosure (Body) sheet misled into envelope form sheet path	An enclosure (body) sheet has been misled into the envelope form sheet path.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X054	3533		WEF Envelope form sheet skewed	An advancing envelope form sheet has been skewed in the Wrapping envelope finisher, thus preventing its lateral shift.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
W055	3534		WEF Ejection tray full	It has been detected with the WEF Ejection tray full detection sensors that the WEF Ejection tray is full on the Wrapping envelope finisher.	Execute one of the following. (1) Take out finished envelopes from the Finished envelope tray and touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current mail making job.	The suspended mail making job will be resumed with a touch- panel operation after error clearance.

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
Y008	3535		WEF Pad wetting water depleted	It has been detected with the WEF Water level detection sensor that the Pad wetting water is depleted on the Wrapping envelope finisher.	Execute one of the following. (1) Replenish water. (2) Touch the [Stop] button. (3) Delete the current mail making job.	This error code will appear only when a mail making job is specified with the Wrapping envelope finisher.
Z055	3536		WEF Front door open	The Front door is open on the Wrapping envelope finisher.	Close the Front door on the Wrapping envelope finisher.	
X054	3537		Jammed enclosure (body) sheet remaining in WEF	A jammed enclosure (body) sheet still remains at the WEF Flap entrance sensor in the Wrapping envelope finisher.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
W184	3538		WEF Ejection tray check request	The WEF Ejection tray has been requested to be checked on the Wrapping envelope finisher, given that the WEF Ejection tray full detections sensor is blocked possibly by some interfering objects.	Execute one of the following. (1) Remove interfering objects from the Finished envelope tray and touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current mail making job.	The suspended mail making job will be resumed with a touch- panel operation after error clearance.
U088	3539	1 to 2	PB Paper feed motor failure	The following failures have been detected for the PB Paper feed motor on the Perfect binder. - The said motor has not been activated within a predefined amount of time after its operation is requested. - The said motor's operation has not been interrupted within a predefined amount of time when thus commanded through detection of a related error event with the corresponding sensor. Variation code (Failed components): - 1: PB Paper feed motor 1 - 2: PB Paper feed motor 2	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U088	3540		PB Cover cutter motor failure	PB Cover cutter motor failure The PB Cover cut limit sensor has not been blocked within a predefined amount of time since the activation of the PB Cover cutter motor on the Perfect binder.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U088	3541		PB Vertical guide motor failure	The following failures have been detected for the PB Vertical guide motor on the Perfect binder. - The said motor has not been activated within a predefined amount of time after its operation is requested. - The said motor does not stop even when thus requested during operation. - The said motor's operation has not been interrupted within a predefined amount of time when thus commanded through detection of a related error event with the corresponding sensor.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U088	3542		PB Fore edge motor failure	The following failures have been detected for the PB Fore edge motor on the Perfect binder. - The said motor has not been activated within a predefined amount of time after its operation is requested. - The said motor does not stop even when thus requested during operation. - The said motor's operation has not been interrupted within a predefined amount of time when thus commanded through detection of a related error event with the corresponding sensor.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U088	3543	1 to 3	PB Clamp motor failure	The following failures have been detected for any of the PB Clamp motors on the Perfect binder. - The said motor has not been activated within a predefined amount of time after its operation is requested. - The said motor's operation has not been interrupted within a predefined amount of time when thus commanded through detection of a related error event with the corresponding sensor. Variation code (Failed components): - 1: PB Clamp upper/lower motor - 2: PB Clamp open/close motor (A component failure or poor wire connection is suspected for the PB Clamp book block detection sensor.) - 3: PB Clamp horizontal motor * Variation code 2 error may be triggered by clamp body presence sensor malfunction or a connector connection problem.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U088	3544		PB Glue roller motor failure	The following failures have been detected for the PB Glue roller motor on the Perfect binder. - The said motor has not been activated within a predefined amount of time after its operation is requested. - The said motor does not stop even when thus requested during operation. - The said motor's operation has not been interrupted within a predefined amount of time when thus commanded through detection of a related error event with the corresponding sensor.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U088	3545		PB Glue sheet feed motor failure	The following failures have been detected for the PB Glue sheet feed motor on the Perfect binder. - The said motor has not been activated within a predefined amount of time after its operation is requested. - The said motor does not stop even when thus requested during operation. - The said motor's operation has not been interrupted within a predefined amount of time when thus commanded through detection of a related error event with the corresponding sensor.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
U088	3546		PB Glue sheet cut motor failure	The following failures have been detected for the PB Glue sheet cut motor on the Perfect binder. - The said motor has not been activated within a predefined amount of time after its operation is requested. - The said motor does not stop even when thus requested during operation. - The said motor's operation has not been interrupted within a predefined amount of time when thus commanded through detection of a related error event with the corresponding sensor.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U088	3547		PB Cover guide drive motor failure	The following failures have been detected for the PB Cover guide drive motor on the Perfect binder. - The said motor has not been activated within a predefined amount of time after its operation is requested. - The said motor does not stop even when thus requested during operation. - The said motor's operation has not been interrupted within a predefined amount of time when thus commanded through detection of a related error event with the corresponding sensor.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U088	3548		PB Forming plate motor failure	The following failures have been detected for the PB Forming plate motor on the Perfect binder. - The said motor has not been activated within a predefined amount of time after its operation is requested. - The said motor does not stop even when thus requested during operation. - The said motor's operation has not been interrupted within a predefined amount of time when thus commanded through detection of a related error event with the corresponding sensor.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U088	3549	1 to 2	PB Paper feed motor failure	The following failures have been detected for the PB Booklet exit motor on the Perfect binder The said motor has not been activated within a predefined amount of time after its operation is requested The said motor does not stop even when thus requested during operation The said motor's operation has not been interrupted within a predefined amount of time when thus commanded through detection of a related error event with the corresponding sensor. Variation code (Failed components): - 1: PB Booklet exit 1 motor - 2: PB Booklet exit 2 motor	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U088	3550		PB Fore edge guide motor failure	The following failures have been detected for the PB Fore edge guide motor on the Perfect binder. - The said motor has not been activated within a predefined amount of time after its operation is requested. - The said motor does not stop even when thus requested during operation. - The said motor's operation has not been interrupted within a predefined amount of time when thus commanded through detection of a related error event with the corresponding sensor.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U088	3551		PB Glue unit cover open/close motor failure	The following failures have been detected for the PB Glue unit cover open/close motor on the Perfect binder. - The said motor has not been activated within a predefined amount of time after its operation is requested. - The said motor does not stop even when thus requested during operation. - The said motor's operation has not been interrupted within a predefined amount of time when thus commanded through detection of a related error event with the corresponding sensor.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U088	3552		PB Cover feed motor failure	The following failures have been detected for the PB Cover feed motor on the Perfect binder. - The said motor has not been activated within a predefined amount of time after its operation is requested. - The said motor does not stop even when thus requested during operation. - The said motor's operation has not been interrupted within a predefined amount of time when thus commanded through detection of a related error event with the corresponding sensor.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U088	3553		PB Cover lift-up motor failure	The following failures have been detected for the PB Cover lift-up motor on the Perfect binder. - The said motor has not been activated within a predefined amount of time after its operation is requested. - The said motor does not stop even when thus requested during operation. - The said motor's operation has not been interrupted within a predefined amount of time when thus commanded through detection of a related error event with the corresponding sensor.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U089	3554	1 to 3	PB Glue roller heating error	The PB Glue roller has been overheated or lost much heat during its heating operation. Variation code (Error types): - 1: The temperature read from the thermistor for the PB Glue roller has exceeded the upper limit value 1. - 2: The temperature read from the thermistor for the PB Glue roller has exceeded the upper limit value 2. - 3: The temperature read from the thermistor for the PB Glue roller has dropped down to 15°C below a predefined standard value.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U089	3555	1 to 3	PB Glue tank heating error	The PB Glue tank has been overheated or lost much heat during its heating operation. Variation code (Error types): - 1: The temperature read from the thermistor for the PB Glue tank has exceeded the upper limit value 1. - 2: The temperature read from the thermistor for the PB Glue tank has exceeded the upper limit value 2. - 3: The temperature read from the thermistor for the PB Glue tank has dropped down to 15°C below a predefined standard value.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	

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Panel Messages

Туре	Point	vc	Summary	Description	Recovery Action	Remarks
Z056	3556		PB Front door open	The Front door is open on the Perfect binder.	Close the Front door on the Perfect binder.	
W103	3557	1 to 2	PB Body/Cover width mismatch	The width of booklet bodies is not identical with that of a booklet cover. Variation code (Error types): - 1: Bodies are narrower than the cover. - 2: Bodies are wider than the cover. (Booklet-making operation is to be prevented because glue may be applied to the Forming plate as well during the forming stage.)	Execute either of the following. (1) Touch the [Close] button. (2) Delete the current booklet-making job.	It is not possible to resume operation after error recovery.
W104	3558	3 to 4	PB Body thickness error	The thickness of booklet bodies is too thin or too thick. Variation code (Error types): - 3: The thickness is less than 0.8mm (too thin). - 4: The thickness is more than 32mm (too thick).	Execute either of the following. (1) Touch the (Close) button. (2) Delete the current booklet-making job.	It is not possible to resume operation after error recovery.
U105	3559		PB Glue tank full	The PB Glue tank has become full in the Perfect binder. The said event is to be notified when the temperature read from the thermistor located at the full-capacity level in the PDF Glue tank has exceeded a predefined value.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U106	3560		PB Glue tank empty	The PB Glue tank has become empty in the Perfect binder. The said event is to be notified when the temperature read from the thermistor located at the empty-tank level in the PDF Glue tank has dropped below a predefined value.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
Y010	3561		PB Cover sheet waste tray full or not in place	The PB Cover sheet waste tray has become full of cut cover sheet strips or is not in place in the Perfect binder.	Execute one of the following. (1) Pull out the PB Cover sheet waste tray and discard out cover sheet strips inside. (2) Touch the [Stop] button. (3) Delete the current booklet-making job.	This error code will appear only when a booklet making job is specified with the Perfect binder.
W120	3562	1 to 2	PB Cover sheet too short	Loaded cover sheets are too short for the current booklet-making job with the Prefect binder. Variation code (Blocked operations): - 1: Cutting the fore edge of covers - 2: Aligning the fore edges of covers	Execute one of the following. (1) Touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current booklet-making job.	The suspended booklet-making job will be resumed with a touch-panel operation after error clearance.
W120	3563		PB Cover sheet too long	Loaded cover sheets are too long to feed or to be cut for the current booklet- making job with the Prefect binder.	Execute one of the following. (1) Touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current booklet-making job.	The suspended booklet-making job will be resumed with a touch-panel operation after error clearance.
U088	3564		PB Guide switching motor failure	The following failures have been detected for the PB Guide switching motor on the Perfect binder The said motor has not been activated within a predefined amount of time after its operation is requested - The said motor does not stop even when thus requested during operation The said motor's operation has not been interrupted within a predefined amount of time when thus commanded through detection of a related error event with the corresponding sensor.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
W121	3565		No cover sheet loaded on PB	No cover sheet is loaded on the Perfect binder.	Execute one of the following. (1) Load cover sheets on the Perfect binder and touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current booklet-making job.	The suspended booklet-making job will be resumed with a touch-panel operation after error clearance.
W122	3566		PB Body stack over the limit	It has been detected with the PB Body tesxt jam sensot that booklet body sheets have bee stacked over the limit in the PB Body text stack unit on the Perfect binder.	Touch the [Close] button.	It is not possible to resume operation after error recovery.
W123	3567		PB Body stacking error	A booklet body sheet has been jammed just before the PB Body text stack unit and dropped into it accidentally.	Execute one of the following. (1) Touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current booklet-making job.	The suspended booklet-making job will be resumed with a touch-panel operation after error clearance.
W129	3568		Booklets remaining in PB at system initialization	It has been detected at system initialization that finished booklets remain inside the Perfect binder. * The system is to be initialized for the Perfect binder in the following cases: - At power-on - When the Front door is closed after opened on the Perfect binder - At exit from the test mode [Note] Though the system is also initialized when the PB Cover inserter unit or the PB Right side door is closed after opened, the Booklet ejection belt will not be driven.	Execute either of the following. (1) Press the Booklet ejection button on the Perfect binder. (2) Close the Front door on the Perfect binder.	Job restart process does not exist because this error occurs without jobs.
1015	3569		PB Glue sheet almost depleted	The remaining volume of glue sheets has become 30% or less on the Perfect binder. * This error code will reappear if the Front door is closed before 30 seconds passes after it was opened on the Perfect binder.	Touch the [Close] button. * For a fundamental solution, replace the whole roll of glue sheets.	
X073	3570		Booklet body sheet jam at the entrance of PB	The PB Entering paper detection sensor has been detected to be blocked by a jammed booklet body sheet at system initizization or has remained blocked by the same for a predefined amount of time or longer during operation.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X073	3571		Booklet body sheet jam in PB	The PB Paper feed check sensor has been detected to be blocked by a jammed booklet body sheet at system initizlization or has remained blocked by the same for a predefined amount of time or longer during operation.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	

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Туре	Point	VC	Summary	Description	Recovery Action	Remarks
X073	3572		Booklet body sheet jam in PB	The PB Body text exit sensor has been detected to be blocked by a jammed booklet body sheet at system initizilization or has remained blocked by the same for a predefined amount of time or longer during operation.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X073	3573		Booklet cover sheet jam in PB	The PB Cover registration sensor has been detected to be blocked by a jammed booklet cover sheet at system initizization or has remained blocked by the same for a predefined amount of time or longer during operation.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X073	3574		Jammed booklet body sheet remaining in PB	The PB Cover cut sensor has been detected to be blocked by a jammed booklet body sheet at system initizitization.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X073	3575		Jammed booklet body sheet remaining in PB	The PB Cover position sensor has been detected to be blocked by a jammed booklet body sheet at system initiziization.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X073	3576		Jammed booklet body sheet remaining in PB	The PB Body text detection sensor has been detected to be blocked by a jammed booklet body sheet at system initiziization.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X073	3578		Booklet body sheet block remaining in PB	The PB Book block detection sensor has been detected to be blocked by a clamped block of booklet body sheets at system initiziization.	The subsequent error recovery action differs depending on the area from which the clamped block of booklet body sheets is to be primarily removed.	
X073	3579		Booklet cover sheet remaining in PB	The PB Forming cover detection sensor has been detected to be blocked by a prepared booklet cover sheet at system initizlization.	The subsequent error recovery action differs depending on the area from which the prepared booklet cover sheet is to be primarily removed.	
X073	3580		Finished booklet jam in PB	The PB Booklet exit sensor has been detected to be blocked by a jammed finished booklet at system initizization or has remained blocked by the same for a predefined amount of time or longer during operation.	The subsequent error recovery action differs depending on the area from which the remaining booklet cover sheet is to be primarily removed.	
X073	3581		Finished booklet jam in PB	The PB Booklet guide sensor has been detected to be blocked by a jammed finished booklet at system initizization or has remained blocked by the same for a predefined amount of time or longer during operation.	The subsequent error recovery action differs depending on the area from which the jammed finished booklet is to be primarily removed.	
X073	3582		Finished booklet remaining in PB	The PB Booklet exit position 1 sensor has been detected to be blocked by a jammed finished booklet at system initiziization.	The subsequent error recovery action differs depending on the area from which the jammed finished booklet is to be primarily removed.	
X073	3583		Finished booklet remaining in PB	The PB Booklet exit position 2 sensor has been detected to be blocked by a jammed finished booklet at system initiziization.	The subsequent error recovery action differs depending on the area from which the jammed finished booklet is to be primarily removed.	
X073	3584		Booklet body sheet jam in PB	The PB Cover feed sensor has been detected to be blocked by a jammed booklet body sheet at system initizization or has remained blocked by the same for a predefined amount of time or longer during operation.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X073	3585		Jammed booklet cover sheet remaining in PB	The PB Cover feed sensor has been detected to be blocked by a jammed booklet cover sheet at system initizization.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X073	3586		Finished booklet jam at the exit of PB	The PB Booklet jam detection sensor has been detected to be blocked by a jammed finished booklet at system initizlization or has remained blocked by the same for a predefined amount of time or longer during operation.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
Z064	3587		PB Right side door open	The Right side door is open on the Perfect binder.	Close the Right side door on the Perfect binder.	
Z065	3588		PB Cover inserter unit not in place	The PB Cover inserter unit is not set in place (slided to the right) on the Perfect binder.	Set the PB Cover inserter unit in place on the Perfect binder.	
Z066	3589		PB Cover inserter jam release door open	The PB Cover inserter jam release door is open on the Perfect binder.	Close the PB Cover inserter jam release door on the Perfect binder.	
Y009	3590		PB Glue sheet depleted	The PB Glue sheet has been depleted.	Execute one of the following. (1) Load a new roll of glue sheets on the Perfect binder. (2) Touch the [Stop] button. (3) Delete the current booklet-making job.	This error code will appear only when a booklet making job is specified with the Perfect binder.
S100	3591	1 to 9	PB Communication error	A communication error has occurred between any of the PB Motor control PCBs and the PB Main PCB on the Perfect binder. (The PB Main PCB has received NACK data.) Variation code (PB Motor control PCB ID No.): - 1 to 9	Turn OFF the printer. (Sub power key OFF)	

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S100	3592	10 to 17	PB Communication error	A communication error has occurred between any of the PB Motor control PCBs and the PB Main PCB on the Perfect binder. (The PB Main PCB has received NACK data.) Variation code (PB Motor control PCB ID No.): - 10 to 17	Turn OFF the printer. (Sub power key OFF)	
X074	3593		Paper jam at the entrance of HCS	An ejected sheet entering the High-capacity stacker has not reached the Stacking entrance sensor within a predefined amount of time.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X074	3594		Paper jam at the entrance of HCS	An ejected sheet entering the High-capacity stacker has not passed through the Stacking entrance sensor within a predefined amount of time.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X074	3595		Paper jam at the entrance of HCS	It has been detected at the start of print (stacking) operation that jammed printed sheets still remain under the Stacking entrance sensor in the High-capacity stacker.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X074	3596		Paper jam in Switchback transfer section in HCS	An ejected sheet advancing through the Switchback section in the High-capacity stacker has not reached the Stacking switchback transfer sensor within a predefined amount of time.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X074	3597		Paper jam in Switchback transfer section in HCS	An ejected sheet advancing through the Switchback section in the High-capacity stacker has not passed through the Stacking switchback transfer sensor within a predefined amount of time.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X074	3598		Paper jam in Switchback transfer section in HCS	It has been detected at the start of print (stacking) operation that jammed printed sheets still remain over the Stacking switchback transfer sensor in the Switchback section in the High-capacity stacker.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X074	3599		Paper jam in Switchback section in HCS	An ejected sheet advancing through the Switchback section in the High-capacity stacker has not reached the Stacking switchback sensor within a predefined amount of time.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X074	3600	1 to 2	Paper jam in Switchback section in HCS	An ejected sheet advancing through the Switchback section in the High-capacity stacker has not passed through the Stacking switchback sensor within a predefined amount of time. Variation code (Detection timing): - 1: When a predefined amount of time has passed since the said sensor was blocked by the advancing sheet - 2: When the following ejected sheet has reached a predefined point	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X074	3601		Paper jam in Switchback section in HCS	It has been detected at the start of print (stacking) operation that jammed printed sheets still remain under the Stacking switchback sensor in the Switchback section in the High-capacity stacker.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X074	3602		Paper jam in Switchback elevation section in HCS	An ejected sheet advancing through the Switchback elevation section in the High- capacity stacker has not reached the Stacking switchback elevation sensor within a predefined amount of time.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X074	3603		Paper jam in Switchback elevation section in HCS	An ejected sheet advancing through the Switchback elevation section in the High- capacity stacker has not passed through the Stacking switchback elevation sensor within a predefined amount of time.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X074	3604		Paper jam in Switchback elevation section in HCS	It has been detected at the start of print (stacking) operation that jammed printed sheets still remain under the Stacking switchback elevation sensor in the Switchback elevation section in the High-capacity stacker.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X074	3605		Paper jam in Secondary transfer section in HCS	An ejected sheet advancing through the Secondary transfer section in the High- capacity stacker has not reached the Stacking secondary transfer sensor within a predefined amount of time.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X074	3606		Paper jam in Secondary transfer section in HCS	An ejected sheet advancing through the Secondary transfer section in the High- capacity stacker has not passed through the Stacking secondary transfer sensor within a predefined amount of time.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X074	3607		Paper jam in Secondary transfer section in HCS	It has been detected at the start of print (stacking) operation that jammed printed sheets still remain under the Stacking secondary transfer sensor in the Secondary transfer section in the High-capacity stacker.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X074	3608		Paper jam in Paper ejection section in HCS	An ejected sheet advancing through the Paper ejection section in the High- capacity stacker has not reached the Stacker ejection sensor within a predefined amount of time.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X074	3609		Paper jam in Paper ejection section in HCS	An ejected sheet advancing through the Paper ejection section in the High- capacity stacker has not passed through the Stacker ejection sensor within a predefined amount of time.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X074	3610		Paper jam in Paper ejection section in HCS	It has been detected at the start of print (stacking) operation that jammed printed sheets still remain over the Stacker ejection sensor in the Paper ejection section in the High-capacity stacker.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
X074	3611		Paper jam in Face-up transfer section in HCS	An ejected sheet advancing through the Face-up transfer section in the High- capacity stacker has not reached the Face-up stacking transfer sensor within a predefined amount of time.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X074	3612		Paper jam in Face-up transfer section in HCS	An ejected sheet advancing through the Face-up transfer section in the High- capacity stacker has not passed through the Face-up stacking transfer sensor within a predefined amount of time.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X074	3613		Paper jam in Face-up transfer section in HCS	It has been detected at the start of print (stacking) operation that jammed printed sheets still remain under the Face-up stacking transfer sensor in the Secondary transfer section in the High-capacity stacker.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
U091	3614		HCS Stacking entrance motor lock	The Stacking entrance motor has been locked during operation on the High- capacity stacker.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U091	3615		HCS Stacking switchback motor lock	The Stacking switchback motor has been locked during operation on the High- capacity stacker.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U091	3616		HCS Stacking switchback elevation motor lock	The Stacking switchback elevation motor has been locked during operation on the High-capacity stacker.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U091	3617		HCS Stacker ejection motor lock	The Stacker ejection motor has been locked during operation on the High-capacity stacker.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U091	3618		HCS Stacking tray elevator motor lock	The Stacking tray elevator motor has been locked during operation on the High- capacity stacker.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U091	3619		HCS Offset stacking guide motor lock	The Offset stacking guide motor has been locked during operation on the High- capacity stacker.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U091	3620		HCS Paper side guide motor lock	The Paper side guide motor has been locked during operation on the High- capacity stacker.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U091	3621		HCS Paper end guide motor lock	The Paper end guide motor has been locked during operation on the High- capacity stacker.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U091	3622		HCS Ejection wing motor lock	The Ejection wing motor has been locked during operation on the High-capacity stacker.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
W130	3623		HCS Paper stacking error (Stacked sheet edge rising)	The Paper top face detection sensor 2 has been blocked for a predefined amount of time during the operation of the Stacking tray elevator motor, with the Paper top face detection sensor 1 blocked as well, on the High-capacity stacker, thus suspending operation while suspecting that the raised leading or trailing edge of stacked sheets may lean against the paper guide on the Stacking tray.	Execute one of the following. (1) Open the Stacking unit door, rearrange protruding sheets on the Stacking tray and then close the opened door. (2) Touch the [Stop] button. (3) Delete the current print job.	The suspended print job will be resumed with a touch-panel operation after error clearance.
W108	3624		HCS Stacking capacity limit (Stacking tray full)	The Stacking tray (Stacking tray elevator unit) has been lowered to a predefined point, which is to be determined by the corresponding stacking limit detection conditions according to paper type and stacking mode, on the High-capacity stacker, thus indicating that the said tray has reached the stacking capacity limit for the current paper type and stacking mode, i.e. the said tray has become full.	Execute one of the following. (1) Open the Stacking unit door and take out the Stacking tray with stacked sheets. Then return the said tray inside after unloading stacked sheets and close the opened door. (2) Touch the [Stop] button. (3) Delete the current print job.	The suspended print job will be resumed with a touch-panel operation after error clearance.
S087	3625	1 to 9	HCS software error	A software error (e.g. sequence error) has been detected in the device control software on the High-capacity stacker.	Turn OFF the printer. (Sub power key OFF)	The current operation will be suspended after all sheets ejected from the printer have been stacked in the High- capacity stacker, while it is not possible to resume the suspended operation after error recovery.
Z057	3626		HCS Transfer unit door opened	The Transfer unit door switch has been set OFF, i.e. the said door has been opened, on the High-capacity stacker.	Close the opened door.	This error code will be indicated only when the High-capacity stacker is applied for the current print job.
Z061	3627		HCS Stacking unit door opened	The Stacking unit door switch has been set OFF, i.e. the said door has been opened, on the High-capacity stacker.	Close the opened door.	This error code will be indicated only when the High-capacity stacker is applied for the current print job.
U125	3628		HCS Device ID information acquisition failure	The device identification information has failed to be acquired from the EEPROM on the High-capacity stacker, thus leaving the said equipment unidentified on the printer.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U129	3629		No specified output destination on WEF	The specified output destination is not prepared on the Wrapping envelope finisher.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
X074	3630	1 to 2	HCS Paper stacking jam	The Paper top face detection sensor 1 has not been opened within a predefined amount of time since the Stacking tray elevator motor was activated on the High- capacity stacker, thus suspending operation in suspicion of paper stacking jam on the Stacking tray. Variation code (Jammed when): - 1: Regular stacking (with the Offset stacking guide HP sensor blocked) - 2: Offset stacking (with the Paper end guide HP sensor blocked)	The subsequent error recovery action differs depending on the areas from which jammed sheets are to be primarily removed.	
W133	3631		Paper jam on Stacking tray in HCS	Ejected sheets have been jammed while stacked on the Stacking tray in the High- capacity stacker.	Execute either of the following. (1) Remove jammed sheets from the Stacking tray in the High-capacity stacker and touch the [Continue] button. (2) Touch the [Stop] button.	The suspended print job will be resumed with a touch-panel operation after error clearance.
Z062	3632		HCS Transfer unit door opened during error recovery action	The Transfer unit door switch has been set OFF, i.e. the said door has been opened, during error recovery action on the High-capacity stacker, thus prompting an operator to close the said door.	Close the opened door.	

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
Z063	3633		HCS Stacking unit door opened during error recovery action	The Stacking unit door switch has been set OFF, i.e. the said door has been opened, during error recovery action on the High-capacity stacker, thus prompting an operator to close the said door.	Close the opened door.	
W119	3634		PB Booklet exit tray full	The PB Booklet exit tray has become full of finished booklets on the Perfect binder.	Execute one of the following. (1) Press the Booklet ejection button and take out finished booklets from the PB Booklet exit tray. Then touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current booklet-making job.	The suspended booklet-making job will be resumed with a touch-panel operation after error clearance.
X054	3635		Enclosure (Body) sheet jam in Alignment unit in WEF	An advancing enclosure (body) sheet has not reached the WEF Top tamper sensor within a predefined amount of time.	The subsequent error recovery action differs depending on the areas from which jammed sheets are to be primarily removed.	
X054	3636		Enclosure (Body) sheet jam in Alignment unit in WEF	An advancing enclosure (body) sheet has not passed through the WEF Top tamper sensor within a predefined amount of time.	The subsequent error recovery action differs depending on the areas from which jammed sheets are to be primarily removed.	
X054	3637		Enclosure (Body) sheet jam in Body fold unit in WEF	An advancing enclosure (body) sheet has not passed through the WEF Body fold entrance sensor within a predefined amount of time.	The subsequent error recovery action differs depending on the areas from which jammed sheets are to be primarily removed.	
X054	3638		Enclosure (Body) sheet jam in Wrapping unit in WEF	An advancing enclosure (body) sheet has not passed through the WEF Wrapping entrance sensor within a predefined amount of time.	The subsequent error recovery action differs depending on the areas from which jammed sheets are to be primarily removed.	
X054	3639		Unfinished mail jam in Flap gluing unit in WEF	An unfinished mail has not passed through the WEF Flap entrance sensor within a predefined amount of time.	The subsequent error recovery action differs depending on the areas from which jammed sheets are to be primarily removed.	
X054	3640		Unfinished mail jam in Flap gluing unit in WEF	An unfinished mail has not passed through the WEF Gluing sensor within a predefined amount of time.	The subsequent error recovery action differs depending on the areas from which jammed sheets are to be primarily removed.	
X054	3641		Unfinished mail jam in Flap gluing unit in WEF	An unfinished mail has not passed through the WEF Flap gluing ejection sensor within a predefined amount of time.	The subsequent error recovery action differs depending on the areas from which jammed sheets are to be primarily removed.	
X054	3642		WEF Enclosure (Body) sheet transport error	Enclosure (Body) sheets have not reached the WEF Body exit sensor before an envelope form sheet reaches the WEF Wrapping sensor.	The subsequent error recovery action differs depending on the areas from which jammed sheets are to be primarily removed.	
W109	3645		WEF Enclosure (Body) sheet volume over the limit	The number of prepared enclosure (body) sheets is over a specified wrapping limit.	Touch the [Close] button.	It is not possible to resume operation after error recovery.
W110	3646		WEF Enclosure (Body) page format mismatch	The data whose page format is not identical with the initially-specified one are included in the document data prepared for enclosure (body) sheets.	Touch the [Close] button.	It is not possible to resume operation after error recovery.
S100	3649		PB CAN communication error	A CAN communication error has occurred on the Perfect binder.	Turn OFF the printer. (Sub power key OFF)	
U092	3650		PB EEPROM error	An error has occurred in EEPROM on the Perfect binder.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
X054	3653		Jammed finished mail remaining in Ejection unit in WEF	A jammed finished mail still remains on the WEF Eject elevation edge sensor in the Wrapping envelope finisher at the start of a print job.	The subsequent error recovery action differs depending on the area from which a jammed finished mail is to be removed.	
X054	3654		WEF Envelope form sheet edge detection failure	The leading edge of an envelope form sheet has failed to be detected within a predefined amount of time in the Wrapping envelope finisher, possibly due to the said sheet jam.	The subsequent error recovery action differs depending on the area from which a jammed sheet is to be removed.	
S110	3655		WEFUndefined sheet transfer speed	An undefined value has been transmitted as sheet transfer speed from a printer to the Wrapping envelope finisher.	Turn OFF the printer. (Sub power key OFF)	
W116	3656		WEF Multiple envelope form sheet feed	Multiple envelope form sheets have been fed for a single mail.	Touch the [Close] button.	It is not possible to resume operation after error recovery.
W117	3657		WEF Envelope form page format mismatch	The data whose page format does not match the current envelope form sheets are included in the document data prepared for the said sheets.	Do one of the following. Touch the [Close] button.	It is not possible to resume operation after error recovery.
W118	3658		WEF Envelope form page format mixed	Different page formats are specified for the ducument data prepared for envelope format sheets in a single mail-making job.	Touch the [Close] button.	It is not possible to resume operation after error recovery.
W196	3659		WEF Wrong print job execution order	The print job execution order is wrongly reversed for the current mail making job with the Wrapping envelope finisher. * Enclosures (Bodies) should be printed before envelopes.	Touch the [Close] button.	It is not possible to resume operation after error recovery.

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Panel Messages

Туре	Point	vc	Summary	Description	Recovery Action	Remarks
W150	3660	1 to 2	No specified-format WEF enclosure (body) sheet on a specified Paper tray	The specified-format enclosure (body) sheets are not loaded on a specified Paper tray on the printer for the current mail making job with the Wrapping envelope finisher. Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Execute one of the following. 1. Load specified-format enclosure (body) sheets on the specified Paper tray and touch the [Continue] button. 2. Touch the [Stop] button. 3. Delete the current mail making job.	The suspended mail making job will be resumed with a touch- panel operation after error clearance.
U128	3661		WEF EEPROM read error	Failed to read the EEPROM on the Wrapping envelope finisher.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U128	3662		WEF EEPROM write error	Failed to write to the EEPROM on the Wrapping envelope finisher.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U009	3665		WEF End tamper motor failure	The WEF End tamper HP sensor has remained open (unblocked) even after activation of the WEF End tamper motor on the Wrapping envelope finisher, possibly due to the corresponding timing belt disengagement or the said sensor failure.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U009	3666		WEF Side tamper motor failure	The WEF Side tamper HP sensor has remained open (unblocked) even after activation of the WEF Side tamper motor on the Wrapping envelope finisher, possibly due to the corresponding timing belt disengagement or the said sensor failure.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U009	3667		WEF Body hit motor 1 failure	The WEF Body hit HP sensor 1 has remained open (unblocked) even after activation of the WEF Body hit motor 1 on the Wrapping envelope finisher, possibly due to the corresponding timing belt disengagement or the said sensor failure.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U009	3668		WEF Body hit motor 2 failure	The WEF Body hit HP sensor 2 has remained open (unblocked) even after activation of the WEF Body hit motor 2 on the Wrapping envelope finisher, possibly due to the corresponding timing belt disengagement or the said sensor failure.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U009	3669		WEF Form horizontal drive motor failure	The WEF Form horizontal HP sensor has remained open (unblocked) even after activation of the WEF Form horizontal drive motor on the Wrapping envelope finisher, possibly due to the corresponding timing belt disengagement or the said sensor failure.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U009	3670		WEF Form hit motor 1 failure	The WEF Form hit HP sensor 1 has remained open (unblocked) even after activation of the WEF Form hit motor 1 on the Wrapping envelope finisher, possibly due to the corresponding timing belt disengagement or the said sensor failure.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U009	3671		WEF Form hit motor 2 failure	The WEF Form hit HP sensor 2 has remained open (unblocked) even after activation of the WEF Form hit motor 2 on the Wrapping envelope finisher, possibly due to the corresponding timing belt disengagement or the said sensor failure.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U110	3672		WEF Ejection fence position sensor error	An error has been detected on the WEF Ejection fence position sensor L or R on the Wrapping envelope finisher. * The related component trouble may be suspected if this error code is not cleared even after the reset of the WEF Ejection fences or re-boot.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
S099	3675		Finisher-related communication control software CAN optional interface error	A CAN (Controller Area Network) optional interface error, i.e. an usual processing sequence, has been detected in the "Finisher-related communication control software."	Turn OFF the printer. (Sub power key OFF)	
S099	3676		Finisher-related communication control software CAN optional interface error	A CAN (Controller Area Network) optional interface error, i.e. an unusual parameter, has been detected in the interface between the "Print-sequence- related software" and the "Finisher-related communication control software."	Turn OFF the printer. (Sub power key OFF)	
S099	3677	1 to 5	Finisher-related communication control software CAN optional interface error	A CAN (Controller Area Network) optional interface error, i.e. an undefined parameter reception, has been detected in the "Finisher-related communication control software." Variation code (Error-source optional devices): - 1: Facedown finisher - 2: High-capacity stacker - 3: Wrapping erwelope finisher - 4: Perfect binder - 5: High-capacity feeder	Turn OFF the printer. (Sub power key OFF)	
S099	3678	1 to 5	Finisher-related communication control software CAN optional interface error	The sheet (job) reservation on the connected finisher (or feeder) has not been completed through the CAN (Controller Area Network) optional interface in the "Finisher-related communication control software." (The sheet reception (or feeding) interval time has been notified as "0xFFFF" for a single action from the connected finisher (or feeder) for 720 times in succession.) Variation code (Error-source optional devices): - 1: Facedown finisher - 2: High-capacity stacker - 3: Wrapping envelope finisher - 4: Perfect binder - 5: High-capacity feeder	Turn OFF the printer. (Sub power key OFF)	
S096	3679		Finisher-related communication control software CAN configuration error	It has been detected that a CAN (Controller Area Network)-controlled finishing device, i.e. Facedowm finisher, High-capacity stacker, Wrapping envelope finisher or Perfect binder, is connected to the printer while the parameter in the test mode No. TM04-6-058 "OPTION CONNECT SELECT" is set at "1" to configure the printer's system for other finishing devices than the said CAN-controlled one, thus causing communication error between the printer and the connected finishing device.	Turn OFF the printer. (Sub power key OFF)	
X054	3680		Jammed enclosure (body) sheet remaining in WEF	It has been detected that jammed enclosure (body) sheets still remain on the WEF Body exit sensor in the Wrapping unit in the Wrapping envelope finisher when the Front door is closed after a requested error recovery action for the said finisher.	The subsequent error recovery action differs depending on the area from which jammed sheets are to be removed.	

RISO Inc. Technical Operations

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
X054	3681		Enclosure (Body) sheet jam in or before Wrapping unit in WEF	Enclosure (Body) sheets have not reached the WEF Body exit sensor within a predefined amount of time in the Wrapping envelope finisher.	The subsequent error recovery action differs depending on the area(s) from which jammed sheets are to be removed.	
X054	3682		Enclosure (Body) sheet jam in Wrapping unit in WEF	Enclosure (Body) sheets have not passed through the WEF Body exit sensor within a predefined amount of time in the Wrapping envelope finisher.	The subsequent error recovery action differs depending on the area(s) from which jammed sheets are to be removed.	
W157	3702	1 to 2	No specified WEF envelope form sheet loaded on printer (Without HCF / In simplex print)	It has been detected under the Auto paper source selection function that no specified envelope form sheet is loaded on the printer (without the High-capacity feeder equipped) to be printed in simplex for the current mail making job with the Wrapping envelope finisher. Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Execute one of the following. (1) Load specified envelope form sheets on the printer and touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current mail making job.	The suspended mail making job will be resumed with a touch- panel operation after error clearance.
W158	3703	1 to 2	No specified WEF envelope form sheet loaded on printer (Without HCF / In duplex print)	It has been detected under the Auto paper source selection function that no specified envelope form sheet is loaded on the printer to be printed (without the High-capacity feeder equipped) in duplex for the current mail making job with the Wrapping envelope finisher. Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Execute one of the following. (1) Load specified envelope form sheets on the printer and touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current mail making job.	The suspended mail making job will be resumed with a touch- panel operation after error clearance.
W161	3704	1 to 2	No specified WEF envelope form sheet loaded on printer (With HCF / In simplex print)	It has been detected under the Auto paper source selection function that no specified envelope form sheet is loaded on the printer (equipped with the High- capacity feeder) to be printed in simplex for the current mail making job with the Wrapping envelope finisher. Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Execute one of the following. (1) Load specified envelope form sheets on the printer and touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current mail making job.	The suspended mail making job will be resumed with a touch- panel operation after error clearance.
W162	3705	1 to 2	No specified WEF envelope form sheet loaded on printer (With HCF / In duplex print)	It has been detected under the Auto paper source selection function that no specified envelope form sheet is loaded on the printer (equipped with the High- capacity feeder) to be printed in duplex for the current mail making job with the Wrapping envelope finisher. Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Execute one of the following. (1) Load specified envelope form sheets on the printer and touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current mail making job.	The suspended mail making job will be resumed with a touch- panel operation after error clearance.
W170	3710	1 to 2	No specified WEF envelope form sheet on Standard paper feed tray on printer (In simplex print)	It has been detected when the Standard paper feed tray is specified as paper source that no specified envelope form sheet is loaded on the said tray on the printer to be printed in simplex for the current mail making job with the Wrapping envelope finisher. Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Execute one of the following. (1) Load specified envelope form sheets on the Standard paper feed tray on the printer and touch the [Continue] button. (2) Touch the [Change Tray] button and select a Paper tray in which specified envelope form sheets are loaded. (3) Touch the [Stop] button. (4) Delete the current mail making job.	The suspended mail making job will be resumed with a touch- panel operation after error clearance.
W171	3711	1 to 2	No specified WEF envelope form sheet on Standard paper feed tray on printer (In duplex print)	It has been detected when the Standard paper feed tray is specified as paper source that no specified envelope form sheet is loaded on the said tray on the printer to be printed in duplex for the current mail making job with the Wrapping envelope finisher. Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Execute one of the following. (1) Load specified envelope form sheets on the Standard paper feed tray on the printer and touch the [Continue] button. (2) Touch the [Change Tray] button and select a Paper tray in which specified envelope form sheets are loaded. (3) Touch the [Stop] button. (4) Delete the current mail making job.	The suspended mail making job will be resumed with a touch- panel operation after error clearance.
W172	3712	1 to 2	No specified WEF envelope form sheet on Paper tray 1 on printer (In simplex print)	It has been detected when the Paper tray 1 is specified as paper source that no specified envelope form sheet is loaded in the said tray on the printer to be printed in simplex for the current mail making job with the Wrapping envelope finisher. Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Execute one of the following. (1) Load specified envelope form sheets in the Paper tray 1 on the printer and touch the [Continue] button. (2) Touch the [Change Tray] button and select another paper tray in which specified envelope form sheets are loaded. (3) Touch the [Stop] button. (4) Delete the current mail making job.	The suspended mail making job will be resumed with a touch- panel operation after error clearance.
W173	3713	1 to 2	No specified WEF envelope form sheet on Paper tray 1 on printer (In duplex print)	It has been detected when the Paper tray 1 is specified as paper source that no specified envelope form sheet is loaded in the said tray on the printer to be printed in duplex for the current mail making job with the Wrapping envelope finisher. Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Execute one of the following. (1) Load specified envelope form sheets in the Paper tray 1 on the printer and touch the [Continue] button. (2) Touch the [Change Tray] button and select another paper tray in which specified envelope form sheets are loaded. (3) Touch the [Stop] button. (4) Delete the current mail making job.	The suspended mail making job will be resumed with a touch- panel operation after error clearance.
W174	3714	1 to 2	No specified WEF envelope form sheet on Paper tray 2 on printer (In simplex print)	It has been detected when the Paper tray 2 is specified as paper source that no specified envelope form sheet is loaded in the said tray on the printer to be printed in simplex for the current mail making job with the Wrapping envelope finisher. Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Execute one of the following. (1) Load specified envelope form sheets in the Paper tray 2 on the printer and touch the [Continue] button. (2) Touch the [Change Tray] button and select another paper tray in which specified envelope form sheets are loaded. (3) Touch the [Stop] button. (4) Delete the current mail making job.	The suspended mail making job will be resumed with a touch- panel operation after error clearance.

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Panel Messages

Туре	Point	vc	Summary	Description	Recovery Action	Remarks
W175	3715	1 to 2	No specified WEF envelope form sheet on Paper tray 2 on printer (In duplex print)	It has been detected when the Paper tray 2 is specified as paper source that no specified envelope form sheet is loaded in the said tray on the printer to be printed in duplex for the current mail making job with the Wrapping envelope finisher. Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Execute one of the following. (1) Load specified envelope form sheets in the Paper tray 2 on the printer and touch the [Continue] button. (2) Touch the [Change Tray] button and select another paper tray in which specified envelope form sheets are loaded. (3) Touch the [Stop] button. (4) Delete the current mail making job.	The suspended mail making job will be resumed with a touch- panel operation after error clearance.
W176	3716	1 to 2	No specified WEF envelope form sheet on Paper tray 3 on printer (In simplex print)	It has been detected when the Paper tray 3 is specified as paper source that no specified envelope form sheet is loaded in the said tray on the printer to be printed in simplex for the current mail making job with the Wrapping envelope finisher. Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Execute one of the following. (1) Load specified envelope form sheets in the Paper tray 3 on the printer and touch the [Continue] button. (2) Touch the [Change Tray] button and select another paper tray in which specified envelope form sheets are loaded. (3) Touch the [Stop] button. (4) Delete the current mail making job.	The suspended mail making job will be resumed with a touch- panel operation after error clearance.
W177	3717	1 to 2	No specified WEF envelope form sheet on Paper tray 3 on printer (In duplex print)	It has been detected when the Paper tray 3 is specified as paper source that no specified envelope form sheet is loaded in the said tray on the printer to be printed in duplex for the current mail making job with the Wrapping envelope finisher. Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Execute one of the following. (1) Load specified envelope form sheets in the Paper tray 3 on the printer and touch the [Continue] button. (2) Touch the [Change Tray] button and select another paper tray in which specified envelope form sheets are loaded. (3) Touch the [Stop] button. (4) Delete the current mail making job.	The suspended mail making job will be resumed with a touch- panel operation after error clearance.
W186	3718	1 to 2	No specified WEF envelope form sheet on High-capacity feeder (In simplex print)	It has been detected when the High-capacity feeder is specified as paper source that no specified envelope form sheet is loaded there to be printed in simplex for the current mail making job with the Wrapping envelope finisher. Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Execute one of the following. (1) Load specified envelope form sheets on the High-capacity feeder and touch the [Continue] button. (2) Touch the [Change Tray] button and select a Paper tray in which specified envelope form sheets are loaded. (3) Touch the [Stop] button. (4) Delete the current mail making job.	The suspended mail making job will be resumed with a touch- panel operation after error clearance.
W187	3719	1 to 2	No specified WEF envelope form sheet on High-capacity feeder (In duplex print)	It has been detected when the High-capacity feeder is specified as paper source that no specified envelope form sheet is loaded there to be printed in duplex for the current mail making job with the Wrapping envelope finisher. Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Execute one of the following. (1) Load specified envelope form sheets on the High-capacity feeder and touch the [Continue] button. (2) Touch the [Change Tray] button and select a Paper tray in which specified envelope form sheets are loaded. (3) Touch the [Stop] button. (4) Delete the current mail making job.	The suspended mail making job will be resumed with a touch- panel operation after error clearance.
W179	3720		WEF Sheet feed orientation error	It has been preliminarily acknowledged that enclosure (body) sheets and/or envelope form sheets are loaded in the long-edge-feed direction on a printer for the current mail making job. * Both enclosure (body) and envelope form sheets should feed, led by their short edges, on a printer for a mail making job with the Wrapping envelope finisher.	Touch the [Close] button.	It is not possible to resume operation after error recovery.
W182	3732		No paper loaded on printer for WEF (Without HCF / In simplex print)	No specified envelope form sheet is loaded on a printer (without the High-capacity feeder equipped) to be printed in simplex for the current mail making job with the Wrapping envelope finisher.	Execute one of the following. (1) Load specified envelope form sheets on the printer and touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current mail making job.	The suspended mail making job will be resumed with a touch- panel operation after error clearance.
W183	3733		No paper loaded on printer for WEF (Without HCF / In duplex print)	No specified envelope form sheet is loaded on a printer (without the High-capacity feeder equipped) to be printed in duplex for the current mail making job with the Wrapping envelope finisher.	Execute one of the following. (1) Load specified envelope form sheets on the printer and touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current mail making job.	The suspended mail making job will be resumed with a touch- panel operation after error clearance.
W159	3734	1 to 2	WEF Ejection end fence not mounted	The WEF Ejection end fence is not mounted on the Wrapping envelope finisher for a requested mail making job. Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Execute one of the following. (1) Mount the WEF Ejection end fence on the Wrapping envelope finisher and touch the [Continue] button. (2) Touch the [Stop] button. (3) Cancel the requested mail making job.	The suspended mail making job will be resumed with a touch- panel operation after error clearance.
W160	3735	1 to 2	WEF Ejection end fence not in correct position	The WEF Ejection end fence is not positioned in accordance with finished mail format on the Wrapping envelope finisher for a requested mail making job. Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Execute one of the following. (1) Shift the position of the WEF Ejection end fence on the Wrapping envelope finisher according to finished mail format and touch the (Continue) button. (2) Touch the [Stop] button. (3) Cancel the requested mail making job.	The suspended mail making job will be resumed with a touch- panel operation after error clearance.
W188	3736		No paper loaded on printer for WEF (With HCF / In simplex print)	No specified envelope form sheet is loaded on a printer (equipped with the High- capacity feeder) to be printed in simplex for the current mail making job with the Wrapping envelope finisher.	Execute one of the following. (1) Load specified envelope form sheets on the printer and touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current mail making job.	The suspended mail making job will be resumed with a touch- panel operation after error clearance.
W189	3737		No paper loaded on printer for WEF (With HCF / In duplex print)	No specified envelope form sheet is loaded on a printer (equipped with the High- capacity feeder) to be printed in duplex for the current mail making job with the Wrapping envelope finisher.	Execute one of the following. (1) Load specified envelope form sheets on the printer and touch the (Continue) button. (2) Touch the [Stop] button. (3) Delete the current mail making job.	The suspended mail making job will be resumed with a touch- panel operation after error clearance.

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Panel Messages

Туре	Point	vc	Summary	Description	Recovery Action	Remarks
W257	3757		Unexpected cooling down on PB before paper transfer on printer	The Perfect binder has been unexpectedly cooled down before a printer starts feeding booklet body sheets for the current booklet-making job.	Execute either of the following. (1) Touch the [Continue] button to heat up the Perfect binder. (2) Touch the [Stop] button.	The suspended booklet-making job will be resumed with a touch-panel operation after error clearance.
W105	3760		No prepared boby sheet loaded on PB for manual booklet-making job	No prepared body sheet is loaded in the Body text stacker on the Perfect binder for a manual booklet-making job.	Execute one of the following. (1) Load prepared body sheets in the Body text stacker on the Perfect binder and touch the [Continue] button. (2) Touch the [Stop] button. (3) Cancel the current booklet-making job.	The suspended booklet-making job will be resumed with a touch-panel operation after error clearance.
S107	3762	1 to 2	PB Paper transport speed error	Paper transport speed has gone out of proper range on the Perfect binder. Variation code (Transported paper type): - 1: Booklet body sheets, whose transport speed has gone down to less than 333mm/s or gone up to more than 735mm/s. - 2: Booklet cover sheets, whose transport speed has become slower or faster than that of booklet body sheets by more than 5%.	Turn OFF the printer. (Sub power key OFF)	
W124	3763		PB Booklet body sheet width error	The width of booklet body sheets is not proper for booklet-making jobs with the Perfect binder. - The said sheet width is wider or narrower than a standard one, i.e. A4, B5, A5 or Letter size, by 2mm or more.	Touch the [Close] button.	It is not possible to resume operation after error recovery.
W125	3764		PB Booklet cover sheet width error	The width of booklet cover sheets is not proper for booklet-making jobs with the Perfect binder. - The said sheet width is wider or narrower than a standard one, i.e. A4, B5, A5 or Letter size, by 2mm or more.	Touch the [Close] button.	It is not possible to resume operation after error recovery.
U111	3765		HCS Operation locked	The High-capacity stacker is prohibited from operating through the parameter setting (at "1") in the test mode No. TM30-6-006 "HCS LOCK SETTING."	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, change the parameter setting to "0" in the said test mode.	
U660	3771	1 to 2	MFF FI Entrance transfer motor failure	The FI Entrance transfer motor has failed in the FI (Finisher Interface) unit of the Multifunction finisher. Variation code (Causes): - 1: Locked - 2: Overcurrent	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U660	3772	1 to 2	MFF FI Switchback transfer motor failure	The FI Switchback transfer motor has failed in the FI (Finisher Interface) unit of the Multifunction finisher. Variation code (Causes): - 1: Locked - 2: Overcurrent	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U660	3773	1 to 2	MFF FI Switchback motor failure	The FI Switchback motor has failed in the FI (Finisher Interface) unit of the Multifunction finisher. Variation code (Causes): - 1: Locked - 2: Overcurrent	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U660	3774	1 to 2	MFF FI Switchback elevation motor failure	The FI Switchback elevation motor has failed in the FI (Finisher Interface) unit of the Multifunction finisher. Variation code (Causes): - 1: Locked - 2: Overcurrent	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U660	3775	1 to 2	MFF FI Secondary transfer motor failure	The FI Secondary transfer motor has failed in the FI (Finisher Interface) unit of the Multifunction finisher. Variation code (Causes): - 1: Locked - 2: Overcurrent	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U660	3776	1 to 2	MFF FI Exit motor failure	The FI Exit motor has failed in the FI (Finisher Interface) unit of the Multifunction finisher. Variation code (Causes): - 1: Locked - 2: Overcurrent	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
S560	3779		MFF Interface Power failure	A power failure has been detected on the FI (Finisher Interface) unit of the Multifunction finisher.	Turn OFF the printer. (Sub power key OFF)	
U662	3780		MFF Interface Power supply unit cooling fan disconnected	The connection of the FI Power supply unit cooling fan has not been detected on the FI (Fnisher Interface) unit of the Multifunction finisher when the said fan was activated.	Turn OFF the printer. (Sub power key OFF)	
U662	3781	1 to 5	MFF Interface EEPROM access error	An access error has been detected in EEPROM on the FI (Finisher Interface) unit of the Multifunction finisher. Variation code (Error types): - 1: Read error - 2: Write error - 3: Illegal parity value - 4: Verification failure - 5: Unspecified error	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U662	3782	1 to 2	MFF Interface Flash memory access error	An access error has been detected in the flash memory on the FI (Finisher Interface) unit of the Multifunction finisher. Variation code (Error types): - 1: Read error - 2: Write error	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	

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Panel Messages

Туре	Point	vc	Summary	Description	Recovery Action	Remarks
X017	3783	1, 20 & 30	Paper jam at the entrance of MFF Interface unit	An ejected sheet entering the FI (Finisher Interface) unit of the Multifunction finisher has jammed around the FI Entrance sensor. Variation code (Detection process): - 1: No arrival at the sensor - 20: No pass-through the sensor - 30: Presense under the sensor at power-on	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X017	3784	1, 20 & 30	Paper jam in Switchback transfer section in MFF Interface unit	An ejected sheet advancing through the Switchback transfer section in the FI (Finisher Interface) unit of the Multifunction finisher has jammed around the FI Switchback transfer sensor. Variation code (Detection process): - 1: No arrival at the sensor - 20: No pass-through the sensor - 30: Presense under the sensor at power-on	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X017	3785	1, 20 & 30	Paper jam in Switchback section in MFF Interface unit	An ejected sheet advancing through the Switchback section in the FI (Finisher Interface) unit of the Multifunction finisher has jammed around the FI Switchback sensor. Variation code (Detection process): - 1: No arrival at the sensor - 20: No pass-through the sensor - 30: Presense under the sensor at power-on	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X017	3786	1, 20 & 30	Paper jam in Switchback elevation section in MFF Interface unit	An ejected sheet advancing through the Switchback elevation section in the FI (Finisher Interface) unit of the Multifunction finisher has jammed around the FI Switchback elevation sensor. Variation code (Detection process): - 1: No arrival at the sensor - 20: No pass-through the sensor - 30: Presense under the sensor at power-on	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X017	3787	1, 20 & 30	Paper jam in Face-up transfer section in MFF Interface unit	An ejected sheet advancing through the Face-up transfer section in the FI (Finisher Interface) unit of the Multifunction finisher has jammed around the FI Face-up transfer sensor. Variation code (Detection process): - 1: No arrival at the sensor - 20: No pass-through the sensor - 30: Presense under the sensor at power-on	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X017	3788	1, 2, 20 & 30	Paper jam in Secondary transfer section in MFF Interface unit	An ejected sheet advancing through the Secondary transfer section in the FI (Finisher Interface) unit of the Multifunction finisher has jammed around the FI Secondary transfer sensor. Variation code (Detection process): -1: No arrival at the sensor through the face-up route -2: No arrival at the sensor through the switchback route - 20: No pass-through the sensor - 30: Presense under the sensor at power-on	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
X017	3789	1, 2, 20 & 30	Paper jam at the exit of MFF Interface unit	An ejected sheet exiting from the Secondary transfer section in the FI (Finisher Interface) unit of the Multifunction finisher has jammed around the FI Exit sensor. Variation code (Detection process): - 1: No arrival at the sensor through the face-up route - 2: No arrival at the sensor through the switchback route - 20: No pass-through the sensor - 30: Presense under the sensor at power-on	The subsequent error recovery action differs depending on the area from which jammed sheets are to be primarily removed.	
U663	3795	1 to 99	MFF Interface Software error	A software error has been detected on the FI (Finisher Interface) unit of the Multifunction finisher.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	The PCB should be replaced if this error remains even after repeated re-boot actions. A firmware download will be required, besides, unless the situation changes even after PCB replacement.
X120	3800		WEF Enclosure (Body) multiple sheet feed on printer	It has been detected with other feeding enclosure (body) sheets than the initial one that multiple sheets have fed simultaneously on a printer for the current mail making job with the Wrapping envelope finisher. - The detected luminous energy of the corresponding detection sensor was more for the initial sheet than for the subsequent ones by a predefined range or more.	The subsequent error recovery action differs depending on the areas from which fed sheets are to be primarily removed.	The suspended mail making job is to be resumed from the mail prepared immediately before the one whose enclosure (body) sheets multifed.
X120	3801		WEF Enclosure (Body) multiple sheet feed on printer	It has been detected with the initial enclosure (body) sheet that multiple sheets have fed simultaneously on a printer for the current mail making job with the Wrapping envelope finisher. - The detected luminous energy of the corresponding detection sensor was less for the initial sheet than for the subsequent ones by a predefined range or more.	The subsequent error recovery action differs depending on the areas from which fed sheets are to be primarily removed.	The suspended mail making job is to be resumed from the mail whose enclosure (body) sheets multifed.
W202	3810		Internal SSD capacity shortage for WEF mail making job log storage (1GB)	It has been detected when requested to store the current log of mail making jobs finished with the Wrapping envelope finisher into the SSD in a printer that the free space of the said SSD is less than 1 GB, which may not be sufficient for the requested operation.	Touch the [Close] button. * For a fundamental solution, increase the free space in the operator's area of the SSD to 1 GB or more by deleting unnecessary storage print job data or mail making job logs.	Job restart process does not exist because this error occurs without jobs.
W203	3811		External HDD (NAS) storage failure	 The existing log of mail making jobs finished with the Wrapping envelope finisher has failed to be stored into an external HDD, possibly due to an error with the said HDD. A file, such as RINC file, PostScript-kit-related file or syslog, has failied to be stored into an external HDD, i.e. NAS (Network Attached Storage). * Note that NAS is required to be made accessible through the test mode TM No. 01-6-131 *NAS FILE STORE ENDISABLE SELECT* in advance to store the said files there. 	Touch the [Close] button.	It is not possible to resume operation after error recovery.
W204	3812		External HDD not connected for WEF mail making job log storage	It has been detected when requested to store the existing log of mail making jobs finished with the Wrapping envelope finisher into an external HDD that the external HDD is not connected to a printer.	Touch the [Close] button.	It is not possible to resume operation after error recovery.

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Panel Messages

Туре	Point	VC	Summary	Description	Recovery Action	Remarks
W205	3813		Internal SSD capacity shortage for WEF mail making job log storage (100MB)	It has been detected when requested to store the current log of mail making jobs finished with the Wrapping envelope finisher into the SSD in a printer that the free space of the said SSD is less than 100 MB, thus canceling the current mail making job.	Touch the [Close] button. * For a fundamental solution, increase the free space in the operator's area of the SSD to 1 GB or more by deleting unnecessary storage print job data or mail making job logs.	It is not possible to resume operation after error recovery.
W206	3814		External HDD capacity shortage for WEF mail making job log storage (1GB)	It has been detected when requested to store the current log of mail making jobs finished with the Wrapping envelope finisher into an external HDD that the free space of the said HDD is less than 1 GB, which may not be sufficient for the requested operation.	Touch the [Close] button. * For a fundamental solution, increase the free space in the external HDD to 1 GB or more by deleting unnecessary mail making job logs.	Job restart process does not exist because this error occurs without jobs.
W207	3815		External HDD capacity shortage for WEF mail making job log storage (100MB)	It has been detected when requested to store the current log of mail making jobs finished with the Wrapping envelope finisher into an external HDD that the free space of the said HDD is less than 100 MB, thus canceling the current mail making job.	Touch the [Close] button. * For a fundamental solution, increase the free space in the external HDD to 1 GB or more by deleting unnecessary mail making job logs.	It is not possible to resume operation after error recovery.
W197	3820		Too low temperature for firm envelope form closure in WEF	It has been detected when starting or resuming a mail making job with the Wrapping envelope finisher that the temperature remains too low, between 0°C and 11°C (not including 11°C), for firm envelope form closure inside the said equipment.	Execute one of the following. (1) Touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current mail making job.	The suspended mail making job will be resumed with a touch- panel operation after error clearance.
W198	3821		Too low or high temperature for normal operation in WEF	It has been detected when starting or resuming a mail making job with the Wrapping envelope finisher that the temperature has become too low (below 0°C) or too high (60°C or more) for normal operation inside the said equipment, thus canceling the current mail making job.	Touch the [Close] button.	It is not possible to resume operation after error recovery.
W070	3822		WEF Test mode parameter configuration error	An incompatible parameter combination has been made among the following test mode items for the Wrapping envelope finisher: - TM No. 33-6-044 "WEF Eject Elevation Belt-Pause-Manual" - TM No. 33-6-047 "WEF Eject Elevation Belt-Pause Time" - TM No. 33-6-047 "WEF Low Temperature Flap Watering Count" 	Touch the [Close] button. * For a fundamental solution, change the corresponding test mode parameters to avoid the said incompatible combinations.	An error that occurs only in test modes. Job restart process does not exist because this error occurs without jobs.
W130	3850		HCS Paper stacking error (Stacked sheet edge rising)	The Paper top face detection sensor 2 remains blocked on the High-capacity stacker, which indicates that the raised leading or trailing edge of stacked sheets leans against the paper guide on the Stacking tray. * Printed sheets advancing in the printer and the High-capacity stacker are all to be ejected into the Stacking tray before suspending operation.	Execute one of the following. (1) Open the Stacking unit door, rearrange protruding sheets on the Stacking tray and then close the opened door. (2) Touch the [Stop] button. (3) Delete the current print job.	The suspended print job will be resumed with a touch-panel operation after error clearance.
U120	3852		HCS Stacking tray excessive elevation	The Tray upper limit sensor has been blocked on the High-capacity stacker.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	It is suspected that the Paper top detection sensor 1 is broken, thus causing this error.
W130	3853		HCS Card stacking error (Stacked card edge rising)	The Paper top face detection sensor 2 remains blocked on the High-capacity stacker, which inidicates that the raised leading edge of stacked cards leans against the paper guide on the Stacking tray due to peeled-off paper face on the back. * Printed cards advancing in the printer and the High-capacity stacker are all to be ejected into the Stacking tray before suspending operation.	Execute one of the following. (1) Open the Stacking unit door, rearrange protruding cards on the Stacking tray and then close the opened door. (2) Touch the [Stop] button. (3) Delete the current print job.	The suspended print job will be resumed with a touch-panel operation after error clearance.
S087	3855	1 to 9	HCS software error	A software error has been detected on the High-capacity stacker.	Turn OFF the printer (Sub power key OFF)	
S087	3856	1 to 9	HCS software error	A software error has been detected on the High-capacity stacker.	Turn OFF the printer (Sub power key OFF)	
S087	3857	1 to 9	HCS software error	A software error has been detected on the High-capacity stacker.	Turn OFF the printer (Sub power key OFF)	
W138	3858		HCS Stacked sheet unloading request (without a print job request)	It has been detected at power-on or wake-up from the sleep mode, without a print job request, that stacked sheets remain on the Stacking tray in the High- capacity stacker, thus requesting their unloading from the said tray without information on their paper format due to unknown paper guide positions on the said tray. * Another error code, W132-3860, will be indicated if the said detection is made with a print job request.	Execute either of the following. (1) Touch the [Close] button. (2) Take out sil stacked sheets from the High- capacity stacker.	Job restart process does not exist because this error occurs without jobs.
W132	3859	1 to 2	HCS Stacked sheet unloading request	It is requested to unload stacked sheets from the Stacking tray, which was lowered to the bottom at the end of the preceding print job according to a special administrator setting, in the High-capacity stacker before the start of the current print job. '' Under the said special administrator setting, the Stacking tray is to be lowered down to a specified level or to the bottom, i.e. tray carrier loading position, at the end of the respective print jobs, to avoid multiple-page prints from being blended into a stack of prints on the Stacking tray. 'Variation code (Requested through): - 1: PMS - 2: Engine control PCB	Execute one of the following. (1) Touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current print job.	The suspended print job will be resumed with a touch-panel operation after error clearance.
W132	3860		HCS Stacked sheet unloading request (with a print job request)	It has been detected at power-on or wake-up from the sleep mode, given a print pob request, that stacked sheets remain on the Stacking tray in the High-capacity stacker, thus requesting their unloading from the said tray without information on their paper format due to unknown paper guide positions on the said tray. * Another error code, W138-3858, will be indicated if the said detection is made without a print job request.	Execute one of the following. (1) Touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current print job.	The suspended print job will be resumed with a touch-panel operation after error clearance.

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
Z059	3861		HCS Staking tray unmounted	When the Stacking tray elevator motor was activated to raise the Stacking tray up to the stacking position, it has been detected that the Tray set sensor is open (unblocked) on the High-capacity stacker, i.e. the said tray is not mounted inside, thus suspending operation.	Open the Stacking unit door, mount the Stacking tray inside and then close the opened door.	
W134	3862	1 to 3	Inexecutable print job with HCS	A print job whose settings, such as paper format and finishing option, are not applicable with the High-capacity stacker has been specified on the printer, thus prohibiting the execution of the said print job. Variation code (Detected by): - 1: PMS - 2: Engine control PCB - 3: PMS (USB-connected-equipment-related software)	Touch the [Close] button.	It is not possible to start the current print job after error recovery.
Z058	3863		HCS Tray carrier not housed	It has been detected at power-on that the Tray carrier sensor is open (unblocked) on the High-capacity stacker, i.e. the Tray carrier is not housed inside, thus prohibiting operation.	Open the Stacking unit door, house the Tray carrier inside and then close the opened door.	The error code Z057-3627 "HCS Stacking unit door opened" will be indicated during the corresponding error code clearance action.
W135	3864	1 to 2	HCS Paper format/type mixture notification	A print job whose paper format or type is different from that of stacked sheets in the High-capacity stacker has been requested on the printer, thus suspending operation to prompt an operator to unload the stacked sheets in advance in order to avoid possible stack collapse through rough stacking. * This error code will also be indicated when the information on paper format and type of stacked sheets is not available due to reboot or wake-up from the sleep mode on the printer, regardless of the paper format or type specified in the requested print job. Variation code (Detected by): - 1: PMS - 2: Engine control PCB	Execute one of the following. (1) Open the Stacking unit door and unload stacked sheets inside. Then close the opened door and touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current print job.	The suspended print job will be resumed with a touch-panel operation after error clearance.
U126	3865		Undefined data in HCS data backup	Undefined data has been detected during data backup on the High-capacity stacker.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, upgrade the firmware for peripherals.	
U125	3866		CRC error in HCS data backup	A CRC (Cycliv Redundancy Check) error has been detected during data backup on the High-capacity stacker.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, change the EEPROM on HCS.	
U125	3867		Recovery error of HCS backup data	Failed to recover the backup data on the High-capacity stacker.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, change the EEPROM on HCS.	
U125	3868		Illegal device information in HCS backup data	The device information in the backup data has been detected illegal on the High- capacity stacker.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, check if the EEPROM corresponding to the current device is installed or change the related PCB on HCS.	
U125	3869		Unusual EEPROM status on HCS	An unusual EEPROM status has been detected on the High-capacity stacker.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, check if the said EEPROM is correctly installed or change the EEPROM or the related PCB on HCS.	
U126	3870		Illegal EEPROM address on HCS	An illegal EEPROM address has been detected on the High-capacity stacker.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, upgrade the firmware for peripherals.	
U125	3871		Time-out error in communication with HCS EEPROM	Data transmission has not started within a predefined amount of time during serial communication with EEPROM on the High-capacity stacker, causing a time-out error.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, change the EEPROM or the related PCB on HCS.	
U125	3872		Time-out error in communication with HCS EEPROM	Data transmission has not finished within a predefined amount of time during serial communication with EEPROM on the High-capacity stacker, causing a time-out error.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, change the EEPROM or the related PCB on HCS.	
U125	3873		Data reception error in communication with HCS EEPROM	A data reception error has been detected during serial communication with EEPROM on the High-capacity stacker.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, change the EEPROM or the related PCB on HCS.	
U125	3874		Time-out error in communication with HCS EEPROM	Data reception has not finished within a predefined amount of time during serial communication with EEPROM on the High-capacity stacker, causing a time-out error.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, change the EEPROM or the related PCB on HCS.	
U125	3875		Flash memory writing failure on HCS	Failed to write data to flash memory on the High-capacity stacker.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, change the related PCB on HCS.	
U126	3876		Unusual data size in flash memory writing on HCS	It has been detected during writing data to flash memory on the High-capacity stacker that the current data size is unusual.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, upgrade the firmware for peripherals.	

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
U126	3877		Unusual data address in flash memory writing on HCS	It has been detected during writing data to flash memory on the High-capacity stacker that the current data address is unusual.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, upgrade the firmware for peripherals.	
U091	3879		HCS Paper end base solenoid failure	The Paper end base elevation sensor has not been blocked though the Paper end base solenoid was activated on the High-capacity stacker.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U091	3880		HCS Stacking tray elevator motor overcurrent	Overcurrent has been detected in the Stacking tray elevator motor on the High- capacity stacker.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	Overcurrent detection has been introduced to protect the Stacking tray elevator motor on the High-capacity stacker.
U091	3881		HCS Stacking tray elevator motor failure	A drive waveform cannot be detected from the Stacking tray elevator motor even after the activation of the said motor on the High-capacity stacker.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
X054	3882		Enclosure (Body) sheet jam in Alignment (Tamper) unit in WEF	An advancing enclosure (body) sheet has not passed through the WEF Medium (Body) tamper sensor in the Wrapping envelope finisher within a predefined amount of time, possibly because it has stuck or been caught along the anterior paper path due to static electricity, thus leading the current enclosure (body) alignment operation to be interrupted.	The subsequent error recovery action differs depending on the areas from which jammed sheets are to be primarily removed.	
X054	3883		Jammed enclosure (body) sheets remaining in Alignment (Tamper) unit in WEF	It has been detected when the Front door was closed on the Wrapping envelope finisher that jammed enclosure (body) sheets still remain on the WEF Medium (Body) tamper sensor in the said equipment.	The subsequent error recovery action differs depending on the areas from which jammed sheets are to be removed.	
U127	3884		WEF Gluing plate stand-by position error	The Gluing plate is not correctly placed at the gluing stand-by position in the Wrapping envelope finisher;	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
S558	3885		24V power failure on WEF Drive PCB 1	24V power has failed on the WEF Drive PCB 1 on the Wrapping envelope finisher.	Turn OFF the printer. (Sub power key OFF)	-
S558	3886		36V power failure on WEF Drive PCB 1	36V power has failed on the WEF Drive PCB 1 on the Wrapping envelope finisher.	Turn OFF the printer. (Sub power key OFF)	-
S558	3887		24V power failure on WEF Drive PCB 2	24V power has failed on the WEF Drive PCB 2 on the Wrapping envelope finisher.	Turn OFF the printer. (Sub power key OFF)	-
S558	3888		36V power failure on WEF Drive PCB 2	36V power has failed on the WEF Drive PCB 2 on the Wrapping envelope finisher.	Turn OFF the printer. (Sub power key OFF)	-
S557	3889		HCS 36V power failure	A 36 V voltage error has been detected on the High-capacity stacker.	Turn OFF the printer. (Sub power key OFF)	
S557	3890		HCS 36VE power failure	A 36 VE voltage error has been detected on the High-capacity stacker.	Turn OFF the printer. (Sub power key OFF)	
S557	3891		HCS 24VE power failure	A 24 VE voltage error has been detected on the High-capacity stacker.	Turn OFF the printer. (Sub power key OFF)	
X257	3899		Paper jam in MFF (Unspecified point)	A printed sheet advancing through the Multifunction finisher has jammed at an unspecified point inside.	Remove jammed sheets remaining in the Multifunction finisher.	
X257	3900	30	Jammed sheets remaining in MFF (Unspecified point)	It has been detected that jammed sheets remain at multiple points in the Multifunction finisher. Variation code (Detection process): - 30: Presense under the sensor at power-on	Remove jammed sheets remaining in the Multifunction finisher.	
X021	3901	1	Paper jam in MFF Folder unit	A printed sheet has jammed at the entrance of the Folder unit in the Multifunction finisher. Variation code (Detection process): - 1: An advancing printed sheet has not reached the FF Entrance sensor within a predefined amount of time.	Remove jammed sheets remaining in the Folder unit.	
X021	3902	1	Paper jam in MFF Folder unit	A printed sheet has jammed in the Folder unit in the Multifunction finisher. Variation code (Detection process): - 1: An advancing printed sheet has not reached the FF Rake sensor within a predefined amount of time.	Remove jammed sheets remaining in the Folder unit.	
X021	3903	1	Paper jam in MFF Folder unit	A printed sheet has jammed in the Folder unit in the Multifunction finisher. Variation code (Detection process): - 1: An advancing printed sheet has not reached the FF Fold sensor 1 within a predefined amount of time.	Remove jammed sheets remaining in the Folder unit.	
X021	3904	1 & 20	Paper jam in MFF Folder unit	A printed sheet has jammed in the Folder unit in the Multifunction finisher. Variation code (Detection process): - 1: An advancing printed sheet has not reached the FF Fold sensor 2 within a predefined amount of time. - 20: An advancing printed sheet has not passed through the FF Fold sensor 2 within a predefined amount of time.	Remove jammed sheets remaining in the Folder unit.	
X021	3905	1	Paper jam in MFF Folder unit	A printed sheet has jammed in the Folder unit in the Multifunction finisher. Variation code (Detection process): - 1: An advancing printed sheet has not reached the FF Elevation sensor within a predefined amount of time.	Remove jammed sheets remaining in the Folder unit.	

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
X021	3906	1&2	Paper jam in MFF Folder unit	A printed sheet has jammed at the exit of the Folder unit in the Multifunction finisher. Variation code (Detection process): - 1: An advancing unfolded printed sheet has not reached the FF Exit sensor within a predefined amount of time. - 2: An advancing folded printed sheet has not passed through the FF Exit sensor within a predefined amount of time.	Remove jammed sheets remaining in the Folder unit.	
X022	3907	1 & 20	Paper jam in MFF Punch unit	A printed sheet has jammed at the entrance of the Punch unit in the Multifunction finisher. Variation code (Detection process): - 1: An advancing printed sheet has not reached the FM Punch IN sensor within a predefined amount of time. - 20: An advancing printed sheet has not passed through the FM Punch IN sensor within a predefined amount of time.	Remove jammed sheets remaining in the Punch unit.	
X022	3908	1 & 20	Paper jam in MFF Punch unit	A printed sheet has jammed in the Punch unit in the Multifunction finisher. Variation code (Detection process): - 1: An advancing printed sheet has not reached the FM Punch OUT sensor within a predefined amount of time. - 20: An advancing printed sheet has not passed through the FM Punch OUT sensor within a predefined amount of time.	Remove jammed sheets remaining in the Punch unit.	
X022	3909	1 & 20	Paper jam in MFF Punch unit	A printed sheet has jammed in the Punch unit in the Multifunction finisher. Variation code (Detection process): - 1: An advancing printed sheet has not reached the FM Punch exit sensor within a predefined amount of time. - 20: An advancing printed sheet has not passed through the FM Punch exit sensor within a predefined amount of time.	Remove jammed sheets remaining in the Punch unit.	
X022	3910	1	Paper jam in MFF Overpass section	A printed sheet has jammed in the Overpass section in the Multifunction finisher. Variation code (Detection process): - 1: An advancing printed sheet has not reached the FM Top tray transfer sensor within a predefined amount of time.	Remove jammed sheets remaining in the Overpass section in the Multifunction finisher.	
X022	3911	1 & 20	Paper jam in MFF Overpass section	A printed sheet has jammed in the Overpass section in the Multifunction finisher. Variation code (Detection process): - 1: An advancing printed sheet has not reached the FM Top tray exit sensor within a predefined amount of time. - 20: An advancing printed sheet has not passed through the FM Top tray exit sensor within a predefined amount of time.	Remove jammed sheets remaining in the Overpass section in the Multifunction finisher.	
X022	3912	1 to 3 & 20	Paper jam in MFF Stapler unit or Stacking tray	A printed sheet has jammed in the Stapler unit or Stacking tray in the Multifunction finisher. Variation code (Detection process): - 1: An advancing non-buffered printed sheet has not reached the FM Stacking transfer sensor within a predefined amount of time. - 2: A advancing buffered printed sheet has not reached the FM Stacking transfer sensor within a predefined amount of time. - 3: Advancing non-buffered and buffered printed sheets have not reached the FM Stacking transfer sensor within a predefined amount of time. - 20: An advancing printed sheet has not passed through the FM Stacking transfer sensor within a predefined amount of time.	Remove jammed sheets remaining in the Stapler unit or Stacking tray.	
X022	3913	1 & 20	Paper jam in MFF Stapling section	A printed sheet has jammed in the Stapling section in the Multifunction finisher. Variation code (Detection process): - 1: An advancing printed sheet has not reached the FM Buffer path sensor within a predefined amount of time. - 20: An advancing printed sheet has not passed through the FM Buffer path sensor within a predefined amount of time.	Remove jammed sheets remaining in the Stapling section.	
X022	3914	1 & 20	Paper jam in MFF Booklet unit	A printed sheet has jammed at the entrance of the Booklet unit in the Multifunction finisher. Variation code (Detection process): - 1: An advancing printed sheet has not reached the FM Booklet transfer sensor within a predefined amount of time. - 20: An advancing printed sheet has not passed through the FM Booklet transfer sensor within a predefined amount of time.	Remove jammed sheets remaining in the Booklet unit.	
X022	3915	1 & 20	Paper jam in MFF Stapler unit or Stacking tray	A printed sheet has jammed at the exit of the Stapler unit or in the Stacking tray on the Multifunction finisher. Variation code (Detection process): - 1: An advancing printed sheet has not reached the FM Stacking eject sensor within a predefined amount of time. - 20: An advancing printed sheet has not passed through the FM Stacking eject sensor within a predefined amount of time.	Remove jammed sheets remaining in the Stapler unit or Stacking tray.	
X022	3916	1 & 20	Paper jam in MFF Booklet unit	A printed sheet has jammed in the Booklet unit in the Multifunction finisher. Variation code (Detection process): - 1: An advancing printed sheet has not reached the FB eject sensor within a predefined amount of time. - 20: An advancing printed sheet has not passed through the FB eject sensor within a predefined amount of time.	Remove jammed sheets remaining in the Booklet unit.	
Y006	3920		MFF Staple bin full	The Staple bin has become full of discarded staples on the Multifunction finisher. (The count of staples discarded after the detection of scarce free space (near-full status) in the Staple bin has reached a predefined number on the Multifunction finisher.)	Execute one of the following. (1) Empty the Staple bin and touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current print job.	
Z015	3921		MFF Staple bin not set in position	The Staple bin has been taken out from the Multifunction finisher. (The FM Staple bin set sensor has been opened (unblocked) on the Multifunction finisher.)	Set the Staple bin in position.	

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Panel Messages

Туре	Point	vc	Summary	Description	Recovery Action	Remarks
9. Erro	r Point	4000 TI	1rough 4999 (Scanner Re	lated)		
U195	4100		Download error (Scanner)	Failed to download the FB (Flatbed) program. (The FB program could not be written as a program file error or checksum error occurred during download.)	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended.
U195	4101		Firmware download error (Scanner)	Failed to download the AF (Auto document feeder) program. (The AF program could not be written into the AF-EEPROM during download.)	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended.
U195	4102		Firmware download error (Scanner)	Failed to download the AF (Auto document feeder) program. (A NACK (Negative acknowledgement) has been transmitted from the Auto document feeder because a regular operation command was received during download.)	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended.
U195	4103		Firmware download error (Scanner)	Failed to download the AF (Auto document feeder) program. (A communication sequence error (control signal error) has occurred during download.)	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended.
U195	4104		Firmware download error (Scanner)	Failed to download the AF (Auto document feeder) program. (A checksum error has occurred during download.)	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended.
U195	4105	1 to 4	Firmware download error (Scanner)	Failed to download the FB (Flatbed) program. Variation code (Details): - 1: The FB program could not be written into the flash memory on the FB main control PCB - 2: The CCD PCB is not proper on the Auto document feeder. - 3: The CCD PCB is not proper on the Flatbed unit. - 4: The CCD PCB is not proper on both the Auto document feeder and the Flatbed unit.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended.
U195	4106		Firmware download error (Scanner)	Failed to download the AF (Auto document feeder) program. (A program file error, such as a missing download file, has occurred during download.)	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended.
U195	4107		Firmware download error (Scanner)	Failed to download the AF (Auto document feeder) program. (The flash memory could not be erased on the AF main control PCB.)	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended.
U001	4120		Scanner communication error	It has been detected by the PMS that the full-speed mode is applied in USB communication with the scanner instead of the high-speed one.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * The following actions could also clear this error message. - Plug off the scanner cable and connect it again. - Pug off the power cable of the scanner and connect it again.	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U001	4121		Scanner communication error	The USB cable has been disconnected while transmitting image data from the scanner.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * The following actions could also clear this error message. - Connect the scanner cable again. - Pulg off the power cable of the scanner and connect it again.	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U007	4130		Scanner EEPROM configuration error	No serial number is recorded in the EEPROM on the FB main control PCB.	Turn OFF the printer. (Sub power key OFF)	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U007	4131		Scanner EEPROM configuration error	The test mode setting values saved in the EEPROM on the FB or AF main control PCB are out of the predefined range.	Turn OFF the printer. (Sub power key OFF)	All operations will be suspended. The printer is to be in the standby mode after error recovery. * Notification priority in simultaneous EEPROM configuration error occurrence at power-on - 1: U007-4134 - 2: U007-4132 - 3: U007-4131 - 4: U010-4133
U007	4132		Scanner EEPROM configuration error	The image processing parameters saved in the EEPROM on the FB or AF main control PCB are out of the predefined range.	Turn OFF the printer. (Sub power key OFF)	All operations will be suspended. The printer is to be in the standby mode after error recovery. * Notification priority in simultaneous EEPROM configuration error occurrence at power-on - 1: U007-4134 - 2: U007-4131 - 3: U007-4131 - 4: U010-4133
U010	4133		Scanner EEPROM configuration error	The test mode reference values saved in the EEPROM on the FB or AF main control PCB are out of the predefined range.	Turn OFF the printer. (Sub power key OFF)	All operations will be suspended. ** Notification priority in simultaneous EEPROM configuration error occurrence at power-on - 1: U007-4134 - 2: U007-4132 - 3: U007-4131 - 4: U010-4133
U007	4134		Scanner EEPROM configuration error	The adjustment values saved in the EEPROM on the FB or AF main control PCB are out of the predefined range.	Turn OFF the printer. (Sub power key OFF)	All operations will be suspended. * Notification priority in simultaneous EEPROM configuration error occurrence at power-on - 1: U007-4134 - 2: U007-4132 - 3: U007-4131 - 4: U010-4133
U098	4140		Scanner EEPROM configuration error	The boot-up pattern saved in the EEPROM on the FB or AF main control PCB is not a correct one, i.e. the initialization one nor a recognized one.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
U098	4141		Scanner EEPROM access error	The EEPROM on the FB or AF main control PCB cannot be accessed, preventing data from being read or written.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U098	4142		Scanner EEPROM CRC error	The checksum cannot be verified due to CRC error in the EEPROM on the FB or AF main control PCB.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U098	4143		Scanner EEPROM configuration error	The model code recorded in the EEPROM on the FB main control PCB does not correspond with the one provided to the FB main control PCB itself.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U098	4144		Scanner EEPROM format error	It has been detected at power-on that the format version of the EEPROM on the FB or AF main control PCB is updated and not compatible with the current firmware of the printer.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, update the printer's firmware as well.	This error may occur when the printer's firmware has been reverted back to the previous (older) one.
U098	4150		Scanner flash memory write error	Failed to write on the flash memory on the FB or AF main control PCB. (The sector erasure or sector writing process on the flash memory on the FB or AF main control PCB has timed out.)	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U099	4160		Scanner system error	An undefined and unanticipated error has occurred in the operation of the scanner due to an illegal system configuration of the scanner.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, update the scanner's firmware.	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
						All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U098	4180		Scanner FPGA configuration failure	Failed to configure the front or rear FPGA (Field Programmable Gate Array) on the FB or AF main control PCB.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	* As this error cannot be notified to the printer without USB communication, the LED will only blink there when this error occurs.
U098	4190		Scanner communication error	The communication with the scanner has timed out without image data output from the image processing IC on the FB or AF main control PCB.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U002	4200		Scanner communication error	Image data has not been transmitted to the Controller PCB on the printer, possibly due to a poor USB connection or a time-out error on the scanner.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * The following actions could also clear this error message. - Plug off the scanner cable and connect it again. - Pulg off the power cable of the scanner and connect it again.	All operations will be suspended. The printer is to be in the standby mode after error recovery. * As this error cannot be notified to the printer without USB communication, the LED will only blink there when this error occurs.
U002	4201		Scanner communication error	A request command for scanning operation has not been received from the Controller PCB on the printer while the scanner is ready to scan the following original.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * The following actions could also clear this error message. - Plug off the scanner cable and connect it again. - Pug off the power cable of the scanner and connect it again.	All operations will be suspended. The printer is to be in the standby mode after error recovery. * As this error cannot be notified to the printer without USB communication, the LED will only blink there when this error occurs.
U098	4210		Scanner DSP firmware download failure	The firmware download has failed for the image processing DSP (Digital Signal Processor) on the FB or AF main control PCB. (After it was confirmed that the booting process of the image processing DSP had not been completed on the FB or AF main control PCB during the initial firmware download process, it has been detected that it has not been completed during the second firmware download process as well.)	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U098	4211		Scanner DSP initiation failure	The initiation process of the image processing DSP (Digital Signal Processor) on the FB or AF main control PCB has not been completed within 10 msec since the start of the said process.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U098	4212		Scanner DSP termination failure	The termination process of the image processing DSP (Digital Signal Processor) on the FB or AF main control PCB has not been completed within 10 msec since the start of the said process.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U098	4213		Scanner DSP-host command communication error	The command communication between the host (printer) and the image processing DSP (Digital Signal Processor) on the FB or AF main control PCB has not been completed within 10 msec since the start of the said communication.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U098	4214		Scanner DSP illegal command receipt (Undefined objective code)	NACK (Negative acknowledgement) signal has been returned from the image processing DSP (Digital Signal Processor) on the FB or AF main control PCB to the host (printer) due to receipt of an illegal command, whose objective code is undefined.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U098	4215		Scanner DSP illegal command receipt (Undefined parameter code)	NACK (Negative acknowledgement) signal has been returned from the image processing DSP (Digital Signal Processor) on the FB or AF main control PCB to the host (printer) due to receipt of an illegal command, whose parameter code is undefined.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U098	4216		Scanner DSP illegal command receipt (Table data shortage)	NACK (Negative acknowledgement) signal has been returned from the image processing DSP (Digital Signal Processor) on the FB or AF main control PCB to the host (printer) due to receipt of an illegal command, whose table data volume is less than specified.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
U098	4217		Scanner DSP illegal command receipt (Excessive table data)	NACK (Negative acknowledgement) signal has been returned from the image processing DSP (Digital Signal Processor) on the FB or AF main control PCB to the host (printer) due to receipt of an illegal command, whose table data volume is more than specified.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U098	4218		Scanner Undefined command receipt from DSP	The host (printer) has received an undefined command from the image processing DSP (Digital Signal Processor) on the FB or AF main control PCB.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U018	4230		Scanner Custom color profile data error	Scanning has been executed while applying color profile data in the custom area without downloading the corresponding data there. * In this case, the corresponding serial number is indicated as "0000."	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, set the parameter in the test mode TM No. 21-6-076 *Color Profile Selection* at *0* (Standard).	All operations will be suspended. The printer is to be in the standby mode after error recovery.
U018	4250		Scanner Custom color profile data download failure	Color profile data has failed to be downloaded into the specified custom area.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, set the parameter in the test mode TM No. 21-6-076 *Color Profile Selection* at *0* (Standard).	All operations will be suspended. The printer is to be in the standby mode after error recovery.
U003	4300		Scanner FB carriage operation error	The FB carriage module has not finished the predefined positioning action within the period which is 1.2 times as long as the one assumed to be required to finish the said action.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U003	4301		FB carriage HP sensor failure	The FB carriage HP sensor remains blocked even when the FB carriage module has been shifted as far as to the position where the said sendor should be opened (unblocked).	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U003	4302		FB carriage HP sensor failure	The FB carriage HP sensor remains opened (unblocked) even when the FB carriage module has been shifted as far as to the position where the said sendor should be blocked.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U003	4303		Scanner FB carriage shift range error	The shift distance of the FB carriage module or the scanning light frequency is configured beyond the allowable range.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U003	4304		Scanner FB carriage control error	The shifting operation of the FB carriage module has not been interrupted to execute other required operations at the specified carriage-motor-pulse-counted points, such as the leading and trailing edges of originals and white shading compensation position.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, update the scanner's firmwares, i.e. SH and Rear FPGA firmwares.	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U003	4310		Scanner Black shading compensation time-out	The Black shading compensation has not been completed within the predefined amount of time, without the termination command inserted from the FPGA (Field Programmable Gate Array) on the FB or AF main control PCB.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U003	4311		Scanner White shading compensation time-out	The White shading compensation has not been completed within the predefined amount of time, without the termination command inserted from the FPGA (Field Programmable Gate Array) on the FB or AF main control PCB.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U003	4312		Scanner Shading compensation coefficient generation time-out	The Shading compensation coefficient generation has not been completed within the predefined amount of time, without the termination command inserted from the FPGA (Field Programmable Gate Array) on the FB or AF main control PCB.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, update the scanner's firmwares, i.e. 2H and Front FPGA firmwares, or replace the FB or AF main control PCB.	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U003	4316		Scanner lamp operation error	The Scanner lamp remains ON even after the lighting time required for the maximum-size scanning operation has passed.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended after turning off the Scanner lamp. When restarting, the printer restarts with the normal activation sequence.
U003	4322		Scanner Gain adjustment failure	The analog or digital Gain adjustment has failed to take effect, thus leading the number of pixels whose luminance (density) level was over the given threshold to remain below the expected level even when the said adjustment values were maximized.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, replace such devices as CCD lamp, CCD PCB or Scanner PCB.	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U003	4323		Scanner Gain adjustment failure	No response has been received from the FPGA (Field Programmable Gate Array) on the FB or AF main control PCB within the predefined amount of time (5000 msec) since the start of acquisition of white-level pixel data from the said FPGA during the Gain adjustment.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U003	4324		Scanner LED lamp intensity adjustment failure	The Scanner LED lamp intensity adjustment has failed to take effect, thus leading the number of pixels whose luminance (density) level was over the given threshold to remain below the expected level even when the said adjustment value was maximized up to 100%.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, replace such devices as CCD lamp, CCD PCB or Scanner PCB.	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U003	4325		Scanner LED lamp intensity adjustment failure	The counting of the number of pixels whose luminance (density) was over the given threshold has not been completed within the predefined amount of time during the Scanner LED lamp intensity adjustment.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, replace such devices as CCD lamp, CCD PCB or Scanner PCB.	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U006	4330		Scanner still locked for transportation	An operation request command has been received from the Controller PCB on the printer while the scanner is still locked so that its movement can be prevented during transportation.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, change the parameter in the test mode TM No. 21-6-002 *Scanner Lock/Unlock Selection* at "0" (Unlocked).	All operations will be suspended. The printer is to be in the standby mode after error recovery.

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
U098	4340		Scanner CCD initialization failure	The CCD PCB has failed to be initialized on the scanner.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U098	4341		Scanner SSI communication error	The SSI (Small-Scale Integration) communication interrupt has not been permitted within 20 msec since the start of the below-listed SSI communications. - Data transmission to the A/D converter (Data writing) - Data transmission to the CCD PCB (Data writing) - Data reception from the CCD PCB (Data reading)	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U099	4342		Scanner CCD communication error	The CCD communication lock has not been released within 100 msec since the start of the below-listed CCD communications. - Scanner Offset/Cain adjustment - Acquisition of original document format data for scanning - Recording of white shading compensation data etc.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U098	4350	1 to 3	Scanner cooling fan failure	A cooling fan in the scanner has not started operating within 50 msec since the operation of the said fan was requested. Variation code (Affected component): 1: Power supply unit cooling fan 2: FB (Flatbed) LED cooling fan 3: AF (Auto document feeder) LED cooling fan	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U008	4360		Scanner profiling data missing	It has been detected at the start of scanning that the scanner profiling data is not saved in the flash memory on the FB or AF main control PCB.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, execute the test mode TM No. 21-3-202 "Scamer Profile Mode" and save the scanner profiling data into the flash memory. If this error message still appears, execute the said test mode again after letting the scanner cool down.	All operations will be suspended. The printer is to be in the standby mode after error recovery.
U008	4361		Scanner profiling data error	The scanner profiling data, which was generated through the test mode TM No. 21-3-026 "Scanner Profile Mode," is improper, as for which, 30% or more gap exists between the recorded maximum and minimum values or it is detected that the scanner lamp intensity did not weaken even after a predefined amount of time during the said data generation process.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, execute the test mode TM No. 21-3-026 "Scanner Profile Mode" and save the scanner profiling data into the flash memory. If this error message still appears, execute the said test mode again after letting the scanner cool down.	All operations will be suspended. The printer is to be in the standby mode after error recovery.
Z001	4400		Scanner AF original feed unit open	The AF (Auto document feeder) original feed unit is open on the scanner.	Close the unit.	All operations will be suspended. The printer is to be in the standby mode after error recovery.
X025	4411		Original jam in Scanner AF	A feeding original sheet has not passed through the AF registration sensor within a predefined amount of time since the start of original feeding on the scanner.	Open the AF original feed unit and remove jammed original sheets.	All operations will be suspended. The printer is to be in the standby mode after error recovery. The suspended print job will be resumed with a touch-panel operation after error clearance.
X025	4412		Original jam in Scanner AF	A feeding original sheet has not passed through the AF front read sensor within a predefined amount of time since it passed through the AF registration sensor.	Open the AF original feed unit and remove jammed original sheets.	All operations will be suspended. The printer is to be in the standby mode after error recovery. The suspended print job will be resumed with a touch-panel operation after error clearance.
X025	4413		Original jam in Scanner AF	A feeding original sheet has not passed through the AF back read sensor within a predefined amount of time since it passed through the AF front read sensor.	Open the AF original feed unit and remove jammed original sheets.	All operations will be suspended. The printer is to be in the standby mode after error recovery. The suspended print job will be resumed with a touch-panel operation after error clearance.
X025	4414		Original misfeed in Scanner AF	An original sheet has not reached the AF registration sensor within a predefined amount of time since the start of original feeding on the scanner.	Open the AF original feed unit and remove the misfed original sheet.	All operations will be suspended. The printer is to be in the standby mode after error recovery. The suspended print job will be resumed with a touch-panel operation after error clearance.
X025	4415		Original jam in Scanner AF	A feeding original sheet has not reached the AF front read sensor within a predefined amount of time since it reached the AF registration sensor.	Open the AF original feed unit and remove jammed original sheets.	All operations will be suspended. The printer is to be in the standby mode after error recovery. The suspended print job will be resumed with a touch-panel operation after error clearance.
X025	4416		Original jam in Scanner AF	A feeding original sheet has not reached the AF back read sensor within a predefined amount of time since it reached the AF front read sensor.	Open the AF original feed unit and remove jammed original sheets.	All operations will be suspended. The printer is to be in the standby mode after error recovery. The suspended print job will be resumed with a touch-panel operation after error clearance.
X025	4417		Scanned original data transmission error	Scanned original image data to be transmitted to the PMS on the printer still remains on the scanner side at the start of the AF scanning.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. The printer is to be in the standby mode after error recovery.
U004	4420		Scanner AF unit disconnected	The AF (Autodocument feeder) unit is not connected to the scanner.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. The printer is to be in the standby mode after error recovery.
U004	4430		Scanner AF program missing	It has been detected at boot-up or AF firmware download that No AF (Auto document feeder) program is saved in the corresponding ROM on the scanner.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. The printer is to be in the standby mode after error recovery.
U004	4440		Scanner AF front read sensor error	It has been notified from the scanner that an error exists in the AF front read sensor.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. The printer is to be in the standby mode after error recovery.

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
U004	4441		Scanner AF original feed motor cooling fan failure	It has been notified from the scanner that an error exists in the AF original feed motor cooling fan, thus disabling the said fan.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. The printer is to be in the standby mode after error recovery.
U004	4442		Scanner AF separation sensor error	It has been notified from the scanner that an error exists in the AF separation sensor.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. The printer is to be in the standby mode after error recovery.
U004	4443		Scanner AF registration sensor error	It has been notified from the scanner that an error exists in the AF registration sensor.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. The printer is to be in the standby mode after error recovery.
U004	4444		Scanner AF back read sensor error	It has been notified from the scanner that an error exists in the AF back read sensor.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. The printer is to be in the standby mode after error recovery.
U004	4445		Scanner AF original tray HP sensor error	It has been notified from the scanner that an error exists in the AF original tray HP sensor.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. The printer is to be in the standby mode after error recovery.
U004	4446		Scanner AF shading plate HP sensor error	It has been notified from the scanner that an error exists in the AF shading plate HP sensor.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. The printer is to be in the standby mode after error recovery.
U004	4449		Incompatible AF unit mounted on scanner	It has been detected at boot-up or AF firmware download that an incompatible AF (Auto document feeder) unit is mounted on the scanner.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, replace the current AF unit with a compatible one,	All operations will be suspended. The printer is to be in the standby mode after error recovery.
U005	4450		Scanner AF 24V power failure	It has been detected at the start of scanning operation that 24V power is not supplied to the AF (Auto document feeder) unit on the scanner.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
W001	4460		Scanner FB-AF communication error (With errror recovery through subsequent AF initialization)	The communication between the FB unit and the AF (Auto document feeder) unit on the scanner has failed for the third consecutive time, given any of the following conditions, (but the subsequent AF unit initialization has succeeded). <error conditions=""> - Time-out (no response from the AF unit) - All required bytes have not been received for a command from the AF unit. - An undefined command has been received for the AF unit. - A nuck (Negative acknowledgement) signal has been received from the AF unit. (The AF unit has received an undefined command from the FB unit.)</error>	Touch the [Confirm] button. * An error message is still notified with operation suspension though the corresponding error conditon has already been solved through the AF unit initialization.	All operations will be suspended. The printer is to be in the standby mode after error recovery. It is not possible to start a print job after error recovery.
U005	4461		Scanner FB-AF communication error (With subsequent AF initialization failure)	The communication between the FB (Flatbed) unit and the AF (Auto document feed) unit on the scanner has failed for the third consecutive time, given any of the above conditions, and the subsequent AF unit initialization has also failed.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U005	4462		Scanner FB-AF communication error (Illegal AF response)	The FB (Flatbed) unit has received an illegal response from the AF (Auto document feeder) unit in their mutual communication on the scanner.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U005	4463		Scanner FB-AF communication error (Control signal error)	A communication sequence error (control signal error) has occurred in communication between the FB (Flatbed) unit and the AF (Auto document feeder) unit on the scanner.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U005	4464		Scanner FB-AF communication error (No AF response)	No response command has been transmitted from the AF (Auto document feeder) unit to the FB (Flatbed) unit in their mutual communication, thus causing a time-out error.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * For a fundamental solution, update the scanner and/or AF firmware,	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U003	4500		Scanner DDR memory data error	It has been detected at readout that the data written in the front DDR (Double- Data-Rate) memory on the FB or AF main control PCB has been altered.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U003	4501		Scanner DDR memory RGB data error	It has been detected at readout for data check that the RGB data written in the rear DDR (Double-Data-Rate) memory on the FB or AF main control PCB has been altered.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U003	4502		Scanner DDR memory Gray data error	It has been detected at readout for data check that the Gray data written in the rear DDR (Double-Data-Rate) memory on the FB or AF main control PCB has been altered.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.
U098	4510		Scanner DDR memory access error	The rear DDR (Double-Data-Rate) memory on the FB or AF main control PCB could not be accessed (without status change of CPU access bool-up flag) at the start of scanning operation.	Press the Reset key, or turn OFF the printer. (Sub power key OFF) * * For a fundamental solution, update the scanner firmware (SH or rear FPGA one) or replace the related component(s),	All operations will be suspended. When restarting, the printer restarts with the normal activation sequence.

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Panel Messages

Туре	Point	vc	Summary	Description	Recovery Action	Remarks
10. Err	5000	5000 1	Optional internal PS RIP activation	Iter Related) An error has occurred during the activation of the optional internal PS RIP.	Turn OFF the printer. (Sub power key OFF)	
S700	5001	1 to 2	error Optional internal PS RIP activation error	It has been detected that an optional internal PS RIP activation card is left inserted inappropriately. Variation code (Error conditions): - 1: An activation card which has already been applied to another printer is inserted on the printer whose optional internal PS RIP has not been activated yet. - 2: An applied activation card is left inserted on the printer whose optional internal PS RIP has already been activated.	Turn OFF the printer. (Sub power key OFF) * For a fundamental solution, insert an unapplied activation card or the corresponding Control card in place.	
U093	5002		External controller error (PS HDD failure)	It has been detected that the HDD is damaged in the external PS controller. (An urrecoverable error has been detected during file system check at the activation of the external PS controller.)	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	This error will be detected for the software PS RIP, RS1100C, as well.
U093	5003		External controller operation error	The external PS controller cannot operate normally.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	This error will be detected for the software PS RIP, RS1100C, as well.
U093	5004		External controller configuration error with dongles	No or incompatible dongle is attached to the external PS controller.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	This error will be detected for the software PS RIP, RS1100C, as well.
U093	5006		External controller communication sequence error	The communication sequence is not as predefined in data transmission to the external PS controller.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	This error will be detected for the software PS RIP, RS1100C, as well.
U093	5007		External controller communication sequence error	The communication sequence is not as predefined in data reception from the external PS controller.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	This error will be detected for the software PS RIP, RS1100C, as well.
U093	5008		External controller power-off control failure	The external PS controller has not been powered off within 1 minute since the printer (PMS) sent the Power-OFF command to it.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U093	5009		External controller scanned data reception error	The external PS controller has failed to receive scanned data from the printer (PMS) properly.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U093	5010		External controller network configuration change error	An error has been notified from the external PS controller in response to a network configuration change request from the printer (PMS).	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
W219	5011		Unprepared Internal PS RIP activation	The Internal PS RIP has been unpreparedly activated through the test mode No. TM31-3-001 "Activate Internal RIP" while the parameter is set at "1" (Unavailable) in the test mode No. TM31-6-003 "Internal RIP Availability."	Touch the [Close] button. * The status of the PS RIP activation card will not be changed to "Activated."	An error that occurs only in test modes. Job restart process does not exist because this error occurs without jobs.
11. Err	or Point	t 5500 T	hrough 5999 (Other Opti	onal Equipment Related)		
S060	5500		Coin/Card vendor connection error	The Coin or Card vendor is not connected or powered off. * This error message is displayed only when the connection of the said device is confirmed in the corresponding test mode.	Turn OFF the printer. (Sub power key OFF) Then reboot it after confirming that the Coin or Card vendor is connected and powered on.	The current print job will be terminated or suspended. After error recovery, the Coin or Card vendor is to start the initial communication or a suspended print job is to be resumed on the printer.
W080	5501		Empty or insufficient deposit in Coin or Card vendor	The current deposit in the Coin or Card vendor is empty or insufficient.	When the current print job is suspended with this error message, execute one of the following . (1) Add to the deposit and touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current orint job. To execute another print job, on the other hand, add to the deposit before its execution.	The suspended print job will be resumed with a touch-panel operation after error clearance. When no suspended print job exists, on the other hand, a job restart process does not exist.
S098	5502	1 to 5	Coin/Card vendor communication error	An error has occurred during communication with the Coin or Card vendor. Variation code (Error types): - 1: Sequence error (A reception command did not correspond to a transmission command.) - 2: Time-out error (No response within 500 msec since the start of the 3rd communication retry) - 3: Retry error (A retry command has been received during the 3rd communication retry.) - 4: Checksum error - 5: Hardware error, such as a parity check error	Turn OFF the printer. (Sub power key OFF)	The current print job will be suspended.
S099	5503		Coin/Card vendor communication error	An error has occurred during communication with the Coin or Card vendor. The number of print jobs in queue in the Coin or Card vendor has exceeded the allowable maximum number, i.e. 65, due to the extended standby status of the initial print job on the printer, thus causing a system disorder.	Turn OFF the printer. (Sub power key OFF)	The current print job will be suspended. Reboot the Coin or Card vendor as well if another error message appears on it.
S099	5504		Coin/Card vendor communication error	A PCB-related error has occurred during communication with the Coin or Card vendor.	Turn OFF the printer. (Sub power key OFF)	
W081	5505		Coin/Card vendor reboot notification	The printer is required to be rebooted due to the connection status change of the Coin or Card vendor through the test mode TM No. 26-6-001 "Vendor Connection."	Touch the [Close] button.	This notification message appears to prompt an operator to reboot the printer because the parameter change in the said test mode is to be applied to the system only after system reboot. Job restart process does not exist because this error occurs without jobs.
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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
W082	5506		External authentication request	An authentication step is requested by an external authentication device to operate the printer.	When the current print job is suspended with this notification message, execute one of the following after login through the corresponding external authentication device. (1) Touch the [Continue] button. (2) Touch the [Stop] button. To execute another print job, on the other hand, just log in through the said device.	The suspended print job will be resumed with a touch-panel operation after message clearance. When no suspended print job exists, on the other hand, a job restart process does not exist.
S094	5507	1 to 11	Accessory fimware download failure (Illegal data)	Illegal data has been detected through an integrity check during downloading firmware programs for an accessory device on the printer, thus suspending the said download operation. Variation code (Affected devices): - 1: Face-down finisher - 2: High-capacity stacker - 3: Wrapping envelope finisher - 4: Perfect binder - 5: High-capacity feeder - 6: Option PCB - 7: Unidentfied (High-capacity stacker, Wrapping envelope finisher, Perfect binder, FI unit of Multifuction finisher) - 8: Unidentfied (High-capacity stacker, Wrapping envelope finisher, Perfect binder, FI unit of Multifuction finisher) - 9: MCF - 10: FI unit of Multifuction finisher - 11: Unidentified (High-capacity feeder or MCF)	Press the Start key.	The download recovery operation will be required if the printer is rebooted.
S094	5508	1 to 11	Accessory fimware download failure (No response from loader program)	No response has been received from the accessory firmware loader program at power-on or during download operation. Variation code (Affected devices): - 1: Face-down finisher - 2: High-capacity stacker - 3: Wrapping envelope finisher - 4: Perfect binder - 5: High-capacity feeder - 6: Option PCB - 7: Unidentified (High-capacity stacker, Wrapping envelope finisher, Perfect binder, FI unit of Multifuction finisher or Option PCB) - 8: Unidentified (High-capacity stacker, Wrapping envelope finisher, Perfect binder or FI unit of Multifuction finisher) - 9: MCF - 10: FI unit of Multifuction finisher - 11: Unidentified (High-capacity feeder or MCF)	Press the Start key.	The download recovery operation will be required if the printer is rebooted.
S094	5509	1 to 11	Accessory fimware download failure (No main program downloaded)	The main program has not been properly downloaded during the Accessory firmware download operation, thus causing a boot-up error in the corresponding accessory device following the printer boot-up. Variation code (Affected devices): - 1: Face-down finisher - 2: High-capacity stacker - 3: Wrapping envelope finisher - 4: Perfect binder - 5: High-capacity stacker, Wrapping envelope finisher, Perfect binder, FI unit of Multifuction finisher or Option PCB - 7: Unidentified (High-capacity stacker, Wrapping envelope finisher, Perfect binder, FI unit of Multifuction finisher or Option PCB) - 8: Unidentified (High-capacity stacker, Wrapping envelope finisher, Perfect binder, FI unit of Multifuction finisher) - 9: MCF - 10: FI unit of Multifuction finisher - 11: bindentified (High-capacity feeder or MCF)	Press the Start key.	The download recovery operation will be required if the printer is rebooted.
S094	5510	1 to 11	Accessory fimware download failure (Loader program communication error)	An illegal command or a response time-out error has been detected in communication with the accessory firmware loader program at power-on or during download operation. Variation code (Affected devices): - 1: Face-down finisher - 2: High-capacity stacker - 3: Wrapping envelope finisher - 4: Perfect binder - 5: High-capacity feeder - 6: Option PCB - 7: Unidentified (High-capacity stacker, Wrapping envelope finisher, Perfect binder, FL unit of Multifuction finisher or Option PCB) - 8: Unidentified (High-capacity stacker, Wrapping envelope finisher, Perfect binder or FL unit of Multifuction finisher - 9: MCF - 10: FL unit of Multifuction finisher - 11: Unidentified (High-capacity feeder or MCF)	Press the Start key.	The download recovery operation will be required if the printer is rebooted.
S094	5511	1 to 11	Accessory firmware download failure (Flash memory access error)	A data erasure or write error has been detected with the flash memory on an accessory during the corresponding firmware download operation. Variation code (Affected devices): - 1: Face-down finisher - 2: High-capacity stacker - 3: Wrapping envelope finisher - 4: Perfect binder - 5: High-capacity feeder - 6: Option PCB - 7: Unidentified (High-capacity stacker, Wrapping envelope finisher, Perfect binder, Fl unit of Multifuction finisher - 8: Unidentified (High-capacity stacker, Wrapping envelope finisher, Perfect binder or Fl unit of Multifuction finisher) - 9: MCF - 10: Fl unit of Multifuction finisher - 11: Unidentified (High-capacity stacker, Wrapping envelope finisher, Perfect binder or Fl unit of Multifuction finisher) - 9: MCF - 10: Fl unit of Multifuction finisher - 11: Unidentified (High-capacity feeder or MCF)	Press the Start key.	The download recovery operation will be required if the printer is rebooted.

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S094	5512	1 to 11	Accessory fimware download failure (Flash memory checksum error)	A checksum error has been detected with the flash memory on an accessory during the corresponding firmware download operation. Variation code (Affected devices): - 1: Face-down finisher - 2: High-capacity stacker - 3: Wrapping envelope finisher - 4: Perfect binder - 5: High-capacity feeder - 6: Option PCB - 7: Unidentfied (High-capacity stacker, Wrapping envelope finisher, Perfect binder, Fl unit of Multifuction finisher or Option PCB) - 8: Unidentified (High-capacity stacker, Wrapping envelope finisher, Perfect binder, Fl unit of Multifuction finisher - 9: MCF - 10: Fl unit of Multifuction finisher - 10: Fl unit of Multifuction finisher - 11: Unidentified (High-capacity feeder or MCF)	Press the Start key.	The download recovery operation will be required if the printer is rebooted.
S098	5513		Incompatible MFF model	It has been detected at power-on that the connected Multifunction finisher is incompatible with the current printer.	Turn OFF the printer. (Sub power key OFF)	
S098	5514	1 to 11	Accessory interface cable connection error	It has been detected through boot-up of an accessory at power-on that the interface cable of the said accessory is connected to a wrong connector on the printer. Variation code (Affected devices): - 1: Face-down finisher - 2: High-capacity stacker - 3: Wrapping envelope finisher - 4: Perfect binder - 5: High-capacity feeder - 6: Option PCB - 7: Unidentified (High-capacity stacker, Wrapping envelope finisher, Perfect binder, Fl uni of Multifuction finisher or Option PCB) - 8: Unidentified (High-capacity stacker, Wrapping envelope finisher, Perfect binder or Fl uni of Multifuction finisher) - 9: MCP - 10: Fl unit of Multifuction finisher - 10: Fl unit of Multifuction finisher - 11: Unidentified (High-capacity feeder or MCF)	Turn OFF the printer. (Sub power key OFF)	
W115	5516		Finishing device connection error	No response has been received from a connected finishing device during the initial communication at power-on, possibly due to any of the following conditions. - For the below-listed devices, their sub power switch is turned off. - Perfect binder / Wrapping envelope finisher / High-capacity stacker - FI unit of Multifunction finisher - Defective Option PCB - Defective wire harness between Engine control PCB and Option PCB - Defective connectors on Engine control PCB or Option PCB	Execute one of the following. (1) Touch the [Close] button. (The connected firshing device is not available.) (2) After powering off the printer, turn on the sub power switch on the connected firshing device and then power on the printer. [Note] Turn off the sub power switch but not the main one on the printer.	Job restart process does not exist because this error occurs without jobs.
S098	5518		Finishing device power-off	Any of the below-listed finishing devices has been powered off while the printer is powered on Face-down finisher / Perfect binder / Wrapping envelope finisher / High-capacity stacker / FI unit of the Multifunction finisher * This error is to be notified immediately after the said power-off or at the power status check routine on the printer later.	Turn OFF the printer. (Sub power key OFF)	The power-off of a connected finishing device is to be notified because it may affect the printer's communication with other components.
S098	5520	1 to 11	No response from Accessory	No response from an accessory, possibly without power due to sub power switch-off or power cable disconnection, or with a communication error. Variation code (Affected devices): - 1: Face-down finisher - 2: High-capacity stacker - 3: Wrapping envelope finisher - 4: Perfect binder - 5: High-capacity feeder - 6: Option PCB - 7: Unidentified (High-capacity stacker, Wrapping envelope finisher, Perfect binder, FI unit of Multifuction finisher or Option PCB) - 8: Unidentified (High-capacity stacker, Wrapping envelope finisher, Perfect binder or FI unit of Multifuction finisher) - 9: MCF - 10: FI unit of Multifuction finisher - 11: Unidentified (High-capacity feeder or MCF)	Turn OFF the printer. (Sub power key OFF)	
S098	5521	1 to 11	Accessory power-off at reboot after firmware download failure	It has been detected at reboot follwoing a firmware download failure for a connected accessory that the said accessory is powered off, possibly due to sub power switch-off or power cable disconnection. Variation code (Affected devices): - 1: Face-down finisher - 2: High-capacity stacker - 3: Wrapping envelope finisher - 4: Perfect binder - 5: High-capacity feeder - 6: Option PCB - 7: Unidentified (High-capacity stacker, Wrapping envelope finisher, Perfect binder, FL uni of Multifuction finisher or Option PCB) - 8: Unidentified (High-capacity stacker, Wrapping envelope finisher, Perfect binder or FL uni of Multifuction finisher) - 9: MCF - 10: FL unit of Multifuction finisher - 11: Unidentified (High-capacity feeder or MCF)	Turn OFF the printer. (Sub power key OFF)	

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Туре	Point	vc	Summary	Description	Recovery Action	Remarks
S098	5522	1 to 11	Accessory main program boot-up failure	The main program of a connected accessory has failed to be booted up. Variation code (Affected devices): - 1: Face-down finisher - 2: High-capacity stacker - 3: Wrapping envelope finisher - 4: Perfect binder - 5: High-capacity feeder - 6: Option PCB - 7: Unidentified (High-capacity stacker, Wrapping envelope finisher, Perfect binder, FI unit of Multifuction finisher or Option PCB) - 8: Unidentified (High-capacity stacker, Wrapping envelope finisher, Perfect binder or FI unit of Multifuction finisher) - 9: MCF - 10: FI unit of Multifuction finisher - 10: FI unit of Multifuction finisher - 11: Unidentified (High-capacity feeder or MCF)	Turn OFF the printer. (Sub power key OFF)	
S099	5523	1 to 3	Coin/Card vendor command error	Coin or Card vendor command error Variation code (Error types): - 1: The length of the command received from the Engine control PCB exceeded the predefined value. - 2: The subsequent command was transmitted before the transmission of the current one had been completed, - 3: An illegal command, whose ID, parameter or checksum was invalid, was received.	Turn OFF the printer. (Sub power key OFF)	
W070	5528		Accessory test mode executed without accessory	A test mode has been executed for an accessory which is not mounted on the printer.	Touch the [Close] button.	Job restart process does not exist because this error occurs without jobs.
S098	5531		Finishing device connectoin or power-on in sleep mode	Any of the below-listed finishing device has been connected or powered on while the printer is in the sleep mode. - Perfect binder / Wrapping envelope finisher / High-capacity stacker	Turn OFF the printer. (Sub power key OFF)	
S098	5532		Finishing device replacement in sleep mode	Any of the below-listed finishing device has been replaced with another one while the printer is in the sleep mode. - Perfect binder / Wrapping envelope finisher / High-capacity stacker	Turn OFF the printer. (Sub power key OFF)	
S098	5533		Finishing device disconnectoin in sleep mode	Any of the below-listed finishing device has been disconnected while the printer is in the sleep mode. - Perfect binder / Wrapping envelope finisher / High-capacity stacker	Turn OFF the printer. (Sub power key OFF)	
S098	5534		Finishing device power-off in sleep mode	Any of the below-listed finishing device has been powered off while the printer is in the sleep mode. - Perfect binder / Wrapping envelope finisher / High-capacity stacker	Turn OFF the printer. (Sub power key OFF)	
U116	5551		PB connection with an inapplicable model	The Perfect binder has been connected with an inapplicable model, i.e. A4-format type.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U116	5552		WEF connection with an inapplicable model	The Wrapping envelope finisher has been connected with an inapplicable model, i.e. Single-paper-source ones.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U116	5553		WEF connection with an inapplicable model	The Wrapping envelope finisher has been connected with an inapplicable model, i.e. A4-format type.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U116	5554		Additional 2000 sheet feeder connection with an inapplicable model	The Additional 2000 sheet feeder has been connected with an inapplicable model, i.e. Single-paper-source ones	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
U116	5555		Additional 2000 sheet feeder connection with an inapplicable model	The Additional 2000 sheet feeder has been connected with an inapplicable model, i.e. A4-format type.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
W143	5600	1 to 2	External charge device deposite balance shortage (Copy/Scan)	The deposite balance on the external charge device is short for the requested copy or scan job. Variation code (Job types): - 1: Copy jobs - 2: Scan jobs	Touch the [Close] button.	It will not be possible to restart the job after releasing the error. [Note] If a limitless use is permitted for the corresponding account on the external charge device, no warning is notified regardless of the deposite balance. If the deposite balance is sufficient for at least 1-page scan job, besides, the current scan job will not be interrupted with a warning notification even when the balance becomes insufficient to continue the said job halfway, thanks to a negative balance status.
W144	5601		External charge device deposite balance shortage (Print)	The deposite balance on the external charge device is short for the requested print job.	Touch the [Close] button.	It will not be possible to restart the job after releasing the error.
S111	5700		Service engineer call error on 3rd- party finishing device	A service engineer call error has occurred on a connected 3rd-party finishing device.	Turn OFF the printer. (Sub power key OFF)	
U130	5720		Mechanical error on 3rd-party finishing device	A mechanical error has occurred on a connected 3rd-party finishing device.	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
X122	5740		Paper jam error on 3rd-party finishing device	A paper jam error has occurred on a connected 3rd-party finishing device.	Touch the [Close] button.	
Y011	5760		Consumable-related error on 3rd- party finishing device	A consumable-related error has occurred on a connected 3rd-party finishing device.	Execute one of the following. (1) Touch the [Stop] button and check the connected device for the corresponding consumable. (2) Delete the current job.	

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			Description Recovery Action		Remarks
5780		Component check request on 3rd- party finishing device	A component check has been requested on a connected 3rd-party finishing device.	Check the inducated component on the connected device.	
5800		Warning notification on 3rd-party finishing device	warning has been notified on a connected 3rd-party finishing device. (1) Touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current job.		The suspended print job will be resumed with a touch-panel operation after error clearance.
5820		Information error on 3rd-party finishing device	An information error has occurred on a connected 3rd-party finishing device.	Touch the [Close] button.	
or Point	t 6000 T	hrough 6499 (Security Re	elated)		
6010	1 to 7	Security check error	A security check error has been detected. Variation code (Error types): - 1: Binary check error - 2: SEED acquisition failure - 3: Cryptography key generation failure - 4: Encryption failure - 5: Decoding failure - 6: Overwriting erasure failure - 7: Unspecified error	Press the Reset key, or turn OFF the printer. (Sub power key OFF)	
	5780 5800 5820 r Point 6010	5780 5800 5820 7 Point 6000 1 6010 1 to 7	5780 Component check request on 3rd-party finishing device 5800 Warning notification on 3rd-party finishing device 5820 Information error on 3rd-party finishing device r Point 6000 Through 6499 (Security Reference) 6010 1 to 7 Security check error	5780 Component check request on 3rd-party finishing device A component check has been requested on a connected 3rd-party finishing device. 5800 Warning notification on 3rd-party finishing device A warning has been notified on a connected 3rd-party finishing device. 5800 Information error on 3rd-party finishing device A warning has been notified on a connected 3rd-party finishing device. 5820 Information error on 3rd-party finishing device An information error has occurred on a connected 3rd-party finishing device. r Point 6000 Through 6499 (Security Related) A security check error has been detected. 6010 1 to 7 Security check error A security check error - 2: SEED acquisition failure - 3: Cryptography key generation failure - 3: Cryptography key generation failure - 5: Decoding failure - 5: Overwriting erasure failure - 5: Overwriting erasure failure - 7: Uhspecified error 6010 I to 7 Example 1 I to 7	5780 Component check request on 3rd-party finishing device A component check has been requested on a connected 3rd-party finishing connected device. Check the inducated component on the connected 3rd-party finishing device. 5800 Warning notification on 3rd-party finishing device A warning has been notified on a connected 3rd-party finishing device. Execute one of the following. (1) Touch the [Continue] button. (2) Touch the [Stop] button. (3) Delete the current job. 5800 Information error on 3rd-party finishing device An information error has occurred on a connected 3rd-party finishing device. Touch the [Close] button. (3) Delete the current job. 5800 Information error on 3rd-party finishing device An information error has occurred on a connected 3rd-party finishing device. Touch the [Close] button. (3) Delete the current job. 5800 Information error on 3rd-party finishing device An information error has occurred on a connected 3rd-party finishing device. Touch the [Close] button. 6010 Information error on 3rd-party finishing device A security check error - 2: SEED acquisition failure - 3: Cryptography key generation failure - 3: Cryptography key generation failure - 3: Cryptography key generation failure - 5: Decoding

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Chapter 17. Test Modes

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Precaution:

Refrain from turning the power supply unit off while executing the test mode as doing so will damage the HDD (hard disk drive).

1. Definition of Words and Terms

1-1. Meanings of abbreviations

Abbreviation	Description
AS	Auto-control stacking tray
BP	Belt platen
EXF	Additional 2000 sheet feeder (Expansion feeder)
FD	Face down
FDF	Face down finisher
FU	Face-up
HCF	High capacity feeder
HCS	High capacity stacker
MFF	Multifunction finisher
PB	Perfect binder
RA	Remote agent
SB	Switchback
STP	Staple
WEF	Wrapping envelope finisher

1-2. Meanings of operations for status transition

The meanings of operations for status transitions are shown in the table and figure below.

Name	Description
Move	To move from the ordinary mode to the test mode or vice versa.
Start	To start a test mode operation with the corresponding operation window.
End	To end the current test mode operation to return to the item list window.
Activate	To activate a component for test performance or execute a prepared program.
Stop	To stop the activated component or to finish the program in execution.



2. Test mode code system

A test mode item number has seven digits consisting of the following codes.

Number system: ABBCDDD

* It may be hyphenated as "A-BB-C-DDD" to separate the codes.

The codes are as shown in the table below.

Code	Description
А	User type
BB	Category
С	Operation type
DDD	Operation item

[NOTE] The code "A" is for factory use only and not displayed in the test mode operation screen.

2-1. Categories

"Categories" define the components to which individual test modes are to be applied.

No.	Category	Abbreviation
00	Not defined (All components)	-
01	PMS	Р
02	Image adjustment	IMG
04	Engine system	ES
05	Paper feed	F
06	Paper transport	TRNS
07	Paper ejection	E
08	Print head area	Н
09	Ink maintenance	I
10	I/F unit	IF
11	Tag control	Т
12-20	Reserved	
21	Scanner	S
24	Face down finisher	FDF
25	Auto-control stacking tray	AS
26	Coin/Card vendor	CV
27	IC card authentication kit	IC
28	PaperCut	PC
29	High capacity feeder	HCF
30	High capacity stacker	HCS
31	PostScript	PS
32	Security option	SO
33	Wrapping envelope finisher	WEF
34	Perfect binder	PB
35	Additional 2000 sheet feeder (Expansion feeder)	EXF
36-37	Multifunction finisher FG20	MFF
99	Not classified (for temporary placing)	Others

2-2. Operation types

"Operation types" define the types of test mode operation.

No.	Operation type	Descriptions
0	Not applied	-
1	Sensor Monitoring (S)	To check whether a sensor or switch is active or not. The operation status is informed at regular intervals by a beep and text messages.
2	Drive Checking (D)	To activate a motor or other driving components separately for a specified amount of time. (The activation time is individually specified for each component.)
3	Unit Checking (U)	To execute a sequence of specified operations.
4	Initialization (I)	To clear the values set in Data Editing and recover the default ones set in the factory. In some cases, however, the default values might be changed from the factory-set ones through test mode operations.
5	Data Monitoring (M)	To check the data stored in the system or such values as temperature and speed.
6	Data Editing (E)	To change the settings defined in the system, such as parameters for image adjustment and paper transport control, or customize the operation panel display by specifying function button appearance. Multiple values can be input in a single test mode. Note that machine performance may be affected negatively depending on the selected settings, thus causing blurred print images or low productivity.

[NOTE] Multiple settings for identical areas (mechanism, function, etc.) can be contained in a single test mode in Data Editing (E).

3. Operation procedures

3-1. Entering a test mode



Press and hold the [*], [8] and [#] keys simultaneously for one second or more and input the pass-code. The available test mode items are different according to the pass-code.

Confirm	Cancel	\Diamond	ОК	
f Input the p	asscode.		y	
a				

The pass-code for service engineer is [3214].

3-2. Exiting a test mode

Press the [Home] key.

When the [Home] key is pressed, a buzzer for "confirmation of operation - confirmation of input" sounds and the Home screen is displayed.

Exiting a test mode is not allowed while the test mode is in process, displaying the test mode operation screen.

3-3. Selecting a test mode item from the list

Test Mode	To finish,	press the HO	ME key			9		
00 0 000	All	Sensor	Drive	Unit	Initialize	Data <u>M</u> onitor	Data <u>E</u> dit	
Category	013001	PANEL CAL	IBRATION					_
	013002	TOUCH PA	NEL THRES	HOLD LEVE	EL ADJUST			Test mode item list
	013021 COUNT INFORMATION PRINT							
	013022	TEST MOD	E CONFIG F	PRINT				
	013023	TEST MOD	E CONFIG F	PRINT 2				
	013036	CHARGE C	OUNT PRIN	IT(J) IMPOR	RT		1 201	
	013037	CHARGE C	DUNT PRIN	T(J) EXPOR	π			

A test mode item can be selected by touching the corresponding test mode name in the list. When an item is selected, the corresponding test mode operation screen will appears, which differs depending on the operation type. For details, refer to the sections of individual operation types



Filter the test mode items to be displayed by specifying the operation type and category. Select an operation type from the list and touch the [Category] button to specify the category.

3-3-1. Selecting an operation type



When an operation type is selected from the list, the test mode items which correspond to the selected operation type will be displayed in the list below. For the respective operation types, refer to "Test mode code system." The selected operation type number is included in the displayed test mode item number. (For example, if "Sensor" (Sensor Monitor) is selected, "1" is displayed in the operation- type code section of the said number.)

3-3-2. Selecting a category

Test Mode	To finish press the HOME key			
00 1 000				
	01 PMS			
Category	02 Image Adjustment			
	04 Engine System		I	
	05 Paper Feeding		\rightarrow	[Category list] window
	06 Paper Conveyance			
	07 Stacker	$\frac{1}{3}$		
	08 Head	$\overline{\mathbf{v}}$		
		/		

When the [Category] button is touched, the [Category list] window will pop up. For the respective categories, refer to "Test mode code system." All prepared categories are always displayed in the list regardless of system configuration, i.e. optional equipment availability.

In the pop-up window, the pre-selected category name is highlighted. When a category name is selected there, the pop-up window will be closed and the test mode item list which corresponds to the selected category will be displayed.

Test Mode	To finish, p	ress the HO	ME key				
06 1 000	All	Sensor	Drive	<u>U</u> nit	Initialize	Data Monitor	Data <u>E</u> dit
Category	061001	BELT HP S	ENSOR				
[06]Paper	061002	TRANSFER	BELT ENCO	DER			
Conveyance	061003 TOP EDGE SENSOR 1						
	061004	PAPER LIF	T DETECTIO	N SENSOR			
	061005	PAPER ELE	VATION IN	SENSOR			
	061006	PAPER ELE	VATION SEM	NSOR			1/2
	061021 SWITCHBACK ENTRANCE SENSOR						

The selected category number is also included in the displayed test mode item number. For example, if "06 Paper Transport" is selected, "06" is displayed in the category code section of the said number and the category name is indicated under the [Category] button.

When "All" is selected from the list in the pop-up window, on the other hand, "00" is displayed in the category code section and [---] is indicated under the [Category] button.

3-4. Specifying a test mode item with key entry



A test mode item can also be directly specified with numeric key entry.

lest Mode	To finish, press the HOME key		
06 1 000	All Group Drive Unit Initialize Data Data Monitor Edit	\rightarrow	[Test mode item number] box
Cotegory L	061001 BELT HP SENSOR		[Code D] section
[06]Paper	061002 TRANSFER BELT ENCODER	- T	
Conveyance	061003 TOP EDGE SENSOR 1	\rightarrow	[Code C] section
	061004 PAPER LIFT DETECTION SENSOR		
		\rightarrow	[Code B] section
	061006 PAPER ELEVATION SENSOR 1		
	061021 SWITCHBACK ENTRANCE SENSOR		

When a numeric key is pressed on the operation panel, the corresponding number appears at the right end of the [Test mode item number] box. When another number is entered, then, the existing number is shifted to the left and a new one appears at the right end of the said box instead. In this way, all existing numbers will be shifted to the left by one step in the said box each time another number is entered with numeric keys.

The [Test mode item number] box is divided into 3 sections: [Code B], [Code C] and [Code D] sections. When any of the said sections is touched on the panel, the touched section will be highlighted, thus leading a number entry to be enabled only for the said section.

For your reference, the [Code B] section is for "Category" number, the [Code C] for "Operation type" number and [Code D] for "Operation item" number.

Test Mode	To finish,	press the HC	ME key					
06 1 000	All	Sensor	Drive	<u>U</u> nit	Initialize	Data Monitor	Data <u>E</u> dit	
Category	061001	BELT HP S	ENSOR					
[06]Paper	061002 TRANSFER BELT ENCODER							
Conveyance	061003 TOP EDGE SENSOR 1							
	061004 PAPER LIFT DETECTION SENSOR							
	061005	PAPER ELE	VATION IN	SENSOR			\sim	
	061006 PAPER ELEVATION SENSOR							
	061021 SWITCHBACK ENTRANCE SENSOR							

When the highlighted section is touched again, however, the number entry limitation will be removed to allow a full test mode item number entry. Another section selection for direct number entry, on the other hand, is possible by touching a desired section directly without touching the highlighted one in advance.

01 2 345 : A full test mode item number entry is possible.

↓ The [Code B] section is touched.

01 2 345 : A number entry is restricted to the [Code BJ section.

↓ The [Code D] section is touched.

01 2 345 : The number entry limitation is shifted to the [Code DJ section.

↓ The [Code D] button is touched again.

01 2 345 : The full test mode item number entry becomes possible again.

A partial test mode item number can also be entered into the corresponding code section with numeric keys in the same manner as when a full one is entered.

While the test mode items displayed in the corresponding list window are changed in accordance with a selected category and operation type, besides, they will not be changed as well as other indications, such as a selected category name and a highlighted operation type, only by entering a partial test mode item number into the corresponding code section.

For example, the [Sensor] button remains highlighted without change in the list below if "6" is entered into the [Code C] section in the [Test mode item number] box to specify [Data Edit] as an operation type.

When the [Start] key is pressed after a test mode item is selected from the given list or the corresponding number is entered into the [Test mode item number] box, an operation window will appear for the current test mode item. The test mode operation window differs depending on the operation type. For details, go to the sections of individual operation types.

If you enter a non-existent test mode item number and press the [Start] key, on the other hand, a beep will sound to signal an invalid number entry without opening the corresponding test mode operation window and [00-0-000] will be displayed in the [Test mode item number] box.

3-5. Ending a test mode operation

The current test mode operation can be ended by pressing the [Stop] key or touching the [Close] button (the [OK] or [Cancel] button in [Data Edit] operation), to return to the test mode item list window.

The [Stop] key and [Close] button can operate whenever a test mode operation is in pause and are available even during the said operation concerning "Sensor Monitor (S)" and "Drive Check (D)" modes.

Regarding "Data Monitor (M)" and "Data Edit (E)" modes, besides, they,

including the [OK] button for the latter, are always available without an active period in the respective operation windows.

Regarding the ending of "Unit Check (U)" and "Initialize (I)" modes, on the other hand, detailed descriptions are provided in the following sections.

Even when a test mode operation is ended, the corresponding item number remains displayed in the [Test mode item number] box in the test mode item list window with the said item name highlighted in the list.

Regarding the category and operation type, besides, the ones which correspond to the ended test mode item also remain selected, excluding the following cases:

- (1) Neither category nor operation type was selected when the ended test mode item was initially specified with key entry.
- (2) If another category or operation type was selected than the ones which correspond to the ended test mode item at the initial key entry for the said item specification.

In the above two cases, no category nor operation type will be selected when the test mode item list window reappears at the end of the current test mode operation.

Test mode item specification method	Category and operation type selection at the end of the current test mode operation						
	Without prior	With prior selection at iter	m specification				
	selection at item specification	Item in the said category and operation type specified	Item in another category and operation type specified				
List selection	No selection	Prior selection	(Not available)				
Key entry	No selection	Prior selection	No selection				

Test Mode	To finish, press the HOME key							
$06 \ 1 \ 005$	All	<u>S</u> ensor	<u>D</u> rive	<u>U</u> nit	<u>I</u> nitialize	Data <u>M</u> onitor	Data <u>E</u> dit	
Category	061001	BELT HP SE	NSOR					
[06]Paper	061002 TRANSFER BELT ENCODER							
	061003 TOP EDGE SENSOR 1							
	061004 PAPER LIFT DETECTION SENSOR							
	061005 PAPERIELEVATIONIINISENBORI							
	061006	PAPER ELEVATION SENSOR						
	061021	SWITCHBA	CK ENTRAN	ICE SENSOF	R			

3-5-1. Ending "Unit Check (U)" modes

In "Unit Check (U)" mode, the test mode operation automatically stops when a programmed action is completed. If the [Stop] key is pressed at this point, the current test mode operation is ended, to lead the test mode item list window to reappear.

In some items of this test mode, besides, the operation can also be ended, suspending it on the way, by pressing the [Stop] key during operation. It is noted in the corresponding test mode item list table, which is provided in this chapter as well, if the [Stop] key is available even during operation.

3-5-2. Ending "Initialize (I)" modes

In "Initialize (I)" mode, the test mode operation automatically stops with "End" indicated in the screen when initialization is completed. If the [Stop] key is pressed or the [Close] button is touched at this point, the current test mode operation is ended, to lead the test mode item list window to reappear.

In this test mode, neither the [Stop] key nor the [Close] button is available during operation.

3-6. Saving the values registered in test modes

The values registered in the "Data Edit (E)" mode are normally saved in the memories prepared in the locations specified for the respective categories. The table below shows the categories and the corresponding memory locations.

No.	Category	Memory location	No.	Category	Memory location	
01	PMS	PMS	27	IC card		
02	Image adjustment		21	authentication kit	PMS	
04	Engine system		28	PaperCut		
05	Paper feed		20	High Capacity	High Capacity	
06	Paper transport		29	Feeder	Feeder	
07	Paper ejection	Engine	20	High Capacity	High Capacity	
08	Print head area		30	Stacker	Stacker	
09	Ink maintenance		31	PostScript	DMO	
10	I/F unit / Misc.		32	Security		
11	Tag control		22	Wrapping Envelope	Wrapping	
21	Scanner	Scanner	33	Finisher	Envelope Finisher	
24	Eaco down finishor	Face down	34	Perfect Binder	Perfect Binder	
24		finisher	35	Additional 2000	Additional 2000	
25	Auto-control	Engino	55	sheet feeder	sheet feeder	
25	stacking tray		37	Multifunction	Multifunction	
26	Coin/Card vendor	PMS	57	finisher FG20	finisher FG20	

3-7. Operating a test mode

The test mode operation windows differ depending on the operation type, requiring different operation procedures for them, whose detailed descriptions are provided in the following sections for the respective types.

Such display items as indicated below, however, appear in common in all test mode operation windows regardless of operation types.

Test mode item name
Test mode item No. Operation type

Operation button: Differs depending on the operation type.

Test mode item name: The current test mode item name.

Test mode item No.: The current test mode item number.

Operation type: The current operation type, which is represented with an initial.

3-7-1. Operating "Sensor Monitor (S)" modes

The following "Sensor Monitor (S)" window appears, with "In Pause" as the initial message, when this test mode is started. This message then changes to "In Action" when the [Start] key is pressed in this condition. When the [Start] key is pressed again, besides, the message returns to "In Pause" to indicate that no action is taken for the current test mode item.

The monitored sensor status is indicated as "ON" (active) or "OFF" (inactive), which appears below the message "In Action," while different beeps sound for them at the same time.

D	041123	Close	
REG	SISTRATION MOTOR		
7	In Pause		
S	051052	Class	
REG	USTRATION SENSOR	Close	S 051052 Close
REG	ISTRATION SENSOR In Action ON	Close	Close Close REGISTRATION SENSOR In Action OFF

3-7-2. Operating "Drive Check (D)" modes

The following "Drive Check (D)" window appears, with "In Pause" as the initial message, when this test mode is started. This message then changes to "In Action" when the [Start] key is pressed in this condition.

When the [Start] key is pressed again, besides, the message returns to "In Pause" to indicate that no action is taken for the current test mode item.

S 051052	Close	^T D 041123	Close
REGISTRATION SENSOR		REGISTRATION MOTOR	
In Pause		In Action	

3-7-3. Operating "Drive Check (D)" modes

The following "Unit Check (U)" window appears, with "In Pause" as the initial message, when this test mode is started. This message then changes to "In Action" when the [Start] key is pressed in this condition. When the programmed operation is completed, besides, the message returns to "In Pause" with a beep to indicate that the requested unit check has been finished successfully. When the said operation fails, on the other hand, another tone beep will sound to indicate an error occurrence.

U 053016	Close		U	053016	Close
PFT UPPER LIMIT POSITION MOVE			PFT	UPPER LIMIT POSITION MOVE	
In Pause		C	c	In Action	

There are other types of operation windows in this mode as shown below, in which the [#] key is to be used to shift the value entry point through the corresponding [Value] fields.

Each time the [#] key is pressed, the value entry point moves from top left to bottom right as shown below.



T U 23027		Cancel	ОК					
HEAD REPLACEMENT PARAMETER								
Head Color Designation Head Position Designation KC MY 1 2 3 4 5 6 Input the voltage & AL values imprinted on the print head.								
	Head 1	H	ead 2					
AL Value	0		7 • •					
Voltage Value	290	• 27						

3-7-4. Operating "Initialize (I)" modes

The following "Initialize (I)" window appears, with "In Pause" as the initial message, when this test mode is started. This message then changes to "In Action" when the [Start] key is pressed in this condition.

When the requested operation is completed, besides, the message changes to "End." If the [Start] key is pressed again in this condition, the message returns to "In Pause" to allow this test mode to be ended.

I 014022	Close	Т	Ι	014022	Close
ERROR CLEAR (PMS)			ERF	ROR CLEAR (PMS)	
In Pause		נס		In Action	
I 014022 ERROR CLEAR (PMS) End	Close				

3-7-5. Operating "Data Monitor (M)" modes

The following "Data Monitor (M)" window appears, with requested data displayed, when this test mode is started. If the value of the requested data is less than 1 in this case, "-" is displayed in the window.

M 045001	Close	Т	M 015016		Close
ENGINE PACKAGE DATA VERSION	J		TEST MODE CONFIG 2		
Package,1.0.045		-	1611101	1	
			1611201	1	

Page number:

This appears when the requested data range over more than one pages. The numerator is the current page and the denominator is the total page quantity.

[Page Up] button:

This button appears along with the page number and becomes active when there are preceding pages. The preceding page appears each time this button is touched.

[Page Down] button:

This button also appears along with the page number and becomes active when there are following pages. The following page appears each time this button is touched.

3-7-6. Operating "Data Edit (E)" modes

Various "Data Edit (E)" windows appear according to requested data entry styles when this test mode is started. The current value is displayed in the corresponding [Value] field. When multiple [Value] fields exist, touch a desired [Value] field to enable a value entry there.



[Multiple value entry window]

Value entry rules:

The following value entry rules are displayed in this section.

- [Def]: Default value
- [Min]: Minimum applicable value / [Max]: Maximum applicable value
- [Step]: Unit amount in value changed / [Unit]: Applied measurement unit

When multiple [Value] fields exist, the rules which are to be applied to the selected [Value] field are indicated here.

[Value] field:

An integer value can only be entered here, thus leading "-" to be displayed if an entered value is less than 1. The entered value is confirmed when the [OK] button or another [Value] field is touched. If the entered value is out of the applicable range, however, a beep sounds to indicate an invalid value entry, while recovering an original value in the [Value] field concerned without shifting to another value entry.

Target type:

The targets to which the entered values are to be applied are displayed in this column(s) when multiple targets are prepared for value entry in the selected test mode.

In the sample "Data Edit (E)" window above, different paper types are displayed in the "Target type" column.

Page number:

This appears when the requested data range over more than one pages. The numerator is the current page and the denominator is the total page quantity.

[Page Up] button:

This button appears along with the page number and becomes active when there are the preceding pages. The preceding page appears each time this button is touched.

[Page Down] button:

This button also appears along with the page number and becomes active when there are following pages. The following page appears each time this button is touched.

[Cancel] button (or [Stop] key):

When this button is touched or the [Stop] key is pressed, the current window is closed without applying the entered value(s) and the test mode item list window reappears.

[OK] button (or [Start] key):

When this button is touched or the [Start] key is pressed, the current value entry is confirmed and the current window is closed to return to the test mode item list window.

If the entered value is out of the applicable range, however, a beep sounds to indicate an invalid value entry, while recovering an original value in the [Value] field concerned without closing the current window.

Numeric keys:

Values are to be entered with these keys. Up to 6 digits can be entered while the seventh one is to be ignored.

[*] key:

This key is enabled only when negative values are applicable in the selected test mode. The negative value sign "-" appears before entered values when this key is pressed and it disappears when this key is pressed again.

[C] key:

The default value is recovered, ignoring the entered one, when this key is pressed.

4. Test mode item list

The Test mode item lists are provided separately for the respective operation types in the following pages.

4.1 "Sensor Monitor (S)" modes

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Test Modes

Туре	Test mode No.	Test mode name	ON	OFF	Remarks
Engin	e system sec	tion			
S	04-1-001	BP WIRE LOOSE DETECTION	Switch actuated (BP wire loosened)	Switch open (BP wire not loosened)	
S	04-1-002	LEFT FRONT COVER INTER LOCK SWITCH	Switch actuated (Cover closed)	Switch open (Cover open)	
S	04-1-003	PAPER ELEVATION COVER INTER LOCK SW	Switch actuated (Cover closed)	Switch open (Cover open)	
S	04-1-004	SWITCHBACK COVER INTER LOCK SWITCH	Switch actuated (Cover closed)	Switch open (Cover open)	
s	04-1-005	PAPER FEED TRAY INTER LOCK SW	Paper feed tray uppdr or lower safety switch actuated	Both of the said switches open	
S	04-1-006	TRAY1 SET SAFETY SWITCH	Switch actuated (Tray in place)	Switch open (Tray not in place)	
S	04-1-007	TRAY2 SET SAFETY SWITCH	Switch actuated (Tray in place)	Switch open (Tray not in place)	
S	04-1-008	TRAY3 SET SAFETY SWITCH	Switch actuated (Tray in place)	Switch open (Tray not in place)	
S	04-1-009		Switch actuated (Stripper unit in place)	Switch open (Stripper unit not in place)	
s	04-1-010	FU JAM RELEASE COVER SW	Switch actuated (Cover closed)	Switch open (Cover open)	
s	04-1-011		Front cover lock solenoid connected	Front cover lock solenoid not connected	activated
S	04-1-012		Front cover locked	Front cover unlocked	
5	04-1-013		Option PCR installed		
5	04-1-021		Coin or Card vendor connected	Coin or Card vendor not connected	
s	04-1-022		Auto-control stacking tray mounted	Auto-control stacking tray not mounted	
s	04-1-024		Multifunction finisher connected	Multifunction finisher not connected	
S	04-1-025	FU EJECT UNIT DETECT SIGNAL	FU ejection unit Installed	FU ejection unit not installed	
s	04-1-031	OPTION CONNECT CONTROL SIGNAL	Communication with 3rd-party finishing devices enabled	Communication with 3rd-party finishing devices disabled	Option PCB should be installed.
s	04-1-032	OPTION CONNECT PRINT READY SIGNAL	Print operation allowed on printer for 3rd- party finishing device	Print operation prohibited on printer for 3rd-party finishing device	Option PCB should be installed.
s	04-1-033	OPTION CONNECT JOINT SIGNAL	3rd-party finishing device connection	3rd-party finishing device connection	Option PCB should be installed.
Paper	feed section		acknowledged	denied	
s	05-1-001	PAPER FEED TRAY UPPER LIMIT SENSOR A	Blocked (The Standard feed tray is at the middle-level upper limit position if the Paper feed tray upper limit sensor B is blocked as well. If not, the said tray is at the bottom-level upper limit position.)	Open (The Standard feed tray is at the top-level upper limit position if the Paper feed tray upper limit sensor B is blocked. If not, the said tray is not at any-level upper limit position.)	The position of the Standard feed tray differs depending on the status of the Paper feed tray upper limit sensor B below.
S	05-1-002	PAPER FEED TRAY UPPER LIMIT SENSOR B	Blocked (The Standard feed tray is at the middle-level upper limit position if the Paper feed tray upper limit sensor A is blocked as well. If not, the said tray is at the top-level upper limit position.)	Open (The Standard feed tray is at the bottom-level upper limit position if the Paper feed tray upper limit sensor A is blocked. If not, the said tray is not at any- level upper limit position.)	The position of the Standard feed tray differs depending on the status of the Paper feed tray upper limit sensor A above.
s	05-1-003	PAPER FEED TRAY LOWER LIMIT SENSOR	Blocked (Standard feed tray at the lower limit position)	Open (Standard feed tray not at the lower limit position)	
s	05-1-004	TRAY1 UPPER LIMIT SENSOR	Blocked (Tray at the upper limit position)	Open (Tray not at the upper limit position)	
s	05-1-005	TRAY2 UPPER LIMIT SENSOR	Blocked (Tray at the upper limit position)	Open (Tray not at the upper limit position)	
s	05-1-006	TRAY3 UPPER LIMIT SENSOR	Blocked (Tray at the upper limit position)	Open (Tray not at the upper limit position)	
s	05-1-011	PAPER FEED TRAY PAPER DETECT SENSOR	Reflected light detected (Paper on tray)	Reflected light not detected (Paper not on tray)	
s	05-1-012	TRAY1 PAPER DETECT SENSOR	Blocked (Paper in tray)	Open (Paper not in tray)	
S	05-1-013	TRAY2 PAPER DETECT SENSOR	Blocked (Paper in tray)	Open (Paper not in tray)	
s	05-1-014	TRAY3 PAPER DETECT SENSOR	Blocked (Paper in tray)	Open (Paper not in tray)	
s	05-1-016	P-FEED TRAY PAPER LENGTH DETECT SNSR	Reflected light (Paper) detected	Reflected light (Paper) not detected	P-FEED TRAY PAPER LENGTH DETECT SENSOR
s	05-1-017	TRAY1 PAPER SIZE DETECT SENSOR 1	Blocked	Open	
9	05-1-018		Blocked	Open	
0	05-1-010				
5	05-1-019	TRAT I PAPER SIZE DETECT SENSUR 3		Oheil	
s	05-1-020	I KAY 1 PAPER SIZE DETECT SENSOR 4	Blocked	Open	
S	05-1-021	TRAY2 PAPER SIZE DETECT SENSOR 1	Blocked	Open	
S	05-1-022	TRAY2 PAPER SIZE DETECT SENSOR 2	Blocked	Open	
S	05-1-023	TRAY2 PAPER SIZE DETECT SENSOR 3	Blocked	Open	
S	05-1-024	TRAY2 PAPER SIZE DETECT SENSOR 4	Blocked	Open	
S	05-1-025	TRAY3 PAPER SIZE DETECT SENSOR 1	Blocked	Open	
s	05-1-026	TRAY3 PAPER SIZE DETECT SENSOR 2	Blocked	Open	
s	05-1-027	TRAY3 PAPER SIZE DETECT SENSOR 3	Blocked	Open	
s	05-1-028	TRAY3 PAPER SIZE DETECT SENSOR 4	Blocked	Open	
S	05-1-031	P-FEED TRAY PAPER VOL DETECT SENSOR 1	Blocked	Open	P-FEED TRAY PAPER VOLUME SENSOR A
S	05-1-032	P-FEED TRAY PAPER VOL DETECT SENSOR 2	Blocked	Open	P-FEED TRAY PAPER VOLUME SENSOR B

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Test Modes

Type	Test mode	Test mode name	ON	OFF	Remarks
.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	No.		Blocked (The remaining paper volume is		
s	05-1-033	TRAY1 PAPER VOLUME SENSOR	50% or less if the Tray 1 paper detect	Open (The remaining paper volume is	The remaining paper volume differs depending on the status of the Tray 1 paper detect
			sensor is blocked as well. If not, no paper remains.)	more than 50%.)	sensor.
			Blocked (The remaining paper volume is		The completing paper volume differendenending
s	05-1-034	TRAY2 PAPER VOLUME SENSOR	50% or less if the Tray 2 paper detect sensor is blocked as well If not no paper.	Open (The remaining paper volume is more than 50%)	on the status of the Tray 2 paper detect
			remains.)		sensor.
			Blocked (The remaining paper volume is		The remaining paper volume differs depending
S	05-1-035	TRAY3 PAPER VOLUME SENSOR	50% or less if the Tray 3 paper detect sensor is blocked as well. If not, no paper	Open (The remaining paper volume is more than 50%.)	on the status of the Tray 3 paper detect
			remains.)		
S	05-1-041	EXTERNAL PAPER FEED MOTOR ENCODER	Motor rotation detected	Motor rotation not detected	
S	05-1-043	INTERNAL PAPER TRANSFER SENSOR 1	Reflected light (Paper) detected	Reflected light (Paper) not detected	
s	05-1-045	INTERNAL PAPER TRANSFER SENSOR 2	Reflected light (Paper) detected	Reflected light (Paper) not detected	
S	05-1-047	INTERNAL PAPER TRANSFER SENSOR 3	Reflected light (Paper) detected	Reflected light (Paper) not detected	
S	05-1-048	INTERNAL PAPER MERGE SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	
S	05-1-049	VERTICAL PAPER FEED SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	VERTICAL TRANSFER SENSOR
S	05-1-051	REGISTRATION MOTOR ENCODER	Motor rotation detected	Motor rotation not detected	
S	05-1-052	REGISTRATION SENSOR	Blocked (Paper detected)	Open (Paper not detected)	
S	05-1-056	PAPER FEED TRAY ELEVATION SW	Switch actuated (pressed)	Switch released	
S	05-1-057	INTERNAL P-FEED JAM RELEASE DOOR SW	Switch actuated (Door closed)	Switch open (Door open)	
Trans	port section			Blocked (Transfer belt not at home	
S	06-1-001	BELT HP SENSOR	Open (Transfer belt at home position)	position)	
S	06-1-002	TRANSFER BELT ENCODER	Belt rotation detected	Belt rotation not detected	
S	06-1-003	TOP EDGE SENSOR 1	Blocked (Paper detected)	Open (Paper not detected)	
S	06-1-004	PAPER LIFT DETECTION SENSOR	Blocked (Paper undulation detected)	Open (Without paper undulation)	
S	06-1-005	PAPER ELEVATION IN SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	
S	06-1-006	PAPER ELEVATION SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	HORIZONTAL TRANSFER SENSOR
S	06-1-021	SWITCHBACK ENTRANCE SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	
S	06-1-022	SWITCHBACK TRANSFER SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	
S	06-1-023	SWITCHBACK SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	
S	06-1-031	FD PAPER EJECTION FLIPPER DETECT	FD paper ejection flipper solenoid connected	FD paper ejection flipper solenoid not connected	
Paper	ejection sec	tion			
S	07-1-001	FD PAPER EJECTION MOTOR ENCODER	Motor rotation detected	Motor rotation not detected	
S	07-1-002	FD PAPER EJECTION SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	
S	07-1-003	FD PAPER EJECTION FULL SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	
S	07-1-004	FD PAPER EJECTION DETECT SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	FD PAPER EJECTION PAPER DETECTION SENSOR
ç	07 1 005		Blocked (FD paper ejection paper guides	Open (FD paper ejection paper guides	FD PAPER EJECTION PAPER GUIDE HP
	0/-1-000		at home position)	not at home position)	SENSOR
S	07-1-011	FU PAPER EJECTION SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	
S	07-1-012	FU PAPER EJECTION JUMP MOTOR ENCODER	Motor rotation detected	Motor rotation not detected	
s	07-1-013	FU PAPER EJECTION WING HP SENSOR	Blocked (FU paper ejection wings at home position)	Open (FU paper ejection wings not at home position)	
lnk ma	intenance s	ection		. ,	
S	09-1-001	INK COOLING FAN1 CONNECT	Fan connected	Fan not connected	Only detectable while activated
S	09-1-002	INK COOLING FAN2 CONNECT	Fan connected	Fan not connected	
S	09-1-003	INK SUPPLY VALVE K DETECT	Valve connected	Valve not connected	
S	09-1-004	INK SUPPLY VALVE C DETECT	Valve connected	Valve not connected	
S	09-1-005	INK SUPPLY VALVE M DETECT	Valve connected	Valve not connected	
S	09-1-006	INK SUPPLY VALVE Y DETECT	Valve connected	Valve not connected	
s	09-1-007	INK SUPPLY VALVE P (R,Gr) DETECT	Valve connected	Valve not connected	This is also applicable to the following: - R of 5C (KCMYR) models
	00 / 575			Mahar and annual di d	- Gr of 5C (KCMYGr) models
s	U9-1-008	PRESSURE INK TANK AIR VALVE DETECT	valve connected	valve not connected	
S	09-1-009	N-PRESSURE INK TANK AIR VALVE DETECT	Valve connected	Valve not connected	NEGATIVE PRESSUR INK TANK AIR VALVE
S	09-1-010	PRESSURE REGULATOR VALVE CONNECT	Valve connected	Valve not connected	
S	09-1-011	N-PRESSURE REGULATOR VALVE CONNECT	Valve connected	Valve not connected	NEGATIVE PRESSURE REGULATOR VALVE
s	09-1-012	PRESSURE TANK INK SENSOR K DETECT	Sensor connected	Sensor not connected	

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Test Modes

Туре	Test mode No.	Test mode name	ON	OFF	Remarks
S	09-1-013	PRESSURE TANK INK SENSOR C DETECT	Sensor connected	Sensor not connected	
S	09-1-014	PRESSURE TANK INK SENSOR M DETECT	Sensor connected	Sensor not connected	
S	09-1-015	PRESSURE TANK INK SENSOR Y DETECT	Sensor connected	Sensor not connected	
s	09-1-016	PR TANK INK SENSOR P (R,Gr) DETECT	Sensor connected	Sensor not connected	PRESSURIZATION TANK INK LEVEL SENSOR P (R,Gr) This is also applicable to the following: - R of 5C (KCMYR) models
s	09-1-017	N-PRESSURE TANK INK SENSOR K DETECT	Sensor connected	Sensor not connected	NEGATIVE PRESSURE TANK INK LEVEL
s	09-1-018	N-PRESSURE TANK INK SENSOR C DETECT	Sensor connected	Sensor not connected	NEGATIVE PRESSURE TANK INK LEVEL
s	09-1-019	N-PRESSURE TANK INK SENSOR M DETECT	Sensor connected	Sensor not connected	NEGATIVE PRESSURE TANK INK SENSOR M
s	09-1-020		Sensor connected	Sensor not connected	NEGATIVE PRESSURE TANK INK SENSOR Y
s	09-1-021	N-PR TANK INK SENSOR P (R,Gr) DETECT	Sensor connected	Sensor not connected	NEGATIVE PRESSURE TANK INK LEVEL SENSOR P (R, Gr) This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models
S	09-1-022	OVERFLOW TANK INK DETECT	Sensor connected	Sensor not connected	OVERFLOW TANK INK LEVEL SENSOR
S	09-1-023	IP PCB DETECT	IP PCB connected	IP PCB not connected	
S	09-1-030	24V VOLTAGE DETECT	24V voltage applied	24V voltage not applied	
S	09-1-031	24V IL-VOLTAGE DETECT	24V-IL voltage applied	24V-IL voltage not applied	
S	09-1-032	36V VOLTAGE DETECT	36V voltage applied	36V voltage not applied	
S	09-1-033	36VA IL-VOLTAGE DETECT	36VA-IL voltage applied	36VA-IL voltage not applied	
s	09-1-034	AIR PUMP REG VALVE CONNECT DETECT	Valve connected	Valve not connected	AIR REGULATOR VALVE Detectable only when the AIR REGULATOR VALVE is not activated.
S	09-1-041	INK CARTRIDGE DETECT K	K-color ink cartridge loaded	K-color ink cartridge not loaded	
S	09-1-042	INK CARTRIDGE DETECT C	C-color ink cartridge loaded	C-color ink cartridge not loaded	
S	09-1-043	INK CARTRIDGE DETECT M	M-color ink cartridge loaded	M-color ink cartridge not loaded	
S	09-1-044	INK CARTRIDGE DETECT Y	Y-color ink cartridge loaded	Y-color ink cartridge not loaded	
s	09-1-045	INK CARTRIDGE DETECT P (R,Gr)	P (, R or Gr)-color ink cartridge loaded	P (, R or Gr)-color ink cartridge not loaded	This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models
S	09-1-046	CIRCULATION PUMP K ERROR DETECT	Pump error detected or Pump not connected	Pump connected without error	
s	09-1-047	CIRCULATION PUMP C ERROR DETECT	Pump error detected or Pump not connected	Pump connected without error	
s	09-1-048	CIRCULATION PUMP M ERROR DETECT	Pump error detected or Pump not connected	Pump connected without error	
s	09-1-049	CIRCULATION PUMP Y ERROR DETECT	Pump error detected or Pump not connected	Pump connected without error	
s	09-1-050	CIRCULATION PUMP P (R,Gr) ERR DETECT	Pump error detected or Pump not connected	Pump connected without error	This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models
s	09-1-051	PRESSURE INK TANK INK SENSOR K	Ink detected	Ink not detected	PRESSURIZATION TANK INK LEVEL SENSOR K
s	09-1-052	PRESSURE INK TANK INK SENSOR C	Ink detected	Ink not detected	PRESSURIZATION TANK INK LEVEL SENSOR C
S	09-1-053	PRESSURE INK TANK INK SENSOR M	Ink detected	Ink not detected	PRESSURIZATION TANK INK LEVEL SENSOR M
s	09-1-054	PRESSURE INK TANK INK SENSOR Y	Ink detected	Ink not detected	PRESSURIZATION TANK INK LEVEL SENSOR Y
S	09-1-055	PRESSURE INK TANK INK SENSOR P (R,Gr)	Ink detected	Ink not detected	PRESSURIZATION TANK INK LEVEL SENSOR P (R. Gr) This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models
s	09-1-056	N-PRESSURE INK TANK INK SENSOR K	Ink detected	Ink not detected	NEGATIVE PRESSURE TANK INK LEVEL SENSOR K
s	09-1-057	N-PRESSURE INK TANK INK SENSOR C	Ink detected	Ink not detected	NEGATIVE PRESSURE TANK INK LEVEL SENSOR C

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Test Modes

Туре	Test mode No.	Test mode name	ON	OFF	Remarks
s	09-1-058	N-PRESSURE INK TANK INK SENEOR M	Ink detected	Ink not detected	NEGATIVE PRESSURE TANK INK LEVEL SENSOR M
s	09-1-059	N-PRESSURE INK TANK INK SENSOR Y	Ink detected	Ink not detected	NEGATIVE PRESSURE TANK INK LEVEL SENSOR Y
s	09-1-060	N-PRESSURE INK TANK INK SNSR P (R,Gr)	Ink detected	Ink not detected	NEGATIVE PRESSURE TANK INK LEVEL SENSOR P (R, Gr) This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYG) models
s	09-1-061	OVERFLOW TANK INK SENSOR	Ink detected	Ink not detected	OVERFLOW TANK INK LEVEL SENSOR
s	09-1-062	WASTE INK TANK NEAR FULL SENSOR	Blocked (The Waste ink tank is nearly full if the Waste ink tank full sensor is blocked as well. If not, the said tank still has room for waste ink.)	Open (The Waste ink tank is full if the Waste ink tank full sensor is blocked, If not, the said tank is dismounted.)	The resulting condition of the Waste ink tank differs depending on the status of the Waste ink tank full sensor below.
S	09-1-063	WASTE INK TANK FULL SENSOR	Blocked (The Waste ink tank is nearly full if the Waste ink tank near full sensor is blocked as well. If not, the said tank is already full.)	Open (The Waste ink tank has room for waste ink if the Waste ink tank near full sensor is blocked, If not, the said tank is dismounted.)	The resulting condition of the Waste ink tank differs depending on the status of the Waste ink tank near full sensor above.
s	09-1-064	WASTE INK TANK PREDICT FULL SENSOR	Blocked (The Waste ink tank is expected to be nearly full soon.)	Open (The Waste ink tank still has enough room for waste ink.)	WASTE INK TANK PRE-NEAR FULL SENSOR
s	09-1-071	INK PAN MOTOR STRAGE POS SENSOR	Blocked (Maintenance unit at retracted (storage) position)	Open (Maintenance unit not at retracted (storage) position)	INK PAN STORAGE POSITION SENSOR
s	09-1-072	INK PAN MOTOR OPEN POS SENSOR	Blocked (Maintenance unit at protruded (operation) position)	Open (Maintenance unit not at protruded (operation) position)	INK PAN OPEN POSITION SENSOR
S	09-1-073	WIPER MOTOR HP SENSOR	Blocked (Wiper blade at home position)	Open (Wiper blade not at home position)	WIPER BLADE HP SENSOR
s	09-1-074	AUTHORIZATION CAM HP SENSOR	Blocked (Ink cartridge release cam at home position)	Open (Ink cartridge release cam not at home position)	INK CARTRIDGE RELEASE CAM HP SENSOR
s	09-1-075	BP LOWER LIMIT SENSOR	Blocked (Transfer belt unit at lower limit posiition)	Open (Transfer belt unit not at lower limit posiition)	TRANSFER BELT LOWER LIMIT SENSOR
s	09-1-076	BP UPPER LIMIT SENSOR	Blocked (Transfer belt unit close to upper limit posiition)	Open (Transfer belt unit not close to upper limit posiition)	TRANSFER BELT UPPER LIMIT SENSOR
s	09-1-077	BP HIT SENSOR (RL)	Actuated (Transfer belt unit at upper limit position)	Not actuated (Transfer belt unit not at upper limit position)	TRANSFER BELT UNIT LEVEL DETECTOR (RL)
s	09-1-078	BP HIT SENSOR (FL)	Actuated (Transfer belt unit at upper limit position)	Not actuated (Transfer belt unit not at upper limit position)	TRANSFER BELT UNIT LEVEL DETECTOR (FL)
S	09-1-079	BP HIT SENSOR (RR)	Actuated (Transfer belt unit at upper limit position)	Not actuated (Transfer belt unit not at upper limit position)	TRANSFER BELT UNIT LEVEL DETECTOR (RR)
S	09-1-080	BP HIT SENSOR (FR)	Actuated (Transfer belt unit at upper limit position)	Not actuated (Transfer belt unit not at upper limit position)	TRANSFER BELT UNIT LEVEL DETECTOR (FR)
s	09-1-085	INK LEAK DETECT SENSOR 1	Ink leak detected	Ink leak not detected	INK LEAKAGE DETECTION SENSOR
S	er 21-1-002	FB ORIGINAL SIZE SENSOR 1	Reflected light (Original) detected	Reflected light (Original) not detected	
s	21-1-003	FB ORIGINAL SIZE SENSOR 2	Reflected light (Original) detected	Reflected light (Original) not detected	
s	21-1-004	FB ORIGINAL COVER SENSOR	Blocked (Cover closed)	Open (Cover open)	FB STAGE COVER SET SENSOR
s	21-1-005	FB ORIGINAL COVER ANGLE SENSOR	Blocked (Cover standing at a predefined angle)	Open (Cover not standing at a predefined angle)	FB STAGE COVER ANGLE SENSOR
s	21-1-006	SCANNER HP SENSOR	Blocked (FB carriage at home position)	Open (FB carriage not at home position)	FB CARRIAGE HP SENSOR
s	21-1-021	AF UNIT DETECT	AF Unit connected (mounted)	AF Unit not connected (mounted)	
s	21-1-022	AF ORIGINAL DETECT SENSOR	Reflected light (Original) detected	Reflected light (Original) not detected	
s	21-1-023	AF TRAY SENSOR 1	Blocked (Original detected)	Open (Original not detected)	AF ORIGINAL LENGTH SENSOR 1
s	21-1-024	AF TRAY SENSOR 2	Blocked (Original detected)	Open (Original not detected)	AF ORIGINAL LENGTH SENSOR 2
s	21-1-025	AF FEED COVER SET SW	Switch actuated (Unit closed)	Switch open (Unit open)	AF ORIGINAL FEED UNIT SET SENSOR
s	21-1-026	AF REGISTRATION SENSOR	Reflected light (Original) detected	Reflected light (Original) not detected	
s	21-1-027	AF READ SENSOR (F)	Reflected light (Original) detected	Reflected light (Original) not detected	AF FRONT READ SENSOR
s	21-1-028	AF READ SENSOR (B)	Reflected light (Original) detected	Reflected light (Original) not detected	AF BACK READ SENSOR
s	21-1-029	AF SEPARATION SENSOR	Reflected light (Original) detected	Reflected light (Original) not detected	
s	21-1-030	AF ORIGINAL SET SENSOR	Blocked (Original detected)	Open (Original not detected)	
s	21-1-031	AF LAST PAPER SENSOR	Reflected light (Original) detected	Reflected light (Original) not detected	

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Test Modes

Туре	Test mode No.	Test mode name	ON	OFF	Remarks
S	21-1-032	AF WHITE PLATE HOME POSITION SENSOR	Blocked (Shading plate at home position)	Open (Shading plate not at home position)	AF SHADING PALTE HP SENSOR
S	21-1-033	AF ELEVATION TRAY HOME SENSOR	Blocked (Tray at home position)	Open (Tray not at home position)	AF ORIGINAL TRAY HP SENSOR
S	21-1-034	AF ORIGINAL WIDTH SENSOR 1	Blocked	Open	
S	21-1-035	AF ORIGINAL WIDTH SENSOR 2	Blocked	Open	
S	21-1-036	AF ORIGINAL WIDTH SENSOR 3	Blocked	Open	
S	21-1-037	AF ORIGINAL LENGTH SENSOR 1	Blocked (Original detected)	Open (Original not detected)	
S	21-1-038	AF ORIGINAL LENGTH SENSOR 2	Blocked (Original detected)	Open (Original not detected)	
S	21-1-039 own finishe	AF ORIGINAL FEED POSITION SENSOR	Blocked (Original detected)	Open (Original not detected)	
S	24-1-001	FDF SWITCHBACK PASS SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	
s	24-1-002	FDF STAPLE SCR PROTECT ARM HP SENSOR	Blocked (Staple scratch prevention arm at home position)	Open (Staple scratch prevention arm not at home position)	STAPLE SCRATCH PREVENTION ARM HP SENSOR
S	24-1-003	FDF TRANSFER SENSOR 1	Reflected light (Paper) detected	Reflected light (Paper) not detected	FDF TRANSFER SENSOR
S	24-1-004	FDF ENTRANCE SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	
S	24-1-005	FDF EJECT ROLLER ELEVATION HP SENSOR	Blocked (Paper ejection roller elevated)	Open (Paper ejection roller not elevated)	PAPER EJECTION ROLLER ELEVATION SENSOR
S	24-1-006	FDF STACKING TRAY UPPER LIMIT SENSOR	Blocked (Stacking tray at upper limit position)	Open (Stacking tray not at upper limit position)	
S	24-1-007	FDF REVERSE ROLLER ELEV HP SENSOR	Blocked (Reverse roller retreated)	Open (Reverse roller not retreated)	FDF REVERSE ROLLER RETREAT POSITION SENSOR
S	24-1-008	FDF TRAY ELEVATION CLK SENSOR	Stacking tray elevatiom motor rotation detected	Stacking tray elevatiom motor rotation not detected	STACKING TRAY ELEVATION MOTOR CLOCK SENSOR
s	24-1-009	FDF TRAY PAPER DETECTION SENSOR 1	Blocked (Paper detected)	Open (Paper not detected)	PAPER STACKING LEVEL DETECTION SENSOR 1
s	24-1-010	FDF TRAY PAPER DETECTION SENSOR 2	Blocked (Paper detected)	Open (Paper not detected)	PAPER STACKING LEVEL DETECTION SENSOR 2
s	24-1-011	FDF TRAY PAPER DETECTION SENSOR 3	Blocked (Paper detected)	Open (Paper not detected)	PAPER STACKING LEVEL DETECTION SENSOR 3
s	24-1-012	FDF TRAY LOWER LIMIT SENSOR	Blocked (Stacking tray at lower limit position)	Open (Stacking tray not at lower limit position)	STACKING TRAY LOWER LIMIT SENSOR
S	24-1-013	FDF STAPLE TRAY PAPER DETECT SENSOR	Blocked (Paper detected)	Open (Paper not detected)	FDF STAPLER BUFFER TRAY PAPER DETECTION SENSOR
S	24-1-014	FDF RAKE ROLLER ELEVATION HP SENSOR	Blocked (FDF Rake roller elevated)	Open (FDF Rake roller not elevated)	
S	24-1-015	FDF REAR GUIDE PLATE HP SENSOR	Blocked (Rear paper alignment plate at home position)	Open (Rear paper alignment plate not at home position)	REAR PAPER ALIGNMENT PLATE HP SENSOR
s	24-1-016	FDF TRAY SHIFT SENSOR 1	Blocked (Stacking tray at side-shifted position 1)	Open (Stacking tray not at side-shifted position 1)	STACKING TRAY SHIFT SENSOR 1
S	24-1-017	FDF STACK TRAY PAPER DETECT SENSOR	Blocked (Paper detected)	Open (Paper not detected)	
S	24-1-018	FDF TRAY SHIFT CLK SENSOR	Stacking tray shift motor rotation detected	Stacking tray shift motor rotation not detected	STACKING TRAY SHIFT MOTOR CLOCK SENSOR
S	24-1-019	FDF TRAY SHIFT SENSOR 2	Blocked (Stacking tray at side-shifted position 2)	Open (Stacking tray not at side-shifted position 2)	STACKING TRAY SHIFT SENSOR 2
S	24-1-020	FDF FRONT GUIDE PLATE HP SENSOR	Blocked (Front paper alignment plate at home position)	Open (Front paper alignment plate not at home position)	FRONT PAPER ALIGNMENT PLATE HP SENSOR
s	24-1-021	FDF GUIDE PLATE POSITION SENSOR	Blocked (FDF Stapler base set in place)	Open (FDF Stapler base not set in place)	FDF STAPLER BASE POSITION SENSOR
s	24-1-022	FDF STAPLER SLIDE HP SENSOR	Blocked (FDF Stapler unit at home position)	Open (FDF Stapler unit not at home position)	
s	24-1-023	FDF STAPLE CLINCH HP SENSOR	Blocked (FDF Stapler clincher at home position)	Open (FDF Stapler clincher not at home position)	
s	24-1-024	FDF NO STAPLE DETECTION SENSOR	Blocked (No staple remains or Staple cartridge not loaded)	Open (Staples remain)	FDF STAPLER STAPLE DETECTION SENSOR
s	24-1-025	FDF STAPLE SELF PRIME SENSOR	Blocked (Staple ready for clinching)	Open (Staple not ready for clinching)	
s	24-1-026	FDF STAPLE CHANGE COVER SWITCH	Switch actuated (Cover closed)	Switch open (Cover open)	FDF STAPLE CARTRIDGE COVER SWITCH
S	24-1-027	FDF JAM COVER SWITCH	Switch actuated (Cover closed)	Switch open (Cover open)	FDF JAM RELEASE COVER SWITCH
S	24-1-028	FDF JAM COVER SENSOR	Blocked (Cover closed)	Open (Cover open)	FDF JAM RELEASE COVER SENSOR

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Test Modes

Туре	Test mode No.	Test mode name	ON	OFF	Remarks
Auto-c	control stack	ting tray	1		
s	25-1-001	AS SIDE FENCE HP SENSOR	Blocked (AS Paper side guides at home position)	Open (AS Paper side guides not at home position)	
s	25-1-002	AS END FENCE HP SENSOR	Blocked (AS Paper end guide at home position)	Open (AS Paper end guide not at home position)	
s	25-1-003	AS PAPER REMOVAL SW	Switch actuated (pressed)	Switch released	
s	25-1-004	AS PAPER DETECT SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	
	20-1-001	HOE DADER FEED TRAY ELEVATION SWITCH	Switch actuated (pressed)	Switch released	
s	29-1-002		Switch actuated	Switch open	
s	29-1-003	HCF P-F TRAY U-LIMIT SENSOR (STD)	Blocked (Paper feed tray at upper limit position for standard paper)	Open (Paper feed tray not at upper limit position for standard paper)	P-F TRAY UPPER LIMIT SENSOR (STANDARD)
s	29-1-004	HCF P-F TRAY U-LIMIT SENSOR (CARD)	Blocked (Paper feed tray at upper limit position for card stock)	Open (Paper feed tray not at upper limit position for card stock)	P-F TRAY UPPER LIMIT SENSOR (CARD)
s	29-1-005	HCF P-F TRAY LOWER LIMIT SENSOR	Blocked (Paper feed tray at lower limit position)	Open (Paper feed tray not at lower limit position)	
S	29-1-006	HCF PAPER VOLUME SENSOR 1	Blocked	Open	
s	29-1-007	HCF PAPER VOLUME SENSOR 2	Blocked	Open	
9	29-1-008		Blocked	Open	
3	20-1-000		Deflected light (Dener) details	Deflected light (Dener) act data d	
S	29-1-009		Reflected light (Paper) detected	Reflected light (Paper) not detected	├ ────┤
S	29-1-010	HCF PAPER LENGTH SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	
S	29-1-011	HCF INTERMEDIATE OUT SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	
S	29-1-012	HCF JAM RELEASE DOOR DETECT SIGNAL	Switch actuated (Door closed)	Switch open (Door open)	
S	29-1-013	HCF PICKUP DRIVE MOTOR FG SENSOR	Motor rotation detected	Motor rotation not detected	
S	29-1-014	HCF INTERM TRANSFER MOTOR FG SENSOR	Motor rotation detected	Motor rotation not detected	INTERMEDIATE TRANSFER MOTOR FG SENSOR
S	29-1-015	HCF INTERMEDIATE IN SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	
S	29-1-016	HCF NIP RELEASE HP SENSOR	Blocked (Nipping pressure released)	Open (Nipping pressure applied)	
S	29-1-017	HCF STRIPPER UNIT SET SWITCH	Switch actuated (Stripper unit installed)	Switch open (Stripper unit not installed)	
S High (29-1-018	HCF INTERM TRANF UPPER DOOR SENSOR	Blocked (Upper door closed)	Open (Upper door open)	INTERMEDIATE TRANSFER UPPER DOOR SENSOR
S	30-1 - 001	HCS RCV TRAY SET SENSOR	Blocked (Stacking tray set in place)	Open (Stacking tray not set in place)	TRAY SET SENSOR
S	30-1-002	HCS CART SET DETECTION SENSOR	Blocked (Tray carrier set in place)	Open (Tray carrier not set in place)	TRAY CARRIER SENSOR
s	30-1-003	HCS JAM RELEASE DOOR SAFETY SWITCH	Switch actuated (Door closed)	Switch open (Door open)	TRANSFER UNIT DOOR SW
S	30-1-004	HCS STOCKER FRONT DOOR SAFETY SWITCH	Switch actuated (Door closed)	Switch open (Door open)	STACKING UNIT DOOR SW
s	30-1-005	HCS ELEVATOR ELEVATION BUTTON	Switch actuated (pressed)	Switch released	STACKING TRAY DESCENT SW
			Blocked (Stacking trav at upper limit	Open (Stacking tray not at upper limit	
S	30-1-011		position)	position)	
5	30-1-012				
S	30-1-013	HCS RCV TRAY LOWER LIMIT SENSOR	position)	position)	TRAY LOWER LIMIT SENSOR
S	30-1-016	HCS FEED IN SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	STACKING ENTRANCE SENSOR
S	30-1-017	HCS RE-FEED SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	SWITCHBACK TRANSFER SENSOR
S	30-1-018	HCS SWITCHBACK SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	
s	30-1-019	HCS INTERMEDIATE SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	SWITCHBACK ELEVATION SENSOR
S	30-1-020	HCS FACE UP SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	FACE-UP STACKING TRANSFER SENSOR
s	30-1-021	HCS ELEVATION SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	STACKING SECONDARY TRANSFER SENSOR
S	30-1-022	HCS EJECTION SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	STACKER EJECTION SENSOR
s	30-1-023	HCS EJECTION MOTOR FG	Motor rotation detected	Motor rotation not detected	STACKER EJECTION MOTOR FG SENSOR
S	30-1-024	HCS RCV TRAY PAPER DETECTION SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	TRAY PAPER DETECTION SENSOR
S	30-1-025	HCS POST CARD FULL DETECTION SENSOR	Blocked	Open	CARD STACKING LIMIT SENSOR
S	30-1-026	HCS FULL DETECTION SENSOR	Blocked	Open	REGULAR STACKING LIMIT SENSOR
s	30-1-027	HCS OFFSET FULL DETECTION SENSOR	Blocked	Open	OFFSET STACKING LIMIT SENSOR
s	30-1-028	HCS UPPER SURFACE DETECTION SENSOR 1	Blocked (Paper detected)	Open (Paper not detected)	PAPER TOP FACE DETECTION SENSOR 1
9	30-1-020		Blocked (Paper detected)	Open (Paper not detected)	
- 3	JU-1-UZØ	THOS OF THIS SUM ACE DETECTION SENSOR 2	Diselved (Dependide wides at here)		TALENTOF TAGE DETECTION SENSOR 2
S	30-1-031	HCS SIDE FENCE HP SENSOR	position)	position)	PAPER SIDE GUIDE HP SENSOR
S	30-1-032	HCS END FENCE HP SENSOR	position)	open (Paper end guide not at home position)	PAPER END GUIDE HP SENSOR

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Test Modes

Туре	Test mode No.	Test mode name	ON	OFF	Remarks
s	30-1-033	HCS EJECTION WING HP SENSOR	Blocked (Ejection wings at home position)	Open (Ejection wings not at home position)	
s	30-1-034	HCS OFFSET GUIDE HP SENSOR	Blocked (Offset stacking guide at home position)	Open (Offset stacking guide not at home position)	OFFSET STACKING GUIDE HP SENSOR
S	30-1-035	HCS END GUIDE SENSOR	Blocked (Paper end base elevated)	Open (Paper end base lowered)	PAPER END BASE ELEVATION SENSOR
s	30-1-036	HCS OFFSET GUIDE SENSOR	Blocked (Offset stacking base elevated)	Open (Offset stacking base lowered)	OFFSET STACKING BASE ELEVATION SENSOR
S	30-1-037	HCS OFFSET GUIDE POSITION SENSOR	Blocked (Offset stacking guide at protruded position)	Open (Offset stacking guide not at protruded position)	OFFSET STACKING GUIDE SENSOR
S	30-1-041	HCS ELEVATOR MOTOR FG	Motor rotation detected	Motor rotation not detected	STACKING TRAY ELEVATOR MOTOR FG SENSOR
S	30-1-042	HCS SWITCHBACK MOTOR FG	Motor rotation detected	Motor rotation not detected	
S	33-1-001		Reflected light (Paper) detected	Reflected light (Paper) not detected	WEF ENTRANCE SENSOR
s	33-1-002	WEF MEDIUM TAMPER SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	WEF BODY TAMPER SENSOR
s	33-1-003	WEF END TAMPER HP SENSOR	Blocked (WEF End tamper motor (plate) at home position)	Open (WEF End tamper motor (plate) not at home position)	
s	33-1-004	WEF SIDE TAMPER HP SENSOR	Blocked (WEF Side tamper plates at home position)	Open (WEF Side tamper plates not at home position)	
s	33-1-005	WEF TAMPER NIP HP SENSOR	Blocked (WEF Tamper nip motor at home (nipping) position)	Open (WEF Tamper nip motor not at home (nipping) position)	
s	33-1-006	WEF TOP TAMPER HP SENSOR	Blocked (WEF Top tamper motor (plate) at home position)	Open (WEF Top tamper motor (plate) not at home position)	
s	33-1-007	WEF TOP TAMPER SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	
S	33-1-008	WEF TAMPER EJECT SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	
s	33-1-009	WEF BODY ENTRANCE SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	WEF BODY FOLD ENTRANCE SENSOR
s	33-1-010	WEF BODY HIT HP SENSOR 1	Blocked (WEF Body hit plate 1 at home position)	Open (WEF Body hit plate 1 not at home position)	
s	33-1-011	WEF BODY HIT HP SENSOR 2	Blocked (WEF Body hit plate 1 at home position)	Open (WEF Body hit plate 1 not at home position)	
s	33-1-012	WEF BODY FOLD SET HP SENSOR	Blocked (WEF Body fold setting plate at home position)	Open (WEF Body fold setting plate not at home position)	
S	33-1-013	WEF WRAPPING ENTRANCE SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	
s	33-1-014	WEF WRAPPING WAIT SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	WEF WRAPPING STAND-BY SENSOR
S	33-1-015	WEF BODY EXIT SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	
s	33-1-016	WEF FORM ENTRANCE SENSOR	Reflected light (Envelope form sheet) detected	Reflected light (Envelope form sheet) not detected	
S	33-1-017	WEF FORM ENTRANCE NIP HP SENSOR	Blocked (Form entrance driven roller 3 (Form entrance nip release cam) at home (nipping) position)	Open (Form entrance driven roller 3 (Form entrance nip release cam) not at home (nipping) position)	
S	33-1-018	WEF FORM REGISTRATION SENSOR	Reflected light (Envelope form sheet) detected	Reflected light (Envelope form sheet) not detected	
S	33-1-019	WEF FORM HORIZONTAL HP SENSOR	Blocked (Form registration alignment unit (Form horizontal position motor) at home (aligned) position)	Open (Form registration alignment unit (Form horizontal position motor) not at home (aligned) position)	
S	33-1-020	WEF FORM EDGE DETECTION SENSOR	Reflected light (Envelope form sheet) detected	Reflected light (Envelope form sheet) not detected	
s	33-1-021	WEF FORM HIT HP SENSOR 2	Blocked (Form hit plate 1 at home (initial) position)	Open (Form hit plate 1 not at home (initial) position)	
s	33-1-022	WEF WRAPPING SENSOR	Reflected light (Envelope form sheet) detected	Reflected light (Envelope form sheet) not detected	
s	33-1-023	WEF FLAP ENTRANCE SENSOR	Reflected light (A wrapped set of sheets) detected	Reflected light (A wrapped set of sheets) not detected	
s	33-1-024	WEF FORM HIT HP SENSOR 3	Blocked (Form hit plate 2 at home (initial) position)	Open (Form hit plate 2 not at home (initial) position)	
s	33-1-025	WEF GLUING SENSOR	Reflected light (A wrapped set of sheets) detected	Reflected light (A wrapped set of sheets) not detected	
s	33-1-026	WEF GLUING HP SENSOR	Blocked (Pressing plate at gluing (water application) position)	Open (Pressing plate not at gluing (water application) position)	
s	33-1-027	WEF FLAP GLUING EJECT SENSOR	Reflected light (A wrapped set of sheets) detected	Reflected light (A wrapped set of sheets) not detected	
S	33-1-028	WEF COMPRESSION EXIT SENSOR	Reflected light (A finished mail) detected	Reflected light (A finished mail) not detected	
s	33-1-029	WEF EJECT SENSOR	Reflected light (A finished mail) detected	Reflected light (A finished mail) not detected	

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Туре	Test mode No.	Test mode name	ON	OFF	Remarks
s	33-1-030	WEF EJECT ELEVATION EDGE SENSOR	Reflected light (A finished mail) detected	Reflected light (A finished mail) not detected	
s	33-1-031	WEF WATER LEVEL DETECTION SENSOR	Float detected (Water exists.)	Float not detected (Water does not exist.)	
s	33-1-032	WEF EJECT TRAY FULL DETECT SENSOR F	Reflected light (A finished mail) detected	Reflected light (A finished mail) not detected	
s	33-1-033	WEF EJECT TRAY FULL DETECT SENSOR R	Reflected light (A finished mail) detected	Reflected light (A finished mail) not detected	
s	33-1-034	WEF EJECT FENCE POSITION SENSOR F	Reflected light detected (Ejection fence stands.)	Reflected light not detected (Ejection fence folded down.)	
s	33-1-035	WEF EJECT FENCE POSITION SENSOR R	Reflected light detected (Ejection fence stands.)	Reflected light not detected (Ejection fence folded down.)	
Perfec	t Binder				
S	34-1-001	PB ENTERING PAPER DETECTION SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	
S	34-1-002	PB PAPER FEED CHECK SENSOR	Blocked (Paper detected)	Open (Paper not detected)	
S	34-1-003	PB BODY TEXT EXIT SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	
S	34-1-004	PB COVER REGISTRATION SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	
S	34-1-005	PB COVER CUT SENSOR	Blocked (Booklet cover sheet detected)	Open (Booklet cover sheet not detected)	
S	34-1-006	PB COVER POSITION SENSOR	Blocked (Booklet cover sheet detected)	Open (Booklet cover sheet not detected)	
s	34-1-007	PB COVER WASTE TRAY DETECT SENSOR	Blocked (PB Cover waste tray set in place)	Open (PB Cover waste tray not set in place)	
S	34-1-008	PB BODY TEXT DETECTION SENSOR	Reflected light (Booklet body sheets) detected	Reflected light (Booklet body sheets) not detected	
s	34-1-009	PB VERTICAL GUIDE HP SENSOR	Blocked (PB Vertical guide plates at home position)	Open (PB Vertical guide plates not at home position)	
s	34-1-010	PB FORE EDGE HP SENSOR	Blocked (PB Fore edge guide at home position)	Open (PB Fore edge guide not at home position)	
s	34-1-011	PB BODY TEXT JAM SENSOR	Blocked (Booklet body sheets detected)	Open (Booklet body sheets not detected)	
s	34-1-012	PB CLAMP UPPER/LOWER HP SENSOR	Blocked (PB Clamp arm at the lowered (gluing) position)	Open (PB Clamp arm not at the lowered (gluing) position)	
S	34-1-013	PB CLAMP UPPER/LOWER INSERT SENSOR	Blocked (PB Clamp arm at the raised (body sheet reception) position)	Open (PB Clamp arm not at the raised (body sheet reception) position)	
s	34-1-014	PB CLAMP BOOK BLOCK DETECTION SENSOR	Blocked (Booklet body sheets detected)	Open (Booklet body sheets not detected)	
S	34-1-015	PB CLAMP OPEN SENSOR	Blocked (PB Clamp arm fully opened)	Open (PB Clamp arm not fully opened nor at the base position)	
S	34-1-016	PB CLAMP CLOSE SENSOR	Blocked (PB Clamp arm fully closed or not at the base position)	Open (PB Clamp arm not fully closed)	
s	34-1-017	PB CLAMP HORIZONTAL HP SENSOR	Blocked (PB Clamp unit positioned over PB Gluing unit)	Open (PB Clamp unit not positioned over PB Gluing unit)	
s	34-1-018	PB CLAMP HORIZ PAPER FEED SENSOR	Blocked (PB Clamp unit positioned over PB Forming unit)	Open (PB Clamp unit not positioned over PB Forming unit)	
s	34-1-019	PB GLUE ROLLER BACKLASH SENSOR	Blocked	Open	* To detect the rotation of PB Gluing roller. When the said roller is not rotating, the status of this sensor remains unchanged, i.e. blocked or open.
s	34-1-020	PB GLUE SHEET FEED SENSOR	Blocked (PB Glue sheet to be stopped feeding)	Open (PB Glue sheet feeding)	* To determine the feed range of PB Glue sheet. Also to detect the depletion of PB Glue sheet.
s	34-1-021	PB GLUE SHEET CUT SENSOR	Blocked (PB Gluing unit at home (retreat) position)	Open (PB Gluing unit at raised (gluing) position)	
s	34-1-022	PB FORMING COVER DETECTION SENSOR	Reflected light (Booklet cover sheet) detected	Reflected light (Booklet cover sheet) not detected	
s	34-1-023	PB COVER GUIDE HP SENSOR	Blocked (PB Cover guides at home (retreat) position)	Open (PB Cover guides not at home (retreat) position)	
S	34-1-024	PB FORMING PLATE OPEN SENSOR	Blocked (PB Forming plates wide opened)	Open (PB Cover Guides not wide opened)	
s	34-1-025	PB FORMING PLATE CLOSE SENSOR	Blocked (PB Forming plates firmly closed for book binding)	Open (PB Forming plates not firmly closed for book binding)	
s	34-1-026	PB BOOKLET EXIT SENSOR	Blocked (Finished booklet detected)	Open (Finished booklet not detected)	
s	34-1-027	PB BOOKLET GUIDE SENSOR	Reflected light (Finished booklet) detected	Reflected light (Finished booklet) not detected	
s	34-1-028	PB BOOKLET EXIT POSITION 1 SENSOR	Reflected light (Finished booklet) detected	Reflected light (Finished booklet) not detected	
s	34-1-029	PB BOOKLET EXIT POSITION 2 SENSOR	Reflected light (Finished booklet) detected	Reflected light (Finished booklet) not detected	

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Туре	Test mode No.	Test mode name	ON	OFF	Remarks
S	34-1-030	PB FORE EDGE PLATE HP SENSOR	Blocked (PB Fore edge plates at home (booklet body stacking) position)	Open (PB Fore edge plates not at home (booklet body stacking) position)	
s	34-1-031	PB FORE EDGE PLATE RELEASE SENSOR	Blocked (PB Fore edge plates at booklet body release position)	Open (PB Fore edge plates not at booklet body release position)	
S	34-1-032	PB GLUE UNIT COVER OPEN SENSOR	Blocked (PB Glue unit cover opened)	Open (PB Glue unit cover not opened)	
S	34-1-033	PB GLUE UNIT COVER CLOSE SENSOR	Blocked (PB Glue unit cover closed)	Open (PB Glue unit cover not closed)	
s	34-1-034	PB COVER CUT HP SENSOR	Actuated (PB Cover cutter blade at home positon (front end))	Released (PB Cover cutter blade not at home positon (front end))	
S	34-1-035	PB COVER CUT LIMIT SENSOR	Actuated (PB Cover cutter blade at finish position (rear end))	Released (PB Cover cutter blade not at finish position (rear end))	
S	34-1-036	PB FRONT DOOR SWITCH	Switch actuated (PB Front door closed)	Switch open (PB Front door open)	
S	34-1-037	PB RIGHT DOOR SWITCH	Switch actuated (PB Right door closed)	Switch open (PB Right door open)	
S	34-1-038	PB UPPER COVER SWITCH	Switch actuated (PB Upper cover closed)	Switch open (PB Upper cover open)	
S	34-1-039	PB COVER DETECTION SENSOR	Reflected light (Booklet cover) detected	Reflected light (Booklet cover) not detected	
S	34-1-040	PB COVER TOP FACE SENSOR	Blocked (PB Cover stacking tray not at raised (booklet cover feeding) position)	Open (PB Cover stacking tray at raised (booklet cover feeding) position)	
s	34-1-041	PB COVER FEED SENSOR	Blocked (Feeding booklet cover detected)	Open (Feeding booklet cover not detected)	
S	34-1-042	PB COVER PASS SENSOR	Reflected light (Feeding booklet cover) detected	Reflected light (Feeding booklet cover) not detected	
s	34-1-043	PB COVER SIZE 1 SENSOR	Blocked (PB Cover stacking tray guide fences at a predefined position 1)	Open (PB Cover stacking tray guide fences not at a predefined position 1)	
s	34-1-044	PB COVER SIZE 2 SENSOR	Blocked (PB Cover stacking tray guide fences at a predefined position 2)	Open (PB Cover stacking tray guide fences not at a predefined position 2)	
s	34-1-045	PB LIFT UP LOWER LIMIT SENSOR	Blocked (PB Cover stacking tray at bottom (lowered) position)	Open (PB Cover stacking tray not at bottom (lowered) position)	
s	34-1-046	PB BOOKLET JAM DETECTION SENSOR	Reflected light (Jammed finished booklet) detected	Reflected light (Jammed finished booklet) not detected	
s	34-1-047	PB BOOKLET FEED PULSE DETECT SENSOR	Blocked	Open	* To detect the movement of PB Booklet lower exit belts. When the said belts are not moving, the status of this sensor remains unchanged, i.e. blocked or open.
S	34-1-048	PB GUIDE SELECT OPEN SENSOR	Blocked (PB Booklet guide fully opened)	Open (PB Booklet guide not fully opened)	PB GUIDE SWITCHING OPEN SENSOR
s	34-1-049	PB GUIDE SELECT CLOSE SENSOR	Blocked (PB Booklet guide fully closed)	Open (PB Booklet guide not fully closed)	PB GUIDE SWITCHING CLOSE SENSOR
Additi	onal 2000 sh	eet feeder (Expansion feeder)			
S	35-1-001	EXF FEED TRAY SET SW	Switch actuated (Feed tray set in place)	Switch open (Feed tray not set in place)	
S	35-1-002	EXF TOP COVER SW R	Switch actuated (Top access cover closed)	Switch open (Top access cover open)	EXF TOP ACCESS COVER SWITCH (REAR)
S	35-1-003	EXF PAPER SENSOR	Blocked (Paper detected)	Open (Paper not detected)	EXF PAPER DETECTION SENSOR
s	35-1-004	EXF UPPER LIMIT SENSOR	Blocked (Feed tray at upper limit position)	Open (Feed tray not at upper limit position)	EXF TRAY ELEVATOIN LIMIT SENSOR
S	35-1-005	EXF PAPER VOL SENSOR TOP	Blocked	Open	EXF PAPER VOLUME SENSOR (TOP)
S	35-1-006	EXF PAPER VOL SENSOR MID	Blocked	Open	EXF PAPER VOLUME SENSOR (MIDDLE)
s	35-1-007	EXF PEPER VOL SENSOR LOW	Blocked	Open	EXF PAPER VOLUME SENSOR (BOTTOM)
s	35-1-008	EXF TRANSFER SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	EXF JOINT FEED SENSOR
s	35-1-009	EXF CONNECT SENSOR	Additional 2000 sheet feeder jointed	Additional 2000 sheet feeder not jointed	EXF CONNECTION SENSOR
s	35-1-010	EXF P-F MOTOR FG SENSOR	Motor rotation detected	Motor rotation not detected	EXF PRIMARY FEED MOTOR FG SENSOR
s	35-1-011	EXF TRS MOTOR FG SENSOR	Motor rotation detected	Motor rotation not detected	EXF JOINT FEED MOTOR FG SENSOR
Multifu	unction finis	her FG20	O lith and adapt (El Escat descalars)		
S	36-1-001		Switch actuated (FI Front door closed)	Switch open (FI Front door open)	FIFRUNI DUUR SW
5	JO-1-UU2		renected light (Paper) detected	Reflected light (Paper) not detected	
S	36-1-003	FI SB IN SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	FI SWITCHBACK TRANSFER SENSOR
S	36-1-004	FI SB SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	FI SWITCHBACK SENSOR
S	36-1-005	FI SB EXIT SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	FI SWITCHBACK ELEVATION SENSOR
S	36-1-006	FI TRANSFER SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	FI FACE-UP TRANSFER SENSOR
S	36-1-007	FI MARGE SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	FI SECONDARY TRANSFER SENSOR
S	36-1-008	FI EJECT SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	FI EXIT SENSOR

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Test Modes

Туре	Test mode No.	Test mode name	ON	OFF	Remarks
S	36-1-009	FI ENTRANCE MOTOR FG SENSOR	Motor rotation detected	Motor rotation not detected	FI ENTRANCE TRANSFER MOTOR FG SENSOR
s	36-1-010	FI SB IN MOTOR FG SENSOR	Motor rotation detected	Motor rotation not detected	FI SWITCHBACK TRANSFER MOTOR FG SENSOR
s	36-1-011	FI SB MOTOR FG SENSOR	Motor rotation detected	Motor rotation not detected	FI SWITCHBACK MOTOR FG SENSOR
s	36-1-012	FI TRANSFER MOTOR FG SENSOR	Motor rotation detected	Motor rotation not detected	FI SWITCHBACK ELEVATION MOTOR FG SENSOR
S	36-1-013	FI MARGE MOTOR FG SENSOR	Motor rotation detected	Motor rotation not detected	FI SECONDARY TRANSFER MOTOR FG SENSOR
S	36-1-014	FI EJECT MOTOR FG SENSOR	Motor rotation detected	Motor rotation not detected	FI EXIT MOTOR FG SENSOR
S	37-1-001	FF FOLDER ENVELOPE TRAY 24V DETECT	24V voltage applied	24V voltage not applied	
S	37-1-002	FF FOLDER DETECT	Folder unit connected	Folder unit not connected	
S	37-1-003	FF FRONT COVER SW	Switch actuated (Front door closed)	Switch open (Front door open)	FF FRONT DOOR SW
S	37-1-004	FF TRAY RELEASE SW	Switch actuated (pressed)	Switch released	
S	37-1-005	FF TRAY SET SW	Switch actuated (Tray in place)	Switch open (Tray not in place)	
S	37-1-006	FM INTERLOCK 24V SENSOR	24V voltage applied	24V voltage not applied	
S	37-1-007	FM FRONT COVER SW	Switch actuated (Fron door closed)	Switch open (Front door open)	FM FRONT DOOR SW
s	37-1-008	FM PUNCH DETECT	Punch unit connected	Punch unit not connected	
S	37-1-009	FM PUNCH BOX SET SENSOR	Blocked (Punch Box in place)	Open (Punch box not in place)	
s	37-1-010	FM STAPLE BOX SET SENSOR	Reflected light detected (Staple bin in place)	Reflected light not detected (Staple bin not in place)	FM STAPLE BIN SET SENSOR
s	37-1-011	FM EJECT ROLLER NIP SW	Switch actuated (Roller nipping pressure applied)	Switch open (Roller nipping pressure not applied)	
s	37-1-012	FB BOOKLET SET SENSOR	Reflected light detected (Booklet unit drawer connector connected)	Reflected light not detected (Booklet unit drawer connector not connected)	
S	37-1-013	FB BOOKLET DETECT	Booklet unit connected	Booklet unit not connected	
S	37-1-014	FB BOOKLET TRAY BELT SW	Switch actuated (pressed)	Switch released	
s	37-1-018	FF HIT HP SENSOR 1	Blocked (FF Upper paper end guide at home position)	Open (FF Upper paper end guide not at home position)	FF UPPER END GUIDE HP SENSOR
s	37-1-019	FF HIT HP SENSOR 2	Blocked (FF Lower paper end guide at home position)	Open (FF Lower paper end guide not at home position)	FF LOWER END GUIDE HP SENSOR
s	37-1-023	FM PUNCH FG SENSOR	Motor rotation detected	Motor rotation not detected	
S	37-1-024	FM PUNCH SLIDE HP SENSOR	Blocked (Puncher punching head at home position)	Open (Puncher punching head not at home position)	
s	37-1-025	FM PUNCH HP SENSOR	Blocked (Puncher punching head at the retreat (raised) position)	Open (Puncher punching head not at the retreat (raised) position)	
s	37-1-026	FM CAM PLATE SENSOR	Blocked (Punch cam plate at home position (the front end))	Open (Punch cam plate not at home position (the front end))	FM PUNCH CAM PLATE SENSOR
s	37-1-027	FM PUNCH HOLE SELECT SENSOR	Blocked (Punch cam plate at the 2-hole punching position)	Open (Punch cam plate at the 4-hole (or 3-hole) punching position)	
s	37-1-028	FM PUNCH SIDE REGISTRATION HP SENSOR	Blocked (Puncher unit at home position)	Open (Puncher unit not at home position)	
s	37-1-029	FM PUNCH SIDE REGISTRATION SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	
s	37-1-033	FM STAPLER SLIDE CENTER SENSOR	Blocked (Stapler head at the center position)	Open (Stapler head not at the center position)	
s	37-1-034	FM STAPLER SLIDE HP SENSOR	Blocked (Stapler head at home position (the front end))	Open (Stapler head not at home position (the front end))	
s	37-1-035	FM STAPLE READY SENSOR	Staples at the front end of the Stapler head for clinching	Staples not at the front end of the Stapler head for clinching	
s	37-1-036	FM STAPLE HOME SENSOR	Blocked (Stapler clincher at home position)	Open (Stapler dincher not at home position)	
s	37-1-040	FM SUB PADDLE HP SENSOR	Blocked (FM Sub paddles at the retracted (home) position)	Open (FM Sub paddles not at the retracted (home) position)	
s	37-1-041	FM TAMPER HP SENSOR F	Blocked (FM Front tamper at home position (opened wide))	Open (FM Front tamper not at home position (opened wide))	FM FRONT TAMPER HP SENSOR
s	37-1-042	FM TAMPER HP SENSOR R	Blocked (FM Rear tamper at home position (opened wide))	Open (FM Rear tamper not at home position (opened wide))	FM REAR TAMPER HP SENSOR

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Test Modes

Туре	Test mode No.	Test mode name	ON	OFF	Remarks
s	37-1-043	FM END WALL HP SENSOR	Blocked (End wall at the raised (home) position)	Open (End wall not at the raised (home) position)	
s	37-1-044	FM END WALL OPEN SENSOR	Blocked (End wall at the lowered position)	Open (End wall not at the lowered position)	
s	37-1-045	FM SHELF HP SENSOR	Blocked (Shelf at the retreat (home) position)	Open (Shelf not at the retreat (home) position)	
s	37-1-046	FM EJECT NIP HP SENSOR	Blocked (FM Stack upper eject roller at the retracted (home) position)	Open (FM Stack upper eject roller not at the retracted (home) position)	
s	37-1-047	FM STACK TRAY UPPER LIMIT SENSOR	Blocked (Stacking tray at the upper limit position)	Open (Stacking tray not at the upper limit position)	
s	37-1-048	FM STACKER TRAY OFFSET SENSOR	Blocked (Stacker tray at offset stacking position)	Open (Stacker tray not at offset stacking position)	
s	37-1-052	FB KNIFE HP SENSOR	Blocked (FB Knife at the retracted (home) position)	Open (FB Knife not at the retracted (home) position)	
s	37-1-053	FB BOOKLET STAPLE HEAD POS SENSOR	Blocked (Booklet stapler at ready position)	Open (Booklet stapler not at ready position)	FB BOOKLET STAPLE HEAD POSITION SENSOR
s	37-1-054	FB TAMPER HP SENSOR F	Blocked (FB Front tamper at home position (opened wide))	Open (FB Front tamper not at home position (opened wide))	FB FRONT TAMPER HP SENSOR
s	37-1-055	FB TAMPER HP SENSOR R	Blocked (FB Rear tamper at home position (opened wide))	Open (FB Rear tamper not at home position (opened wide))	FB REAR TAMPER HP SENSOR
s	37-1-056	FB HIT HP SENSOR	Blocked (FB End guide at home position)	Open (FB End guide not at home position)	FB END GUIDE HP SENSOR
s	37-1-060	FF TRAY FULL SENSOR	Blocked (Folder tray full)	Open (Folder tray not full)	
s	37-1-064	FM STAPLE LOW STAPLE SENSOR	Blocked (Remaining staple volume low)	Open (Remaining staple volume enough)	
s	37-1-065	FM STAPLE BOX NEAR FULL SENSOR	Blocked (FM Staple bin nearly full)	Open (FM Staple bin not nearly full)	FM STAPLE BIN NEAR FULL SENSOR
s	37-1-069	FM TOP TRAY FULL SENSOR	Blocked (Top tray full)	Open (Top tray not fu ll)	
s	37-1-074	FB BOOKLET FRONT LOW STAPLE SENSOR	Blocked (Staple volume low on the front side of Booklet unit)	Open (Staple volume sufficient on the front side of Booklet unit)	FB FRONT LOW STAPLE SENSOR
s	37-1-075	FB BOOKLET REAR LOW STAPLE SENSOR	Blocked (Staple volume low on the rear side of Booklet unit)	Open (Staple volume sufficient on the rear side of Booklet unit)	FB REAR LOW STAPLE SENSOR
S	37-1-079	FF ENTRANCE SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	
S	37-1-080	FF SCRAPE SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	FF RAKE SENSOR
S	37-1-081	FF FOLD SENSOR 1	Reflected light (Paper) detected	Reflected light (Paper) not detected	
S	37-1-082	FF FOLD SENSOR 2	Reflected light (Paper) detected	Reflected light (Paper) not detected	
S	37-1-083	FF ELEVATION SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	
S	37-1-084	FF EXIT SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	
S	37-1-088	FM ENTRANCE SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	FM PUNCH IN SENSOR
S	37-1-089	FM PUNCH OUT SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	FM PUNCH EXIT SENSOR
S	37-1-090	FM DP PATH SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	FM PUNCH OUT SENSOR
S	37-1-091	FM TRANSFER SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	FM TOP TRAY TRANSFER SENSOR
s	37-1-092	FM TOP EJECT SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	FM TOP TRAY EXIT SENSOR
s	37-1-096	FM STACK TRANSFER SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	
S	37-1-097	FM COMPILE PAPER DETECTION SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	
s	37-1-098	FM BUFFER SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	FM BUFFER PATH SENSOR
S	37-1-099	FM STACK EJECT SENSOR	Open (Paper detected)	Blocked (Paper not detected)	FM STACKING EJECT SENSOR
S	37-1-100	FM STACKING PAPER DETECTION SENSOR	Blocked (Paper detected)	Open (Paper not detected)	
S	37-1-101	FM STACK TRAY PAPER DETECTION SENSOR	Open (Paper detected)	Blocked (Paper not detected)	
S	37-1-102	FM STAPLE PAPER TOP DETECTION SENSOR	Blocked (Paper detected)	Open (Paper not detected)	
S	37-1-103	FM PAPER TOP DETECTION SENSOR	Blocked (Paper detected)	Open (Paper not detected)	
S	37-1-107	FM BOOKLET TRANSFER SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	
S	37-1-108	FB ENTRANCE SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	
S	37-1-109	FB PAPER DETECTION SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	

RISO Inc. Technical Operations

ComColor GL Series Revision 1.2 US.RISO.COM

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CONFIDENTIAL

Test Modes

Туре	Test mode No.	Test mode name	ON	OFF	Remarks
s	37-1-110	FB EJECT SENSOR	Reflected light (Paper) detected	Reflected light (Paper) not detected	
s	37-1-111	FB BOOKLET TRAY PAPER DETECT SENSOR	Open (Booklet detected)	Blocked (Booklet not detected)	
s	37-1-116	PS ENABLE	LVPS (Power)-ON signal detected	LVPS (Power)-ON signal not detected	
4.2 "Drive Check (D)" modes CONFIDENTIAL

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Туре	Test mode No.	Test mode name	Action	Remarks
Engin	e system sec	tion		
D	04-2-001	FRONT DOOR LOCK SOLENOID	Activates Front door lock solenoid.	
D	04-2-011	OPTION CONNECT PRINT STATUS SIGNAL	Turns ON (Enabled) the print status signal, which is to be output to a 3rd- party finishing device.	Option PCB should be installed.
D	04-2-012	OPTION CONNECT PAPER EJECT SIGNAL	Turns ON (Enabled) the paper ejection signal, which is to be output to a 3rd-party finishing device.	Option PCB should be installed.
D	04-2-013	OPTION CONNECT END-OF-SET SIGNAL	Turns ON (Enabled) the "End of Set" signal, which is to be output to a 3rd-party finishing device.	Option PCB should be installed.
D	04-2-014	OPTION CONNECT END-OF-JOB SIGNAL	Turns ON (Enabled) the "End of Job" signal, which is to be output to a 3rd-party finishing device.	Option PCB should be installed.
D	04-2-015	OPTION CONNECT SHEET-LENGTH SIGNAL	Turns ON (Enabled) the "Sheet Length" signal, which is to be output to a 3rd-party finishing device.	Option PCB should be installed.
D	04-2-016	OPTION CONNECT SHEET-WIDTH SIGNAL	Turns ON (Enabled) the "Sheet Width" signal, which is to be output to a 3rd-party finishing device.	Option PCB should be installed.
Paper	feed section			
D	05-2-001	REGISTRATION MOTOR	Drives Registration motor.	
D	05-2-002	EXTERNAL PAPER FEED MOTOR (STRAIGHT)	Drives External paper feed motor (Regular feed).	
D	05-2-003	EXTERNAL PAPER FEED MOTOR (VERTICAL)	Drives External paper feed motor (Vertical feed).	
D	05-2-004	INTERNAL PAPER FEED MOTOR	Drives Internal paper feed motor.	
D	05-2-005	TRAY1 PICKUP MOTOR	Drives Tray 1 pickup motor.	
D	05-2-006	TRAY2 PICKUP MOTOR	Drives Tray 2 pickup motor.	
D	05-2-007	TRAY3 PICKUP MOTOR	Drives Tray 3 pickup motor.	
D	05-2-008	RE-FEED MOTOR	Drives Re-feed motor.	
Trans	port section			
D	06-2-001	TRANSFER BELT SUCTION FAN1	Activates Transfer belt suction fan 1.	
D	06-2-002	TRANSFER BELT SUCTION FAN2	Activates Transfer belt suction fan 2.	
D	06-2-004	TRANSFER BELT SUCTION FAN ALL	Activates all Transfer belt suction fans.	
D	06-2-011	TRANSFER BELT MOTOR	Drives Transfer belt motor.	The motor rotates at a speed specified in another test mode TM No. 04-6-101 "TM PAPER FEED SPEED SETTING."
D	06-2-012	PAPER ELEVATION MOTOR 1	Drives Paper elevation motor 1.	
D	06-2-013	PAPER ELEVATION MOTOR 2	Drives Paper elevation motor 2.	
D	06-2-014	SWITCHBACK MOTOR (NORMAL)	Drives (Rotates) Switchback motor in the forward direction (clockwise).	
D	06-2-015	SWITCHBACK MOTOR (REVERSE)	Drives (Rotates) Switchback motor in the reverse direction (counterclockwise).	
D	06-2-016	HORIZONTAL TRANSFER MOTOR 1	Drives Horizhontal transfer motor 1.	
D	06-2-017	HORIZONTAL TRANSFER MOTOR 2	Drives Horizhontal transfer motor 2.	
D	06-2-031	FD EJECT FLIPPER SOLENOID	Activates FD paper ejection flipper solenoid.	
D	06-2-032	FU EJECT FLIPPER SOLENOID	Activates FU paper ejection flipper solenoid.	
Paper	ejection sec	tion		
	07-2-001			
D	07-2-011		Unives FU paper ejection jump motor.	
D	07-2-012	FU EJECT TRANSFER MOTOR	Drives FU paper transport motor.	
D	08-2-001	HEAD DRIVE IC COOLING FAN FR	Activates Head drive IC cooling fan FR.	
D	08-2-002	HEAD DRIVE IC COOLING FAN RU	Activates Head drive IC cooling fan RU.	through another test mode TM No. 09-6-025 "Ink
D	08-2-003	HEAD DRIVE IC COOLING FAN FL	Activates Head drive IC cooling fan FL.	Temperature Adjust ON/OFF" before executing these test modes. Otherwise, an execution error will be notified when execution them.
D	08-2-004	HEAD DRIVE IC COOLING FAN RD	Activates Head drive IC cooling fan RD.	executing them.

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Туре	lest mode No.	Test mode name	Action	Remarks
lnk ma	intenance s	ection		
D	09-2-001		Activates Ink cooling fans 1 & 2.	
D	09-2-011		Activates Air pump (motor).	
D	09-2-012	AR REGULATOR VALVE	Activates Air regulator valve.	
D	09-2-016	PRESSURE INK TANK AIR VALVE (OPEN)	Opens Pressurization tank air valve. * If the valve is left open, ink may overflow from the ink flow tube.	
D	09-2-017	PRESSURE INK TANK AIR VALVE (CLOSE)	Closes Pressurization tank air valve. * If the valve is left closed, Print heads may be damaged through the expansion or contraction of the air sealed in the ink flow tube caused by temperature changes.	Ink temperature adjustment is required to be disabled through another test mode TM No. 09-6-025 "Ink
D	09-2-018	PRESSURE REGULATOR VALVE (OPEN)	Opens Positive pressure regulator valve. * If the valve is left open, ink may overflow from the ink flow tube.	Temperature Adjust ON/OFF" before executing these test modes. Otherwise, an execution error will be notified when executing them.
D	09-2-021	NEGA PR INK TANK AIR VALVE (OPEN)	Opens Negative pressure tank air valve. * If the valve is left open, ink may overflow from the ink flow tube.	
D	09-2-022	NEGA PR INK TANK AIR VALVE (CLOSE)	Closes Negative pressure tank air valve. * If the valve is left closed, Print heads may be damaged through the expansion or contraction of the air sealed in the ink flow tube caused by temperature changes.	
D	09-2-023	NEGA PR REGULATOR VALVE (OPEN)	Opens Negative pressure regulator valve. * If the valve is left open, ink may overflow from the ink flow tube.	
D	09-2-031	CIRCULATION PUMP MOTOR K	Activates Ink circulation pump (motor) K.	If the pump (motor) is left activated, K ink may overflow from the ink flow tube.
D	09-2-032	CIRCULATION PUMP MOTOR C	Activates Ink circulation pump (motor) C.	If the pump (motor) is left activated, C ink may overflow from the ink flow tube.
D	09-2-033	CIRCULATION PUMP MOTOR M	Activates Ink circulation pump (motor) M.	If the pump (motor) is left activated, M ink may overflow from the ink flow tube.
D	09-2-034	IRCULATION PUMP MOTOR Y	Activates Ink circulation pump (motor) Y.	If the pump (motor) is left activated, Y ink may overflow from the ink flow tube.
D	09-2-035	CIRCULATION PUMP MOTOR P (R.Gr)	Activates Ink circulation pump (motor) P (, R or Gr).	If the pump (motor) is left activated, P (, R or Gr) ink may overflow from the ink flow tube, This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models
D	09-2-036	INK SUPPLY VALVE K	Opens lnk supply solenoid valve K.	If the valve is left open, K ink may overflow from the ink flow tube,
D	09-2-037	INK SUPPLY VALVE C	Opens Ink supply solenoid valve C.	If the valve is left open, C ink may overflow from the ink flow tube.
D	09-2-038	INK SUPPLY VALVE M	Opens Ink supply solenoid valve M.	If the valve is left open, M ink may overflow from the ink flow tube.
D	09-2-039	INK SUPPLY VALVE Y	Opens Ink supply solenoid valve Y.	If the valve is left open, Y ink may overflow from the ink flow tube.
D	09-2-040	INK SUPPLY VALVE P (R, Gr)	Opens Ink supply solenoid valve P (, R or Gr).	If the valve is left open, P (, R or Gr) ink may overflow from the ink flow tube. This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models
D	er 21-2-001	SCANNER LAMP	Turns on Scanner lamp.	
D	21-2-002	AF READ PULSE MOTOR CW	Drives (Rotates) AF read pulse motor in the forward direction (clockwise) at the scanning speed 1.	
D	21-2-003	AF FAN	Activates AF original feed motor cooling fan.	
D	21-2-004	AF SCANNER LAMP	Turns on AF scanner lamp.	
D	21-2-005	SCANNER POWER COOLING FAN	Activates FB power supply unit cooling fan.	
D	21-2-006	FB COOL I NG FAN	Activates FB cooling fan.	
D	21-2-011	AF TRAY ELEVATION MOTOR	Drives AF original tray elevation motor.	
D	21-2-012	AF PAPER FEED MOTOR FRD (SPEED 1)	Drives (Rotates) AF original feed motor in the forward direction (clockwise) at the feeding speed 1.	
D	21-2-013	AF PAPER FEED MOTOR FRD (SPEED 2)	Drives (Rotates) AF original feed motor in the forward direction (clockwise) at the feeding speed 2.	
D	21-2-014	AF PAPER FEED MOTOR FRD (POS. SPEED)	Drives (Rotates) AF original feed motor in the forward direction (clockwise) at the prepositioning speed.	
D	21-2-015	AF PAPER FEED MTR REV (P.UP INITIAL SPD)	Drives (Rotates) AF original feed motor in the reverse direction (counterclockwise) at the initial resetting speed.	

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Туре	Test mode No.	Test mode name	Action	Remarks
D	21-2-021	AF READ PULSE MOTOR FRD (SPEED 2)	Drives (Rotates) AF read pulse motor in the forward direction (clockwise) at the scanning speed 2.	
D	21-2-022	AF READ PULSE MOTOR REV (SHADING)	Drives (Rotates) AF read pulse motor in the reverse direction (counterclockwise) at the shading compensation speed.	
D	21-2-026	AF SEPARATION CLUTCH	Activates AF separation clutch.	
D	21-2-027	AF REGISTRATION CLUTCH	Activates AF registration dutch.	
Face o	lown finishe			
	24-2-001	FDF CONNECTING FEED MOTOR 1		
D	24-2-002	FDF CONNECTING FEED MOTOR 2	Drives FDF Transfer motor.	
D	24-2-003	FDF TRANSFER MOTOR	Drives FDF Finishing motor.	
D	24-2-004	FDF EJECTION MOTOR	Drives FDF Paper ejection motor in the forward direction (clockwise).	
D	24-2-005	FDF REVERSE MOTOR	Drives FDF Reverse motor.	
D	24-2-006	FDF POWER SUPPLY COOLING FAN	Activates FDF Power supply cooling fan.	
D	24-2-007	FDF CONNECT COOLING FAN	Activates FDF Transfer cooling fan.	
Auto-o	control stack	ing tray		
D	25-2-001	AS SIDE FENCE MOTOR (WIDEN)	Drives AS Paper side guide pulse motor to open wide the AS Paper side guides.	If the motor is left activated, the guide shifting mechanism may be damaged.
D	25-2-002	AS SIDE FENCE MOTOR (CLOSE)	Drives AS Paper side guide pulse motor to shift inward the AS Paper side guides.	If the motor is left activated, the guide shifting mechanism may be damaged.
D	25-2-003	AS END FENCE MOTOR (WIDEN)	Drives AS Paper end guide pulse motor to retract (shift outward) the AS End paper guide.	If the motor is left activated, the stopper shifting mechanism may be damaged.
D	25-2-004	AS END FENCE MOTOR (CLOSE)	Drives AS Paper end guide pulse motor to advance (shift inward) the AS Paper end guide.	If the motor is left activated, the stopper shifting mechanism may be damaged.
High C	29-2-001	der HCF PICKUP DRIVE MOTOR	Drives HCF Pickup drive motor	
D	29-2-002		Drives HCF Intermediate feed motor.	
D	29-2-003	HCF NIP RELEASE MOTOR	Drives (Rotates) Joint nip release motor clockwise.	
High (Capacity Stat	ker		I
D	30-2-001	HCS RE-FEED MOTOR	Drives HCS Stacking enrance motor.	
D	30-2-002	HCS SWITCHBACK MOTOR (FORWARD)	Drives HCS Switchback motor in the forward direction (clockwise).	
D	30-2-003	HSC SWITCHBACK MOTOR (REVERSE)	Drives HCS Switchback motor in the reverse direction (counterclockwise).	
D	30-2-004	HCS INTERMEDIATE TRANSFER MOTOR	Drives HCS Switchback elevation motor.	
D	30-2-005	HCS ELEVATION MOTOR	Drives HCS Secondary transfer motor.	
D	30-2-006	HCS EJECTION MOTOR	Drives HCS Stacker ejection motor.	
D	30-2-007	HCS EJECTION WING MOTOR	Drives HCS Ejection wing motor.	
D	30-2-011	HCS PAPER GATE SOLENOID	Activates HCS Paper path selection solenoid.	
D Wrann	30-2-012		Activates HCS Paper end base solenoid.	
D	33-2-001	WEF GUIDE MOTOR	Drives (Rotates) WEF Entrance motor in the forward direction (clockwise).	
D	33-2-002	WEF GUIDE SET SOLENOID	Activates WEF sheet path switching solenoid (to open the envelope form sheet path while closing the enclosure (body) sheet one).	
D	33-2-003	WEF TAMPER FEED MOTOR	Drives (Rotates) WEF Tamper feed motor in the forward direction (clockwise).	
D	33-2-004	WEF TOP TAMPER SOLENOID	Activates WEF Top tamper solenoid to retract the WEF Top tamper plate.	
D	33-2-005	WEF BODY FOLD MOTOR	Drives (Rotates) WEF Body fold motor in the forward direction (clockwise).	
D	33-2-006	WEF WRAPPING TRANSFER MOTOR	Drives (Rotates) WEF Wrapping feed motor in the forward direction (clockwise).	
D	33-2-007		Drives (Rotates) WEF Form registration motor in the forward direction (clockwise).	
D	33-2-008	WEF WRAPPING FOLD MOTOR	Drives (Rotates) WEF Wrapping fold motor in the forward direction (clockwise).	
D	33-2-009	WEF FLAP FOLD MOTOR	Drives (Rotates) WEF Flap fold motor in the forward direction (clockwise).	
D	33-2-010	WEF COMPRESSION MOTOR	Drives (Rotates) WEF Compression motor in the forward direction (clockwise).	
D	33-2-011	WEF EJECTION ELEVATION MOTOR	Drives (Rotates) WEF Ejection elevation motor in the forward direction (clockwise).	

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Туре	Test mode	Test mode name	Action	Remarks
D	33-2-012	WEF EJECTION MOTOR	Drives (Rotates) WEF Ejection motor in the forward direction (clockwise).	
D	33-2-013	WEF TAMPER COOLING FAN	Activates WEF Tamper cooling fan.	
D	33-2-014	WEF WRAPPING COOLING FAN	Activates WEF Wrapping cooling fan.	
Perfec	t Binder			
D	34-2-001	PB PAPER FEED MOTOR 1 (FORWARD)	Drives (Rotates) PB Paper feed motor 1 in the forward direction (dockwise).	
D	34-2-002	PB PAPER FEED MOTOR 1 (REVERSE)	Drives (Rotates) PB Paper feed motor 1 in the reverse direction (counterclockwise).	
D	34-2-003	PB PAPER FEED MOTOR 2 (FORWARD)	Drives (Rotates) PB Paper feed motor 2 in the forward direction (clockwise).	
D	34-2-004	PB PAPER FEED MOTOR 2 (REVERSE)	Drives (Rotates) PB Paper feed motor 2 in the reverse direction (counterclockwise).	
D	34-2-005	PB GLUE AMOUNT CHECK FAN	Activates PB Glue amount check fan.	
D	34-2-006	PB BOOKLET EXIT 1 MOTOR (FORWARD)	Drives (Rotates) PB Booklet exit motor 1 in the forward direction (clockwise).	
D	34-2-007	PB BOOKLET EXIT 1 MOTOR (REVERSE)	Drives (Rotates) PB Booklet exit motor 1 in the reverse direction (counterclockwise).	
D	34-2-008	PB BOOKLET EXIT 2 MOTOR (FORWARD)	Drives (Rotates) PB Booklet exit motor 2 in the forward direction (clockwise).	
D	34-2-009	PB BOOKLET EXIT 2 MOTOR (REVERSE)	Drives (Rotates) PB Booklet exit motor 2 in the reverse direction (counterclockwise).	
D	34-2-010	PB EXHAUST FAN	Activates PB Exhaust fan.	
D	34-2-011	PB COVER FEED MOTOR (FORWARD)	Drives (Rotates) PB Cover feed motor in the forward direction (dockwise).	
D	34-2-012	PB COVER FEED MOTOR (REVERSE)	Drives (Rotates) PB Cover feed motor in the reverse direction (counterclockwise).	
D	34-2-013	PB COVER SUCTION FAN	Activates PB Cover suction fan.	
D	34-2-014	PB COVER SEPARATION FAN	Activates PB Cover separation fan.	
D	34-2-015	PB PAPER SEPARATION SOLENOID	Activates PB Paper separation solenoid.	
D	34-2-016	PB COVER SEPARATION SOLENOID	Activates PB Cover separation solenoid.	
D	34-2-017	PB COVER REGISTRATION SOLENOID	Activates PB Cover registration solenoid.	
D	34-2-018	PB PRESSURE ROLLER SOLENOID	Activates PB Pressure roller solenoid.	
D	34-2-019	PB SUCTION CONTROL SOLENOID	Activates PB Suction control solenoid.	
D	34-2-020	PB PAPER FEED DRIVE CLUTCH	Activates PB Paper feed drive clutch.	
D	34-2-021	PB BOOKLET EJECTION SOLENOID	Activates PB Booklet ejection solenoid.	
D	34-2-022	PB FRONT COVER RELEASE SOLENOID	Activates PB Front door release solenoid.	
D	34-2-023	PB RIGHT COVER RELEASE SOLENOID	Activates PB Right door release solenoid.	
Additi	onal 2000 sh	eet feeder (Expansion feeder)		
	35-2-001		Drives Primary feed motor.	
Mutilf	35-2-002	er FG20		
D	36-2-002	FI ENTRANCE MOTOR	Drives FI Entrance transfer motor in the FI unit.	
D	36-2-003	FI SB IN MOTOR	Drives FI Switchback transfer motor in the FI unit.	
D	36-2-004	FI SB MOTOR (FORWARD)	Drives (Rotates) FI Switchback motor in the forward direction (clockwise).	
D	36-2-005	FI SB MOTOR (REVERSE)	Drives (Rotates) FI Switchback motor in the reverse direction (counterclockwise).	
D	36-2-006	FI TRANSFER MOTOR (FORWARD)	Drives (Rotates) FI Switchback elevation motor in the forward direction (clockwise).	The sheets in the Face-up path advance.
D	36-2-007	FI TRANSFER MOTOR (REVERSE)	Drives (Rotates) FI Switchback elevation motor in the reverse direction (counterclockwise).	The sheets in the Face-down path advance.
D	36-2-008	FI MARGE MOTOR	Drives FI Secondary transfer motor.	
D	36-2-009	FI EJECT MOTOR	Drives FI Exit motor.	
D	36-2-010	FI PASSAGE SELECT SOLENOID	Activates FI Gate solenoid.	
D	36-2-011	FI POWER SUPPLY COOLING FAN	Activates FI Power supply unit cooling fan.	
D	37-2-001	FF HORIZONTAL MOTOR 1300MM/SEC	Drives (Rotates) FF Horizontal transport motor in the Folder unit at 1300 mm/sec.	

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Туре	Test mode No.	Test mode name	Action	Remarks
D	37-2-002	FF HORIZONTAL MOTOR 1000MM/SEC	Drives (Rotates) FF Horizontal transport motor in the Folder unit at 1000 mm/sec.	
D	37-2-003	FF HORIZONTAL MOTOR 800MM/SEC	Drives (Rotates) FF Horizontal transport motor in the Folder unit at 800 mm/sec.	
D	37-2-004	FF HORIZONTAL MOTOR 600MM/SEC	Drives (Rotates) FF Horizontal transport motor in the Folder unit at 600 mm/sec.	
D	37-2-005	FF HORIZONTAL MOTOR 350MM/SEC	Drives (Rotates) FF Horizontal transport motor in the Folder unit at 350 mm/sec.	
D	37-2-007	FF SCRAPE MOTOR 1000MM/SEC	Drives (Rotates) FF Rake motor in the Folder unit at 1000 mm/sec.	
D	37-2-008	FF SCRAPE MOTOR 443MM/SEC	Drives (Rotates) FF Rake motor in the Folder unit at 443 mm/sec.	
D	37-2-010	FF TRANSFER MOTOR 443MM/SEC	Drives (Rotates) FF Transfer motor in the Folder unit at 443 mm/sec.	
D	37-2-011	FF TRANSFER MOTOR 350MM/SEC	Drives (Rotates) FF Transfer motor in the Folder unit at 350 mm/sec.	
D	37-2-014	FF TRANS MOTOR 1000MM/SEC FWD 5MTR	Drives (Rotates) the following 5 Transfer motors in the FM unit in the forward direction (clockwise) at 1000 mm/sec. - FM Entrance motor - FM Top transfer motor - FM Stack transfer motor - FM Stack eject motor - FM Booklet transfer motor	
D	37-2-015	FF (FM) TRANS MOTOR 1300MM/SEC FWD 3MTR	Drives (Rotates) the following 3 Transfer motors in the FM unit in the forward direction (clockwise) at 1300 mm/sec. - FM Entrance motor - FM Top transfer motor - FM Stack transfer motor	
D	37-2-016	FF (FM) TRANS MOTOR 385MM/SEC REV 3MTR	Drives (Rotates) the following 3 Transfer motors in the FM unit in the reverse direction (counterclockwise) at 385 mm/sec. - FM Entrance motor - FM Top transfer motor - FM Stack transfer motor	
D	37-2-018	FM ENTRANCE MOTOR 1000MM/SEC	Drives (Rotates) FM Entrance motor in the forward direction (clockwise) at 1000 mm/sec.	
D	37-2-020	FM TOP TRANSFER MOTOR 1000MM/SEC FWD	Drives (Rotates) FM Top transfer motor in the forward direction (clockwise) at 1000 mm/sec.	
D	37-2-021	FM TOP TRANS MOTOR 1000MM FWD(PRO5)	Drives (Rotates) FM Top transfer motor in the forward direction (clockwise) at 1000 mm/sec while using "Profile 5" parameter in slowdown.	
D	37-2-022	FM TOP TRANSFER MOTOR 285MM/SEC FWD	Drives (Rotates) FM Top transfer motor in the forward direction (clockwise) at 285 mm/sec.	
D	37-2-023	FM TOP TRANSFER MOTOR 385MM/SEC REV	Drives (Rotates) FM Top transfer motor in the reverse direction (counterclockwise) at 385 mm/sec.	
D	37-2-024	M TOP TRANSFER MOTOR 285MM/SEC REV	Drives (Rotates) FM Top transfer motor in the reverse direction (counterclockwise) at 285 mm/sec.	
D	37-2-026	FM STACK TRANS MOTOR 1000MM/SEC FWD	Drives (Rotates) FM Stack transfer motor in the forward direction (clockwise) at 1000 mm/sec.	
D	37-2-027	FM STACK TRANS MTR 1000MM FWD (PRO5)	Drives (Rotates) FM Stack transfer motor in the forward direction (dockwise) at 1000 mm/sec while using "Profile 5" parameter in slowdown.	
D	37-2-028	M STACK TRANS MOTOR 285MM/SEC FWD	Drives (Rotates) FM Stack transfer motor in the forward direction (dockwise) at 285 mm/sec.	
D	37-2-029	FM STACK TRANS MOTOR 1300MM/SEC REV	Drives (Rotates) FM Stack transfer motor in the reverse direction (counterclockwise) at 1300 mm/sec.	
D	37-2-030	FM STACK TRANS MOTOR 1000MM/SEC REV	Drives (Rotates) FM Stack transfer motor in the reverse direction (counterclockwise) at 1000 mm/sec.	
D	37-2-031	FM STACK TRANS MTR 1000MM REV (PRO5)	Drives (Rotates) FM Stack transfer motor in the reverse direction (counterclockwise) at 1000 mm/sec while using "Profile 5" parameter in slowdown.	
D	37-2-032	FM STACK TRANS MOTOR 385MM/SEC REV	Drives (Rotates) FM Stack transfer motor in the reverse direction (counterclockwise) at 385 mm/sec.	

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Туре	Test mode No.	Test mode name	Action	Remarks
D	37-2-033	FM STACK TRANS MOTOR 285MM/SEC REV	Drives (Rotates) FM Stack transfer motor in the reverse direction (counterclockwise) at 285 mm/sec.	
D	37-2-035	FM STACK EJECT MOTOR 999.8MM/SEC FWD	Drives (Rotates) FM Stack eject motor in the forward direction (clockwise) at 999.8 mm/sec.	
D	37-2-036	FM STACK EJECT MTR 800.1MM FWD PROA1	Drives (Rotates) FM Stack eject motor in the forward direction (clockwise) at 800.1 mm/sec with "Profile A1" parameter.	
D	37-2-037	FM STACK EJECT MTR 800.1MM FWD PROB1	Drives (Rotates) FM Stack eject motor in the forward direction (clockwise) at 800.1 mm/sec with "Profile B1" parameter.	
D	37-2-038	FM STACK EJECT MOTOR 592MM/SEC FWD	Drives (Rotates) FM Stack eject motor in the forward direction (clockwise) at 592 mm/sec.	
D	37-2-039	FM STACK EJECT MOTOR 290.9MM/SEC FWD	Drives (Rotates) FM Stack eject motor in the forward direction (clockwise) at 290,9 mm/sec,	
D	37-2-040	FM STACK EJECT MOTOR 503.7MM/SEC FWD	Drives (Rotates) FM Stack eject motor in the forward direction (clockwise) at 503.7 mm/sec.	
D	37-2-041	FM STACK EJECT MOTOR 999.8MM/SEC REV	Drives (Rotates) FM Stack eject motor in the reverse direction (counterclockwise) at 999.8 mm/sec.	
D	37-2-042	FM STACK EJECT MTR 800.1MM REV PROA1	Drives (Rotates) FM Stack eject motor in the reverse direction (counterclockwise) at 800.1 mm/sec with "Profile A1" parameter.	
D	37-2-044	FM PADDLE MOTOR 1	Drives FM Paddle motor in the pattern which is to be applied under the following conditons: - The FM Paddle motor is an HB (HyBrid) type and the applied paper length is 182mm or more, or the said motor is a PM (Permanent Magnet) type.	
D	37-2-045	FM PADDLE MOTOR 2	Drives FM Paddle motor in the pattern which is to be applied under the following conditon: - The FM Paddle motor is an HB (HyBrid) type and the applied paper length is less than 182mm.	
D	37-2-047	FM BOOKLET TRANSFER MOTOR 1000MM/SEC	Drives (Rotates) FM Booklet transfer motor in the forward direction (clockwise) at 1000 mm/sec.	
D	37-2-048	FM BOOKLET TRANSFER MOTOR 245MM/SEC	Drives (Rotates) FM Booklet transfer motor in the forward direction (clockwise) at 245 mm/sec.	
D	37-2-049	FM BOOKLET TRANSFER MOTOR 125MM/SEC	Drives (Rotates) FM Booklet transfer motor in the forward direction (clockwise) at 125 mm/sec.	
D	37-2-051	FB PADDLE MOTOR (CLAMP) FORWARD	Drives (Rotates) FB Paddle motor in the forward direction (clockwise) at 645 pps for clamping action.	
D	37-2-052	FB PADDLE MOTOR (RELEASE) REVERSE	Drives (Rotates) FB Paddle motor in the reverse direction (counterclockwise) at 645 pps for releasing action.	
D	37-2-054	BOOKLET FOLDER ROLL MOT FORWARD	Drives FB Transfer motor to rotate FB Fold rollers in the forward direction (clockwise).	
D	37-2-055	BOOKLET FOLDER ROLL MOT REVERSE	Drives FB Transfer motor to rotate FB Fold rollers in the reverse direction (counterclockwise).	
D	37-2-057	BOOKLET TRAY BELT DRIVE MOTOR	Drives FB Tray belt drive motor.	
D	37-2-059	ENVELOPE TRAY LED 1	Turns on Folder tray LED.	
D	37-2-061	JAM ZONE LED	Turns on LEDs in Paper jam check zones 1 to 8.	
D	37-2-063	FM GATE SOLENOID 1	Activates FM Gate solenoid 1 to open the gate to the Booklet making section and then deactivates it to close the said gate 500 msec later.	
D	37-2-064	FM GATE SOLENOID 2	Activates FM Gate solenoid 2 to open the gate to the Top tray and then deactivates it to close the said gate 500 msec later.	

4.3 "Unit Check (U)" modes

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Туре	No.	Test mode name	Action	Interruption
PMS s	ection			
U	01-3-001	PANEL CALIBRATION	Allows grid compensation on the touch panel through the following steps. (1) Touch 3 corner points on the touch panel, through which compensation amounts are to be calculated. (2) Display the confirmation screen, touch 3 corner points and confirm that grid compensation has succeeded. If not, go back to step 1 and repeat the procedures.	No
U	01-3-002	TOUCH PANEL THRESHOLD LEVEL ADJUST	Automatically adjusts the touch panel threshold value (ON/OFF threshold value). Adjusted values are saved in the flash memory of the Panel microcomputer. * Do not touch the touch panel when executing this test mode.	No
U	01-3-006	INK YIELD SETTING	Exports the CSV file recording the accumulated ink cost to an external memory device (USB drive).	Yes
U	01-3-011	REV INFORMATION WRITE	Writes REv (Remote Event) information recorded in the buffer into a USB drive as a CSV file. * The data recorded in the buffer is not to be cleared after writing when the parameter is set at "Enabled" in the test mode TM No. 01-6-041 "REMOTE CONTROL FUNCTION SELECTION." * This test mode is accessible only when "ON" is selected in the test mode TM No. 01-6-051 "REMOTE REV FUCNTION ON/OFF." If "OFF" is selected there, this item name will not appear in the test mode list and the corresponding test mode number cannot be entered with numeric keys.	Yes
U	01-3-012	MANUAL EVENT CODE SET	Generates the "Manual event codes" specified in the test modes TM No. 01-6-054 "REMOTE MANUAL EVENT CODE1 SETTING," TM No. 01-6-055 "REMOTE MANUAL EVENT CODE2 SETTING" and TM No. 01-6-056 "REMOTE MANUAL EVENT CODE3 SETTING" as Rev events. * This test mode is accessible only when "ON" is selected in the test mode TM No. 01-6-051 "REMOTE REV FUCNTION ON/OFF," If "OFF" is selected there, this item name will not appear in the test mode list and the corresponding test mode number cannot be entered with numeric keys.	No
U	01-3-013	TRANSMIT LOG USB SAVE	Saves the transmission log file, which contains the data transmission history from the transmission module of the printer to the RRA (RISO Remote Agent) server, into an external memory device (USB drive). When executed without USB drive connection or sufficient free space in the USB drive, this operation will fail with an error message. * This test mode is accessible only when "Enabled" is selected in the test mode TM No. 01-6-041 "REMOTE CONTROL FUNCTION SELECTION." If not, this item name will not appear in the test mode list and the corresponding test mode number cannot be entered with numeric keys.	Yes
U	01-3-014	TRANSMIT FAIL DATA USB SAVE	Saves the CSV file whose XML-format data transmission to the RRA (RISO Remote Agent) server failed through the transmission module of the printer, with the RRA function enabled, into an external memory device (USB drive). When executed without USB drive connection or sufficient free space in the USB drive, this operation will fail with an error message. * This test mode is accessible only when "Enabled" is selected in the test mode TM No. 01-6-041 "REMOTE CONTROL FUNCTION SELECTION." If not, this item name will not appear in the test mode list and the corresponding test mode number cannot be entered with numeric keys.	Yes
U	01-3-015	FORCE DELETE RA TRANSMISSION DATA	Deletes the CSV file whose XML-format data have been transmitted to the RRA (RISO Remote Agent) server. When a USB drive is mounted in this case, the said file is to be copied there along with the corresponding transmission log file for analysis before deleted, creating the following folder in the root directory of the USB drive: "XXXXXXX_yyyymmddHHMMSS" <to-be-copied files=""> RetryCSV/*,csv/* and log/* [Note] "XXXXXXXX" is a serial number of a printer, "yyyymmdd" is "year/month/date" and "HHMMSS" is "24hour/minute/second." * This test mode is only accessible through a direct key entry of the corresponding number, without its item name displayed in the test mode list, when "Enabled" is selected in TM No. 01-6-041 "REMOTE CONTROL FUNCTION SELECTION." If not, the corresponding test mode number cannot be entered with numeric keys.</to-be-copied>	Yes
U	01-3-016	SEND BUFFER LOG USB STICK STORE	Saves the event log data kept in the transmission buffer memory on the printer to be transmitted to the RRA (RISO Remote Agent) server when requested through the "Transmit Event Log" function in the Administrator Menu, into an external memory device (USB drive). * Even if the "Transmit Event Log" function is not enabled in the Administrator Menu, the said event log data are to be kept in the transmission buffer memory, thus allowing the execution of this test mode.	Yes
U	01-3-021	COUNT INFORMATION PRINT	Prints out the following count values in 8 digits (zero suppression) in a list, including their count types. - Detailed counts 1 to 21 - Maintenance counts (Paper feed and ejection) - Finisher counts 1 to 10 - Cleaning counts (extras, strong, normal) - Facedown finisher counts 1 to 3 Print conditions are as follows (Unchangeable) - Output paper format: A4 or Letter - Paper source: Standard feed tray (To be printed even when another-format paper than A4 or Letter is loaded.) - Outout destination: Facedown stacking tray - Print mode: Simplex - Print quantity: 1 copy	Yes
U	01-3-022	TEST MODE CONFIG PRINT	The PMS-or-Engine-control-PCB-related test modes that fulfill the following conditions are extracted and printed in a list, with the respective test mode numbers, item names (English only) and corresponding parameters. If there is no test mode that fulfills them, however, the phrase "With no change" (none) will be printed instead. [Extraction conditions] - For maintenance - With changeable parameters - Parameters to be saved as non-volatile data - Parameters changed from default values * Print conditions are the same as for the test mode TM No. 01-3-021 "COUNT INFORMATION PRINT." If the corresponding test mode item name is not displayed in the item list, besides, its number and parameters are only printed.	Yes

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Туре	Test mode No.	Test mode name	Action	Interruption
U	01-3-023	TEST MODE CONFIG PRINT 2	The PMS-or-Engine-control-PCB-related test modes that fulfill the following conditions are extracted and printed in a list, with the respective test mode numbers, item names (English only) and corresponding parameters. If there is no test mode that fulfills them, however, the phrase "With no change" (none) will be printed instead. [Extraction conditions] - For maintenance, manufacturing or development - With changeable parameters - Parameters to be saved as non-volatile data - Parameters changed from default values * Print conditions are the same as for the test mode TM No. 01-3-021 "COUNT INFORMATION PRINT." If the corresponding test mode item name is not displayed in the item list or the said test mode is dedicated for manufacturing or development, besides, its number and parameters are only printed.	Yes
U	01-3-031	ADMIN SERVER COMMUNICATION TEST	Checks communication between the printer (transmission module) and the RRA (RISO Remote Agent) server. The address of the said server can be checked in the test mode TM No. 01-5-066 "RISO REMOTE SERVER URL." * This test mode can be accessed through on-list item selection or direct number entry, only when the Remote agent function is enabed in the test mode TM No. 01-6-041 "REMOTE AGENT FUNCTION SELECTION." If not, this test mode will not be accessible in either way.	Yes
U	01-3-036	CHARGE COUNT PRINT(J) IMPORT	Imports the contents to be printed in the "Charge count print" optiion for Japanese models from a dedicated data file, which is named "ChargeCountTest.csv" and located in the root directory of a USB drive. [Note] The error message "W349-0280-6" may appear if this test mode is executed immediately after the USB drive is mounted. To avoid it, wait to execute this test mode for 5 seconds. In case the said error message appears, however, execute this test mode again.	No
U	01-3-037	CHARGE COUNT PRINT(J) EXPORT	Exports the contents to be printed in the "Charge count print" optiion for Japanese models into the root directory of a USB drive, creating a dedicated data file named "ChargeCountTest.csv," If the said file already exists in the target USB drive, it will be overwritten. [Note] The error message "W349-0280-6" may appear if this test mode is executed immediately after the USB drive is mounted. To avoid it, wait to execute this test mode for 5 seconds. In case the said error message appears, however, execute this test mode again.	No
U	01-3-038	CHARGE COUNT PRINT(G) IMPORT	Imports the contents to be printed in the "Charge count print" optiion for global models, such as account and charging body data, from a dedicated data file, which is named "ChargeCountTest.csv" and located in the root directory of a USB drive. [Note] The error message "W349-0280-6" may appear if this test mode is executed immediately after the USB drive is mounted. To avoid it, wait to execute this test mode for 5 seconds. In case the said error message appears, however, execute this test mode again.	No
U	01-3-039	CHARGE COUNT PRINT(G) EXPORT	Exports the contents to be printed in the "Charge count print" optiion for global models, such as account and charging body data, into the root directory of a USB drive, creating a dedicated data file named "ChargeCountTest.csv," If the said file already exists in the target USB drive, it will be overwritten. [Note] The error message "W349-0280-6" may appear if this test mode is executed immediately after the USB drive is mounted. To avoid it, wait to execute this test mode for 5 seconds. In case the said error message appears, however, execute this test mode again.	No
U	01-3-040	ENGINE FACTORY VALUE STORE	Stores the factory default settings of Engine control PCB into the HDD (or SSD for GL models). * The corresponding data storage area differs from the one to be used in the test mode TM No. 01-3-041 "TEST MODE VALUE STORE," while this test mode is programmed to be automatically executed when the test mode TM No. 01-4-002 "FACTORY DEFAULT" is executed. Therefore, this test mode cannot be executed through the regular test mode operation. [Note] The above-mentioned automatic test mode execution is designed for preliminary data backup, assuming that the factory default settings could not be retrieved and stored into the HDD (or SSD for GL models) at initial boot-up after factory shipment due to damages in Eingine control PCB,	No
U	01-3-041	TEST MODE VALUE STORE	Stores the test mode parameters applied to the Engine control PCB into the HDD (or SSD for GL models) on PMS, thus enabling their retrieval after replacing the said PCB through the test mode TM No. 01-3-042 "TEST MODE VALUE RESTORE."	Yes
U	01-3-042	TEST MODE VALUE RESTORE	Restores the test mode parameters stored into the HDD (or SSD for GL models) on PMS through the test mode TM No. 01-3-041 "TEST MODE VALUE STORE" to a new replacement Engine control PCB. * The printer should be rebooted to apply the restored test mode parameters to the replacement Engine control PCB.	Yes

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Туре	Test mode No.	Test mode name	Action	Interruption
U	01-3-044	SSD VALUE STORE	Stores the below-listed data saved in the SSD into a USB drive through the procedures below. <pre><torage procedure=""></torage></pre> (1) Mount a USB drive on the printer and execute this test mode. (2) Reboot the printer. The data storage processing then starts. (3) Dismount the USB drive after the printer has been rebooted. [Data to be stored into a USB drive] - Settings configured in Administrator mode (menu) - User data, group data, and Control card ID - Job management data, stock management data, "Favorites" setting and POP information - All accounting records (current and history) - REv (Remote Event) and WebRemote data - Test mode parameters in data edit modes to be saved into SSD [Data to be stored through this test mode] - Print job data and storage box data - Non-volatile mirrored data of the Engine control PCB - Temporary data for image adjustment [Note] 1. The error message "W349-0280-6" (USB storage/restoration failure) may appear if this test mode is executed immediately after the USB drive is mounted. To avoid it, wait to execute this test mode for 5 seconds. In case the said error message still appears, however, execute this test mode again. 2. The data stored into a USB drive cannot be restored on the printer whose firmware version is not the same as of the error message still appears, however, execute this test mode again.	Νο
			printer from which the said stored data was acquired. 3. This test mode should be executed while disabling the "SSD Data Encryption" function in the Administrator mode (menu). Otherwise, the error message "W070–254" (SSD encryption notification) will appear.	
U	01-3-045	SSD VALUE RESTORE	Restores the data stored into a USB drive through the test mode TM No. 01-3-044 "SSD VALUE STORE" to the SSD through the procedure below. <restoration below.<br="" procedure=""><restoration procedure=""> (1) After replacing the SSD, mount the USB drive containing the stored data on the printer and execute this test mode. (2) Rebot the printer. The data restoration processing then starts. (3) Dismount the USB drive after the printer has been reboted and the HOME window appears on the operation panel display. (4) Rebot the printer again and confirm that all corresponding data has been restored successfully on the printer. * Though the error message "S602-0592" (IP PCB error) may appear in the step 3 above, it will be solved by reboting the printer as instructed in the next step. [Note] 1. The error message "W053-0053-2" (USB drive mount error) may appear if this test mode is executed immediately after the USB drive is mounted. To avoid it, wait to execute this test mode for 5 seconds. In case the error message "W349-0280-6" (USB storage/restoration failure) appears, besides, execute this test mode again. 2. The data stored into a USB drive cannot be restored on the printer knowse firmware version is not the same as of the printer from which the said stored data was acquired. 3. This test mode should be executed while disabling the "SSD Data Encryption" function in the Administrator mode (menu). Otherwise, the error message "W070-254" (SSD encryption notification) will appear. 4. This item mame is not displayed in the test mode list. Therefore. the corresponding test mode number is required to</restoration></restoration>	No
			be entered with numeric keys to access to this test mode. Besides, the item name is not displayed in the corresponding test mode operation window as well.	
U	01-3-048	AUTHENTICATION SERVER URL IMPORT	Imports the URL of the RRA (RISO Remote Agent) server from a dedicated data file, which is named "RAserverURL.csv" and located in the root directory of a USB drive. * This test mode can be accessed through on-list item selection or direct number entry, only when the Remote agent function is enabed in TM No. 01-6-041 "REMOTE AGENT FUNCTION SELECTION." If not, this test mode will not be accessible in either way.	No
U	01-3-050	NAS SETTING IMPORT	Imports the parameters required to save files into NAS (Netwotk Attached Storage) from a dedicated system file, which is named "NAS_Save.conf" and located in the root directory of a USB drive. [Note] The error message "W349-0280-6" (USB storage/restoration failure) may appear if this test mode is executed immediately after the USB drive is mounted. To avoid it, wait to execute this test mode for 5 seconds. In case the said error message still appears, however, execute this test mode again.	No

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Туре	Test mode No.	Test mode name	Action	Interruption
Image	adjustment			
U	02-3-001	PRINT TIMING ROUGH ADJUSTMENT	Adjusts the rough timing of ink ejection from Print heads automatically through scanning printed measurement patterns. The said ink ejection timing can be separately adjusted for the respective Print head nozzle lanes to align printed images on prints vertically (in paper transfer direction). * This test mode should be executed with 400dpi scanning resolution. <parameter> - Measurement pattern print quantity (sheet): 1 to 9 (Default: 2) [Note] Various test modes are prepraed for image adjustments in which printerd measurement patterns are to be scanned for auto parameter configuration. For details and their execution order, consult the corresponding sections in the chapter "Image Adjustment."</parameter>	Yes
U	02-3-002	BP DIRECTION ADJUSTMENT	Provides the shift range of the corresponding adjustment lever, which is to be consulted when adjusting the position of the said lever to align the Transfer belt unit with the Print head holder unit (Registration roller), through scanning printed measurement patterns. * This test mode should be executed with 400dpi scanning resolution. [Note] Various test modes are prepraed for image adjustments in which printerd measurement patterns are to be scanned. For details and their execution order, consult the corresponding sections in the chapter "Image Adjustment."	Yes
U	02-3-003	REGISTRATION ROLLER DIRECTION ADJ	Provides the shift range of the corresponding adjustment screw, which is to be consulted when adjusting the position of the said screw to align the Registration roller with the Transfer belt unit, through scanning printed measurement patterns. * This test mode should be executed with 400dpi scanning resolution. [Note] Various test modes are prepraed for image adjustments in which printerd measurement patterns are to be scanned. For details and their execution order, consult the corresponding sections in the chapter "Image Adjustment."	Yes
U	02-3-004	HEAD ANGLE ADJUSTMENT	Provides the rotation amounts of the corresponding adjustment screw, which are to be consulted when adjusting the mounting position of the Print heads to set their nozzle lanes at right angles to the paper transfer direction (Transfer belt unit), through scanning printed measurement patterns. * This test mode should be executed with 400dpi scanning resolution. [Note] Various test modes are prepraed for image adjustments in which printerd measurement patterns are to be scanned. For details and their execution order, consult the corresponding sections in the chapter "Image Adjustment."	Yes
U	02-3-005	HEAD POSITION ADJUSTMENT	Provides the rotation amounts of the corresponding adjustment screw, which are to be consulted when adjusting the mounting position of the Print heads to align them in the lengthwise direction (between different-color Print heads), through scanning printed measurement patterns. * This test mode should be executed with 400dpi scanning resolution. [Note] Various test modes are prepraed for image adjustments in which printerd measurement patterns are to be scanned. For details and their execution order, consult the corresponding sections in the chapter "Image Adjustment."	Yes
U	02-3-006	PRINT TIMING FINE&OVERLAP WIDTH ADJ	Adjusts both the fine timing of ink ejection from Print heads and the overlap range of bordering Print head nozzles automatically through scanning printed measurement patterns. The said adjustments can be made separately under other test modes, TM No. 02-3-010 "PRINT TIMING FINE ADJUSTMENT" and TM No. 02-3-011 "OVERLAP WIDTH ADJUSTMENT." * This test mode should be executed with 400dpi scanning resolution. <parameter> - Measurement pattern print quantity (sheet): 1 to 9 (Default: 2) [Note] Various test modes are prepraed for image adjustments in which printerd measurement patterns are to be scanned for auto parameter configuration. For details and their execution order, consult the corresponding sections in the chapter "Image Adjustment."</parameter>	Yes
U	02-3-007	HEAD EDGE DENSITY ADJUSTMENT	Adjusts the density of images printed by the Print head nozzles located within approx. 0.5mm from both side edges of the respective Print heads. The ID number of the most preferable marked solid blocks on printed measurement patterns should be emtered into the corressponding entry fields in the displayed screen. <parameter> - Solid block ID No.: 1 to 20 (Default: no emtry) [Note] For details and their execution order, consult the corresponding sections in the chapter "Image Adjustment."</parameter>	Yes

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Туре	Test mode No.	Test mode name	Action	Interruption
U	02-3-008	HEAD DENSITY ADJUSTMENT	Calculates the print head drive correction voltage and applies it to the corresponding Print heads automatically through scanning printed measurement patterns, thus ensuring even print density among neighboring print head lanes. * This test mode should be executed with 300dpi scanning resolution. [Note] Various test modes are prepraed for image adjustments in which printerd measurement patterns are to be scanned for auto parameter configuration. For details and their execution order, consult the corresponding sections in the chapter "Image Adjustment."	Yes
U	02-3-009	IMAGE ELONGATION ADJUSTMENT	Corrects the lengthwise (paper-transfer-direction) extension of printed images automatically through scanning printed measurement patterns. * This test mode should be executed with 400dpi scanning resolution. [Note] Various test modes are prepraed for image adjustments in which printerd measurement patterns are to be scanned for auto parameter configuration. For details and their execution order, consult the corresponding sections in the chapter "Image Adjustment."	Yes
U	02-3-010	PRINT TIMING FINE ADJUSTMENT	Adjusts the fine timing of ink ejection from Print heads automatically through scanning printed measurement patterns. The said ink ejection timing can be separately adjusted for the respective Print head nozzle lanes to align printed images on prints vertically (in paper transfer direction). * This test mode should be executed with 400dpi scanning resolution. <parameter> - Measurement pattern print quantity (sheet): 1 to 9 (Default: 2) [Note] Various test modes are prepraed for image adjustments in which printerd measurement patterns are to be scanned for auto parameter configuration. For details and their execution order, consult the corresponding sections in the chapter "Image Adjustment."</parameter>	Yes
U	02-3-011	OVERLAP WIDTH ADJUSTMENT	Adjusts the overlap range of bordering Print head nozzles automatically through scanning printed measurement patterns, thus ensuring proper overlap of print data at the seams of neighboring Print heads. * This test mode should be executed with 400dpi scanning resolution. <parameter> - Measurement pattern print quantity (sheet): 1 to 9 (Default: 2) [Note] Various test modes are prepraed for image adjustments in which printerd measurement patterns are to be scanned for auto parameter configuration. For details and their execution order, consult the corresponding sections in the chapter "Image Adjustment."</parameter>	Yes
U	02-3-021	TOP END POSITION ADJUSTMENT	Adjusts the top and bottom (end) margins on prints by changing the corresponding parameters related to the Top edge sensors 1 and 2. <parameter> [Top edge sensor 1] - Top print position (Top margin) (0.1mm): -70 to 70 (Default: 0) - Trailing end mask length (Bottom margin) (0.1mm): -70 to 70 (Default: 0) [Top print position (Top margin) (0.1mm): -70 to 70 (Default: 0) - Top print position (Top margin) (0.1mm): -70 to 70 (Default: 0) - Trailing end mask length (Bottom margin) (0.1mm): -70 to 70 (Default: 0)</parameter>	Yes
U	02-3-022	SIDE MASK ADJUSTMENT	Adjusts the side margins on prints. <parameter> - Left margin (0.1mm): -100 to 100 (Default: 0) - RIght margin (0.1mm): -100 to 100 (Default: 0)</parameter>	Yes
U	02-3-023	DENSITY COMPENSATION	Corrects the Print-head-originated unevenness of density in printed images for individual colors while changing the level of the voltage applied to the corresponding Print head. <parameter> - Voltage correction range (0.01V): -100 to 100 (Default: 0)</parameter>	Yes
U	02-3-024	X DIRECTION ADJUSTMENT	Adjusts the horizontal (X-direction) ink drop landing positions for horizontal color layer alignment concerning individual color Print head nozzle arrays while comparing them with the counterparts for color K as reference. <parameter> - Adjustment range (µm): The available value range depends on the parameter setting in the test mode TM No. 02-3- 026 "OVERLAP AMOUNT ADJUSTMENT." (Default: 0) (Ex.) - When TM02-3-026 parameter is "1000," the available parameter range in this test mode is "-999" to "999." - When TM02-3-026 parameter is "2000," the available parameter range in this test mode is "-1999" to "1999." * The value calculated by subtracting "1" from the parameter value in the test mode TM No. 02-3-026 is to be applied as available parameter range values in this test mode, while adding a minus sign to it for the minimum one.</parameter>	Yes

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Туре	Test mode No.	Test mode name	Action	Interruption
U	02-3-025	Y DIRECTION ADJUSTMENT	Adjusts the ink ejection timings from the respective color Print head nozzle arrays for vertical color layer alignment. <parameter> [For FW and FT models] - Adjustment range (2.64µm [1/32 dot]): -3000 to 3000 (Default: 0) / 378 steps=1mm [For GD and GL models] (For K color) - Adjustment range (1.32µm [1/64 dot]): -3000 to 3000 (Default: 0) / 756 steps=1mm (For other colors) - Adjustment range (2.64µm [1/32 dot]): -3000 to 3000 (Default: 0) / 378 steps=1mm</parameter>	Yes
U	02-3-026	OVERLAP AMOUNT ADJUSTMENT	Adjusts the overlap ranges of imageds printed by the edge nozzle lanes of neighboring Print heads for individual colors. <parameter> - Overlap range (1µm): 0 to 3000 (Default: 0) / 1000 steps=1mm</parameter>	Yes
U	02-3-027	HEAD REPLACEMENT PARAMETER	Optimizes replacement Print heads for ink ejection action during print operation by entering key parameter values, i.e. AL values and recommended voltage values. The said parameters, which are provided on the label attached to the FPC (Flexible Printed Circuit) of a Print head, are to be individually set for the respective replacement Print heads, referring to their ink colors and mounting positions. <parameter> - AL value (step): 0 to 13 (Default: 0) - Voltage value (0.01V): 700 to 1400 (Default: 1100)</parameter>	Yes
U	02-3-041	IMAGE ADJUST PARAMETER SAVE	Temporarily saves the current image adjustment data as backup against possible failures in image adjustment processing, thus enabling their recovery if required.	No
U	02-3-042	IMAGE ADJUST PARAMETER RETRIEVE	Retrieves the image adjustment data temporarily saved in the test mode No. TM02-3-041 "IMAGE ADJUST PARAMETER SAVE."	No
U	02-3-108	HEAD DENSITY ADJUSTMENT (K300DPI)	Calculates the print head drive correction voltage and applies it to the corresponding K-color Print heads automatically through scanning printed measurement patterns, thus ensuring even print density among neighboring print head lanes. * This test mode should be executed with 300dpi scanning resolution. [Note] Various test modes are prepraed for image adjustments in which printerd measurement patterns are to be scanned for auto parameter configuration. For details and their execution order, consult the corresponding sections in the chapter "Image Adjustment."	Yes
U	02-3-123	DENSITY COMPENSATION (K300DPI)	Corrects the Print-head-originated unevenness of density in printed images for K color while changing the level of the voltage applied to the corresponding Print head. <parameter> - Voltage correction range (0.01V): -100 to 100 (Default: 0)</parameter>	Yes
Engin	e system sed	tion		
U	04-3-001	INITIALIZE MOVEMENT	Initializes the mechanical components in the following sections and units: Ink flow, Maintenance and Print head holder. * This test mode is not available unless the following units all function: Transfer belt, Maintenance, Wiper and Ink tower.	Yes
U	04-3-002	FRONT COVER LOCK SOLENOID ACTION	Keeps the Front door lock solenoid activated for 1 second. - The Front door is to be unlocked when it is locked, while it is to be locked when it is not locked.	No
U	04-3-008	OPTION PCB FIRMWARE DOWNLOAD	Downloads the Option PCB firmware.	No
U	04-3-011	ADJUST PARAMETER SAVE	Backs up the current (adjusted) parameter values for system configuration while overwriting the factory default ones, which are to be retrieved when the test mode TM No. 01-4-002 "FACTORY DEFAULT" is executed.	No
U	04-3-021	CIS OPERATION CHECK	Leads the CIS to read the side edge of a sheet placed underneath and acquires its AD measurement value. * This test mode is not available unless the following units all function: Transfer belt, Maintenance and Wiper.	No
U	04-3-022	REAR CIS SHADING	Makes shading compensation for the rear-side (left-side) CIS. * This test mode is not available unless the following units all function: Transfer belt, Maintenance and Wiper.	No
U	04-3-023	FRONT CIS SHADING	Makes shading compensation for the front-side (right-side) CIS. * This test mode is not available unless the following units all function: Transfer belt, Maintenance and Wiper.	
U	04-3-024	FRONT & REAR CIS SHADING	Makes shading compensation for the CISs on both fornt (right) and rear (left) sides. * This test mode is not available unless the following units all function: Transfer belt, Maintenance and Wiper.	No
U	04-3-026	ROLLER PROFILE PHASE PRINT	Makes 18 test pattern prints while changing the phase of the Transfer belt driven roller by 20 degrees at one time from 0 to 340 degrees. - The provided test pattern prints are to be checked to determine the most preferable phase of the said roller. For details, consult the corresponding section in the chapter "Transfer Belt Section." * This test mode is not available unless print operation is possible on a printer.	Yes

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Туре	Test mode No.	Test mode name	Action	Interruption
U	04-3-027	ROLLER PROFILE AMPLITUDE PRINT	Makes 16 test pattern prints while changing the amplitude of the Transfer belt driven roller by 100 at one time from 100 to 1600. - The provided test pattern prints are to be checked to determine the most preferable amplitude of the said roller. For details, consult the corresponding section in the chapter "Transfer Belt Section." * This test mode is not available unless print operation is possible on a printer.	Yes
U	04-3-028	ROLLER PROFILE DATA	Calculates the adjustment values for the existing (replaced) Transfer belt driven roller from the parameters entered in the test modes TM No. 04-6-022 "ROLLER PROFILE AMPLITUDE INPUT" and TM No. 04-6-023 "ROLLER PROFILE PHASE INPUT" and overwrites the existing ones, which are stored in the flash memory on the Engine control PCB, with the said calculated ones.	No
U	04-3-031	HEAD TEST PATTERN PRINT	Makes A3-size (or Ledger-size) test pattern prints for Print heads. The print conditions for the said test pattern are specified in the following test modes. Print pattern: TM No. 04-6-065 "TM PRINT: PRINT HEAD TEST PATTERN" Print quantity: TM No. 04-6-061 "TM PRINT: PRINT UDESTINATION" Print side: TM No. 04-6-063 "TM PRINT: OUTPUT DESTINATION" Print side: TM No. 04-6-063 "TM PRINT: DUPLEX/SIMPLEX" Paper source: TM No. 04-6-064 "TM PRINT: PAPER FEED TRAY SELECTION" The following print conditions can also be specified in the below-listed test modes when "0" (FU) is specified as output destination on a printer equipped with the Multifunction finisher. Output finisher tray: TM No. 04-6-071 "TM PRINT: EJECT TRAY SELECTION" Stacking mode: TM No. 04-6-072 "TM PRINT: FIN OFFSET EJECT SELECTION" Punch mode: TM No. 04-6-073 "TM PRINT: FIN STAPLE SELECTION" Booklet mode: TM No. 04-6-073 "TM PRINT: FIN SOKLET SELECTION" Folding mode: TM No. 04-6-076 "TM PRINT: FIN SOKLET SELECTION" Makes 2000 Select TM No. 04-6-076 "TM PRINT: FIN STAPLE SELECTION" Punch mode: TM No. 04-6-076 "TM PRINT: FIN STAPLE SELECTION" Folding mode: TM No. 04-6-076 "TM PRINT: FIN STAPLE SELECTION" Makes 2000 Select TM NO. 04-6-076 "TM PRINT: FIN STAPLE SELECTION" Folding mode: TM No. 04-6-076 "TM PRINT: FIN STAPLE SELECTION" Folding mode: TM No. 04-6-076 "TM PRINT: FIN STAPLE SELECTION" This test mode is not available unless print operation is possible on a printer.	Yes
U	04-3-041	BELT PROFILE DATA	Updates the Transfer belt profile data stored on the Engine control PCB with the values calculated from the parameters entered in the test mode TM No. 04-6-012 "BELT PROFILE DATA INPUT" through inverse Fourier transform. * If the calculated values are found illegal through verification with the corresponding check digit entered in the test mode TM No. 04-6-013 "BELT PROFILE CHECK DIGIT INPUT," a check sum error will be notified.	No
U	04-3-050	PREV MAINT CHECK PRINT (REPLACE)	Prints a data sheet regarding to-be-replaced components in paper transfer sections for maintenance. <data be="" items="" provided="" to=""> - Printer profile (Check date (Execution date of this test mode), Model name, Serial No., Meter reading, Firmware package version No.) - Component locations (with ID numbers in an Illustration) - Component names - Current meter</data>	Yes
U	04-3-051	PREV MAINT CHECK PRINT (CLEAN)	Prints a data sheet regarding to-be-cleaned components in paper transfer sections for maintenance. <data be="" items="" provided="" to=""> Same as in the test mode TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)."</data>	Yes
U	04-3-055	COUNT INFORMATION OUTPUT (REPLACE)	Outputs the current meter data for to-be-replaced components in paper transfer sections to a USB drive, as a CSV- format file named "0043055.csv," <data be="" items="" provided="" to=""> - Part number of target components - Current meter for the same (No internal-paper-tray-related data for models without the said tray mounted) [Output data sample] 1-1,250000 1-2,190000 2-1-1,123456 2-1-2,123456 3-1,250000 :</data>	Yes
U	04-3-056	COUNT INFORMATION OUTPUT (CLEAN)	Outputs the current meter data for to-be-cleaned components in paper transfer sections to a USB drive, as a CSV- format file named "0043056.csv." <data be="" items="" provided="" to=""> Same as in the test mode TM No. 04-3-055 "COUNT INFORMATION OUTPUT (REPLACE)."</data>	Yes
Paper U	feed section	PAPER FEED TRAY WIDTH ADJUST (WIDE)	Specifies the A/D value for the paper width of 297 mm to be referred to in paper size detection. * To be executed after loading A4-format paper in LEF direction on the Standard paper feed tray.	No
U	05-3-002	PAPER FEED TRAY WIDTH ADJUST (MID)	Specifies the A/D value for the paper width of 210 mm to be referred to in paper size detection, * To be executed after loading A4-format paper in SEF direction on the Standard paper feed tray.	No
U	05-3-003	PAPER FEED TRAY WIDTH ADJUST (NRRW)	Specifies the A/D value for the paper width of 105 mm to be referred to in paper size detection. * To be executed after loading two-folded A4-format paper in SEF direction on the Standard paper feed tray.	No

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Туре	Test mode No.	Test mode name	Action	Interruption
U	05-3-011	REGIST&TOP EDGE SNSR 1 ADJ AUTO FEED	Feeds paper from the Standard paper feed tray to the execution point of the test mode TM No. 05-3-012 "REGIST&TOP EDGE SENSOR 1 AUTO ADJUST."	No
U	05-3-012	REGIST&TOP EDGE SENSOR 1 AUTO ADJUST	Adjusts the luminous energy of the Registration sensor and Top edge sensor 1 automatically.	No
U	05-3-016	PFT UPPER LIMIT POSITION MOVE	Raises the Standard paper feed tray until the upper limit position. The Paper feed tray elevator motor is to be stopped after repositioning actions when the Paper feed tray upper limit sensor is blocked.	No
U	05-3-017	PFT LOWER LIMIT POSITION MOVE	Lowers the Standard paper feed tray until the lower limit position. The Paper feed tray elevator motor is to be stopped when the Paper feed tray lower limit sensor is blocked.	No
U	05-3-018	TRAY1 UPPER LIMIT POSITION MOVE	Raises the Tray bottom plate in the Tray 1 until the upper limit position. The Tray 1 elevator motor is to be stopped after repositioning actions when the Tray 1 upper limit sensor is blocked.	No
U	05-3-019	TRAY2 UPPER LIMIT POSITION MOVE	Raises the Tray bottom plate in the Tray 2 until the upper limit position. The Tray 2 elevator motor is to be stopped after repositioning actions when the Tray 2 upper limit sensor is blocked.	No
U	05-3-020	TRAY3 UPPER LIMIT POSITION MOVE	Raises the Tray bottom plate in the Tray 3 until the upper limit position. The Tray 3 elevator motor is to be stopped after repositioning actions when the Tray 3 upper limit sensor is blocked.	No
Trans	06-3-001	TOP EDGE SENSOR 2 AUTO ADJUST	Adjusts the luminous energy of the Top edge sensor 2 automatically.	No
U	06-3-006	BP MOTOR SPEED AUTO ADJUST	Adjusts the rotation speed of the Transfer belt motor against a predefined value (700mm/s) while feeding 8 sheets of paper from the Standard paper feed tray in simplex mode. (Feeding sheets are to be ejected into the Facedown paper feed tray.) In case the said speed is faster or slower than the predefined value, it is to be automatically adjusted to the said predefined value and applied in another test mode TM No. 06-6-007 "TRANSFER BELT MOTOR SPEED ADJUST." * A4 (or Letter)-format paper should be loaded in LEF direction on the said tray. [Note] - The adjusted value is to be reset to the one that has been backed up in the test mode TM No. 04-3-011 "ADJUST PARAMETER SAVE" (default one) when you restore factory default values for test modes through the corresponding test modes This test mode is not available when a printer is not ready for operation.	
U	06-3-011	BELT MAINTENANCE COUNT INITIALIZE	Resets the belt maintenance counter.	No
Paper	ejection sec	tion		
U	07-3-001	FD PAPER EJECTION FENCE HP POSITION	Shifts the FD Paper ejection paper guides to the home position.	Yes
U	07-3-002	FD PAPER EJECTION FENCE SET POSITION	Shifts the FD Paper ejection paper guides to the position specified in another test mode TM No. 07-6-004 "FD EJECT PAPER GUIDE CUSTOM SETTING."	Yes
U	07-3-003	FD PAPER EJECTION FENCE 1 CYCLE	Leads the FD Paper ejection paper guides to make one-cycle action. (1) Returns to the home position, (2) Moves to the narrowed (minimum) position and stops for 1 second. (3) Moves to the wide-open (maximum) position and stops for 1 second. (4) Returns to the home position.	Yes
U	07-3-011	FD (FU) PAPER EJECTION WING HP POSITION	Shifts the FU Paper ejection wings to the home position.	Yes
U	07-3-012	FD (FU) PAPER EJECTION WING SET POSITION	Shifts the FU Paper ejection wings to the position specified in another test mode TM No. 07-6-041 "FU EJECT WING POSITION (BASE)."	Yes
U	07-3-013	FD (FU) PAPER EJECTION WING 1 CYCLE	Leads the FU Paper ejection wings to make one-cycle action. (1) Returns to the home position. (2) Moves to the narrowed (minimum) position and stops for 1 second. (3) Moves to the wide-open (maximum) position and stops for 1 second. (4) Returns to the home position.	Yes
U	09-3-001	NORMAL CLEANING	Cleans the Print head nozzles in a normal mode. * This test mode is not available under the following conditions, - Unless the following units all function: Transfer belt, Maintenance, Wiper and Ink tower. - When any color ink has been depleted or any ink-cartridge-related error still exists.	No
U	09-3-002	STRONG CLEANING	Cleans the Print head nozzles in a strong mode, * This test mode is not available under the following conditions, - Unless the following units all function: Transfer belt, Maintenance, Wiper and Ink tower, - When any color ink has been depleted or any ink-cartridge-related error still exists.	No
U	09-3-003	EXTRA CLEANING	Cleans the Print head nozzles in an extra strong mode, in which "strong cleaning operation" is to be repeated twice with approx-5-minute ink circulation action. * This test mode is not available under the following conditions. - Unless the following units all function: Transfer belt, Maintenance, Wiper and Ink tower. - When any color ink has been depleted or any ink-cartridge-related error still exists.	No

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Туре	Test mode No.	Test mode name	Action	Interruption
U	09-3-006	STRONG MAINTENANCE (NO INK SUPPLY)	Repeats the following strong maintenance operation a specified number of times. (1) Equalizes the air pressure in the Pressurization and Negative pressure tanks. (2) Leads ink to flow into the Pressurization tank, without replenishing ink from an ink cartridge, until the Pressurization tank ink level sensor detects ink. (3) Leads ink to be ejected from the Print head nozzles through strong cleaning operation. (4) Wipes off ink from the surface of the Print heads. * The repetition number of the said operations is to be specified in the test mode TM No. 09-6-053 "STRONG MAINT NUMBER (NO INK SUPPLY)." [Note]	No
U	09-3-011	INK INITIAL FILLING	Executes the initial ink filling operation. * This test mode is not available under the following conditions. - Unless the following units all function: Transfer belt, Maintenance, Wiper and Ink tower. - When any color ink has been depleted or any ink-cartridge-related error still exists.	No
U	09-3-012	INK SUPPLY UNIT INITIALIZE	Initializes the mechanical components located along the ink flow route. * This test mode is not available under the following conditions. - When the Ink tower unit does not function. - When the parameter is set at "0" (Enabled) in the test mode TM No. 09-6-025 "INK TEMPERATURE ADJUST ON/OFF." In case it is executed under the above condition, i.e. during ink temperature adjustment, an error will be notified due to failure in ink temperature control.	No
U	09-3-013	INITIAL INK FILLING REPEAT MODE	Repeats the initial ink filling operation (ink replenishment → Print head cleaning → ink circulation → ink drainage). The number of the said operation's repetition is to be specified in the test mode TM No. 09-6-052 "INK INITIAL FILLING REPEAT NUMBER SET." The latest repeat count of the said operation can be confirmed in the test mode TM No. 09-5-012 "INK INITIAL FILL REPEAT COUNT DISPLAY." If this operation is interrupted with an error, it will be resumed for a single operation after error recovery and added to the said repeat count, while the remaining repetition is to be made when instructed through panel operation later. A recovery wiping action is made as well.	No
U	09-3-016	WIPE MOTOR TO FRONT	Moves the Wiper blades to the front side of the Ink pan. * The Maintenance unit should be placed on the Transfer belt unit when this test mode is executed. * This test mode is not available under the following conditions. - Unless the following units all function: Transfer belt, Maintenance and Wiper. - When the Wiper blades are already on the front side of the Ink pan.	No
U	09-3-017	WIPE MOTOR TO REAR	Moves the Wiper blades to the rear side of the Ink pan. * The Maintenance unit should be placed on the Transfer belt unit when this test mode is executed. * This test mode is not available under the following conditions. - Unless the following units all function: Transfer belt, Maintenance and Wiper. - When the Wiper blades are already on the rear side on the Ink pan.	No
U	09-3-018	WIPING ACTION	Leads the Wiper blades to operate for a wiping action. * This test mode is not available under the following conditions. - Unless the following units all function: Transfer belt, Maintenance and Wiper. - When the Wiper blades are not positioned on the front side of the Ink pan.	No
υ	09-3-020	BP ELEVATOR MOTOR TO DOWN	Shifts down the Transfer belt unit to the bottom (until the Transfer belt lower limit sensor is blocked). * This test mode is not available under the following conditions. - Unless the following units all function: Transfer belt, Maintenance and Wiper.	No
U	09-3-022	BP ELEVATOR MOTOR TO UP	Shifts up the Transfer belt unit to the top (until the Transfer belt upper limit sensor is blocked). * This test mode is not available under the following conditions. - Unless the following units all function: Transfer belt, Maintenance and Wiper. - When the Ink pan is placed on the Transfer belt unit. - When the Transfer belt unit is already at the upper limit position.	No
U	09-3-023	BP ELEVATOR MOTOR PUSH UP	Drives the Transfer belt elevation motor for 1 second to shift up the Transfer belt unit. * Other test modes which are to be applied to the Transfer belt unit become unavilable because the said unit becomes unable to be located as a result of this test mode. The printer is required to be initialized to escape from the above test mode condition.	No
U	09-3-024	BP ELEVATOR MOTOR MAINTENANCE POS	Drives the Transfer belt elevation motor by a predefined number of pulses of the corresponding Encoder sensor to shifts up the Transfer belt unit to the maintenance (cleaning) position. * This test mode is not available under the following conditions. - Unless the following units all function: Transfer belt, Maintenance and Wiper. - When the Transfer belt unit is already placed at the Print head maintenance (cleaning) position.	No
U	09-3-026	INK PAN PAUSE POSITION	Shifts the Ink pan to the standby position. * This test mode is not available under the following conditions. - Unless the following units all function: Transfer belt, Maintenance and Wiper. - When the Ink pan is at the storage or standby position.	No
U	09-3-027	INK PAN STORAGE POSITION	Shifts the Ink pan to the retreat (storage) position. * This test mode is not available under the following conditions. - Unless the following units all function: Transfer belt, Maintenance and Wiper. - When the Ink pan is already at the retreat (storage) position.	No

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Туре	Test mode	Test mode name	Action	Interruption
U	09-3-028	INK PAN ON-BELT POSITION	Shifts the Ink pan to the operating position (on the Transfer belt unit). * This test mode is not available under the following conditions. - Unless the following units all function: Transfer belt, Maintenance and Wiper. - When the Ink pan is already at the operating position (on the Transfer belt unit).	No
U	09-3-031	AUTHORIZE CAM MOTOR HP POSITION	Drives the Ink cartridge release cam motor to set the Ink cartridge release cam at the home position. * This test mode is not available under the following conditions. • When the Ink cartridge release cam motor does not function. • When the parameter is set at "0" (Enabled) in the test mode TM No. 09-6-025 "INK TEMPERATURE ADJUST ON/OFF."	No
U	09-3-036	HEAD GAP ADJUST (NORMAL)	Positions the Transfer belt unit to secure the Head gap for standard paper. * This test mode is not available under the following conditions. - Unless the following units all function: Transfer belt, Maintenance and Wiper. - When the Transfer belt unit is already positioned to secure the Head gap for standard paper.	No
U	09-3-037	HEAD GAP ADJUST (THICK)	Positions the Transfer belt unit to secure the Head gap for card stock. * This test mode is not available under the following conditions. - Unless the following units all function: Transfer belt, Maintenance and Wiper. - When the Transfer belt unit is already positioned to secure the Head gap for card stock.	No
U	09-3-038	HEAD GAP ADJUST (ENVELOPE POS1)	Positions the Transfer belt unit to secure the Head gap for envelope type 1 (thin). * This test mode is not available under the following conditions. - Unless the following units all function: Transfer belt, Maintenance and Wiper. - When the Transfer belt unit is already positioned to secure the Head gap for envelope type 1 (thin).	No
U	09-3-039	HEAD GAP ADJUST (ENVELOPE POS2)	Positions the Transfer belt unit to secure the Head gap for envelope type 2 (thick). * This test mode is not available under the following conditions. - Unless the following units all function: Transfer belt, Maintenance and Wiper. - When the Transfer belt unit is already positioned to secure the Head gap for envelope type 2 (thick).	No
U	09-3-051	K INK-SUPPLY VALVE OPEN	Keeps open the Ink supply solenoid valve K for 500 msec. * This test mode is not available under the following conditions. - When the "Ink supply solenoid valve K disconnection error" occurs. - When the parameter is set at "0" (Enabled) in the test mode TM No. 09-6-025 "INK TEMPERATURE ADJUST ON/OFF."	No
U	09-3-052	C INK-SUPPLY VALVE OPEN	Keeps open the Ink supply solenoid valve C for 500 msec. * This test mode is not available under the following conditions. - When the "Ink supply solenoid valve C disconnection error" occurs. - When the parameter is set at "0" (Enabled) in the test mode TM No. 09-6-025 "INK TEMPERATURE ADJUST ON/OFF."	No
U	09-3-053	M INK-SUPPLY VALVE OPEN	Keeps open the Ink supply solenoid valve M for 500 msec. * This test mode is not available under the following conditions. - When the "Ink supply solenoid valve M disconnection error" occurs. - When the parameter is set at "0" (Enabled) in the test mode TM No. 09-6-025 "INK TEMPERATURE ADJUST ON/OFF."	No
U	09-3-054	Y INK-SUPPLY VALVE OPEN	Keeps open the Ink supply solenoid valve Y for 500 msec. * This test mode is not available under the following conditions. - When the "Ink supply solenoid valve Y disconnection error" occurs. - When the parameter is set at "0" (Enabled) in the test mode TM No. 09-6-025 "INK TEMPERATURE ADJUST ON/OFF."	No
U	09-3-055	P (R, GR) INK-SUPPLY VALVE OPEN	Keeps open the Ink supply solenoid valve P (, R or Gr) for 500 msec. * This test mode is not available under the following conditions. • When the "Ink supply solenoid valve P (, R or Gr) disconnection error" occurs. • When the parameter is set at "0" (Enabled) in the test mode TM No. 09-6-025 "INK TEMPERATURE ADJUST ON/OFF." [Note] This is also applicable to the following: • R of 5C (KCMYR) models • Gr of 5C (KCMYGr) models	No
U	09-3-056	PRESSURE TANK AIR OPEN	Keeps open the Pressurization tank air valve for 500 msec. * This test mode is not available under the following conditions. - When the "Pressurization tank air valve disconnection error" occurs. - When the parameter is set at "0" (Enabled) in the test mode TM No. 09-6-025 "INK TEMPERATURE ADJUST ON/OFF."	No
U	09-3-057	NEGATIVE PRESSURE TANK AIR CLOSED	Keeps closed the Negative pressure tank air valve for 500 msec. * This test mode is not available under the following conditions. - When the "Negative pressure tank air valve disconnection error" occurs. - When the parameter is set at "0" (Enabled) in the test mode TM No. 09-6-025 "INK TEMPERATURE ADJUST ON/OFF."	No
U	09-3-065	INK CIRCULATE-STOP ACTION	Circulates ink a specified number of times at a specified interval. * The interval operation period is to be specified in the test mode TM No. 09-6-048 "INK CIRCULATE-STOP ACTION TIME SET." * The repetition number of the said interval operations is to be specified in the test mode TM No. 09-6-049 "INK CIRCULATE-STOP ACTION NUMBER SET."	Yes

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Туре	Test mode No.	Test mode name	Action	Interruption
U	09-3-066	NOZZLE PRESSURE - PRINT	Pressurizes the Print head nozzles to the same level as during print operation. * Execute another test mode TM No. 09-3-067 "NOZZLE LOW NEGATIVE PRESSURE" to depressurize them. * This test mode is not available under the following conditions. - When the Ink tower unit does not function. - When any color ink has been depleted or any ink-cartridge-related error still exists. - When the Print head nozzles have already been pressurized as requested. - When the parameter is set at "0" (Enabled) in the test mode TM No. 09-6-025 "INK TEMPERATURE ADJUST ON/OFF."	No
U	09-3-067	NOZZLE LOW NEGATIVE PRESSURE	Depressurizes the pressurized Print head nozzles. * This test mode is not available under the following conditions. - When the Ink tower unit does not function. - When any color ink has been depleted or any ink-cartridge-related error still exists. - When the Print head nozzles have already been depressurized as requested. - When the parameter is set at "0" (Enabled) in the test mode TM No. 09-6-025 "INK TEMPERATURE ADJUST ON/OFF."	No
U	09-3-068	INK CIRCULATION ACTION	Circulates ink in the following steps. [Steps] 1. Disables the ink temperature adjustment operation if enbaled in the test mode TM No. 09-6-025 "INK TEMPERATURE ADJUST ON/OFF." 2. Depressurizes the Print head nozzles if their air pressure is not low enough and then pressurizes them to the print operation level. 3. Keeps pressurized the Print head nozzles for the period specified in the test mode TM No. 09-6-131 "INK CICULATION DURATION" and then depressurizes them again to finish ink circulation operation. * The Print head nozzles are to be depressurized earlier than specified if the Stop key is pressed during operation. * The error code W070-0247-3 (Unfinished test modes) is displayed If the operation is interrupted with an error event. * This test mode is not available under the following conditions. • When the Ink tower unit does not function. • When any color ink has been depleted or any ink-cartridge-related error still exists.	Yes
U	09-3-069	EXTL FILTER INK CIRC (BLEED AIR)	Bleeds air from the attached External filter in the following steps to prepare for the execution of another test mode TM No. 09-3-070 "EXTERNAL FILTER INK CIRCULATION." [Steps] 1. Lower the Transfer belt unit to the bottom. 2. Shifts the Ink pan onto the Transfer belt unit. 3. Replenishes ink from ink cartridges. 4. Circulates ink through the Ink tower unit. (The ink circulation period is to be specified in the test mode TM No. 09-6-050 "EXTL FILTER INK CIRC TIME (AIR BLEED).") * This test mode is not available when the parameter is set at "0" (Enabled) in the test mode TM No. 09-6-025 "INK TEMPERATURE ADJUST ON/OFF."	Yes
U	09-3-070	EXTERNAL FILTER INK CIRCULATION	Circulates ink with the External filter attached in the following steps. [Steps] 1. Lower the Transfer belt unit to the bottom. 2. Shifts the Ink pan onto the Transfer belt unit. 3. Replenishes ink from ink cartridges. 4. Circulates ink through the Ink tower unit while applying the External filter. (The ink circulation period is to be specified in the test mode TM No. 09-6-051 "EXTERNAL FILTER INK CIRCULATION TIME.") 5. Cools down the circulating ink. 6. Cleans the Print head nozzles in normal mode after the External filter is detached [Note] The actual ink circulation period can be confirmed in the test mode TM No. 09-5-010 "NK CIRC TIME DISPLAY (EXTL FILTER)." * This test mode is not available when the parameter is set at "0" (Enabled) in the test mode TM No. 09-6-025 "INK TEMPERATURE ADJUST ON/OFF."	⊑≜s
U	09-3-071	INK HEATER 24V ACTION	Keeps the Ink heater (24V) activated for 30 sec. * This test mode is not available when the parameter is set at "0" (Enabled) in the test mode TM No. 09-6-025 "INK TEMPERATURE ADJUST ON/OFF."	Yes
U	09-3-076	HEAD MAINTENANCE PRINT	Makes A3 (or Ledger)-format sample prints through which the Print heads are to be maintained for preferable performance. {Print conditions] - Paper source: To be specified in another test mode TM No. 01-6-152 "HEAD MAINT / NOZZLE CHECK-PAPER SOURCE." (Paper format mismatch is ignored because the prior paper format check is not to be made.) - Print quantity: To be specified in another test mode TM No. 01-6-151 "HEAD MAINT / NOZZLE CHECK-PAPER GOTY". QTY." * Other print conditions than mentioned above are the same as specified in another test mode TM No. 01-3-021 "COUNT INFORMATION PRINT."	Yes

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Туре	Test mode No.	Test mode name	Action	Interruption
U	09-3-077	NOZZLE CHECK PRINT	Makes A3 (or Ledger)-format sample prints through which the performane of the Print head nozzles is to be checked. The following data are also to be printed above the respective Print head block images. Print date (yy/mm/dd) Printer's serial number (8 digits) Print meter (8 digits) [Print conditions] Paper source: To be specified in another test mode TM No. 01-6-152 "HEAD MAINT / NOZZLE CHECK-PAPER SOURCE." (Paper format mismatch is ignored because the prior paper format check is not to be made.) Print quantity: To be specified in another test mode TM No. 01-6-151 "HEAD MAINT / NOZZLE CHECK-PAPER SOURCE." (Paper format mismatch is ignored because the prior paper format check is not to be made.) Print quantity: To be specified in another test mode TM No. 01-6-151 "HEAD MAINT / NOZZLE CHECK-PRINT QTY." * Other print conditions than mentioned above are the same as specified in another test mode TM No. 01-3-021 "COUNT INFORMATION PRINT."	Yes
U	09-3-078	K-MD RECOVERY ACTION	Repeats a solid-pattern-print-plus-normal-cleaning operation for K1-color Print heads for the number of times specified in the test mode TM No. 09-6-112 "MD RECOVERY -REPEAT QTY SETTING" and then makes additional solid-pattern prints for performance check of the said-color Print head nozzles in the quantity specified in the test mode TM No. 09-6-111 "MD RECOVERY -PRINT QTY SETTING." This test mode is prepared to recover K1-color Print heads whose nozzles suffer from MD (misdirection) problems. * This test mode is not available under the following conditions. - Unless the following units all function: Transfer belt, Maintenance, Wiper and Ink tower. - When K-color ink has been depleted or the said-color-ink-cartridge-related error still exists. - In other cases print operation is impossible. [Note] K1-color Print heads are the ones arranged in the 1st row in K-color Print head unit.	No
U	09-3-079	C-MD RECOVERY ACTION	Repeats a solid-pattern-print-plus-normal-cleaning operation for C-color Print heads for the number of times specified in the test mode TM No. 09-6-112 "MD RECOVERY -REPEAT QTY SETTING" and then makes additional solid-pattern prints for performance check of the said-color Print head nozzles in the quantity specified in the test mode TM No. 09- 6-111 "MD RECOVERY -PRINT QTY SETTING." This test mode is prepared to recover C-color Print heads whose nozzles suffer from MD (misdirection) problems. * This test mode is not available under the following conditions. - Unless the following units all function: Transfer belt, Maintenance, Wiper and Ink tower. - When C-color ink has been depleted or the said-color-ink-cartridge-related error still exists. - In other cases print operation is impossible.	No
U	09-3-080	M-MD RECOVERY PRINT ACTION	Repeats a solid-pattern-print-plus-normal-cleaning operation for M-color Print heads for the number of times specified in the test mode TM No. 09-6-112 "MD RECOVERY -REPEAT QTY SETTING" and then makes additional solid-pattern prints for performance check of the said-color Print head nozzles in the quantity specified in the test mode TM No. 09- 6-111 "MD RECOVERY -PRINT QTY SETTING." This test mode is prepared to recover M-color Print heads whose nozzles suffer from MD (misdirection) problems. * This test mode is not available under the following conditions. - Unless the following units all function: Transfer belt, Maintenance, Wiper and Ink tower. - When M-color ink has been depleted or the said-color-ink-cartridge-related error still exists. - In other cases print operation is impossible.	No
U	09-3-081	Y-MD RECOVERY ACTION	Repeats a solid-pattern-print-plus-normal-cleaning operation for Y-color Print heads for the number of times specified in the test mode TM No. 09-6-112 "MD RECOVERY -REPEAT QTY SETTING" and then makes additional solid-pattern prints for performance check of the said-color Print head nozzles in the quantity specified in the test mode TM No. 09- 6-111 "MD RECOVERY -PRINT QTY SETTING." This test mode is prepared to recover Y-color Print heads whose nozzles suffer from MD (misdirection) problems. * This test mode is not available under the following conditions. - Unless the following units all function: Transfer belt, Maintenance, Wiper and Ink tower. - When Y-color ink has been depleted or the said-color-ink-cartridge-related error still exists. - In other cases print operation is impossible.	No
U	09-3-082	P (R, GR)-MD RECOVERY PRINT ACTION	Repeats a solid-pattern-print-plus-normal-cleaning operation for P (, R or Gr)-color Print heads for the number of times specified in the test mode TM No. 09-6-112 "MD RECOVERY -REPEAT QTY SETTING" and then makes additional solid-pattern prints for performance check of the said-color Print head nozzles in the quantity specified in the test mode TM No. 09-6-111 "MD RECOVERY -PRINT QTY SETTING." This test mode is prepared to recover P (, R or Gr)-color Print heads whose nozzles suffer from MD (misdirection) problems. * This test mode is not available under the following conditions. - Unless the following units all function: Transfer belt, Maintenance, Wiper and Ink tower. - When P (, R or Gr)-color ink has been depleted or the said-color-ink-cartridge-related error still exists. - In other cases print operation is impossible. [Note] This is also applicable to the following: - R of SC (KCMYR) models - Gr of SC (KCMYGr) models	No

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Type	Test mode	Test mode name	Action	Interruption
. , po	No.			aption
U	09-3-083	K2-MD RECOVERY ACTION	Repeats a solid-pattern-print-plus-normal-cleaning operation for K2-color Print heads for the number of times specified in the test mode TM No. 09-6-112 "MD RECOVERY -REPEAT QTY SETTING" and then makes additional solid-pattern prints for performance check of the said-color Print head nozzles in the quantity specified in the test mode TM No. 09-6-111 "MD RECOVERY -REINT QTY SETTING." This test mode is prepared to recover K2-color Print heads whose nozzles suffer from MD (misdirection) problems. * This test mode is not available under the following conditions Unless the following units all function: Transfer belt, Maintenance, Wiper and Ink tower When K-color ink has been depleted or the said-color-ink-cartridge-related error still exists In other cases print operation is impossible. [Note] K2-color Print heads are the ones arranged in the 2nd row in K-color Print head unit.	No
U	09-3-090	K-MD RECOVERY CLEANING	Drives K-color Print heads after cleaning all Print head nozzles in normal mode. This test mode is prepared to recover K-color Print heads whose nozzles suffer from MD (misdirection) problems. * This test mode is not available under the following conditions. - Unless the following units all function: Transfer belt, Maintenance, Wiper and Ink tower. - When K-color ink has been depleted or the said-color-ink-cartridge-related error still exists.	No
U	09-3-091	C-MD RECOVERY CLEANING	Drives C-color Print heads after cleaning all Print head nozzles in normal mode. This test mode is prepared to recover C-color Print heads whose nozzles suffer from MD (misdirection) problems. * This test mode is not available under the following conditions. - Unless the following units all function: Transfer belt, Maintenance, Wiper and Ink tower. - When C-color ink has been depleted or the said-color-ink-cartridge-related error still exists.	No
U	09-3-092	M-MD RECOVERY CLEANING	Drives M-color Print heads after cleaning all Print head nozzles in normal mode, This test mode is prepared to recover M-color Print heads whose nozzles suffer from MD (misdirection) problems. * This test mode is not available under the following conditions. - Unless the following units all function: Transfer belt, Maintenance, Wiper and Ink tower. - When M-color ink has been depleted or the said-color-ink-cartridge-related error still exists.	No
U	09-3-093	Y-MD RECOVERY CLEANING	Drives Y-color Print heads after cleaning all Print head nozzles in normal mode. This test mode is prepared to recover Y-color Print heads whose nozzles suffer from MD (misdirection) problems. * This test mode is not available under the following conditions. - Unless the following units all function: Transfer belt, Maintenance, Wiper and Ink tower. - When Y-color ink has been depleted or the said-color-ink-cartridge-related error still exists.	No
U	09-3-094	P (R, GR)-MD RECOVERY CLEANING	Drives P (, R or Gr)-color Print heads after cleaning all Print head nozzles in normal mode. This test mode is prepared to recover P (, R or Gr)-color Print heads whose nozzles suffer from MD (misdirection) problems. * This test mode is not available under the following conditions. - Unless the following units all function: Transfer belt, Maintenance, Wiper and Ink tower. - When P (, R or Gr)-color ink has been depleted or the said-color-ink-cartridge-related error still exists. [Note] This is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models	
U	11-3-001	MACHINE FINAL REGISTERING	Finalizes the printer's ID registration, which stays provisional for a certain period after the initial setup. (The proper Conrol card is required to be set in place on the printer.) * Several functions remain disabled during provisional registration.	No
U	11-3-002	MACHINE CARD DATA INPUT	Writes the printer's serial number data into a Control card, which is to be done when the current Control card is replaced with a brand-new (blank) one.	No
U	er 21-3-001	FB SCAN 1 CYCLE	Executes the following FB (Flatbed) scanning operation once (without image data output): Shifts FB Scanner (FB Carriage) to the home position. → Shifts it further to the FB white shading compensation position. → Leads it to travel for scanning. → Returns it to the home position. [Scanning conditions] - Scanning conditions] - Scanning size: To be specified in the test mode TM No. 21-6-161 "TEST MODE PRINT -RESOLUTION." - Scanning size: To be specified in the test mode TM No. 21-6-162 "TEST MODE PRINT -SCAN SIZE." * This test mode is not availabe when an EEPROM-related error (U007-4130 to -4132 or U098-4140 to -4143) still exists.	No
U	21-3-002	FB SCAN REPEAT CYCLE	Repeats the FB (Flatbed) scanning operation executed in the test mode TM No. 21-3-001 "FB SCAN 1 CYCLE." When this test mode is ended, the FB Scanner (FB Carriage) returns to the home position. * This test mode is not availabe when an EEPROM-related error (U007-4130 to -4132 or U098-4140 to -4143) still exists.	No
U	21-3-003	CARRIAGE HP POSITION	Shifts the FB Scanner (FB Carriage) to the home position, * This test mode is not availabe when an EEPROM-related error (U007-4130 to -4132 or U098-4140 to -4143) still exists.	No
U	21-3-004	CARRIAGE REPLACE POSITION	Shifts the FB Scanner (FB Carriage) to the home position and further to its replacement position, which is 335 mm off from the home position to the right. * This test mode is not availabe when an EEPROM-related error (U007-4130 to -4132 or U098-4140 to -4143) still exists.	No

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Туре	Test mode No.	Test mode name	Action	Interruption
U	21-3-005	CARRIAGE LOCK POSITION	Shifts the FB Scanner (FB Carriage) to the home position and further to its locking position, which is 6.1 mm off from the home position to the left. * This test mode is not availabe when an EEPROM-related error (U007-4130 to -4132 or U098-4140 to -4143) still exists.	No
U	21-3-006	SCANNER LOCK RELEASE	Shifts the FB Scanner (FB Carriage) from its locking position to the home position. * This test mode is not availabe when an EEPROM-related error (U007-4130 to -4132 or U098-4140 to -4143) still exists.	No
U	21-3-010	SCANNER TEST SET VALUE STORE	Stores scanner-related test mode parameters into the HDD (or SSD) on the printer as backup data. This test mode is to be executed before replacing the FB or AF Main Control PCB on the Scanner. * The stored parameter data are to be restored into the FB and AF Main Control PCBs on the Scanner through the test mode TM No. 21-3-031 "SCANNER TEST SET VALUE RESTORE."	Yes
U	21-3-011	AF SCAN REPEAT CYCLE	Executes the following AF (Auto Feeder) scanning operation for all originals loaded on the AF-unit (without image data output): Shifts FB Scanner (FB Carriage) to the home position. → Shifts it further to the FB white shading compensation position (The AF white shading plate also shifts to the shading compensation position and back to its home position in duplex (both-side) scanning.) → Shifts it back to the AF scanning position. → Feeds originals for scanning. When this test mode is ended or no original remains on the AF unit, the FB Scanner (FB Carriage) returns to the home position. Scanning conditions] - Scanning resolution: To be specified in the test mode TM No. 21-6-161 "TEST MODE PRINT -RESOLUTION." - Scanning size: To be specified in the test mode TM No. 21-6-162 "TEST MODE PRINT -RESOLUTION." - Scanning side (one or both sides): To be specified in the test mode TM No. 21-6-163 "TEST MODE PRINT -AF SCAN SPLX/DPLX." This test mode is not availabe when an EEPROM-related error (U007-4130 to -4132 or U098-4140 to -4143) still exists.	No
U	21-3-012	AF ORIGINAL FEEDING OPERATION	Feeds originals loaded on the AF unit without scanning operation. (The timing of feeding speed change depends on the parametet setting in the test mode TM No. 21-6-163 "TEST MODE PRINT -AF SCAN SPLX/DPLX.") * This test mode is not availabe when an EEPROM-related error (U007-4130 to -4132 or U098-4140 to -4143) still exists.	No
U	21-3-013	AF GUIDE FENCE VR ADJUST (P-CARD)	Configures the potentiometer of the AF Original guides for the value corresponding to the width of postcards (100 mm). * Anothet test mode, TM No. 21-3-014 "AF GUIDE FENCE VR ADJUST (A4R)," is required to be executed to complete the said configuration.	No
U	21-3-014	AF GUIDE FENCE VR ADJUST (A4R)	Configures the potentiometer of the AF Original guides for the value corresponding to the width of A4 LEF paper (297 mm). * Anothet test mode, TM No. 21-3-013 "AF GUIDE FENCE VR ADJUST (P-CARD)," is required to be executed to complete the said configuration.	No
U	21-3-015	AF WHITE PLATE POSITION	Shifts the AF shading plate to the shading compensation position.	No
U	21-3-016	AF WHITE PLATE HOME POSITION	Returns the AF shading plate to the home position.	No
U	21-3-021	SCANNER TEST PATTERN PRINT	Makes a CMYK-composite monochrome gradation image print, based on the corresponding RGB data generated by the CCD PCB on the Scanner. The said gradation is composed from left to right on a page, while decreasing the density at intervals of approx. 86,7mm (2048 pixels in 600dpi resolution). [Note] The gradation change may not be smooth due to color profile application in RGB-CMYK data conversion. [Print conditions] - Print resolution: To be specified in the test mode TM No. 21-6-161 "TEST MODE PRINT -RESOLUTION." - Image size: To be specified in the test mode TM No. 21-6-162 "TEST MODE PRINT -SCAN SIZE." - Paper source: Standard paper feed tray * The number of per-pixel ink drops depends on print resolution as follows. - For 300 dpi x 300 dpi: 5 dropd - For 300 dpi x 600 dpi: 4 drops	No
U	21-3-022	SCANNER PARAMETER PRINT	Prints the configuration data sheet for the Scanner-related test modes whose parameter value has been changed from the default one and stored in the non-volatile memory on the Scanner. [Items to be indicated] - Test mode item number (5 digits) - Test mode item name (only when displayed in the Test mode item list) - Parameter values (5 digits) [Note] If the said test modes do not exist, "With no change" is indicated instead. * The print conditions specified in another test mode, TM No. 01-3-021 "COUNT INFORMATION PRINT," are to be applied in this test mode as well. * The print layout is the same as in another test mode, TM No. 01-3-022 "TEST MODE CONFIG PRINT."	No

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Туре	Test mode No.	Test mode name	Action	Interruption
U	21-3-026	SCANNER PROFILE MODE	Updates the profile data of the FB (Flatbed) Scanner in the following steps. [Steps] 1. Prepares for recording the white level compensation values. 2. Shift the FB Scanner (FB Carriage) to the white shading position. 3. Compensates the white level of the FB Scanner through white shading compensation operation. 4. Recharges the CCD lamp of the FB Scanner through white shading compensation operation once more. 6. Overwrites the current profile data of the FB Scanner with the newly acquired (recorded) white level compensation values. * The Stage cover (AF unit) should be lowered on the Stage glass (FB unit). Otherwise, the profile data of the FB Scanner cannot be properly updated. * The CCD lamp should be cooled down in advance. Therefore, make sure that the cooling fan is not operating for the CCD lamp before executing this test mode.	No
U	21-3-027	SCANNER PROFILE MODE (BACK)	Updates the profile data of the AF (Auto Feeder) Scanner in the following steps. [Steps] 1. Prepares for recording the white level compensation values. 2. Shift the AF white shading plate to the white shading position. 3. Compensates the white level of the AF Scanner through white shading compensation operation once more. 4. Recharges the CCD lamp of the AF Scanner through white shading compensation operation once more. 5. Compensates the white level of the AF Scanner through white shading compensation operation once more. 6. Overwrites the current profile data of the AF Scanner with the newly acquired (recorded) white level compensation values. * The Stage cover (AF unit) should be lowered on the Stage glass (FB unit). Otherwise, the profile data of the AF Scanner cannot be properly updated. * The CCD lamp should be cooled down in advance. Therefore, make sure that the cooling fan is not operating for the CCD lamp before executing this test mode.	No
U	21-3-031	SCANNER TEST SET VALUE RESTORE	Restores the scanner-related test mode parameters, which have been stored into the HDD (or SSD) on the printer through the test mode TM No. 21-3-010 "SCANNER TEST SET VALUE STORE," to the FB and AF Main Control PCBs on the Scanner. This test mode is to be executed after replacing the FB or AF Main Control PCB on the Scanner.	Yes
U	21-3-032	SCANNER FRONT LED	Changes the illumination status of the power (status) lamp (LED1 [Blue] and LED2 [Red]) on the Scanner in the following cycle. (LED1/LED2): [OFF/OFF] → [ON/OFF] → [OFF/ON] → [ON/ON] → [OFF/OFF}	Yes
U	21-3-033	CARRIAGE TM POSITION	Shifts the FB Scanner (FB Carriage) in a predefined range and returns it to the home position.	No
U	24-3-001	FDF ADJUST VALUE STORE	Stores the configuration parameter values for the Facedown finisher into the involatile memory on the Engine control PCB on the printer. * This test mode should be executed before replacing the Main PCB on the Facedown finisher.	No
U	24-3-002	FDF ADJUST VALUE RESTORE	Restore the configuration parameter values stored in the test mode TM No. 24-3-001 "FDF ADJUST VALUE STORE" into the Facedown finisher. * This test mode should be executed after replacing the Main PCB on the Facedown finisher.	No
U	24-3-003	FDF COUNT INFORMATION RESTORE	Stores the received print meter data for the Facedown finisher into the involatile memory on the Engine control PCB on the printer. * This test mode should be executed before replacing the Main PCB on the Facedown finisher.	No
U	24-3-004	FDF COUNT INFORMATION STORE	Restore the received print meter data stored in the test mode TM No. 24-3-003 "FDF COUNT INFORMATION STORE" into the Facedown finisher. * This test mode should be executed after replacing the Main PCB on the Facedown finisher.	No
U	24-3-011	FDF EJECT ROLLER ELEV MOTOR (UP)	Drives the Paper ejection roller elevation motor to raise the FDF Paper ejection roller on the Facedown finisher.	No
υ	24-3-012	FDF EJECT ROLLER ELEV MOTOR (DOWN)	Drives the Paper ejection roller elevation motor to lower the FDF Paper ejection roller on the Facedown finisher.	No
U	24-3-013	FDF TRAY ELEVATION MOTOR (UP)	Drives the Stacking tray elevation motor to raise the FDF Paper stacking tray on the Facedown finisher.	No
U	24-3-014	FDF TRAY ELEVATION MOTOR (DOWN)	Drives the Stacking tray elevation motor to lower the FDF Paper stacking tray on the Facedown finisher.	No
U	24-3-015	FDF REVERSE ROLLER ELEVA MOTOR (UP)	Drives the FDF Reverse roller shift motor to raise the FDF Reverse roller on the Facedown finisher.	No
U	24-3-016	FDF REV ROLLER ELEVA MOTOR (DOWN)	Drives the FDF Reverse roller shift motor to lower the FDF Reverse roller on the Facedown finisher.	No
U	24-3-017	FDF STAPLER SLIDE MOTOR REAR	Drives the FDF Stapler slide motor to shift the FDF Stapler assembly to the rear side on the Facedown finisher.	No
U	24-3-018	FDF STAPLER SLIDE MOTOR FRONT	Drives the FDF Stapler slide motor to shift the FDF Stapler assembly to the front side on the Facedown finisher.	No

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Туре	Test mode <u>No.</u>	Test mode name	Action	Interruption
U	24-3-019	FDF REAR TAMPER MOTOR REAR	Drive the Rear tamper motor to shift the Paper alignment plate R outward on the Facedown finisher.	No
U	24-3-020	FDF REAR TAMPER MOTOR FRONT	Drive the Rear tamper motor to shift the Paper alignment plate R inward on the Facedown finisher.	No
U	24-3-021	FDF TRAY SHIFT MOTOR REAR	Drives the Stacking tray shift motor to shift the FDF Paper stacking tray to the rear side on the Facedown finisher.	No
U	24-3-022	FDF TRAY SHIFT MOTOR FRONT	Drives the Stacking tray shift motor to shift the FDF Paper stacking tray to the front side on the Facedown finisher.	No
U	24-3-023	FDF FRONT TAMPER MOTOR REAR	Drive the Front tamper motor to shift the Paper alignment plate F inward on the Facedown finisher.	No
U	24-3-024	FDF FRONT TAMPER MOTOR FRONT	Drive the Front tamper motor to shift the Paper alignment plate F outward on the Facedown finisher.	No
U	24-3-025	FDF RAKE ROLLER (UP/DOWN)	Lowers and raises the FDF Rake roller on the Facedown finisher once.	No
U	24-3-026	FDF EJECT ROLLER ELEVATION MOTOR	Lowers and raises the FDF Paper ejection roller on the Facedown finisher once.	No
U	24-3-027	FDF REVERSE ROLLER ELEVATION MOTOR	Lowers and raises the FDF Reverse roller on the Facedown finisher once.	No
U	24-3-028	FDF STAPLER SLIDE MOTOR	Shifts the FDF Stapler assembly back and forth on the Facedown finisher once.	No
U	24-3-029	FDF FRONT TAMPER MOTOR	Shifts the Paper alignment plate F back and forth on the Facedown finisher once.	No
U	24-3-030	FDF REAR TAMPER MOTOR	Shifts the Paper alignment plate R back and forth on the Facedown finisher once.	No
U	24-3-031	FDF TRAY ELEVATION MOTOR	Lowers and raises the FDF Paper stacking tray on the Facedown finisher once.	No
U	24-3-032	FDF TRAY SHIFT MOTOR	Shifts the FDF Paper stacking tray back and forth on the Facedown finisher once.	No
U	24-3-033	FDF STAPLER CLINCH	Leads the FDF Stapler assembly to make a stapling action repeatedly on the Facedown finisher.	No
U	24-3-034	FDF RAKE ROLLER ELEVATION SOLENOID	Keeps the Rake roller elevation solenoid activated for 1 second.	No
U	24-3-035	FDF STAPLE SCRATCH PREVENTION ARM	Projects and retracts the Staple scratch prevention arm on the Facedown finisher once.	No
U	24-3-036	FDF ELEVATOR MOTOR (CONTINUOUS)	Lowers and raises the FDF Paper stacking tray on the Facedown finisher repeatedly.	No
Auto-o	control stack	ing tray		1
U	25-3-001	AS SIDE-FENCE HP POSITION	Shifts the AS Paper side guides to the home position on the Auto-control stacking tray.	No
U	25-3-002	AS SIDE-FENCE CUSTOM	Shifts the AS Paper side guides to the position specified in the test mode TM No. 25-6-011 "AS SIDE-FENCE POSITION" on the Auto-control stacking tray.	No
U	25-3-003	AS END-FENCE HP POSITION	Shifts the AS Paper end guide to the home position on the Auto-control stacking tray.	No
U	25-3-004	AS END-FENCE CUSTOM	Shifts the AS Paper end guide to the position specified in the test mode TM No. 25-6-012 "AS END-FENCE POSITION" on the Auto-control stacking tray.	No
U	25-3-005	AS FENCE 1 CYCLE	 Shifts the AS Paper side guides and AS Paper end guide on the Auto-control stacking tray in the following sequence. (1) Returns the AS Paper side guides to the home position. (2) Returns the AS Paper end guide to the 'minimum' position. (3) Advances the AS Paper side guides to the 'minimum' position. (4) Retreats the same to the home position. (5) Returns the same to the home position. (6) Advances the AS Paper end guide to the "minimum" position. (7) Retreats the same to the 'maximum' position. (8) Returns the same to the home position. 	No

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Туре	No.	Test mode name	Action	Interruption
IC Car	d authentica	tion kit		
U	27-3-001	AUTHENTICATION SERVER CONFIG IMPORT	Configures the printer for IC Card authentication and PaperCut connection with a prepared USB drive. <configuration file="" preparation=""> File location: Root directory of the USB drive - File norme: config.txt - File character set: cp932 (Windows-31J) * The parameter should be set at "0" (Use config file) in another test mode TM No. 27-6-004 "IC CARD CONFIG" in advance. [Note] 1. The followings are the error codes related to this test mode: - W053-0053-2: No USB drive mounted on a printer - W059-0053-2: No USB drive mounted on a printer - W098-0267: No configuration file in a USB drive / Incorrect file format 2. In case the specified values are illegal, possibly due to out-of-range setting or typographical error, the default values are to be applied instead. (It can be confirmed in the test modes TM No. 27-5-001 "IC CARD CONFIG" and TM No. 27-3-002 "IC CARD CONFIG EXPORT" whether the specified values are illegal.) 3. Though the configuration of an "external authentication server" or "NTP server" is also possible through this test mode, you should not use the test mode for the said operation because the corresponding function is duly prepared in the Administrator menu.</configuration>	No
U	27-3-002	IC CARD CONFIG EXPORT	Exports the IC-card-related configuration data prepared in the test mode TM No. 27-3-001 "AUTHENTICATION SERVER CONFIG IMPORT," or TM No. 27-8-004 "IC CARD CONFIG" to a USB drive. <data conditions="" export=""> - Export destination: Root directory of the USB drive - Export file name: config.txt * If the file whose name is identical with the exported one already exists in the USB drive, it will be overwritten.</data>	No
High (apacity Fee	der		
U	29-3-001	HCF TRAY PAPER WIDTH ADJUST (WIDE)	Determines the A/D value of 297mm width for paper size detection on the Paper feed tray of the High-capscity feeder. * An A4-size sheet should be placed on the said tray in the LEF direction in advance.	No
U	29-3-002	HCF TRAY PAPER WIDTH ADJUST (MID)	Determines the A/D value of 210mm width for paper size detection on the Paper feed tray of the High-capscity feeder. * An A4-size sheet should be placed on the said tray in the SEF direction in advance.	No
U	29-3-003	HCF TRAY PAPER WIDTH ADJUST (NARROW)	Determines the A/D value of 105mm width for paper size detection on the Paper feed tray of the High-capscity feeder. * An A4-size sheet should be placed on the said tray, folded in half in the SEF direction, in advance.	No
U	29-3-004	HHCF TRAY PAPER WIDTH ADJUST INCH (W)	Determines the A/D value of 279mm width for inch-format paper size detection on the Paper feed tray of the High- capscity feeder. * A Ledger-size sheet should be placed on the said tray in the SEF direction in advance.	No
U	29-3-005	HCF TRAY PAPER WIDTH ADJUST INCH (M)	Determines the A/D value of 216mm width for inch-format paper size detection on the Paper feed tray of the High- capscity feeder. * A Letter-size sheet should be placed on the said tray in the SEF direction in advance.	No
U	29-3-006	HCF TRAY PAPER WIDTH ADJUST INCH(N)	Determines the A/D value of 108mm width for inch-format paper size detection on the Paper feed tray of the High- capscity feeder. * A Letter-size sheet should be placed on the said tray, folded in half in the SEF direction, in advance.	No
U	29-3-007	HCF P-F TRAY UPPER LIMIT POSITION	Drives the HCF Feed tray elevator motor to raise the Paper feed tray up to the standard upper limit point, with final repositioning actions, on the High-capacity feeder.	No
U	29-3-008	HCF P-F TRAY LOWER LIMIT POSITION	Drives the HCF Feed tray elevator motor to lower the Paper feed tray down to the lower limit point on the High- capacity feeder.	No
U	29-3-009	HCF NIP RELEASE UNIT 1 CYCLE	Applies the nipping pressure to the HCF Joint feed rollers and then lifts it from the said roller as a 1-cycle action on the High-capacity feeder. * In case a nipping roller is not at the home (nipping pressure release) position at the start of this test mode, it is to be returned there after raised up to the nipping position beforehand.	No
U	29-3-010	HCF NIP RELEASE UNIT RELEASE POS	Returns a nipping roller to the home (nipping pressure release) position on the High-capacity feeder. * The said roller is to be returned there after raised up to the nipping position.	No
U	29-3-011	HCF NIP RELEASE UNIT NIP POSITION	Raises a nipping roller to the nipping position on the High-capacity feeder.	No
U	29-3-012	HCF P-F TRAY MAINTENANCE POSITION	Raises the Paper feed tray to the standard upper limit point and then lowers it until the HCF Paper volume sensor 1 is opened (, at which the remaining volume of sheets loaded on the said tray is assumed to have been reduced to 10% of the full tray capacity when paper is loaded there) on the High-capacity feeder. * In case the HCF Paper volume sensor 1 is not blocked when the Paper feed tray has reached the standard upper limit point, it is assumed that a large volume of sheets remain on the said tray, thus suspending this test mode operation with a beep.	No

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Туре	Test mode No.	Test mode name	Action	Interruption
U	29-3-013	HCF PACKING POSITION	Raises the Paper feed tray to the standartd upper limit point and then lowers it until the HCF Paper volume sensor 2 is opened on the High-capacity feeder. This test mode should be executed before packing the High-capacity feeder for shipment. * In case the HCF Paper volume sensor 1 is not blocked when the Paper feed tray has reached the standard upper limit point, it is assumed that a large volume of sheets remain on the said tray, thus terminating this test mode with an error code (W191-2581) displayed.	No
High (Capacity Sta	cker		1
U	30-3-001	HCS PACKING POSITION	Shifts the below-listed components to the positions designated to pack the High-capacity stacker for shipment. - HCS Paper end guide - HCS Stacking tray lifter This test mode should be executed before packing the High-capacity stacker for shipment. * This test mode is only available when the HCS Tray set sensor detects nothing, without the HCS Stacking tray mounted.	Yes
U	30-3-002	HCS LOCK RELEASE HP POSITION	Shifts the below-listed components from the packing positions on the High-capacity stacker. - HCS Paper side guides (to the home position) - HCS Paper end guide (to the home position) - HCS Stacking tray lifter (to the lower limit position) This test mode should be executed after unpacking the High-capacity stacker.	No
U	30-3-006	HCS OFFSET UNIT OFFSET POSITION	Shifts the HCS Offset stacking guide and HCS Paper end guide to the offset stacking position.	No
U	30-3-007	HCS FENCE CENTER ADJUST	 Feeds a sheet from the Standard paper feed tray (or the Paper feed tray of the High-capacity feeder) up to a predefined point in the High-capacity stacker for the alignment adjustment of the HCS Paper side guides. [Note] 1. The HCS Paper side guides and HCS Paper end guide are to be retreated to the home positions for the subsequent alignment adjustment of the HCS Paper side guides. 2. The HCS Stacking tray is to be raised up to the paper reception position. 3. The feeding sheet is to be held by the HCS Stacker ejection rollers while protruding its top part over the HCS Stacking tray by approx. 200mm. * The feeding sheet size should be "A3" or "Ledger." 	No
U	30-3-011	HCS ELEVATOR UPPER LIMIT POSITION	Raises the HCS Stacking tray (HCS Stacking tray elevator motor) until the HCS Stacking tray upper limit sensor is blocked. * This test mode is not available without the HCS Stacking tray mounted.	No
U	30-3-012	HCS ELEVATOR LOWER LIMIT POSITION	Lowers the HCS Stacking tray (HCS Stacking tray elevator motor) until the HCS Stacking tray lower limit sensor is blocked.	No
U	30-3-016	HCS FENCE A3 WIDTH	Shifts the HCS Paper side guides and HCS Paper end guide to the positions at which A3-size (297mm x 420mm) sheets are to be received to be stacked. * In case the HCS Paper side guides are not properly positioned, their mounting positions are required to be adjusted.	No
U	30-3-017	HCS FENCE B5 WIDTH	Shifts the HCS Paper side guides and HCS Paper end guide to the positions at which B5-size (182mm x 257mm) sheets are to be received to be stacked. * In case the HCS Paper side guides are not properly positioned, their mounting positions are required to be adjusted.	No
U	30-3-018	HCS END FENCE HP	Drives the HCS Paper end guide motor to shift the HCS Paper end guide until the HCS Paper end guide HP sensor is blocked.	No
U	30-3-019	HCS END FENCE 1 CYCLE	Shifts the HCS Paper end guide and HCS Paper end base in the following sequence as a 1-cycle action. 1. Retreats the HCS Paper end guide to the home position. 2. Raises the HCS Paper end base by activating the HCS Paper end base solenoid. 3. Advances the said guide to the innermost point. 4. Lowers the said base by deactivating the said solenoid. 5. Raises the said base again by activating the said solenoid. 6. Retreats the said guide to the home position.	No
U	30-3-020	HCS SIDE FENCE HP	Drives the HCS Paper side guide motor to shift the HCS Paper side guides until the HCS Paper side guide HP sensor is blocked.	No
U	30-3-021	HCS SIDE FENCE 1 CYCLE	Advances the HCS Paper side guides to the innermost point and then retreat them to the home position. If they are not at the home position initially, however, they are to be retreated there as the first step.	No
U	30-3-022	HCS EJECTION WING HP	Drives the HCS Ejection wing motor to move the HCS Ejection wings until the HCS Ejection wing HP sensor is blocked.	No
U	30-3-023	HCS EJECTION WING 1 CYCLE	Moves the HCS Ejection wings off and back to the home position, at which the HCS Ejecction wing HP sensor is blocked. If they are not at the home position initially, however, they are to be returned there as the first step.	No
U	30-3-024	HCS OFFSET GUIDE HP	Drives the HCS Offset stacking guide motor to shift the HCS Offset stacking guide until the HCS Offset stacking guide HP sensor is blocked.	No

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Туре	Test mode	Test mode name	Action	Interruption
U	30-3-025	HCS OFFSET GUIDE 1 CYCLE	Moves the HCS Offset stacking guide off and back to the home position, at which the HCS Offset stacking guide HP sensor is blocked. If it is not at the home position initially, however, it is to be returned there as the first step.	No
U	30-3-026	HCS FENCE LEDGER WIDTH	Shifts the HCS Paper side guides and HCS Paper end guide to the positions at which Ledger-size (280mm x 432mm) sheets are to be received to be stacked. * In case the HCS Paper side guides are not properly positioned, their mounting positions are required to be adjusted.	No
U	30-3-031	HCS PAPER GATE SOLENOID ON/OFF	Keeps the HCS Paper path selection solenoid activated for 1 second.	No
U	30-3-036	HCS TEST PATTERN PRINT	Conducts a test operation with the High-capacity stacker while stacking sheets without printing. The following operation conditions are to be specified in other test modes. - Printer's paper path (simplex or duplex) - Paper source - Stacking sheet quantity - Offset stacking volume - Preliminary paper path in HCS Entrance unit (straight or switchback)	Yes
Posts	cript option		Activates the internal RIP (Raster Image Processor).	
U	31-3-001	ACTIVATE INTERNAL RIP	 * The dedicated PS (PostScript) activation card is required to be installed on the printer. [Note] 1. The error code W070-0247-3 will be indicated if this operation fails. 2. It can be confirmed through the test mode TM No. 31-5-001 "ACTIVATION CARD STATUS" whether the current activation card has already been applied to another printer. 	No
U	31-3-010	EXTL-CONTROLLER RINC DATA SAVE USB	Saves the RINC data of the latest print job executed through the external printer controller FS2100C into a USB drive. * This test mode is only available under the following conditions. TM 31-6-001 "EXTERNAL CONTROLLER CONNECT SELECT": "1: Connect" - TM 31-6-002 "EXTERNAL CONTROLLER TYPE SELECT": "0: FS2100C" - The [Finished Job Setting] option in the Administrator menu: "Save" with "Reprint" permitted [Note] 1. The error code W070-0247 will be indicated if this test mode is applied to another print job than executed through FS2100C. 2. The error code W070-0254 will be indicated if the "SSD Data Encryption" option is enabled (ON) in the Administrator menu.	No
Wrapp	ing Envelop	e Finisher		
0	33-3-001	WEF WATER PAD APPLY WATER	Operates the Gluing plate and wets the top edge of the Water application pad.	Yes
U	33-3-002	WEF END TAMPER MOTOR HP DETECT	Shifts the End tamper plate to the home position on the Wrapping envelope finisher.	Yes
0	33-3-003	WEF SIDE TAMPER MOTOR HP DETECT	Shifts the Side tamper plate to the home position on the Wrapping envelope finisher.	Yes
U	33-3-004	WEF TOP TAMPER MOTOR HP DETECT	Shifts the Top tamper plate to the home position on the Wrapping envelope finisher.	Yes
U	33-3-005	WEF TAMPER NIP MOTOR HP DETECT	Shifts the Tamper nip roller to the home position on the Wrapping envelope finisher.	Yes
U	33-3-006	WEF BODY HIT MOTOR 1 HP DETECT	Shifts the Body hit plate 1 to the home position on the Wrapping envelope finisher.	Yes
U	33-3-007	WEF BODY HIT MOTOR 2 HP DETECT	Shifts the Body hit plate 2 to the home position on the Wrapping envelope finisher.	Yes
U	33-3-008	WEF BODY FOLD SET MOTOR HP DETECT	Shifts the Body fold set flipper to the home position on the Wrapping envelope finisher.	Yes
U	33-3-009	WEF FORM HORIZ POS MOTOR HP DETECT	Shifts the Form horizontal alignment unit to the home position on the Wrapping envelope finisher.	Yes
U	33-3-010	WEF FORM ENT NIP MOTOR HP DETECT	Shifts the Form entrance driven roller 3 to the home (nip release) position on the Wrapping envelope finisher.	Yes
U	33-3-011	WEF FORM HIT MOTOR 2 HP DETECT	Shifts the Form hit plate 1 to the home position on the Wrapping envelope finisher.	Yes
U	33-3-012	WEF FORM HIT MOTOR 3 HP DETECT	Shifts the Form hit plate 2 to the home position on the Wrapping envelope finisher.	Yes
U	33-3-013	WEF GLUING MOTOR HP DETECT	Shifts the Gluing plate to the home position on the Wrapping envelope finisher.	Yes
U	33-3-014	WEF ALIGNMENT UNIT INITIALIZE	Shifts the below-listed components in the Tamper unit to the home positions for the initialization of the said unit on the Wrapping envelope finisher. - End tamper plate / Side tamper plates / Top tamper plate / Tamper nip roller	Yes
U	33-3-015	WEF ALIGNMENT UNIT WAIT POS (A4)	Shifts the Side and Top tamper plates to the positions at which A4-size sheets are to be received while shifting the End tamper plate to the home position on the Wrapping envelope finisher. [Note] 1. Stacked sheets should be removed from the Tamper unit if any beforehand. 2. The test mode TM No. 33-3-014 "WEF TAMPER UNIT INITIALIZATION" should be executed in advanve.	Yes

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Туре	Test mode No.	Test mode name	Action	Interruption
U	33-3-016	WEF ALIGNMENT UNIT WAIT POS (LETTER)	Shifts the Side and Top tamper plates to the positions at which Letter-size sheets are to be received while shifting the End tamper plate to the home position on the Wrapping envelope finisher. [Note] 1. Stacked sheets should be removed from the Tamper unit if any beforehand. 2. The test mode TM No. 33-3-014 "WEF TAMPER UNIT INITIALIZATION" should be executed in advanve.	Yes
U	33-3-017	WEF ALIGNMENT UNIT TAMPER POSITION	Shifts the Side and End tamper plates to the tamping (alignment) positions for A4-size sheets in the Tamper unit on the Wrapping envelope finiisher. * In this condition, the tamping (alignment) position of the Side tamper plates is to be adjusted. [Note] 1. The test mode TM No. 33-3-015 "WEF TAMPER UNIT WAIT POSITION (A4)" should be executed in advanve. 2. The Tamper nip roller should be placed at the home (nip release) position. If not, it should be shifted there before executing this test mode while exiting from the test mode status once.	No
U	33-3-018	WEF BODY FOLD UNIT INITIALIZE	Shifts the below-listed components in the Body fold unit to the home positions for the initialization of the said unit on the Wrapping envelope finisher. - Body hit plate 1 / Body hit plate 2 / Body fold set flipper	Yes
U	33-3-019	WEF BODY FOLD UNIT WAIT POSITION	Shifts the Body hit plates 1 and 2 to the positions at which A4-size sheets are to be received to be folded in three on the Wrapping envelope finisher.	Yes
U	33-3-020	WEF WRAPPING UNIT INITIALIZE	Shifts the Form hit plate 1 in the Wrapping unit to the home position for the initialization of the said unit on the Wrapping envelope finisher.	Yes
U	33-3-021	WEF WRAPPING UNIT WAIT POSITION	Shifts the Form hit plate 1 to the position at which an envelope form sheet is to be received to be wrapped around folded enclosure (body) sheets on the Wrapping envelope finisher.	Yes
U	33-3-022	WEF FLAP COMPRESSION UNIT INITIALIZE	Shifts the Form hit plate 2 and Gluing plate in the Flap gluing unit to the home position for the initialization of the said unit on the Wrapping envelope finisher.	Yes
U	33-3-023	WEF FLAP COMPRESSION UNIT WAIT POS	Shifts the Form hit plate 2 to the position at which a half-finished mail is to be received for flap gluing on the Wrapping envelope finisher.	Yes
U	33-3-024	WEF FORM EDGE DET SENSOR AUTO ADJUST	Feeds a sheet of paper to the Form edge detection sensor and adjusts the luminous energy of the said sensor automatically on the Wrapping envelope finisher. * An A4 (or Letter)-size sheet of standard paper should be placed at the entrance of the Wrapping envelope finisher while opening the Left front door of the said equipment before hand. (The fed sheet should be removed after the above operation has finished.)	No
U	33-3-025	WEF TEST PATTERN PRINT	Conducts a test operation with the Wrapping envelope finisher while feeding sheets without printing. The operation conditions are as follows. [Operation conditions] - Paper source (Envelope form sheets): Standard paper feed tray or an optional paper feed device - Paper source (Envelope form sheets): Paper tray 1 - Enclosure (Body) sheet quantify: To be specified in the test mode TM No. 33-6-212 "WEF TEST PRINT-BODY Q'TY" - Other conditions: To be specified in the test mode TM No. 33-6-211 "WEF TEST PRINT-SETTING" [Note] The applied Paper trays should be configured according to the type of loaded sheets.	Yes
Perfec	t Binder			
U	34-3-001	PB GLUE SHEET FEED	Feeds the PB Glue sheet approximately 20 mm on the Perfect binder.	No
U	34-3-002		Rewinds the PB Glue sheet approximately 20 mm on the Perfect binder.	No
	34-3-003		Measures the thickness of a stack of body text sheets on the Perfect binder.	No
U	34-3-004	PB VERTICAL GUIDE TAMPING POSITION	Shifts the PB End face alignment plate (vertical) to the tamping position on the Perfect binder.	No
U	34-3-006	PB VERTICAL GUIDE HP	Shifts the PB End face alignment plate (vertical) to the home position on the Perfect binder.	No
U	34-3-007	PB END FACE ALIGN PLATE SET POSITION	Shifts the PB End face alignment plate (fore edge) to a specified position on the Perfect binder.	No
U	34-3-008	PB END FACE ALIGN PLATE TAMPING POS	Shifts the PB End face alignment plate (fore edge) to the tamping position on the Perfect binder.	No
U	34-3-009	PB END FACE ALIGN PLATE HP	Shifts the PB End face alignment plate (fore edge) to the home position on the Perfect binder.	No
U	34-3-010	PB FORE EDGE PLATE REST POSITION	Shifts the PB Fore edge plate to the retreat (release) position on the Perfect binder.	No
U	34-3-011	PB FORE EDGE PLATE HP	Shifts the PB Fore edge plate to the home position on the Perfect binder.	No
U	34-3-012	PB CLAMP OPEN/CLOSE	Opens/closes the PB Clamp arms on the Perfect binder.	No

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Туре	Test mode No.	Test mode name	Action	Interruption
U	34-3-013	PB CLAMP INSERT POSITION	Raises the PB Clamp arms to the level at which stacked body texts are to be clamped on the Perfect binder.	No
U	34-3-014	PB CLAMP UPPER/LOWER HP	Lowers the PB Clamp arms to the home (initial) level on the Perfect binder.	No
U	34-3-015	PB CLAMP GLUING POSITION	Lowers the PB Clamp arms to the gluing level on the Perfect binder.	No
U	34-3-016	PB CLAMP FORMING POSITION	Lowers the PB Clamp arms to the forming level on the Perfect binder.	No
U	34-3-017	FB CLAMP HORIZONTAL INSERT POSITION	Shifts the PB Clamp unit to the position at which stacked body texts are to be clamped on the Perfect binder.	No
U	34-3-018	PB CLAMP HORIZONTAL HP	Shifts the PB Clamp unit to the home position on the Perfect binder.	No
U	34-3-019	PB CLAMP HORIZONTAL GLUING POSITION	Shifts the PB Clamp unit to the PB Gluing unit on the Perfect binder.	No
U	34-3-020	PB CLAMP HORIZONTAL FORMING POSITION	Shifts the PB Clamp unit to the PB Forming unit on the Perfect binder.	No
U	34-3-021	PB GLUE SHEET UNIT REST	Retracts the PB Glue sheet on the Perfect binder.	No
U	34-3-022	PB GLUE SHEET UNIT PRESS	Feeds the PB Glue sheet on the Perfect binder.	No
U	34-3-023	PB FORMING PLATE OPEN	Opens the PB Forming plates on the Perfect binder.	No
U	34-3-024	PB FORMING PLATE CLOSE	Closes the PB Forming plates on the Perfect binder.	No
U	34-3-025	PB COVER GUIDE PLATE ALIGN POSITION	Shifts the PB Cover guides to the alignment position on the Perfect binder.	No
U	34-3-026	PB COVER GUIDE PLATE HP	Shifts the PB Cover guides to the home position on the Perfect binder.	No
U	34-3-027	PB GLUING HEIGHT/TILT CHECK	Shifts a stack of body text sheets to the PB Gluing unit and lowers it to the PB Glue roller on the Perfect binder.	No
U	34-3-028	PB GLUING HEIGHT/TILT CHECK & EJECT	Returns a stack of body text sheets to the initial (home) position from the position at which it has been set in the test mode TM No. 34-3-027 on the Perfect binder.	No
U	34-3-029	PB FORMING HEIGHT/TILT CHECK	Shifts a stack of body text sheets to the PB Forming unit and lowers it to the PB Forming plates on the Perfect binder.	No
U	34-3-030	PB FORMING HEIGHT/TILT CHECK & EJECT	Returns a stack of body text sheets to the initial (home) position from the position at which it has been set in the test mode TM No. 34-3-029 on the Perfect binder.	No
U	34-3-031	PB COVER CUT	Shifts the PB Cover cutter to the cutting position and returns it to the home position on the Perfect binder.	No
U	34-3-032	PB COVER CUT ADJUST (COVER INSERTER)	Cuts a cover sheet feeding from the PB Cover inserter and transports it to the PB Forming unit on the Perfect binder.	No
U	34-3-033	PB GLUE ROLLER MOTOR	Drives the PB Glue roller motor for a predfined amount of time on the Perfect binder.	No
U	34-3-034	PB HALOGEN HEATER	Turns on the PB Halogen lamp for a predefined amount of time on the Perfect binder.	No
U	34-3-035	PB SHEATH HEATER	Turns on the PB Sheath heater for a predefined amount of time on the Perfect binder.	No
U	34-3-036	PB BLADE HEATER	Heats up the PB Glue sheet cutter on the Perfect binder.	No
U	34-3-037	PB CLAMP HORIZONTAL EXIT POSITION	Shifts the PB Clamp unit to the Booklet exit on the Perfect binder.	No
U	34-3-038	B CLAMP HORIZONTAL BLADE POSITION	Shifts the PB Clamp unit to the PB Glue squeegee blade on the Perfect binder.	No
U	34-3-039	PB COVER LIFT-UP	Raises the PB Cover feed tray in the PB Cover inserter on the Perfect binder.	No
U	34-3-040	PB COVER LIFT-DOWN	Lowers the PB Cover feed tray in the PB Cover inserter on the Perfect binder.	No
U	34-3-041	PB BLADE HEIGHT CHECK 2	Executes the following operations in sequence on the Perfect binder. (1) Holds a stack of body text sheets in the PB Body text stack unit with the PB Clamp arms and shifts it to the PB Gluing unit. (2) Applies glue to the stack of body text sheets and shifts it back to the PB Glue squeegee blade. * Body texts are required to be stacked in the PB Body text stack unit in advance. [Note] The test mode TM No. 34-3-042 "PB BLADE LEVEL CHECK AND RETURN" should always be executed after this test mode.	No
U	34-3-042	PB BLADE HEIGHT CHECK 1	Returns the clamped stack of body text sheets to the PB Body text stack unit from the position at which it has been set in the test mode TM No. 34-3-041 and then release it there on the Perfect binder. * This test mode is required to be executed after the test mode TM No, 34-3-041.	No
U	34-3-043	PB COVER FORMING POSITION	Transports a cover sheet to the PB Forming unit on the Perfect binder.	No

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Туре	Test mode No.	Test mode name	Action	Interruption
U	34-3-044	PB BODY CLAMP	Holds body text sheets stacked in the PB Body text stack unit with the PB Clamp arms and lowers them to the PB Clamp unit home level on the Perfect binder. * The test mode TM No. 34-3-061 "PB BODY STACK TRANSFER" is required to be executed in advance.	No
U	34-3-045	PB GLUING HEIGHT/TILT CHECK ACTION	Holds body text sheets stacked in the PB Body text stack unit with the PB Clamp arms and shift them to the PB Gluing unit on the Perfect binder. * The test mode TM No. 34-3-061 "PB BODY STACK TRANSFER" is required to be executed in advance.	No
U	34-3-046	PB FORMING HEIGHT/TILT CHECK ACTION	Holds body text sheets stacked in the PB Body text stack unit with the PB Clamp arms and shift them to the PB Forming unit on the Perfect binder. * The test mode TM No. 34-3-061 "PB BODY STACK TRANSFER" is required to be executed in advance.	No
U	34-3-047	PB GUIDE SELECT OPEN	Lowers the PB Booklet guide to open the Booklet exit on the Perfect binder.	No
U	34-3-048	PB GUIDE SELECT CLOSE	Raises the PB Booklet guide to close the Booklet exit on the Perfect binder.	No
U	34-3-049	PB GUIDE SELECT ELEVATION POSITION	Raises the PB Booklet guide further to the elevated position on the Perfect binder.	No
U	34-3-050	PB GLUE UNIT COVER OPEN	Opens the PB Glue unit cover on the Perfect binder.	No
U	34-3-051	PB GLUE UNIT COVER CLOSE	Closes the PB Glue unit cover on the Perfect binder.	No
U	34-3-052	PB CLAMP OPEN	Opens the PB Clamp arms on the Perfect binder.	No
U	34-3-053	PB CLAMP CLOSE	Closes the PB Clamp arms on the Perfect binder.	No
U	34-3-061	PB BODY STACK	Feeds body text sheets and stacks them in the PB Body text stack unit on the Perfect binder. This test mode is to be executed before the following test modes. - TM No. 34-3-044 "PB BODY CLAMP ACTION" - TM No. 34-3-045 "PB GLUING LEVEL ANGLE CHECK" - TM No. 34-3-046 "PB FORMING LEVEL ANGLE CHECK" [Note] The following operational conditions can be specified in other test modes. - Booklet size: TM No. 34-6-061 "PB BODY STACK TRANSFER-BOOKLET SIZE" - Booklet volume: TM No. 34-6-062 "PB BODY STACK TRANSFER-VOLUME"	No
U	34-3-062	PB TEST PATTERN PRINT	Conducts a test operation with the Perfect binder while feeding sheets without printing. The operation conditions are as follows. [Operation conditions] - Paper source (Body text sheets): To be specified in the test mode TM No. 04-6-064 "HEAD TEST PRINT: FEED TRAY" * When A5-size sheets are loaded in LEF direction, the internal paper trays will not be available. - Body text size: To be specified in the test mode TM No. 34-6-066 "PB TEST PRINT: BODY SIZE" - Body text volume: To be specified in the test mode TM No. 34-6-066 "PB TEST PRINT: BODY SIZE" - Body text volume: To be specified in the test mode TM No. 34-6-068 "PB TEST PRINT: BODY Q'TY" - Cover sheet length: To be specified in the test mode TM No. 34-6-068 "PB TEST PRINT: COVER LENGTH" - Paper source (Cover sheets): To be specified in the test mode TM No. 34-6-069 "PB TEST PRINT: COVER TRAY" [Note] 1. The binding side is fixed at the left side. 2. The appler tray should be configured according to the type of loaded sheets. 3. The paper tray configuration is to be changed automatically for cover sheets. In this case, the original configuration will be recovered for the said paper tray after the execution of this test mode.	No
Additi	onal 2000 sh	eet feeder (Expansion feeder)		
U	35-3-001	EXF TRAY UPPER LIMIT POS MOVE	Shifts the Paper feed tray up to the upper limit position in the Additional 2000 sheet feeder and then makes fine positioning for feeding.	No
Mutilf	uction finish	er FG20		
U	37-3-001	FF END GUIDE MOTOR 1 (UP)	Drives the FF Upper end guide elevation motor for 100-pulse period or until the FF Upper end guide HP sensor has been blocked, thus shifting up the FF Upper end guide assy on the Multifunction finisher.	No
U	37-3-002	FF END GUIDE MOTOR 1 (DOWN)	Drives the FF Upper end guide elevation motor for 100-pulse period, thus shifting down the FF Upper end guide assy on the Multifunction finisher.	No
U	37-3-003	FF END GUIDE MOTOR 2 (UP)	Drives the FF Lower end guide elevation motor for 100-pulse period or until the FF Lower end guide HP sensor has been blocked, thus shifting up the FF Lower end guide assy on the Multifunction finisher.	No
U	37-3-004	FF END GUIDE MOTOR 2 (DOWN)	Drives the FF Lower end guide elevation motor for 100-pulse period, thus shifting down the FF Lower end guide assy on the Multifunction finisher.	No
U	37-3-005	FF GATE SOLENOID U (IN PATH)	Activates the FF Upper gate solenoid for 200 msec, to open the gate to the path leading into the Folding section of the FF (Finisher Fold) unit on the Multifunction finisher.	No
U	37-3-006	FF GATE SOLENOID U (THROUGH PATH)	Activates the FF Upper gate solenoid for 200 msec, to open the gate to the path passing through the FF (Finisher Fold) unit on the Multifunction finisher.	No
U	37-3-007	FF GATE SOLENOID L (IN PATH)	Activates the FF Lower gate solenoid for 200 msec, to open the gate to the path leading to the FM (Finisher Main) unit on the Multifunction finisher.	No

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Туре	Test mode No.	Test mode name	Action	Interruption
U	37-3-008	FF GATE SOLENOID L (THROUGH PATH)	Activates the FF Lower gate solenoid for 200 msec, to open the entrance gate into the Folder tray on the Multifunction finisher.	No
U	37-3-009	FF RAKE ROLLER NIP RELEASE	Activates the FF Nip release solenoid for 200 msec, to release the nip pressure by the FF Rake roller on the Multifunction finisher.	No
U	37-3-010	FOLDER 2ND FOLD FINGER SOLENOID ON	Activates the FF Finger solenoid, for 200 msec, to lead a pushing finger to protrude on the Multifunction finisher.	No
U	37-3-011	FF TRAY OPEN	Activates the FF tray solenoid for 200 msec, to unlock the Folder tray in the FF (Finisher Fold) unit on the Multifunction finisher.	No
U	37-3-015	FM PUNCH SLIDE (H /CLUTCH OFF/FRONT)	Drives the FM Punch slide motor at 3430 pps (pulses per second) for 100-pulse period, without the FM Punch slide dutch activated, in the direction leading the Puncher unit to move to the front side on the Multifunction finisher.	No
U	37-3-016	FM PUNCH SLIDE (H /CLUTCH OFF/REAR)	Drives the FM Punch slide motor at 3430 pps (pulses per second) for 100-pulse period, without the FM Punch slide dutch activated, in the direction leading the Puncher unit to move to the rear side on the Multifunction finisher.	No
U	37-3-017	FM PUNCH SLIDE (H /CLUTCH ON/FRONT)	Drives the FM Punch slide motor at 3430 pps (pulses per second) for 100-pulse period, with the FM Punch slide clutch activated, in the direction leading the Puncher unit to move to the front side on the Multifunction finisher. * The clutch is to be deactivated at the same time as the power-off of the motor.	No
U	37-3-018	FM PUNCH SLIDE (H /CLUTCH ON/REAR)	Drives the FM Punch slide motor at 3430 pps (pulses per second) for 100-pulse period, with the FM Punch slide clutch activated, in the direction leading the Puncher unit to move to the rear side on the Multifunction finisher. * The clutch is to be deactivated at the same time as the power-off of the motor.	No
U	37-3-019	FM PUNCH SLIDE (L /CLUTCH OFF/FRONT)	Drives the FM Punch slide motor at 1822 pps (pulses per second) for 100-pulse period, without the FM Punch slide clutch activated, in the direction leading the Puncher unit to move to the front side on the Multifunction finisher.	No
U	37 -3- 020	FM PUNCH SLIDE (L /CLUTCH OFF/REAR)	Drives the FM Punch slide motor at 1822 pps (pulses per second) for 100-pulse period, without the FM Punch slide clutch activated, in the direction leading the Puncher unit to move to the rear side on the Multifunction finisher.	No
U	37-3-021	FM PUNCH SLIDE (L /CLUTCH ON/FRONT)	Drives the FM Punch slide motor at 1822 pps (pulses per second) for 100-pulse period, with the FM Punch slide clutch activated, in the direction leading the Puncher unit to move to the front side on the Multifunction finisher. * The clutch is to be deactivated at the same time as the power-off of the motor.	No
U	37-3-022	FM PUNCH SLIDE (L /CLUTCH ON/REAR)	Drives the FM Punch slide motor at 1822 pps (pulses per second) for 100-pulse period, with the FM Punch slide clutch activated, in the direction leading the Puncher unit to move to the rear side on the Multifunction finisher. * The clutch is to be deactivated at the same time as the power-off of the motor.	No
U	37-3-023	FM PUNCH HP SLIDE (2 HOLES)	Shifts the Puncher unit to the home position for 2-hole punching operation on the Multifunction finisher.	No
U	37-3-024	FM PUNCH HP SLIDE (3 HOLES)	Shifts the Puncher unit to the home position for 3-hole punching operation on the Multifunction finisher.	No
U	37-3-025	FM PUNCH HP SLIDE (4 HOLES)	Shifts the Puncher unit to the home position for 4-hole punching operation on the Multifunction finisher.	No
U	37-3-026	FM PUNCH (2 HOLES)	Leads the Puncher unit into 2-hole punching operation on the Multifunction finisher.	No
U	37-3-027	FM PUNCH (3 HOLES)	Leads the Puncher unit into 3-hole punching operation on the Multifunction finisher.	No
U	37-3-028	FM PUNCH (4 HOLES)	Leads the Puncher unit into 4-hole punching operation on the Multifunction finisher.	No
U	37-3-029	FM GATE SOLENOID 1 (BOOKLET PATH)	Activates the FM Gate solenoid 1 for 100 msec, to open the gate to the path leading into the Booklet-making section of the FM (Finisher Main) unit on the Multifunction finisher.	No
U	37-3-030	FM GATE SOLENOID 1 (TOP/STACKER PATH)	Activates the FM Gate solenoid 1 for 100 msec, to open the gate to the path leading to the Top or Stacking tray of the FM (Finisher Main) unit on the Multifunction finisher.	No
U	37-3-032	FM GATE SOLENOID 2 (TOP PATH)	Activates the FM Gate solenoid 2 for 100 msec, to open the gate to the path leading to the Top tray of the FM (Finisher Main) unit on the Multifunction finisher.	No
U	37-3-033	FM GATE SOLENOID 2 (STACKER PATH)	Activates the FM Gate solenoid 2 for 100 msec, to open the gate to the path leading to the Stacking tray of the FM (Finisher Main) unit on the Multifunction finisher.	No
U	37-3-035	FM MAIN PADDLE UP	Activates the FM Main paddle solenoid for 100 msec, to raise the FM Main paddles on the Multifunction finisher.	No
U	37-3-036	FM MAIN PADDLE DOWN	Activates the FM Main paddle solenoid for 100 msec, to lower the FM Main paddles on the Multifunction finisher.	No

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Туре	Test mode No.	Test mode name	Action	Interruption
U	37-3-037	FM SUB PADDLE UP	Activates the FM Sub paddle solenoid for 100 msec, to raise the FM Sub paddles on the Multifunction finisher.	No
U	37-3-038	FM SUB PADDLE DOWN	Activates the FM Sub paddle solenoid for 100 msec, to lower the FM Sub paddles on the Multifunction finisher.	No
U	37-3-039	FM SUB PADDLE CLUTCH (1 CYCLE)	Activates the FM Sub paddle clutch and then deactivates it when the FM Sub paddle HP sensor has been opened on the Multifunction finisher.	No
U	37-3-040	FM STACK EJECT ROLLER (UP)	Activates the FM Set clamp solenoid for 100 msec, to raise the FM Stack eject rollers on the Multifunction finisher.	No
U	37-3-041	FM STACK EJECT ROLLER (DOWN)	Activates the FM Set clamp solenoid for 100 msec, to lower the FM Stack eject rollers on the Multifunction finisher.	No
U	37-3-042	FFM STACK TRANSFER ROLLER 2 (RELEASE)	Drives the FM Eject nip motor at 6000 pps (pulses per second) for a predefined-pulse period, slows it down to a predefined speed and then stops it when the FM Eject nip HP sensor has been opened on the Multifunction finisher. [Note] In case the said sensor has not been opened within 300 msec since the start of the motor, the said motor would be stopped at that moment.	No
U	37-3-043	FM STACK TRANSFER ROLLER 2 (NIP)	Drives the FM Eject nip motor at 2880 pps (pulses per second) and then stops it after a predefined-pulse period since the FM Eject nip HP sensor was blocked on the Multifunction finisher. * If the said sensor has been blocked before the motor speed reaches the given level, the said pulse count would start after it has reached the given level. [Note] In case the said sensor has not been blocked within 200 msec since the start of the motor, however, the said motor would be stopped at that moment.	No
U	37-3-044	FM STACK TRANSFER ROLLER 2 (H-DOWN)	Drives the FM Eject nip motor at 3580 pps (pulses per second) and then stops it after a predefined-pulse period since the FM Eject nip HP sensor was blocked on the Multifunction finisher. * If the said sensor has been blocked before the motor speed reaches the given level, the said pulse count would start after it has reached the given level. [Note] In case the said sensor has not been blocked within 200 msec since the start of the motor, however, the said motor would be stopped at that moment.	No
U	37-3-045	FM STACK TRANSFER ROLLER 2 (H-D&NIP)	Drives the FM Eject nip motor at 2880 pps (pulses per second) for a predefined-pulse period on the Multifunction finisher. [Note] In case the said sensor has not been blocked within 200 msec since the start of the motor, however, the said motor would be stopped at that moment.	No
U	37-3-047	FM SHELF (EJECT)	Extends the FM Shelf by driving the FM Shelf motor, which stops a predefined-pulse period after the FM Shelf HP sensor has been opened or 250 msec after its activation on the Multifunction finisher.	No
U	37-3-048	FM SHELF (STORAGE)	Stores the FM Shelf by driving the FM Shelf motor, which stops a 15-pulse period after the FM Shelf HP sensor has been blocked or 250 msec after its activation on the Multifunction finisher.	No
U	37-3-050	FM END WALL (OPEN)	Opens the FM End wall by driving the FM End wall motor for a predefined-pulse period on the Multifunction finisher.	No
U	37-3-051	FM END WALL (CLOSE)	Closes the FM End wall by driving the FM End wall motor for a predefined-pulse period on the Multifunction finisher.	No
U	37-3-053	FM STAPLER SLIDE (F DIRECT/H SPEED)	Shifts the FM Stapler unit to the front side at high speed by driving the FM Stapler slide motor at 3286 pps (pulses per second) for a 328-pulse period on the Multifunction finisher.	No
U	37-3-054	FM STAPLER SLIDE (F DIRECT/M SPEED)	Shifts the FM Stapler unit to the front side at medium speed by driving the FM Stapler slide motor at 2171 pps (pulses per second) for a 328-pulse period on the Multifunction finisher.	No
U	37-3-055	FM STAPLER SLIDE (F DIRECT/L SPEED)	Shifts the FM Stapler unit to the front side at low speed by driving the FM Stapler slide motor at 1931 pps (pulses per second) for a 328-pulse period on the Multifunction finisher.	No
U	37-3-056	FM STAPLER SLIDE (R DIRECT/H SPEED)	Shifts the FM Stapler unit to the rear side at high speed by driving the FM Stapler slide motor at 3286 pps (pulses per second) for a 328-pulse period on the Multifunction finisher.	No
U	37-3-057	FM STAPLER SLIDE (R DIRECT/M SPEED)	Shifts the FM Stapler unit to the rear side at medium speed by driving the FM Stapler slide motor at 2171 pps (pulses per second) for a 328-pulse period on the Multifunction finisher.	No
U	37-3-058	FM STAPLER SLIDE (R DIRECT/L SPEED)	Shifts the FM Stapler unit to the rear side at low speed by driving the FM Stapler slide motor at 1931 pps (pulses per second) for a 328-pulse period on the Multifunction finisher.	No
U	37-3-061	FM TAMPER F SLIDE (F DIRCT/SPEED 7)	Shifts the FM Front tamper to the front side at speed level 7 by driving the FM Front tamper motor at 2688 pps (pulses per second) for a 200-pulse period on the Multifunction finisher.	No

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Туре	Test mode No.	Test mode name	Action	Interruption
U	37-3-062	FM TAMPER F SLIDE (F DIRCT/SPEED 6)	Shifts the FM Front tamper to the front side at speed level 6 by driving the FM Front tamper motor at 2326 pps (pulses per second) for a 200-pulse period on the Multifunction finisher.	No
U	37-3-063	FM TAMPER F SLIDE (F DIRCT/SPEED 5)	Shifts the FM Front tamper to the front side at speed level 5 by driving the FM Front tamper motor at 1808 pps (pulses per second) for a 200-pulse period on the Multifunction finisher.	No
U	37-3-064	FM TAMPER F SLIDE (F DIRCT/SPEED 4)	Shifts the FM Front tamper to the front side at speed level 4 by driving the FM Front tamper motor at 1551 pps (pulses per second) for a 200-pulse period on the Multifunction finisher.	No
U	37-3-065	FM TAMPER F SLIDE (F DIRCT/SPEED 3)	Shifts the FM Front tamper to the front side at speed level 3 by driving the FM Front tamper motor at 1310 pps (pulses per second) for a 200-pulse period on the Multifunction finisher.	No
U	37-3-066	FM TAMPER F SLIDE (F DIRCT/SPEED 2)	Shifts the FM Front tamper to the front side at speed level 2 by driving the FM Front tamper motor at 775 pps (pulses per second) for a 200-pulse period on the Multifunction finisher.	No
U	37-3-067	FM TAMPER F SLIDE (F DIRCT/SPEED 1)	Shifts the FM Front tamper to the front side at speed level 1 by driving the FM Front tamper motor at 520 pps (pulses per second) for a 200-pulse period on the Multifunction finisher.	No
U	37-3-068	FM TAMPER F SLIDE (R DIRCT/SPEED 7)	Shifts the FM Front tamper to the rear side at speed level 7 by driving the FM Front tamper motor at 2688 pps (pulses per second) for a 200-pulse period on the Multifunction finisher.	No
U	37-3-069	FM TAMPER F SLIDE (R DIRCT/SPEED 6)	Shifts the FM Front tamper to the rear side at speed level 6 by driving the FM Front tamper motor at 2326 pps (pulses per second) for a 200-pulse period on the Multifunction finisher.	No
U	37-3-070	FM TAMPER F SLIDE (R DIRCT/SPEED 5)	Shifts the FM Front tamper to the rear side at speed level 5 by driving the FM Front tamper motor at 1808 pps (pulses per second) for a 200-pulse period on the Multifunction finisher.	No
U	37-3-071	FM TAMPER F SLIDE (R DIRCT/SPEED 4)	Shifts the FM Front tamper to the rear side at speed level 4 by driving the FM Front tamper motor at 1551 pps (pulses per second) for a 200-pulse period on the Multifunction finisher.	No
U	37-3-072	FM TAMPER F SLIDE (R DIRCT/SPEED 3)	Shifts the FM Front tamper to the rear side at speed level 3 by driving the FM Front tamper motor at 1310 pps (pulses per second) for a 200-pulse period on the Multifunction finisher.	No
U	37-3-073	FM TAMPER F SLIDE (R DIRCT/SPEED 2)	Shifts the FM Front tamper to the rear side at speed level 2 by driving the FM Front tamper motor at 775 pps (pulses per second) for a 200-pulse period on the Multifunction finisher.	No
U	37-3-074	FM TAMPER F SLIDE (R DIRCT/SPEED 1)	Shifts the FM Front tamper to the rear side at speed level 1 by driving the FM Front tamper motor at 520 pps (pulses per second) for a 200-pulse period on the Multifunction finisher.	No
U	37-3-075	FM TAMPER R SLIDE (F DIRCT/SPEED 7)	Shifts the FM Rear tamper to the front side at speed level 7 by driving the FM Rear tamper motor at 2688 pps (pulses per second) for a 200-pulse period on the Multifunction finisher.	No
U	37-3-076	FM TAMPER R SLIDE (F DIRCT/SPEED 6)	Shifts the FM Rear tamper to the front side at speed level 6 by driving the FM Rear tamper motor at 2326 pps (pulses per second) for a 200-pulse period on the Multifunction finisher.	No
U	37-3-077	FM TAMPER R SLIDE (F DIRCT/SPEED 5)	Shifts the FM Rear tamper to the front side at speed level 5 by driving the FM Rear tamper motor at 1808 pps (pulses per second) for a 200-pulse period on the Multifunction finisher.	No
U	37-3-078	FM TAMPER R SLIDE (F DIRCT/SPEED 4)	Shifts the FM Rear tamper to the front side at speed level 4 by driving the FM Rear tamper motor at 1551 pps (pulses per second) for a 200-pulse period on the Multifunction finisher.	No
U	37-3-079	FM TAMPER R SLIDE (F DIRCT/SPEED 3)	Shifts the FM Rear tamper to the front side at speed level 3 by driving the FM Rear tamper motor at 1310 pps (pulses per second) for a 200-pulse period on the Multifunction finisher.	No
U	37-3-080	FM TAMPER R SLIDE (F DIRCT/SPEED 2)	Shifts the FM Rear tamper to the front side at speed level 2 by driving the FM Rear tamper motor at 775 pps (pulses per second) for a 200-pulse period on the Multifunction finisher.	No
U	37-3-081	FM TAMPER R SLIDE (F DIRCT/SPEED 1)	Shifts the FM Rear tamper to the front side at speed level 1 by driving the FM Rear tamper motor at 520 pps (pulses per second) for a 200-pulse period on the Multifunction finisher.	No
U	37-3-082	FM TAMPER R SLIDE (R DIRCT/SPEED 7)	Shifts the FM Rear tamper to the rear side at speed level 7 by driving the FM Rear tamper motor at 2688 pps (pulses per second) for a 200-pulse period on the Multifunction finisher.	No
U	37-3-083	FM TAMPER R SLIDE (R DIRCT/SPEED 6)	Shifts the FM Rear tamper to the rear side at speed level 6 by driving the FM Rear tamper motor at 2326 pps (pulses per second) for a 200-pulse period on the Multifunction finisher.	No

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Туре	Test mode No.	Test mode name	Action	Interruption
U	37-3-084	FM TAMPER R SLIDE (R DIRCT/SPEED 5)	Shifts the FM Rear tamper to the rear side at speed level 5 by driving the FM Rear tamper motor at 1808 pps (pulses per second) for a 200-pulse period on the Multifunction finisher.	No
U	37-3-085	FM TAMPER R SLIDE (R DIRCT/SPEED 4)	Shifts the FM Rear tamper to the rear side at speed level 4 by driving the FM Rear tamper motor at 1551 pps (pulses per second) for a 200-pulse period on the Multifunction finisher.	No
U	37-3-086	FM TAMPER R SLIDE (R DIRCT/SPEED 3)	Shifts the FM Rear tamper to the rear side at speed level 3 by driving the FM Rear tamper motor at 1310 pps (pulses per second) for a 200-pulse period on the Multifunction finisher.	No
U	37-3-087	FM TAMPER R SLIDE (R DIRCT/SPEED 2)	Shifts the FM Rear tamper to the rear side at speed level 2 by driving the FM Rear tamper motor at 775 pps (pulses per second) for a 200-pulse period on the Multifunction finisher.	No
U	37-3-088	FM TAMPER R SLIDE (R DIRCT/SPEED 1)	Shifts the FM Rear tamper to the rear side at speed level 1 by driving the FM Rear tamper motor at 520 pps (pulses per second) for a 200-pulse period on the Multifunction finisher.	No
U	37-3-093	STAPLE CLINCH	Leads the Stapler unit to take a dinching action by rotating the FM Staple motor in the foward direction, which stops when the FM Staple home sensor has been blocked, on the Multifunction finisher. [Note] In case the said sensor has not been blocked within 500 msec (500 msec with a predefined additional time when the PWM (Pulse Width Modulation) control is applied to the said motor) since the start of the motor, however, the said motor would be stopped at that moment.	No
U	37-3-094	(FM) STAPLE MOTOR (REVERSE)	Rotates the FM Staple motor in the reverse direction for 110 msec on the Multifunction finisher.	No
U	37-3-096	FM FLAP (UP)	Raises the FM Flap by driving the FM Flap motor at a predefined speed (pps) for a 10610-pulse period on the Multifunction finisher.	No
U	37-3-097	FM FLAP (DOWN)	Lowers the FM Flap by driving the FM Flap motor at a predefined speed (pps) for a 10610-pulse period on the Multifunction finisher.	No
U	37-3-099	FM STACK TRAY MOVE (PACKING POS)	Shifts the Stacking tray to the shipment (packing) position on the Multifunction finisher. [When the FM Paper top detection sensor is opened:] Raises the Stacking tray until the said sensor has been blocked and, 100 msec later, lower it until the same sensor has been opened again. [When the FM Paper top detection sensor is blocked;] Lowers the Stacking tray until the said sensor has been opened. * The Stacking tray will stop shifting in the following cases as well: - The FM Stack tray upper limit sensor has been blocked. - 20000 msec has passed since the start of shifting.	No
U	37-3-101	FM STACK TRAY UP (12 SEC)	Drives the FM Stack elevation motor for 12 seconds or until the FM Stack tray upper limit sensor has been blocked, to raise the Stacking tray on the Multifunction finisher.	No
U	37-3-102	FM STACK TRAY UP (2 SEC)	Drives the FM Stack elevation motor for 2 seconds or until the FM Stack tray upper limit sensor has been blocked, to raise the Stacking tray on the Multifunction finisher.	No
U	37-3-103	FM STACK TRAY DOWN (2 SEC)	Drives the FM Stack elevation motor for 2 seconds to lower the Stacking tray on the Multifunction finisher.	No
U	37-3-105	FM STACK TRAY OFFSET HP (CW)	Shifts the Stacking tray to the rear-side offset stacking position by driving the FM Stacker offset motor clockwise until the FM Stacker tray offset sensor has been opened on the Multifunction finisher. * Error detection is to be suspended during this operation.	No
U	37-3-106	FM STACK TRAY OFFSET 1/4 (CW)	Shifts the Stacking tray halfway to the rear-side offset stacking position by driving the FM Stacker offset motor clockwise at a predefined speed for a predefined-pulse period on the Multifunction finisher.	No
U	37-3-107	FM STACK TRAY OFFSET 1/2 (CW)	Shifts the Stacking tray thoroughly to the rear-side offset stacking position by driving the FM Stacker offset motor clockwise at 3183-pps speed for a predefined-pulse period on the Multifunction finisher.	No
U	37-3-108	FFM STACK TRAY OFFSET HP (CCW)	Shifts the Stacking tray to the front-side offset stacking position by driving the FM Stacker offset motor counterclockwise at 3183-pps speed until the FM Stacker tray offset sensor has been opened on the Multifunction finisher. * Error detection is to be suspended during this operation.	No
U	37-3-109	FM STACK TRAY OFFSET 1/4 (CCW)	Shifts the Stacking tray halfway to the front-side offset stacking position by driving the FM Stacker offset motor counterclockwise at a predefined speed for a predefined-pulse period on the Multifunction finisher.	No
U	37-3-110	FM STACK TRAY OFFSET 1/2 (CCW)	Shifts the Stacking tray thoroughly to the front-side offset stacking position by driving the FM Stacker offset motor counterclockwise at 3183-pps speed for a predefined-pulse period on the Multifunction finisher.	No

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Туре	Test mode No.	Test mode name	Action	Interruption
U	37-3-120	FB KNIFE (EJECT/STORAGE)	Activates the FB Knife solenoid for 200 msec to lead FB Knife to project on the Multifunction finisher.	No
U	37-3-122	FB END GUIDE DOWN (H-SPEED)	Lowers the FB End guide at high speed by driving the FB End guide elevation motor at 1002 pps (pulses per second) for a 200-pulse period on the Multifunction finisher.	No
U	37-3-123	FB END GUIDE DOWN (L-SPEED)	Lowers the FB End guide at low speed by driving the FB End guide elevation motor at 290 pps (pulses per second) for a 200-pulse period on the Multifunction finisher.	No
U	37-3-124	FB END GUIDE UP (H-SPEED)	Raises the FB End guide at high speed by driving the FB End guide elevation motor at 1002 pps (pulses per second) for a 200-pulse period on the Multifunction finisher.	No
U	37-3-125	FB END GUIDE UP (L-SPEED)	Raises the FB End guide at low speed by driving the FB End guide elevation motor at 290 pps (pulses per second) for a 200-pulse period on the Multifunction finisher.	No
U	37-3-127	FB STAPLE ON	Leads the Booklet staplers (front and rear) to take a stapling action by driving the FB Staple motor on the Multifunction finisher. * Always place sheets in the compiling area in the Booklet making section before executing this test mode.	Yes
U	37-3-129	FB TAMPER F SLIDE (F DIRCT/SPEED 1)	Shifts the FB Front tamper to the front side (home position) at speed level 1 by driving the FB Front tamper motor at 985 pps (pulses per second) for a 100-pulse period on the Multifunction finisher.	No
U	37-3-130	FB TAMPER F SLIDE (F DIRCT/SPEED 2)	Shifts the FB Front tamper to the front side (home position) at speed level 2 by driving the FB Front tamper motor at 645 pps (pulses per second) for a 100-pulse period on the Multifunction finisher.	No
U	37-3-131	FB TAMPER F SLIDE (F DIRCT/SPEED 3)	Shifts the FB Front tamper to the front side (home position) at speed level 3 by driving the FB Front tamper motor at 465 pps (pulses per second) for a 100-pulse period on the Multifunction finisher.	No
U	37-3-132	FB TAMPER F SLIDE (F DIRCT/SPEED 4)	Shifts the FB Front tamper to the front side (home position) at speed level 4 by driving the FB Front tamper motor at 235 pps (pulses per second) for a 100-pulse period on the Multifunction finisher.	No
U	37-3-133	FB TAMPER F SLIDE (R DIRCT/SPEED 1)	Shifts the FB Front tamper to the rear side (tamping position) at speed level 1 by driving the FB Front tamper motor at 985 pps (pulses per second) for a 100-pulse period on the Multifunction finisher.	No
U	37-3-134	FB TAMPER F SLIDE (R DIRCT/SPEED 2)	Shifts the FB Front tamper to the rear side (tamping position) at speed level 2 by driving the FB Front tamper motor at 645 pps (pulses per second) for a 100-pulse period on the Multifunction finisher.	No
U	37-3-135	FB TAMPER F SLIDE (R DIRCT/SPEED 3)	Shifts the FB Front tamper to the rear side (tamping position) at speed level 3 by driving the FB Front tamper motor at 465 pps (pulses per second) for a 100-pulse period on the Multifunction finisher.	No
U	37-3-136	FB TAMPER F SLIDE (R DIRCT/SPEED 4)	Shifts the FB Front tamper to the rear side (tamping position) at speed level 4 by driving the FB Front tamper motor at 235 pps (pulses per second) for a 100-pulse period on the Multifunction finisher.	No
U	37-3-137	FB TAMPER R SLIDE (F DIRCT/SPEED 1)	Shifts the FB Rear tamper to the front side (home position) at speed level 1 by driving the FB Rear tamper motor at 985 pps (pulses per second) for a 100-pulse period on the Multifunction finisher.	No
U	37-3-138	FB TAMPER R SLIDE (F DIRCT/SPEED 2)	Shifts the FB Rear tamper to the front side (home position) at speed level 2 by driving the FB Rear tamper motor at 645 pps (pulses per second) for a 100-pulse period on the Multifunction finisher.	No
U	37-3-139	FB TAMPER R SLIDE (F DIRCT/SPEED 3)	Shifts the FB Rear tamper to the front side (home position) at speed level 3 by driving the FB Rear tamper motor at 465 pps (pulses per second) for a 100-pulse period on the Multifunction finisher.	No
U	37-3-140	FB TAMPER R SLIDE (F DIRCT/SPEED 4)	Shifts the FB Rear tamper to the front side (home position) at speed level 4 by driving the FB Rear tamper motor at 235 pps (pulses per second) for a 100-pulse period on the Multifunction finisher.	No
U	37-3-141	FB TAMPER R SLIDE (R DIRCT/SPEED 1)	Shifts the FB Rear tamper to the rear side (tamping position) at speed level 1 by driving the FB Rear tamper motor at 985 pps (pulses per second) for a 100-pulse period on the Multifunction finisher.	No
U	37-3-142	FB TAMPER R SLIDE (R DIRCT/SPEED 2)	Shifts the FB Rear tamper to the rear side (tamping position) at speed level 2 by driving the FB Rear tamper motor at 645 pps (pulses per second) for a 100-pulse period on the Multifunction finisher.	No
U	37-3-143	FB TAMPER R SLIDE (R DIRCT/SPEED 3)	Shifts the FB Rear tamper to the rear side (tamping position) at speed level 3 by driving the FB Rear tamper motor at 465 pps (pulses per second) for a 100-pulse period on the Multifunction finisher.	No
U	37-3-144	FB TAMPER R SLIDE (R DIRCT/SPEED 4)	Shifts the FB Rear tamper to the rear side (tamping position) at speed level 4 by driving the FB Rear tamper motor at 235 pps (pulses per second) for a 100-pulse period on the Multifunction finisher.	No

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Туре	Test mode No.	Test mode name	Action	Interruption
U	37-3-150	FINISHER TM DATA STORE	Acquires the corresponding test mode parameter data from the Multifunction finisher and stores them into a non- volatile memory on the Engine control PCB on the printer.	No
U	37-3-151	FINISHER TM DATA RESTORE	Restores the test mode parameter data stored in the test mode TM No. 37-3-150 "FINISHER TM DATA STORE" into the Multifunction finisher. * The current firmware version, which can be checked in the test mode TM No. 37-5-001 "MF FINISHER FIRMWARE VERSION," should be equal to the one with which the to-be-restored data were stored	No
U	37-3-152	MULTI FINISHER TM PRINT	The Multifunction-finisher-related test modes that fulfill the following conditions are extracted and printed in a list, with the respective test mode numbers, item names (English only) and corresponding parameters. If there is no test mode that fulfills them, however, the phrase "With no change" (none) will be printed instead. [Extraction conditions] - For maintenance - With changeable parameters - Parameters to be saved as non-volatile data - Parameters to he saved as non-volatile data - Parameters changed from default values * Print conditions are the same as for the test mode TM No. 01-3-021 "COUNT INFORMATION PRINT." If the corresponding test mode item name is not displayed in the item list, besides, its number and parameters are only printed.	No

4.4 "Initialize (I)" modes

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I 0 ⁻	11-4-001	TEST MODE CLEAR (ALL)	Restores the factory default parameter values for the test modes that can be configured by as service technician and are stored on the PMS and Engine control PCB. The Setup wizard is to be launched when a printer is rebooted after this test mode. * The test mode parameter values stored on optonal devices, such as Scanner, Multifunction finisher and Additional 2000 sheet feeder, will not return to the factory default ones through this test mode. [Note] 1. This test mode is only accessible through a direct key entry of the corresponding number, without its item name displayed in the test mode list. 2. The printer should be rebooted to be configured with the restored factory default parameters. 3. Ink temperature adjustment is required to be disabled through another test mode TM No. 09-6-025 "Ink Temperature Adjust ON/OFF" before executing these test modes. Otherwise, an execution error will be notified when executing them. Restores the factory default configurations on a printer while deleting all stored data, including user-related ones, test mode parameter values and error history, but excluding firmware programs. The Setup wizard is to be launched when a printer is rebooted
I 0 ⁻)1-4-001)1-4-002	TEST MODE CLEAR (ALL)	Restores the factory default parameter values for the test modes that can be configured by as service technician and are stored on the PMS and Engine control PCB. The Setup wizard is to be launched when a printer is rebooted after this test mode. * The test mode parameter values stored on optonal devices, such as Scanner, Multifunction finisher and Additional 2000 sheet feeder, will not return to the factory default ones through this test mode. [Note] 1. This test mode is only accessible through a direct key entry of the corresponding number, without its item name displayed in the test mode list. 2. The printer should be rebooted to be configured with the restored factory default parameters. 3. Ink temperature adjustment is required to be disabled through another test mode TM No. 09-6-025 "Ink Temperature Adjust ON/OFF" before executing these test modes. Otherwise, an execution error will be notified when executing them. Restores the factory default configurations on a printer while deleting all stored data, including user-related ones, test mode parameter values and error history, but excluding firmware programs. The Setup wizard is to be launched when a printer is rebooted is to be launched when a printer is rebooted is the stored by the store between the stored by the setup wizard is to be launched when a printer is rebooted for the store become parameter values and error history, but excluding firmware programs. The Setup wizard is to be launched when a printer is rebooted for the store become becom
I 0 ²)1-4-001	TEST MODE CLEAR (ALL)	[Note] 1. This test mode is only accessible through a direct key entry of the corresponding number, without its item name displayed in the test mode list. 2. The printer should be rebooted to be configured with the restored factory default parameters. 3. Ink temperature adjustment is required to be disabled through another test mode TM No. 09-6-025 "Ink Temperature Adjust ON/OFF" before executing these test modes. Otherwise, an execution error will be notified when executing them. Restores the factory default configurations on a printer while deleting all stored data, including user-related ones, test mode parameter values and error history, but excluding firmware programs. The Setup wizard is to be launched when a printer is rebooted
I 0')1-4-002		2. The printer should be rebooted to be configured with the restored factory default parameters. 3. Ink temperature adjustment is required to be disabled through another test mode TM No. 09-6-025 "Ink Temperature Adjust ON/OFF" before executing these test modes. Otherwise, an execution error will be notified when executing them. Restores the factory default configurations on a printer while deleting all stored data, including user-related ones, test mode parameter values and error history, but excluding firmware programs. The Setup wizard is to be launched when a printer is rebooted
I 01)1-4-002		Restores the factory default configurations on a printer while deleting all stored data, including user-related ones, test mode parameter values and error history, but excluding firmware programs. The Setup wizard is to be launched when a printer is rebooted
I 0')1-4-002		arter this test mode. * The test mode parameter values stored on optonal devices, such as Scanner, Multifunction finisher and Additional 2000 sheet feeder, will not return to the factory default ones through this test mode.
		FACTORY DEFAULT	 [Note] 1. This test mode is only accessible through a direct key entry of the corresponding number, without its item name displayed in the test mode list. 2. A coming print job request is to be rejected during this test mode while received ones are deleted if any. 3. Ink temperature adjustment is required to be disabled through another test mode TM No. 09-6-025 "Ink Temperature Adjust ON/OFF" before executing these test modes. 4. When the "bulk data overwriting" function is enabled, the current values will be overwritten with random ones for designated data.
I 0')1-4-003	SETUP WZARD INITIALIZE	Configures the system to lead the Setup wizard to start up when a printer (the PMS) is rebooted.
)1_4_011	SSD INITIAI IZE	Initializes the SSD on the PMS. A printer is required to be rebooted twice after this test mode to finalize the initialization of the SSD. * The 2nd reboot should be executed after the Home screen appears on the Operation panel display. * A possible communication error can be disregarded in this test mode because it is solved at reboot.
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		[Note] This test mode is only accessible through a direct key entry of the corresponding number, without its item name displayed in the test mode list. A coming print job request is to be rejected during this test mode while received ones are deleted if any. When the "bulk data overwriting" function is enabled, the current values will be overwritten with random ones for designated data.
			Initializes the replacement SSD on the PMS according to the properties, such as model and target countries, of the printer on which the said SSD has been mounted. * This test mode should be executed after the replacement of the SSD.
	J1-4-U12	SSD INITIALIZE-EXCHANGE SSD INITIAL	[Note] This test mode is only accessible through a direct key entry of the corresponding number, without its item name displayed in the test mode list. A coming print job request is to be rejected during this test mode while received ones are deleted if any. When the "bulk data overwriting" function is enabled, the current values will be overwritten with random ones for designated data.
I 0')1-4-021	ERROR CLEAR (ALL)	Clears all existing errors related to the whole system, i.e. PMS, Engine control PCB and Scanner.
I 01)1-4-022	ERROR CLEAR (PMS)	Clears all existing errors related to the PMS.
I 0'	01-4-023	ERROR HISTORY CLEAR	Clears the history data shown in the test mode TM No. 01-5-011 "ERROR HISTORY DISPLAY."
Engine sy	ystem sec	นเอก	
I 04	04-4-001	TEST MODE CLEAR (ENGINE)	Restores the factory default parameter values for the test modes that can be configured by a service technician and are stored on the Engine control PCB. * The test mode parameter values stored on the Multifunction finisher will not return to the factory default ones through this test mode.
			[Note] 1. The printer should be rebooted to be configured with the restored factory default parameters. 2. Ink temperature adjustment is required to be disabled through another test mode TM No. 09-6-025 "Ink Temperature Adjust ON/OFF" before executing these test modes. Otherwise, an execution error will be notified when executing them.
I 04	04-4-011	ERROR CLEAR (ENGINE)	Clears all existing errors related to the Engine control PCB.
I 04	04-4-012	INK DETECT ERROR CLEAR	Clears the error codes related to ink circulation operations, i.e. S035-2072 to -2076 and S035-2082 to -2086. * A printer should be rebooted to release it from the corresponding error status.
I 04	04-4-021	RECOVERY DATA CLEAR	Clears the data prepared to control an error recovery operation. * A printer should be rebooted after this test mode.
I 04	04-4-110	REPLACE COUNT CLEAR-PFT (ALL)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following components in the External paper feed section. - Pickup roller - Scraper roller - Stripper pad

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Туре	Test mode No.	Test mode name	Action
1	04-4-111	REPLACE COUNT CLEAR-PFT (PICKUP)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the External paper feed section. - Pickup roller
1	04-4-112	REPLACE COUNT CLEAR-PFT (SCRAPER)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the External paper feed section. - Scraper roller
1	04-4-113	REPLACE COUNT CLEAR-PFT (S. PAD)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the External paper feed section. - Stripper pad
I	04-4-120	REPLACE COUNT CLEAR-TRAY 1 (ALL)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following components in the Internal paper feed section (Paper tray 1). - Pickup roller - Scraper roller - Stripper plate
ı	04-4-121	REPLACE COUNT CLEAR-TRAY 1 (PICKUP)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Internal paper feed section (Paper tray 1). - Pickup roller
1	04-4-122	REPLACE COUNT CLEAR-TRAY 1 (SCRAPER)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Internal paper feed section (Paper tray 1). - Scraper roller
1	04-4-123	REPLACE COUNT CLEAR-TRAY 1 (S. PAD)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Internal paper feed section (Paper tray 1). - Stripper plate
ı	04-4-130	REPLACE COUNT CLEAR-TRAY 2 (ALL)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following components in the Internal paper feed section (Paper tray 2). - Pickup roller - Scraper roller - Stripper plate
ı	04-4-131	REPLACE COUNT CLEAR-TRAY 2 (PICKUP)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Internal paper feed section (Paper tray 2). - Pickup roller
1	04-4-132	REPLACE COUNT CLEAR-TRAY 2 (SCRAPER)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Internal paper feed section (Paper tray 2). - Scraper roller
ı	04-4-133	REPLACE COUNT CLEAR-TRAY 2 (S. PAD)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Internal paper feed section (Paper tray 2). - Stripper plate
1	04-4-140	REPLACE COUNT CLEAR-TRAY 3 (ALL)	Resets the maintenance (replacement and deaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following components in the Internal paper feed section (Paper tray 3). - Pickup roller - Scraper roller - Stripper plate
1	04-4-141	REPLACE COUNT CLEAR-TRAY 3 (PICKUP)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Internal paper feed section (Paper tray 3). - Pickup roller
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Туре	Test mode No.	Test mode name	Action
1	04-4-142	REPLACE COUNT CLEAR-TRAY 3 (SCRAPER)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Internal paper feed section (Paper tray 3). - Scraper roller
ı	04-4-143	REPLACE COUNT CLEAR-TRAY 3 (S. PAD)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Internal paper feed section (Paper tray 3). - Stripper plate
1	04-4-150	REPLACE COUNT CLEAR-VERT TRAN (ALL)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following components in the Vertical transfer unit. - Vertical transfer roller (drive) - Vertical transfer roller (driven)
1	04-4-151	REPLACE COUNT CLEAR-VERT TRAN (DRV)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Vertical transfer unit. - Vertical transfer roller (drive)
1	04-4-152	REPLACE COUNT CLEAR-VERT TRAN (DRVN)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Vertical transfer unit. - Vertical transfer roller (driven)
1	04-4-160	REPLACE COUNT CLEAR-REGIST (ALL)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following components in the Registration roller unit. - Registration roller - Guide roller
1	04-4-161	REPLACE COUNT CLEAR-REGIST (REGIST)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Registration roller unit. - Registration roller
1	04-4-162	REPLACE COUNT CLEAR-REGIST (GUIDE)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Registration roller unit. - Guide roller
I	04-4-170	REPLACE COUNT CLEAR-BP (ALL)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following components in the Transfer belt section. - Transfer belt - KG roller
1	04-4-171	REPLACE COUNT CLEAR-BP (BELT)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Transfer belt section. - Transfer belt
I	04-4-172	REPLACE COUNT CLEAR-BP (KG ROLLER)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Transfer belt section. - KG roller
1	04-4-190	REPLACE COUNT CLEAR-SB (ALL)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following components in the Switchback section. - SB roller (drive) - SB roller (driven) - Re-feed roller (drive) - Re-feed roller (driven)
I	04-4-191	REPLACE COUNT CLEAR-SB (DRV)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Switchback unit. - SB roller (drive)
1	04-4-192	REPLACE COUNT CLEAR-SB (DRVN)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Switchback unit. - SB roller (driven)

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Туре	Test mode No.	Test mode name	Action
I	04-4-193	REPLACE COUNT CLEAR-RE-FEED (DRV)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Switchback section. - Re-feed roller (drive)
1	04-4-194	REPLACE COUNT CLEAR-RE-FEED (DRVN)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Switchback section.
1	04-4-200	REPLACE COUNT CLEAR-HORIZONTAL (ALL)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following components in the Horizontal transfer unit. - Horizontal transfer roller 1 (drive) - Horizontal transfer roller 2 (drive) - Horizontal transfer roller 2 (drive) - Horizontal transfer roller 3 (drive) - Horizontal transfer roller 3 (drive) - Horizontal transfer roller 3 (drive) - Horizontal transfer roller 4 (drive) - Horizontal transfer roller 4 (drive)
1	04-4-201	REPLACE COUNT CLEAR-HORIZONTAL (DRV1)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Horizontal transfer unit. - Horizontal transfer roller 1 (drive)
1	04-4-202	REPLACE COUNT CLEAR-HORIZON (DRVN1)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Horizontal transfer unit. - Horizontal transfer roller 1 (driven)
1	04-4-203	REPLACE COUNT CLEAR-HORIZON (DRV2)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Horizontal transfer unit. - Horizontal transfer roller 2 (drive)
1	04-4-204	REPLACE COUNT CLEAR-HORIZON (DRVN2)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Horizontal transfer unit. - Horizontal transfer roller 2 (driven)
1	04-4-205	REPLACE COUNT CLEAR-HORIZON (DRV3)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Horizontal transfer unit. - Horizontal transfer roller 3 (drive)
1	04-4-206	REPLACE COUNT CLEAR-HORIZON (DRVN3)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Horizontal transfer unit. - Horizontal transfer roller 3 (driven)
1	04-4-207	REPLACE COUNT CLEAR-HORIZON (DRV4)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No, 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No, 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Horizontal transfer unit. - Horizontal transfer roller 4 (drive)
1	04-4-208	REPLACE COUNT CLEAR-HORIZON (DRVN4)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Horizontal transfer unit. - Horizontal transfer roller 4 (driven)
1	04-4-210	REPLACE COUNT CLEAR-ELEV (ALL)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following components in the Paper elevation unit. - Paper elevation roller 1 (drive) - Paper elevation roller 2 (drive) - Paper elevation roller 2 (drive)
I	04-4-211	REPLACE COUNT CLEAR-ELEV (DRV1)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Paper elevation unit. - Paper elevation roller 1 (drive)

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Туре	Test mode No.	Test mode name	Action
1	04-4-212	REPLACE COUNT CLEAR-ELEV (DRVN1)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Paper elevation unit. - Paper elevation roller 1 (driven)
1	04-4-213	REPLACE COUNT CLEAR-ELEV (DRV2)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Paper elevation unit.
			- Paper elevation roller 2 (drive)
ı	04-4-214	REPLACE COUNT CLEAR-ELEV (DRVN2)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Paper elevation unit.
			- Paper elevation roller 2 (driven)
1	04-4-220	REPLACE COUNT CLEAR-FD EJECT (ALL)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following components in the FD paper ejection unit.
			- FD paper ejection roller (drive) - FD paper ejection roller (driven)
1	04-4-221	REPLACE COUNT CLEAR-FD EJECT (DRV)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the FD paper ejection unit.
			- FD paper ejection roller (drive)
1	04-4-222	REPLACE COUNT CLEAR-FD EJECT (DRVN)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the FD paper ejection unit.
			- FD paper ejection roller (driven)
		REPLACE COUNT CLEAR-FU TRANF (ALL)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following components in the FU paper ejection unit.
	04-4-230		- FU paper transport roller (drive) - FU paper transport roller (driven) - FU paper ejection roller (drive) - FU paper ejection roller (driven)
I	04-4-231	REPLACE COUNT CLEAR-FU TRANF (DRV1)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the FU paper ejection unit.
			- FU paper transport roller (drive)
ı	04-4-232	REPLACE COUNT CLEAR-FU TRANF (DRVN1)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes 1M No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the FU paper ejection unit.
			- FU paper transport roller (driven)
ı	04-4-233	REPLACE COUNT CLEAR-FU TRANF (DRV2)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the FU paper ejection unit.
			- FU paper ejection roller (drive)
ı	04-4-234	REPLACE COUNT CLEAR-FU TRANF (DRVN2)	Resets the maintenance (replacement and cleaning) meters, whose reading is possible through the test modes TM No. 04-3-050 "PREV MAINT CHECK PRINT (REPLACE)" and TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the FU paper ejection unit.
			- FU paper ejection roller (driven)
	04.4.050		Resets the maintenance (cleaning) meters, whose reading is possible through the test mode TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following components in the Vertical transfer unit.
	04-4-250	250 CLEAN COUNT CLEAR-VERT TRANF (ALL)	- Vertical transfer roller (drive) - Vertical transfer roller (driven)
1	04-4-251	4-251 CLEAN COUNT CLEAR-VERT TRANF (DRV)	Resets the maintenance (cleaning) meter, whose reading is possible through the test mode TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Vertical transfer unit.
L			- Vertical transfer roller (drive)
I	04-4-252	CLEAN COUNT CLEAR-VERT TRANF (DRVN)	Resets the maintenance (cleaning) meter, whose reading is possible through the test mode TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Vertical transfer unit.
1			······································

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Туре	Test mode No.	Test mode name	Action
I	04-4-260	CLEAN COUNT CLEAR-REGIST (ALL)	Resets the maintenance (cleaning) meter, whose reading is possible through the test mode TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following components in the Registration roller unit. - Registration roller - Guide roller
I	04-4-261	CLEAN COUNT CLEAR-REGIST (REGIST)	Resets the maintenance (cleaning) meter, whose reading is possible through the test mode TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Registration roller unit Registration roller
I	04-4-262	CLEAN COUNT CLEAR-REGIST (GUIDE)	Resets the maintenance (cleaning) meter, whose reading is possible through the test mode TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Registration roller unit Guide roller
I	04-4-270	CLEAN COUNT CLEAR-BP (ALL)	Resets the maintenance (cleaning) meters, whose reading is possible through the test mode TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following components in the Transfer belt section. - Transfer belt - KG roller
I	04-4-271	CLEAN COUNT CLEAR-BP (BELT)	Resets the maintenance (cleaning) meter, whose reading is possible through the test mode TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Transfer belt section Transfer belt
I	04-4-272	CLEAN COUNT CLEAR-BP (KG ROLLER)	Resets the maintenance (cleaning) meter, whose reading is possible through the test mode TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Transfer belt section KG roller
I	04-4-290	CLEAN COUNT CLEAR-SB (ALL)	Resets the maintenance (cleaning) meters, whose reading is possible through the test mode TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following components in the Switchback section. - SB roller (drive) - SB roller (driven) - Re-feed roller (drive) - Re-feed roller (driven)
I	04-4-291	CLEAN COUNT CLEAR-SB (DRV)	Resets the maintenance (cleaning) meter, whose reading is possible through the test mode TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Switchback unit. - SB roller (drive)
I	04-4-292	CLEAN COUNT CLEAR-SB (DRVN)	Resets the maintenance (cleaning) meter, whose reading is possible through the test mode TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Switchback unit. - SB roller (driven)
I	04-4-293	CLEAN COUNT CLEAR-RE-FEED (DRV)	Resets the maintenance (cleaning) meter, whose reading is possible through the test mode TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Switchback section Re-feed roller (drive)
I	04-4-294	CLEAN COUNT CLEAR-RE-FEED (DRVN)	Resets the maintenance (cleaning) meter, whose reading is possible through the test mode TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Switchback section Re-feed roller (driven)
I	04-4-300	CLEAN COUNT CLEAR-LOWER (HORIZONTAL) (ALL)	Resets the maintenance (cleaning) meters, whose reading is possible through the test mode TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following components in the Horizontal transfer unit. - Horizontal transfer roller 1 (drive) - Horizontal transfer roller 2 (drive) - Horizontal transfer roller 2 (drive) - Horizontal transfer roller 3 (drive) - Horizontal transfer roller 3 (drive) - Horizontal transfer roller 3 (drive) - Horizontal transfer roller 4 (drive) - Horizontal transfer roller 4 (drive)
I	04-4-301	CLEAN COUNT CLEAR-HORIZONTAL (DRV1)	Resets the maintenance (cleaning) meter, whose reading is possible through the test mode TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Horizontal transfer unit. - Horizontal transfer roller 1 (drive)

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Туре	Test mode No.	Test mode name	Action
1	04-4-302	CLEAN COUNT CLEAR-HORIZONTAL (DRVN1)	Resets the maintenance (cleaning) meter, whose reading is possible through the test mode TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Horizontal transfer unit - Horizontal transfer roller 1 (driven)
1	04-4-303	CLEAN COUNT CLEAR-HORIZONTAL (DRV2)	Resets the maintenance (cleaning) meter, whose reading is possible through the test mode TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Horizontal transfer unit. - Horizontal transfer roller 2 (drive)
1	04-4-304	CLEAN COUNT CLEAR-HORIZONTAL (DRVN2)	Resets the maintenance (cleaning) meter, whose reading is possible through the test mode TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Horizontal transfer unit. - Horizontal transfer roller 2 (driven)
ı	04-4-305	CLEAN COUNT CLEAR-HORIZONTAL (DRV3)	Resets the maintenance (cleaning) meter, whose reading is possible through the test mode TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Horizontal transfer unit. - Horizontal transfer roller 3 (drive)
	04-4-306	CLEAN COUNT CLEAR-HORIZONTAL (DRVN3)	Resets the maintenance (cleaning) meter, whose reading is possible through the test mode TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Horizontal transfer unit. - Horizontal transfer roller 3 (driven)
I	04-4-307	CLEAN COUNT CLEAR-HORIZONTAL (DRV4)	Resets the maintenance (cleaning) meter, whose reading is possible through the test mode TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Horizontal transfer unit. - Horizontal transfer roller 4 (drive)
1	04-4-308	CLEAN COUNT CLEAR-HORIZONTAL (DRVN4)	Resets the maintenance (cleaning) meter, whose reading is possible through the test mode TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Horizontal transfer unit. - Horizontal transfer roller 4 (driven)
1	04-4-310	CLEAN COUNT CLEAR-ELEV (ALL)	Resets the maintenance (cleaning) meters, whose reading is possible through the test mode TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following components in the Paper elevation unit. - Paper elevation roller 1 (drive) - Paper elevation roller 1 (driven) - Paper elevation roller 2 (drive) - Paper elevation roller 2 (drive)
ı	04-4-311	CLEAN COUNT CLEAR-ELEV (DRV1)	Resets the maintenance (cleaning) meter, whose reading is possible through the test mode TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Paper elevation unit. - Paper elevation roller 1 (drive)
1	04-4-312	CLEAN COUNT CLEAR-ELEV (DRVN1)	Resets the maintenance (cleaning) meter, whose reading is possible through the test mode TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Paper elevation unit. - Paper elevation roller 1 (driven)
1	04-4-313	CLEAN COUNT CLEAR-ELEV (DRV2)	Resets the maintenance (cleaning) meter, whose reading is possible through the test mode TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Paper elevation unit. - Paper elevation roller 2 (drive)
1	04-4-314	CLEAN COUNT CLEAR-ELEV (DRVN2)	Resets the maintenance (cleaning) meter, whose reading is possible through the test mode TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the Paper elevation unit. - Paper elevation roller 2 (driven)
I	04-4-320	CLEAN COUNT CLEAR-FD EJECT (ALL)	Resets the maintenance (cleaning) meters, whose reading is possible through the test mode TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following components in the FD paper ejection unit. - FD paper ejection roller (drive) - FD paper ejection roller (driven)
1	04-4-321	CLEAN COUNT CLEAR-FD EJECT (DRV)	Resets the maintenance (cleaning) meter, whose reading is possible through the test mode TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the FD paper ejection unit. - FD paper ejection roller (drive)
1	04-4-322	CLEAN COUNT CLEAR-FD EJECT (DRVN)	Resets the maintenance (cleaning) meter, whose reading is possible through the test mode TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the FD paper ejection unit. - FD paper ejection roller (driven)

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1 Set-SS CLEAR COLVER CLEAR UTBAR (VII) Set-SI FIGURATION CLEAR UTBAR (VII) 1 Set-SS CLEAR COLVER CLEAR UTBAR (VIII) Set-SI FIGURATION CLEAR UTBAR (VIII) 1 Set-SS CLEAR COLVER CLEAR UTBAR (VIII) Set-SS FIGURATION CLEAR UTBAR (VIII) 1 Set-SS CLEAR COLVER CLEAR UTBAR (VIII) Set-SS FIGURATION CLEAR UTBAR (VIII) 1 Set-SS CLEAR COLVER CLEAR UTBAR (VIII) Set-SS FIGURATION CLEAR UTBAR (VIII) 1 Set-SS CLEAR COLVER CLEAR UTBAR (VIII) Set-SS FIGURATION CLEAR UTBAR (VIII) 1 Set-SS CLEAR COLVER CLEAR UTBAR (VIII) SetS FIGURATION CLEAR UTBAR (VIIII) SetS FIGURATION CLEAR UTBAR (VIIII) 1 Set-SS CLEAR COLVER CLEAR UTBAR (VIIII) SetS FIGURATION CLEAR UTBAR (VIIIII) SetS FIGURATION CLEAR UTBAR (VIIIII) 1 Set-SS CLEAR COLVER CLEAR UTBAR (VIIIII) SetS FIGURATION CLEAR UTBAR (VIIIIII) SetS FIGURATION CLEAR UTBAR (VIIIIIIII) 1 SetS FIGURATION CLEAR UTBAR (VIIIIIIII) SetS FIGURATION CLEAR (VIIIIIII) SetS FIGURATION CLEAR (VIIIIIIII) SetS FIGURATION CLEAR (VIIIIIIIII) SetS FIGURATION CLEAR (VIIIIIIIIIIIII) SetS FIGURATION CLEAR (VIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Туре	Test mode No.	Test mode name	Action
Image: Control CLEARS Description of CLEARS Description CLEARS Description of CLEARS <t< td=""><td>1</td><td>04-4-330</td><td>CLEAN COUNT CLEAR-FU TRANF (ALL)</td><td>Resets the maintenance (cleaning) meters, whose reading is possible through the test mode TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following components in the FU paper ejection unit. - FU paper transport roller (drive) - FU paper transport roller (driven) - FU paper ejection roller (drive) - FU paper ejection roller (drive) - FU paper ejection roller (drive)</td></t<>	1	04-4-330	CLEAN COUNT CLEAR-FU TRANF (ALL)	Resets the maintenance (cleaning) meters, whose reading is possible through the test mode TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following components in the FU paper ejection unit. - FU paper transport roller (drive) - FU paper transport roller (driven) - FU paper ejection roller (drive) - FU paper ejection roller (drive) - FU paper ejection roller (drive)
1 04-327 CLEAN COUNT CLEAR-FUTRAVE (DRAVE) Prest is in inference clearing index, whore reading is possible through the test model TM No. 04-301 "PREV MANT PREV MA	I	04-4-331	CLEAN COUNT CLEAR-FU TRANF (DRV1)	Resets the maintenance (cleaning) meter, whose reading is possible through the test modes TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the FU paper ejection unit. - FU paper transport roller (drive)
1 04-4333 CLEAN COUNT CLEAR-FU TRAFF (DRV) Headers the maintenance (storing) mater whole reading is possible through the text nodes TMA.D. D4-301 TREEY MART 1 04-4333 CLEAN COUNT CLEAR-FU TRAFF (DRVp) "PU page destination dater (storing) mater, whole reading is possible through the text nodes TMA.D. D4-301 TREEY MART 1 04-4354 CLEAN COUNT CLEAR-FU TRAFF (DRVp) "PU page destination dater (storing) mater, whole reading is possible through the text nodes TMA.D. D4-301 TREEY MART 1 04-4354 CLEAN COUNT CLEAR-FU TRAFF (DRVp) "Present text text text for thermal to storing mater, whole reading is possible through the text nodes TMA.D. D4-301 TREEY MART 1 04-400 RELT STRETCH DRVA (DEAR Present text text text for thermal to storing mater whole a storing or the storing or the storing mater whole a storing or the storing mater whole a storing or the sto	1	04-4-332	CLEAN COUNT CLEAR-FU TRANF (DRVN1)	Resets the maintenance (cleaning) meter, whose reading is possible through the test modes TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the FU paper ejection unit. - FU paper transport roller (driven)
I 04-638 CLEAN COUNT CLEAR-PUTRANE (DRWD) Reado the mandmance (detaining index, whole reading is possible through the test modes TM No. 04-5401 "PREV MAINT PREV MAINT PREV FLOCEALLY TO THE Vibleming component in the PU paper ejection in the Temport section Reado the mandmance (detaining index, whole reading is possible through the test modes TM No. 04-5401 "PREV MAINT PREV MAINT PREV MAINT 1 06-4001 SELT STRETCH DATA CLEAR Reado the following parameter values which are stored in the fisht memory to be applied when contiguing the system accord the statemance of the statemance of the statemance (detaining interfer balance) 2 21-4001 SELT STRETCH DATA CLEAR Readows the default configuration in the scanner-tailed test modes whole parameter values, including EEPROM-stored on state of diversite many in the scanner-tailed test modes whole parameter values, including EEPROM-stored on state of diversite many in the scanner-tailed test modes whole parameter values, including EEPROM-stored on state of diversite many. 1 21-4001 SCANNER OVER PARAMETER CLEAR Readows the default configuration in the scanner-tailed test modes whole parameter values, including EEPROM-stored on state of the cleant many in the scanner-tailed test modes whole parameter values, including EEPROM-stored on state of the cleant many in the cleant many of the scanner values. Image: Scanner OVER PARAMETER CLEAR 1 21-4002 SCANNER TEST PARAMETER CLEAR Readows the cleant many of the scanner values. Readows the scanner values. <t< td=""><td>1</td><td>04-4-333</td><td>CLEAN COUNT CLEAR-FU TRANF (DRV2)</td><td>Resets the maintenance (cleaning) meter, whose reading is possible through the test modes TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the FU paper ejection unit. - FU paper ejection roller (drive)</td></t<>	1	04-4-333	CLEAN COUNT CLEAR-FU TRANF (DRV2)	Resets the maintenance (cleaning) meter, whose reading is possible through the test modes TM No. 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the FU paper ejection unit. - FU paper ejection roller (drive)
Transport section Results the following parameter values which are stored in the flash memory to be applied when configuring the system accollent of the wilding Transfer bell. to zero (0): I 06-4001 BELT STRETCH DATA CLEAR Perform the startich regine of the wilding Transfer bell. to zero (0): I 21-4005 SCANNER OVER PARAMETER CLEAR Perform the scanner-related test modes whose parameter values. Including EEPROM-stored on set out of allowable range. I 21-4005 SCANNER OVER PARAMETER CLEAR Recovers the default configuration in the scanner-related test modes whose parameter values. Including EEPROM-stored on been changed from the datafult case. While Reining the backwall test modes whose parameter values. Including EEPROM-stored on been changed from the datafult case. While Reining the backwall test modes whose parameter values. Including EEPROM-stored on been changed from the datafult case. While Reining the backwall test modes whose parameter values. Including EEPROM-stored on the start case. While Reining the backwall test modes whose parameter values. Including EEPROM-stored on the start case. While Reining the test mode is a they are even with other parameter values are an with other parameter values. Including EEPROM-stored on the start case. While Reining the test mode is a they are even with other parameter values. Including EEPROM-stored on the start case. While Reining the test mode is a they are even with other parameter values. Including EEPROM-stored on the test mode is a they are even with other parameter values. Including EEPROM-stored on the test mode is a they are even with other parameter values. Including EEPROM-stored on the test mode is they are even with other parameter values. Including they are eve	I	04-4-334	CLEAN COUNT CLEAR-FU TRANF (DRVN2)	Resets the maintenance (cleaning) meter, whose reading is possible through the test modes TM No, 04-3-051 "PREV MAINT CHECK PRINT (CLEAN)," for the following component in the FU paper ejection unit. - FU paper ejection roller (driven)
Scamer 1 214-001 SCANNER OVER PARAMETER CLEAR Recovers the default configuration in the scanner-related test modes whose parameter values, including EEPROM-stored on even of allowable range. 1 214-001 SCANNER OVER PARAMETER CLEAR Recovers the default configuration in the scanner-related test modes whose parameter values, including EEPROM-stored on even of an edge of from the default configuration in the scanner-related test modes whose parameter values, including EEPROM-stored on even with other parameter values of default configuration in the scanner-related test modes whose parameter values, including EEPROM-stored on even with other parameter values of default configuration in the scanner-related test modes as they are even with other parameter values of default configuration in the scanner-related test modes as they are even with other parameter values of default configuration in the scanner values. Including EEPROM-stored on even values. Including EEPROM-stored EEPROM-stored EEPROM-stored EEPROM-stored EEPROM-stored EEPROM-store	Trans	port section 06-4-001	BELT STRETCH DATA CLEAR	Resets the following parameter values which are stored in the flash memory to be applied when configuring the system according to the stretch range of the existing Transfer belt to zero (0): - Default one - All acquired ones (A, B and C)
Image: Second State Control State S	Scanr I	21-4-001	SCANNER OVER PARAMETER CLEAR	Recovers the default configuration in the scanner-related test modes whose parameter values, including EEPROM-stored ones, are set out of allowable range.
I 21-4-006 SCANNER JAM CLEAR Clears the existing original jam errors on the Scanner. * Always remove jammed originals on the scanner before executing this test mode. Otherwise, original jam errors will not be a be detected any more. Face down finisher I 24-4-001 FDF GUIDE PLATE POSITION INITIALIZE Returns the Paper alignment plates F and R to the initial (home) positions on the Facedown finisher. I 24-4-002 FDF PRINT COUNT CLEAR Resets the passing sheet counter on the Facedown finisher. I 24-4-003 FDF STAPLER JOB COUNT CLEAR Resets the stapling job counter on the Facedown finisher. I 24-4-004 FDF PRINT COUNT CLEAR Resets the stapling job counter on the Facedown finisher. I 24-4-003 FDF STAPLER JOB COUNT CLEAR Resets the stapling job counter on the Facedown finisher. I 24-4-004 FDF PARAMETER INITIALIZE Returns the adjustment parameter values stored in the EEPROM on the Facedown finisher to the default ones. High Capacity Feeder I 29-4-001 HCF EEPROM INITIALIZE Initializes the EEPROM on the High-capacity feeder. I 30-4-001 HCF EEPROM INITIALIZE Initializes the EEPROM on the High-capacity stacker. I Wrapping Envelope Finisher I 30-4-001 HCF EEPROM INITIALIZE Initializes the E	I	21-4-002	SCANNER TEST PARAMETER CLEAR	Recovers the default configuration in the scanner-related test modes whose parameter values, including EEPROM-stored ones, have been changed from the default ones, while leaving the below-listed test modes as they are even with other parameter values than the default ones. - TM No. 21-6-021 "FB SCAN DEFAULT HORIZON POSITION" - TM No. 21-6-023 "FB SCAN DEFAULT START POSITION" - TM No. 21-6-023 "FB SCAN DEFAULT START POSITION" - TM No. 21-6-023 "FB SCAN DEFAULT CARRIAGE POSITION" - TM No. 21-6-076 "COLOR PROFILE SELECTION" * A printer is required to be rebooted after this test mode to apply the recovered default configurations to the below-listed test modes. - TM No. 21-6-111 "DUD BASIS SET -COPY" - TM No. 21-6-112 "DUD BASIS SET -SCAN" - TM No. 21-6-116 "DEFAULT EDGE ENHANCEMENT -COPY" - TM No. 21-6-117 "DEFAULT EDGE ENHANCEMENT -SCAN" - TM No. 21-6-121 "DEFAULT MOIRE REMOVE -COPY" - TM No. 21-6-121 "DEFAULT MOIRE REMOVE -COPY" - TM No. 21-6-131 "DEFAULT MOIRE REMOVE -COPY" - TM No. 21-6-131 "DEFAULT MANUAL BASE CUT -COPY" - TM No. 21-6-131 "DEFAULT MANUAL BASE CUT -COPY"
Face down trinsher I 24-4-001 FDF GUIDE PLATE POSITION INITIALIZE Returns the Paper alignment plates F and R to the initial (home) positions on the Facedown finisher. I 24-4-002 FDF PRINT COUNT CLEAR Resets the passing sheet counter on the Facedown finisher. I 24-4-003 FDF STAPLER JOB COUNT CLEAR Resets the stapling job counter on the Facedown finisher. I 24-4-004 FDF PARAMETER INITIALIZE Returns the adjustment parameter values stored in the EEPROM on the Facedown finisher to the default ones. High Capacity Feeder I 29-4-001 HCF EEPROM INITIALIZE Initializes the EEPROM on the High-capacity feeder. I 30-4-001 HCS EEPROM INITIALIZE Initializes the EEPROM on the High-capacity stacker. Wrapping Envelope Finisher Litializes the EEPROM on the High-capacity stacker.	- -	21-4-006	SCANNER JAM CLEAR	Clears the existing original jam errors on the Scanner. * Always remove jammed originals on the scanner before executing this test mode. Otherwise, original jam errors will not be able to be detected any more.
I 24-4-002 FDF PRINT COUNT CLEAR Resets the passing sheet counter on the Facedown finisher. I 24-4-003 FDF STAPLER JOB COUNT CLEAR Resets the stapling job counter on the Facedown finisher. I 24-4-004 FDF PARAMETER INITIALIZE Returns the adjustment parameter values stored in the EEPROM on the Facedown finisher to the default ones. High Capacity Feeder Initializes the EEPROM on the High-capacity feeder. I 29-4-001 HCF EEPROM INITIALIZE Initializes the EEPROM on the High-capacity feeder. I 30-4-001 HCS EEPROM INITIALIZE Initializes the EEPROM on the High-capacity stacker. Wrapping Envelope Finisher Initializes the EEPROM on the High-capacity stacker. Initializes the EEPROM on the High-capacity stacker.	Face	24-4-001	r FDF GUIDE PLATE POSITION INITIALIZE	Returns the Paper alignment plates F and R to the initial (home) positions on the Facedown finisher.
I 24-4-003 FDF STAPLER JOB COUNT CLEAR Resets the stapling job counter on the Facedown finisher. I 24-4-004 FDF PARAMETER INITIALIZE Returns the adjustment parameter values stored in the EEPROM on the Facedown finisher to the default ones. High Capacity Feeder I 29-4-001 HCF EEPROM INITIALIZE Initializes the EEPROM on the High-capacity feeder. High Capacity Stacker I 30-4-001 HCS EEPROM INITIALIZE Initializes the EEPROM on the High-capacity stacker. Wrapping Envelope Finisher Initializes the EEPROM on the High-capacity stacker. Initializes the EEPROM on the High-capacity stacker.	 	24-4-002	FDF PRINT COUNT CLEAR	Resets the passing sheet counter on the Facedown finisher.
I 24-4-004 FDF PARAMETER INITIALIZE Returns the adjustment parameter values stored in the EEPROM on the Facedown finisher to the default ones. High Capacity Feeder I 29-4-001 HCF EEPROM INITIALIZE Initializes the EEPROM on the High-capacity feeder. High Capacity Stacker I 30-4-001 HCS EEPROM INITIALIZE Initializes the EEPROM on the High-capacity stacker. Wrapping Envelope Finisher		24-4-003	FDF STAPLER JOB COUNT CLEAR	Resets the stapling job counter on the Facedown finisher.
High Capacity Feeder I 29-4-001 HCF EEPROM INITIALIZE Initializes the EEPROM on the High-capacity feeder. High Capacity Stacker Initializes the EEPROM on the High-capacity feeder. I 30-4-001 HCS EEPROM INITIALIZE Initializes the EEPROM on the High-capacity stacker. Wrapping Envelope Finisher	1	24-4-004	FDF PARAMETER INITIALIZE	Returns the adjustment parameter values stored in the EEPROM on the Facedown finisher to the default ones.
High Capacity Stacker I 30-4-001 HCS EEPROM INITIALIZE Initializes the EEPROM on the High-capacity stacker. Wrapping Envelope Finisher	High (29-4-001	aer HCF EEPROM INITIALIZE	Initializes the EEPROM on the High-capacity feeder.
Wrapping Envelope Finisher	High	30-4-001	HCS EEPROM INITIALIZE	Initializes the EEPROM on the High-capacity stacker.
1 33.4.001 WEE PARAMETER INTIALIZE Patrime that adjustment parameter values for the Wroneing envelope finisher to the default once and stores them into the EF	Wrap	oing Envelop		Returns theil adjustment parameter values for the Mrapping envelope finisher to the default open and stores them into the EEDPOM

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Туре	Test mode No.	Test mode name	Action
Perfec	t Binder		
I	34-4-001	PB COUNT4 CLEAR	Resets the counter 4 (for inserted cover sheets) on the Perfect binder.
Multif	unction finis	her FG20	
ı	36-4-001	FI EEPROM INITIALIZATION	Initializes the FI_EPROM in the FI unit of the Multifunction finisher.
I	37-4-005	FF TRANSFER CURRENT LIFE CLEAR	Clears the current life (mileage) data of the components related to paper transfer in the FF (Finisher Fold) unit of the Multifunction finisher.
ı	37-4-006	FM PUNCH TRANSFER CURRENT LIFE CLEAR	Clears the current life (mileage) data of the components related to paper transfer, such as hamesses, gears and clutches, in the Punching section of the Multifunction finisher.
ı	37-4-007	FM COMPILE CURRENT LIFE CLEAR	Clears the current life (mileage) data of the components related to paper handling by the Compile components in the Stapling section of the Multifunction finisher.
ı	37-4-008	FM SUB PADDLE CURRENT LIFE CLEAR	Clears the current life (mileage) data of the FM Sub paddles in the Stapling section of the Multifunction finisher.
ı	37-4-009	FM PADDLE CURRENT LIFE CLEAR	Clears the current life (mileage) data of the FM Main paddles in the Stapling section of the Multifunction finisher.
I	37-4-010	FB PADDLE CURRENT LIFE CLEAR	Clears the current life (mileage) data of the FB paddles in the Booklet making section of the Multifunction finisher.
I	37-4-011	FM STAPLE UNIT CURRENT LIFE CLEAR	Clears the current life (mileage) data of the FM Stapler in the Stapling section of the Multifunction finisher.
ı	37-4-012	FB STAPLE UNIT CURRENT LIFE CLEAR	Clears the current life (mileage) data of the FB Stapler in the Booklet making section of the Multifunction finisher.
ı	37-4-013	FM SUB PADDLE CLUTCH CUR LIFE CLEAR	Clears the current life (mileage) data of the FM Sub paddle clutch in the Stapling section of the Multifunction finisher.
ı	37-4-014	FM STACK EJECT ROLL CUR LIFE CLEAR	Clears the current life (mileage) data of the FM Stack eject rollers in the Stapling section of the Multifunction finisher.
1	37-4-015	FM PUNCH UNIT CURRENT LIFE CLEAR	Clears the current life (mileage) data of the FM Puncher in the Punching section of the Multifunction finisher.
	37-4-016	FM GATE 2 UNIT CURRENT LIFE CLEAR	Clears the current life (mileage) data of the components related to paper path switch by the FM Gate 2 of the Multifunction finisher.

4.5 "Data Monitor (M)" modes

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Туре	Test mode No.	Test mode name	Action
M	01-5-001	PACKAGE DATA VERSION	Indicates the version numbers of the firmware package data.
м	01-5-002	PMS FIRMWARE VERSION	Indicates the version number of the PMS firmware.
м	01-5-003	PANEL FIRMWARE VERSION	Indicates the version number of the Panel firmware.
м	01-5-004	REMOTE CTRL COM MODULE VERSION	Indicates the version number of the remote control communication module for the RRA (RISO Remote Agent). * This test mode is available only when the RA function is enabled in the test mode TM No. 01-6-041 "REMOTE AGENT FUNCTION SELECTION." If it is not available, its name will not be displayed in the test mode item list and the corresponding direct number entry will not be possible, either.
М	01-5-011	ERROR HISTORY DISPLAY	Displays a list of error events (up to 64) recorded during regular operations (excluding test modes) on a printer in chronologically descending order. <display items=""> - Error code / Error summary / Date and time of error occurrence * 1. The displayed error events can be filtered based on error type, allowing multiple type selection. * 2. The displayed error event list can also be printed out as "Error history print." If no error event is recorded on a printer, however, the message "No error history" will be indicated on the said print. < Indicated items on prints> - Error code / Error summary / Date and time of error occurrence / Paper source (if related) / Output destination (if related) / Paper format (if related) / Mileage (print and copy) meter * 3, 1000 error events, counted from the latest one, can be kept in record at a maximum. [Note] * Print conditions are the same as for the test mode TM No. 01-3-021 "COUNT INFORMATION PRINT."</display>
м	01-5-016	TEST MODE CONFIG 2	Displays the contents to be printed in the test mode TM No. 01-3-023 "TEST MODE CONFIG PRINT 2." <display items=""> - Test mode item number / Test mode item name / Parameter * If the corresponding test mode item name is not displayed in the item list or the said test mode is dedicated for manufacturing or development, its number and parameters are only displayed.</display>
м	01-5-021	TOTAL COUNT DISPLAY (PMS)	Displays the PMS-stored backup blanket mileage meter (total output page count), which is prepared to be applied in case the primary one is corrupted on the Engine control PCB.
м	01-5-022	DETAIL COUNT 1 DISPLAY (PMS)	Displays the PMS-stored backup mileage meter (output page count) for "Count pattern No.01," which is prepared to be applied in case the primary one is corrupted on the Engine control PCB. * Count pattern No.01: A3 (or Ledger)-format color prints (including mono-color and two-color ones)
м	01-5-023	DETAIL COUNT 2 DISPLAY (PMS)	Displays the PMS-stored backup mileage meter (output page count) for "Count pattern No.02," which is prepared to be applied in case the primary one is corrupted on the Engine control PCB. * Count pattern No.02: A4 (or Letter)-format color prints (including mono-color and two-color ones)
м	01-5-024	DETAIL COUNT 3 DISPLAY (PMS)	Displays the PMS-stored backup mileage meter (output page count) for "Count pattern No.03," which is prepared to be applied in case the primary one is corrupted on the Engine control PCB. * Count pattern No.03: B4 (, Legal or 8K)-format color prints (including mono-color and two-color ones)
м	01-5-025	DETAIL COUNT 4 DISPLAY (PMS)	Displays the PMS-stored backup mileage meter (output page count) for "Count pattern No.04," which is prepared to be applied in case the primary one is corrupted on the Engine control PCB. * Count pattern No.04: B5 (, Statement or 16K)-format color prints (including mono-color and two-color ones)
м	01-5-026	DETAIL COUNT 5 DISPLAY (PMS)	Displays the PMS-stored backup mileage meter (output page count) for "Count pattern No.05," which is prepared to be applied in case the primary one is corrupted on the Engine control PCB. * Count pattern No.05: Foolscap-format color prints (including mono-color and two-color ones)
м	01-5-027	DETAIL COUNT 6 DISPLAY (PMS)	Displays the PMS-stored backup mileage meter (output page count) for "Count pattern No.06," which is prepared to be applied in case the primary one is corrupted on the Engine control PCB. * Count pattern No.06: The following-paper-format color prints (including mono-color and two-color ones) [Applied paper formats] Custom-Large / Envelope-2 (10X13 inch) / Envelope form B for WEF / A3W / SRA3
м	01-5-028	DETAIL COUNT 7 DISPLAY (PMS)	Displays the PMS-stored backup mileage meter (output page count) for "Count pattern No.07," which is prepared to be applied in case the primary one is corrupted on the Engine control PCB. * Count pattern No.07: The following-paper-format color prints (including mono-color and two-color ones) [Applied paper formats] Custom-Small / Envelope-1 (9X12 inch) / Envelope No.10 / Envelope form A (or C) for WEF / C4 / C5 /C6 /DL
м	01-5-029	DETAIL COUNT 8 DISPLAY (PMS)	Displays the PMS-stored backup mileage meter (output page count) for "Count pattern No.08," which is prepared to be applied in case the primary one is corrupted on the Engine control PCB. * Count pattern No.08: A3 (or Ledger)-format monochrome-K prints

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Туре	Test mode No.	Test mode name	Action
М	01-5-030	DETAIL COUNT 9 DISPLAY (PMS)	Displays the PMS-stored backup mileage meter (output page count) for "Count pattern No.09," which is prepared to be applied in case the primary one is corrupted on the Engine control PCB. * Count pattern No.09: A4 (or Letter)-format monochrome-K prints
м	01-5-031	DETAIL COUNT 10 DISPLAY (PMS)	Displays the PMS-stored backup mileage meter (output page count) for "Count pattern No.10," which is prepared to be applied in case the primary one is corrupted on the Engine control PCB. * Count pattern No.10: B4 (, Legal or 8K)-format monochrome-K prints
м	01-5-032	DETAIL COUNT 11 DISPLAY (PMS)	Displays the PMS-stored backup mileage meter (output page count) for "Count pattern No.11," which is prepared to be applied in case the primary one is corrupted on the Engine control PCB. * Count pattern No.11: B5 (, Statement or 16K)-format monochrome-K prints
м	01-5-033	DETAIL COUNT 12 DISPLAY (PMS)	Displays the PMS-stored backup mileage meter (output page count) for "Count pattern No.12," which is prepared to be applied in case the primary one is corrupted on the Engine control PCB. * Count pattern No.12: Foolscap-format monochrome-K prints
М	01-5-034	DETAIL COUNT 13 DISPLAY (PMS)	Displays the PMS-stored backup mileage meter (output page count) for "Count pattern No.13," which is prepared to be applied in case the primary one is corrupted on the Engine control PCB. * Count pattern No.13: The following-paper-format monochrome-K prints [Applied paper formats] Custom-Large / Envelope-2 (10X13 inch) / Envelope form B for WEF / A3W / SRA3
м	01-5-035	DETAIL COUNT 14 DISPLAY (PMS)	Displays the PMS-stored backup mileage meter (output page count) for "Count pattern No.14," which is prepared to be applied in case the primary one is corrupted on the Engine control PCB. * Count pattern No.14: The following-paper-format monochrome-K prints [Applied paper formats] Custom-Small / Envelope-1 (9X12 inch) / Envelope No.10 / Envelope form A (or C) for WEF / C4 / C5 /C6 /DL
м	01-5-036	DETAIL COUNT 15 DISPLAY (PMS)	Displays the PMS-stored backup mileage meter (output page count) for "Count pattern No.15," which is prepared to be applied in case the primary one is corrupted on the Engine control PCB. * Count pattern No.15: A3 (or Ledger)-format mono-color prints (mono-cyan and mono-magenta)
м	01-5-037	DETAIL COUNT 16 DISPLAY (PMS)	Displays the PMS-stored backup mileage meter (output page count) for "Count pattern No.16," which is prepared to be applied in case the primary one is corrupted on the Engine control PCB. * Count pattern No.16: A4 (or Letter)-format mono-color prints (mono-cyan and mono-magenta)
м	01-5-038	DETAIL COUNT 17 DISPLAY (PMS)	Displays the PMS-stored backup mileage meter (output page count) for "Count pattern No.17," which is prepared to be applied in case the primary one is corrupted on the Engine control PCB. * Count pattern No.17: B4 (, Legal or 8K)-format mono-color prints (mono-cyan and mono-magenta)
м	01-5-039	DETAIL COUNT 18 DISPLAY (PMS)	Displays the PMS-stored backup mileage meter (output page count) for "Count pattern No.18," which is prepared to be applied in case the primary one is corrupted on the Engine control PCB. * Count pattern No.18: B5 (, Statement or 16K)-format mono-color prints (mono-cyan and mono-magenta)
м	01-5-040	DETAIL COUNT 19 DISPLAY (PMS)	Displays the PMS-stored backup mileage meter (output page count) for "Count pattern No.19," which is prepared to be applied in case the primary one is corrupted on the Engine control PCB. * Count pattern No.19: Foolscap-format mono-color prints (mono-cyan and mono-magenta)
М	01-5-041	DETAIL COUNT 20 DISPLAY (PMS)	Displays the PMS-stored backup mileage meter (output page count) for "Count pattern No.20," which is prepared to be applied in case the primary one is corrupted on the Engine control PCB. * Count pattern No.20: The following-paper-format mono-color prints (mono-cyan and mono-magenta) [Applied paper formats] Custom-Large / Envelope-2 (10X13 inch) / Envelope form B for WEF / A3W / SRA3
м	01-5-042	DETAIL COUNT 21 DISPLAY (PMS)	Displays the PMS-stored backup mileage meter (output page count) for "Count pattern No.21," which is prepared to be applied in case the primary one is corrupted on the Engine control PCB. * Count pattern No.21: The following-paper-format mono-color prints (mono-cyan and mono-magenta) [Applied paper formats] Custom-Small / Envelope-1 (9X12 inch) / Envelope No.10 / Envelope form A (or C) for WEF / C4 / C5 /C6 /DL
М	01-5-043	MAINTENANCE COUNT P-FEED TRAY (PMS)	Displays the PMS-stored backup maintenance mileage meter (total feeding sheet count) for the Standard paper feed tray, which is prepared to be applied in case the primary one is corrupted on the Engine control PCB.
м	01-5-044	MAINTENANCE COUNT TRAY1 (PMS)	Displays the PMS-stored backup maintenance mileage meter (total feeding sheet count) for the Paper tray 1, which is prepared to be applied in case the primary one is corrupted on the Engine control PCB.
м	01-5-045	MAINTENANCE COUNT TRAY2 (PMS)	Displays the PMS-stored backup maintenance mileage meter (total feeding sheet count) for the Paper tray 2, which is prepared to be applied in case the primary one is corrupted on the Engine control PCB.

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Туре	Test mode No.	Test mode name	Action
м	01-5-046	MAINTENANCE COUNT TRAY3 (PMS)	Displays the PMS-stored backup maintenance mileage meter (total feeding sheet count) for the Paper tray 3, which is prepared to be applied in case the primary one is corrupted on the Engine control PCB.
м	01-5-047	MAINTENANCE COUNT SWITCHBACK (PMS)	Displays the PMS-stored backup maintenance mileage meter (total passing sheet count) for the Switchback (Duplex) path, which is prepared to be applied in case the primary one is corrupted on the Engine control PCB.
М	01-5-048	MAINTENANCE COUNT FD EJECT (PMS)	Displays the PMS-stored backup maintenance mileage meter (total ejected sheet count) for the FD paper ejection unit, which is prepared to be applied in case the primary one is corrupted on the Engine control PCB.
М	01-5-049	MAINTENANCE COUNT FU EJECT (PMS)	Displays the PMS-stored backup maintenance mileage meter (total ejected sheet count) for the FU paper ejection unit, which is prepared to be applied in case the primary one is corrupted on the Engine control PCB.
М	01-5-050	FINISHER COUNT 1 DISPLAY (PMS)	Displays the PMS-stored backup mileage meter (total punching count) for 2-hole punching on the Multifunction finisher, which is prepared to be applied in case the primary one is corrupted on the Engine control PCB.
М	01-5-051	FINISHER COUNT 2 DISPLAY (PMS)	Displays the PMS-stored backup mileage meter (total punching count) for 3-hole and 4-hole punching on the Multifunction finisher, which is prepared to be applied in case the primary one is corrupted on the Engine control PCB.
М	01-5-052	FINISHER COUNT 3 DISPLAY (PMS)	Displays the PMS-stored backup mileage meter (total staple count) for rear-corner stapling on the Multifunction finisher, which is prepared to be applied in case the primary one is corrupted on the Engine control PCB.
М	01-5-053	FINISHER COUNT 4 DISPLAY (PMS)	Displays the PMS-stored backup mileage meter (total staple count) for front-corner stapling on the Multifunction finisher, which is prepared to be applied in case the primary one is corrupted on the Engine control PCB.
М	01-5-054	FINISHER COUNT 5 DISPLAY (PMS)	Displays the PMS-stored backup mileage meter (total staple count) for parallel-side stapling on the Multifunction finisher, which is prepared to be applied in case the primary one is corrupted on the Engine control PCB.
м	01-5-055	FINISHER COUNT 6 DISPLAY (PMS)	Displays the PMS-stored backup mileage meter (total booklet-folding count) for finished booklets on the Multifunction finisher, which is prepared to be applied in case the primary one is corrupted on the Engine control PCB.
М	01-5-056	FINISHER COUNT 7 DISPLAY (PMS)	Displays the PMS-stored backup mileage meter (total booklet-folding count) for unbound booklets on the Multifunction finisher, which is prepared to be applied in case the primary one is corrupted on the Engine control PCB.
М	01-5-057	FINISHER COUNT 8 DISPLAY (PMS)	Displays the PMS-stored backup mileage meter (total folding count) for the Folding unit of the Multifunction finisher, which is prepared to be applied in case the primary one is corrupted on the Engine control PCB.
м	01-5-058	EXTRA CLEANING COUNT DISPLAY (PMS)	Displays the PMS-stored backup mileage meter (total execution count) for "Extra cleaning" operations for Print heads, which is prepared to be applied in case the primary one is corrupted on the Engine control PCB.
М	01-5-059	STRONG CLEANING COUNT DISPLAY (PMS)	Displays the PMS-stored backup mileage meter (total execution count) for "Strong cleaning" operations for Print heads, which is prepared to be applied in case the primary one is corrupted on the Engine control PCB.
М	01-5-060	NORMAL CLEANING COUNT DISPLAY (PMS)	Displays the PMS-stored backup mileage meter (total execution count) for "Normal cleaning" operations for Print heads, which is prepared to be applied in case the primary one is corrupted on the Engine control PCB.
М	01-5-066	RISO REMOTE SERVER URL	Displays the URL of a specified RRA (Riso Remote Agent) server. * This test mode is only available when the Remote agent function is enabed in the test mode TM No. 01-6-041 "REMOTE AGENT FUNCTION SELECTION."
М	01-5-067	REMOTE SERVER URL IMPORT LIST	Displays the list of URLs imported through the test mode TM No. 01-3-048 "ADMIN SERVER URL IMPORT." If no URL is imported there, "-" is displayed instead. * This test mode is only available when the Remote agent function is enabed in the test mode TM No. 01-6-041 "REMOTE AGENT FUNCTION SELECTION."
м	01-5-071	SSD ACCESS SPEED CHECK	Displays the SSD access speed. "0" (Zero) is to be displayed before the said speed measurement, which requires 7 seconds at a minimum, is completed. [Note] The measurement value always fluctuates by a dozen or so MB due to measurement error.
м	01-5-072	SSD AUTOMATIC RECOVERY HISTORY	Displays the date and time at which the backup data had been automatically restored from the SSD due to corrupted source data on the PMS at power-on and those at which the said data had been duly stored into the PMS.

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Туре	Test mode No.	Test mode name	Action
М	01-5-075	CPU BUILT-IN TEMP SENSOR	Displays the current temperatures acquired from the temperature sensors built in the CPU on the PMS. If the said values cannot be acquired through this test mode, "999.0" will be displayed instead. [Displyed items] - Core 0, xx.x - Core 1, xx.x - Core 2, xx.x - Core 3, xx.x * The temerature (°C) is to be indicated in the section "xx.x" when acquired.
м	01-5-076	PMS PCB TEMP SENSOR	Displays the current temperatures acquired from the temperature sensors on the PMS. If the said values cannot be acquired through this test mode, "999.0" will be displayed instead. [Displyed items] - Board Temp, xx.x - CPU Temp, xx.x * The temerature (°C) is to be indicated in the section "xx.x" when acquired.
М	01-5-077	PMS PCB POWER SUPPLY VOLTAGE	Displays the current power voltages on the PMS. If the said data cannot be acquired through this test mode, "999.0" will be displayed instead. [Displyed items] - VNN, xx.x - VCC, xx.x - VCC, xx.x - 12V, xx.x - 3VSB, xx.x - V_BAT, xx.x - V_CORE, xx.x * The voltage (mV) is to be indicated in the section "xx.x" when acquired.
м	01-5-078	PMS PCB FAN NUMBER OF ROTATION	Displays the current rotation speed of the cooling fan on the PMS. If the said data cannot be acquired through this test mode, "999.0" will be displayed instead. [Displyed items] - Cooling Fan, xx.x * The rotation speed (rpm) is to be indicated in the section "xx.x" when acquired.
м	01-5-079	IP PCB FPGA TEMPERATURE	Displays the current temperature of the FPGA (Field Programmable Gate Array) on the IP PCB. If the said value cannot be acquired through this test mode, "999.0" will be displayed instead. [Displyed items] - FPGA Temp, xx.x * The temerature (°C) is to be indicated in the section "xx.x" when acquired.
м	01-5-080	SSD TEMPERATURE	Displays the current temperature of the SSD. If the said value cannot be acquired through this test mode, "999.0" will be displayed instead. [Displyed items] - SSD Temp, xx.x * The temerature (°C) is to be indicated in the section "xx.x" when acquired.
м	01-5-081	MAINTENANCE COUNT HCF (PMS)	Displays the PMS-stored backup maintenance mileage meter (total feeding sheet count) for the High-capacity feeder, which is prepared to be applied in case the primary one is corrupted on the Engine control PCB.
м	01-5-082	WEF COUNT DISPLAY (PMS)	Displays the PMS-stored backup maintenance mileage meter (total finished mail count) for the Wrapping envelope finisher, which is prepared to be applied in case the primary one is corrupted on the Engine control PCB.
м	01-5-083	MAINTENANCE COUNT EXF (PMS)	Displays the PMS-stored backup maintenance mileage meter (total feeding sheet count) for the Additional 2000 sheet feeder, which is prepared to be applied in case the primary one is corrupted on the Engine control PCB.
м	01-5-091	PRINT JOB RECEIVE SPEED (ipm)	Displays the data reception speed (ipm) for the print job which has just been executed. [ipm: image per minute] * "0" (Zero) is indicated for a single-page print job, which does not have enough data volume for the above speed calculation. [Note] The "Finished Job Setting" function is required to be set at "Save" in the Administrator menu before executing the target print job to be measured.
м	01-5-092	PRINT JOB RECEIVE TIME (MIN)(ms)	Displays the minimum time (msec) spent to receive per-page data for the print job which has just been executed. * "0" (Zero) is indicated for a single-page print job, which does not have enough data volume for the above time calculation. [Note] The "Finished Job Setting" function is required to be set at "Save" in the Administrator menu before executing the target print job to be measured.
м	01-5-093	PRINT JOB RECEIVE SPEED (MAX)(ms)	Displays the maximum time (msec) spent to receive per-page data for the print job which has just been executed. * "0" (Zero) is indicated for a single-page print job, which does not have enough data volume for the above time calculation. [Note] The "Finished Job Setting" fuction is required to be set at "Save" in the Administrator menu before executing the target print job to be measured.

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Туре	Test mode	Test mode name	Action
м	01-5-094	JOB PMS PROCESS SPEED (ipm)	Displays the image processing speed (ipm) on the PMS for the print job which has just been executed. [ipm: image per minute] * "0" (Zero) is indicated for a single-page print job, which does not have enough data volume for the above speed calculation. [Note] The "Finished Job Setting" function is required to be set at "Save" in the Administrator menu before executing the target print job to be measured.
м	01-5-095	JOB PMS PROCESS TIME (MIN)(ms)	Displays the minimum processing time (msec) for per-page image data on the PMS for the print job which has just been executed. * "0" (Zero) is indicated for a single-page print job, which does not have enough data volume for the above time calculation. [Note] The "Finished Job Setting" function is required to be set at "Save" in the Administrator menu before executing the target print job to be measured.
м	01-5-096	JOB PMS PROCESS TIME (MAX)(ms)	Displays the maximum processing time (msec) for per-page image data on the PMS for the print job which has just been executed. * "0" (Zero) is indicated for a single-page print job, which does not have enough data volume for the above time calculation. [Note] The "Finished Job Setting" function is required to be set at "Save" in the Administrator menu before executing the target print job to be measured.
м	01-5-097	PRINT SPEED (ppm)	Displays the print speed (ppm) for the print job which has just been executed, which has been calculated based on data logs on the PMS and may be different from the actual one. * "0" (Zero) is indicated for a print job whose print quantity is 10 or less, which does not have enough data volume for the above speed calculation. [Note] The "Finished Job Setting" function is required to be set at "Save" in the Administrator menu before executing the target print job to be measured.
м	01-5-098	PRINT TIME (MIN)(ms)	Displays the minimum per-page print time (msec) for the print job which has just been executed, which has been calculated based on data logs on the PMS and may be different from the actual one. * "0" (Zero) is indicated for a print job whose print quantity is 1, which does not have enough data volume for the above time calculation. [Note] The "Finished Job Setting" function is required to be set at "Save" in the Administrator menu before executing the target print job to be measured.
м	01-5-099	PRINT TIME (MAX)(ms)	Displays the maximum per-page print time (msec) for the print job which has just been executed, which has been calculated based on data logs on the PMS and may be different from the actual one. * "0" (Zero) is indicated for a print job whose print quantity is 1, which does not have enough data volume for the above time calculation. [Note] The "Finished Job Setting" function is required to be set at "Save" in the Administrator menu before executing the target print job to be measured.
м	01-5-101	SSD WRITE AMOUNT	Displays the data storage percentage (%) in the SSD. * If the stored data are beyond the guaranteed volume in the SSD, the indicated percentage will be over 100%. If an irregular SSD is mounted, on the other hand, "-" will be indicated instead because the said percentage cannot be calculated.
м	01-5-108	FI FU PASSAGE MAINTENANCE COUNT(PMS)	Displays the PMS-stored backup mileage meter (total passing sheet count) for the straight paper path in the FI unit on the Multifunction finisher, which is prepared to be applied in case the primary one is corrupted on the Engine control PCB.
м	01-5-109	FI FD PASSAGE MAINTENANCE COUNT(PMS)	Displays the PMS-stored backup mileage meter (total passing sheet count) for the switchback paper path in the FI unit on the Multifunction finisher, which is prepared to be applied in case the primary one is corrupted on the Engine control PCB.
M	04-5-001	ENGINE PACKAGE DATA VERSION	Indicates the version number of the Engine package firmware.
М	04-5-002	SH2A FIRMWARE VERSION (ENGINE)	Indicates the version number of the SH2A (the CPU on the Engine control PCB) firmware.
М	04-5-003	RX FIRMWARE VERSION (ENGINE)	Indicates the version number of the RX firmware, which controls paper transport on the Engine control PCB.
М	04-5-004	FPGA VERSION	Indicates the version number of the FPGA, which controls data recording on the Recording data generation PCB (IP PCB).
М	04-5-005	ENGINE CTRL PCB VERSION	Indicates the version number of the Engine control PCB.
м	04-5-006	IP PCB VERSION	Indicates the version number of the Recording data generation PCB (IP PCB).
м	04-5-007	HEAD DRIVE PCB 2 VERSION	Indicates the version number of the Head Drive PCB (HDR PCB) 2. (K on 5C models) * Head Drive PCBs (HDR PCBs) are labeled 2, 1 and 0 in the order of vicinity to the Engine control PCB.
М	04-5-009	SH2A LOADER VERSION (ENGINE)	Indicates the version number of the SH2A loader on the Engine control PCB.
м	04-5-010	TAG CTRL FIRMWARE VERSION (ENGINE)	Indicates the version number of the tag control microprocessor firmware on the Engine control PCB.

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Туре	Test mode No.	Test mode name	Action
м	04-5-011	TAG CTRL LOADER VERSION (ENGINE)	Indicates the version number of the tag control microprocessor loader on the Engine control PCB.
М	04-5-012	SH2A BOOT PROGRAM VERSION (ENGINE)	Indicates the version number of the SH2A boot program on the Engine control PCB.
м	04-5-013	FPGA DATA (NORMAL) VERSION (ENGINE)	Indicates the version number of the FPGA data on the Engine control PCB.
м	04-5-016	HEAD DRIVE PCB 1 VERSION	Indicates the version number of the Head Drive PCB (HDR PCB) 1. (C/M on 5C models) * Head Drive PCBs (HDR PCBs) are labeled 2, 1 and 0 in the order of vicinity to the Engine control PCB.
М	04-5-017	HEAD DRIVE PCB 0 VERSION	Indicates the version number of the Head Drive PCB (HDR PCB) 0. (Y/R or Y/Gr on 5C models) * Head Drive PCBs (HDR PCBs) are labeled 2, 1 and 0 in the order of vicinity to the Engine control PCB.
м	04-5-018	HEAD DRIVE FPGA 2 VERSION	Indicates the version number of the FPGA configuration on the Head Drive PCB (HDR PCB) 2. (K on 5C models) * Head Drive PCBs (HDR PCBs) are labeled 2, 1 and 0 in the order of vicinity to the Engine control PCB.
м	04-5-019	HEAD DRIVE FPGA 1 VERSION	Indicates the version number of the FPGA configuration on the Head Drive PCB (HDR PCB) 1. (C/M on 5C models) * Head Drive PCBs (HDR PCBs) are labeled 2, 1 and 0 in the order of vicinity to the Engine control PCB.
м	04-5-020	HEAD DRIVE FPGA 0 VERSION	Indicates the version number of the FPGA configuration on the Head Drive PCB (HDR PCB) 0. (Y/R or Y/Gr on 5C models) * Head Drive PCBs (HDR PCBs) are labeled 2, 1 and 0 in the order of vicinity to the Engine control PCB.
м	04-5-021	TOTAL COUNT DISPLAY (ENGINE)	Displays the primary blanket mileage meter (total output page count), which is kept in the Engine control PCB.
м	04-5-022	DETAIL COUNT 1 DISPLAY (ENGINE)	Displays the primary mileage meter (output page count) for "Count pattern No.01," which is kept in the Engine control PCB. * Count pattern No.01: A3 (or Ledger)-format color prints (including mono-color and two-color ones)
М	04-5-023	DETAIL COUNT 2 DISPLAY (ENGINE)	Displays the primary mileage meter (output page count) for "Count pattern No.02," which is kept in the Engine control PCB. * Count pattern No.02: A4 (or Letter)-format color prints (including mono-color and two-color ones)
м	04-5-024	DETAIL COUNT 3 DISPLAY (ENGINE)	Displays the primary mileage meter (output page count) for "Count pattern No.03," which is kept in the Engine control PCB. * Count pattern No.03: B4 (, Legal or 8K)-format color prints (including mono-color and two-color ones)
м	04-5-025	DETAIL COUNT 4 DISPLAY (ENGINE)	Displays the primary mileage meter (output page count) for "Count pattern No.04," which is kept in the Engine control PCB. * Count pattern No.04: B5 (, Statement or 16K)-format color prints (including mono-color and two-color ones)
М	04-5-026	DETAIL COUNT 5 DISPLAY (ENGINE)	Displays the primary mileage meter (output page count) for "Count pattern No.05," which is kept in the Engine control PCB. * Count pattern No.05: Foolscap-format color prints (including mono-color and two-color ones)
м	04-5-027	DETAIL COUNT 6 DISPLAY (ENGINE)	Displays the primary mileage meter (output page count) for "Count pattern No.06," which is kept in the Engine control PCB. * Count pattern No.06: The following-paper-format color prints (including mono-color and two-color ones) [Applied paper formats] Custom-Large / Envelope-2 (10X13 inch) / Envelope form B for WEF / A3W / SRA3
м	04-5-028	DETAIL COUNT 7 DISPLAY (ENGINE)	Displays the primary mileage meter (output page count) for "Count pattern No.07," which is kept in the Engine control PCB. * Count pattern No.07: The following-paper-format color prints (including mono-color and two-color ones) [Applied paper formats] Custom-Small / Envelope-1 (9X12 inch) / Envelope No.10 / Envelope form A (or C) for WEF / C4 / C5 /C6 /DL
М	04-5-029	DETAIL COUNT 8 DISPLAY (ENGINE)	Displays the primary mileage meter (output page count) for "Count pattern No.08," which is kept in the Engine control PCB. * Count pattern No.08: A3 (or Ledger)-format monochrome-K prints
М	04-5-030	DETAIL COUNT 9 DISPLAY (ENGINE)	Displays the primary mileage meter (output page count) for "Count pattern No.09," which is kept in the Engine control PCB. * Count pattern No.09: A4 (or Letter)-format monochrome-K prints
м	04-5-031	DETAIL COUNT 10 DISPLAY (ENGINE)	Displays the primary mileage meter (output page count) for "Count pattern No.10," which is kept in the Engine control PCB. * Count pattern No.10: B4 (, Legal or 8K)-format monochrome-K prints
м	04-5-032	DETAIL COUNT 11 DISPLAY (ENGINE)	Displays the primary mileage meter (output page count) for "Count pattern No.11," which is kept in the Engine control PCB. * Count pattern No.11: B5 (, Statement or 16K)-format monochrome-K prints

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Туре	Test mode No.	Test mode name	Action
м	04-5-033	DETAIL COUNT 12 DISPLAY (ENGINE)	Displays the primary mileage meter (output page count) for "Count pattern No.12," which is kept in the Engine control PCB. * Count pattern No.12: Foolscap-format monochrome-K prints
м	04-5-034	DETAIL COUNT 13 DISPLAY (ENGINE)	Displays the primary mileage meter (output page count) for "Count pattern No.13," which is kept in the Engine control PCB. * Count pattern No.13: The following-paper-format monochrome-K prints [Applied paper formats] Custom-Large / Envelope-2 (10X13 inch) / Envelope form B for WEF / A3W / SRA3
м	04-5-035	DETAIL COUNT 14 DISPLAY (ENGINE)	Displays the primary mileage meter (output page count) for "Count pattern No.14," which is kept in the Engine control PCB. * Count pattern No.14: The following-paper-format monochrome-K prints [Applied paper formats] Custom-Small / Envelope-1 (9X12 inch) / Envelope No.10 / Envelope form A (or C) for WEF / C4 / C5 /C6 /DL
м	04-5-036	DETAIL COUNT 15 DISPLAY (ENGINE)	Displays the primary mileage meter (output page count) for "Count pattern No.15," which is kept in the Engine control PCB. * Count pattern No.15: A3 (or Ledger)-format mono-color prints (mono-cyan and mono-magenta)
м	04-5-037	DETAIL COUNT 16 DISPLAY (ENGINE)	Displays the primary mileage meter (output page count) for "Count pattern No.16," which is kept in the Engine control PCB. * Count pattern No.16: A4 (or Letter)-format mono-color prints (mono-cyan and mono-magenta)
м	04-5-038	DETAIL COUNT 17 DISPLAY (ENGINE)	Displays the primary mileage meter (output page count) for "Count pattern No.17," which is kept in the Engine control PCB. * Count pattern No.17: B4 (, Legal or 8K)-format mono-color prints (mono-cyan and mono-magenta)
м	04-5-039	DETAIL COUNT 18 DISPLAY (ENGINE)	Displays the primary mileage meter (output page count) for "Count pattern No.18," which is kept in the Engine control PCB. * Count pattern No.18: B5 (, Statement or 16K)-format mono-color prints (mono-cyan and mono-magenta)
м	04-5-040	DETAIL COUNT 19 DISPLAY (ENGINE)	Displays the primary mileage meter (output page count) for "Count pattern No.19," which is kept in the Engine control PCB. * Count pattern No.19: Foolscap-format mono-color prints (mono-cyan and mono-magenta)
м	04-5-041	DETAIL COUNT 20 DISPLAY (ENGINE)	Displays the primary mileage meter (output page count) for "Count pattern No.20," which is kept in the Engine control PCB. * Count pattern No.20: The following-paper-format mono-color prints (mono-cyan and mono-magenta) [Applied paper formats] Custom-Large / Envelope-2 (10X13 inch) / Envelope form B for WEF / A3W / SRA3
м	04-5-042	DETAIL COUNT 21 DISPLAY (ENGINE)	Displays the primary mileage meter (output page count) for "Count pattern No.21," which is kept in the Engine control PCB. * Count pattern No.21: The following-paper-format mono-color prints (mono-cyan and mono-magenta) [Applied paper formats] Custom-Small / Envelope-1 (9X12 inch) / Envelope No.10 / Envelope form A (or C) for WEF / C4 / C5 /C6 /DL
м	04-5-043	MAINTENANCE COUNT P-FEED TRAY (ENG)	Displays the primary maintenance mileage meter (total feeding sheet count) for the Standard paper feed tray, which is kept in the Engine control PCB.
м	04-5-044	MAINTENANCE COUNT TRAY1 (ENGINE)	Displays the primary maintenance mileage meter (total feeding sheet count) for the Paper tray 1, which is kept in the Engine control PCB.
м	04-5-045	MAINTENANCE COUNT TRAY2 (ENGINE)	Displays the primary maintenance mileage meter (total feeding sheet count) for the Paper tray 2, which is kept in the Engine control PCB.
м	04-5-046	MAINTENANCE COUNT TRAY3 (ENGINE)	Displays the primary maintenance mileage meter (total feeding sheet count) for the Paper tray 3, which is kept in the Engine control PCB.
м	04-5-047	MAINTENANCE COUNT SWITCHBACK (ENG)	Displays the primary maintenance mileage meter (total passing sheet count) for the Switchback (Duplex) path, which is kept in the Engine control PCB.
м	04-5-048	MAINTENANCE COUNT FD EJECT (ENGINE)	Displays the primary maintenance mileage meter (total ejected sheet count) for the FD paper ejection unit, which is kept in the Engine control PCB.
м	04-5-049	MAINTENANCE COUNT FU EJECT (ENGINE)	Displays the primary maintenance mileage meter (total ejected sheet count) for the FU paper ejection unit, which is kept in the Engine control PCB.
м	04-5-050	FINISHER COUNT 1 DISPLAY (ENGINE)	Displays the primary mileage meter (total punching count) for 2-hole punching on the Multifunction finisher, which is kept in the Engine control PCB.
м	04-5-051	FINISHER COUNT 2 DISPLAY (ENGINE)	Displays the primary mileage meter (total punching count) for 3-hole and 4-hole punching on the Multifunction finisher, which is kept in the Engine control PCB.
м	04-5-052	FINISHER COUNT 3 DISPLAY (ENGINE)	Displays the primary mileage meter (total staple count) for rear-corner stapling on the Multifunction finisher, which is kept in the Engine control PCB.
м	04-5-053	FINISHER COUNT 4 DISPLAY (ENGINE)	Displays the primary mileage meter (total staple count) for front-corner stapling on the Multifunction finisher, which is kept in the Engine control PCB.
м	04-5-054	FINISHER COUNT 5 DISPLAY (ENGINE)	Displays the primary mileage meter (total staple count) for parallel-side stapling on the Multifunction finisher, which is kept in the Engine control PCB.

Туре	Test mode No.	Test mode name	Action
м	04-5-055	FINISHER COUNT 6 DISPLAY (ENGINE)	Displays the primary mileage meter (total booklet-folding count) for finished booklets on the Multifunction finisher, which is kept in the Engine control PCB.
м	04-5-056	FINISHER COUNT 7 DISPLAY (ENGINE)	Displays the primary mileage meter (total booklet-folding count) for unbound booklets on the Multifunction finisher, which is kept in the Engine control PCB.
м	04-5-057	FINISHER COUNT 8 DISPLAY (ENGINE)	Displays the primary mileage meter (total folding count) for the Folding unit of the Multifunction finisher, which is kept in the Engine control PCB.
м	04-5-058	EXTRA CLEANING COUNT DISPLAY (ENG)	Displays the primary mileage meter (total execution count) for "Extra cleaning" operations for Print heads, which is kept in the Engine control PCB.
м	04-5-059	STRONG CLEANING COUNT DISPLAY (ENG)	Displays the primary mileage meter (total execution count) for "Strong cleaning" operations for Print heads, which is kept in the Engine control PCB.
м	04-5-060	NORMAL CLEANING COUNT DISPLAY (ENG)	Displays the primary mileage meter (total execution count) for "Normal cleaning" operations for Print heads, which is kept in the Engine control PCB.
м	04-5-061	BELT ENCODER COUNT INITIAL	Displays the default value of encoder count for 1-cycle rotation of theTransfer belt.
м	04-5-062	BELT ENCODER COUNT ACQUISITION	Displays the acquired value of encoder count for 1-cycle rotation of theTransfer belt.
м	04-5-063	BELT ENCODER COUNT ACQUISITION A	Displays the acquired value of encoder count A for 1-cycle rotation of theTransfer belt.
м	04-5-064	BELT ENCODER COUNT ACQUISITION B	Displays the acquired value of encoder count B for 1-cycle rotation of theTransfer belt.
м	04-5-065	BELT ENCODER COUNT ACQUISITION C	Displays the acquired value of encoder count C for 1-cycle rotation of theTransfer belt.
м	04-5-066	BELT MAINTENANCE COUNT	Displays the maintenance mileage meter (total passhing sheet count) for the Transfer belt.
м	04-5-071	CIS PAPER WIDTH DETECT	Displays the paper width calculated based on the AD measurement value acquired in the test mode TM No. 04-3-021 "CIS OPERATION CHECK."
м	04-5-072	REAR CIS PAPER EDGE POSITION DETECT	Displays the paper edge position detected by the rear-side (left-side) CIS in the test mode TM No. 04-3-021 "CIS OPERATION CHECK."
м	04-5-073	REAR CIS PAPER LEVEL DETECT	Displays the paper whiteness level detected by the rear-side (left-side) CIS in the test mode TM No. 04-3-021 "CIS OPERATION CHECK."
М	04-5-074	REAR CIS BELT LEVEL DETECT	Displays the blackness level of the Transfer belt detected by the rear-side (left-side) CIS in the test mode TM No. 04-3-021 "CIS OPERATION CHECK."
м	04-5-075	REAR CIS THRESHOLD	Displays the paper edge recognition threshold level of the rear-side (left-side) CIS.
м	04-5-076	REAR CIS OFFSET VOLTAGE (INITIAL)	Displays the offset voltage of the rear-side (left-side) CIS saved in a nonvolatile manner during shading compensation.
м	04-5-077	REAR CIS OFFSET VOLTAGE (ADJUST)	Displays the offset voltage of the rear-side (left-side) CIS saved in a nonvolatile manner during its initialization. * The same value as provided in the test mode TM No. 04-5-076 "REAR CIS OFFSET VOLTAGE (INITIAL)" is to be displayed if no print job has been executed after power-on.
м	04-5-078	REAR CIS STANDARD PAPER LEVEL	Displays the base whiteness level of paper detected by the rear-side (left-side) CIS in the test mode TM No. 04-3-022 "REAR CIS SHADING."
м	04-5-082	FRONT CIS PAPER EDGE POSITION DETECT	Displays the paper edge position detected by the front-side (right-side) CIS in the test mode TM No. 04-3-021 "CIS OPERATION CHECK."
м	04-5-083	FRONT CIS PAPER LEVEL DETECT	Displays the paper whiteness level detected by the front-side (right-side) CIS in the test mode TM No. 04-3-021 "CIS OPERATION CHECK."
м	04-5-084	FRONT CIS BELT LEVEL DETECT	Displays the blackness level of the Transfer belt detected by the front-side (right-side) CIS in the test mode TM No. 04-3-021 "CIS OPERATION CHECK."
М	04-5-085	FRONT CIS THRESHOLD	Displays the paper edge recognition threshold level of the front-side (right-side) CIS.
м	04-5-086	FRONT CIS OFFSET VOLTAGE (INITIAL)	Displays the offset voltage of the front-side (right-side) CIS saved in a nonvolatile manner during shading compensation.
м	04-5-087	FRONT CIS OFFSET VOLTAGE (ADJUST)	Displays the offset voltage of the front-side (right-side) CIS saved in a nonvolatile manner during its initialization. * The same value as provided in the test mode TM No. 04-5-086 "FRONT CIS OFFSET VOLTAGE (INITIAL)" is to be displayed if no print job has been executed after power-on.

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Туре	Test mode No.	Test mode name	Action
М	04-5-088	FRONT CIS STANDARD PAPER LEVEL	Displays the base whiteness level of paper detected by the front-side (right-side) CIS in the test mode TM No. 04-3-023 "FRONT CIS SHADING" or TM No. 04-3-024 "FRONT & REAR CIS SHADING."
м	04-5-090	HEAD DRIVE MCU 2 VERSION	Indicates the MCU (Micro Controller Unit) version of the the Head Drive PCB (HDR PCB) 2. (K on 5C models) * Head Drive PCBs (HDR PCBs) are labeled 2, 1 and 0 in the order of vicinity to the Engine control PCB.
м	04-5-091	HEAD DRIVE MCU 1 VERSION	Indicates the MCU (Micro Controller Unit) version of the the Head Drive PCB (HDR PCB) 1. (C/M on 5C models) * Head Drive PCBs (HDR PCBs) are labeled 2, 1 and 0 in the order of vicinity to the Engine control PCB.
м	04-5-092	HEAD DRIVE MCU 0 VERSION	Indicates the MCU (Micro Controller Unit) version of the the Head Drive PCB (HDR PCB) 0. (Y/R or Y/Gr on 5C models) * Head Drive PCBs (HDR PCBs) are labeled 2, 1 and 0 in the order of vicinity to the Engine control PCB.
м	04-5-093	OPTION PCB FIRMWARE VERSION	Displays the version number of the communication control MCU (Micro Controller Unit) on the Option control PCB.
м	04-5-094	OPTION PCB LOADER VERSION	Displays the version number of the loader for the communication control MCU (Micro Controller Unit) on the Option control PCB.
М	04-5-101	MAINTENANCE COUNT HCF (ENGINE)	Displays the primary maintenance mileage meter (total feeding sheet count) for the High-capacity feeder, which is kept in the Engine control PCB.
М	04-5-102	WEF COUNT DISPLAY (ENGINE)	Displays the primary maintenance mileage meter (total finished mail count) for the Wrapping envelope finisher, which is kept in the Engine control PCB.
м	04-5-103	PB COUNT 1 DISPLAY	Displays the maintenance mileage meter 1 (total finished booklet count) for the Perfect binder, which is kept in the Engine control PCB.
м	04-5-104	PB COUNT 2 DISPLAY	Displays the maintenance mileage meter 2 (total cover sheet cutting count) for the Perfect binder, which is kept in the Engine control PCB.
м	04-5-105	PB COUNT 3 DISPLAY	Displays the maintenance mileage meter 3 (total feeding glue sheet count) for the Perfect binder, which is kept in the Engine control PCB.
м	04-5-106	MAINTENANCE COUNT EXF (ENGINE)	Displays the primary maintenance mileage meter (total feeding sheet count) for the Additional 2000 sheet feeder, which is kept in the Engine control PCB.
м	04-5-107	PB COUNT 4 DISPLAY	Displays the maintenance mileage meter 4 (total feeding cover sheet count) for the Cover sheet inserter on the Perfect binder, which is kept in the Engine control PCB.
M	04-5-112	LAST PAGE IMAGE RATIO [0.1%]	Displays the image ratio (0.1%)of the page whose image data has just been processed, which is expected to be used as a reference when defining the threshold in image-ratio-based print charge program. * This test mode is basically designed with simplex print data. If duplex print data is applied, however, it depends on an output destination whose image data is to be applied, front or rear page, to calculate the image ratio to be displayed in this test mode. For example, if the said duplex print has been output into the Face-down stacking tray on the printer, the image data of the front page is to be applied for the said calculation. If a slip sheet, cover page or sample copy is the one printed last, on the other hand, the image data of the preceding page is to be applied for this calculation.
Paper	reed section		
M	05-5-001	P-FEED TRAY PAPER WIDTH VOLUME AD	Displays the AD value of the Paper feed tray paper width potentiometer on the Standard paper feed tray.
м	05-5-002	P-FEED TRAY PAPER WIDTH DETECT CHECK	Displays the current metric setting of the Paper feed tray paper width potentiometer on the Standard paper feed tray down to 0.1 mm.
М	05-5-006	P-FEED TRAY PAPER SIZE ID	Displays the ID number of the paper format currently acknowledged by the corresponding sensors on the Standard paper feed tray. 0: No size aknowledged (For metric formats) 1: A3 / 2: A4 / 3: A4-LEF / 4: A5 / 5: A5-LEF / 6: A6 / 7: A6-LEF / 8: B4 / 9: B5 / 10: B5-LEF / 11: B6 / 12: B6-LEF (For inch formats) 13: Foolscap / 14: Ledger / 15: Legal / 16: Letter / 17: Letter-LEF / 18: Statement/ 19: Statement-LEF (For Japanese envelopes and misc.) 20: A3W / 21: Postcard / 22: Envelope-J-Square 0 / 23: Envelope-J-Square 1 / 24: Envelope-J-Square 2 / 25: Envelope-J-Square 3 / 26: Envelope-J-Long 3 / 27: Envelope-J-Long 4 (Europe envelopes) 28: Envelopes) 28: Envelope C4 / 29: Envelope -C5 / 30: Envelope-C6 / 31: Envelope-DL-R (US envelopes) 32: Envelope 9 x 12 inch / 33: Envelope 10 x 13 inch / 34: No. 10 envelope 4.125 x 9.5 inch (Misc.) 51: Irregular (Small) / 52: Irregular (Large) / 53: Unknown / 54: Auto (Custom formats) 100: Custom 1 / 101: Custom 2 / 102: Custom 3 / 103: Custom 4 / 104: Custom 5

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Туре	Test mode No.	Test mode name	Action
			Displays the ID number of the paper format currently acknowledged by the corresponding sensors on the Paper tray 1.
м	05-5-007	TRAY1 PAPER SIZE ID	0: No size aknowledged (For metric formats) 1: A3 / 2: A4 / 3: A4-LEF / 4: A5 / 5: A5-LEF / 6: A6 / 7: A6-LEF / 8: B4 / 9: B5 / 10: B5-LEF / 11: B6 / 12: B6-LEF (For inch formats) 13: Foolscap / 14: Ledger / 15: Legal / 16: Letter / 17: Letter-LEF / 18: Statement/ 19: Statement-LEF (For Japanese envelopes and misc.) 20: A3W / 21: Postcard / 22: Envelope-J-Square 0 / 23: Envelope-J-Square 1 / 24: Envelope-J-Square 2 / 25: Envelope-J-Square 3 / 26: Envelope-J-Long 3 / 27: Envelope-J-Long 4 (Europe envelopes) 28: Envelope-C4 / 29: Envelope-C5 / 30: Envelope-C6 / 31: Envelope-DL-R (US envelope 9 x 12 inch / 33: Envelope 10 x 13 inch / 34: No. 10 envelope 4.125 x 9.5 inch (Misc.) 51: Irregular (Small) / 52: Irregular (Large) / 53: Unknown / 54: Auto (Custom formats) 100: Custom 1 / 101: Custom 2 / 102: Custom 3 / 103: Custom 4 / 104: Custom 5
М	05-5-008	TRAY2 PAPER SIZE ID	Displays the ID number of the paper format currently acknowledged by the corresponding sensors on the Paper tray 2. 0: No size aknowledged (For metric formats) 1: A3 / 2: A4 / 3: A4-LEF / 4: A5 / 5: A5-LEF / 6: A6 / 7: A6-LEF / 8: B4 / 9: B5 / 10: B5-LEF / 11: B6 / 12: B6-LEF (For inch formats) 13: Foolscap / 14: Ledger / 15: Legal / 16: Letter / 17: Letter-LEF / 18: Statement/ 19: Statement-LEF (For Japanese envelopes and misc.) 20: A3W / 21: Postcard / 22: Envelope-J-Square 0 / 23: Envelope-J-Square 1 / 24: Envelope-J-Square 2 / 25: Envelope-J-Square 3 / 26: Envelope-J-Long 3 / 27: Envelope-J-Long 4 (Europe envelopes) 28: Envelope-C4 / 29: Envelope-C5 / 30: Envelope-C6 / 31: Envelope-DL-R (US envelopes) 32: Envelope 9 x 12 inch / 33: Envelope 10 x 13 inch / 34: No. 10 envelope 4.125 x 9.5 inch (Misc.) 51: Irregular (Small) / 52: Irregular (Large) / 53: Unknown / 54: Auto (Custom formats) 100: Custom 1 / 101: Custom 2 / 102: Custom 3 / 103: Custom 4 / 104: Custom 5
м	05-5-009	TRAY3 PAPER SIZE ID	Displays the ID number of the paper format currently acknowledged by the corresponding sensors on the Paper tray 3. 0: No size aknowledged (For metric formats) 1: A3 / 2: A4 / 3: A4-LEF / 4: A5 / 5: A5-LEF / 6: A6 / 7: A6-LEF / 8: B4 / 9: B5 / 10: B5-LEF / 11: B6 / 12: B6-LEF (For inch formats) 13: Foolscap / 14: Ledger / 15: Legal / 16: Letter / 17: Letter-LEF / 18: Statement/ 19: Statement-LEF (For Japanese envelopes and misc.) 20: A3W / 21: Postcard / 22: Envelope-J-Square 0 / 23: Envelope-J-Square 1 / 24: Envelope-J-Square 2 / 25: Envelope-J-Square 3 / 26: Envelope-J-Long 3 / 27: Envelope-J-Long 4 (Europe envelopes) 28: Envelopes) 28: Envelope 24 / 29: Envelope-C5 / 30: Envelope-C6 / 31: Envelope-DL-R (US envelopes) 32: Envelope 9 x 12 inch / 33: Envelope 10 x 13 inch / 34: No. 10 envelope 4.125 x 9.5 inch (Misc.) 51: Irregular (Small) / 52: Irregular (Large) / 53: Unknown / 54: Auto (Custom formats) 100: Custom 1 / 101: Custom 2 / 102: Custom 3 / 103: Custom 4 / 104: Custom 5
м	05-5-011	P-FEED TRAY PAPER VOLUME	Displays the remaining paper volume (%) on the Standard paper feed tray.
М	05-5-012	TRAY1 PAPER VOLUME	Displays the remaining paper volume (%) on the Paper tray 1. "0" is indicated when the remaining paper volume cannot be detected. * It is detected with the operation of the Tray 1 elevator motor that no paper remains on the Paper tray 1.
м	05-5-013	TRAY2 PAPER VOLUME	Displays the remaining paper volume (%) on the Paper tray 2. "0" is indicated when the remaining paper volume cannot be detected. * It is detected with the operation of the Tray 2 elevator motor that no paper remains on the Paper tray 2.
м	05-5-014	TRAY3 PAPER VOLUME	Displays the remaining paper volume (%) on the Paper tray 3. "0" is indicated when the remaining paper volume cannot be detected. * It is detected with the operation of the Tray 3 elevator motor that no paper remains on the Paper tray 3.
м	05-5-021	REGISTRATION SENSOR EMIT VALUE	Displays the luminous energy of the Registration sensor.
Trans	port section		
м	06-5-001	TOP EDGE SENSOR 1 EMIT VALUE	Displays the luminous energy of the Top edge sensor 1.
м	06-5-002	TOP EDGE SENSOR 2 EMIT VALUE	Displays the luminous energy of the Top edge sensor 2
м	06-5-003	TOP EDGE SENSOR 2 PEAK EMIT VALUE	Displays the peak luminous energy of the Top edge sensor 2 acquired in the test mode TM No. 06-3-001 "TOP EDGE SENSOR 2 AUTO ADJUST."
м	06-5-006	TRANSFER BELT SPEED	Displays the traveling speed of the Transfer belt, which is specified in the test mode TM No. 04-6-101 "TM PAPER FEED SPEED SETTING," while driving the said belt.

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Туре	Test mode No.	Test mode name	Action
Print I	nead section		
			Displays the current temperatures of the Print heads at the interval of 2 seconds. * "999" is to be displayed when no temperature data is acquired from the thermistors on the Print heads or abnormal temperatures have been detected, while "350" is to be displayed when the corresponding Print heads are not mounted.
			The said temperatures are to be indicated in 2 lines for both of the ink inflow and outflow sides of the respective color Print head nozzles, while inserting spaces between given temperature values as a break.(The upper line is for the ink inflow side, while the lower line for the ink outflow side.)
м	08-5-001	HEAD TEMPERATURE	[Display pattern examples (For K color)] HEAD K1 (K11) (K12) (K13) (K14) (K15) (K16) (K11) (K12) (K13) (K14) (K15) (K16) K2 (K21) (K22) (K23) (K24) (K25) (K26)
			[Note] "HEAD P" stands for other colors in the corresponding models as follows. R in KCMYR models / Gr in KCMYGr models
			Displays the current voltages of the Print heads at the interval of 2 seconds. * "999" is to be displayed when abnormal voltages have been detected or the corresponding Print heads are not mounted.
м	08-5-002	HEAD VOLTAGE	The said voltages are to be indicated in 2 lines for both of the positive and negative sides of the respective color Print head nozzles, while inserting spaces between given voltage values as a break. (The upper line is for the positive side, while the lower line for the negative side.)
			[Note] The display format is the same as for the test mode TM No. 08-5-001 "HEAD TEMPERATURE."
M	08-5-006	MD CLEANING COUNT DISPLAY	Displays the execution times of MD (misdirection) recovery actions.
INK M	aintenance se	ction	Displays the current temperatures of the following items at the interval of 2 seconds: ink. Print heads and lok heater
М	09-5-001	INK/HEAD/HEATER TEMPERATURE	[Display pattern] [NK K C M Y P (##) (##) (##) (##) * As indicated in the test mode TM No. 09-5-002 "INK TEMPERATURE" HEAD K1 (K11) (K12) (K13) (K14) (K15) (K16) (K11) (K12) (K13) (K14) (K15) (K16) K2 (K21) (K22) (K23) (K24) (K25) (K26) * As indicated in the test mode TM No. 08-5-001 "HEAD TEMPERATURE" HEATER (###)
М	09-5-002	INK TEMPERATURE	Displays the current temperatures of inks at the interval of 2 seconds. * "999" is to be displayed when no temperature data is acquired from the corresponding thermistors or abnormal temperatures have been detected. [Display pattern] INK K C M Y P (###) (##) (##) (##) (##) [Note] "P" stands for other colors in the corresponding models as follows. R in KCMYR models / Gr in KCMYGr models
м	09-5-003	PRESSURE DATA (AD) DISPLAY	Displays the AD value of the Pressurization tank pressure sensor under atmospheric pressure. If it is 621±81, the corresponding air pressure is assumed to be proper.
м	09-5-004	NEGATIVE PRESSURE DATA (AD) DISPLAY	Displays the AD value of the Negative pressure tank pressure sensor under atmospheric pressure. If it is 621±81, the corresponding air pressure is assumed to be proper.
м	09-5-010	INK CIRC TIME DISPLAY (EXTL FILTER)	Displays the period of the ink circulation operation which was last executed with the External filter through the test mode TM No. 09-3- 070 "EXTERNAL FILTER INK CIRCULATION." (The period for cooling ink circulation is not included.)
м	09-5-012	INK INITIAL FILL REPEAT COUNT DISPLAY	Displays the number of times a cycle of the initial ink filling operation had been executed unit! the memorized involatile count was reset. - This count is to be reset to "0" (zero) when the test mode TM No. 09-3-013 "INITIAL INK FILLING REPEAT MODE" is executed after the said operation has been executed by the number of times specified in the test mode TM No. 09-6-052 "INK INITIAL FILLING REPEAT NUMBER SET." - The initial ink filing operations executed in the test mode TM No. 09-3-011 "INK INITIAL FILLING" and at boot-up with the Print head replacement mode enabled (through the test mode TM No. 09-6-017 "HEAD REPLACE MODE") are also included in this count.
М	09-5-013	K-MD RECOVERY ACTION COUNT	Displays the number of times MD (misdirection) recovery actions were taken for K-color through the test mode TM No. 09-3-078 "K- MD RECOVERY ACTION."
М	09-5-014	C-MD RECOVERY ACTION COUNT	Displays the number of times MD (misdirection) recovery actions were taken for C-color through the test mode TM No. 09-3-079 "C- MD RECOVERY ACTION."
м	09-5-015	M-MD RECOVERY ACTION COUNT	Displays the number of times MD (misdirection) recovery actions were taken for M-color through the test mode TM No. 09-3-080 "M- MD RECOVERY ACTION."
м	09-5-016	Y-MD RECOVERY ACTION COUNT	Displays the number of times MD (misdirection) recovery actions were taken for Y-color through the test mode TM No. 09-3-081 "Y- MD RECOVERY ACTION."

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Туре	Test mode No.	Test mode name	Action
М	09-5-017	P (R, GR)-MD RECOVERY ACTION COUNT	Displays the number of times MD (misdirection) recovery actions were taken for P (, R or GR)-color through the test mode TM No. 09- 3-082 "P (R, GR)-MD RECOVERY ACTION."
м	09-5-018	K2-MD RECOVERY ACTION COUNT	Displays the number of times MD (misdirection) recovery actions were taken for K2-color through the test mode TM No. 09-3-083 "K2- MD RECOVERY ACTION."
м	09-5-020	WASTE TANK NEAR FULL PRE DET	Indicates whether the Waste ink tank is expected to be nearly full soon (in the pre-near full status) or not . - 0: Not in the pre-near full status - 1: In the pre-near full status
Tag co	ontrol		
М	11-5-001	MACHINE REGISTERING CONDITION	Indicates the current registration status of a printer. - 0: Provisional (Factory default) - 1: Final
м	11-5-002	MACHINE OPERATION ID	Indicates the recognized model ID number of a printer. - 0: None (Factory default) - 1 to 255: The respective model IDs
м	11-5-003	MACHINE CARD CONDITION	Indicates the current registration status of a printer which is recorded on the mounted Control card (model ID card). - 0: Provisional - 1: Final
м	11-5-004	MACHINE ID	Indicates the model ID number of a printer which is recorded on the mounted Control card (model ID card), - 0: None - 1 to 255: The respective model IDs
м	11-5-005	MACHINE ACTION ID	Indicates the recognized model ID number of a printer which is recorded on the mounted Control card (model ID card). - 0: None - 1 to 255: The respective model IDs
М	11-5-011	TAG SERIAL 1 :FIRST 4 DIGIT INTERIM	Displays the first 4 digits of the printer's serial number 1, which is recorded in the unit ID tag for provisional registration.
м	11-5-012	TAG SERIAL 1:SECOND 4 DIGIT INTERIM	Displays the last 4 digits of the printer's serial number 1, which is recorded in the unit ID tag for provisional registration.
м	11-5-013	TAG SERIAL 2 : FIRST 4 DIGIT INTERIM	Displays the first 4 digits of the printer's serial number 2, which is recorded in the unit ID tag for provisional registration.
м	11-5-014	TAG SERIAL 2 :SECOND 4 DIGIT INTERIM	Displays the last 4 digits of the printer's serial number 2, which is recorded in the unit ID tag for provisional registration.
м	11-5-015	TAG SERIAL 3∵FIRST 4 DIGIT INTERIM	Displays the first 4 digits of the printer's serial number 3, which is recorded in the unit ID tag for provisional registration.
М	11-5-016	TAG SERIAL 3 :SECOND 4 DIGIT INTERIM	Displays the last 4 digits of the printer's serial number 3, which is recorded in the unit ID tag for provisional registration.
м	11-5-017	TAG SERIAL 4 :FIRST 4 DIGIT INTERIM	Displays the first 4 digits of the printer's serial number 4, which is recorded in the unit ID tag for provisional registration.
м	11-5-018	TAG SERIAL 4 :SECOND 4 DIGIT INTERIM	Displays the last 4 digits of the printer's serial number 4, which is recorded in the unit ID tag for provisional registration.
м	11-5-019	TAG SERIAL 5 : FIRST 4 DIGIT INTERIM	Displays the first 4 digits of the printer's serial number 5, which is recorded in the unit ID tag for provisional registration.
м	11-5-020	TAG SERIAL 5 :SECOND 4 DIGIT INTERIM	Displays the last 4 digits of the printer's serial number 5, which is recorded in the unit ID tag for provisional registration.
м	11-5-021	TAG SERIAL 1 :FIRST 4 DIGIT FINAL	Displays the first 4 digits of the printer's serial number 1, which is recorded in the unit ID tag for final registration.
М	11-5-022	TAG SERIAL 1 :SECOND 4 DIGIT FINAL	Displays the last 4 digits of the printer's serial number 1, which is recorded in the unit ID tag for final registration.
М	11-5-023	TAG SERIAL 2 : FIRST 4 DIGIT FINAL	Displays the first 4 digits of the printer's serial number 2, which is recorded in the unit ID tag for final registration.
м	11-5-024	TAG SERIAL 2 :SECOND 4 DIGIT FINAL	Displays the last 4 digits of the printer's serial number 2, which is recorded in the unit ID tag for final registration.
м	11-5-025	TAG SERIAL 3 :FIRST 4 DIGIT FINAL	Displays the first 4 digits of the printer's serial number 3, which is recorded in the unit ID tag for final registration.

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Test mode Test mode name Action No. М 11-5-026 TAG SERIAL 3 :SECOND 4 DIGIT FINAL Displays the last 4 digits of the printer's serial number 3, which is recorded in the unit ID tag for final registration. TAG SERIAL 4 : FIRST 4 DIGIT FINAL Μ 11-5-027 Displays the first 4 digits of the printer's serial number 4, which is recorded in the unit ID tag for final registration. Μ 11-5-028 TAG SERIAL 4 :SECOND 4 DIGIT FINAL Displays the last 4 digits of the printer's serial number 4, which is recorded in the unit ID tag for final registration. М 11-5-029 TAG SERIAL 5 : FIRST 4 DIGIT FINAL Displays the first 4 digits of the printer's serial number 5, which is recorded in the unit ID tag for final registration. TAG SERIAL 5 : SECOND 4 DIGIT FINAL 11-5-030 Μ Displays the last 4 digits of the printer's serial number 5, which is recorded in the unit ID tag for final registration. 11-5-041 INTERIM OPERATION TIME - MACHINE М Displays the total operation time of the printer under provisional registration. Displays the operation time of the printer under provisional registration with the Control card (model ID card) mounted for the serial INTERIM OPERATION TIME - CARD 1 М 11-5-042 number 1. Displays the operation time of the printer under provisional registration with the Control card (model ID card) mounted for the serial NTERIM OPERATION TIME - CARD 2 11-5-043 Μ number 2 Displays the operation time of the printer under provisional registration with the Control card (model ID card) mounted for the serial INTERIM OPERATION TIME - CARD 3 Μ 11-5-044 number 3. Displays the operation time of the printer under provisional registration with the Control card (model ID card) mounted for the serial М 11-5-045 INTERIM OPERATION TIME - CARD 4 number 4 Displays the operation time of the printer under provisional registration with the Control card (model ID card) mounted for the serial М 11-5-046 INTERIM OPERATION TIME - CARD 5 number 5 INK VOLUME DISPLAY C 11-5-051 Displays the volume (%) of ink remaining in the C-color ink cartridge, whose data are recorded in the unit ID tag on a printer. Μ 11-5-052 INK VOLUME DISPLAY M Μ Displays the volume (%) of ink remaining in the M-color ink cartridge, whose data are recorded in the unit ID tag on a printer. Μ 11-5-053 INK VOLUME DISPLAY Y Displays the volume (%) of ink remaining in the Y-color ink cartridge, whose data are recorded in the unit ID tag on a printer. М 11-5-054 INK VOLUME DISPLAY K Displays the volume (%) of ink remaining in the K-color ink cartridge, whose data are recorded in the unit ID tag on a printer. Displays the volume (%) of ink remaining in the P (, R or GR)-color ink cartridge, whose data are recorded in the unit ID tag on a printer. INK VOLUME DISPLAY P (R, GR) М 11-5-055 Note The displayed remaining ink volume is also applicable to the following - R of KCMYR models - Gr of KCMYGr models Scanner 21-5-001 SCANNER FIRMWARE VERSION М ndicates the version number of the firmware for the scanner. М 21-5-002 AF FIRMWARE VERSION Indicates the version number of the firmware for the AF unit of the scanner. М 21-5-006 SCANNER ERROR Displays the error code and name which correspond to the current error event on the scanner. Displays the numbers of the scanner-related test modes whose parameters are set out of allowable ranges, while indicating the said 21-5-011 SCANNER OVER PARAMETER Μ parameters themselves as well. Displays the numbers of the scanner-related test modes whose parameter values have been changed from the dafault ones, while 21-5-012 SCANNER TEST PARAMETER Μ indicating the said parameters themselves as well. Indicates the ID number which corresponds to the paper format of the original document placed on the Stage glass of the scanner. <ID number list> 00: No original (For metric formats) М 21-5-016 FB ORIGINAL SIZE ID DISPLAY 01: A3 / 02: B4 / 03: A4 / 04: A4-LEF / 05: B5 / 06: B5-LEF / 07: A5 / 08: A5-LEF (For inch formats) 13: Ledger / 14: Legal / 15: Letter / 16: Letter-LEF / 17: Statement / 18: Statement-LEF / 19: Foolscap (Misc.) 31: Custom / 255: Unknown original placement status

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Туре	Test mode No.	Test mode name	Action
м	21-5-017	AF ORIGINAL SIZE ID DISPLAY	Indicates the ID number which corresponds to the paper format of the original document placed on the AF (Auto Feeder) unit of the scanner. <id list="" number=""> 00: No original (For metric formats) 01: A3 / 02: B4 / 03: A4 / 04: A4-LEF / 05: B5 / 06: B5-LEF / 07: A5 / 08: A5-LEF / 09: B6 / 11: Postcard (Japanese) (For inch formats) 13: Ledger / 14: Legal / 15: Letter / 16: Letter-LEF / 17: Statement / 18: Statement-LEF / 19: Foolscap (Misc.) 31: Custom / 255: Unknown original placement status</id>
М	21-5-021	SCANNER TOTAL COUNT DISPLAY	Displays the total number of originals scanned on the Stage glass and through the AF (Auto Feeder) unit of the mounted scanner, whose data is recorded in the EEPROM on the scanner.
м	21-5-022	FB SCAN COUNT DISPLAY	Displays the total number of originals scanned on the Stage glass of the mounted scanner, whose data is recorded in the EEPROM on the scanner.
м	21-5-023	AF SCAN COUNT DISPLAY	Displays the total number of originals scanned through the AF (Auto Feeder) unit of the mounted scanner, whose data is recorded in the EEPROM on the AF unit. * The recorded count data in the EEPROM is to be updated each time 5 originals have been scanned and at the end of scanning operation. If an original jam occurs, say, during scanning the 7th original while placing 8 sheets on the AF unit, therefore, the recorded count data will be increased by 5 but not 6.
М	21-5-031	WHITE LEVEL CHECK_RED	Indicates whether the white level compensation is enabled for R (Red) light element in scanning, which is to be determined based on the threshold value specified in the test mode TM No. 21-6-071 "WHITE LEVEL THRESHOLD." - 0: OFF (Disabled) - 1: ON (Enabled)
м	21-5-032	WHITE LEVEL CHECK_GREEN	Indicates whether the white level compensation is enabled for G (Green) light element in scanning, which is to be determined based on the threshold value specified in the test mode TM No. 21-6-071 "WHITE LEVEL THRESHOLD." - 0: OFF (Disabled) - 1: ON (Enabled)
м	21-5-033	WHITE LEVEL CHECK_BLUE	Indicates whether the white level compensation is enabled for B (Blue) light element in scanning, which is to be determined based on the threshold value specified in the test mode TM No. 21-6-071 "WHITE LEVEL THRESHOLD." - 0: OFF (Disabled) - 1: ON (Enabled)
м	21-5-034	COLOR PROFILE S/N	Displays the 4-digit serial number of the color profile whose data are stored in the custom area of the EEPROM on the scanner. * "0" will be displayed unless the said data exist in the corresponding custom area.
Face of	own finishe		Indicates the version number of the firmware for the Ease down finisher
	24-3-001		
м	24-5-002	FDF MAIN MICON LOADER VERSION	Indicates the version number of the loader for the Face down finisher.
м	24-5-003	FDF PRINT COUNT	Displays the current maintenance mileage meter (total received sheet count) for the Face down finisher. * This count can be reset to "0" (zero) after a maintenance job.
м	24-5-004	FDF STAPLER JOB COUNT	Displays the current maintenance mileage meter (total stapling action count) for the Stapler assembly of the Face down finisher. * This count can be reset to "0" (zero) after a maintenance job.
м	24-5-005	FDF PRINT TOTAL COUNT	Displays the life mileage meter (total received sheet count) for the Face down finisher.
м	24-5-006	FDF STAPLER JOB TOTAL COUNT	Displays the life mileage meter (total stapling action count) for the Stapler assembly of the Face down finisher.
M	24-5-007	FDF STAPLER SLIDE COUNT	Displays the maintenance mileage meter (total flexing and extending action count) for the Stapler cable in the Face down finisher. * The said action accompanies the sliding shift of the Stapler assembly during stapling operation.
M	26-5-001	COIN VENDOR FIRMWARE VERSION	Indicates the version number of the firmware for the Coin vendor. * If the said firmware does not exist or the said device is not active, "0.0.0" will be indicated instead.
M	26-5-002	CARD VENDOR FIRMWARE VERSION	Indicates the version number of the firmware for the Card vendor. * If the said firmware does not exist or the said device is not active, "0.0.0" will be indicated instead.
			Displays the printer configuration for the IC Card authentication, which is to be specified through the test modes TM No. 27-3-001
М	27-5-001	IC CARD CONFIG	"AUTHENTICATION SERVER CONFIG IMPORT" and TM No. 27-6-004 "IC CARD CONFIG."

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Туре	Test mode No.	Test mode name	Action
High C	29-5-001	Jer HCE SH MAIN FIRMWARE VERSION	Indicates the version number of the SH main firmware for the Hinb_canacity feeder
	200001		
м	29-5-002	HCF SH LOADER FIRMWARE VERSION	Indicates the version number of the SH loader firmware for the High-capacity feeder.
М	29-5-006	HCF P-FEED TRAY PAPER VOLUME	Displays the remaining volume (%) of sheets loaded on the High-capacity feeder.
м	29-5-007	HCF P-FEED TRAY PAPER SIZE ID	Displays the ID number of the paper format currently acknowledged by the corresponding sensors in the High-capacity feeder. 0: No size aknowledged (For metric formats) 1: A3 / 2: A4 / 3: A4-LEF / 4: A5 / 5: A5-LEF / 6: A6 / 7: A6-LEF / 8: B4 / 9: B5 / 10: B5-LEF / 11: B6 / 12: B6-LEF (For inch formats) 13: Foolscap / 14: Ledger / 15: Legal / 16: Letter / 17: Letter-LEF / 8: Statement/ 19: Statement-LEF (For Japanese envelopes and misc.) 20: A3W / 21: Postcard / 22: Envelope-J-Square 0 / 23: Envelope-J-Square 1 / 24: Envelope-J-Square 2 / 25: Envelope-J-Square 3 / 26: Envelope-J-Long 3 / 27: Envelope-J-Long 4 (Europe envelopes) 28: Envelope-Q4 / 29: Envelope-C5 / 30: Envelope-C6 / 31: Envelope-DL-R (US envelope9 x 12 inch / 33: Envelope 10 x 13 inch / 34: No. 10 envelope 4.125 x 9.5 inch (Misc.) 51: Irregular (Small) / 52: Irregular (Large) / 53: Unknown / 54: Auto (Custom formats) 100: Custom 1 / 101: Custom 2 / 102: Custom 3 / 103: Custom 4 / 104: Custom 5
м	29-5-008	HCF P-FEED TRAY PAPER WIDTH	Displays the current metric setting of the paper width potentiometer for the Paper feed guides on the High-capacity feeder down to 0.1 mm.
М	29-5-009	HCF P-FEED TRAY PAPER WIDTH (AD)	Displays the current AD value of the paper width potentiometer for the Paper feed guides on the High-capacity feeder.
м	29-5-010	HCF P-FEED TRAY GUIDE WIDTH AD (210)	Displays a specific AD value of the paper width potentiometer for the Paper feed guides on the High-capacity feeder, which has been set to correspond to the paper width of 210mm in another test mode.
м	29-5-011	HCF P-FEED TRAY GUIDE WIDTH AD (297)	Displays a specific AD value of the paper width potentiometer for the Paper feed guides on the High-capacity feeder, which has been set to correspond to the paper width of 297mm in another test mode.
м	29-5-012	HCF P-FEED TRAY GUIDE WIDTH AD (105)	Displays a specific AD value of the paper width potentiometer for the Paper feed guides on the High-capacity feeder, which has been set to correspond to the paper width of 105mm in another test mode.
м	29-5-013	HCF P-FEED TRAY GUIDE WIDTH AD (279)	Displays a specific AD value of the paper width potentiometer for the Paper feed guides on the High-capacity feeder, which has been set to correspond to the paper width of 279mm in another test mode.
м	29-5-014	HCF P-FEED TRAY GUIDE WIDTH AD (216)	Displays a specific AD value of the paper width potentiometer for the Paper feed guides on the High-capacity feeder, which has been set to correspond to the paper width of 216mm in another test mode.
м	29-5-015	HCF P-FEED TRAY GUIDE WIDTH AD (108)	Displays a specific AD value of the paper width potentiometer for the Paper feed guides on the High-capacity feeder, which has been set to correspond to the paper width of 108mm in another test mode.
High (Capacity Stac	ker	
М	30-5-001	HCS SH MAIN FIRMWARE VERSION	Indicates the version number of the SH main firmware for the High-capacity stacker.
м	30-5-002	HCS SH LOADER FIRMWARE VERSION	Indicates the version number of the SH loader firmware for the High-capacity stacker.
м	30-5-006	HCS FU MAINTENANCE COUNT DISPLAY	Displays the maintenance mileage meter (total passing sheet count) for the rubber rollers positioned along the straight paper path in the 1st paper transfer section of the High-capacity stacker.
М	30-5-007	HCS FD MAINTENANCE COUNT DISPLAY	Displays the maintenance mileage meter (total passing sheet count) for the rubber rollers positioned along the switchback paper path in the 1st paper transfer section of the High-capacity stacker.
М	30-5-008	HCS MAINTENANCE COUNT DISPLAY	Displays the sum total of the maintenance mileage meters displayed in the test modes TM No. 30-5-006 and TM No. 30-5-007.
Posts	cript option		
м	31-5-001	ACTIVATION CARD STATUS	Indicates whether the activation card of the PS (PostScript) kit has been activated or not. - 0: Not activated - 1: Activated * The activation card of the PS kit is required to be mounted on a printer beforehand.

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Туре	Test mode No.	Test mode name	Action
Wrapp	ong Envelop		
м	33-5-001	WEF FIRMWARE VERSION	Displays the version number of the main firmware for the Wrapping envelope finisher.
м	33-5-002	WEF LOADER FIRMWARE VERSION	Displays the version number of the loader firmware for the Wrapping envelope finisher.
М	33-5-006	WEF PRINT COUNT DISPLAY	Displays the mileage meter (total finished mail count) for the Wrapping envelope finisher.
М	33-5-011	WEF TEMPERATURE DISPLAY	Displays the temperature of the temperature sensor in the Wrapping envelope finisher.
M	34-5-001	PB FIRMWARE VERSION	Displays the version number of the main firmware for the Perfect binder.
м	34-5-002	PB LOADER FIRMWARE VERSION	Displays the version number of the loader firmware for the Perfect binder.
М	34-5-006	PB BOOKLET COUNT	Displays the mileage meter (total finished booklet count) for the Perfect binder.
м	34-5-007	PB PRINT COUNT	Displays the maintenance mileage meter (total count of received body text sheets, which have passed through the PB Body test exit sensor) for the Perfect binder.
м	34-5-008	PB COVER COUNT (INSERTER)	Displays the maintenance mileage meter (total count of fed cover sheets, which have passed through the PB Cover pass sensor) for the Cover inserter of the Perfect binder. [Note] The PB Cover feed roller is to be replaced each time 0.2 million cover sheets have been fed.
м	34-5-011	PB GLUE UPPER TMP DETECT (THMS)	Displays the tenfold value of the temperature of the PB Full detection thermistor, which detects whether the glue tank is full of melted glue in the Gluing unit of the Perfect binder.
м	34-5-012	PB GLUE LOWER TMP DETECT (THMS)	Displays the tenfold value of the temperature of the PB Empty detection thermistor, which detects whether the glue tank is empty in the Gluing unit of the Perfect binder.
м	34-5-013	PB GLUE ROLLER TMP DETECT (THMS)	Displays the tenfold value of the temperature of the thermistor for the PB Gluing roller in the Gluing unit of the Perfect binder.
м	34-5-014	PB GLUE TANK TMP DETECT (THMS)	Displays the tenfold value of the temperature of the thermistor for the glue tank in the Gluing unit of the Perfect binder.
м	34-5-021	PB BODY TEXT THICKNESS (MM)	Displays the metric value for the thickness of a stack of body text sheets on the Perfect binder down to 0.1mm, which has been measured in the test mode TM No. 34-3-003 "PB BODY THICKNESS MEASUREMENT."
м	34-5-022	PB BODY TEXT THICKNESS (PULSE)	Displays the motor pulse value for the thickness of a stack of body text sheets on the Perfect binder, which has been measured in the test mode TM No. 34-3-003 "PB BODY THICKNESS MEASUREMENT."
Additi	onal 2000 sh	eet feeder (Expansion feeder)	
м	35-5-001	EXF MAIN FIRMWARE VERSION	Displays the version number of the main firmware for the Additional 2000 sheet feeder.
М	35-5-002	EXF LOADER FIRMWARE VERSION	Displays the version number of the loader firmware for the Additional 2000 sheet feeder.
Mutilf M	uction finish	FI MAIN FIRMWARE VERSION	Displays the version number of the main firmware for the FI unit of the Multifunction finisher.
м	36-5-002	FI LOADER FIRMWARE VERSION	Displays the version number of the loader firmware for the FI unit of the Multifunction finisher.
м	36-5-003	FI FU PASSAGE MAINTENANCE COUNTER	Displays the mileage meter (a total of transferred sheets) for the FI Face-up transfer roller in the FI unit of the Multifunction finisher, which can be consulted when considering the maintenance or replacement of the said roller.
м	36-5-004	FI FD PASSAGE MAINTENANCE COUNTER	Displays the mileage meter (a total of transferred sheets) for the rollers in the switchback section, such as Switchbak transfer roller, Switchback roller and Switchback devation roller, in the FI unit of the Multifunction finisher, which can be consulted when considering the maintenance or replacement of the said rollers.
м	36-5-005	FI ALL PASSAGE MAINTENANCE COUNTER	Displays the sum of the mileage meters (a total of transferred sheets) indicated in the test modes TM No. 36-5-003 "FI FU PASSAGE MAINTENANCE COUNTER " and TM No. 36-5-004 "FI FD PASSAGE MAINTENANCE COUNTER ."
М	37-5-001	M-FUNCTION FINISHER FIRMWARE VERSION	Displays the version number of the firmware for the FM unit of the Multifunction finisher.
м	37-5-005	FF TRANSFER CURRENT LIFE DISPLAY	Displays the current life (mileage) meter (a total of transferred sheets) for the rollers in the FF (Finisher Fold) unit of the Multifunction finisher, which can be consulted when considering the maintenance of the said rollers.

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Туре	Test mode No.	Test mode name	Action
М	37-5-006	FM PUNCH TRANSFER CUR LIFE DISPLAY	Displays the current life (mileage) meter (a total of transferred sheets) for the components related to paper transfer, such as harnesses, gears and dutches, in the Punching section of the Multifunction finisher, which can be consulted when considering the maintenance of the said components.
М	37-5-007	FM COMPILE CURRENT LIFE DISPLAY	Displays the current life (mileage) meter (a total of handled sheets) for the Compile components in the Stapling section of the Multifunction finisher, which can be consulted when considering the maintenance of the said components.
М	37-5-008	FM SUB PADDLE CURRENT LIFE DISPLAY	Displays the current life (mileage) meter (a total of handled sheets) for the FM Sub paddles in the Stapling section of the Multifunction finisher, which can be consulted when considering the maintenance of the said components.
М	37-5-009	FM PADDLE CURRENT LIFE DISPLAY	Displays the current life (mileage) meter (a total of handled sheets) for the FM Main paddles in the Stapling section of the Multifunction finisher, which can be consulted when considering the maintenance of the said components.
М	37-5-010	FB PADDLE CURRENT LIFE DISPLAY	Displays the current life (mileage) meter (a total of handled sheets) for the FB paddles in the Booklet making section of the Multifunction finisher, which can be consulted when considering the maintenance of the said components.
М	37-5-011	FM STAPLE UNIT CURRENT LIFE DISPLAY	Displays the current life (mileage) meter (a total of stapling actions) for the FM Stapler in the Stapling section of the Multifunction finisher, which can be consulted when considering the maintenance of the said component.
М	37-5-012	FB STAPLE UNIT CURRENT LIFE DISPLAY	Displays the current life (mileage) meter (a total of stapling actions) for the FB Stapler in the Booklet making section of the Multifunction finisher, which can be consulted when considering the maintenance of the said component.
М	37-5-013	FM SUB PADDLE CLUTCH CUR LIFE DSPY	Displays the current life (mileage) meter (a total of actions) for the FM Sub paddle clutch in the Stapling section of the Multifunction finisher, which can be consulted when considering the maintenance of the said component.
м	37-5-014	FM STACK EJECT ROLL CUR LIFE DISPLAY	Displays the current life (mileage) meter (a total of ejected sheets) for the FM Stack eject rollers in the Stapling section of the Multifunction finisher, which can be consulted when considering the maintenance of the said rollers.
М	37-5-015	FM PUNCH UNIT CURRENT LIFE DISPLAY	Displays the current life (mileage) meter (a total of punching actions) for the FM Puncher in the Punching section of the Multifunction finisher, which can be consulted when considering the maintenance of the said component.
М	37-5-016	FM GATE 2 UNIT CURRENT LIFE DISPLAY	Displays the current life (mileage) meter (a total of actions) for the components related to paper path switch by the FM Gate 2 of the Multifunction finisher, which can be consulted when considering the maintenance of the said components.
М	37-5-023	FM PUNCH COUNT	Displays a total of punching actions in the Punching section of the Multifunction finisher. The said total is ticked up from the beginning as follows. <2/4-hole puncher> - For 2-hole punching: 1.0 ticked up - For 4-hole punching: 1.5 ticked up <2/3-hole puncher> - For 2-hole punching: 1.3 ticked up - For 3-hole punching: 1.5 ticked up
М	37-5-024	FM STAPLE DUST COUNT (TOTAL)	Displays a total of waste staples which have been discarded into the FM Staple bin in the Multifunction finisher since the said bin was emptied.
М	37-5-025	FM STAPLE BOX FULL DUST COUNT	Displays the number of waste staples which have been discarded into the FM Staple bin in the Multifunction finisher since it was warned that the said bin was nearly full until it is detected to become full.
М	37-5-027	FM STK TRAY ELEV MTR ECDR PULSE CNT	Displays the latest pulse number counted by the encoder attached to the FM Stack tray elevation motor.
м	37-5-028	FB STAPLE F COUNT	Displays a total of stapling actions by the FB Stapler F in the Booklet making section of the Multifunction finisher.
М	37-5-029	FB STAPLE R COUNT	Displays a total of stapling actions by the FB Stapler R in the Booklet making section of the Multifunction finisher.
М	37-5-030	M-FUNCTION FINISHER FOLD COUNT	Displays a total of folding actions (Z-fold and outward/inward threefold) in the FF (Finisher Fold) unit of the Multifunction finisher.
М	37-5-032	FM STAPLE COUNT	Displays a total of stapling actions by the FM Stapler in the Stapling section of the Multifunction finisher.
М	37-5-036	EJECT STAPLE DCMT COUNT(STACK TRAY)	Displays a total of stapled sets which have been finally stacked on the Stacking tray of the Multifunction finisher.

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4.6 "Data Edit (E)" modes

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RISO SQUARE WEB VERSION

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Test Modes

Туре	Test mode	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
PMS s	ection				octaing				1			
E	01-6-001	GMT TIME ZONE SELECTION	_	-	Global: 14 China: 27	1	33	1	-	Selects the time zone for a printer. *The time zone can also be selectes in the Setup wizard. 1: GMT-12:00, 2: GMT-11:00, 3: GMT-10:00, 4: GMT-09:00, 5: GMT-08:00, 6: GMT-07:00, 7: GMT-06:00, 8: GMT-05:00, 9: GMT-04:00, 10: GMT-03:30, 11: GMT-03:00, 12: GMT-02:00, 13: GMT-01:00, 14: GMT 00:00 (Greenwich Mean Time: London), 15: GMT-01:00, 14: GMT 40:200, 17: GMT+03:00, 18: GMT+03:30, 19: GMT+04:00, 20: GMT+04:30, 21: GMT+05:00, 22: GMT+05:30, 23: GMT+05:45, 24: GMT+06:00, 25: GMT+06:30, 26: GMT+07:00, 27: GMT-08:00, 28: GMT+04:90:00 (Tokoy, Seoul), 22: GMT+09:30, 30: GMT+10:00, 31: GMT+11:00, 32: GMT+12:00, 33: GMT+13:00	To correct a wrong time zone setting made in the Setup wizard or change the current time zone to a preferred one.	
E	01-6-011	NETWORK LINK MODE SELECTION	I	-	0	0	5	1	-	Selects the network link mode. 0: Auto 1: 10Full / 2: 10Half / 3: 100Full / 4: 100Half / 5: 1000Full	To select a preferred network link mode for LAN0 when the current setting is unknown	
			1	E-mail communication	0	0	2	1	-	Selects whether to prohibit the application of TLS1.0 and 1.1 in e-mail and RISO Console communications. 0: Neither prohibited 1: TLS1.0 prohibited	To prefer to prohibit the application of TLS1.0 and 1.1 in	The parameter change is to
E	01-6-013	TES DISABLE SET	2	RISO Console	0	0	2	1	-	22: Both ILS1.0 and 1.1 prohibited [Note] The parameter setting specified here becomes valid only when the application of SSL (Secure Socket Layer) v3.0 is disabled in the test mode TM No. 01-6- 023 "SSL V3.0 ENABLE" for e-mail communication.	e-mail and/or RISO Console communications.	take effect when a printer is rebooted.
E	01-6-014	SNMP COMMUNICATION SELECT (STANDARD)	-	-	1	0	2	1	-	Selects whether the Standard MIB (Management Information Base) is to be applied in the SNMP (Simple Network Management Protocol) communication. 0: Not applied (The MIB information is not to be acquired.) * To be selected for the network environment from outside which data are not allowed to be acquired.) 1: Applied only in Read (Data are to be acquired from the MIB.) 2: Applied in both Read and Write (Data are to be acquired from and stored into the MIB.) [Note] 1. If the parameter is set to "0" in the test mode TM No. 01-6-015 "SNMP COMMUNICATION SELECT (PRIVATE)," the MIB information will not be acquired regardless of the parameter setting in this test mode. 2. The parameter setting in this test mode is to be effective only when the SNMP is enabled in the Administrator menu.	To change the access rights to the inquiry for the Standard MIB in the SNMP communication.	
E	01-6-015	SNMP COMMUNICATION SELECT (PRIVATE)	-	-	1	0	2	1	-	Selects whether the Private MIB (Management Information Base) is to be applied in the SNMP (Simple Network Management Protocol) communication. 0: Not applied (The MIB information is not to be acquired.) * To be selected for the network environment from outside which data are not allowed to be acquired.) 1: Applied only in Read (Data are to be acquired from the MIB.) 2: Applied in both Read and Write (Data are to be acquired from and stored into the MIB.) 1: Applied on both Read and Write (Data are to be acquired from and stored into the MIB.) [Note] 1. If the parameter is set to "0" in the test mode TM No, 01-6-014 "SNMP COMMUNICATION SELECT (STANDARD)," the MIB information will not be acquired regardless of the parameter setting in this test mode. 2. The parameter setting in this test mode is to be effective only when the SNMP is enabled in the Administrator menu.	To change the access rights to the inquiry for the Private MIB in the SNMP communication.	
E	01-6-016	SNMP COUNT TIMING SELECTION	-	-	1	0	1	1	-	Selects the count-up timing for the following SNMP (Simple Network Management Protocol) information. -inJobImpressionsCompleted (the number of completed prints per job) -imJobImpressionsPerCopyRequested (the requested number of prints for the same job) 0: When prints have been ejected from a printer. 1: When prints have been ejected from a connected optional finishing device. [Note] The parameter setting in this test mode is to be effective only when the SNMP is enabled in the Administrator menu.	To change the count-up timing for the corresponding SNMP information.	
E	01-6-017	SNMP LOG OUTPUT SELECTION	-	-	0	0	1	1	-	Selects whether the SNMP (Simple Network Management Protocol) communication log is to be output or not. 0: Not to be output. 1: To be output.	To record the SNMP communication log, such as request and response, into the "syslog."	The parameter change is to take effect when a printer is rebooted. When the parameter is changed, the SNMP communication will be temporarily disabled.
E	01-6-021	FTP PORT NUMBER SETTING	_	-	21	0	65535	1	-	Specifies the FTP (File Transfer Protocol) port number to be used for a printer- linked application, such as Tablet applications. * A general FTP server port number, i.e. 21, is not available for the FTP server applications on Android Tablets. [Note] Scanned image data will not be able to be output to other destinations than a specified printer-linked application, excluding the file transfer through SMB (Server Message Block), if another FTP port number than the default one is specified here.	To use a printer-linked application, such as Tablet applications.	
E	01-6-022	FTP USER ANONYMOUS ENABLE	_	-	0	0	1	1	-	Selects whether to prohibit anonymous FTP users from accessing a printer. 0: Access allowed 1: Access prohibited (A print file (.prn) is not to be sent to a printer through an FTP server.)	To prohibit anonymous FTP users from using a printer through a FTP ports are applicable FTP ports are suspected to be vulnerable under the current network environment.	The parameter change is to take effect when exiting from the test mode.

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Test Modes

Туре	No.	Test mode name	No.	Туре	Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
E	01-6-023	SSL V3.0 ENABLE	1	Email transmission	0	0	1	1	-	Selects whether to enable SSL (Secure Socket Layer) v3.0 in the encrypted connection with a mail or RRA (Riso Remote Agent) server.	When it is necessary to use SSL v3.0 in the encrypted connection	The parameter change is to take effect when a printer is rebooted. * It is strongly recommended
	010020		2	RRA communication	0	0	1	1	-	0: Disabled 1: Enabled	with a mail or RRA server.	to avoid enable SSL v3.0 if possible because its vulnerability is mentioned in CVE-2014-3566.
E	01-6-024	NTLM AUTHENTICATION PROTOCOL SELECT	_	-	0	0	2	1	-	Selects a protocol for NTLM (NT LAN Management) authentication. 0: The one defined for smbclient 4.7 (NTLMv2) 1: NTLMv1 2: NTLMv2	When another protocol than the default one is required in the current network environmenr.	The parameter change is to take effect when a printer is rebooted.
		SMB SLIPPORT	1	Min	0	0	9	1	-	Specifies the range of SMB (Server Message Block) support protocols to be applied during communication with servers. The protocols which range from the one specified in 1 (Min) to the one specified in 2 (Max) are to be applied. 0: Not specified	To configure the SMB support	The parameter change is to
E	01-6-025	PROTOCOL VERSION	2	Max	0	0	9	1	-	 INT1 INT1 SMB2_02 / 3: SMB2_10 / 4: SMB2_22 / 5: SMB2_24 6: SMB3_00 / 7: SMB3_02 / 8: SMB3_10 / 9: SMB3_11 [Note] The number to be specified in 2 (Max) should be larger than the one to be specified in 1 (Min). Otherwise, pp. SMB support protocol is to be specified 	environment.	rake effect when a printer is rebooted.
E	01-6-026	USB PORT ENABLE	_	-	Global: 1 China: 0	0	1	1	-	Selects whether to limit the availability of the USB ports on a printer. 0: Limited (The below-listed operations are to be unavailable.) - USB print / Scan-to-USB (scanned data storage to a USB drive) / CSV file export to a USB drive 1: No limit * The following operations are not limited on the USB ports on a printer: mailing fog file export to a USB drive, firmware package download and connection of an IC card reader or a scanner.	To change the range of operations available on the USB ports on a printer.	The item name of this test mode does not appear on the test mode item list. The [USB] icon wil disappear from the [Home] screen on the operation panel display when the parameter "0" is selected here.
E	01-6-027	USB DETECT WAITING TIME	_	-	1	0	15	1	sec	Specifies the amount of preparation time (sec.) required for a USB drive to be recognized by the PMS when mounted on a printer. Some USB drives may require more preparation time, during which the USB device driver recognizes the mounted USB drive and starts communication in the SCSI (Small Computer System Interface) layer.	To extend the said amount of preparation time for USB drive recognition on a printer.	
E	01-6-031	CSV FILE ENCODE SELECTION	_	-	0	0	1	1	-	Selects the character code applied to CSV-format files to be exported from or imported into a printer, such as account records, user setting data, charged print count and detailed print count. 0: Unicode (UTF-8) 1: Windows-31J * Windows-31J: The character code in which Microsoft and OEM vendors of MS-DOS have uniquely extended Shift_JIS, also called Microsoft code page 932.	To change the character code to be applied to CSV-format files to be exported or imported,	This test mode is only accessible through a direct key entry of the corresponding number, without its item name displayed in the test mode item list.
E	01-6-032	MAIL HEADER ENCODE	I	-	0	0	1	1	-	Selects whether to encode mail sender and receiver headers when sending scanned image data by e-mail. 0: No encode (UTF-8) 1: Encoded (UTF-8)	To encode mail sender and receiver headers when sending scanned image data by e-mail.	This test mode is only accessible through a direct key entry of the corresponding number, without its item name displayed in the test mode item list.
E	01-6-033	MAIL FILE ENCODE	I	-	0	0	1	1	-	Selects whether to encode the names of attached files when transmitting scanned image data by e-mail. 0: No encode (UTF-8) 1: Encoded (UTF-8)	To encode the names of attached files when transmitting scanned image data by e-mail.	This test mode is only accessible through a direct key entry of the corresponding number, without its item name displayed in the test mode item list.
E	01-6-034	USER AUTH UPPER/LOWER CASE SELECT	I	-	0	0	1	1	-	Selects whether the character case is to be recognized for user names and PC login IDs in user authentication. 0: No case recognition 1: Cases to be recognized	To enable the character case recognition for user names and PC login IDs in user authentication.	The setting change is to be recognized at reboot.
E	01-6-036	SCAN TO MAIL HEADER FORMAT SELECTION	_	-	0	0	1	1	-	Selects whether to put mail sender and receiver headers in brackets <> when transmitting scanned image data by e-mail. 0: Without brackets 1: Brackets to be added	To change the mail header setup according to the target mailing server configuration,	
E	01-6-041	REMOTE CONTROL FUNCTION SELECTION	_	-	0	0	1	1	-	Selects whether to enable the primary RA (Remote Agent) functions. 0: Disabled 1: Enabled [Note] This test mode item name is not to be displayed in the corresponding test mode execution screen.	To enable the primary RA functions.	This test mode is only accessible through a direct key entry of the corresponding number, without its item name displayed in the test mode item list.

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
E	01-6-042	REMOTE COUNT INFORMATION	_	-	0	0	1	1	-	Selects whether to enable the function of sending the mileage meter (total count) data to the RRA (Riso Remote Agent) server periodically. 0: Disabled (Data not to be sent) 1: Enabled (Data to be sent) * This test mode becomes available only when the primary RA functions are enabled in the test mode TM No. 01-6-041 "REMOTE CONTROL FUNCTION SELECTION," while the parameter setting once returns to the default one (0) in this test mode in the said case.	To lead a printer to send the mileage meter (total count) data to the RRA server periodically.	
E	01-6-043	REMOTE COUNT INFO TRANS SET (HOUR)	_	-	0	0	23	1	hour	Specifies the time (hour) when the mileage meter (total count) data are to be sent to the RRA (Riso Remote Agent) server through the function enabled in the test mode TM No. 01-6-042 "REMOTE COUNT INFORMATION." The final data transmission time is to be determined by adding the [Minute] value, which is to be specified in the test mode TM No. 01-6-044 "REMOTE COUNT INFO TRANS SET (MIN)." to this [Hour] one. * This test mode becomes available only when the corresponding function is enabled in the test mode TM No. 01-6-042 "REMOTE COUNT INFORMATION." while the parameter setting once returns to the default one (0) in this test mode in the said case.	To specify the time when the mileage meter (total count) data are to be transmitted to the RRA server.	
E	01-6-044	REMOTE COUNT INFO TRANS SET (MIN)	_	-	0	0	59	1	minute	Specifies the time (minute) when the mileage meter (total count) data are to be sent to the RRA (Riso Remote Agent) server through the function enabled in the test mode TM No. 01-6-042 "REMOTE COUNT INFORMATION." The final data transmission time is to be determined by adding this [Minute] value to the [Hour] one, which is to be specified in the test mode TM No. 01-6- 043 "REMOTE COUNT INFO TRANS SET (HOUR)." * This test mode becomes available only when the corresponding function is enabled in the test mode TM No. 01-6-042 "REMOTE COUNT INFORMATION." while the parameter setting once returns to the default one (0) in this test mode in the said case.	To specify the time when the mileage meter (total count) data are to be transmitted to the RRA server.	
E	01-6-045	REMOTE INK VOLUME INFORMATION	_	-	0	0	1	1	-	Selects whether to enable the function of sending the remaining ink volume data to the RRA (Riso Remote Agent) server when it has been notified that an ink cartridge is empty or nearly empty on a printer. 0: Disabled (Data not to be sent) 1: Enabled (Data to be sent) * This test mode becomes available only when the primary RA functions are enabled in the test mode TM No. 01-6-041 "REMOTE CONTROL FUNCTION SELECTION, while the parameter setting once returns to the default one (0) in this test mode in the said case.	To lead a printer to send the remaining ink volume data to the RRA server when it has been notified that an ink cartridge is empty or nearly empty on a printer.	
E	01-6-046	REMOTE COMMUNICATION TIMEOUT (MIN)	_	-	1	1	9	1	minute	Specifies the link-up (timeout) period of the communication line between a printer (WEB transmission module) and the RRA (Riso Remote Agent) server to be kept after the said communication line has been established. * This test mode becomes available only when the primary RA functions are enabled in the test mode TM No. 01-6-041 "REMOTE CONTROL FUNCTION SELECTION," while the parameter setting once returns to the default one in this test mode in the said case.	To change the link-up (timeout) period of the communication line between a printer and the RRA server.	
E	01-6-047	RA SEND COMMENT	_	-	-	-	-	-	-	Enters the comment string, whose maximum length is 50 (1-bit alphanumeric characters), to be attached to the data transmitted to the RRA (Riso Remote Agent) server. * This test mode is only available when the primary RA functions are enabled in the test mode TM No. 01-6-041 "REMOTE CONTROL FUNCTION SELECTION." * The already-entered comment, including a blank one, is to be indicated when entering this test mode.	To attach a desired comment to the data transmitted to the RRA server.	A confirmation window is not displayed even if the [Cance]] button is touched during entering a comment,
E	01-6-048	SERVER URL INPUT	_	-	-	-	-	-	-	Edits the existing URL of the RRA (Riso Remote Agent) server with a software keyboard. * This test mode is only available when the primary RA functions are enabled in the test mode TM No. 01-6-041 "REMOTE CONTROL FUNCTION SELECTION."	To change the existing URL of the RRA server.	A confirmation window is not displayed even if the [Cancel] button is touched during entering a comment.
E	01-6-049	REMOTE SERVER URL SELECT	_	-	0	0	1**	1	-	Selects a preferred URL for the RRA (Riso Remote Agent) server by specifying the corresponding list number when other URLs than the default one, which are numbered from "1" up to "39" in this test mode, are imported in the test mode TM No. 01-3-048 "ADMIN SERVER URL IMPORT." * This test mode is only available when the primary RA functions are enabled in the test mode TM No. 01-6-041 "REMOTE CONTROL FUNCTION SELECTION." (**) The maximum number changes depending on the number of URLs imported in the test mode TM No. 01-3-048 "ADMIN SERVER URL IMPORT."	To apply another URL thath the default one to the RRA server.	
E	01-6-050	REMOTE ERROR EVENT EXTENSION SELECT	_	-	0	0	3	1	-	Selects the types of errors whose event causes a printer to transmit the buffered REv (error log and mileage meter) data to the RRA (Riso Remote Agent) server. <error types=""> 0: S and I 1: S, I and X 2: S, I and U 3. S, I, X and U " This test mode is only available when the REv data acquisition function is enabled in the test mode TM No. 01-6-051 "REMOTE REV FUCNTION ONOFF" while the primary RA functions are enabled in the test mode TM No. 01-6-041 "REMOTE CONTROL FUNCTION SELECTION."</error>	To change the types of errors whose event triggers the transmission of REv data to the RRA server.	

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
E	01-6-051	REMOTE REV FUCNTION ON OFF	-	-	0	0	1	1	-	Selects whether to enable the REv (error log and mileage meter) data acquisition function for the RRA (Riso Remote Agent) server. 0: Disabled 1: Enabled * This test mode is only accessible through a direct key entry of the corresponding number, without its item name displayed in the test mode list.	To enable the REv data acquisition function for the RRA server.	
E	01-6-052	REMOTE ERROR HISTORY INFORMATION	_	-	0	0	1	1	-	Selects whether the [Send Error History] button is to be displayed in the Administrator menu to allow manual transmission of buffered REv (error log and mileage meter) data to the RRA (Riso Remote Agent) server, while the parameter setting once returns to the default one (0) in this test mode in the said case. 0: Not to be displayed 1: To be displayed * This test mode is only available when the REv data acquisition function is enabled in the test mode TM No. 01-6-051 "REMOTE REV FUCNTION ON/OFF" while the primary RA functions are enabled in the test mode TM No. 01-6-041 "REMOTE CONTROL FUNCTION SELECTION."	To lead the [Send Error History] button to be displayed in the Administrator menu.	
E	01-6-053	REMOTE REV EVENT EXTENSION SELECTION	-	-	0	0	1	1	-	Selects whether to add the events which lead to the acquisition of the buffered REV (error log and mileage meter) data to be transmitted to the RRA (Riso Remote Agent) server. <trigger events=""> 0. Regular (Bool-up / error events / specified events) 1: Expanded (Bool-up / error events / specified events) 1: Expanded (Bool-up / error events / specified events / print job requests) * This test mode is only available when the REV data acquisition function is enabled in the test mode TM No. 01-6-051 "REMOTE REV FUCNTION ON/OFF."</trigger>	To expand the range of events which lead to the acquisition of the buffered REv data to be transmitted to the RRA server,	
E	01-6-054	REMOTE MANUAL EVENT CODE1 SETTING	-	-	0	0	9999	1	-			
E	01-6-055	REMOTE MANUAL EVENT CODE2 SETTING	_	-	0	0	9999	1	-	Specimes the events whose log is desired to be buttered as additional Rev data to be transmitted to the RRA (Riso Remote Agent) server when the specified events have occurred, by entering the corresponding four-digit event code. * This test mode is only available when the REv data acquisition function is available in the test mode TM be 0.16 & 6.11 "PEMOTE REV [EINTION]	To record desired events as additional Rev data to transmit their logs to the RRA server.	
E	01-6-056	REMOTE MANUAL EVENT CODE3 SETTING	-	-	0	0	9999	1	-	ON/OFF."		
	01.0.057	RA FUNCTION	1	Firmware download	0	0	1	1	-	Selects whether to enable the secondary RA (Remote Agent) functions, i.e. fimware package download and event log transmission, thus leading the corresponding function buttons to be displayed in the Administrator menu. * The event log to be transmitted contains error events and mileage meters as well.	To enable the secondary RA functions, thus leading the corresponding function buttons to	
E	01-6-057	DISPLAY SELECT	2	Event log transmission	0	0	1	1	-	0: Disabled 1: Enabled (Function buttons to be displayed) * This test mode becomes available only when the primary RA functions are enabled in the test mode TM No. 01-6-041 "REMOTE CONTROL FUNCTION SELECTION," while the parameter setting once returns to the default one in this test mode in the said case.	corresponding function buttons to be displayed in the Administrator menu.	
E	01-6-058	LOG AUTO SEND TIME CONFIG DISPLAY	_		0	0	1	1	-	Selects whether the [Auto Send Time Set] button is to be displayed in the "Event Log Transmission" function window in the Administrator menu. 0: Not to be displayed 1: To be displayed * This test mode becomes available only when the "Event Log Transmission" function is enabled in the test mode TM No. 01-6-057-2 "RA FUNCTION DISPLAY SELECT," while the parameter setting once returns to the default one in this test mode when the seid function is enabled.	To lead the [Auto Send Time Set] button to be displayed in the "Event Log Transmission" function window in the Administrator menu.	
E	01-6-061	AUTHENTICATION SERVER CONNECTION	_	-	0	0	1	1	-	Selects the security setting for the LDAP (Lightweight Directory Access Protocol) server in external server authentication. 0: Encryption 1: Signature * Link-up mode: Non-SSL/TLS (HTTP) / Authentication mode: SASL	To change the security setting in external server authentication from the standard one.	
E	01-6-063	UNAUTHORIZED JOB OUTPUT ON/OFF	_	-	0	0	1	1	-	Selects whether to allow an unauthorized print job to be accepted without user authentication. 0: Not allowed (User authentication is required.) 1: Allowed (User authentication is not required.)	To allow an unauthorized print job to be accepted without user authentication.	This test mode is only accessible through a direct key entry of the corresponding number, without its item name displayed in the test mode item Ist. The item name is not displayed in the test mode execution window as well.
E	01-6-064	STAPLE-OFFSET EJECT SELECT	-	-	0	0	1	1	-	Selects whether to enable offset stacking for stapled prints on the Multifunction finisher. 0: Disabled (Stapled prints without offset stacking) 1: Enabled (Stapled prints with offset stacking) * This test mode setting is not to be applied to PC print jobs.		

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
Е	01-6-066	EXTERNAL DISPLAY PESOLI TION	1	Width	800	160	1920	1	dpi	Specifies the resolution to be applied to an external monitor on which the screen in the operation panel display on a printer is to be shown. * The resolution should be specified within the range applicable on a connected external monitor to avoid unexpected display problems while image misalignment or disappearance may occur on the printer's panel display depending on the sepcifications of the said monitor when changing the resolution in this test mode.	To change the resolution to be applied to a connected external	
		SETTING	2	Height	600	120	1080	1	dpi	[Note] This test mode should be executed, with an external monitor connected to a printer, at each boot-up to realize a desired screen display on the connected external monitor because the custom settings specified in this test mode are cancelled at power-off.	monitor.	
E	01 -6- 068	AUTO STACK TRAY FENCE ACT MODE SEL	_	-	0	0	1	1	-	Specifies whether to skip the initial positioning actions of paper guides on the Auto-control stacking tray, which precede the start of printing operation, thus leaving the said paper guides fixed at the current positions. 0: Auto 1: Fixed (No initial positioning action is to be made.) * With this setting, the Fine adjustment mode is also to be neglected if it is selected.	To skip the initial positioning actions of paper guides on the Auto-control stacking tray,	The parameter change is to take effect when a printer is rebooted.
E	01-6-073	SUPPLY STOCK DISPLAY SELECTION	I	-	0	0	1	1	-	Selects whether the [Stock Management] function button is to be displayed to allow ink cartridge stock management in the Administrator menu. 0: Not to be displayed 1: To be displayed	To allow ink cartridge stock management in the Administrator menu.	
E	01-6-075	BOX FUNCTION DISPLAY SELECTION	_	-	Global: 1 China: 0	0	1	1	-	Selects whether the [Storage] button is to be displayed in the [Home Screen Customization] window in the Administrator menu. 0: Not to be displayed (No Storage-folder-realted function is available.) 1: To be displayed	When disabling the folder function	The item name of this test mode does not appear on the test mode item list. The [Storage] icon will disappear from the [Home] screen on the operation panel display when the parameter "0" is selected here.
E	01-6-076	AUTO SHUTOFF DISPLAY SELECTION	_	-	1	0	1	1	-	Selects whether the [Auto Power-OFF Setting] function button is to be displayed in the Administrator menu. 0: Not to be displayed (The "Auto Power-OFF" functon is to be disabled.) 1: To be displayed (The "Auto Power-OFF" function is available.)	To disable the "Auto Power-OFF" function.	
E	01-6-077	SCREEN SHOT ON/OFF	I	-	0	0	1	1	-	Selects whether to enable the "Screenshot" function. 0: Disabled 1: Enabled	To take a screenshot of the operation panel display.	The default parameter value is to be restored at power- off.
E	01-6-081	COUNT CHARGE SELECTION	_	-	Sellout: 0 Charge: 2	0	16	1	-	Selects whether to allow a specific type of charged print count data to be provided through the Administrator menu. The specified type of charged print count data are to be provided as panel display or print-outs, or to be stored into a USB drive. 0: OFF (No charged print count data preparation) 1: ON (Type A) 9: ON (Type AR) 2: ON (Type B) 10: ON (Type BR) 3: ON (Type C) 11: ON (Type CR) 4: ON (Type E) 12: ON (Type CR) 5: ON (Type E) 13: ON (Type ER) 6: ON (Type F) 14: ON (Type FR) 7: ON (Type 6) 15: ON (Type FR) 7: ON (Type F) 14: ON (Type FR) 7: ON (Type F) 16: ON (Type FR)	To allow a specific type of charged print count data to be provided through the Administrator menu.	
E	01-6-082	MAIL LOG SET DISPLAY	-	-	0	0	1	1	-	Selects whether the [Mail Log Set] function button is to be displayed in the Administrator menu to allow various meter (count) reading for mail-making jobs executed with the Wrapping envelope finisher. 0: Not to be displayed 1: Displayed * If the parameter is set to "0" in this test mode, no mail-making job log is not to be prepared.	To allow various meter (count) reading for mail-making jobs executed with the Wrapping envelope finisher.	
E	01-6-083	P-FEED SETTING RESET ON/OFF SELECT	_	-	0	0	1	1	-	Selects whether to reset the current setting of paper thickness in paper type at power-on. O: Not to be reset 1: To be reset		

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
										Selects the default name of a sender to be displayed at mail destinations when a scanned image file is sent via e-mail in the Scan-to-Mail operation under login		
										status.		
										0: Sender's login name		
										1: [Sender's Mail Address] in the "Mail Setting" option in the Administrator		
										2: Sender's mail address acquired from a LDAP (Lightweight Directory Access		
										Protocol) server or MPS (Mail Publisher server), which is specified in the "Mail	To show of the defendance of a	
										Administrator menu.	sender to be displayed at mail	
Е	01-6-084	MAIL SENDER	_	-	0	0	2	1	-	(Nete)	destinations when a scanned	
		INITIAL SETTING								The parameter 1, i.e. [Sender's Mail Address] in the "Mail Setting" option in the	[Scan (Mail)] mode nder login	
										Administrator menu, is to be applied as a sender's name in the following cases even when the parameter 2 is selected in this mode.	status.	
										- When the authentication server link and the external system link are both		
										disabled. - When the mail address properties are not configured while the authentication		
										server link is enabled.		
										properties are configured with the the authentication server link enabled.		
										 When a null address is acquired from the MPS while the external system link is enabled 		
										la chabled.		
										Selects whether to execute booklet-making jobs with suspension between them to allow different print settings to be applied to the respective ones.	to suspend booklet-making jobs, thus allowing different print	
Е	01-6-085	CONNECT ON/OFF	-	-	1	0	1	1	-	0: To be supported between iste	settings to be applied to the	
										1: No suspention between jobs	respective ones.	
			4			_	10	-	ah+			
			2	PC PB	0	0	10	1	sheet			
			3	PC_WEF	0	0	7	1	sheet			
-	04 0 5	IMAGE RIP SHEET	4	PC_FINE	0	0	10	1	sheet	Specifies the number of sheets whose print data are to be buffered until bage		
E	01-6-086	WAIT NUMBER SET	5	PC_STANDARD	0	0	10	1	sheet	image data have been rasterized.		
			7	EXTL PS_WEF	0	0	7	1	sheet			
			8	EXTL PS_FINE	0	0	10	1	sheet			
			9	EXTL PS_STD	0	0	10	1	sheet			
										Specifies whether to suspend a requested print job with an error message if a		
		PAPER SIZE								specified paper format is different from the one registered for the Standard	To ignore a paper size mismatch	
E	01-6-087	MISMATCH ERR	-	-	1	0	1	1	-	paper recurrary on a single-paper-source model.	model to avoid print job	
										0: Paper size mismatch error not to be notified (Without job suspension) 1: Paper size mismatch error to be notified (With job suspension)	suspension on the said model.	
	+									······································		
										Selects whether to count Gr- or K+Gr-color prints as monochrome or color		
-	01.0.000	PRINT COUNT								ones	To count Gr- or K+Gr-color prints	
-	01-0-090	SELECT K+Gr/Gr	-	-		0			-	0: Monochrome	as monochrome ones.	
										1: Color		
										Selects whether to count mono-color prints, i.e. Mono-Magenta (Red) and		
										Mono-Cyan, as monochrome or color ones.		
										0: Monochrome	To lead mono-color prints, i.e.	
Е	01-6-091	MONOCOLOR	-	-	1	0	1	1	-	1: Color	Mono-Magenta (Red) and Mono- Cvan, to be counted as	
										[Note]	monochrome ones	
										are to be limited or prohibited as well as color ones under color print limitation		
										or prohibition mode.		
										Selects whether to lead the "Mono-Blue" print mode to be avaialble.		
F	01-6-002		_		Global: 0 China: 1	0	1	1	_	0. Not available	To make the "Mono-Blue" print	
	01-0-095	BLUE ENABLE		-	Grinia. T	0			-	1: Available (The [Blue Enable] function button is to be displayed in the	mode available or unavailable.	
										Administrator menu.)		
			1	к	2	2	5	1	5%			
			2	c		2	6	-	F0/	paulusis are unning to lead the Ink volume indirator to blink on the operation panel to inform that an ink cartridge has nearly become empty, based on the		Variation code 5 is also
			2	с —	2	2	2	<u> </u>	5%	calculated remaining ink volume data.	To lead the ink volume indiicator	applicable to the following:
E	01-6-095	DISPLAY ADJUST	3	М	2	2	5	1	5%	- The trigger remaining ink volume: a parameter value x 5%	to blink on the operation panel earlier or later.	- R of 5C (KCMYR) models - Gr of 5C (KCMYGr)
			4	Y	2	2	5	1	5%	If the parameter is set to "2," the trigger remaining ink volume which leads the		models
			5	P (R,Gr)	2	2	5	1	5%	ink volume indicator to blink will be "10%."		
-												
										Selects the default print color mode for document data to be retrieved from a		The default
1										USD urive.		document data to be stored
F	01-6-096	USB PRINTING	_	<u> </u>	n	0	2	1	<u>-</u>	0: Auto 1: Color	To change the default print color mode for document data to be	into a USB drive is to be specified during the initia
-	0.0000	SET			°,	Ů	-			2: Monochrome	retrieved from a USB drive.	printer setup operation or in
										* The parameter setting of this test mode will be ignored when the color print		the "Setup Wizard" function in the Administrator menu.
										operation is prohibited on a printer.		
	-		1	U1	0	0	1	1	-			
			2	U2	0	0	1	1	-	Selects whether the respective namer types are to be displayed as additional		
		PAPER FEED	3	U3	0	0	1	1	-	options in the [Paper Type] selection window for paper tray property	To increase the range of	
Е	01-6-101		4	U4	0	0	1	1	-	iconniguration.	available paper types for paper	
		SELECTION	5	U5	0	0	1	1	-	0: Not to be displayed 1: To be displayed	a ay property configuration.	
			6	LW Paper	0	0	1		-			
			ŏ	sealing Form	U	U	1	L T	-			

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
E	01-6-103	SLOW PRINTING MODE DISPLAY SELECT	Ι	-	1	0	1	1	-	Selects whether the [Slow Printing Mode] button is to be displayed during printing operation. 0: Not to be displayed 1: To be displayed	To enable the transition to the Slow printing mode during operation.	
E	01-6-105	SAVED FOLDER JOB MAX DISPLAY SELECT	I	-	0	0	1	1	-	Selects whether a notification window is to be displayed when selecting the storage folder in which the number of stored print jobs has reached the maximum limit. 0: Not to be displayed 1: To be displayed	To notify an operator that a selected storage folder has no free space for additional storage of print jobs.	
E	01-8-108	POL DATA FEED TRAY PRIORITY SETTING		-	0	0	6	1	-	Selects a paper source (paper tray) for PCL data print jobs. 0: No selection (as specified in the corresponding print command.) 1: Auto 2: Standard paper feed tray or High-capacity feeder 3: Paper tray 1 4: Paper tray 2 5: Paper tray 3 6: Additional 2000 sheet feeder	To use another paper source for PCL data print jobs whose paper source is predefined and unchangeable through their printer drivers.	
E	01-6-109	INTERNAL RIP JOB JUDGE ENHANCE		-	0	0	1	1	-	Selects whether to enhance the validity check function of the internal RIP for received print data. 0: Not to be enhanced 1: To be enhanced * When the received print data is found invalid, the corresponding print job is to be interrupted with an error message.	To avoid an unexpected operation of a printer to be caused by invalid print data processing.	PCL5c print data may become unable to be printed if the validity check function of the internal RIP is enhanced in this test mode. In such a case, cancel the said functional enhancement.
E	01-6-111	ENVELOPE FEED SETTING BUTN DISPLAY	l	-	1	0	1	1	-	Selects whether the [Envelope Feed Options] function button is to be displayed in the Administrator menu to allow specific feed control for thick or curled envelopes, thus preventing possible ink stains or image blur on them. 0: Not to be displayed 1: To be displayed	To allow specific image adjustment for envelopes to prevent possible ink stains or image blur on printed envelopes.	
E	01-6-112	ENVELOPE FEED CONTROL BUTN DISPLAY	_	-	1	0	1	1	-	Selects whether the [Feed Control] option button is to be displayed in the "Envelope Feed Options" function window in the Administrator menu to allow specific feed control for thick or curled envelopes, thus preventing possible ink stains or image blur on them. 0: Not to be displayed 1: To be displayed	To allow specific feed control for thick or curled envelopes to prevent possible ink stains or image blur on them.	The parameter setting of this test mode is to be changed automatically in conjunction with that of the test mode TM No. 01-6-111 "ENVELOPE FEED SETTING BUTN DISPLAY."
E	01-6-115	CONTINUOUS JOB SELECTION	I	-	1	0	1	1	-	Selects whether to execute multiple print jobs without interruption even when different paper sources are specified for them. 0: To interrupt print jobs 1: To execute print jobs without interruption	To keep printing without interruption even when a different paper source is specified for the subsequent print job.	
E	01-6-116	ENFORCE LPR TRANSMISSION ORDER		-	0	0	1	1	-	Selects whether to print LPR data in order of data receipt while processing them serially or in order of processing completion while processing them in paralel. 0: In order of processing completion (Parallel processing) 1: In order of data receipt (Serial processing) * When processing print data in paralel, the data print order may differ from the data receipt order depending on the received data size.	To ensure that LPR data is always printed in order of data receipt.	
E	01-6-121	EXTERNAL SYSTEM LINK I/F SELECT	-	-	0	0	2	1	-	Selects an external system to which a printer is to be interfaced. 0: PaperCut 1: General MPS (Managed Print Service), such as Brocade 2: Internet-browser-linked ones, such as SKYCOM and CEC)	To change the external system to be linked to a printer.	
E	01-6-122	MPS BROWSER LINK I/F SELECT	-	-	0	0	1	1	-	Selects whether to enable the acquisition of operational mode screens on a printer, such as "Home," "Print," "Copy." "Scan-to-PC" and "Scan-to Mail," by an external system, i.e. such a general MPS (Managed Print Service) as Brocade, through the browser link function. 0: Disabled (No printer's operational screen in the browser) 1: Enabled (Printer's operational screens to be viewed in the browser) * This test mode is only available when the parameter "1" is selected in the test mode TM No. 01-6-121 "EXTERNAL SYSTEM LINK I/F SELECT."	To view the operational mode screens on the printer in the browser of an external system, i.e. such a general MPS as Brocade, as well.	
E	01-6-123	BROWSER LINK HOME SCREEN SELECT	_	-	0	0	1	1	-	Selects whether to apply the "Home" screen of the browser for a linked external system, i.e. such a general MPS (Managed Print Service) as Brocade, to the "Home" screen on a printer when the browser link function is enabled on the said external system. 0: Not to be applied (An original "Home" screen to be kept on the printer) 1: To be applied (The "Home" screen of the corresponding browser to be applied on the printer) * This test mode can be accessed through on-list item selection or direct number entry, only when the parameter "1" is selected in the test mode TM No. 01-6-121 "EXTERNAL SYSTEM LINK I/F SELECT." If not, this test mode will not be accessible in either way.	To lead the "Home" screen of the browser for a linked external system, i.e. such a general MPS (Managed Print Service) as Brocade to be shown in the operation panel display on a printer as its own "Home" screen,	

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
E	01-6-131	NAS FILE STORE ENDISABLE SELECT	-	-	0	0	1	1	-	Selects whether to save such files as RINC, PostScript-kit-related and syslog files into the NAS (Network Attached Storage). 0: Disabled (Not to be saved) 1: Enabled (To be saved) 1: Enabled (To be saved) 1: Enabled (To be saved) 1: The configuration of the NAS is to be made in another test mode TM No. 01- 3-050 "NAS SETTING IMPORT." [Note] The saved file names and locations are as follows: - RINC JOBID-yyyymmddhhmmss.pm (To be saved when the corresponding file has been received.) - Psskift-related files: PSJ/DBID-yyymmddhhmmss.gz (To be saved when a job ID number, "JOBID," has been assigned.) - syslog files: syslog/syslog-yyymmddhhmmss.gz (To be saved just before the corresponding file is deleted through routine data deletion.) * The oldest "syslog" file, which is to be deleted, is only to be saved,	To store files, such as RINC. PostScript-kit-related and syslog files, into the NAS.	The parameter change is to take effect to mount or unmount the NAS when a printer is rebooted. "JOBID" is a 10-digit number.
E	01-6-135	FIRMWARE RESTORE KEY DISPLAY	I	-	1	0	1	1	-	Selects whether the [Restore firmware] function button is to be displayed in the Administrator menu to allow the restoration of the prior version of firmware package to overwrite the currently downloaded one. 0: Not to be displayed 1: To be displayed	To allow the prior version of firmware package to be restored to overwrite the currently downloaded one.	
E	01-6-140	INK COST CALCULATION SELECT	-	-	0	0	1	1	-	Selects whether to calculate a per-page ink cost. 0: OFF (Not to be calculated) 1: ON (To be calculated)		The default setting is to be recovered at power-off.
E	01-6-141	INK COST DISPLAY CURRENCY	_	-	Global: 1 China: 3	0	4	1	-	Selects the currency to be applied in the per-page ink cost calculation. 0: Japanese yen 1: US dollar 2: Euro 3: Chinese yuan 4: -		
E	01-6-142	INK CAPACITY SET	1 2 3 4 5	K C M Y P (B Gr)	1 1 1 1	0 0 0 0	1 1 1 1	1 1 1 1	-	Selects the type (volume) of loaded ink cartridges for the per-page ink cost calculation. 0: 500ml 1: 1000ml		Variation code 5 is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models
E	01-6-143	INK PRICE SET	1 2 3 4 5	K C M Y P (R,Gr)	0 0 0 0 0	0 0 0 0	65535 65535 65535 65535 65535	1 1 1 1 1	- - - -	Specifies the purchase price of loaded ink cartridges for the per-page ink cost calculation.		Variation code 5 is also applicable to the following: - R of 5C (KCMYR) models - Gr of 5C (KCMYGr) models
E	01-6-144	INK COST REPORT DATE	_	-	31	1	31	1	-	Specifies the monthly close date to calculate the monthly per-page ink cost for reporting. [Note] In case the specified date does not exist in a target month, the last date of the said month will be applied as a close date instead. (Ex. When the monthly close date is specified as "31st," "30th" will be applied instead in November.)		
E	01-6-145	INK COST MONTHLY WORKING DAYS	_	-	20	0	31	1	days	Specifies the number of monthly operating days for a printer, based on which the volume of ink consumed during print head cleaning is estimated to calculate per-page ink costs for individual print jobs. [Note] When generating a report, the per-page ink costs are calculated based on the actual number of print head cleaning operations but not the estimated values.		
E	01-6-151	HEAD MAINT NOZZLE CHECK PRINT-COUNT	-	-	1	1	9999	1	sheets	Specifies the print quantity for test pattern prints in the test modes TM No. 09- 3-076 "HEAD MAINTENANCE PRINT" and TM No. 09-3-077 "NOZZLE CHECK PRINT."	To change the default print quartity for test pattern prints in the test modes TM No. 09-3-076 "HEAD MAINTENANCE PRINT" and TM No. 09-3-077 "NOZZLE CHECK PRINT."	
E	01-6-152	HEAD MAINT NOZZLE CHECK PRINT-TRAY	_	-	0	0	4	1	-	Selects the paper source for test pattern prints in the test modes TM No. 09-3- 076 "HEAD MAINTENANCE PRINT" and TM No. 09-3-077 "NOZZLE CHECK PRINT." 0: Standard paper feed tray 1: Paper tray 1 2: Paper tray 2 3: Paper tray 3 4: High-capacity feeder	To change the default paper source for test pattern prints in the test modes TM No. 09-3-076 "HEAD MAINTENANCE PRINT and TM No. 09-3-077 "NOZZLE CHECK PRINT."	
E	01-6-161	REMOTE COMMUNICATION INTERVAL	_	-	0	0	65535	1	sec	Specifies the allowable interval until the following session has been established after the current one is closed during the RA (Remote Agent) operation. If a higher-priority function is requested to be executed during the RA operation, it is to be executed during this interval. * This test mode becomes available only when the primary RA functions are enabled in the test mode TM No. 01-6-041 "REMOTE CONTROL FUNCTION SELECTION," while the parameter setting once returns to the default one in this test mode in the said case. [Note] If the parameter is set to the maximum value, i.e. "65535," here, it will be ignored to apply the values specified in the test mode TM No. 01-6-162 "REMOTE SENDING BAND LIMITATION" and TM No. 01-6-163 "REMOTE RECEIVING BAND LIMITATION" instead.	To control the data communication volume during the RA operation definetely. * The RA operation is generally expected to proceed smoothly without interval.	

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Test Modes

Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
E	01-6-162	REMOTE SENDING BAND LIMITATION	_	-	1024	1	1024	1	KB/sec	Specifies the limit on data transmission band in the RA (Remote Agent) operation. If the data transmittion band exceeds the specified limit during communication with the RRA (Riso Remote Agent) server, a 1-second interval will be provided. * This test mode becomes available only when the primary RA functions are enabled in the test mode TM No. 01-6-041 "REMOTE CONTROL FUNCTION SELECTION," while the parameter setting once returns to the default one in this test mode in the said case. [Note] The parameter value of this test mode is to be applied only when the parameter "65535" is specified in the test mode TM No. 01-6-161 "REMOTE COMMUNICATION INTERVAL"	To address communication errors during the RA operation by responding to the communication performance of the corresponding network.	
E	01-6-163	REMOTE RECEIVING BAND LIMITATION	_	-	1024	1	1024	1	KB/sec	Specifies the limit on data reception band in the RA (Remote Agent) operation. If the data reception band exceeds the specified limit during communication with the RRA (Riso Remote Agent) server, a 1-second interval will be provided. * This test mode becomes available only when the primary RA functions are enabled in the test mode TM No. 01-6-041 "REMOTE CONTROL FUNCTION SELECTION," while the parameter setting once returns to the default one in this test mode in the said case. [Note] The parameter value of this test mode is to be applied only when the parameter '65535' is specified in the test mode TM No. 01-6-161 "REMOTE COMMUNICATION INTERVAL"	To address communication errors during the RA operation by responding to the communication performance of the corresponding network.	
<u>Image</u> E	adjustment 02-6-001	CONNECT PROCESS SELECTION	_	-	0	0	1	1	-	Selects whether to disable the bodering print image overlapping function for Print heads. 0: Enabled 1: Disabled	To check the performance of Print heads regarding ink ejection accuracy.	The default setting is to be recovered at power-off.
E	02-6-002	FIXED PRINT POSITION SELECTION	-	-	0	0	1	1	-	Selects whether to enable the fixed page side edge print mode to lead the rear-end Print head nozzle lines to print images on the rear-side edge of pages while ignoring the image centering adjustment by the CIS. 0: Disabled 1: Enabled	To check the relative print position of Print heads against printing sheets while disabling the image centering function by the CIS.	The default setting is to be recovered at power-off.
E	02-6-003	HEAD EDGE DENSITY ON/OFF SELECTION	_	-	0	0	1	1	-	Selects whether to disable the Print head edge print density compensation function to lead Print heads to print images without density compensation at their edges. 0: Enabled 1: Disabled	To check the performance of Print heads regarding ink droplet uniformity at edges.	The default setting is to be recovered at power-off.
E	02-6-004	DENSITY DISPERSION ON/OFF SELECTION	_	-	0	0	1	1	-	Selects whether to disable the Print head print density balancing function to allow the print density comparison among Print heads. 0: Enabled 1: Disabled	To check the performance of Print heads regarding print density levels.	The default setting is to be recovered at power-off.
E	02-6-005	IMAGE EXPANSION CORRECTION	-	-	1000	960	1040	1	0.1%	Compensates the extension or shrinkage of printed images in the paper transfer direction. When a positive value is specified, printed images will be extended, while they will be shrinked when a negative value is specified.	To correct the size of printed images in the paper transfer direction.	
E	02-6-006	PFT IMAGE CENTER ADJ PARAMETER	_	-	0	-100	100	1	0.1mm	Adjusts the lateral position of printed images on sheets feeding from the Standard paper feed tray for their centering. When a positive value is specified, printed images will be shifted to the front (right), while they will be shifted to the rear (left) when a negative value is specified.	To adjust the lateral position of printed images on sheets feeding from the Standard paper feed tray for their centering.	
E	04-6-001	MAINTENANCE CALL SETTING	_	-	0	0	9999	1	10000 sheets	Specifies the print count which triggers the notification of maintenance cal request (I001-1403). * The specified print count: a specified parameter value x 10000 When the parameter value is set to "0," the said maintenance call request will not be notified.	To lead a maintenance call request to be notified for preventive maintenance works.	
E	04-6-002	MAINTENANCE POWER OFF SELECTION	_	-	0	0	1	1	-	Selects whether to keep the current positions of the following mechanical components at power-off for maintenance works. - Maintenance unit - Transfer belt unit 0: OFF (Not to keep positions) 1: ON (To keep positions)	To lead the corresponding mechanical components to be positioned a desired for maintenance works.	The default setting is to be recovered at power-off.
E	04-6-003	CHARGE COUNT TIMING SELECTION	_	-	1	0	1	1	-	Selects the count-up timing for charged print jobs. 0: When printed sheets are ejected from a printer 1: When printed sheets are received by an optional finishing device.	To change the count-up timing for charged print jobs.	
E	04-6-004	PRINT JOB STOP TIMING DELAY SETTING	_	-	0	0	900	1	sec	Specifies the delay time before the end of the respective print jobs.	To reduce the downtime of a printer when intermittently transmitting print job data by delaying the finish of the respective print jobs.	

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
E	04-6-005	DISABLED UNIT DISPLAY SELECT	_	-	3	0	5	1	Times	Selects whether it is to be notified after a specified number of specific error events that the corresponding paper source (tray) is not available, while specifying the number of the said specific error events. * The count of specific error events is to be cleared when the specified number is changed. 0: Not to be displayed 1 - 5: To be displayed after a specified number of specific error events [Note] When the count of specific error events is reset to "0," the corresponding paper soucces (trays) will become available even if they are defective.	To prevent the notification of unavailable paper sources (trays) or change the number of specific error events for the said notification.	
E	04-6-007	NO STAPLE DETECT ERROR DISPLAY SET	_	-	0	0	1	1	-	Selects whether it is to be notified only when a stapled print job is requested that no staple remains in the corresponding finishing device. 0: To be notified even without a stapled print job * The said notification is to be given after the end of a print job unless staples are appled to it. 1: Only to be notified with a stapled print job (prior to the said print job)	To notify an operator that no staple remains in the corresponding finishing device on a printer even when a stapled print job is not requested.	
E	04-6-008	FRONT COVER	1	Lock (Deactivated)	800	100	20000	1	ms	Specifies the interval until the Front door sensor starts to check the status of the Front door locking plate after the Front door lock solenoid is activated or	To address the malfunction of the Front door locking mechanism.	
		TIME	2	Unlock (Activated)	800	100	20000	1	ms	deactivated.		
E	04-6-009	FRONT COVER LOCK RETRY NUMBER	I	-	5	1	20	1	Times	Specifies the number of times by which the unlocking or locking action of the Front door lock salenoid is to be repeated when the Front door is not properly unlocked or locked.	To address the malfunction of the Front door locking mechanism.	
E	04-6-011	BELT PROFILE ON/OFF	I	-	1	0	1	1	-	Selects whether to disable the applied belt profile compensation for the Transfer belt. 0: Disabled 1: Enabled	To find the effect of belt profile compensation for the Transfer belt on printed images.	
E	04 -6- 012	BELT PROFILE DATA INPUT	1 2 3 4 5 6 7 8 9 10 11	No.1 No.2 No.3 No.4 No.5 No.6 No.7 No.8 No.9 No.10 No.11	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	9999 9999 9999 9999 9999 9999 9999 9999 9999	1 1 1 1 1 1 1 1 1 1 1 1	- - - - - - - - - - - - - - -	Inputs the Fourier-transformed belt profile data, which are to be calculated through reverse Fourier transform into compensation values for the Transfer belt profile data in the test mode TM No. 04-3-041 "BELT PROFILE DATA" to be stored on the Engine control PCB. * The respective entry fields correspond to the belt profile data numbers	To provide source data for calculation of compensation values for the Transfer belt profile data in the test mode TM No. 04-3-041 "BELT PROFILE DATA."	
E	04-6-013	BELT PROFILE CHECK DIGIT INPUT		- -	0	0	9999	1	-	Inputs the check digit for the Fourier-transformed belt profile data, which is to be applied in validity check for the compensation values for the Transfer belt profile data calculated through reverse Fourier transform in the test mode TM No. 04-3-041 "BELT PROFILE DATA."	To provide the check digit for the validity check of the calculated compensation values for the Transfer belt profile data.	
E	04-6-021	ROLLER PROFILE ON/OFF	_	-	1	0	1	1	-	Selects whether to disable the applied roller profile compensation for the Transfer belt driven roller. 0: Disabled 1: Enabled	To find the effect of roller profile compensation for the Transfer belt driven roller on printed images.	
E	04-6-022	ROLLER PROFILE AMPLITUDE INPUT	_	-	0	0	9999	1	-	Inputs the amplitude deviation value for the roller profile data, which is to be calculated into the compensation value for the Transfer belt driven roller profile data in the test mode TM No. 04-3-028 "ROLLER PROFILE DATA" to be stored on the Engine control PCB. The setting value is saved as compensation data in TM0-04-3-028 "ROLLER PROFILE DATA DEVELOPMENT."	To provide source data for calculation of the compensation value for the Transfer belt driven roler profile data in the test mode TM No. 04-3-028 "ROLLER PROFILE DATA."	
E	04-6-023	ROLLER PROFILE PHASE INPUT	I	-	0	0	9999	1	-	Inputs the phase deviation value for the roller profile data, which is to be calculated into the compensation value for the Transfer belt driven roller profile data in the test mode TM No. 04-3-028 "ROLLER PROFILE DATA" to be stored on the Engine control PCB. The setting value is saved as compensation data in TM0-04-3-028 "ROLLER PROFILE DATA DEVELOPMENT."	To provide source data for calculation of the compensation value for the Transfer belt driven roller profile data in the test mode TM No. 04-3-028 "ROLLER PROFILE DATA."	
E	04-6-031	CIS P-EDGE POS DATA REFERENCE NUMBER	I	-	9	2	10	1	-	Specifies the quantity of sample CIS data to be collected to determine the location of the side edges of feeding printing paper on the Transfer belt.	To change the conditions to detect ink stains on the Transfer belt by the CIS.	
E	04-6-032	CIS P-EDGE POS DATA EXCLUDE NUMBER	-	-	4	1	9	1	-	Specifies the quantity of sample CIS data which are not to be applied as criteria among the ones collected in the test mode TM No. 04-6-031 in determining the location of the side edges of feeding printing paper on the Transfer belt.	To change the conditions to detect ink stains on the Transfer belt by the CIS.	
E	04-6-033	BELT STAIN DETECT FREQUENCY	-	-	5	0	100	1	-	Specifies the frequency of ink stain check on the Transfer belt by the CIS. * If this parameter value is set to "0," no ink stain check will not be made by the CIS.	To change the conditions to detect ink stains on the Transfer belt by the CIS.	
E	04-6-034	BELT STAIN DETECT THRESHOLD	_	-	33	0	100	1	-	Specifies the threshold level for ink stain detection on the Transfer belt by the CIS, which is to be saved as non-volatile memory.	To change the conditions to detect ink stains on the Transfer belt by the CIS.	

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
			1	Normal (Standard)	1	0	1	1	-			
			2	Thin	1	0	1	1	-			
			4	Envelope	0	0	1	1	-	Selects whether to apply the CIS-acquired data to define the center position		
			5	Post Card	1	0	1	1	-	and side margin range of printed images on printed sheets.	To select a different processing	
Е	04-6-036	CIS MASK MODE	6	(Card stock) U1	1	0	1	1	-	0: Not to be applied	to define the center position and	
			7	U2	1	0	1	1	-		images on printed sheets.	
			8	U3	1	0	1	1	-	* This parameter can be set individually for different paper types, including thickness		
			10	U5	1	0	1	1	-			
			11	LW Paper	1	0	1	1	-			
			12	Rough Paper	1	0	1	1	-			
E	04-6-041	CIS IMAGE CENTER POSITION	I	-	0	-100	100	1	0.1mm	Specifies the backup parameter to be applied in case printed images are not centered on printing sheets in other ways.	To apply a specific CIS value to center printed images on printing sheets in case other specified values do not work.	
E	04-6-043	CIS SIDE MASK ADJUST (LEFT)	_	-	0	-100	100	1	0.1mm	Adjusts the rear (left)-side margin (masking) range of printed images on printing sheets, which is to be defined by the CIS.	To adjust the rear (left)-side margin (masking) range of printed images on printing sheets.	
E	04-6-044	CIS SIDE MASK ADJUST (RIGHT)	_	-	0	-100	100	1	0.1mm	Adjusts the front (right)-side margin (masking) range of printed images on printing sheets, which is to be defined by the CIS.	To adjust the front (right)-side margin (masking) range of printed images on printing sheets.	
E	04-6-046	TRAY1 IMAGE CENTER MASK OFF	_	-	0	-100	100	1	0.1mm	Adjusts the parameter to be applied to center printed images on printing sheets feeding from the Paper tray 1 when the CIS-controlled masking mode is disabled.	To adjust the center position of printed images on printing sheets feeding from the Paper tray 1 without the CIS-controlled masking mode enabled.	
E	04-6-047	TRAY2 IMAGE CENTER MASK OFF	_	-	0	-100	100	1	0.1mm	Adjusts the parameter to be applied to center printed images on printing sheets feeding from the Paper tray 2 when the CIS-controlled masking mode is disabled.	To adjust the center position of printed images on printing sheets feeding from the Paper tray 2 without the CIS-controlled masking mode enabled.	
E	04-6-048	TRAY3 IMAGE CENTER MASK OFF	_	-	0	-100	100	1	0.2mm	Adjusts the parameter to be applied to center printed images on printing sheets feeding from the Paper tray 3 when the CIS-controlled masking mode is disabled.	To adjust the center position of printed images on printing sheets feeding from the Paper tray 3 without the CIS-controlled masking mode enabled.	
E	04-8-049	IMAGE MASK (RIGHT)	_	-	50	5	250	1	0.1mm	Specifies the range of masking which is to be applied to images at the front (right)-side edge of pages when the parameter is set at "0" in the test mode TM No. 04-6-036 "CIS MASK MODE" for the paper type in current use, excluding envelopes, which means that the CIS-controlled masking mode is not to be applied to the said paper type. [Note] The setting specified here is not to be applied even under the above-mentioned condition in the following U-code test modes: TM No. 04-3-026 "ROLLER PROFILE PHASE PRINT" - TM No. 04-3-027 "ROLLER PROFILE AMPLITUDE PRINT" - TM No. 04-3-031 "HEAD TEST PATTERN PRINT"	To apply a specific-range masking to images at the front (right)-side edge of pages in printing on specified types of paper without the CIS-controlled masking mode enabled.	
E	04-6-050	IMAGE MASK (LEFT)	-	-	50	5	250	1	0.1mm	Specifies the range of masking which is to be applied to images at the rear (left)-side edge of pages when the parameter is set at "0" in the test mode TM No. 04-6-036 "CIS MASK MODE" for the paper type in current use, excluding envelopes, which means that the CIS-controlled masking mode is not to be applied to the said paper type. [Note] The setting specified here is not to be applied even under the above-mentioned condition in the following U-code test modes: - TM No. 04-3-026 "ROLLER PROFILE PHASE PRINT" - TM No. 04-3-021 "ROLLER PROFILE AMPLITUDE PRINT" - TM No. 04-3-031 "HEAD TEST PATTERN PRINT"	To apply a specific-range masking to images at the rear (lefty-side edge of pages in printing on specified types of paper without the CIS-controlled masking mode enabled.	
E	04-6-051	ENVELOPE IMAGE MASK (TOP)	1	-	90	5	100	1	0.1mm	Specifies the range of masking which is to be applied to images at the top end of sheets whose paper type is specified as "Envelope." [Note] The setting specified here is not to be applied to envelopes in the test mode TM No. 04-3-031 "HEAD TEST PATTERN PRINT."	To change the image masking range at the top end of envelopes.	The default value is set to be 1mm less than the standard masking range, i.e. 10mm.
E	04-6-052	ENVELOPE IMAGE MASK (BOTTOM)	-	-	90	5	100	1	0.1mm	Specifies the range of masking which is to be applied to images at the bottom end of sheets whose paper type is specified as "Envelope." [Note] The setting specified here is not to be applied to envelopes in the test mode TM No. 04-3-031 "HEAD TEST PATTERN PRINT."	To change the image masking range at the bottom end of envelopes.	The default value is set to be 1mm less than the standard masking range, i.e. 10mm.
E	04-6-053	ENVELOPE IMAGE MASK (RIGHT)	_	-	90	5	250	1	0.1mm	Specifies the range of masking which is to be applied to images at the front (right)-side edge of sheets whose paper type is specified as "Envelope." [Note] The setting specified here is not to be applied to envelopes in the following U- code test modes: - TM No. 04-3-026 "ROLLER PROFILE PHASE PRINT" - TM No. 04-3-021 "ROLLER PROFILE AMPLITUDE PRINT" - TM No. 04-3-031 "HEAD TEST PATTERN PRINT"	To change the image masking range at the front (right)-side edge of envelopes.	The default value is set to be 1mm less than the standard masking range, i.e. 10mm.

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
E	04-6-054	ENVELOPE IMAGE MASK (LEFT)	_	-	90	5	250	1	0.1mm	Specifies the range of masking which is to be applied to images at the rear (left)-side edge of sheets whose paper type is specified as "Envelope." [Note] The setting specified here is not to be applied to envelopes in the following U- code test modes: - TM No. 04-3-026 "ROLLER PROFILE PHASE PRINT" - TM No. 04-3-027 "ROLLER PROFILE AMPLITUDE PRINT" - TM No. 04-3-031 "HEAD TEST PATTERN PRINT"	To change the image masking range at the rear (left)-side edge of envelopes.	The default value is set to be 1mm less than the standard masking range, i.e. 10mm.
E	04-6-057	PRINT DATA RECEIVE TIMEOUT ENABLE	1	-	1	0	1	1	-	Selects whether to prevent the Engine control PCB from detecting print data reception delay, whose error code is "W200-153-2." 0: To be prevented (Data reception delay not to be detected) 1: Not to be prevented (Data reception delay to be detected)	To preventi the Engine control PCB from detecting print data reception delay, thus enabling the said print data transmission to continue without the error message "W200-153-2" displayed.	
E	04-6-058	OPTION CONNECT SELECT	-	-	0	0	1	1	-	Selects whether to connect a general-purpose finishing device to a printer. 0: Not to be connected 1: To be connected (signal wires to be controlled)	To connect a general-purpose finishing device to a printer.	
E	04-6-059	OPTION PAPER PITCH SET	I	-	0	0	60000	1	0.1ms	Specifies the paper feed pitch to be applied when a general-purpose finishing device is connected to a printer. [Note] The longest paper feed pitch is to be actually applied, compared among the followings: this parameter value, the predefined base one and the paper-type-specific one (the predefined base one with a correction one).	To address finishing operation problems possibly due to improper paper feed plich on a generai-purpose finishing deveice.	
E	04-6-060	OPTION CONNECT PAPER SIZE DETECT	1 2	Length Wildth	210 297	147 89	550 340	1	mm mm	Specifies the paper size beyond which a received (feeding) sheet is to be recognized as a large format on a general-purpose finishing device.	To define the thresholds to recognize received (feeding) sheets as large-format ones (length and width) on a general- purpose finishing device	
E	04-6-061	TM PRINT: PRINT QUANTITY SETTING	1	-	1	1	9999	1	Sheet	Specifies the print quantity for the test mode TM No. 04-3-031 "HEAD TEST PATTERN PRINT."	To change the print quantity in the test mode TM No. 04- 3-031 "HEAD TEST PATTERN PRINT."	
E	04-6-062	TM PRINT: OUTPUT DESTINATION	-	-	1	0	1	1	-	Selects the output destination of printed sheets for the test mode TM No. 04-3- 031 "HEAD TEST PATTERN PRINT." 0: Face-up ejection side 1: Face-down ejection side	To change the output destination of printed sheets in the test mode TM No. 04-3-031 "HEAD TEST PATTERN PRINT"	
E	04-6-063	TM PRINT: DUPLEX/SIMPLEX	-	-	0	0	1	1	-	Selects the printed paper path for the test mode TM No. 04-3-031 "HEAD TEST PATTERN PRINT." 0: Simplex print path 1: Duplex print path	To change the printed paper path in the test mode TM No. 04-3- 031 "HEAD TEST PATTERN PRINT."	
E	04-6-064	TM PRINT: PAPER FEED TRAY SELECTION	-	-	0	0	5	1	-	Selects the paper source (tray) for the test mode TM No. 04-3-031 "HEAD TEST PATTERN PRINT." 0: Standard paper feed tray 1: Paper tray 1 2: Paper tray 2 3: Paper tray 3 4: High-capacity feeder 5: Additional 2000 sheet feeder	To change the paper source (tray) in the test mode TM No. 04-2047 "HEAD TEST PATTERN PRINT."	
E	04-6-065	TM PRINT: PRINT HEAD TEST PATTERN	_	-	1	1	58	1	-	Selects the sample print pattern for the test mode TM No. 04-3-031 "HEAD TEST PATTERN PRINT." * No pattern is to be printed when the parameter whose number is not listed below is selected. 2: K1 (100%), 3: C (100%), 4: M (100%), 5: Y (100%), 6: P (100%), 7: K2 (100%), 9: CY (100%), 10: K1K2 (100%), 12: K1 (4L), 13: C (4L), 14: M (4L), 15: Y (4L), 16: P (4L), 17: K2 (4L), 18: CK1 (4L), 19: MK1 (4L), 20: CY (4L), 22: K1 (8L), 23: C (8L), 24: M (8L), 25: Y (8L), 26: P (8L), 27: K2 (8L), 28: CK1 (8L), 29: MK1 (8L), 30: CY (8L), 32: K1 (1_6), 33: C (1_6), 34: M (1_6), 35: Y (1_6), 36: P (1_6), 37: K2 (1_6), 38: CK1 (1_6), 39: MK1 (1_6), 40: MY (1_6), 42: K1 (1_21), 43: C (1_21), 44: M (1_21), 50: W1 (1_12), 25: K1 (girid), 53: C (grid), 54: M (grid), 55: Y (grid), 56: P (grid), 57: K2 (grid), 58: CMYK- 8L	To change the sample print pattern in the test mode TM No. 04-3-031 "HEAD TEST PATTERN PRINT."	- 4L: Repeated pattern of 1 solid and 3 blank horizontal lines - 8L: Repeated pattern of 1 solid and 7 blank horizontal lines - 1_6: Repeated pattern of 1 solid and 6 blank vertical lines - 1_12: Repeated pattern of 1 solid and 12 blank vertical lines - grid: Houndstooth check pattern of all color dot block with 7-horizontal-and-6- vertical-line interval
E	04-6-071	TM PRINT: EJECT TRAY SELECTION	_	-	0	0	3	1	-	Selects the output destination of printed sheets on the Multifunction finisher for the test mode TM No. 04-3-031 "HEAD TEST PATTERN PRINT." "The parameter setting of this test mode is to be applied when the parameter is set to '0" (Face-up ejection side) in the test mode TM No. 04-6-062 "TM PRINT: OUTPUT DESTINATION" on a printer equipped with the Multifunction finisher. 0: Top tray 1: Stacking tray 2: Booklet tray 3: Folder tray	To change the output destination of printed sheets on the Multifunction finisher in the test mode TM No. 04-3-031 "HEAD TEST PATTERN PRINT."	

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
E	04-6-072	TM PRINT: FIN OFFSET EJECT SELECTION	_	-	0	0	1	1	-	Selects whether to enable the offset stacking function on the Multifunction finisher for the test mode TM No. 04-3-031 "HEAD TEST PATTERN PRINT." "The parameter setting of this test mode is to be applied when the parameter is set to "1" (Stacking tray) in the test mode TM No. 04-6-071 "TM PRINT: EJECT TRAY SELECTION" on a printer equipped with the Multifunction finisher. 0: Disabled (straight stacking) 1: Enabled	To stack printed sheets in a zig- zag manner on the Stacking tray on the Multifunction finisher in the test mode TM No. 04-3-031 "HEAD TEST PATTERN PRINT."	
E	04-6-073	TM PRINT: FIN STAPLE SELECTION	_	-	0	0	3	1	-	Selects whether to staple stacked sheets on the Multifunction finisher for the test mode TM No. 04-3-031 "HEAD TEST PATTERN PRINT." "The parameter setting of this test mode is to be applied when the parameter is set to "I" (Stacking tray) in the test mode TM No. 04-6-071 "TM PRINT: EJECT TRAY SELECTION" on a printer equipped with the Multifunction finisher. 0: OFF (Not to be stapled) 1: To be stapled at the front corner 2: To be stapled at 2 points along the side edge 3: To be stapled at the rear corner	To staple printed sheets on the Stacking tray on the Multifunction finisher in the test mode TM No. 04-3011 "HEAD TEST PATTERN PRINT."	
E	04-6-074	TM PRINT: FIN PUNCHER SELECTION	_	-	0	0	2	1	-	Selects whether to punch printed sheets on the Multifunction finisher for the test mode TM No. 04-3-031 "HEAD TEST PATTERN PRINT." "The parameter setting of this test mode is to be applied when the parameter is set to "0" (Top tray) or "1" (Stacking tray) in the test mode TM No. 04-6-071 "TM PRINT: EJECT TRAY SELECTION" on a printer equipped with the Multifunction finisher. 0: OFF (Not to be punched) 1: To be punched at 2 points 2: To be punched at 4 (or 3) points	To punch printed sheets on the Mutifunction finisher in the test mode TM No. 04-3-031 "HEAD TEST PATTERN PRINT."	
E	04-6-075	TM PRINT: FIN BOOKLET SELECTION	_	-	0	0	2	1	-	Selects whether to make booklets on the Multifunction finisher for the test mode TM No. 04-3-031 "HEAD TEST PATTERN PRINT." "The parameter setting of this test mode is to be applied when the parameter is set to "2" (Booklet tray) in the test mode TM No. 04-6-071 "TM PRINT: EJECT TRAY SELECTION" on a printer equipped with the Multifunction finisher. 0: OFF (No booklet to be made) 1: Booklets to be made without staples 2: Staple-bounded booklets to be made	To make booklets on the Multifunction finisher in the test mode TM No. 04-3-031 "HEAD TEST PATTERN PRINT."	
E	04-6-076	TM PRINT: FIN FOLDING SELECTION	_	-	0	0	4	1	-	Selects whether to fold printed sheets on the Multifunction finisher for the test mode TM No. 04-3-031 "HEAD TEST PATTERN PRINT." "The parameter setting of this test mode is to be applied when the parameter is set to "0" (Face-up ejection side) in the test mode TM No. 04-6-062 "TM PRINT: OLTPUT DESTINATION" on a printer equipped with the Multifunction finisher. 0: OFF (Not to be folded) 1: Outward threefold 2: Inward threefold 3: Z-fold 4: Twofold	To fold printed sheets on the Multifunction finisher in the test mode TM No. 04-3-031 "HEAD TEST PATTERN PRINT."	
E	04-6-081	TM PRINT: FDF NON SORT/ OFFSET SELEC	_	-	0	0	999	1	-	Selects whether to enable the offset stacking function on the Face down finisher, while specifying the offset interval (stacked sheet block volume), for the test mode TM No. 04-3-031 "HEAD TEST PATTERN PRINT." "The parameter setting of this test mode is to be applied when the parameter is set to "I" (Face-down ejection side) in the test mode TM No. 04-6-062 "TM PRINT: OUTPUT DESTINATION" on a printer equipped with the Face down finisher. 0: Disabled (Straight stacking) 1-999: Enabled / Offset interval (stacked sheet block volume)	To stack printed sheets in a zig- zag manner on the Face down finisher in the test mode TM No. 04-2031 "HEAD TEST PATTERN PRINT."	
E	04-6-082	TM PRINT: FDF STAPLE SELECTION	_	-	0	0	3	1	-	Selects whether to staple stacked sheets on the Face down finisher for the test mode TM No. 04-3-031 "HEAD TEST PATTERN PRINT." "The parameter setting of this test mode is to be applied when the parameter is set to "0" (Disabled) in the test mode TM No. 04-6-031 "TM PRINT: FDF NON SORT/ OFFSET SELEC" on a printer equipped with the Face down finisher. 0: OFF (Not to be stapled) 1: To be stapled at the rear corner 2: To be stapled at the front corner 3: To be stapled at 2 points along the side edge	To staple printed sheets on the Face down finisher in the test mode TM No. 04-3-031 "HEAD TEST PATTERN PRINT."	
E	04-6-083	TM PRINT: FDF STAPLE PRINT SETTING	_	-	1	1	55	1	Number of copies	Specified the number of sets of stapled sheets to be made on the Face down finisher for the test mode TM No. 04-3-031 "HEAD TEST PATTERN PRINT." "The parameter setting of this test mode is to be applied when the parameter is set to another than "0" (Disabled) in the test mode TM No. 04-6-082 "TM PRINT: PDF STAPLE SELECTION" on a printer equipped with the Face down finisher.	To changing the number of sets for stapled sheets to be made on the Face down finisher in TMO- 04-3-031 "HEAD TEST PATTERN PRINT"	
E	04-6-101	TM PAPER FEED SPEED SETTING	_	-	700	300	700	1	mm/s	Specifies the rotation speed of the Transfer belt motor in the test modes TM No. 06-5-006 "TRANSFER BELT SPEED" and TM No. 06-2-011 "TRANSFER BELT MOTOR."	To change the rotation speed of the Transfer belt motor in the test modes TM No. 06-5-006 "TRANSFER BELT SPEED" and TM No. 06-2-011 "TRANSFER BELT MOTOR."	

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
E	04-6-112	CHARGE COUNT IMAGE RATE	1	Low	5	1	98	1	%	Specifies the threshold page image ratios to determine applied per-page print charges. - When the page image ratio is less than the lower threshold value ("Low"): The print charge L is to be applied. - When the said ratio is the lower threshold value ("Low") or more, and less than the higher threshold value ("High"): The print charge M is to be applied. - When the said ratio is the higher threshold value ("High") or more: The print charge H is to be applied. - If the lower and higher threshold values ("Low" and "High") are set equal, the print charge L is to be applied when the page image ratio is less than the said	To specify the ranges of page image ratio which correspond to	The settings in this test mode could not be confirmed if the lower threshold value
		GROUP ADJST	2	High	10	2	99	1	%	value, while the print charge H is to be applied when it is the said value or more, without applying the print charge M. [Note] This test mode is only available when any parameter from "9" to "16" is selected in the test mode TM No. 01-6-081 "COUNT CHARGE SELECTION." When the selected parameter is changed from the said value in the said test mode, besides, the settings in this test mode will be returned to the default values.	the respective applied print charges L, M and H.	("Low") is larger than the higher threshold value ("High").
Paper	feed section		1	Normal (Standard)	1	0	2	1	-			
			2	Thin	1	0	2	1	-			
			3	Thick	0	0	2	1	-			
			4	Envelope Post Card	1	0	2	1	-	Selects the upper limit position of the Standard paper feed tray for the respective paper types	To change the upper limit position	
Е	05-6-001	PAPER FEED TRAY	5	(Card stock)	0	0	2	1	-	· · · · ·	of the Standard paper feed tray to enhance the paper feeding	
		POSITION	6	U1	1	0	2	1	-	1: Standard	performance thereof for a	
			8	U3	1	0	2	1	-	2: Lower	selected paper type.	
			9 10	U4	1	0	2	1	-			
			11	LW Paper	1	0	2	1	-			
E	05-6-006	TRAY DESCEND DURATION	-	-	20	0	40	1	0.1sec	Specifies the period for which the internal paper feed trays are to be lowered at the end of print jobs while 50% or more of full-load volume of sheets still remain there. * When this parameter is set to "0," the internal paper feed trays are not to be lowered. [Note] The internal paper feed trays are lowered at the end of print jobs to prevent internal components from getting contact with each other when the said trays are unloaded from a printer.	To change the descent duration of the internal paper feed trays to prevent internal components from getting contact with each other when unloading the said trays from a printer.	
E	05-6-007	TRAY CUSTOM SIZE SELECTION	-	-	0	0	1	1	-	Selects which paper format is to be applied to custom-size sheets detected in the internal paper feed trays. 0: Custom format L (Large) 1: Custom format S (Small)	To change the paper format to be applied to custom-size sheets detected in the internal paper feed trays.	
			1	Normal (Standard)	0	-20	20	1	ms			
			2	Thin Thick	0	-20	20	1	ms			
			4	Envelope	0	-20	20	1	ms			
_	05 6 011	REGIST HIT TIMING	5	Post Card (Card stock)	0	-20	20	1	ms	Adjusts the timing to stop a sheet feeding from the Standard paper feed tray	performance for a selected	
-	03-0-011	ADJUSTMENT- PFT	6	U1	0	-20	20	1	ms	the leading edge of the sheet to get contact with the said roller property.	paper type when feeding from the Standard paper feed trav	
			8	U3	0	-20	20	1	ms			
			9	U4	0	-20	20	1	ms			
			11	LW Paper	0	-20	20	1	ms			
			1	Normal (Standard)	0	-20	20	1	ms			
		REGIST HIT TIMING	3	U1	0	-20	20	1	ms	Adjusts the timing to stop a sheet feeding from the Paper tray 1 before the	To enhance the paper feeding	
E	05-6-012	ADJUSTMENT- TRAY 1	4 5	U2 U3	0	-20 -20	20 20	1	ms ms	Registration roller individually for the respective paper types to lead the leading edge of the sheet to get contact with the said roller property	paper type when feeding from	
			6 7	U4 U5	0	-20 -20	20 20	1	ms ms	g	the Paper tray 1.	
			8	LW Paper Normal (Standard)	0	-20	20	1	ms			
			2	Thin	0	-20	20	1	ms		To enhance the paper feeding	
Е	05-6-013	REGIST HIT TIMING ADJUSTMENT	3	U1 U2	0	-20	20	1	ms ms	Adjusts the timing to stop a sheet feeding from the Paper tray 2 before the Registration roller individually for the respective paper types to lead the leading	performance for a selected	
		TRAY 2	5	U3 U4	0	-20 -20	20 20	1	ms ms	edge of the sheet to get contact with the said roller properly.	paper type when feeding from the Paper tray 2.	
			7	U5 I W Paper	0	-20	20	1	ms			
			1	Normal (Standard)	0	-20	20	1	ms			
		REGIST HIT TIMING	2	Thin U1	0	-20 -20	20 20	1	ms ms	Adjusts the timing to stop a sheet feeding from the Paper tray 3 before the	To enhance the paper feeding	
Е	05-6-014	ADJUSTMENT-	4	U2 U3	0	-20 -20	20 20	1	ms ms	Registration roller individually for the respective paper types to lead the leading	performance for a selected paper type when feeding from	
		TRAY 3	6	U4	0	-20	20	1	ms	edge of the sheet to get contact with the said roller property.	the Paper tray 3	
			8	LW Paper	0	-20	20	1	ms			
			1	U1	0	-30	30	1	ms		To enhance the paper feeding	
		P-FEED TRAY	2	U2	0	-30	30	1	ms	Adjusts the timing to activate the External paper feed motor in relation to the	performance for custom or	
E	05-6-016	PAPER FEED	4	U4	0	-30	30	1	ms	from the Standard paper feed tray.	specific types of paper when feeding from the Standard paper	
1			5	U5	0	-30	30	1	ms	* The operation period of the former motor remains unchanged.	feeding from the Standard paper feed tray through an extra adjustment.	
			6	LW Paper	0	-30	30	1	ms			
			1	Normal (Standard)	10	-10	20	1	mm			
1			3	Thick	10	-10	20	1	mm	Adjusts the timing to deactivate the External paper feed motor after a sheet	To prevent a noise at paper	The parameter value should be decreased to address a
1			4	Envelope Post Card	10	-10	20	1	mm	these changing the size of paper feed tray has reached the Registration roller, thus changing the size of paper buckle to be formed at the top end of the said	Duckle clearance, a folded leading edge of a feeding sheet	noise at paper buckle
E	05-6-017	BUCKLE	6	(Card stock) U1	10	10	_20		mm	sheet individually for the respective paper types	said leading edge of a feeding sheet or a feeding sheet skew for a selected paper type when	edge of a feeding sheet,
			7	U2 U3	10	-10 -10	20	1	mm	When the parameter value is increased, the size of paper buckle will be	feeding from the Standard paper	while it should be increased to address a feeding sheet
		9	U4	10	-10	20	1	mm	enlarged, while it will be reduced when the said value is decreased.	reed tray.	skew.	
L			10	UD LW Paper	10	-10 -10	20		mm			

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Test Modes

Type	Test mode	Test mode name	No	Type	Default	Min	Max	Sten	Unit	Description	Purpose	Remarks
Type	No.	Test mode nume	1	Normal (Standard)	Setting	-10	20	1	mm	Description	i dipose	Remarks
			2	Thin	2	0	20	1	mm	Adjusts the timing to deactivate the External paper feed motor after a re-	To prevent a poise at paper	The parameter value should
			3	Thick Envelope	2	0	20 20	1	mm mm	feeding printed sheet (a longer one) has reached the Registration roller for	buckle clearance, a folded	be decreased to address a
-	05 0 010	RE-FEED PAPER	5	Post Card (Card stock)	2	0	20	1	mm	reverse-side print in duplex printing, thus changing the size of paper buckle to be formed at the top end of the said sheet individually for the respective paper	leading edge of a re-feeding sheet or a re-feeding sheet skew	noise at paper buckle clearance or a folded leading
-	05-0-016	(LONG PAPER)	6	U1	2	0	20	1	mm	types.	for a selected paper type when	edge of a feeding sheet, while it should be increased
			8	U3	2	0	20	1	mm	When the parameter value is increased, the size of paper buckle will be	longer one) for reverse-side print	to address a feeding sheet
			9 10	U4 U5	2	0	20 20	1	mm mm	enlarged, while it will be reduced when the said value is decreased.	in duplex printing.	skew.
			11	LW Paper	2	0	20	1	mm			
			1	Normal (Standard)	6	-10	20	1	mm	Adjusts the timing to deactivate the External paper feed motor after a shorter	To prevent a poise at paper	The parameter value should
			3	U1	6	-10	20	1	mm	sheet feeding from the Paper tray 1 has reached the Registration roller, thus	buckle clearance, a folded	be decreased to address a noise at paper buckle
Е	05-6-019	TRAY1 SHORT	4	U2	6	-10	20	1	mm	changing the size of paper buckle to be formed at the top end of the said sheet individually for the respective paper types.	leading edge of a feeding sheet or a feeding sheet skew for a	clearance or a folded leading
_		PAPER BUCKLE	5	U3	6	-10	20	1	mm		selected paper type when a	edge of a feeding sheet, while it should be increased
			6	U4	6	-10	20	1	mm	When the parameter value is increased, the size of paper buckle will be enlarged, while it will be reduced when the said value is decreased.	shorter sheet feeds from the Paper tray 1.	to address a feeding sheet
			8	LW Paper	6	-10	20	1	mm		. ,	skew.
			1	Normal (Standard)	6	-10	20	1	mm			
			2	Thin	6	-10	20	1	mm	Adjusts the timing to deactivate the External paper feed motor after a longer	To prevent a noise at paper	The parameter value should be decreased to address a
			3	U1	6	-10	20	1	mm	sheet feeding from the Paper tray 1 has reached the Registration roller, thus changing the size of paper buckle to be formed at the top end of the said sheet	buckle clearance, a folded leading edge of a feeding sheet	noise at paper buckle
Е	05-6-020	TRAY1 LONG PAPER BUCKLE	4	U2	6	-10	20	1	mm	individually for the respective paper types.	or a feeding sheet skew for a	clearance or a folded leading edge of a feeding sheet.
			6	U4	6	-10	20	1	mm	When the parameter value is increased, the size of paper buckle will be	selected paper type when a longer sheet feeds from the	while it should be increased
			7	U5	6	-10	20	1	mm	enlarged, while it will be reduced when the said value is decreased.	Paper tray 1	to address a feeding sheet skew.
			8	LW Paper	6	-10	20	1	mm			
			1	Normal (Standard)	6	-10	20	1	mm			The parameter value should
			2	Thin	6	-10	20	1	mm	Adjusts the timing to deactivate the External paper feed motor after a shorter sheet feeding from the Paper tray 2 has reached the Registration roller, thus	To prevent a noise at paper buckle clearance, a folded	be decreased to address a
-	05 0 001	TRAY2 SHORT	3 4	U2	6	-10	20 20	1	mm	changing the size of paper buckle to be formed at the top end of the said sheet	leading edge of a feeding sheet	noise at paper buckle clearance or a folded leading
E	ບວ - 6-021	PAPER BUCKLE	5	U3	6	-10	20	1	mm	individuality for the respective paper types.	or a reeging sheet skew for a selected paper type when a	edge of a feeding sheet,
			6	U4	6	-10	20	1	mm	When the parameter value is increased, the size of paper buckle will be	shorter sheet feeds from the	to address a feeding sheet
			7	U5	6	-10	20	1	mm	enarged, while it will be reduced when the said value is decreased.	Paper tray 2.	skew.
			0 1	Normal (Standard)	6	-10	20	1	mm			
			2	Thin	6	-10	20	1	mm	Adjusts the timing to deactivate the External paper feed motor after a longer	To prevent a noise at paper	The parameter value should
			3	U1	6	-10	20	1	mm	sheet feeding from the Paper tray 2 has reached the Registration roller, thus	buckle clearance, a folded	be decreased to address a noise at paper buckle
Е	05-6-022	TRAY2 LONG	4	U2	6	-10	20	1	mm	changing the size of paper buckle to be formed at the top end of the said sheet individually for the respective paper types.	leading edge of a feeding sheet or a feeding sheet skew for a	clearance or a folded leading
		PAPER BUCKLE	5	U3	6	-10	20	1	mm		selected paper type when a	edge of a feeding sheet, while it should be increased
			6	U4	6	-10	20	1	mm	enlarged, while it will be reduced when the said value is decreased.	Paper tray 2.	to address a feeding sheet
			8	LW Paper	6	-10	20	1	mm			skew.
			1	Normal (Standard)	6	-10	20	1	mm			
			2	Thin	6	-10	20	1	mm	Adjusts the timing to deactivate the External paper feed motor after a shorter	To prevent a noise at paper	The parameter value should
			3	U1	6	-10	20	1	mm	sheet feeding from the Paper tray 3 has reached the Registration roller, thus	buckle clearance, a folded	noise at paper buckle
Е	05-6-023	TRAY3 SHORT	4	U2	6	-10	20	1	mm	individually for the respective paper types.	or a feeding sheet skew for a	clearance or a folded leading edge of a feeding sheet
		TAI EN BOOKEE	5	U3	6	-10	20	1	mm	When the parameter value is increased, the size of paper buckle will be	selected paper type when a shorter sheet feeds from the	while it should be increased
			7	U5	6	-10	20	1	mm	enlarged, while it will be reduced when the said value is decreased.	Paper tray 3.	to address a feeding sheet skew
			8	LW Paper	6	-10	20	1	mm			
			1	Normal (Standard)	6	-10	20	1	mm			
			2	Thin	6	-10	20	1	mm	Adjusts the timing to deactivate the External paper feed motor after a longer	To prevent a noise at paper	The parameter value should
			3	U1	6	-10	20	1	mm	sheet feeding from the Paper tray 3 has reached the Registration roller, thus	buckle clearance, a folded	noise at paper buckle
Е	05-6-024	TRAY3 LONG	4	U2	6	-10	20	1	mm	individually for the respective paper types.	or a feeding sheet skew for a	clearance or a folded leading
			5	U3	6	-10	20	1	mm	When the parameter value is increased, the size of paper buckle will be	selected paper type when a longer sheet feeds from the	while it should be increased
			7	115	6	-10	20	1	mm	enlarged, while it will be reduced when the said value is decreased.	Paper tray 3.	to address a feeding sheet skew.
			8	LW Paper	6	-10	20	1	mm			
			1	Normal (Standard)	2	-10	20	1	mm			
			2	Thin	2	0	20	1	mm	Adjusts the timing to deactivate the External paper feed motor after a re-	To prevent a noise at paper	The parameter value should
			3	Envelope	2	U 0	20	1	mm mm	feeding printed sheet (a shorter one) has reached the Registration roller for reverse-side print in dunley printing, thus changing the size of paper bushle to	buckle clearance, a folded leading edge of a re-feeding	be decreased to address a
F	05-6-025	RE-FEED PAPER BUCKLF	5	Post Card (Card stock)	2	0	20	1	mm	be formed at the top end of the said sheet individually for the respective paper	sheet or a re-feeding sheet skew	clearance or a folded leading
-		(SHORT PAPER)	6	U1	2	0	20	1	mm	types.	tor a selected paper type when re-feeding a printed sheet (a	edge of a feeding sheet, while it should be increased
			8	U3	2	0	20	1	mm	When the parameter value is increased, the size of paper buckle will be	shorter one) for reverse side	to address a feeding sheet
			9 10	U4 U5	2	0	20 20		mm mm	enarged, while it will be reduced when the said value is decreased.	print in auplex printing.	SKEW.
		<u> </u>	11	LW Paper	2	0	20	1	mm			
			2	Thin	1	0	1	1				
			3	Thick	1	0	1	1	-	Selects whether to disable the supplementary feed action during the secondary	To disable the supplementary	
		P-FEED TRAY	5	Post Card	0	0	1	1	_	paper feed operation when feeding from the Standard paper feed tray	feed action during the secondary	
E	05-6-026	ASSIST CONTROL	6	(Card stock)	1	0	1			manadany for the respective paper types.	feeding from the Standard paper	
			7	U2	1	0	1	1	-	0: Disabled 1: Enabled	feed tray individually for a selected paper type.	
			9	U4	1	Ŏ	1	1	-		selected paper type.	
			10 11	UD LW Paper	1	0	1	1	-			
			1	Normal (Standard)	1	0	1	1	-	Selects whether to disable the supplementary feed action during the secondary	To disable the supplementary	
			2	U1	1	0	1	1	-	paper feed operation when feeding from the Paper tray 1 individually for the	Iary To disable the supplementary feed action during the secondary paper feed operation when feeding from the Paper tray 1 individually for a selected paper type.	
Е	05-6-027	CONTROL ON OFF	4	U2 U3	1	0	1	1		respecuve paper types.		
			6	U4	1	Ő	1	1	-	0: Disabled		
			8	LW Paper	1	0	1	1	-	1. Enangeo	type.	
			1	Normal (Standard)	1	0	1	1	-	Selects whether to disable the supplementary feed action during the secondary	dary To disable the supplementary	
			2	U1	1	0	1	1	-	paper feed operation when feeding from the Paper tray 2 individually for the	condary To disable the supplementary r the feed action during the secondary paper feed operation when feeding from the Paper tray 2	
Е	05-6-028	CONTROL ON OFF	4	U2 U3	1	0	1	1	-	respective paper types.		
			6	U4	1	0	1	1	-	0: Disabled	individually for a selected paper	
			8	LW Paper	1	0	1	1	-	1. LINUUGU	type.	

□ E-□ de□ RISO Inc. Technical Operations



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Test Modes

Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
	110.		1	Normal (Standard)	1	0	1	1	-			
			2	Thin	1	0	1	1	-	Selects whether to disable the supplementary feed action during the secondary	To disable the supplementary feed action during the secondary	
_	05 6 020	TRAY3 ASSIST	3	U1 U2	1	0	1	1	-	respective paper types.	paper feed operation when	
-	03-0-029	CONTROL ON/ OFF	5	U3	1	0	1	1	-		feeding from the Paper tray 3	
			6	U4 U5	1	0	1	1	-	1: Enabled	type.	
			8	LW Paper	1	Ő	1	1	-		31.	
			1	Normal (Standard)	7	-100	100	1	ms			
			2	Thin Thick	7	-100 -100	100	1	ms	· · · · · · · · · · · · · · · · · · ·		
			4	Envelope	7	-100	100	1	ms	Adjusts the start timing of the supplementary feed action during the secondary	To reduce a noise at naner	Take care not to specify an
-	05 0 004	PFT ASSIST START	5	Post Card	7	-100	100	1	ms	individually for the respective paper types.	buckle clearance when feeding	excessively large negative
E	05-6-031	TIME	6	U1	7	-100	100	1	ms		from the Standard paper feed	value, which may cause insufficient paper buckle
			7	U2	7	-100	100	1	ms	When the parameter value is decreased, the noise will be reduced at paper buckle clearance with a smaller-size paper buckle	tray.	formation.
			9	U4	7	-100	100	1	ms	buche dealance with a smaller-size paper buche.		
			10	U5	7	-100	100	1	ms			
			1	Lvv Paper Normal (Standard)	110	-100	300	1	0 1mm			
			2	Thin	110	0	300	1	0.1mm	Adjusts the end timing of the sunnlementary feed action during the secondary		
			3	Thick	110	0	300	1	0.1mm	paper feed operation when feeding from the Standard paper feed tray, which is	To address blurred printed	
			5	Post Card	110	0	200	1	0.1mm	to be defined as the paper feed distance until the end of the said action since	images due to unstable paper	
Е	05-6-032	PFT ASSIST OFF	5	(Card stock)	110	0	300	4	0.11111	the slowdown of the Registration motor, individually for the respective paper types	feed caused by the premature	
			7	U2	110	0	300	1	0.1mm	The parameter value should be increased when printed images are blurred due	end of the supplementary feed	
			8	U3	110	0	300	1	0.1mm	to unstable paper feed caused by the premature end of the supplementary	action.	
			10	U4 U5	110	0	300	1	0.1mm	reed action.		
			11	LW Paper	110	Ō	300	1	0.1mm			
Е	05-6-036	POST REGIST SENSOR P-TRANSFER ADJUST	-	-	65	50	150	1	%	Adjusts the paper feeding speed to be applied while a printing sheet is advancing beyond the Registration sensor until getting contact with the Registration roller, comparing it with the preceding one.	To prevent a noise at paper buckle dearance, a folded leading edge of a feeding sheet or a feeding sheet skew due to excessive or insufficient paper feed range before the Registration roller.	
		PFT PAPER	1 2	S1 S2	0	0	10	1	mm	Adjusts the paper buckle sizes for sheets feeding from the Standard paper feed tray by changing the deactivation timing of the External paper feed motor through the change of the additional adjustment values defined according to the transportation rate (speed) of the said sheets. The said adjustment can be made independently for the respective sheet transportation rates (speeds) as described below.	To prevent a noise at paper buckle clearance, a folded	
E	05-6-041	BUCKLE (CORRECTION VALUE)	3	S3	0	0	10	1	mm	Paper feed ranges for paper buckle formation per sheet transportation rate (speed)> $0.9 < \eta \le 1.0$: Base range + added (or deducted) range S1 $0.8 < \eta \le 0.9$: Base range + added (or deducted) range S2 $0.7 < n \le 0.8$ Base range + added (or deducted) range S3 	leading edge of a feeding sheet or a feeding sheet skew when feeding from the Standard paper feed tray.	
			4	S4	8	0	10	1	mm	- η ≤ 0.7. Base range + added (or deducted) range S4 [η: Sheet transportation rate]		
			1	Normal (Standard)	0	-50	50	1	ms			
			2	Thin	0	-50	50 50	1	ms	Adjusts the arrival timing of re-feeding small-format sheets that is used to		
			4	Post Card	0	-50	50	1	1113	calculate the paper transport speed for the following reverse-side printing	To address paper re-feed error	
Е	05-6-047	TIMING ADJUST		(Card stock)	0	-50	50	1	1113	operation in duplex print.	due to insufficient paper buckle	
		(SHORT PAPER)	6	U2	0	-50	50	1	ms	* When the parameter value is decreased, the paper re-feed timing will be	tormation with delayed paper	
			7	U3	0	-50	50	1	ms	earlier, thus leading a paper buckle to be large enough.		
			9	U5	0	-50	50	1	ms			
			10	LW Paper	0	-50	50	1	ms			
			1	Normal (Standard)	0	-50	50	1	ms			
			2	Thin	0	-50	50	1	ms	Adjusts the arrival timing of re-feeding large-format sheets that is used to calculate the paper transport speed for the following reverse-side printing	To address paper re-feed error	
-	05 6 049	RE-FEED ARRIVAL	4	U1	Ő	-50	50	1	ms	operation in duplex print	due to insufficient paper buckle	
-	03-0-046	(LONG PAPER)	5	U2	0	-50	50 50	1	ms		formation with delayed paper	
			7	U4	<u> </u>	-50	50	1	ms	when the parameter value is decreased, the paper re-feed timing will be earlier, thus leading a paper buckle to be large enough	u ansportation.	
			8	U5	0	-50	50	1	ms	, and the second of the second s		
E	05-6-056	REGIST SENSOR SETTING	_	-	128	0	255	1	-	Adjusts the luminous energy of the Registration sensor. * When the parameter value is increased, the luminous energy will be increased.	To address paper feed errors due to a paper detection failure by the Registration sensor.	
			1	(Standard) P-feed tray	0	-300	300	1	mm/s			
			2	Tray 1	0	-300	300	1	mm/s			
			3	Tray 2 Tray 3	0	-300	300	1	mm/s	Adjusts how much the paper food speed is to be demaid down just hafter -	To reduce the noise to be made	
Е	05-6-060	ADJUST (LOW	4 5	Re-feed	0	-300	300		mm/s	feeding sheet gets contact with the Registration roller, individually for the	when a feeding sheet gets	
		SPEED)	6	HCF (High-capacity	n	-300	300	1	mm/e	respective paper sources.	contact with the Registration	
			0	feeder)		-300	500	-	1111/25		contact with the Registration roller.	
			7	2000 sheet feeder)	0	-300	300	1	mm/s			
E	05-6-061	REGIST MOTOR SPEED ADJUST	_	-	2	-20	20	1	mm/s	Adjusts the rotation speed of the Registration motor against the traveling speed of the Transfer belt. * When the parameter value is increased, the motor rotation speed will be increased to reduce tension on a feeding sheet.	To prevent an extra tension on a feeding sheet before the Transfer belt, whch may cause printed image misalignment.	
E	05-6-062	REGIST MOTOR SPEED ADJUST	1	LW Paper	4	-99	99	1	mm/s	Specifies an extra adjustment value to be applied to the rotation speed of the Registration motor defined in the test mode TM No. 05-6-061 for light-weight paper.	To address printed image misalignment, especially with light-weight printing paper, which may be caused by an extra tension on it.	

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Test Modes

Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
E	05-6-063	REGIST MOTOR STOP POSITION ADJUST	-	-	0	-20	20	1	mm	Adjust the deactivation timing of the Registration motor. * When the parameter value is increased, the motor deactivation timing will be delayed.	To address printed image misalignment due to insufficient paper feed range by the Registration roler, which may cause an extra tension on a feeding sheet.	
E	05-6-064	REGIST MOTOR SPEED ADJUST (FEED TRY)	1	(Standard) P-feed tray	0	-99	99	1	mm/s	Specifies an extra adjustment value to be applied to the rotation speed of the Registration motor defined in the test mode TM No. 05 -0 -061 when feeding from the Standard paper feed tray.	To address printed image misalignment caused only when feeding from the Standard paper feed tray, which may be caused by an extra tension on a feeding sheet,	
			1	Tray 1	110	100	161	1	-	Specifies the limited current (torque) values of the respective Tray elevator motors to be applied when elevating a Paper tray into place in the following cases		[Relationship between parameter and current values]
E	05-6-071	ELEV MTR MAX CURRENT VALUE	2	Tray 2	110	100	161	1	-	 *The parameter value "255" corresponds to the full motor duty. <corresponding application="" cases=""></corresponding> At paper tray loading 	To address a paper stack elevation failure in a Paper tray due to underpowered motor operation.	100: 181 mA 110: 199 mA 120: 216 mA 130: 234 mA
			3	Tray 3	110	100	161	1	-	• At power-on • At the start of a print job		140: 251 mA 150: 269 mA 160: 286 mA
		TRAY ELEVATOR	1	Tray 1	240	150	255	1	-	Specifies the limited current (torque) values of the respective Tray elevator	To address a paper stack elevation failure in a Paper tray	Relationship between TM setting value and current value (reference values)
E	05-6-072	MTR CURRENT- FOLLOW-UP	2	Tray 2	240	150	255	1	-	The parameter value "255" corresponds to the full motor duty.	operation, which may cause the related gears to be broken on the Paper tray.	195: 345 mA 210: 370 mA 225: 395 mA 240: 420 mA
Trans	port section		Ĵ	indy 5	240	100	200		_			255: 445 mA
			1	Other than below	70	1	100	1	%			
			2	Envelope 1	45	1	100	1	%	Specifies the suction power of the Transfer belt suction fan as a duty rate of the corresponding fan motor individually for the respective paper types.	To roduce an air quotion poice or	These parameter values are
Е	06-6-001	BP FAN AIRFLOW SETTING	3	Envelope 2	45	1	100	1	%	* "IJ matte paper" is not included in "IJ Paper" in the parameter 6. Thick paper	address wrinkles on printed	to be kept at firmware
			4	LW Paper	45	1	100	1	%	is not included in the said parameter as well.	sneets.	package upgrade as we
			6	Plain/IJ Paper	70	1	100	1	%			
Ш	06 - 6-002	BP FAN SPECIAL SETTING	-	-	0	0	550	1	mm	Specifies the paper length with which the enhanced suction power defined in the test mode TM No. 06-6-003 "BP FAN SPECIAL DUTY" is to be applied for the Transfer belt suction fan. * When the parameter value is set to "0," the enhance suction power will not be applied in any case.	To apply an enhanced suction power to the Transfer belt suction fan when using printing sheets with a specific length.	
ш	06 - 6-003	BP FAN SPECIAL DUTY	-	-	70	0	100	1	%	Specifies the enhanced suction power of the Transfer belt suction fan to be applied when using the printing sheets whose length is specified in the test mode TM No. 06-6-002 "BP FAN SPECIAL SETTING."	To change the enhanced suction power for the Transfer belt suction fan to be applied when using printing sheets with a specific length.	
			1	Plain Paper	30	10	50	1	%			
			2	IJ paper	30	10	50	1	%	Specifies the threshold luminous energy detected by the Top edge concor 1		
Е	06-6-005	FEED DETECT	3	ij Maπe Li Card	30	10	50 50	1	%	(reception) individually for the respective paper types, based on which it is to	To address wrong detection of multiple paper feed.	
		INREONULU	5	HQ Paper	30	10	50	1	%	ne determined in multiple paper reed has occurred.		
			6	LW Paper	30	10	50	1	%			
E	06-6-006	MULTIPLE P-FEED DETECT START TIMING	-	-	1	0	1	1	-	Selects whether to detect a multiple paper feed error from the initial feeding sheet when the multiple paper feed detection function is enabled. 0: From the initial feeding sheet 1: From the second feeding sheet	To enable a multiple paper feed error to be detected from the initial feeding sheet.	
E	06 - 6-007	TRANSFER BELT MOTOR SPEED ADJUST	1	-	0	-500	500	1	0.01%	Adjusts the rotation speed of the Transfer belt motor by adding or deducting the parameter value specified here to or from the predefined base one.	To adjust the rotation speed of the Transfer belt motor manually.	This parameter value will be overwritten with the one provided when executing the test mode TM No. 06-3-006 "BP MOTOR SPEED AUTO ADJUST."
			1	Normal (Standard)	0	0	6	1	-	Selects the condition under which the operation of detecting paper curls		
			2	Thin	0	0	6	1	-	(undulations) at the leading edge of paper is to be conducted individually for the respective paper types.		
			3	Thick	0	0	6	1	-		To deactivate the paper cur	
			4	Post Card (Card Stock)	0	0	6	1	-	u: Arways (Without paper width or feed condition restriction applied) 1: Always except the initial feeding sheet, for which the detection operation is	(undulation) detection function	
Е	06-6-008	P-LIFT DETECT SEL-TOP EDGE	5	U1	0	0	6	1	-	restricted to the paper whose width is less than 297mm. 2: Always except the initial feeding sheet, for which the detection operation is	feed condition, thus preventing	
			6	U2	0	0	6	1	-	restricted to the paper whose width is less than 257mm.	unrequired detections of less significant paper curls	
			7	U3	0	0	6	1	-	3. Aways except the initial feating sheet, for which the detection operation not conducted. 4. Only for the paper whose width is less than 207mm	(undulations).	
			9	U5	0	0	6	1	-	 Only for the paper whose width is less than 297mm. Only for the paper whose width is less than 257mm. 		
			10	LW Paper	0	0	6	1	-	6: No operation conducted.		
											1	

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
			1	Normal (Standard)	0	0	6	1	-	Selects the condition under which the operation of detecting paper curks		
			2	Thin	0	0	6	1	-	(undulations) in other sections than the leading edge of paper is to be		
			3	Thick	0	0	6	1	-	conducted individually for the respective paper types.	To departicular the names and	
			4	Stock)	0	0	6	1	-	0: Always (Without paper width or feed condition restriction applied)	(undulation) detection function	
F	06-6-009	P-LIFT DETECT SFI -FXCFPT TOP	5	U1	0	0	6	1	-	restricted to the paper whose width is less than 297mm.	according to paper width and feed condition thus preventing	
-		EDGE	6	U2	0	0	6	1	-	 Always except the initial feeding sheet, for which the detection operation is restricted to the paper whose width is less than 257mm. 	unrequired detections of less	
			7	U3	0	0	6	1	-	3: Always except the initial feeding sheet, for which the detection operation is	significant paper curis (undulations)	
			8	U4	0	0	6	1	-	4: Only for the paper whose width is less than 297mm.		
			9	U5	0	0	6	1	-	5: Only for the paper whose width is less than 257mm. 6: No operation conducted.		
			10	LW Paper	0	0	6	1	-			
E	06-6-010	MULTI FEED DETECT TIMING (FORM ABC)	Ι	-	0	0	1	1	-	Selects whether to detect a multiple paper feed error from the initial feeding sheet when feeding envelope form sheets from the paper tray whose attributed paper format is "Envelope form" on a printer equipped with the Wrapping envelope finisher, regardless of the parameter setting in the test mode TM No. 06-6-006 "MULTIPLE P-FEED DETECT START TIMING." 0: As specified in the test mode TM No. 06-6-006 1: From the initial feeding sheet	To enable a multiple paper feed error to be detected from the initial feeding sheet when feeding envelope form sheets on a printer equipped with the Wrapping envelope finisher.	The parameter value of the item No. 4 "JJ Card" in the test mode No. 06-6-005 "MULTIPLE PAPER FEED DETECT THRESHOLD" is to be applied as the corresponding threshold luminous energy for multiple paper feed detection.
E	06-6-011	TOP EDGE SENSOR 1 SETTING	Ι	-	128	0	255	1	-	Specifies the luminous energy of the Top edge sensor 1 (emission). * When the parameter value is increased, the luminous enegy will be increased.	To adjust the luminous energy of the Top edge sensor 1 (emission) manually after replacing the said sensor or when its auto adjustment does not work as expected.	
Е	06-6-012	TOP EDGE SENSOR 2 SETTING	_	-	128	0	255	1	-	Specifies the luminous energy of the Top edge sensor 2. * When the parameter value is increased, the luminous enegy will be increased.	To adjust the luminous energy of the Top edge sensor 2 manually after replacing the said sensor or when its auto adjustment does not work as expected.	
E	06-6-013	Top Edge Sensor 1 print St timig Adj	I	-	0	-1000	1000	1	0.1mm	Adjusts the start timing of ink ejection by the Print heads with the Top edge sensor 1 set as the base point (the advancing distance of a feeding sheet beyond the Top edge sensor 1 before the Print heads start to operate). * When this parameter value is increased, the said advancing distance, i.e. the top margin on printed sheets, will be increased.	To change the top margin on printed sheets in case the Top edge sensor 2 does not function.	
E	06-6-014	TOP EDGE SENSOR 2 PRINT ST TIMIG ADJ	Ι	-	0	-1000	1000	1	0.1mm	Adjusts the start timing of ink ejection by the Print heads with the Top edge sensor 2 set as the base point (the advancing distance of a feeding sheet beyond the Top edge sensor 2 before the Print heads start to operate). * When this parameter value is increased, the said advancing distance, i.e. the top margin on printed sheets, will be increased.	To change the top margin on printed sheets.	
			1	Normal (Standard)	0	-20	20	1	mm			
			2	Thin Thick	0	-20 -20	20 20	1	mm mm			
			4	Envelope Boot Cord (Cord	0	-20	20	1	mm		To adjust the vertical alignment of	It depends on the stacking
Е	06-6-015	POS ADJ (FIRST	5	Stock)	0	-20	20	1	mm	Specifies the vertical shift range of images on the initially-printed page (front or rear page) in duplex print individually for the respective paper types	printed mages on the initially- printed page (front or rear page)	face-up, whether the initially-
		PAGE)	6 7	U1 U2	0	-20 -20	20 20	1	mm mm		in duplex print for a specific paper type	printed page is the front or rear one.
			8 9	U3 U4	0	-20 -20	20 20	1	mm mm			
			10 11	U5 LW Paper	0	-20	20 20	1	mm			
			1	Normal (Standard)	0	-20	20	1	mm			
			2	Thin Thick	0	-20 -20	20 20	1	mm mm			
			4	Envelope Post Card (Card	0	-20	20	1	mm		To adjust the vertical alignment of	It depends on the stacking
Е	06-6-016	POS ADJ (SECOND	5	Stock)	0	-20	20	1	mm	Specifies the vertical shift range of images on the secondarily-printed page (rear or front page) in duplex print individually for the respective paper types	secondarily printed page (rear or	face-up, whether the
		PAGE)	6 7	U1 U2	0	-20 -20	20 20	1	mm mm	, and to be a set of the set of t	tront page) in duplex print for a specific paper type.	secondarily-printed page is the rear or front one
			8 9	U3 U4	0	-20 -20	20 20	1	mm mm			
			10 11	U5 LW Paper	0	-20	20 20	1	mm			
E	06-6-017	REGIST MOTOR SLOWDOWN TIMING ADJUST	_	-	0	-200	200	1	0.1ms	Adjust the timing to decelerate the Registration motor from the top speed. * When the parameter value is increased, the said timing will be delayed.	To address blurred printed images at the top of a page.	
			1	Normal (Standard)	5	0	15	1	mm			
			2	Thin Thick	5 10	0	15 15	1	mm mm	ecifies the start timing of the leading edge detection action by the Top edge To address the rsor 2 for feeding sheets individually for the respective paper types. e parameter value "0" corresponds to the theoretical point at which the than specified than specified	To address the issue that the top	in case the corresponding parameter value in this test
			4	Envelope Post Card (Card	10	0	15	1	mm		margin is made wider on prints	mode is not identical with the
Е	06-6-018	SENSOR 2	5	Stock)	10	0	15	1	mm	leading edge of feeding sheets is expected to reach the Top edge sensor 2.	of the leading edge of feeding	mode TM No. 06-6-019
	SENSING ADJUST	SENSING ADJUST	ъ 7	U2	5	0	15	1	mm	* When the parameter value is increased, the Top edge sensor 2 will advance	when using a specific type of	SENSING ADJUST:MM," a
		8	U3 U4	5	0	15 15	1	mm mm	the start of the said leading edge detection action.	paper.	larger one will be applied as the said start timing	
			10 11	U5 LW Paper	5	0	15 15	1	mm			

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
E	06-6-019	TOP EDGE SENSOR 2 SENSING ADJUST:MM	_	-	10	0	15	1	mm	Specifies the start timing of the leading edge detection action by the Top edge sensor 2 for feeding envelope form sheets on a printer equipped with the Wrapping envelope finisher. The parameter value "0" corresponds to the theoretical point at which the leading edge of feeding sheets is expected to reach the Top edge sensor 2. * When the parameter value is increased, the Top edge sensor 2 will advance the start of the said leading edge detection action.	To address the issue that the top margin is made wider on prints than specified without detection of the leading edge of feeding envelope form sheets by the Top edge sensor 2.	In case this parameter value is not idetical with the corresponding one in the test mode TM No. 06-6-018 "TOP EDGE SENSOR 2 SENSING ADJUST," a larger one will be appled as the said start timing.
E	06-6-021	SWITCHBACK WAITING TIME SETTING	Ι	-	20	-20	20	1	ms	Adjusts the interval period before the Switchback motor changes the rotation direction from "Forward" to "Reverse." * The negative parameter values correspond to 0 ms.	To address paper jam errors in the Switchback section.	
E	06-6-022	SWITCHBACK ROLL ROTATION SETTING	Ι	-	20	0	100	1	mm	Adjusts the length of the trailing part of an advancing printed sheet to remain before the Switchback ro∎er without passing through it.	To address paper transport errors in the Switchback section.	
			1	Normal (Standard)	0	0	2000	1	0.1 ms	Adjusts the paper pitch (interval between feeding sheets), individually for the		
			3	Thick	0	0	2000	1	0.1 ms	respective paper types, with which printing sheets are to be fed from the	To adjust the paper pitch for	
E	06-6-031	SIMPLEX	4	Envelope	0	0	2000	1	0.1 ms		simplex print when feeding from the Standard paper feed trav	
			5	Post Card (Card Stock)	0	0	2000	1	0.1 ms	* The actual paper pitch is to be calculated by adding this parameter value to the one specific to the respective printer models.	the other and a paper reed tray.	
			6	LW Paper	0	0	2000	1	0.1 ms			
			1	Normal (Standard)	0	0	2000	1	0.1 ms	Adjusts the paper pitch (interval between feeding sheets), individually for the		
Е	06-6-032	TRAY1 PAPER PITCH - SIMPLEX	2	Thin	0	0	2000	1	0.1 ms	respective paper types, with which printing sheets are to be fed from the Paper tray 1 in simplex print .	To adjust the paper pitch for simplex print when feeding from the Paper tray 1.	
			3	LW Paper	0	0	2000	1	0.1 ms	The actual paper pitch is to be calculated by adding this parameter value to the one specific to the respective printer models.		
			4	Name I (Otan dand)		0	2000		0.4			
Е	06-6-033	TRAY2 PAPER	2	Thin	0	0	2000	1	0.1 ms	Adjusts the paper pitch (interval between feeding sheets), individually for the respective paper types, with which printing sheets are to be fed from the Paper tray 2 in simplex print.	To adjust the paper pitch for simplex print when feeding from	
		PITCH-SIMPLEX								* The actual paper pitch is to be calculated by adding this parameter value to	the Paper tray 2.	
			3	LW Paper	0	0	2000	1	0.1 ms	the one specific to the respective printer models.		
			1	Normal (Standard)	0	0	2000	1	0.1 ms	Adjusts the paper pitch (interval between feeding sheets), individually for the respective paper types, with which printing sheets are to be fed from the Paper	To adjust the paper pitch for	
E	06-6-034	TRAY3 PAPER PITCH-SIMPLEX	2	Thin	0	0	2000	1	0.1 ms	tray 3 in simplex print . * The actual paper pitch is to be calculated by adding this parameter value to	simplex print when feeding from the Paper tray 3.	
			3	LW Paper	0	0	2000	1	0.1 ms	the one specific to the respective printer models.		
			1	Normal (Standard)	0	0	2000	1	0.1 ms	Adjusts the paper pitch (interval between feeding sheets), individually for the		
F	06-6-036	PAPER FEED TRAY	2	Thin Thick	0	0	2000	1	0.1 ms 0.1 ms	Standard paper feed tray in duplex print.	To adjust the paper pitch for duplex print when feeding from	
-		DUPLEX	4	Envelope Post Card (Card	0	0	2000	1	0.1 ms	* The actual paper pitch is to be calculated by adding this parameter value to	the Standard paper feed tray.	
			5	Stock)	0	0	2000	1	0.1 ms	the one specific to the respective printer models.		
			1	Normal (Standard)	0	0	2000	1	0.1 ms	Adjusts the paper pitch (interval between feeding sheets), individually for the respective paper types, with which printing sheets are to be fed from the Paper		
Е	06-6-037	TRAY1 PAPER PITCH -DUPLEX	2	Thin	0	0	2000	1	0.1 ms	tray 1 in duplex print . * The actual paper pitch is to be calculated by adding this parameter value to	To adjust the paper pitch for duplex print when feeding from the Paper tray 1.	
			3	LW Paper	0	0	2000	1	0.1 ms	the one specific to the respective printer models.		
			1	Normal (Standard)	0	0	2000	1	0.1 ms	Adjusts the paper pitch (interval between feeding sheets), individually for the respective paper types, with which printing sheets are to be fed from the Paper	To adjust the paper pitch for	
Е	06-6-038	TRAY2 PAPER PITCH-DUPLEX	2	Thin	0	0	2000	1	0.1 ms	tray 2 in duplex print . * The actual paper pitch is to be calculated by adding this parameter value to	duplex print when feeding from the Paper tray 2.	
			3	LW Paper	0	0	2000	1	0.1 ms	the one specific to the respective printer models.		
			1	Normal (Standard)	0	0	2000	1	0.1 ms	Adjusts the paper pitch (interval between feeding sheets), individually for the respective paper types, with which printing sheets are to be fed from the Paper	To adjust the paper pitch for	
Е	06-6-039	TRAY3 PAPER PITCH -DUPLEX	2	Thin	0	0	2000	1	0.1 ms	tray 3 in duplex print . * The actual paper pitch is to be calculated by adding this parameter value to	duplex print when feeding from the Paper tray 3.	
			3	LW Paper	0	0	2000	1	0.1 ms	the one specific to the respective printer models.		
E	06-6-041	ENVELOPE FLAP WIDTH	-	-	420	0	720	1	0.1mm	Specifies the width of an envelope flap. [Note] The error code W056-1300 "Paper length mismatch" will be indicated when the actual width of the envelope flap is 10mm or more different from this parameter value.	To specify the actual width of the flap of envelopes to be loaded on a printer.	
E	06-6-051	FD EJECT FLIPPER ON TIMING	_	-	-20	-300	300	1	ms	Adjusts the timing to activate the FD Paper ejection flipper solenoid, * When the parameter value is increased, the activation timing will be delayed.	To address the issue of damaged leading edges of printed sheets ejected onto the FD Paper ejection (receiving) tray or paper jam at the FD Paper ejection flipper.	
E	06-6-052	FD EJECT FLIPPER OFF TIMING	_	-	-10	-300	300	1	ms	Adjusts the timing to deactivate the FD Paper ejection flipper solenoid. * When the parameter value is increased, the deactivation timing will be delayed.	To address the issue of damaged leading edges of printed sheets ejected onto the FD Paper ejection (receiving) tray or paper jam at the FD Paper ejection flipper.	

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
E	06-6-056	FU EJECT FLIPPER ON TIMING	ļ	-	0	-300	300	1	ms	Adjusts the timing to activate the FU Paper ejection flipper solenoid. * When the parameter value is increased, the activation timing will be delayed.	To address the issue of damaged leading edges of printed sheets ejected from the FU Paper ejection unit or paper jam at the FU Paper ejection flipper.	
E	06-6-057	FU EJECT FLIPPER OFF TIMING	I	-	0	-300	300	1	ms	Adjusts the timing to deactivate the FU Paper ejection flipper solenoid. * When the parameter value is increased, the deactivation timing will be delayed.	To address the issue of damaged leading edges of duplex-printed sheets ejected or paper jam at the FU Paper ejection flipper.	
E	06-6-061	JAM RECOVERY PAPER EJECT SELECT	-	-	0	0	1	1	-	Selects whether to interrupt the current operation without ejecting the sheets remaining inside a printer when a paper jam occurs. 0: The sheets remaining inside a printer without jammed to be ejected 1: The current operation to be interrupted without ejecting any sheet	To keep the sheets remianing inside a printer where they are when the current operation is interrupted with a paper jam.	
E	06-6-072	PAPER ELEVATION MOTOR 1 SPEED ADJ	_	-	-5	-50	50	1	0.1%	Based on a printing speed, specifies the rotation speed of the Paper elevation transfer motor 1 with which the Paper elevation roller 1 receives an advancing printed sheet. - Rotation speed (mm/s) = printing speed (mm/s) x (1000 + this parameter value) / 1000	To address paper transport errors in the Paper elevation unit or blurred printed images.	
E	06-6-073	PAPER ELEVATION MOTOR 2 SPEED ADJ	I	-	-5	-50	50	1	0.1%	Based on a printing speed, specifies the rotation speed of the Paper elevation transfer motor 2 with which the Paper elevation roller 2 receives an advancing printed sheet. - Rotation speed (mm/s) = printing speed (mm/s) x (1000 + this parameter value) / 1000	To address paper transport errors in the Paper elevation unit or blurred printed images.	
E	06-6-074	HORIZONTAL TRANF MOTOR 1 SPEED ADJ	I	-	-5	-50	50	1	0.1%	Based on a printing speed, specifies the rotation speed of the Horizontal transfer motor 1 with which the Horizontal transfer roler 1 receives an advancing printed sheet. - Rotation speed (mm/s) = printing speed (mm/s) x (1000 + this parameter value) / 1000	To address paper transport errors in the Horizontal transfer unit or blurred printed images.	
Paper	ejection sec	tion										
			1	U1	0	0	4	1	-	Selects a paper type based on which the rotation speed of the FD Paper election motor is to be determined for custom paper types		
			2	U2	0	0	4	1	-	0. Narmal (Standard)	To change the paper type based on which the rotation speed of	
E	07-6-002	BASIS SPEED	3	U3	0	0	4	1	-	1: Thick	the FD Paper ejection motor is to be determined for custom paper	
			4	U4	0	0	4	1	-	2: Thin 3: Post Card (Card Stock)	types.	
			5	U5	0	0	4	1	-	4: Envelope		
			1	Normal (Standard)	0	-300	300	1	mm/s			
			2	Thin	0	-300	300	1	mm/s	Finely adjusts the rotation speed of the FD Paper election motor specified in		
			3	Envelope	0	-300	300	1	mm/s mm/s	the test mode TM No. 07-6-001 "FD EJECT MOTOR SPEED ADJ" individually		
Е	07-6-003	FD EJECT SPEED	5	Post Card (Card Stock)	0	-300	300	1	mm/s		To address paper ejection errors in the FD Paper ejection unit	
			6	U1 U2	0	-300 -300	300 300		mm/s mm/s	when an advancing printed sheet does not reach the FD Paper ejection roller in time, the parameter value should be increased, while it should be decreased		
			8 9	U3 U4	0	-300 -300	300 300	1	mm/s mm/s	when it jams at the said ro∎er.		
			10	U5 LW Paper	0	-300	300 300	1	mm/s			
E	07-6-004	FD EJECT FENCE POSITION	-	-	1000	1000	3540	1	0.1mm	Specifies the position to which the FD Paper ejection paper guides are to be shifted in the test mode TM No. 07-3-002 "FD PAPER EJECTION FENCE SET POSITION."	To make fine adjustments for the FD Paper ejection paper guides.	
E	07-6-005	FD EJECT MOTOR ACTION SELECTION	-	-	0	0	1	1	-	Selects whether to apply the parameter values in the test modes TM No. 07-6- 006 "FD EJECT MOTOR SPEED (SIMPLEX)" and TM No. 07-6-007 "FD EJECT MOTOR SPEED (DUPLEX)" as the rotation speed of the FD Paper ejection motor. 0: Not to be applied (The predefined rotation speed to be applied) 1: To be applied	To lead the FD Paper ejection motor to operate in different rotation speeds in simplex and duplex print jobs.	
E	07-6-006	FD EJECT MOTOR SPEED (SIMPLEX)	-	-	1000	300	1500	1	mm/s	Specifies the rotation speed of the FD Paper ejection motor to be applied in simplex print jobs when the parameter value is set to "1" in the test mode TM No. 07-6-005 "FD EJECT MOTOR ACTION SELECTION."	To adjust the rotation speed of the FD Paper ejection motor to be applied in simplex print jobs.	
E	07-6-007	FD EJECT MOTOR SPEED (DUPLEX)	-	-	1000	300	1500	1	mm/s	Specifies the rotation speed of the FD Paper ejection motor to be applied in duplex print jobs when the parameter value is set to "1" in the test mode TM No. 07-6-005 "FD EJECT MOTOR ACTION SELECTION."	To adjust the rotation speed of the FD Paper ejection motor to be applied in duplex print jobs.	

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
			1	A3	1000	300	1500	1	mm/s			
			2	B4	960	300	1500	1	mm/s	Specifies the FD paper ejection speed, which is the paper transport speed after a printed sheet has passed through the Transfer belt, in simplex print jobs		
			3	A4	1000	300	1500	1	mm/s	for normal (standard) paper types in the below-listed paper formats		
			-	P6	1000	200	1500	1		* Normal (Standard) paper types: plain paper, IJ paper and high-quality paper		
			4		1000	300	1500		/	[Paper formats]	To adjust the speed of paper ejection from the FD Paper	
_		FD EJECT SPEED	5	A4VV	970	300	1500	1	mm/s	- A3: A3 / A3W / SRA3 / Ledger / 8K (CH) - B4: B4 / Legal 8.5x14 / Legal 8.5x13 / Foolscap	ejection unit according to paper format when applying normal	
E	07-6-008	(NORMAL) - SIMPLEX	6	B5W	1040	300	1500	1	mm/s	- A4: A4 / Letter / 16K (CH)	(standard) types of paper in	
			7	A5	1000	300	1500	1	mm/s	- 65: 65 - A4W: A4-LEF / Letter-LEF / 16K-LEF (CH)	paper stacking jam or	
			8	B6	1000	300	1500	1	mm/s	- B5W: B5-LEF - A5: A5 / Statement	misalignment.	
			9	A5W	1000	300	1500	1	mm/s	- B6: B6		
			10	A6	1000	300	1500	1	mm/s	- A6: A6 / Postcard		
			11	Custom	1000	300	1500	1	mm/s	- Custom: custom-size paper		
			1	A3	1000	300	1500	1	mm/s			
			2	В4	960	300	1500	1	mm/s	Specifies the FD paper ejection speed, which is the paper transport speed after a printed sheet has passed through the Transfer belt, in simplex print jobs		
			3	A4	1000	300	1500	1	mm/s	for IJ matte paper in the below-listed paper formats respectively.		
			4	B5	1000	300	1500	1	mm/s	[Paper formats]	To adjust the speed of paper	
		FD EJECT SPEED	5	A4W	970	300	1500	1	mm/s	- B4: B4 / Legal 8.5x14 / Legal 8.5x13 / Foolscap	ejection from the FD Paper ejection unit according to paper	
Е	07-6-009	(IJ PAPER) -	6	B5W	1040	300	1500	1	mm/s	- A4: A4 / Letter / 16K (CH) - B5: B5	format when applying IJ matte	
		SIMPLEX	7	A5	1000	300	1500	1	mm/s	- A4W: A4-LEF / Letter-LEF / 16K-LEF (CH)	preveting paper stacking jam or	
			8	B6	1000	300	1500	1	mm/s	- A5: A5 / Statement	misalignment.	
			9	A5W	1000	300	1500	1	mm/s	- 85: 86 - A5W: A5-LEF		
			10	A6	1000	300	1500	1	mm/s	- A6: A6 / Postcard - Custom: custom-size paper		
			11	Custom	1000	300	1500	1	mm/s			
			1	A3	1080	300	1500	1	mm/s	Specifies the FD paper ejection speed, which is the paper transport speed		
			2	84	1050	300	1500	1	mm/s	for light-weight paper in the below-listed paper formats respectively.		
			3	85	1030	300	1500	1	mm/s	[Paper formats]	To address the second of second	
			4 5	A4W/	1010	300	1500	1	mm/s	A3: A3 / A3W / SRA3 / Ledger / 8K (CH)	ejection from the FD Paper	
Е	07-6-010	FD EJECT SPEED (LW PAPER) -	6	B5W	1000	300	1500	1	mm/s	- A4: A4 / Letter / 16K (CH)	ejection unit according to paper format when applying light-weight	
		SIMPLEX	7	A5	1000	300	1500	1	mm/s	- 85: 85 - A4W: A4-LEF / Letter-LEF / 16K-LEF (CH)	paper in simplex print jobs, thus	
			8	B6	1000	300	1500	1	mm/s	- B5W: B5-LEF - A5: A5 / Statement	misalignment.	
			9	A5W	1000	300	1500	1	mm/s	- B6: B6		
			10	A6	1000	300	1500	1	mm/s	- A6: A6 / Postcard		
			11	Custom	1000	300	1500	1	mm/s	- Custom: custom-size paper		
			1	A3	1080	300	1500	1	mm/s	Specifies the FD paper ejection speed, which is the paper transport speed		
			2	B4	1050	300	1500	1	mm/s	after a printed sheet has passed through the Transfer belt, in simplex print jobs for thin paper in the below listed paper formats respectively.		
			3	A4	1030	300	1500	1	mm/s			
			4	B5	1010	300	1500	1	mm/s	[Paper formats] - A3: A3 / A3W / SRA3 / Ledger / 8K (CH)	To adjust the speed of paper ejection from the ED Paper	
-	07 0 044	FD EJECT SPEED	5	A4W	1010	300	1500	1	mm/s	- B4: B4 / Legal 8.5x14 / Legal 8.5x13 / Foolscap - A4: A4 / Letter / 16K (CH)	ejection unit according to paper	
E	07-6-011	(THIN) - SIMPLEX	6	B5VV	1000	300	1500	1	mm/s	- B5: B5 - A4W/ A4-IEE / Letter-IEE / 16K-IEE (CH)	in simplex print jobs, thus	
			7	R6	1000	300	1500	1	mm/s	- B5W: B5-LEF	preveting paper stacking jam or misalignment.	
			9	A5W	1000	300	1500	1	mm/s	- A5: A5 / Statement - B6: B6	-	
			10	A6	1000	300	1500	1	mm/s	- A5W: A5-LEF - A6: A6 / Postcard		
			11	Custom	1000	300	1500	1	mm/s	- Custom: custom-size paper		
			1	A3	1000	300	1500	1	mm/s	Specifies the FD paper ejection speed, which is the paper transport encod		
			2	B4	900	300	1500	1	mm/s	after a printed sheet has passed through the Transfer belt, in simplex print jobs		
1			3	A4	900	300	1500	1	mm/s	TOT WHERE PAPER IN THE DEIOW-INSTEED PAPER FORMATS RESPECTIVELY.		
1			4	B5	900	300	1500	1	mm/s	[Paper formats] - A3: A3 / A3W / SRA3 / Ledger / 8K (CH)	To adjust the speed of paper	
			5	A4W	900	300	1500	1	mm/s	- B4: B4 / Legal 8.5x14 / Legal 8.5x13 / Foolscap - A4: A4 / Letter / 16K (CH)	ejection from the FD Paper ejection unit according to paper	
E	07-6-012	(THICK) - SIMPLEX	6	B5W	900	300	1500	1	mm/s	- B5: B5	format when applying thick paper in simplex print jobs, thus	
1			7	A5	900	300	1500	1	mm/s	- A4VV: A4-LEF / Letter-LEF / 16K-LEF (CH) - B5W: B5-LEF	preveting paper stacking jam or	
1			8	B6	900	300	1500	1	mm/s	- A5: A5 / Statement - B6: B6	meangriment.	
1			9	A900	900	300	1500	1	mm/s	- A5W: A5-LEF		
			10	Custom	900	300	1500	1	mm/e	- Custom: custom-size paper		
-			1	A3	1000	300	1500	1	mm/s			
1			2	B4	1000	300	1500	1	mm/s	specines the FD paper ejection speed, which is the paper transport speed after a printed sheet has passed through the Transfer belt, for envelopes in the	To adjust the speed of paper ejection from the FD Paper ejection rom the FD Paper ejection unit according to paper format when applying envelopes, thus preveting stacking jam or misalignment.	
			3	A4	1000	300	1500	1	mm/s	below-listed paper formats respectively.		
1			4	B5	1000	300	1500	1	mm/s	[Envelope formats]		
			5	A4W	1000	300	1500	1	mm/s	- B4: C4 (Global)		
Е	07-6-013	FD EJECT SPEED (ENVELOPE)	6	B5W	1000	300	1500	1	mm/s	- A4: Square 3 (Japan) - B5: C5 (Global)		
1			7	A5	1000	300	1500	1	mm/s	- A4W: <not applicable=""> - B5W: <not applicable=""></not></not>		
			8	B6	1000	300	1500	1	mm/s	- A5: <not applicable=""></not>		
1			9	A5W	1000	300	1500	1	mm/s	- A5W: <not applicable=""></not>		
			10	A6	1000	300	1500	1	mm/s	- A6: C6 (Global) / DL-LEF (Global) / Long 4 (Japan) - Custom: custom-size envelopes		
			11	Custom	1000	300	1500	1	mm/s			

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
			1	A3	1000	300	1500	1	mm/s			
			2	В4	1000	300	1500	1	mm/s	after a printed sheet has passed through the Transfer belt, in simplex print jobs		
			3	A4	1000	300	1500	1	mm/s	for card stock in the below-listed paper formats respectively. * Card stock: Paper types specified as "Post Card." including other formats of		
			4	B5	1000	300	1500	1	mm/s	paper than postcard		
			-	0.000	1000	200	1500	-		[Paper formats]	To adjust the speed of paper election from the ED Paper	
-	07.6.014	FD EJECT SPEED	5	A4W	1000	300	1500		ninvs ,	- A3: A3 / A3W / SRA3 / Ledger / 8K (CH) - B4: B4 / Legal 8.5x14 / Legal 8.5x13 / Foolscap	ejection unit according to paper	
E	07-6-014	SIMPLEX	6	B5W	1000	300	1500	1	mm/s	- A4: A4 / Letter / 16K (CH)	in simplex print jobs, thus	
			7	A5	1000	300	1500	1	mm/s	- A4W: A4-LEF / Letter-LEF / 16K-LEF (CH)	preveting paper stacking jam or misalignment.	
			8	B6	1000	300	1500	1	mm/s	- B5W: B5-LEF - A5: A5 / Statement		
			9	A5W	1000	300	1500	1	mm/s	- B6: B6		
			10	A6	1000	300	1500	1	mm/s	- A6: A6 / Postcard		
			11	Custom	1000	300	1500	1	mm/s	- Custom: custom-size paper		
E	07-6-016	FD EJECT SENSOR JAM -NON ARRIVAL	_	-	0	-100	100	1	ms	Adjusts the period of time defined to determine that an advancing printed sheet has not reached the FD Paper ejection sensor in time, thus leading a paper transport error in the Paper elevation unit to be notified. * When the parameter value is increased, more margin will be provided for the said determination.	To address a paper transport error in the Paper elevation unit without sufficient paper transport force,	
E	07-6-017	FD EJECT SENSOR JAM -STILL PRESENT	_	-	100	-100	100	1	ms	Adjusts the period of time defined to determine that an advancing printed sheet has not passed through the FD Paper ejection sensor in time, thus leading a paper jam error in the FD Paper ejection unit to be notified. * When the parameter value is decreased, less margin will be provided for the said determination.	To address a paper ejection error from the FD Paper ejection unit.	
E	07-6-019	FD EJECT FENCE HP CORRECT	I	-	0	-500	500	1	0.1mm	Adjusts the home position of the FD paper ejection paper guides.	To address a paper stacking jam due to the improper position of the FD Paper ejection paper guides.	
E	07-6-022	FU EJECT MOTOR SPEED ADJUST	-	-	-5	-50	50	1	0.1%	Based on a printing speed, specifies the rotation speed of the FU Paper transport motor with which the FU Paper transport roller receives an advancing printed sheet. - Rotation speed (mm/s) = printing speed (mm/s) x (1000 + this parameter value) / 1000	To address paper transport errors in the FU Paper ejection unit or blurred printed images on prints ejected from the said unit.	
			1	A3	850	0	1500	1	mm/s	Specifies the ejection speed of the initial printed sheet from the FU Paper		
			2	B4	850	0	1500	1	mm/s	ejection unit for the below-listed paper formats respectively (individually for		
			4	A4 A4W (Simplex)	850	0	1500	1	mm/s	simplex and duplex prints for some paper formats).		
			5	A4W (Duplex)	750	0	1500	1	mm/s	[Paper formats] - A3: A3 / A3W / SRA3 / Ledger / 8K (CH)	To adjust the ejection speed of	
			6	B5 B5W (Simpley)	850 800	0	1500	1	mm/s	- B4: B4 / Legal 8 5x14 / Legal 8 5x13 / Foolscap	the initial printed sheet from the	
E	07-6-023	(1ST PRINT)	8	B5W (Duplex)	750	0	1500	1	mm/s	- A4V: A4-LEF / Letter-LEF / 16K-LEF (CH)	to paper format and print mode,	
			9	A5	850	0	1500	1	mm/s	- B5: B5 - B5W: B5-LEF	thus preveting paper stacking jam or misalignment.	
			10	A5W (Simplex)	850	0	1500	1	mm/s mm/s	- A5: A5 / Statement - A5W: A5-I EF		
			12	B6	850	0	1500	1	mm/s	- B6: B6		
			13	A6	850	0	1500	1	mm/s	- A6: A6 / Postcard - Custom: custom-size paper		
			14	A3	850	0	1500	1	mm/s			
1			2	B4	850	0	1500	1	mm/s	Specifies the ejection speed of the subsequent printed sheets from the FU Paper ejection unit for the below-listed paper formats respectively (individually		
1			3	A4	850	0	1500	1	mm/s	for simplex and duplex prints for some paper formats).		
1			4	A4W (Simplex)	800 750	0	1500	1	mm/s mm/s	[Paper formats]		
1			6	B5	850	0	1500	1	mm/s	- A3: A3 / A3W / SRA3 / Ledger / 8K (CH) - B4: B4 / Legal 8.5x14 / Legal 8.5x13 / Foolscap	To adjust the ejection speed of the subsequent printed sheets	
Е	07-6-024	FU EJECT SPEED (2ND PRINT OR	7	B5W (Simplex)	800	0	1500	1	mm/s	- A4: A4 / Letter / 16K (CH)	from the FU Paper ejection unit	
1		LATER)	8 0	B5W (Duplex)	750 850	0	1500	1	mm/s	- AYVV. A4-LEF / Letter-LEF / 16K-LEF (CH) - B5: B5	print mode, thus preveting paper	
			10	A5W (Simplex)	850	0	1500	1	mm/s	- B5W: B5-LEF - A5: A5 / Statement	stacking jam or misalignment.	
1			11	A5W (Duplex)	850	0	1500	1	mm/s	- A5W: A5-LEF		
			12	B6	850	0	1500	1	mm/s	- Do. Do - A6: A6 / Postcard		
			13	Custom	850	0	1500	1	mm/s	- Custom: custom-size paper		
E	07-6-036	FU EJECT SENSOR JAM -NON ARRIVAL	_	-	0	-100	100	1	ms	Adjusts the period of time defined to determine that an advancing printed sheet has not reached the FU Paper ejection sensor in time, thus leading a paper transport error in the FU Paper ejection unit to be notified. * When the parameter value is increased, more margin will be provided for the said determination.	To address a paper transport error in the FU Paper ejection unit without sufficient paper transport force.	
E	07-6-037	FU EJECT SENSOR JAM -STILL PRESENT	_	-	0	-100	100	1	ms	Adjusts the period of time defined to determine that an advancing printed sheet has not passed through the FU Paper ejection sensor in time, thus leading a paper jam error in the FU Paper ejection unit to be notified. * When the parameter value is increased, more margin will be provided for the said determination.	To address a paper ejection error from the FU Paper ejection unit.	
E	07-6-041	FU EJECTION WING POSITION (BASE)	_	-	2970	720	3500	1	0.1mm	Specifies the base position of the FU Paper ejection wings. * The parameter value indicates the distance between the FU Paper ejection wings.	To adjust the base position of the FU Paper ejection wings.	

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
E	07-6-042	FU EJECT WING POSITION SELECT	-	-	1	0	1	1	-	Selects the test modes whose parameter values are to be applied to determine the position of the FU Paper ejection wings, i.e. according to paper feed direction and print mode or paper type, paper format (including paper feed direction) and print mode. 0: TM No. 07-6-043 (Parameter values to be specified according to paper feed direction and print mode) 1: TM No. 07-6-047 to -058 (Parameter values to be specified according to paper type, paper format (incl. paper feed direction) and print mode)	To change the factors to determine the position of the FU Paper ejection wings during print jobs.	
			1	LEF-Simplex	-500	-700	500	1	0.1mm	Specifies the shift ranges of the FU Paper ejection wings from the base		
			2	LEF-Duplex	-450	-700	500	1	0.1mm	position for the respective paper feed directions, i.e. LEF (Long-Edge-Feed) and SEF (Short-Edge-Feed), and print modes, i.e. simplex and duplex, which are to be applied when the parameter value is set to "0" in the test mode TM	To adjust the position of the FU Paper ejection wings according	
E	07-6-043	POSITION	3	SEF-Simplex	-400	-700	500	1	0.1mm	No. 07-6-042 "FU EJECT WING POSITION SELECT." * When the parameter value is negative, the distance between the FU Paper	to paper feed direction and print moder, thus preveting paper stacking iam or misalignment.	
			4	SEF-Duplex	-400	-700	500	1	0.1mm	ejection wings will be narrowed, while it will be widened when the said value is positive.		
			1	A3	-500	-700	500	1	0.1mm	Specifies the shift ranges of the FU Paper election wings from the base		
			2	В4	-500	-700	500	1	0.1mm	position for normal (standard) paper types in the below-listed paper formats respectively (individually for simplex and duplex prints for some paper formats)		
			3	A4	-500	-700	500	1	0.1mm	which are to be applied when the parameter value is set to "1" in the test mode		
			4	A4W (Simplex)	-450	-700	500	1	0.1mm	The No. 07-6-042 FO EJECT WING POSITION SELECT.		
			5	A4W (Duplex)	-450	-700	500	1	0.1mm	* When the parameter value is negative, the distance between the FU Paper ejection wings will be narrowed, while it will be widened when the said value is	To adjust the position of the EU	
			6	B5	-500	-700	500	1	0.1mm	positive.	Paper ejection wings according	
Е	07-6-047	POSITION	7	B5W (Simplex)	-450	-700	500	1	0.1mm	[Paper formats] A3: A3 / A3W / SRA3 / Ledger / 8K (CH)	to paper format (Incl. paper feed direction) and print mode when	
		(STANDARD)	8	B5W (Duplex)	-450	-700	500	1	0.1mm	- Bd: Ad / Legal 8.5x14 / Legal 8.5x13 / Foolscap	applying normal (standard) types of paper, thus preveting paper	
			9	A5	-500	-700	500	1	0.1mm	- A4: A4 / Letter / 16K (CH) - A4W: A4-LEF / Letter-LEF / 16K-LEF (CH)	stacking jam or misalignment.	
			10	A5W (Simplex)	-500	-700	500	1	0.1mm	- B5: B5 - B5W: B5-LEF		
			11	ASVV (Duplex)	-500	-700	500	1	0.1mm	- A5: A5 / Statement - A5W: A5-LEF		
			12	A6	-500	-700	500	1	0.1mm	- B6: B6 - 6: 06 / Besteard		
			14	Custom	-500	-700	500	1	0.1mm	- Ao: Ao: Posiciard - Custom: custom-size paper		
			1	A3	-500	-700	500	1	0.1mm	Specifies the shift ranges of the ELL Paper election wings from the base		
			2	B4	-500	-700	500	1	0.1mm	position for thin paper in the below-listed paper formats respectively		
			3	A4	-500	-700	500	1	0.1mm	(individually for simplex and duplex prints for some paper formats), which are to be applied when the parameter value is set to "1" in the test mode TM No. 07-		
			4	A4W (Simplex)	-450	-700	500	1	0.1mm	6-042 "FU EJECT WING POSITION SELECT."		
			5	A4W (Duplex)	-450	-700	500	1	0.1mm	* When the parameter value is negative, the distance between the FU Paper ejection winds will be narrowed, while it will be widened when the said value is		
			6	B5	-500	-700	500	1	0.1mm	positive.	To adjust the position of the FU Paper ejection wings according	
F	07-6-048	U EJECT WING	7	B5W (Simplex)	-450	-700	500	1	0.1mm	[Paper formats]	to paper format (incl. paper feed direction) and print mode when	
_		POSITION (THIN)	8	B5W (Duplex)	-450	-700	500	1	0.1mm	- A3: A3 / A3W / SRA3 / Ledger / 8K (CH) - B4: B4 / Legal 8.5x14 / Legal 8.5x13 / Foolscap	applying thin paper, thus	
			9	A5	-500	-700	500	1	0.1mm	- A4: A4 / Letter / 16K (CH) - A4W: A4-LEF / Letter-LEF / 16K-LEF (CH)	misalignment.	
			10	A5W (Simplex)	-500	-700	500	1	0.1mm	- B5: B5 - B5W/ B5-L FF		
			11	A5W (Duplex)	-500	-700	500	1	0.1mm	- A5: A5 / Statement		
			12	86	-500	-700	500	1	0.1mm	- ASW: AS-LEF - B6: B6		
			14	Custom	-500	-700	500	1	0.1mm	- A6: A6 / Postcard - Custom: custom-size paper		
			1	A3	-500	-700	500	1	0.1mm	Specifies the shift ranges of the ELLPaper election wings from the base		
			2	B4	-500	-700	500	1	0.1mm	position for thick paper in the below-listed paper formats respectively		
			3	A4	-500	-700	500	1	0.1mm	be applied when the parameter value is set to "1" in the test mode TM No. 07-		
			4	A4W (Simplex)	-450	-700	500	1	0.1mm	6-042 "FU EJECT WING POSITION SELECT."		
			5	A4W (Duplex)	-450	-700	500	1	0.1mm	* When the parameter value is negative, the distance between the FU Paper ejection wings will be narrowed, while it will be widened when the said value is	The address shall be the state of the	
			6	B5	-500	-700	500	1	0.1mm	positive.	Paper ejection wings according	
Е	07-6-049		7	B5W (Simplex)	-450	-700	500	1	0.1mm	[Paper formats]	to paper format (incl. paper feed direction) and print mode when	
			8	B5W (Duplex)	-450	-700	500	1	0.1mm	- B4: B4 / Legal 8.5x14 / Legal 8.5x13 / Foolscap	applying thick paper, thus preveting paper stacking iam or	
			9	A5\A/ (Simpl)	-500	-700	500	1	0.1mm	- A4. A4 / Letter / 16K (CH) - A4W: A4-LEF / Letter-LEF / 16K-LEF (CH)	misalignment.	
			10	A5W (Dunley)	-500	-700	500	1	0.1mm	- B5: B5 - B5W: B5-LEF		
			12	B6	-500	-700	500	1	0.1mm	- A5: A5 / Statement - A5W: A5-LEF		
			13	A6	-500	-700	500	1	0.1mm	- B6: B6 - A6: A6 / Postcard		
			14	Custom	-500	-700	500	1	0.1mm	- Custom: custom-size paper		
			1	A3	-500	-700	500	1	0.1mm	Specifies the shift ranges of the FU Paper ejection wings from the base		
			2	B4	-500	-700	500	1	0.1mm	position for envelopes in the below-listed paper formats respectively (individually for simplex and duplex prints for some paper formats), which are to		
			3	A4	-500	-700	500	1	0.1mm	be applied when the parameter value is set to "1" in the test mode TM No. 07-		
			4	A4W (Simplex)	-450	-700	500	1	0.1mm			
1			5	A4W (Duplex)	-450	-700	500	1	0.1mm	ejection wings will be narrowed, while it will be widened when the said value is	Paper value is Paper ejection wings according to paper format (incl. paper feed direction) and print mode when applying envelopes, thus preveting paper stacking jam or misalignment.	
			6	B5	-500	-700	500	1	0.1mm	positive.		
Е	07-6-050	POSITION	7	B5W (Simplex)	-450	-700	500	1	0.1mm	[Envelope formats] - A3: Square 0 (Japan) / Square 1 (Japan)		
1		(ENVELOPE)	б с	A5	-450	-700	500	1	0.1mm	- B4: C4 (Global) - A4: Square 3 (Japan)		
1			10	A5W (Simpley)	-500	-700	500	1	0.1mm	- A4W: <not applicable=""></not>		
1			11	A5W (Duplex)	-500	-700	500	1	0.1mm	- B5. C3 (Global) - B5W: <not applicable=""></not>		
			12	B6	-500	-700	500	1	0.1mm	- A5: <not applicable=""> - A5W: <not applicable=""></not></not>		
1			13	A6	-500	-700	500	1	0.1mm	- B6:Long 3 (japan) - A6: C6 (Global) / DL-LEF (Global) / Long 4 (Japan)		
1			14	Custom	-500	-700	500	1	0.1mm	- Custom: custom-size envelopes		

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Test Modes

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
			1	A3	-500	-700	500	1	0.1mm	Specifies the shift ranges of the FU Paper ejection wings from the base		
1			2	B4	-500	-700	500	1	0.1mm	position for card stock in the below-listed paper formats respectively (individually for simplex and duplex prints for some paper formats), which are to		
			3	A4	-500	-700	500	1	0.1mm	be applied when the parameter value is set to "1" in the test mode TM No. 07- 6-042 "FU EJECT WING POSITION SELECT."		
			4	A4W (Simplex)	-450	-700	500	1	0.1mm	* When the narameter value is negative, the distance between the EU Dense		
			5	A4W (Duplex)	-450	-700	500	1	0.1mm	ejection wings will be narrowed, while it will be widened when the said value is	To adjust the position of the FU	
			6	B5	-500	-700	500	1	0.1mm	positive.	Paper ejection wings according	
Е	07-6-051	POSITION (POST	7	B5W (Simplex)	-450	-700	500	1	0.1mm	[Paper formats] - A3: A3 / A3W / SRA3 / Ledger / 8K (CH)	direction) and print mode when	
1		CAKD)	d Q	A5	-450	-700	500	1	0.1mm	- B4: B4 / Legal 8.5x14 / Legal 8.5x13 / Foolscap - A4: A4 / Letter / 16K (CH)	applying card stock, thus preveting paper stacking jam or	
			9 10	A5W (Simpley)	-500	-700	500	1	0.1mm	- B5: B5	misalignment	
			11	A5W (Duplex)	-500	-700	500	1	0.1mm	- A4W: A4-LEF / Letter-LEF / 16K-LEF (CH) - B5W: B5-LEF		
			12	B6	-500	-700	500	1	0.1mm	- A5: A5 / Statement - B6: B6		
			13	A6	-500	-700	500	1	0.1mm	- A5W: A5-LEF		
			14	Custom	-500	-700	500	1	0.1mm	- Custom: custom-size paper		
			1	A3	-500	-700	500	1	0.1mm	Specifies the shift ranges of the FU Paper ejection wings from the base		
			2	B4	-500	-700	500	1	0.1mm	position for low-weight paper in the below-listed paper formats respectively (individually for simplex and duplex prints for some paper formats), which are to		
			3	A4	-500	-700	500	1	0.1mm	be applied when the parameter value is set to "1" in the test mode TM No. 07-		
			4	A4W (Simplex)	-450	-700	500	1	0.1mm	6-042 FO EJECT WING POSITION SELECT.		
			5	A4W (Duplex)	-450	-700	500	1	0.1mm	* When the parameter value is negative, the distance between the FU Paper ejection wings will be narrowed, while it will be widened when the said value is	To adjust the position of the EU	
			6	B5	-500	-700	500	1	0.1mm	positive.	Paper ejection wings according	
Е	07-6-052	FU EJECT WING POSITION (LW	7	B5W (Simplex)	-450	-700	500	1	0.1mm	[Paper formats]	to paper format (incl. paper feed direction) and print mode when	
		PAPER)	8	B5W (Duplex)	-450	-700	500	1	0.1mm	- B4: B4 / Legal 8.5x14 / Legal 8.5x13 / Foolscap	applying low-weight paper, thus preveting paper stacking iam or	
			9	A5	-500	-700	500	1	0.1mm	- A4: A4 / Letter / 16K (CH) - A4W: A4-LEF / Letter-LEF / 16K-LEF (CH)	misalignment.	
			10	A5W (Simplex)	-500	-700	500	1	0.1mm	- 85: 85 - 85W: 85-LEF		
			11	A5VV (Duplex)	-500	-700	500	1	0.1mm	- A5: A5 / Statement		
			12	86	-500	-700	500	1	0.1mm	- ASVY: AS-LEF - B6: B6		
			14	Custom	-500	-700	500	1	0.1mm	- A6: A6 / Postcard - Custom: custom-size paper		
			14	A3	-500	-700	500	1	0.1mm			
			2	R4	-500	-700	500	1	0.1mm	Specifies the shift ranges of the FU Paper ejection wings from the base position for custom-type paper "U1" in the below-listed paper formats		
			3	A4	-500	-700	500	1	0.1mm	respectively (individually for simplex and duplex prints for some paper formats), which are to be applied when the parameter value is set to "1" in the test mode		
			4	A4W (Simplex)	-450	-700	500	1	0.1mm	TM No. 07-6-042 "FU EJECT WING POSITION SELECT."		
			5	A4W (Duplex)	-450	-700	500	1	0.1mm	* When the parameter value is negative, the distance between the FU Paper		
			6	B5	-500	-700	500	1	0.1mm	ejection wings will be narrowed, while it will be widened when the said value is positive.	To adjust the position of the FU	
		EU EJECT WING	7	B5W (Simplex)	-450	-700	500	1	0.1mm	[Paper formats]	to paper format (incl. paper feed	
E	07-6-054	POSITION (U1)	8	B5W (Duplex)	-450	-700	500	1	0.1mm	- A3: A3 / A3W / SRA3 / Ledger / 8K (CH)	direction) and print mode when applying custom-type paper "U1,"	
			9	A5	-500	-700	500	1	0.1mm	- 64: 64 / Legal 6.5x14 / Legal 6.5x13 / Poolscap - A4: A4 / Letter / 16K (CH)	thus preveting paper stacking jam or misalignment	
			10	A5W (Simplex)	-500	-700	500	1	0.1mm	- A4W: A4-LEF / Letter-LEF / 16K-LEF (CH) - B5: B5	or modigimorial	
			11	A5W (Duplex)	-500	-700	500	1	0.1mm	- B5W: B5-LEF - A5: A5 / Statement		
			12	B6	-500	-700	500	1	0.1mm	- A5W: A5-LEF		
			13	A6	-500	-700	500	1	0.1mm	- A6: A6 / Postcard		
			14	Custom	-500	-700	500	1	0.1mm	- Custom: custom-size paper		
			1	A3	-500	-700	500	1	0.1mm	Specifies the shift ranges of the FU Paper ejection wings from the base		
			2	B4	-500	-700	500	1	0.1mm	position for custom-type paper "U2" in the below-listed paper formats respectively (individually for simplex and duplex prints for some paper formats),		
			3	A4	-500	-700	500	1	0.1mm	which are to be applied when the parameter value is set to "1" in the test mode TM No. 07-6-042 "FU EJECT WING POSITION SELECT."		
1			4	A4W (Simplex)	-450	-700	500	1	0.1mm	* When the parameter value is negative, the distance between the EU Paper		
			5	A4W (Duplex)	-450	-700	500	1	0.1mm	ejection wings will be narrowed, while it will be widened when the said value is	To adjust the position of the FU	
1			6 7	B5W/ (Simpley)	-500	-700	500	1	0.1mm		Paper ejection wings according to paper format (incl. paper feed	
Е	07-6-055	FU EJECT WING POSITION (U2)	، ۲	B5W (Dupley)	-450	-700	500	1	0.1mm	[Paper tormats] - A3: A3 / A3W / SRA3 / Ledger / 8K (CH)	direction) and print mode when	
			9	A5	-500	-700	500	1	0,1mm	- B4: B4 / Legal 8.5x14 / Legal 8.5x13 / Foolscap - A4: A4 / Letter / 16K (CH)	thus preveting paper stacking jam	
1			10	A5W (Simplex)	-500	-700	500	1	0.1mm	- A4W: A4-LEF / Letter-LEF / 16K-LEF (CH)	or misalignment.	
1			11	A5W (Duplex)	-500	-700	500	1	0.1mm	- B5W: B5-LEF		
1			12	B6	-500	-700	500	1	0.1mm	- A5: A5 / Statement - A5W: A5-LEF		
			13	A6	-500	-700	500	1	0.1mm	- B6: B6 - A6: A6 / Postcard		
1			14	Custom	-500	-700	500	1	0.1mm	- Custom: custom-size paper		
			1	A3	-500	-700	500	1	0.1mm	Specifies the shift ranges of the FU Paper ejection wings from the base		
			2	B4	-500	-700	500	1	0.1mm	position for custom-type paper "U3" in the below-listed paper formats respectively (individually for simplex and duplex prints for some paper formats),		
1			3	A4	-500	-700	500	1	0.1mm	which are to be applied when the parameter value is set to "1" in the test mode TM No. 07-6-042 "FU EJECT WING POSITION SELECT."	FU Paper said value is To adjust the position of the FU Paper ejection wings according to paper format (incl. paper feed direction) and print mode when applying custom-type paper "U3," thus preveting paper stacking jam or misalignment.	
			4	A4W (Simplex)	-450	-700	500	1	0.1mm	* When the parameter value is negative, the distance between the ELI Pener		
1			5	A4W (Duplex)	-450	-700	500	1	0.1mm	ejection wings will be narrowed, while it will be widened when the said value is		
1			6	B5	-500	-700	500	1	0.1mm	positive.		
Е	07-6-056	FU EJECT WING POSITION (U3)	7	B5W (Simplex)	-450	-700	500	1	0.1mm	[Paper formats] - A3: A3 / A3W / SRA3 / Ledger / 8K (CH)		
			ة م	Dovv (Duplex)	-450	-700	500	1	0.1mm	- B4: B4 / Legal 8.5x14 / Legal 8.5x13 / Foolscap		
1			9 10	A5W (Simpley)	-500	-700	500	1	0.1mm	- A4W: A4-LEF / Letter-LEF / 16K-LEF (CH)		
1			11	A5W (Duplex)	-500	-700	500	1	0.1mm	- B5: B5 - B5W: B5-LEF		
1			12	B6	-500	-700	500	1	0.1mm	- A5: A5 / Statement - A5W: A5-LEF		
1			13	A6	-500	-700	500	1	0.1mm	- B6: B6		
1			14	Custom	-500	-700	500	1	0.1mm	- Ao. Ao / Postcard - Custom: custom-size paper		

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Туре	Test mode	Test mode name	No.	Туре	Default	Min.	Max.	Step	Unit	Description	Purpose	Remarks
	No.		1	A3	-500	-700	500	1	0.1mm			
			2	B4	-500	_700	500	1	0.1mm	Specifies the shift ranges of the FU Paper ejection wings from the base		
			2	84	-500	-700	500	1	0.1mm	respectively (individually for simplex and duplex prints for some paper formats),		
			4	A4W (Simpley)	-450	-700	500	1	0.1mm	which are to be applied when the parameter value is set to "1" in the test mode TM No. 07-6-042 "FU EJECT WING POSITION SELECT."		
			5	A4W (Dunlex)	-450	-700	500	1	0.1mm	* When the parameter value is negative, the distance between the FU Paper		
			6	B5	-500	-700	500	1	0.1mm	ejection wings will be narrowed, while it will be widened when the said value is	To adjust the position of the FU	
			7	B5W/(Simpley)	-450	-700	500	1	0.1mm		Paper ejection wings according to paper format (incl. paper feed	
Е	07-6-057	FU EJECT WING POSITION (U4)	8	B5W (Duplex)	-450	-700	500	1	0.1mm	[Paper formats] - A3: A3 / A3W / SRA3 / Ledger / 8K (CH)	direction) and print mode when	
			0	A5	-400	700	500	1	0.1mm	- B4: B4 / Legal 8.5x14 / Legal 8.5x13 / Foolscap - A4: A4 / Letter / 16K (CH)	thus preveting paper stacking jam	
			10	A5W (Simpley)	-500	-700	500	1	0.1mm	- A4W: A4-LEF / Letter-LEF / 16K-LEF (CH)	or misalignment	
			10	A5W (Simplex)	-500	-700	500	1	0.1mm	- B5: B5 - B5W: B5-LEF		
			11	ASW (Duplex)	-500	-700	500	4	0.1	- A5: A5 / Statement - A5W: A5-LEF		
			12	6	-500	-700	500	1	0.1mm	- B6: B6 - A6: A6 / Postcard		
			13	Au	-500	-700	500	1	0.1mm	- Custom: custom-size paper		
			14	A2	-500	700	500	1	0.1mm			
			2	A3	-500	-700	500	1	0.1mm	Specifies the shift ranges of the FU Paper ejection wings from the base position for custom-type paper "U5" in the below-listed paper formats		
			2	84	-500	-700	500	1	0.1mm	respectively (individually for simplex and duplex prints for some paper formats),		
			4	A4W (Simpley)	-450	-700	500	1	0.1mm	TM No. 07-6-042 "FU EJECT WING POSITION SELECT."		
			5	A4W (Duplex)	-450	-700	500	1	0.1mm	* When the parameter value is negative, the distance between the FU Paper		
			6	B5	-500	-700	500	1	0.1mm	ejection wings will be narrowed, while it will be widened when the said value is positive.	To adjust the position of the FU	
			7	B5W (Simplex)	-450	-700	500	1	0.1mm	[Paper formate]	Paper ejection wings according to paper format (incl. paper feed	
Е	07-6-058	POSITION (U5)	8	B5W (Duplex)	-450	-700	500	1	0.1mm	- A3: A3 / A3W / SRA3 / Ledger / 8K (CH)	direction) and print mode when applying custom-type paper "U5."	
			9	A5	-500	-700	500	1	0.1mm	- B4: B4 / Legal 8.5x14 / Legal 8.5x13 / Foolscap - A4: A4 / Letter / 16K (CH)	thus preveting paper stacking jam	
			10	A5W (Simplex)	-500	-700	500	1	0.1mm	- A4W: A4-LEF / Letter-LEF / 16K-LEF (CH) - B5: B5	or misangument.	
			11	A5W (Duplex)	-500	-700	500	1	0.1mm	B5W: B5-LEF		
			12	B6	-500	-700	500	1	0.1mm	- A5: A5 / Statement - A5W: A5-LEF		
			13	A6	-500	-700	500	1	0.1mm	- B6: B6 - A6: A6 / Postcard		
			14	Custom	-500	-700	500	1	0.1mm	- Custom: custom-size paper		
			1	A3	970	300	1500	1	mm/s			
			2	B4	930	300	1500	1	mm/s	after a printed sheet has passed through the Horizontal transfer roller 3, in		
			3	A4	970	300	1500	1	mm/s	duplex print jobs for normal (standard) paper types in the below-listed paper formats respectively.		
			4	B5	970	300	1500	1	mm/s	* Normal (Standard) paper types: plain paper, IJ paper and high-quality paper	To adjust the speed of paper	
			5	A4W	940	300	1500	1	mm/s	[Paper formats]	ejection from the FD Paper	
Е	07-6-061	FD EJECT SPEED (NORMAL) -	6	B5W	1010	300	1500	1	mm/s	- B4: B4 / Legal 8.5x14 / Legal 8.5x13 / Foolscap	format when applying normal (standard) types of paper in duplex print jobs, thus preveting	
		DUPLEX	7	A5	970	300	1500	1	mm/s	- A4: A4 / Letter / 16K (CH) - B5: B5		
			8	B6	970	300	1500	1	mm/s	- A4W: A4-LEF / Letter-LEF / 16K-LEF (CH) - B5W: B5-LEF	paper stacking jam or misalignment.	
			0	80	970	300	1500	-	11111/5	- A5: A5 / Statement	0	
			9	ASVV	970	300	1500	1	mm/s	- A5W: A5-LEF		
			10	Ab	970	300	1500	1	mm/s	- A6: A6 / Postcard - Custom: custom-size paper		
			11	Custom	970	300	1500	1	mm/s			
			1	A3	970	300	1500	1	mm/s	Specifies the FD paper ejection speed, which is the paper transport speed		
			2	84	930	300	1500	1	mm/s	atter a printed sheet has passed through the Horizontal transfer roller 3, in duplex print jobs for IJ matte paper in the below-listed paper formats		
			3	A4	970	300	1500	1	mm/s	respectively.		
			4	В5	970	300	1500	1	mm/s	[Paper formats]	To adjust the speed of paper	
_		FD EJECT SPEED	5	A4W	940	300	1500	1	mm/s	- B4: B4 / Legal 8.5x14 / Legal 8.5x13 / Foolscap	ejection unit according to paper	
É	U/-6-062	(IJ PAPER) - DUPLEX	6	B5W	1010	300	1500	1	mm/s	- A4: A4 / Letter / 16K (CH) - B5: B5	rormat when applying IJ matte paper in duplex print jobs, thus	
			7	A5	970	300	1500	1	mm/s	- A4W: A4-LEF / Letter-LEF / 16K-LEF (CH) - B5W: B5-LEF	preveting paper stacking jam or misalignment.	
			8	B6	970	300	1500	1	mm/s	- A5: A5 / Statement		
			9	A5W	970	300	1500	1	mm/s	- A5W: A5-LEF		
			10	A6	970	300	1500	1	mm/s	- A6: A6 / Postcard - Custom: custom-size paper		
L			11	Custom	970	300	1500	1	mm/s			
			1	A3	1050	300	1500	1	mm/s	Specifies the FD paper ejection speed, which is the paper transport speed	ed l	
			2 B4 3 A4	B4	1020	300	1500	1	mm/s	duplex print jobs for low-weight paper in the below-listed paper formats		
				A4	1000	300	1500	1	mm/s	respectively.		
			4	B5	980	300	1500	1	mm/s	[Paper formats] - A3: A3/ A3W / SRA3 / Ledger / 8K (CH)	To adjust the speed of paper	
_	07.0.000	FD EJECT SPEED	5	A4W	980	300	1500	1	mm/s	- B4: B4 / Legal 8.5x14 / Legal 8.5x13 / Foolscap	ejection unit according to paper	
Ē	07-0-063	(LW PAPER) - DUPLEX	6	BOW 05	970	300	1500	1	mm/s	- A4. A4 / Letter / Tok (CH) - B5: B5	paper in duplex print jobs, thus	
			7	HD RE	970	300	1500	1	mm/s	- A4W: A4-LEF / Letter-LEF / 16K-LEF (CH) - B5W: B5-LEF	preveting paper stacking jam or misalignment.	
			8	00	970	300	1500	1	mm/s	- A5: A5 / Statement	-	
			9	A6	970	300	1500	1	rnm/s	- A5W: A5-LEF		
		10	AU Custor:	970	300	1500	1	mm/s	- Ab: Ab / Postcard - Custom: custom-size paper			
	1		11	Custom	970	300	1500	1	mm/s		1	

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
			1	A3	1050	300	1500	1	mm/s			
			2	B4	1020	300	1500	1	mm/s	after a printed sheet has passed through the Horizontal transfer roller 3, in		
			3	A4	1000	300	1500	1	mm/s	duplex print jobs for thin paper in the below-listed paper formats respectively.		
			4	B5	980	300	1500	1	mm/s	[Paper formats]	To adjust the speed of paper	
			5	A4W	980	300	1500	1	mm/s	- A3: A3 / A3W / SRA3 / Ledger / 8K (CH) - B4: B4 / Legal 8.5x14 / Legal 8.5x13 / Foolscap	ejection from the FD Paper	
Е	07-6-064	FD EJECT SPEED	6	B5W	970	300	1500	1	mm/s	- A4: A4 / Letter / 16K (CH) - B5: B5	format when applying thin paper	
		(IIII) BOILEX	7	A5	970	300	1500	1	mm/s	- A4W: A4-LEF / Letter-LEF / 16K-LEF (CH)	in duplex print jobs, thus preveting paper stacking iam or	
			8	B6	970	300	1500	1	mm/s	- B5W: B5-LEF - A5: A5 / Statement	misalignment.	
			9	A5W	970	300	1500	1	mm/s	- B6: B6		
			10	A6	970	300	1500	1	mm/s	- A6: A6 / Postcard		
			11	Custom	970	300	1500	1	mm/s	- Custom: custom-size paper		
			1	A3	970	300	1500	1	mm/s			
			2	B4	870	300	1500	1	mm/s	Specifies the FD paper ejection speed, which is the paper transport speed		
			3	A4	870	300	1500	1	mm/s	after a printed sheet has passed through the Horizontal transfer roller 3, in duplex print jobs for thick paper in the below-listed paper formats respectively.		
			4	85	870	300	1500	1	mm/c	[Paner formate]		
			-	0.4144	970	200	1500	1	mm/s	- A3: A3 / A3W / SRA3 / Ledger / 8K (CH)	To adjust the speed of paper election from the FD Paper	
-	07 6 065	FD EJECT SPEED	5	DEW/	070	200	1500	4	mill/S	- 64: 64 / Legal 8.5x14 / Legal 8.5x13 / Foolscap - A4: A4 / Letter / 16K (CH)	ejection unit according to paper	
	07-0-000	(THICK) - DUPLEX	-	0.00	070	300	1500		mm/s	- B5: B5 - A4W: A4-LEF / Letter-LEF / 16K-LEF (CH)	in duplex print jobs, thus	
			7	A5	870	300	1500	1	mm/s	- B5W: B5-LEF	preveting paper stacking jam or misalignment.	
			8	B6	870	300	1500	1	mm/s	- A5: A5 / Statement - B6: B6	0	
			9	A5W	870	300	1500	1	mm/s	- A5W: A5-LEF - A6: A6 / Postcard		
			10	A6	870	300	1500	1	mm/s	- Custom: custom-size paper		
			11	Custom	870	300	1500	1	mm/s			
			1	A3	970	300	1500	1	mm/s	Specifies the FD paper ejection speed, which is the paper transport speed		
			2	B4	970	300	1500	1	mm/s	after a printed sheet has passed through the Horizontal transfer roller 3, in dunley print jobs for card stock in the below-listed paper formats respectively.		
			3	A4	970	300	1500	1	mm/s			
			4	B5	970	300	1500	1	mm/s	- A3: A3 / A3W / SRA3 / Ledger / 8K (CH)	To adjust the speed of paper	
_		FD EJECT SPEED	5	A4W	970	300	1500	1	mm/s	- B4: B4 / Legal 8.5x14 / Legal 8.5x13 / Foolscap - A4: A4 / Letter / 16K (CH)	ejection from the FD Paper ejection unit according to paper format when applying card stock in duplex print jobs, thus	
E	07-6-066	(POST CARD) - DUPLEX	6	B5W	970	300	1500	1	mm/s	- B5: B5		
			/	A5	970	300	1500	1	mm/s	- B5W: B5-LEF	preveting paper stacking jam or misalignment.	
			8	Be	970	300	1500	1	mm/s	- A5: A5 / Statement - B6: B6		
			9	ASVV	970	300	1500	1	mm/s	- A5W: A5-LEF - A6: A6 / Postcard		
			10	Custom	970	300	1500	1	mm/s	- Custom: custom-size paper		
			1	Normal (Standard)	60	-500	500	1	0.1mm			
			2	Thin	160	-500	500	1	0.1mm			
			3	Thick Envelope	160 160	-500 -500	500 500	1	0.1mm 0.1mm	Specifies the additional shift range of the FD Paper ejection paper guides for the respective paper types to widen or narrow their distance from the		
_	07 6 071	FD EJECTION	5	Post Card (Card Stock)	160	-500	500	1	0.1mm	corresponding predefined paper width positions.	To address untidy paper stacking	
	07-0-071	AMOUNT ADJ.	6		60	-500	500	1	0.1mm	* When the parameter value is positive, the distance between the FD Paper	(ejection) tray.	
1			8	U3	60 60	-500	500	1	0.1mm 0.1mm	ejection paper guides will be widened, while it will be narrowed when the said value is negative.		
1			9 10	U4 U5	60 60	-500 -500	500 500	1	0.1mm 0.1mm	4		
			11	LW Paper	80	-500	500	1	0.1mm			
E	07-6-081	FD EJECTION TRAY FULL DET. SELECTION	-	-	0	0	1	1	-	Selects how to detect that the FD Paper receiving (ejection) tray has become full when small-format printed sheets, such as postcards, are ejected there. 0: With both the FD Paper ejection paper detection sensor and FD Paper ejection full sensor 1: With the FD Paper ejection full sensor only	To enable it to be detected that the FD Paper receiving (ejection) tray has become full unless stacked sheets are not detected by the FD Paper ejection paper detection sensor.	
E	07-6-082	AUTO CONTROL STACK TRAY FULL QTY	_	-	1000	500	1000	1	Sheets	Specifies the number of sheets, based on which the Auto-control stacking tray is assumed to be full of stacked sheets.	When reducing the capacity of the Auto-control stacking tray to prevent stacked sheet overflow when using thick paper.	
Print I	lead section											
E	08-6-001	HEAD PRESSURE CHECK OPERATION MODE	_	-	0	0	1	1	-	Selects whether to lower the Transfer belt unit before the Print heads are pressurized for cleaning to allow the pressurized condition of the Print heads to be viewed during their cleaning operations. 0: The Transfer belt unit to remain elevated 1: The Transfer belt unit to be lowered in advance	To view the pressurized condition of the Print heads during their deaning operations.	The default setting is to be recovered at power-off.
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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
Ink ma	intenance s	ection						1				
E	09 -6- 001	CLEANING CYCLE MINIMUM QUANTITY	_		0	0	1	1	-	Selects the minimum number of prints to trigger the cleaning operation for the Print heads, which can be specified in the "Cleaning Cycle Setting" option in the Administrator menu. 0: 500 sheets 1: 100 sheets (Note] When the parameter value is reset to the default one ("0") in this test mode, the value specified in the "Cleaning Cycle Setting" option in the Administrator menu is to be reset to the dafult one as well, if it is set at less than 500, i.e. 400, 300, 200 or 100.	To change the minimum number of prints which can be specified in the "Cleaning Cycle Setting" option in the Administrator menu.	The default setting is to be recovered when the following test modes are executed. - Test mode clear - Factory default
E	09-6-002	NORMAL CLEANING ON/OFF	-	-	1	0	1	1	-	Selects whether to enable the "periodical normal cleaning" function to clean the Print heads at the interval specified in another test mode TM No. 09-6-006 "NORMAL CLEANING LEAVE TIME." 0: Disabled 1: Enabled * The parameter setting in this test mode does not affect the "Print Head Cleaning" operation through the "Maintenance" menu.	To enable the "periodical normal cleaning" function.	
E	09-6-003	STRONG CLEANING ON/OFF	I	-	0	0	1	1	-	Selects whether to enable the "periodical strong cleaning" function to clean the Print heads at the interval specified in another test mode TM No. 09-6-007 "STRONG CLEANING LEAVE TIME." 0: Disabled 1: Enabled * The parameter setting in this test mode does not affect the "Print Head Cleaning" operation through the "Maintenance" menu.	To enable the "periodical sorong cleaning" function.	
E	09-6-004	EXTRA CLEANING ON/OFF	I	-	0	0	1	1	-	Selects whether to enable the "periodical extra cleaning" function to clean the Print heads at the interval specified in another test mode TM No. 09-6-008 "EXTRA CLEANING LEAVE TIME." 0: Disabled 1: Enabled	To enable the "periodical extra cleaning" function.	
E	09-6-005	CLEANING TIMING SELECTION	1	-	1	0	1	1	-	Selects the execution timing of the specified periodical cleaning operations for the Print heads. 0: At the start of a print job 1: At power-on or the start of a print job	To change the execution timing of the specified periodical cleaning operations for the Print heads.	
E	09-6-006	NORMAL CLEANING LEAVE TIME	-	-	8	8	240	8	Hours	Specifies the interval at which the "periodical normal cleaning" operation is to be executed for the Print heads. * The execution priorities of the said periodical cleaning operation are as follows: extra cleaning, strong cleaning and then normal cleaning.	To change the interval at which the "periodical normal cleaning" operation is to be executed for the Print heads.	
E	09-6-007	STRONG CLEANING LEAVE TIME	-	-	7	7	60	1	Days	Specifies the interval at which the "periodical strong cleaning" operation is to be executed for the Print heads. * The execution priorities of the said periodical cleaning operation are as follows: extra cleaning, strong cleaning and then normal cleaning.	To change the interval at which the "periodical strong deaning" operation is to be executed for the Print heads.	
E	09-6-008	EXTRA CLEANING LEAVE TIME	I	-	90	5	120	5	Days	Specifies the interval at which the "periodical extra cleaning" operation is to be executed for the Print heads. * The execution priorities of the said periodical cleaning operation are as follows: extra cleaning, strong cleaning and then normal cleaning.	To change the interval at which the "periodical extra cleaning" operation is to be executed for the Print heads.	
E	09-6-009	CLEANING (CARD FEED) ON/OFF	I	-	0	0	1	1	-	Selects whether to apply the "Strong deaning" mode in the coming periodical normal cleaning operation for the Print heads when a print job has been executed with "Card stock" selected as paper type. 0: "Normal cleaning" mode to be applied as usual 1: "Strong cleaning" mode to be applied (, including recovery cleaning operations at power-on)	To prevent the Print head surface from being damaged with paper dust containing paper fibers peeled off from feeding card stock sheets, which may cause poor printed images or excessive ink drops on prints.	
E	09-6-011	LOW TEMPERATURE MAX PRINT QUANTITY	_	-	0	0	9999	1	Pages	Specifies the quantity of prints (pages) which are allowed to be made even under low ink temperature for printing, which ranges from the allowable lowest one (T2) to the regular operation one (T11). [•] It is to be noted that the following problems may occur during printing under the said low ink temperature range: ink mist smudges, poor printed images and operational interruption due to insufficient energy for high-coverage prints. [Note] [I rink temperature rises beyond the regular operation one (T11) during the said limited print job, the print job will continue beyond the print limit specified in this test mode.	To enable a limited print job under low ink temperature.	
E	09-6-015	HEAD GAP (NORMAL)	-	-	0	0	3	1	-	Selects the Print head gap to be applied when "Normal" (Standard) is selected as paper type. 0: Standard paper 1: Card stock 2: Envelope type 1 3: Envelope type 2	To change the Print head gap for normal (standard) types of paper.	This test mode is only accessible through a direct key entry of the corresponding number, without its item name displayed in the test mode list.

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
			2	Thin	0	0	3	1	-			
			4	Envelope	2	0	3	1	-	Selects the Print head gaps individually for the respective paper types,	To change the Brint head gap for	
		HEAD GAP (OTHER	5	Post Card (Card Stock)	1	0	3	1	-	excluding normal (standard) types of paper.	a specific paper type, excluding	
E	09-6-016	TYPES THAN NORMAL)	6	U1	0	0	3	1	-	0: Standard paper 1: Card stock	normal (standard) types of paper.	
			8	U3	0	Ő	3	1	-	2: Envelope type 1		
			10	U4 U5	0	0	3	1	-	S. Envelope type 2		
			11	LW Paper	0	0	3	1	-			
E	09-6-017	HEAD REPLACE MODE	-	-	0	0	1	1	-	Selects whether to enable the Print head replacement mode to start the initial ink filling operation after replacing the Print heads or the Ink tower unit. When the said mode is enabled, the initial ink filling operation is to start at reboot of a printer, following the sequence of preparation actions, i.e. shifting down the Transfer belt unit to the bottom, storing the Ink pan and then shifting back the Ink pan onto the Transfer belt unit. 0: Disabled 1: Enabled	To lead the initial ink filling operation to start after replacing the Print heads or the Ink tower unit.	
E	09-6-018	DROP TIMING BELT STRETCH	-	-	1	0	1	1	-	Selects whether to adjust the timing of ink ejection from the Print head nozzles according to the extension range of the Transfer belt to be checked at a specific interval. 0: Not to be adjusted 1: To be adjusted	To lead the timing of ink ejection from the Print head nozzles not to be adjusted according to the extension range of the Transfer belt.	
E	09-6-019	HEAD ADJUST PRINT SELECT	_	-	0	0	1	1	-	Selects whether to enable a printing operation without the Horizontal transfer unit mounted for maintenance works. 0: Disabled 1: Enabled	To make sample prints without the Horizontal transfer unit mounted when adjusting the mounting position of the Print heads.	
E	09-6-020	TRANSPORT INK CIRCULATION RECOVERY	_	-	0	0	1	1	-	Selects whether to enable the post-transport recovery ink circulation mode to rebalance ink levels inside the Pressurization and Negative pressure tanks after transporting a printer. When the said mode is enabled, ink is to be circulated without replenishment from ink cartridges at power-on until the ink levels are rebalanced inside the Pressurization and Negative pressure tanks. 0: Disabled 1: Enabled	To rebalance ink levels inside the Pressurization and Negative pressure tanks which may have been uneven after transporting a printer.	
			1	к	10	8	12	1	0.1 times			
			2	с	10	8	12	1	0.1 times		To rectify the deviation of the	Variation code 5 is also
Е	09-6-021	INK VOLUME	3	М	10	8	12	1	0.1 times	the volume of ink remaining inside the respective color ink cartridges	remaining inside a specific color	- R of 5C (KCMYR) models
		CORRECTION	4	Y	10	8	12	1	0.1 times	individually.	ink cartridge from the visually-	- Gr of 5C (KCMYGr)
			5	P (R,Gr)	10	8	12	1	0.1 times			
E	09-6-025	INK TEMPERATURE ADJUST ON/OFF	_	-	0	0	1	1	-	Selects whether to disable the "ink temperature auto adjustment" function during test modes. 0: Enabled 1: Disabled * The ongoing ink temperature adjustment will be interrupted when the said function is disabled in this test mode.	To disable the "ink temperature auto adjustment" function during test modes.	The default setting is to be recovered at the exit from the test mode or power-off.
E	09-6-026	INK TEMPERATURE ADJUST ACTION	_	-	0	0	1	1	-	Selects whether to disable the "ink temperature auto adjustment" function at any time. 0: Enabled 1: Disabled	To disable the "ink temperature auto adjustment" function at any time.	The parameter change is to take effect when a printer is rebooted,
E	09-6-041	PR & NEGA PR AIR PUMP DRIVE TIME ADJ	_	-	5	0	10	1	0.1s	Adjusts the interval at which the Air pump is to be driven to generate pressure in the Pressurization and Negative pressure tanks after the Pressurization and Negative pressure tank air valves have been closed.	To address the problems indicated by the error code S036-2046 or -2052 (Ink circulation pump failure).	
E	09-6-042	PR TANK PR ERROR DETECT VALUE ADJ	-	-	100	0	200	1	100 Pa	Specifies the threshold air pressure value, based on which an air pressure error, whose error code is "S036-2400," is to be detected in the Pressurization tank during ink circulation.	To address frequent indication of the error code "S036-2400."	
E	09-6-043	PRESSURRIZED DET TIME ADJ_S CLEANING	_	-	0	0	100	1	0.1s	Adjusts the amount of time taken to determine that the air pressure has failed to reach a sufficient level on the pressurization side during "Strong cleaning" operation for the Print heads.	To address insufficient air pressure level on the pressurization side during "Strong deaning" operation for the Print heads.	
E	09-6-048	INK CIRCULATE- STOP ACTION TIME	1	Circulation Time	10	0	60	1	minutes	Specifies the operation period (circulation time) and interval (stop time) in the interval ink circulation operation to be executed in another test mode TM No.	To change the the operation period and/or interval in the interval ink circulation operation	
		ISET	2	Srop Time	5	0	60	1	minutes	09-3-065 "INK CIRCULATE-STOP ACTION."	to be executed in the test mode TM No. 09-3-065.	
E	09-6-049	INK CIRCULATE- STOP ACTION NUMBER SET	-	-	4	1	20	1	times	Specifies the number of execution times of an interval ink circulation action to be executed in another test mode TM No. 09-3-065 'INK CIRCULATE-STOP ACTION."	To change the number of execution times of an interval ink circulation action to be executed in the test mode TM No. 09-3- 065.	

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Test Modes

Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
E	09-6-050	EXTL FILTER INK CIRC TIME (AIR BLEED)	_	-	2	1	30	1	minutes	Specifies the ink circulation period for air bleeding from the attached External filter in another test mode TM No. 09-3-069 "EXTL FILTER INK CIRC (BLEED AIR)."	To change the ink circulation period for air bleeding from the attached External filter in the test mode TM No. 09-3-069.	
E	09-6-051	EXTERNAL FILTER INK CIRCULATION TIME	-	-	60	1	600	1	minutes	Specifies the ink circulation period for the attached External filter in another test mode TM No. 09-3-070 "EXTERNAL FILTER INK CIRCULATION."	To change the ink circulation period for the attached External filter in the test mode TM No. 09- 3-070.	
E	09-6-052	INK INITIAL FILLING REPEAT NUMBER SET	-	-	8	1	50	1	times	Specifies the number of repetitions of the initial ink filling operation in another test mode TM No. 09-3-013 "IN TIAL INK FILLING REPEAT MODE."	To change the number of repetitions of the initial ink filling operation in the test mode TM No. 09-3-013.	
E	09-6-053	Strong Maint Number (no ink Supply)	-	-	5	1	50	1	times	Specifies the number of repetitions of the strong maintenance operation in another test mode TM No. 09-3-006 "STRONG MAINTENANCE (NO INK SUPPLY)."	To change the number of repetitions of the strong maintenance operation in the test mode TM No. 09-3-006.	
Е	09-6-060	INK PAN ON-BELT POSITION STOP TIME	-	-	60	0	500	10	ms	Adjusts the delay time with which the Maintenance unit drive motor is to stop operating after the Ink pan open position sensor has been blocked.	To adjust the delay time with which the Maintenance unit drive motor is to stop operating.	
			1	Extra Cleaning	1820	1000	3000	10	ms	Adjusts the operation time of the Maintenance unit drive motor to shift the Ink		
Е	09 - 6-061	INK PAN STORAGE HALT ANGLE	2	Strong Cleaning	1820	1000	3000	10	ms	pan from the Print head maintenance position on the Transfer belt to the ink drainage position in the below-listed operations respectively.	To adjust the tilt angle of the ink	
		ADJUST	3	External Filter	1740	1000	3000	10	ms	 1. Extra cleaning and initila ink filling operations 2. Strong cleaning operation 3. Ink circulation operation with the External filter attached 	pun at the nik aranage poolion.	
E	09-6-062	INK PAN STORAGE POSITION STOP TIME	_	-	0	0	420	10	ms	Specifies the delay time with which the Maintenance unit drive motor is to stop operating after the Ink pan storage position sensor has been blocked.	To add the delay time with which the Maintenance unit drive motor is to stop operating, thus ensuring the storage (retreat) of the Ink pan.	
E	09-6-091	FLUSHING ON/OFF	-	-	0	0	1	1	-	Selects whether to take an ink flushing action to prevent unexpected print color mixture. 0: OFF (No ink flushing action) 1: ON	To lead an ink flushing action to be taken to prevent unexpected print color mixture.	
E	09-6-095	FLUSHING DROP NUMBER SETTING	_	-	1	1	11	1	drop	Specifies the number of ink drops per pixel for an ink flushing action,	To change the number of ink drops per pixel for an optimal ink flushing action.	
E	09-6-096	FLUSHING LINE NUMBER SETTING	_	-	15	3	1000	1	line	Specifies the number of Print head nozzle lines to which an ink flushing action is to be applied.	To change the number of applied Print head nozzle lines for an optimal ink flushing action.	
Е	09-6-101	BP POWER OFF POSITION SELECTION	-	-	0	0	2	1	-	Selects whether to shift the Transfer belt unit to the packing or maintenance position at power-off. 0: To the regular position 1: To the packing position 2: To the maintenance position	To shft the Transfer belt unit to the packing or maintenance position at power-off.	The current parameter setting is to be retained even after power-off.
E	09-6-102	BP POWER OFF POS SELECTION -ONE TIME	_	-	0	0	1	1	-	Selects whether to shift the Transfer belt unit to the packing position at power- off. 0: To the regular position 1: To the packing position	To shft the Transfer belt unit to the packing position at power-off.	The current parameter setting is to be cleared to recover the default one at power-off.
			1	Normal (Standard) Thin	0	0	1	1	-	Selects whether to apply the driving (wave) pattern for ink mist reduction to		
			3	Thick	0	0	1	1	-	600-dpi K-color print heads individually for the respective paper types.		
		NK MOT NO	4	Envelope Post Card	0	0	1	1	-	0: Regular wave pattern 1: Specific wave pattern for ink mist reduction		
Е	09-6-105	INK MIST IMAGE CONTROL	6	(Card Stock) U1	0	0	1	1		[] imitations in ink-mist-reduction wave pattern application]	To reduce K-color ink mists on printed sheets	
		SELECTION	7	U2	0	0	1	1	-	The maximum print speed is to be set at 130 ppm even when it is originally		
			8	U3 U4	0	0	1	1	-	2. Vertical lines may be blurred.		
			10	U5	0	0	1	1	-	 Images may be blurred when pages with large black solid images are printed in large volume. 		
\vdash			11	LW Paper	0	0	1	1	-			
E	09-6-111	MD RECOVERY -PRINT QTY SETTING	-	-	1	1	10	1	sheets	Specifies the number of solid-pattern prints to be made for performance check of the Print head nozzles in the corresponding "MD Recovery Action" test modes.	To change the number of solid- pattern prints to be made in the "MD Recovery Action" test modes.	
E	09-6-112	MD RECOVERY -REPEAT QTY SETTING	_	-	3	1	20	1	times	Specifies the number of repetitions of a solid-pattern-print-plus-normal-deaning operation in the corresponding "MD Recovery Action" test modes.	To change the number of repetitions of a predefined sequential operation in the "MD Recovery Action" test modes.	

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Test Modes

Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
E	09-6-113	MD RECOVERY -ACTION QTY SETTING	Ι	-	1	1	5	1	times	Specifies the number of execution times of MD (misdirection) recovery action in the corresponding "MD Recovery Action" test modes.	To change the number of execution times of MD recovery action in the "MD Recovery Action" test modes.	
E	09-6-114	MD RECOVERY -CLEANING QTY SETTING	1	-	1	1	5	1	times	Specifies the number of execution times of deaning operation in the corresponding "MD Recovery Cleaning" test modes.	To change the number of execution times of cleaning operation in the "MD Recovery Cleaning" test modes.	
E	09-6-115	MD RECOVERY -HEAD GAP SELECTION	Ι	-	3	0	3	1	-	Selects the head gap to be applied in the corresponding "MD Recovery Action" test modes. 0: Standard paper 1: Card stock 2: Envelope type 1 3: Envelope type 2	To change the head gap to be applied in the "MD Recovery Action" test modes.	
E	09-6-131	INK CICULATION DURATION	I	-	10	1	1440	1	minutes	Specifies the duration of ink circulation operation, which is the period of time during that air pressure is kept at the "print action" level at the Print head nozzles, in the test mode TM No, 09-3-068 "INK CIRCULATION ACTION."	To change the duration of ink circulation operation in the test mode TM No. 09-3-068.	
E	09-6-140	HEATING PRECURSOR ON/OFF	_	-	0	0	1	1	-	Selects whether to disable the precursor operation of the Head drive IC cooling fans before heating up circulating ink. 0: Enabled 1: Disabled (No Head drive IC colling fans' operation during idle period)	To reduce operational noises while a printer is idle.	
E	09-6-141	INK TEMP ADJUST ON/OFF (STANDBY)	_	-	0	0	1	1	-	Selects whether to disable the ink temperature adjustment operation while a printer is idle. 0: Enabled 1: Disabled (No ink temperature adjustment operation during idle period) * The ink temperature adjustment operation is to be executed after the start of printing operation.	To reduce operational noises while a printer is idle.	
<u>Tag c</u> E	00000000000000000000000000000000000000	INK KIT SPECIAL CONFIGRATION	_	-	0	0	1	1	-	Selects whether to configure a printer as a rental unit. 0: Sellout unit (Any type ink available) 1: Rental unit (Rental-dedicated ink available only)	To configure a printer as a rental one,	This test mode is only accessible through a direct key entry of the corresponding number, without its item name displayed in the test mode list.
E	21-6-001	SCANNER CONNECTION SELECTION	_	-	0	0	2	1	-	Selects whether to open the communication lines to the connected optional scanner, HS7000, 0: Line closed (Copy and scan modes not available, assuming that an optional scanner is not connected) * The scanner-related functions in the Administrator menu are not available as weil. 1: Lines fully opened (Copy and scan modes available) * This parameter is not selectable on Chinese models. 2: Line partly opened (Copy mode available only) * The Scan-mode-related functions in the Administrator menu are not available.	To make the connected optional scanner avaia ble.	The [Copy] and [Scan] icons will disappear from the [Home] screen on the operation panel display when the parameter "0" is selected here.
E	21-6-002	SCANNER LOCKUNLOCK SELECTION	l	-	0	0	1	1	-	Selects whether to prohibit any scanner-related operation when the FB Scanner (FB Carriage) is placed at the lock position for transportation. 0: Any operation prohibited (excluding firmware download, AF initialization and this test mode) * When any prohibited operation is requested with the parameter value set at *1" in this test mode, the error code U006-4330 (Scanner still locked for transportation) will be displayed.	To prohibit an operation with the scanner when the FB Scanner (FB Carriage) is placed at the lock position for transportation.	
E	21-6-004	Power Down Mode Timeout	_	-	300	0	6000	1	seconds	Specifies the amount of time to be taken to lead the AFE (Analog Front End) of the FB Scanner (FB Carriage) to enter the power down (power saving) mode when the Scanner AF unit is raised open.	To change the amount of time to be taken to trigger the said power saving mode on the scanner.	
E	21-6-011	FB SCAN HORIZON POSITION ADJUST	_	-	The value specified in TM No. 21-6- 021	81	175	1	0.04233m m	Adjusts the lateral scanning position against an original placed on the Stage glass of the scanner. * When "81" is specified as a parameter value, a scanned image shifts 2.0mm to the left from a predefined base position, while it shifts 2.0mm to the right from the said position when "175" is specified there.	To adjust the lateral scanning position for an original placed on the Stage glass of the scanner.	
E	21-6-012	FB SCAN START POSITION ADJUST	_	-	The value specified in TM No. 21-6- 022	98	158	1	0.0847m m	Adjusts the scanning start position, i.e. the top margin range on a scanned page, for an original placed on the Stage glass of the scanner. * When "98" is specified as a parameter value, the top margin is widened by 2.6mm from a predefined range, while it is narrowed by 2.6mm from the said range when "158" is specified there.	To adjust the scanning start position, i.e. the top margin range on a scanned page, for an original placed on the Stage glass of the scanner.	
E	21-6-013	FB SCAN IMAGE ELONGATION ADJUST	_	-	The value specified in TM No. 21-6- 023	123	133	1	0.1%	Adjusts the scanning speed, i.e. the scanned image length, for an original placed on the Stage glass of the scanner. * When "123" is specified as a parameter value, scanned images extend by 0.5% from a predefined base length, while they shrink by 0.5% from the said length when "133" is specified there.	To adjust the scanning speed, i.e. the scanned image length, for an original placed on the Stage glass of the scanner.	

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
E	21-6-021	FB SCAN DEFAULT HORIZON POSITION	-	-	128	81	175	1	0.04233m m	Specifies the default parameter value for the test mode TM No. 21-6-011 "FB SCAN HORIZON POSITION ADJUST." [Note] The default parameter value specified in this test mode is to be retained even when the test mode TM No. 21-4-002 "SCANNER TEST PARAMETER CLEAR" is executed.	To change the default parameter value in the test mode TM No. 21-6-011.	
E	21-6-022	FB SCAN DEFAULT START POSITION	_	-	128	98	158	1	0.0847m m	Specifies the default parameter value for the test mode TM No. 21-6-012 "FB SCAN START POSITION ADJUST." [Note] The default parameter value specified in this test mode is to be retained even when the test mode TM No. 21-4-002 "SCANNER TEST PARAMETER CLEAR" is executed.	To change the default parameter value in the test mode TM No. 21-6-012.	
E	21-6-023	FB SCAN DEFAULT IMAGE ELONGATION	-	-	128	123	133	1	0.001 mm	Specifies the default parameter value for the test mode TM No. 21-6-013 "FB SCAN IMAGE ELONGATION ADJUST." [Note] The default parameter value specified in this test mode is to be retained even when the test mode TM No. 21-4-002 "SCANNER TEST PARAMETER CLEAR" is executed.	To change the default parameter value in the test mode TM No. 21-6-013.	
			1	Front Side	128	81	175	1	0.04233m m	Adjusts the lateral scanning position against an original placed on the AF (Auto Feeder) of the scanner for both the front and back sides respectively.	To adjust the lateral scanning	
E	21-6-031	POSITION ADJUST	2	Back Side	128	81	175	1	0.04233m m	* When "81" is specified as a parameter value, a scanned image shifts 2.0mm to the right from a predefined base position, while it shifts 2.0mm to the left from the said position when "175" is specified there.	the AF (Auto Feeder) of the scanner.	
Е	21-6-032	AF SCAN START POSITION ADJUST	1	High speed	0	-40	40	1	0.1mm	Adjusts the front-page scanning start position, i.e. the top margin range on the scanned front page, for an original placed on the AF (Auto Feeder) of the scanner for both the high and low speed scanning modes respectively.	To adjust the front-page scanning start position, i.e. the top margin range on the scanned front page,	
		(F)	2	Low speed	0	-40	40	1	0.1mm	* When "-40" is specified as a parameter value, the top margin is widened by 4.0mm from a predefined range, while it is narrowed by 4.0mm from the said range when "40" is specified there.	for an original placed on the AF (Auto Feeder) of the scanner.	
E	21-6-033	AF SCAN START	1	High speed	0	-40	40	1	0.1mm	Adjusts the back-page scanning start position, i.e. the top margin range on the scanned back page, for an original placed on the AF (Auto Feeder) of the scanner for both the high and low speed scanning modes respectively.	To adjust the back-page scanning start position, i.e. the top margin range on the scanned	
		(B)	2	Low speed	0	-40	40	1	0.1mm	* When "-40" is specified as a parameter value, the top margin is widened by 4.0mm from a predefined range, while it is narrowed by 4.0mm from the said range when "40" is specified there.	back page, for an original placed on the AF (Auto Feeder) of the scanner.	
F	21-6-034	AF SCAN IMAGE	1	High speed	The value specified in TM No. 21-6- 041	0	1127	1	0.01%	Adjusts the front-page scanning speed (rotation speed of the AF Read pulse motor), i.e. the scanned image length on the front page, for an original placed on the AF (Auto Feeder) of the scanner for both the high and low speed scanning modes respectively.	To adjust the front-page scanning speed (rotation speed of the AF Read pulse motor), i.e. the scanned image length on the	These parameter values are to be stored in the EEPROM
		ADJUST (F)	2	Low speed	As above	0	1127	1	0.01%	* When "0" is specified as a parameter value, scanned images extend by 10% from a predefined base length, while they shrink by 1.27% from the said length when "1127" is specified there.	front page, for an original placed on the AF (Auto Feeder) of the scanner.	on the AF unit of the scanner.
E	21-6-036	AF SCAN CARRIAGE POSITION ADJUST	-	-	The value specified in TM No. 21-6- 043	98	158	1	0.0847m m	Adjusts the vertical scanning position against an original placed on the AF (Auto Feeder) of the scanner by shifting the AF scanning position of the FB Scanner (FB Carriage) below the Stage glass. * When "98" is specified as a parameter value, a scanned image shifts 2.6mm to the bottom from a predefined base position, while it shifts 2.6mm to the top from the said position when "158" is specified there.	To adjust the vertical scanning position for an original placed on the AF (Auto Feeder) of the scanner.	This parameter value is to be stored in the EEPROM on the FB unit of the scanner.
E	21-6-037	AF CALIBRATION START POSITION ADJUST	I	-	0	-100	100	1	mm	Adjusts the white-color shading compensation timing for the back page of an original placed on the AF (Auto Feeder) of the scanner. * When the parameter value is decreased, the white-color shading compensation timing will be advanced against a feeding original, while it will be delayed when the said value is increased.	To address improper scanned image density on the back page of an original placed on the AF (Auto Feeder) of the scanner by changing the corresponding white-color shading compensation timing.	
		AF SCAN DEFAULT	1	High speed	1000	0	1127	1	0.01%	Specifies the default parameter values for the test mode TM No. 21-6-034 "AF SCAN IMAGE ELONGATION ADJUST (F)."	To change the default parameter	These parameter values are to be stored in the EEPROM
E	21-6-041	IMAGE ELONGATION (F)	2	Low speed	1000	0	1127	1	0.01%	[Note] The default parameter values specified in this test mode are to be retained even when the test mode TM No. 21-4-002 "SCANNER TEST PARAMETER CLEAR" is executed.	values in the test mode TM No. 21-6-034.	on the AF unit of the scanner.
E	21-6-043	AF SCAN DEFAULT CARRIAGE POSITION	_	-	128	98	158	1	0.0847m m	Specifies the default parameter value for the test mode TM No. 21-6-036 "AF SCAN CARRIAGE POSITION ADJUST." [Note] The default parameter value specified in this test mode is to be retained even when the test mode TM No. 21-4-002 "SCANNER TEST PARAMETER CLEAR" is executed.	To change the default parameter values in the test mode TM No. 21-6-036.	This parameter value is to be stored in the EEPROM on the FB unit of the scanner.
-	24 6 6 4 6	AF SCAN START	1	High speed	50	0	100	1	0.1mm	Adjusts the front-page scanning start position, i.e. the top margin range on the scanned front page, specifically for a postcard-size original placed on the AF (Auto Feeder) of the scanner for both the high and low speed scanning modes respectively.	To adjust the front-page scanning start position, i.e. the top margin range on the scanned front page.	
E	21-6-046	(CARD/F)	2	Low speed	50	0	100	1	0.1mm	* When "0" is specified as a parameter value, the top margin is widened by 5.0mm from a predefined range, while it is narrowed by 5.0mm from the said range when "100" is specified there.	specifically for a postcard-size original placed on the AF (Auto Feeder) of the scanner.	

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Test Modes

Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
		AF SCAN START	1	High speed	50	0	100	1	0.1mm	Adjusts the back-page scanning start position, i.e. the top margin range on the scanned back page, specifically for a postcard-size original placed on the AF (Auto Feeder) of the scanner for both the high and low speed scanning modes	To adjust the back-page scanning start position, i.e. the top margin range on the scanned	
E	21-6-047	POSITION ADJ (CARD/B)	2	Low speed	50	0	100	1	0.1mm	respectively. * When "0" is specified as a parameter value, the top margin is widened by 5.0mm from a predefined range, while it is narrowed by 5.0mm from the said range when "100" is specified there.	back page, specifically for a postcard-size original placed on the AF (Auto Feeder) of the scanner.	
E	21-6-048	AF SCAN IMAGE ELONGATION ADJ	1	High speed	1000	0	1300	1	0.01%	Adjusts the scanning speed (rotation speed of the AF Read pulse motor), i.e. the scanned image length on the both front and back pages, specifically for a postcard-size original placed on the AF (Auto Feeder) of the scanner for both the high and low speed scanning modes respectively.	To adjust the scanning speed (rotation speed of the AF Read pulse motor), i.e. the scanned image length on the both front	These parameter values are to be stored in the EEPROM
		(CARD)	2	Low speed	1000	0	1300	1	0.01%	* When "0" is specified as a parameter value, scanned images extend by 10% from a predefined base length, while they shrink by 3% from the said length when "1300" is specified there.	and back pages, specifically for a postcard-size original placed on the AF (Auto Feeder) of the scanner.	on the AF unit of the scanner.
		IMAGE ELONGATION	1	Front Side	1000	960	1040	1	0.1%	Adjusts the scanned image size horizonta l y against whichever originals placed	To adjust the scanned image size	
E	21-6-051	CORRECTION- HORIZON	2	Back Side	1000	960	1040	1	0.1%	on the Stage glass or the AF of the scanner on both (front and back) sides respectively.	horizontally.	
E	21-6-053	HORIZONTAL LINE ON/OFF	_	-	0	0	1	1	<u>-</u>	Selects whether to add a 1-pixel vertical fine line to a scanned image copy in black at a distance of 148.5mm from the left-side edge of an original placed on the Stage glass, i.e. the short-edge center of A3-size sheet, regardless of parameter settings in other test modes. 0: No line to be added 1: A fine line to be added * The reproduction size should be 100% when making the said scanned image copy.		The default setting is to be recovered at power-off.
E	21-6-054	VERTICAL LINE ON OFF	_	-	0	0	1	1	-	Selects whether to add a 1-pixel horizontal fine line to a scanned image copy in black at a distance of 10mm from the top edge of an original placed on the Stage glass, regardless of parameter settings in other test modes. 0: No line to be added 1: A fine line to be added * The reproduction size should be 100% when making the said scanned image copy.		The default setting is to be recovered at power-off.
E	21-6-056	COPY MODE MASK AMOUNT	-	-	1	0	5	1	mm	Specifies a mask amount (margin range) on page edges in the Copy mode. - When placing an original on the Stage glass: On the top and left-side edges - When placing an original on the AF (Auto Feeder): On all 4 edges * The shadows of the Original stopper and/or original sheets are expected to be prevented from being reproduced on scanned image copies by providing page edge margins.	To address the reproduced shadows of the Original stopper and/or original sheets on scanned image copies.	
E	21-6-057	SCAN MODE MASK AMOUNT	_	-	1	0	5	1	mm	Specifies a mask amount (margin range) on page edges in the Scan mode, - When placing an original on the Stage glass: On the top and left-side edges - When placing an original on the AF (Auto Feeder): On all 4 edges * The shadows of the Original stopper and/or original sheets are expected to be prevented from being captured in scan data by providing page edge margins.	To address the captured shadows of the Original stopper and/or original sheets in scan data.	
			1	FB	50	1	100	1	-	Adjusts the luminous energy of LEDs on the scanner in the respective scanning		
			2	AF (F300)	50	1	100	1	-	operations individually.	To find if the sum of sources	
E	21-6-059	SCANNER LED LIGHT VOLUME	3	AF (F600)	50	1	100	1	<u> </u>	2. AF (F300): Front side with 300dpi on the AF (Auto Feeder) 3. AF (F600): Front side with 600dpi on the AF (Auto Feeder)	image defects are caused by the malfunction of LEDs on the	The default setting is to be
		ADJUST	٦	AF (B300)	50	1	100	1	<u> </u>	4. AF (B300): Back side with 300dpi on the AF (Auto Feeder) 5. AF (B600): Back side with 600dpi on the AF (Auto Feeder)	scanner while changing their luminous energy.	recovered at power-off.
			-	AE (B600)	50		100			* When the parameter value is increased, the luminous energy of LEDs will be increased to lead the LEDs to emit more light		
			5	AF (B600)	50	1	100	1	-			
E	21-6-060	EXTRANEOUS LIGHT DETECT MODE SELECT	-	-	3	0	3	1	-	Selects whether and how to detect extraneous light when the Stage cover (AF unit) angle sensor has been opened, i.e. the AF (Auto Feeder) unit is half dosed. 0: To be detected (through the Maximum luminance detection and Luminance fluctuation detection modes) 1: To be detected (through the Maximum luminance detection mode) 2: To be detected (through the Luminance fluctuation detection mode) 3: Not to be detected	To lead extraneous light to be detected before scanning operation.	
			1	R0	0	0	12	1	-			
			2	GO	0	0	12	1	-	Specifies the analog gain (sensitivity) adjustment values for CCDs to be applied temporarily for troubleshooting in relation to scanned image defects caused there are a sensitive and the sensitivity of the sensitity of t	To change the analog gain adjustment values for CCDs	
Е	21-6-061	ANALOG GAIN ADJUST	3	B0	0	0	12	1	-	when scanning an original placed on the Stage glass of the scanner.	relation to scanned image	
			4 5	G1	0	0	12	1	<u> </u>	gain adjustment ones to be applied during troubleshooting scanning operations until the automatic gain adjustment is evented in a regular scanning operations	an original placed on the Stage	
			6	B1	0	0	12	1	-			

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
			1	R0	0	0	255	1	-			
1			2	G0	0	0	255	1	-	Specifies the digital gain (sensitivity) adjustment values for CCDs to be applied temporarily for troubleshooting in relation to scanned image defects caused	To change the digital gain adjustment values for CCDs	
Е	21-6-062	DIGITAL GAIN	3	В0	0	0	255	1	-	when scanning an original placed on the Stage glass of the scanner.	manually for troubleshooting in relation to scanned image	
		ADJUST	4	R1	0	0	255	1	-	* The parameter values specified in this test mode are to be retained as digital gain adjustment ones to be applied during troubleshooting scanning operations	defects caused when scanning an original placed on the Stage	
			5	G1	0	0	255	1	-	until the automatic gain adjustment is executed in a regular scanning operation.	glass of the scanner.	
			6	B1	0	0	255	1	-			
			1	R0	0	0	12	1	-	Specifies the analog gain (sensitivity) adjustment values for CCDs to be applied	To change the analog gain	
			2	G0	0	0	12	1	-	temporarily for troubleshooting in relation to scanned image defects caused when scanning the front side of an original placed on the AF (Auto Feeder) of	adjustment values for CCDs manually for troubleshooting in	
Е	21-6-063	ANALOG GAIN ADJUST	3	B0	0	0	12	1	-	the scanner with the resolution of 300dpi.	relation to scanned image defects caused when scanning	
		(FRONT/300DPI)	4	R1	0	0	12	1	-	* The parameter values specified in this test mode are to be retained as analog	the front side of an original placed on the AF (Auto Feeder)	
			5	G1	0	0	12	1	-	until the automatic gain adjustment is executed in a regular scanning operation.	of the scanner with the resolution of 300dpi.	
			0	B1	0	0	12	1	-			
			2	60	0	0	255	1	-	Specifies the digital gain (sensitivity) adjustment values for CCDs to be applied	To change the digital gain adjustment values for CCDs	
		DIGITAL GAIN	3	B0	0	0	255	1	-	when scanning the front side of an original placed on the AF (Auto Feeder) of	manually for troubleshooting in relation to scanned image	
Е	21-6-064	ADJUST (FRONT/300DPI)	4	R1	0	0	255	1	-	the scanner with the resolution of 300dpl	defects caused when scanning the front side of an original	
			5	G1	0	0	255	1	-	* The parameter values specified in this test mode are to be retained as digital gain adjustment ones to be applied during troubleshooting scanning operations	placed on the AF (Auto Feeder)	
			6	B1	0	0	255	1	-	until the automatic gain adjustment is executed in a regular scanning operation.	of 300dpi.	
<u> </u>			1	R0	0	0	12	1	-			
			2	G0	0	0	12	1	-	Specifies the analog gain (sensitivity) adjustment values for CCDs to be applied temporarily for troubleshooting in relation to scanned image defects estimated	To change the analog gain adjustment values for CCDs	
1		ANALOG GAIN	3	в0	0	0	12	1	-	when scanning the front side of an original placed on the AF (Auto Feeder) of the scanner with the resolution of 600dbi	manually for troubleshooting in relation to scanned image	
E	21-6-065	ADJUST (FRONT/600DPI)	4	R1	0	0	12	1	-	* The parameter values specified in this test made are to be retained as analog	defects caused when scanning the front side of an original	
			5	G1	0	0	12	1	-	gain adjustment ones to be applied during troubleshooting scanning operations	placed on the AF (Auto Feeder) of the scanner with the resolution	
			6	B1	0	0	12	1	-	una die automatic gain adjustment is executed in a regular scanning operation.	of 600dpi.	
			1	R0	0	0	255	1	-		To change the digital gain	
			2	G0	0	0	255	1	-	Specifies the digital gain (sensitivity) adjustment values for CCDs to be applied temporarily for troubleshooting in relation to scanned image defects caused	adjustment values for CCDs	
-	21 6 066	DIGITAL GAIN	3	в0	0	0	255	1	-	when scanning the front side of an original placed on the AF (Auto Feeder) of the scanner with the resolution of 600dpi.	f manually for troubleshooting in relation to scanned image defects caused when scanning the front side of an original placed on the AF (Auto Feeder) of the scanner with the resolution of 600dpi.	
-	21-0-000	(FRONT/600DPI)	4	R1	0	0	255	1	-	* The parameter values specified in this test mode are to be retained as digital		
			5	G1	0	0	255	1	-	gain adjustment ones to be applied during troubleshooting scanning operations until the automatic gain adjustment is executed in a regular scanning operation.		
			6	B1	0	0	255	1	-			
			1	R0	0	0	12	1	-	Specifies the appled gain (constituity) adjustment values for CCDs to be applied	To change the analog gain	
			2	G0	0	0	12	1	-	temporarily for troubleshooting in relation to scanned image defects caused	adjustment values for CCDs manually for troubleshooting in	
Е	21-6-067	ANALOG GA I N ADJUST	3	В0	0	0	12	1	-	the scanner with the resolution of 300dpi.	relation to scanned image defects caused when scanning	
		(BACK/300DPI)	4	R1	0	0	12	1	-	* The parameter values specified in this test mode are to be retained as analog	the back side of an original placed on the AF (Auto Feeder)	
			5	G1	0	0	12	1	-	until the automatic gain adjustment is executed in a regular scanning operation.	of the scanner with the resolution of 300dpi	
			6	B1	0	0	12	1	-			
			1	R0	0	0	255	1	-	Specifies the digital gain (sensitivity) adjustment values for CCDs to be applied	To change the digital gain	
			2	G0	0	0	255	1	-	temporarily for troubleshooting in relation to scanned image defects caused when scanning the back side of an original placed on the AE (Auto Feeder) of	adjustment values for CCDs manually for troubleshooting in	
Е	21-6-068	DIGITAL GAIN ADJUST	3	B0	0	0	255	1	-	the scanner with the resolution of 300dpi.	relation to scanned image defects caused when scanning	
		(BACK/300DPI)	4	R1	0	0	255	1	-	* The parameter values specified in this test mode are to be retained as digital	the back side of an original placed on the AF (Auto Feeder)	
			5	G1	0	0	255	1	-	until the automatic gain adjustment is executed in a regular scanning operation.	of the scanner with the resolution of 300dpi	
<u> </u>			6	B1	0	0	255	1	-			
			1	R0	0	0	12	1	-	Specifies the analog gain (sensitivity) adjustment values for CCDs to be applied	To change the analog gain	
1			2	G0	0	0	12	1	-	temporarily for troubleshooting in relation to scanned image defects caused when scanning the back side of an original placed on the AF (Auto Feeder) of	aujustment values for CCDs manually for troubleshooting in	
Е	21-6-069	ANALOG GAIN ADJUST	3	80	0	0	12	1	-	the scanner with the resolution of 600dpi.	defects caused when scanning	
1		(BACK/600DPI)	4	к1 0.1	0	0	12	1	-	* The parameter values specified in this test mode are to be retained as analog gain adjustment ones to be applied during troubleshooting scanning operations	the back side of an original placed on the AF (Auto Feeder)	
1			5	G1	0	0	12	1	-	until the automatic gain adjustment is executed in a regular scanning operation.	of the scanner with the resolution of 600dpi.	
			6	^{в1}	0	0	12	1	-			
1			1	RU CO	Ű	U	255	1	-	Specifies the digital gain (sensitivity) adjustment values for CCDs to be applied	To change the digital gain	
1			2	GU	0	0	255	1	-	temporarily for troubleshooting in relation to scanned image defects caused when scanning the back side of an original placed on the AF (Auto Feeder) of	aujustment values for CCDs manually for troubleshooting in	
Е	21-6-070	GAIN ADJUST	3	BU BU	0	0	255	1	-	the scanner with the resolution of 600dpi	manually for troubleshooting in relation to scanned image defects caused when scanning the back side of an original placed on the AF (Auto Feeder) of the scanner with the resolution of 600dpi.	
		(DACK/600DPI)	4	кı 04	0	0	255	1	-	* The parameter values specified in this test mode are to be retained as digital gain adjustment ones to be applied during troubleshooting scanning operations		
			5	G1	0	0	255	1	-	until the automatic gain adjustment is executed in a regular scanning operation.		
<u> </u>			6	ы1	0	0	255	1	-			
			1	R	16	0	256	1	-	Specifies the threshold values based on which the base white level is to be compensated for front-side scanned images.	To change the threshold values	
E	21-6-071	WHITE LEVEL THRESHOLD	2	G	16	0	256	1	- cprecurses the unreshow values based on which the base white level is to be compensated for front-side scanned images. When the variance of the white level on the front side of a scanned original for sheet from that on the white reference plate, which is to be measured through	To change the threshold values based on which the base white level is to be compensated for forth-side scanned images, thus addressing according income		
			3	в	16	0	256	1	-	the white-color shading compensation operation, is more than the one indicated by the value specified in this test mode, the base white level will be compensated for the said scanned images.	e measured through that see the second and the seco	
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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
			1	R	16	0	256	1	-	Specifies the threshold values based on which the base white level is to be compensated for back-side scanned images.	To change the threshold values based on which the base white	
E	21-6-072	WHITE LEVEL THRESHOLD (BACK)	2	G	16	0	256	1	-	When the variance of the white level on the back side of a scanned original sheet from that on the white reference plate, which is to be measured through the white-color shading compensation operation, is more than the one indicated where where each first is the test end of the been white here used in the solution of the second secon	level is to be compensated for back-side scanned images, thus addressing scanned image defects caused when scanning	
			3	в	16	0	256	1	-	by the value specified in this test mode, the base white level will be compensated for the said scanned images.	the back side of an original.	
E	21-6-076	COLOR PROFILE SELECTION	-		0	0	1	1	-	Selects what color profile data are to be applied to calibrate scanned image data for printing. 0: Standard one (originally prepared) 1: Custom one (personally prepared)	To change the color profile data to be applied in color calibration for printing.	This setting is not to be reset to the default one even when the test mode TM No. 21-4- 002 "SCANNER TEST PARAMETER CLEAR" is executed.
E	21-6-081	ACS COLOR PIXEL THRESHOLD -COPY	-	-	o	-11	85	1	-	Specifies an offset value to be applied to adjust a predefined threshold one for total color pixel count, based on which it is to be determined if scanned image data should be processed as color in the Copy mode. * The larger this parameter value is, the more likely scanned image data are to be processed as monochrome.	To adjust a predefined threshold value for total color pixel count based on which it is to be determined if scanned image data should be processed as color in the Copy mode, thus addressing related scanned image defects,	
E	21-6-082	ACS COLOR PIXEL THRESHOLD -SCAN	_	-	0	-11	85	1	-	Specifies an offset value to be applied to adjust a predefined threshold one for total color pixel count, based on which it is to be determined if scanned image data should be processed as color in the Scan mode. * The larger this parameter value is, the more likely scanned image data are to be processed as monochrome.	To adjust a predefined threshold value for total color pixel count based on which it is to be determined if scanned image data should be processed as color in the Scan mode, thus addressing related scanned image defects.	
E	21-6-083	ACS LUMI THRESHOLD OFFSET-COPY	_	-	0	-30	21	1	-	Specifies an offset value to be applied to adjust a predefined threshold one for luminance, based on which it is to be determined if scanned bluish or greenish image data should be processed as color in the Copy mode. * The larger this parameter value is, the more likely scanned light-bluish or light- greenish image data are to be processed as color.	To adjust a predefined threshold value for luminance based on which it is to be determined if scanned bluish or greensh image data should be processed as color in the Copy mode, thus addressing related scanned image defects.	
E	21-6-084	ACS LUMI THRESHOLD OFFSET-SCAN	_	-	0	-30	21	1	-	Specifies an offset value to be applied to adjust a predefined threshold one for luminance, based on which it is to be determined if scanned bluish or greenish image data should be processed as color in the Scan mode. * The larger this parameter value is, the more likely scanned light-bluish or light- greenish image data are to be processed as color.	To adjust a predefined threshold value for luminance based on which it is to be determined if scanned bluish or greensh image data should be processed as color in the Scan mode, thus addressing related scanned image defects.	
E	21-6-085	ACS ACHROMATIC COLOR1 OFFSET -COPY	_	-	0	-14	100	1	-	Specifies an offset value to be applied to adjust a predefined distance 1 from the achromatic axis, based on which it is to be determined if scanned image data should be processed as color in the Copy mode. * The larger this parameter value is, the more likely scanned image data are to be processed as monochrome.	To adjust a predefined distance 1 from the achromatic axis based on which it is to be determined if scanned image data should be processed as color in the Copy mode, thus addressing related scanned image defects.	
E	21-6-086	ACS ACHROMATIC COLOR1 OFFSET -SCAN	_	-	0	-14	100	1	-	Specifies an offset value to be applied to adjust a predefined distance 1 from the achromatic axis, based on which it is to be determined if scanned image data should be processed as color in the Scan mode. * The larger this parameter value is, the more likely scanned image data are to be processed as monochrome.	To adjust a predefined distance 1 from the achromatic axis based on which it is to be determined if scanned image data should be processed as color in the Scan mode, thus addressing related scanned image defects.	
E	21-6-087	ACS ACHROMATIC COLOR2 OFFSET -COPY	_	•	0	0	100	1	-	Specifies an offset value to be applied to adjust a predefined distance 2 from the achromatic axis, based on which it is to be determined if scanned bluish or greenish image data should be processed as color in the Copy mode. * The larger this parameter value is, the more likely scanned light-bluish or light- greenish image data are to be processed as color.	To adjust a predefined distance 2 from the achromatic axis based on which it is to be determined if scanned bluish or greensh image data should be processed as data should be processed as color in the Copy mode, thus addressing related scanned image defects.	
E	21-6-088	ACS ACHROMATIC COLOR2 OFFSET -SCAN	-	-	0	0	100	1	-	Specifies an offset value to be applied to adjust a predefined distance 2 from the achromatic axis, based on which it is to be determined if scanned bluish or greenish image data should be processed as color in the Scan mode. * The larger this parameter value is, the more likely scanned light-bluish or light- greenish image data are to be processed as color.	To adjust a predefined distance 2 from the achromatic axis based on which it is to be determined if scanned bluish or greenish image data should be processed as color in the Scan mode, thus addressing related scanned image defects.	

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
E	21-6-096	IMAGE THRESHOLD- LINE/DOT OFFSET VLU	-	-	0	-325	325	1	-	Specifies an offset value to be applied to adjust a predefined threshold for image types, based on which it is to be determined if scanned image data should be processed as lines (texts) or halftone dots. * The larger this parameter value is, the more likely scanned image data are to be processed as halftone dots.	To adjust a predefined threshold for image types based on which it is to be determined if scanned image data should be processed as lines (texts) or halftone dots, thus addressing related scanned image defects.	
E	21-6-097	IMAGE THRESHOLD- PHOTO/DOT OFFSET VLU	I	-	0	-45	45	1	-	Specifies an offset value to be applied to adjust a predefined threshold for image types, based on which it is to be determined if scanned image data should be processed as halftone dots or photos. * The larger this parameter value is, the more likely scanned image data are to be processed as photos.	To adjust a predefined threshold for image types based on which it is to be determined if scanned image data should be processed as halftone dots or photos, thus addressing related scanned image defects.	
E	21-6-101	SCAN BASIS DENSITY SELECTION	-		0	-2	2	1	-	Selects the base scanning density level to be applied when adjusting the scanning density in the Copy or Scan mode. * When this parameter value is decreased, scanned images will be lighter with lower scanning density, while they will be darker with higher scanning density when the said value is increased, even without changing the scanning density setting in the Copy or Scan mode.	To change the base scanning density level to be applied when adjusting the scanning density in the Copy or Scan mode.	
E	21-6-106	PLAIN BINARY THRESHOLD (FRONT SIDE)	-	-	0	-128	127	1	-	Adjusts a predefined threshold value for scanned data binarization, based on which it is to be determined if front-side scanned images should be processed as binary data in the Scan mode. * When the parameter value is decreased, text lines will be finer (lighter), while they will be thicker (darker) when the said value is increased.	To change a predefined threshold value for scanned data binarization to adjust the thickness of text lines in the Scan mode, thus addressing blurred or fattened text lines.	
			1	Duo / ED (Error diffusion)	4	1	7	1	-	Specifies the default value in the "Line/Photo Level" parameter in the "Image		
			2	Duo / DS (Dots)	4	1	7	1	-	Control' option in the Copy mode individually for the respective original types.		
			3	Line	4	1	7	1	-	-1: Duo / ED - Line/Photo with "Auto" for dot processing -2: Duo / DS - Line/Photo with haltone screen (70 or 100 lpi) for dot processing -3: Lina - Line texts		
E	21-6-111	DUO BASIS SET	4	Photo / ED (Error	4	1	7	1	-	4: Photo / ED - Photo with "Auto" for dot processing -5: Photo / DS - Photo with haltone screen (70 or 100 lpi) for dot processing -6: Man / ED - Maps with "Auto" for dot processing	To change the default value in the "Line/Photo Level" parameter in the "Image Control" option in the Copy mode for specific original types.	The parameter change is to take effect at the exit from
			5	Pnoto / DS (Dots)	4	1	7	1	<u> </u>	-7: Map / DS - Maps with haltone screen (70 or 100 lpi) for dot processing		the test mode.
		6	Map / ED (Error	6	1	7	1		It takes up to 10 seconds to save the parameter values specified in this test mode into the EEPROM on the scanner. Therefore, the current test mode			
		7	diffusion) Man / DS (Dots)	6	1	7	1		screen should be retained for 10 seconds at least after the said parameter setting change has been confirmed on the corresponding test mode window. Otherwise, the said parameter setting change will not be properly saved.			
				Duo			-			Specifies the default value in the "line/Photo Level" parameter in the "Image		
		DUO BASIS SET	1	(Line/Photo)	4	1	'	1	-	Control" option in the Scan mode individually for the respective original types. [Note]	To change the default value in the "Line/Photo Level" parameter in	The parameter change is to
E	21-6-112	-SCAN	2	Line	4	1	7	1	-	Invorei It takes up to 10 seconds to save the parameter values specified in this test mode into the EEPROM on the scanner. Therefore, the current test mode screen should be retained for 10 seconds at least after the said parameter setting change has been confirmed on the corresponding test mode window.	take effect at the exit from the test mode.	
			3	Photo	4	1	7	1	-	Otherwise, the said parameter setting change will not be properly saved.		
			1	Duo / CLR / ED (Error diffusion)	4	1	7	1	-	Specifies the default value in the "Edge Enhancement" parameter in the "Image Control" option in the Copy mode individually for the respective original types and cobre modes		
			2	Duo / CLR / DS (Dots)	4	1	7	1	-	<original color="" modes="" types=""></original>		
			3	Duo / MC / ED (Error diffusion)	4	1	7	1	-	-1: Duo / CLR / ED - Line/Photo with "Auto" for dot processing in full color print -2: Duo / CLR / DS - Line/Photo with haltone screen (70 or 100 lpi) for dot processing in full color print		
			4	Duo / MC / DS (Dots)	4	1	7	1	-	-3: Duo / MC / ED - Line/Photo with "Auto" for dot processing in monochrome (incl. mono-color) print		
			5	Line / CLR	5	1	7	1	-	-4. Duo / MC / DS - Line/Prioto with halione screen (/ of 100 ip) for dot processing in monochrome (incl. mono-color) print -5: Line / CLR- Line texts in full color print	To change the default value in the	
E	21-6-116	DEFAULT EDGE ENHANCEMENT	6	Line / MC	5	1	7	1	-	-6: Line / MC- Line texts in monochrome (incl. mono-color) print -7: Photo / CLR / ED - Photo with "Auto" for dot processing in full color print -8: Photo / CLR / DS - Photo with haltone screen (70 or 100 lni) for dot	"Edge Enhancement" parameter in the "Image Control" option in the Copy mode for specific	The parameter change is to take effect at the exit from
		-COPY	7	Photo / CLR / ED (Error diffusion)	1	1	7	1	-	processing in full color print -9: Photo / MC / ED - Photo with "Auto" for dot processing in monochrome	original types in the respective color modes.	the test mode.
			8	(Dots)	1	1	7	1	-	(Inc. Instru-2007) print -10: Photo / MC / DS - Photo with haltone screen (70 or 100 lpi) for dot processing in monochrome (incl. mono-color) print		
			9	(Error diffusion)	1	1	7	1	-	-11: Map / ED - Maps with "Auto" for dot processing -12: Map / DS - Maps with haltone screen (70 or 100 lpi) for dot processing		
			10	(Dots)	1	1	7	1	- [Note] It takes	[Note] It takes up to 10 seconds to save the parameter values specified in this test		
			11	diffusion)	6	1	7	1	-	screen should be retained for 10 seconds at least after the said parameter setting change has been confirmed on the corresponding test mode window.		
			12	Map / DS (Dots) Duo / Color	6	1	7	1	-	Otherwise, the said parameter setting change will not be properly saved.	e "Image types To change the default value in the	
			2	Duo / Gray	4	1	7	. 1	-	Specifies the default value in the "Edge Enhancement" parameter in the "Image Control" option in the Scan mode individually for the respective original types		
			3	Duo / Mono	4	1	7	1	-	and color modes.		
Е	21-6-117	DEFAULT EDGE ENHANCEMENT	+ 5	Line / Gray	7	1	7	1	-	Instel	in the "Image Control" option in the Scan mode for specific	The parameter change is to take effect at the exit from
		-SCAN	6	Line / Mono	7	1	7	1	-	[Note] It takes up to 10 seconds to save the parameter values specified in this test mode into the FEPROM on the scanner. Therefore, the current test mode	original types in the respective color modes.	the test mode.
		7 8	Photo / Color Photo / Grav	1	1	7	1	-	screen should be retained for 10 seconds at least after the said parameter setting change has been confirmed on the corresponding test mode window.	de color modes. ster idow.		
			9	Photo / Mono	1	1	7	1	-	Otherwise, the said parameter setting change will not be properly saved.		

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RISO SQUARE WEB VERSION

[17-128]

Test Modes

Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
			1	Duo / CLR / ED (Error diffusion)	4	1	7	1	-	Specifies the default value in the "Moire Emination" parameter in the "Image		
			2	Duo / CLR / DS (Dots)	4	1	7	1	-	and color modes.		
			3	Duo / MC / ED	4	1	7	1	-	<original color="" modes="" types=""> -1: Duo / CLR / ED - Line/Photo with "Auto" for dot processing in full color print 2: Duo / DLR / CD.</original>		
			4	Duo / MC / DS	4	1	7	1	-	-2: Duo / CLY / DS - Line/Photo with natione screen (// or 100 p) for dot processing in full color print -3: Duo / MC / ED - Line/Photo with "Auto" for dot processing in monochrome		
			5	(Dots)	1	1	7	1	_	(incl. mono-color) print -4: Duo / MC / DS - Line/Photo with haltone screen (70 or 100 lpi) for dot		
			-				'		-	processing in monochrome (incl. mono-color) print -5: Line / CLR- Line texts in full color print 5: Line (MC, Line texts in monochrome (incl. mono color) print	To change the default value in the	
Е	21-6-121	DEFAULT MOIRE REMOVE -COPY	6	Line / MC	1	1	7	1	-	-7: Photo / CLR / ED - Photo with "Auto" for dot processing in full color print -8: Photo / CLR / ED - Photo with haltone screen (70 or 100 lpi) for dot	the "Image Control" option in the Copy mode for specific original	The parameter change is to take effect at the exit from
			7	(Error diffusion)	4	1	7	1	-	processing in full color print -9: Photo / MC / ED - Photo with "Auto" for dot processing in monochrome	types in the respective color modes.	the test mode.
			8	Pnoto / CLR / DS (Dots)	4	1	7	1	-	(incl. mono-color) print -10: Photo / MC / DS - Photo with haltone screen (70 or 100 lpi) for dot		
			9	Photo / MC / ED (Error diffusion)	4	1	7	1	-	-11: Map / ED - Maps with "Auto" for dot processing -12: Map / DS - Maps with haltone screen (70 or 100 lpi) for dot processing		
			10	Photo / MC / DS (Dots)	4	1	7	1	-	[Note]		
			11	Map / ED (Error diffusion)	1	1	7	1	-	It takes up to 10 seconds to save the parameter values specified in this test mode into the EEPROM on the scanner. Therefore, the current test mode screen should be retained for 10 seconds at least after the said parameter		
			12	Map / DS (Dots)	1	1	7	1	-	Setting change has been confirmed on the corresponding test mode window. Otherwise, the said parameter setting change will not be properly saved.		
			1	Duo / Color	4	1	7	1	-			
			2	Duo / Gray	4	1	7	1	-	Specifies the default value in the "Moire Elimination" parameter in the "Image Control" option in the Scan mode individually for the respective original types		
			3	Duo / Mono	4	1	7	1	-	and color modes.	To shange the default value in the	
			4	Line / Color	1	1	7	1	-	* [Duo]: Line/Photo, [Mono]: Monochrome	"Moire Elimination" parameter in	The parameter change is to
Е	21-6-122	DEFAULT MOIRE REMOVE -SCAN	5	Line / Gray	1	1	7	1	-	[Note]	the "Image Control" option in the Scan mode for specific original	take effect at the exit from
			6	Line / Mono	1	1	7	1	-	It takes up to 10 seconds to save the parameter values specified in this test	types in the respective color	the test mode.
			7	Photo / Color	4	1	7	1	-	screen should be retained for 10 seconds at least after the said parameter	nodes.	
			8	Photo / Gray	4	1	7	1	-	setting change has been confirmed on the corresponding test mode window. Otherwise, the said parameter setting change will not be properly saved.		
			9	Photo / Mono	4	1	7	1	-	· · · · · · · · · · · · · · · · · · ·		
			1	Color	0	0	7	1	-	Specifies the default value in the "Base Color Level" option in the Copy mode for the respective color modes. * When "0" is specified here, "Auto" is selected as default value in the said option.	To change the default value in the	The parameter change is to
E	21-6-131	DEFAULT MANUAL BASE CUT -COPY	2	Monochrome (Incl. Mono-color)	0	0	7	1	-	[Note] It takes up to 10 seconds to save the parameter values specified in this test mode into the EEPROM on the scanner. Therefore, the current test mode screen should be retained for 10 seconds at least after the said parameter setting change has been confirmed on the corresponding test mode window. Otherwise, the said parameter setting change will not be properly saved.	To change the default value in the "Base Color Level" option in the Copy mode in the respective color modes.	take effect at the exit from the test mode.
			1	Color	0	0	7	1	-	Specifies the default value in the "Base Color Level" option in the Scan mode for the respective color modes. * When "0" is specified here. "Auto" is selected as default value in the said		
E	21-6-132	DEFAULT MANUAL BASE CUT -SCAN	2	Gray	0	0	7	1	-	[Note] It takes up to 10 seconds to save the parameter values specified in this test mode into the FEPROM on the scamer. Therefore, the current test mode	To change the default value in the "Base Color Level" option in the Scan mode in the respective color modes.	The parameter change is to take effect at the exit from the test mode.
			3	Monochrome	0	0	7	1	-	screen should be retained for 10 seconds at least after the said parameter setting change has been confirmed on the corresponding test mode window. Otherwise, the said parameter setting change will not be properly saved.		
E	21-6-136	ABC FREQ THRESHOLD 1 - MONOCHROME	_	-	80	0	255	1	-	Specifies the threshold color frequency value 1 based on which the base color of an original is to be eliminated in scanned original data when "Auto" is selected in the "Base Color Level" option with the color mode set at "Monochrome." * With an original whose size is smaller than a standard one, the base color may not be eliminated as expected through the auto base color elimination function in monochrome scanning. In such a case, it could be eliminated by increasing the parameter value in this test mode, though a white base might be picked up as base color in scanned data if the said value is increased too much.	To adjust the threshold color frequency value 1 to eliminate undesirable base color from scanned original data while selecting "xuto" in the "Base Color Level" option in monochrome scanning.	
E	21-6-137	ABC FREQ THRESHOLD 2 - MONOCHROME	_	-	120	0	255	1	-	Specifies the threshold color frequency value 2 based on which the base color of an original is to be eliminated in scanned original data when "Auto" is selected in the "Base Color Level" option with the color mode set at "Monochrome." * With a full-picture original, the base color may be eliminated unexpectedly through the auto base color elimination function in monochrome scanning. In such a case, the said unexpected base color elimination could be prevented by increasing the parameter value in this test mode, though a darker base color might not be eliminated in scanned data if the said value is increased too much.	To adjust the threshold color frequency value 2 to prevent unexpected base color elimination from scanned original data while secting "Auto" in the "Base Color Level" option in monochrome scanning.	
E	21-6-138	ABC DENSITY BORDER - MONOCHROME	-	-	20	0	31	1	-	Specifies the threshold color density level based on which the base color of an original is to be eliminated in scanned original data when "Auto" is selected in the "Base Color Level" option with the color mode set at "Monochrome." * When the parameter value is decreased, a lighterr base color of a scanned original will be eliminated.	To adjust the threshold color density level to eliminate undesirable base color from scanned original data while selecting "Auto" in the "Base Color Level" option in monochrome scanning.	

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
E	21 6 120		1	Color	0	-64	64	1	-	Specifies an offset value to be applied to adjust a predefined base color elimination range when "Auto" is selected in the "Base Color Level" option individually for the respective color modes.	To change the base color elimination range under the auto	
E	21-0-139	ADC OFFSET	2	Monochrome (Incl. Mono-color)	0	-64	64	1	-	* When the parameter value is increased, the base color elimination range will be wider under the auto base color elimination mode, while it will be narrower under the same condition when the said value is decreased.	base color elimination mode for the respective color modes.	
E	21-6-140		1	Color	0	0	127	1	-	Specifies a beta offset value to be applied to adjust a predefined base highlight color gradation expression when "Auto" is selected in the "Base Color Level" option individually for the respective color modes.	To change the base highlight color gradation expression under the auto hase color elimination.	
L	21-0-140		2	Monochrome (Incl. Mono-color)	40	-128	127	1	-	* When the parameter value is increased, the base highlight color gradation expression will be smoother under the auto base color elimination mode, while it will be sharper under the same condition when the said value is decreased.	mode for the respective color modes.	
E	21-6-141	ORIGINAL DETECT THRESHOLD 1	-	-	32	15	32	1	-	Specifies the threshold value for the calculated light reflection volume based on which it is determined if an original is placed on the Stage glass of the scanner. * When the parameter value is increased, an original detection failure attributable to extraneous light will be better prevented. [Note] The parameter value in this test mode is to be applied only when the Original pattern adjustment mode is disabled in the test mode No. 21-6-173 "ORIGINAL PATTERN ADJUST ON/OFF."	To address original detection faikres attributable to exraneous light for an original placed on the Stage glass of the scanner.	
E	21-6-142	ORIGINAL DETECT THRESHOLD 2		-	100	100	150	1	-	Specifies the threshold value for the calculated detection time margin based on which it is determined if an original is placed on the Stage glass of the scanner. * When the parameter value is increased, more time margin will be reserved to confirm original placement after the AF (Auto Feeder) unit is dosed on an original placed on the Stage glass, thus leading an thin original, like a translucent sheet, to be better detected. [Note] The parameter value in this test mode is to be applied only when the Original displacement prevention mode is disabled in the test mode No. 21-6-172 "ORIGINAL DISPLACEMENT AVOID ON/OFF."	To address original detection faikures attributable to less detection time margin for an original placed on the Stage glass of the scanner.	
F	21 6 151	MANUAL BASE CUT	1	Color	0	-64	64	1	-	Specifies an offset value to be applied to adjust a predefined base color elimination range when any specific parameter is manually selected in the "Base Color Level" option individually for the respective color modes.	To change the base color elimination range under a specific	
E	21-0-131	OFFSET	2	Monochrome (Incl. Mono-color)	0	-64	64	1	-	* When the parameter value is increased, the base color elimination range will be wider under the selected specific base color elimination level, while it will be narrower under the same condition when the said value is decreased.	base color elimination level for the respective color modes.	
		MANUAL BASE CUT	1	Color	0	-128	127	1	-	Specifies a beta offset value to be applied to adjust a predefined base highlight color gradation expression when a specific parameter is manually selected in the "Base Color Level" option individually for the respective color modes.	To change the base highlight color gradation expression under	
E	21-6-152	BETA OFFSET	2	Monochrome (Incl. Mono-color)	0	-128	127	1	-	* When the parameter value is increased, the base highlight color gradation expression will be smoother under the selected specific base color elimination level, while it will be sharper under the same condition when the said value is decreased.	a specific base color elimination level for the respective color modes.	
E	21-6-161	TEST MODE PRINT -RESOLUTION	I	-	0	0	3	1	-	Selects the scanning resolution to be applied in the following test modes. - TIM No. 21-3-011"AF SCAN 1 CYCLE" / "FB SCAN REPEAT CYCLE" - TIM No. 21-3-021 "SCANREPEAT CYCLE" - TM No. 21-3-021 "SCANNER TEST PATTERN PRINT" 0: 300 dpi x 300 dpi 1: 300 dpi x 600 dpi 3: 600 dpi x 600 dpi * For the test mode TM No. 21-3-021, the parameters "0" and "1" are only applicable. If the parameter "2" or "3" is selected here, therefore, the parameter "0" will be applied in the said test mode instead.	To change the scanning resolution to be applied in the corresponding test modes.	
E	21-6-162	TEST MODE PRINT -SCAN SIZE	_	-	0	0	18	1	-	Selects the scanning size to be applied in the following test modes. - TM No. 21-3-001/-002 "FB SCAN 1 CYCLE" / "FB SCAN REPEAT CYCLE" - TM No. 21-3-021 "SCANNER TEST PATTERN PRINT" O: A3 / 1: B4 / 2: A4 / 3: A4R (LEF) / 4: B5 / 5: B5R (LEF) / 6: A3W (303 mm x 432 mm) / 7: Foolscap / 8: Ledger / 9: Legal / 10: Letter / 11: Letter-R (LEF) / 12: Statement / 13: Statement-R (LEF) / 14: A5 / 15: A5R (LEF) / 16: B6 / 17: B6R (LEF) / 18: Postcard * A3W (303 mm x 432 mm) is the maximum range that the scanner is able to scan.	To change the scanning size to be applied in the corresponding test modes.	
E	21-6-163	TEST MODE PRINT -AF SCAN SPLX/DPLX	_	-	0	0	1	1	-	Selects the original scanning side in the test modes in which the AF (Auto Feeder) unit is to be used, including TM No. 21-3-011 "AF SCAN REPEAT CYCLE." 0: Front side only 1: Both front and back sides	To change the original scanning side in the corresponding test modes in which the AF unit is used.	

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
E	21-6-171	SCANNER ORIGINAL SIZE DETECT POS	-	-	20	20	50	1	mm	Adjusts the position, i.e. the distance from the Original guide. at which the width of an original placed on the Stage glass of the scanner is to be detected by the corresponding sensors. * When the parameter value is increased, the said detection position will be farther from the Original guide, thus ensuring proper detection of original width.	To adjust the position at which the width of an original placed on the Stage glass of the scanner is to be detected.	
E	21-6-172	ORIGINAL DISPLACEMENT AVOID ON/OFF	-	-	0	0	1	1	-	Selects whether to enable the Original displacement prevention mode for an original placed on the Stage glass of the scanner when the AF (Auto Feeder) unit is closed. 0: Disabled 1: Enabled	To enable the Original displacement prevention mode for an original placed on the Stage glass of the scanner when the AF (Auto Feeder) unit is closed.	
E	21-6-173	ORIGINAL PATTERN ADJUST ON/OFF	-	-	0	0	1	1	-	Selects whether to enable the Original pattern adjustment mode for an original placed on the Stage glass of the scanner when the AF (Auto Feeder) unit is half opened. 0: Disabled 1: Enabled	To enable the Original pattern adjustment mode for an original placed on the Stage glass of the scanner when the AF (Auto Feeder) unit is half opened.	
E	21-6-175	ADF LIFT DETECT MODE SELECT	_	-	2	0	2	1	-	Selects whether to detect if the AF (Auto Feeder) unit is lifted up with a book- type original underneath. 0: Not to be detected 1: To be detected without original size indication 2: To be detected with original size indication	To change or cancel the current setting for detecting if the AF unit is lifted up with a book-type original underneath.	
-	24 6 476	CUSTOM SIZE	1	mm	120	100	148	1	mm	Specifies the threshold original width based on which it is determined if the orginal placed on the Stage glass or AF (Auto Feeder) unit of the scanner is a	To change the threshold original width based on which it is	
E	21-0-176	READ UPPER	2	inch	120	100	140	1	mm	Custom-format one for metric and inch units respectively. * The original whose width is less than the parameter value here is regarded as a custom-format one.	placed on the scanner is a custom-format one.	
E	21-6-181		-	-	0	0	2	1	-	Selects the light volume (intensity) of the power LED light (blue) on the front panel of the scanner unit. 0: 100% 1: 70% 2: 50%	To reduce the light volume (intensity) of the power LED light (blue) on the front panel of the scanner unit.	
Face	down finishe	r										
E	24-6-001	FDF REVERSE ROLLER SPEED	I	-	0	-50	50	1	mm/s	Adjusts the base rotation speed of the FDF Reverse roller (FDF Reverse motor), which is to be changed according to operational conditions. * When the rotation speed of the said roller is assumed to exceed a predefined maximum value, i.e. 333mm/s, it will be kept at the maximum one, while it will be kept at a predefined minimum one, i.e. 233mm/s, when it is assumed to go down below the said level.	To adjust the rotation speed of the FDF Reverse roller.	
E	24-6-002	FDF TRANF ROLLER MOTOR 1 SPEED ADJ	_	-	0	-50	50	1	mm/s	Adjusts the base rotation speed of the FDF Reception roller (FDF Entrance motor), which is to be changed according to operational conditions. * When the rotation speed of the said roller is assumed to exceed a predefined maximum value, i.e. 1671mm/s, it will be kept at the maximum one, while it will be kept at a predefined minimum one, i.e. 268mm/s, when it is assumed to go down below the said level.	To lead the FDF Entrance roller to rotate in pace with the speed of ejecting a printed sheet from a printer.	
E	24-6-003	FDF TRANF ROLLER MOTOR 2 SPEED ADJ	I	-	0	-50	50	1	mm/s	Adjusts the base rotation speed of the FDF Transfer roller (FDF Transfer motor), which is to be changed according to operational conditions. * When the rotation speed of the said roller is assumed to exceed a predefined maximum value, i.e. 1671mm/s, it will be kept at the maximum one, while it will be kept at a predefined minimum one, i.e. 268mm/s, when it is assumed to go down below the said level.	To lead the FDF Transfer roller to rotate in pace with the preceding and subsequent rollers.	
E	24-6-004	FDF TRANSPORT MOTOR SPEED ADJUST	I	-	0	-50	50	1	mm/s	Adjusts the base rotation speed of the FDF Entrance and Finishing rollers (FDF Finishing motor), which is to be changed according to operational conditions. * When the rotation speed of the said rollers is assumed to exceed a predefined maximum value, i.e. 700mm/s, it will be kept at the maximum one, while it will be kept at a predefined minimum one, i.e. 268mm/s, when it is assumed to go down below the said level.	To lead the FDF Entrance and Finishing rollers to rotate in pace with the preceding and subsequent rollers.	
E	24-6-005	FDF EJECTION MOTOR SPEED ADJUST	I	-	0	-50	50	1	mm/s	Adjusts the base rotation speed of the FDF Paper ejection roller (FDF Paper ejection motor), which is to be changed according to operational conditions. * When the rotation speed of the said roller is assumed to exceed a predefined maximum value, i.e. 700 mm/s, it will be kept at the maximum one, while it will be kept at a predefined minimum one, i.e. 268mm/s, when it is assumed to go down below the said level.	To address poor alignment of sheets stacked on the FDF Paper stacking tray.	
Е	24-6-008	FDF TRAY DOWN TIMING ADJUST	_	-	0	0	50	1	ms	Adjusts the interval at which the FDF Paper stacking tray is to be lowered after the Stacking tray upper limit sensor has been blocked.		
E	24-6-009	FDF PAPER PITCH ADJ (SHIFT)	-	-	0	0	50	1	ms	Adjusts the interval (pitch) at which printed sheets are to be ejected onto the FDF Paper stacking tray during offset stacking operation.		
E	24-6-010	FDF SHIFT TIMING ADJUST	_	-	0	0	50	1	ms	Adjusts the interval at which the FDF Paper stacking tray is to be shifted back and forth during offset stacking operation.	To delay the timing to shift the FDF Paper stacking tray back and forth during offset stacking operation.	

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
E	24-6-014	FFDF 1ST PRINT DELAY SET	I	-	0	0	5000	1	ms	Specifies how long the time to start feeding the initial sheet should be delayed in a print job on a printer, thus providing an extra time to lead the FDF Paper stacking tray to be shifted up into place, excluding when the said tray is already set in place.	To address a sheet stacking error on the FDF Paper stacking tray due to an improper position of the said tray at the start of a print job.	
E	24-6-019	FDF CARD FEED (NON STAPLE)	-	-	0	0	50	1	sets	Specifies the number of stacked sheet sets per which their stacking level is to be checked to secure their orderly alignment when stacking thicker sheets without stapling on the FDF Paper stacking tray. * When the parameter value is set at "0" in this test mode, the stacking level will not be periodically checked even when stacking thick sheets.	To address untidy non-stapled stacking of thicker sheets on the FDF Paper stacking tray.	
E	24-6-021	FDF LOAD CAPACITY LIMIT SELECT (B5)	I	-	0	0	1	1	-	Selects whether to limit the number of sheets which can be stacked without stapled on the FDF Paper stacking tray when printing on custom-format sheets or sheets whose format is smaller than B5. * Registered-format sheets are also regarded as custom ones. 0: To be limited (100 sheets at a maximum) 1: Not to be limited		
E	24-6-022	FDF FULL DETECTION COUNT	-	-	55	1	1001	1	sets	Specifies the number of stapled sheet sets with which the FDF Paper stacking tray is assumed to be full, thus indicating the corresponding notification code. * When the parameter value is set at "1001," the said notification will not be provided based on the number of stapled sheet sets.		
Е	24-6-025	FDF GUIDE PLATE POSITION	-	-	0	-5	5	1	mm	Adjusts the distance between the Paper alignment plates on the FDF Stapler buffer tray.	To address poor alignment of stapled sheets on the FDF.	
			1	Simplex-Large	0	-100	100	1	mm/s			
			2	Simplex-Small	0	-100	100	1	mm/s			
			3	Simplex-Large / THK (Thick)	0	-100	100	1	mm/s	Adjusts the speed at which sheets are to be ejected without stapled onto the FDF Paper stacking tray, individually for the respective print modes (simplex or		
			4	Simplex-Small / THK (Thick)	0	-100	100	1	mm/s	duplex) and sheet formats.		
Е	24-6-026	FDF EJECTION	5	Simplex-ENV	0	-100	100	1	mm/s	<sheet formats=""> - Large: A4-SEF or larger</sheet>	To address poor alighment of sheets stacked without stapled	
			6	(Envelope) Duplex-Large	0	-100	100	1	mm/s	- Small: Smaller than A4-SEF	on the FDF Paper stacking tray.	
			7	Duplex-Small	0	-100	100	1	mm/s	* The said energy can be adjusted senarately for thicker-type sheets		
			8	Duplex-Large / THK (Thick)	0	-100	100	1	mm/s	The said speed can be adjusted separately for unioker-type sheets.		
			9	Duplex-Small / THK	0	-100	100	1	mm/s			
			1	(Thick) Simplex-Large	0	-50	50	1	mm/s			
			2	Simplex-Small	0	-50	50	1	mm/s			
			3	Simplex-Large / THK (Thick)	0	-50	50	1	mm/s	Adjusts the speed at which the sheets ejected from a printer are to be received		
			4	Simplex-Small /	0	-50	50	1	mm/s	sheet formats.	T	
Е	24-6-027	FDF SPEED	5	Simplex-ENV	0	-50	50	1	mm/s	<sheet formats=""></sheet>	errors at the entrance of the FDF	
		ADJUST	6	(Envelope) Duplex-Large	0	-50	50	1	mm/s	- Large: A4-SEF of larger - Small: Smaller than A4-SEF	types in specific paper formats or types in specific print modes.	
			7	Duplex-Small	0	-50	50	1	mm/s	- Envelope		
			8	Duplex-Large / THK (Thick)	0	-50	50	1	mm/s	The said speed can be adjusted separately for thicker-type sheets.		
			9	Duplex-Small / THK (Thick)	0	-50	50	1	mm/s			
			1	Rear	0	-3	3	1	mm	Adjuste the steple position in the secondative stepling modes on the FDF		
_	24 6 029	FDF STAPLE	2	Front		2	2			Augusts the scaple position in the respective stapping modes on the ribr.		
	24-0-020	POSITION ADJUST	2	FIOIL	U	-3	3	-		the rear side, while it will be shifted to the front side when the said value is decreased		
			3	Center	0	-3	3	1	mm			
Е	24-6-029	FDF TRAY DOWN TIMING ADJUST	1	Thick	0	-5	5	1	sheets	Adjusts the number of specific-type sheets, i.e. thicker sheets or envelopes, to be ejected onto the FDF Paper stacking tray, per which the said tray is to be burgered	To address paper stacking jam or poor paper stacking alignment	
		(FAPEK)	2	Envelope	0	-5	5	1	sheets	iuweieu.	on the רטר Paper stacking tray.	
E	24-6-030	FDF EJECTION ROLLER DOWN	1	Normal (Standard)	0	-50	50	1	ms	Adjusts the timing to lower the FDF Paper ejection ro∎er to nip sheets to be stanled on the FDF Stanler buffer trav	To address misregistration of stanled sheets on the EDE	
		TIMING ADJ	2	Thick	0	-50	50	1	ms			
Auto-	control stack	ing tray				1						
E	25-6-001	AS SIDE-FENCE HP CORRECT	I	-	0	-500	500	1	0.1mm	Adjusts the general base position of the AS Paper side guides on the Auto- control stacking tray. * When the parameter value is increased, the distance between the said guides will be wider, while it will be narrower when the said value is decreased.	To widen or narrow the distance between the AS Paper side guides on the Auto-control stacking tray.	
E	25-6-002	AS SIDE-FENCE HP POST CARD CORRECT	_	-	0	-500	500	1	0.1mm	Adjusts the postcard-specific base position of the AS Paper side guides on the Auto-control stacking tray. * When the parameter value is increased, the distance between the said guides will be wider, while it will be narrower when the said value is decreased.	To widen or narrow the distance between the AS Paper side guides on the Auto-control stacking tray specifically for postcards.	
E	25-6-003	AS END-FENCE HP CORRECT	_	-	0	-500	500	1	0.1mm	Adjusts the general base position of the AS Paper end guide on the Auto- control stacking tray. * When the parameter value is increased, the said guide will be retreated, while it will be advanced when the said value is decreased.	To retreat or advance the AS Paper end guide from the current position on the Auto-control stacking tray.	

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Test Modes

Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
										Adjusts the postcard-specific base position of the AS Paper end quide on the	To retreat or advance the AS	
F	25-6-004	AS END-FENCE HP	_	_	0	-500	500	1	0.1mm	Auto-control stacking tray.	Paper end guide from the current	
-	25-0-004	CORRECT	_	-	Ū	-500	500		0.1mm	* When the parameter value is increased, the said guide will be retreated, while	stacking tray specifically for	
										It will be advanced when the said value is decreased.	postcards.	
			1	Normal (Standard)	-40	-200	400	1	0.1mm			
			3	Thick	-40	-200	400	1	0.1mm		To usidous as many using distances	
		AS SIDE-FENCE	4	Post Card	-40 -40	-200	400	1	0.1mm	position on the Auto-control stacking tray for the respective paper types.	between the AS Paper side	
E	25-6-006	OFFSET	6	(Card Stock) U1	-40	-200	400	1	0.1mm	* When the parameter value is increased, the distance between the said guides	guides on the Auto-control stacking tray for specific paper	
			7	U2 U3	-40 -40	-200 -200	400 400	1	0.1mm 0.1mm	will be wider, while it will be narrower when the said value is decreased.	types.	
			9 10	U4 U5	-40 -40	-200 -200	400 400	1	0.1mm 0.1mm			
			11	LW Paper Normal (Standard)	-40 0	-200 -300	400 300	1	0.1mm 0.1mm			
			2	Thin	0	-300	300	1	0.1mm			
			4	Envelope Dest Cord	Ö	-300	300	1	0.1mm	Adjusts the alignment shift range of the AS Paper end guide from the base	To retreat or advance the AS	
Е	25-6-007	AS END-FENCE	5	(Card Stock)	0	-300	300	1	0.1mm	position on the Auto-control stacking tray for the respective paper types.	position on the Auto-control	
		OTT GET	6	U1 U2	0	-300 -300	300	1	0.1mm 0.1mm	* When the parameter value is increased, the said guide will be retreated, while it will be advanced when the said value is decreased.	stacking tray for specific paper types.	
			8 9	U3 U4	0	-300 -300	300 300	1	0.1mm 0.1mm			
			10 11	U5 LW Paper	0	-300 -300	300 300	1	0.1mm 0.1mm			
Е	25-6-011	AS SIDE-FENCE	_	-	2970	1060	3380	1	0.1mm	Specifies the position to which the AS Paper side guides are to be shifted when		
		POSITION								the test mode 1 m No. 25-3-002 AS SIDE-FEINCE COSTOM is executed.		
F	25-6-012	AS END-FENCE		_	4200	1080	4320	1	0.1mm	Specifies the position to which the AS Paper end guides are to be shifted when		
-	20-0-012	POSITION		-	4200	1000	4020		0.11111	the test mode TM No. 25-3-004 "AS END-FENCE CUSTOM" is executed.		
Coin/C	ard vendor											
										Selects whether to enable the data communication line to an external device to		
										be connected to a printer.	To enable the operation with an	 The parameter change is to take effect at reboot.
Е	26-6-001	VENDOR CONNECTION	-	-	0	0	3	1	-	0: Disabled (No external-device-related menu nor error code to be displayed) 1: Enabled (For Coin/Card vendor)	external device connected to a	- This parameter setting is to
										2. Enabled (For 3rd-party print control device)	printer.	control PCB on a printer.
										3. Enabled (For 3rd-party finishing device)		
										Selects whether to charge for prints made through a connected 3rd-party print		
										control device.		Copy jobs may be
-		PRINT COUNT			•					0: Not to be charged 1: To be charged	To charge for prints to be made	chargeable through some 3rd-party print control
-	20-0-003	CONTROL	_	-	U	0			-	[Note]	device.	devices even when print jobs can be executed without
										When the parameter value is set at "0" (No authentication) in the test mode TM		charge with them.
										without charge regardless of the parameter setting in this test mode.		
										Selects whether to require authentication to print through a 3rd-party print		
										control device.	To allow a print job to be	Print jobs are to be authenticated through an
-	26.6.004	PRINT CTRL	_		1	0	1	1		0: No authetication required	executed without authentication through a 3rd-party print control	external authentication device, thus requiring no
-	20-0-004	AUTHENTICATION	_	-	I	U			-	T: Authentication to be required	device when an external authentication device is	authentication from a 3rd- party print control device, if
										* This parameter setting will take effect only when the parameter value is set at "2" (Enabled for 3rd-party print control device) in the test mode TM No. 26-6-	connected as well.	both devices are connected
										001 "VENDOR CONNECTION."		to a printer.
IC Car	d authentica	tion kit										
										Enters the initial 4 digits of a 12-digit key code to enable the IC card authentication kit.		
										[Note] 1. The key code is printed on the license partitionto contained in the IC cond	To enter the initial 4 digits of a	
Е	27-6-001	1	-	-	0000	0000	9999	1	-	authentication kit.	12-digit key code to enable the C card authentication kit.	
										The first four digits are random numbers and the last eight digits are the serial number of the said kit.		
										3. When a∎ 12 digits are entered in the corresponding test modes, the said kit is to be enabled.		
										<u> </u>		
										Enters the middle 4 digits of a 12-digit key code to enable the IC card authentication kit.		
										[Note]	To enter the middle 4 digits of a	
Е	27-6-002	IC CARD KEY CODE 2	-	-	0000	0000	9999	1	-	 The key code is printed on the license certificate contained in the IC card authentication kit. 	12-digit key code to enable the	
										The first four digits are random numbers and the last eight digits are the serial number of the said kit.	o oaru auureniidaiion Kit.	
										3. When a∎ 12 digits are entered in the corresponding test modes, the said kit is to be enabled.		
										· · · · · · · · · · · · · · · · · · ·		
										Enters the last 4 digits of a 12-digit key code to enable the IC card		
										auurenucation Kit.		
F	27-6-003	IC CARD KEY CODE	_	<u>_</u>	0000	0000	9999	1	-	1. The key code is printed on the license certificate contained in the IC card	To enter the last 4 digits of a 12- digit key code to enable the IC	
	2. 0 000	3			3000		2000			authentication kit. 2. The first four digits are random numbers and the last eight digits are the	card authentication kit.	
										serial number of the said kit. 3. When all 12 digits are entered in the corresponding test modes, the said kit		
										is to be enabled.		
L			L						1		1	I

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Туре	No.	Test mode name	No.	Туре	Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
										Selects a type of IC cards to be applied.		
E	27-6-004	IC CARD CONFIG	_	-	O	0	11	1	-	0: The one with a config file applied (*1) [1: Felica (Edy card with 16-digit ID code) - in Japan only] [2: Type B (eLWISE card with 10-digit ID code) - in Japan only] 3: Felca (FCF campus card with 12-digit ID code) 4: Felca (FCF card with 14-digit ID code) 5: Felca (General ones with 8-digit ID code (IDm)) 6: Type B (General ones with 8-digit ID code (PUPI)) (*2) 7: Type A (General ones with 8-digit ID code (PUPI)) [3: Reserved> [3: Felca (MACN card with 16-digit ID code) - in Japan only] [3: Felca (MACN card with 16-digit ID code) - in Japan only] [4: Type B (eLWISE card with 16-digit ID code) - in Japan only] [1: Type B (eLWISE card with 16-digit ID code) - in Japan only] [Note] *1: This type is only available when the printer is configured for IC Card authentication in the test mode TM No. 27-3-001 "AUTHENTICATION SERVER CONFIG IMPORT."	To change a type of IC cards to be applied.	
E	27-6-005	IC CARD READER	_	-	0	0	3	1	-	Selects a type of IC card reader to be applied. 0: SAXA models 1: Sony PaSoRi (RC-S330/S) 2: Sony PaSoRi (RC-S380/S) 3: HD standard driver models [Note] This test mode is only accessible through a direct key entry of the corresponding number, without its item name displayed in the test mode list.	To change a type of IC card reader to be applied,	
rapei												
E	28-6-001	PAPERCUT LIST RENEWAL CYCLE	-	-	30	5	60	1	sec	Specifies the interval at which the stored job list is to be updated in PaperCut.	To extend the update interval of the PaperCut job list, thus alleviating the communication load on the network.	
High (Capacity Fee	der										
Е	29-6-001	HCF SERIAL NO. SET	-	-	0	0	32500	1	-	Registers the serial number of the High-capacity feeder.	To register the serial number of the High-capacity feeder.	
E	29-6-003	HCF P-FEED TRAY WIDTH MM/INCH SELECT	_	-	0	0	1	1		Selects the measurement unit (metric or inch) to be applied when detecting the width of sheets loaded on the Paper feed tray of the High-capacity feeder. 0: Metric 1: Inch	To select the measurement unit to be applied when detecting the width of sheets loaded on the Paper feed tray of the High- capacity feeder.	
E	29-6-006	HCF JAM DETECTION SELECT	-	-	1	0	1	1	-	Selects whether to disable the detection of paper feed errors and multiple paper feed on the High-capacity feeder. 0: Disabled 1: Enabled		
E	29-6-007	HCF EXTL PF MOTOR SELECT (REGI SNSR)	_	-	1	0	1	1	-	Selects whether to delay the suspension timing of the External paper feed motor and Registration motor when a sheet feeding from the High-capacity feeder has not reached the Registration sensor or the Top edge sensor 1 in a printer within a predefined amount of time. 0: Suspension timing to be delayed 1: Suspension timing not be delayed (regular sequence)	To lead a jammed sheet, which may stay before or under the Registration roller, to feed further beyond the said roller, thus facilitating its removal from inside a printer, especially when using smal-format sheets.	
E	29-6-011	HCF UPPER/LOWER SNSR DET ALARM SEL	-	-	1	0	1	1	-	Selects whether to prevent a warning beep from sounding when the Paper feed tray upper and lower limit sensors are both blocked on the High-capacity feeder at the start of a print job. 0: No beep sound 1: With beep sound	To prevent a beep, which may be annoying, from sounding when the Paper feed tray upper and lower limit sensors are both blocked on the High-capacity feeder at the start of a print job.	The preparatory downward shift of the Paper feed tray is to be skipped during its positioning at the start of a print job when the Paper feed tray upper and lower limit sensors are both blocked on the High-capacity feeder.
E	29-6-012	HCF ELEVATOR UPPER POS PARAMETER	1	-	77	38	3840	1	-	Adjusts the start-up response speed of the HCF Paper feed tray elevator motor to reposition the Paper feed tray on the High-capacity feeder during feeding sheets loaded there in a print job.		
E	29-6-013	HCF UPPER LIMIT DET SELECT (CUSTOM)	-	-	0	0	2	1	-	Selects what sensor to be applied to detect the top level of a stack of custom- format sheets loaded on the Paper feed tray on the High-capacity feeder. 0: HCF Paper feed tray upper limit sensor (Standard) or (Card), which depends on paper type setting. 1: HCF Paper feed tray upper limit sensor (Standard) 2: HCF Paper feed tray upper limit sensor (Card)	To specify the sensor to be applied to detect the top level of a stack of sheets loaded on the Paper feed tray to address poor sheet feed conditions when printing on custom-format sheets,	
E	29-6-014	HCF UPPER LIMIT DET SELECT (ENV)	-	-	0	0	2	1	-	Selects what sensor to be applied to detect the top level of a stack of envelopes loaded on the Paper feed tray in the High-capacity feeder. 0: HCF Paper feed tray upper limit sensor (Standard) or (Card), which depends on paper type setting. 1: HCF Paper feed tray upper limit sensor (Standard) 2: HCF Paper feed tray upper limit sensor (Card)	To specify the sensor to be applied to detect the top level of a stack of sheets loaded on the Paper feed tray to address poor sheet feed conditions when printing on envelopes.	
			1	Normal (Standard) Thin	1	0	2	1	-			
			3	Thick	1	0	2	1	-	Selects the upper limit level until which a stack of sheets loaded on the Paper		
			4 5	Envelope Post Card	U 1	0	2	1	-	reed tray is to be elevated in the High-capacity feeder for the respective paper types.		
E	29-6-016	DETECT SELECT	6	(Card Stock) U1	1	0	2	1		0: Higher		
			7	U2 U3	1	0	2	1	-	1: Standard		
			9	U4 U5	1	0	2	1	-	12. LUWEI		
			11	LW Paper		Ő	2	1	-			

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
E	29-6-026	HCF NIP RELEASE MOTOR RELEASE POS	I	-	0	-1000	1000	1	pulse	Adjusts the timing to relieve the nipping pressure by the HCF Paper feed roller, which is to be lowered by the Joint nip release motor, on the High-capacity feeder.	To address skewed printed images due to poor sheet registration when feeding from the High-capacity feeder.	
E	29-6-027	HCF NIP RELEASE MOTOR NIP POSITION	1	-	0	-1000	1000	1	pulse	Adjusts the timing to apply the nipping pressure with the HCF Paper feed roller, which is to be raised by the Joint nip release motor, on the High≻capacity feeder.	To address paper feed errors due to poor sheet delivery when feeding from the High-capacity feeder.	
Е	29-6-031	HCF PAPER PITCH SET	-	-	600	600	9999	1	0.1msec	Extends the interval (pitch) at which sheets feed from the Paper feed tray on the High-capacity feeder.	To allow longer sheets to feed from the High-capacity feeder.	
E	29-6-032	HCF PICKUP ROLLER SPEED ADJUST	-	-	0	-300	300	1	mm/s	Adjusts the rotation speed of the HCF Pickup roller on the High-capacity feeder.		
E	29-6-033	HCF INTERM TRANSFER ROLLER SPEED ADJ	I	-	0	-300	300	1	mm/s	Adjusts the rotation speed of the HCF intermediate feed roller on the High- capacity feeder.		
Е	29-6-034	HCF INTERFACE ROLLER SPEED ADJUST	1	-	0	-300	300	1	mm/s	Adjusts the rotation speed of the HCF Pre-registration roller on the High- capacity feeder.		
E	29-6-035	HCF PICKUP DRIVE TRANSFER RATIO SET	-	-	70	60	130	1	0.01	Adjusts the feeding range of the HCF Pickup roller, i.e. the operation period of the HCF Pickup drive motor, until a feeding sheet reaches the HCF Intermediate feed roller on the High-capacity feeder. * The weaker the paper feeding force of the HCF Pickup roller is set in this test mode, the longer the feeding range of the said roller, i.e. the driving period of the HCF Pickup drive motor, becomes.	To adjust the feeding range of the HCF Pickup roller on the High-capacity feeder according to the wear level of the said roller.	
E	29-6-036	HCF REGIST SENSOR ARRIVAL TIMING ADJ	-	-	0	-1000	1000	1	0.1mm	Adjusts the feeding range of the HCF Intermediate feed rollers, i.e. the operation period of the HCF Intermediate feed motors, thus delaying or advancing the time when a sheet feeding from the High-capacity feeder reaches the Registration sensor on a printer.	To address paper feed errors to be caused when feeding from the High-capacity feeder.	
E	29-6-037	HCF INTERFACE ROLLER ASSIST SPD ADJ	_	-	977	800	1200	1	0.1%	Adjusts the rotation speed of the HCF Pre-registration roller to be applied during the supplementary feed action by specifying its variance ratio from that of the Registration roller on a printer. * When the said speed is set slower than that of the Registration roller, the size of a paper buckle formed at the top end of a feeding sheet will be gradually reduced while advancing the said sheet.	To address paper feed errors to be caused when feeding from the High-capacity feeder.	
E	29-6-038	HCF INTERM TRANF ROLL ASSIST SPD ADJ	_	-	977	800	1200	1	0.1%	Adjusts the rotation speed of the HCF Intermediate feed rollers to be applied during the supplementary feed action by specifying their variance ratio from that of the Registration roller on a printer. * When the said speed is set slower than that of the Registration roller, the size of a paper buckle formed at the top end of a feeding sheet will be gradually reduced while advancing the said sheet.	To address paper feed errors to be caused when feeding longer sheets from the High-capacity feeder.	
			1	Standard- Long	6	-4	15	1	mm			
1			2	Standard- Short	0	-4	15	1	mm			
1			4	Thin-Short	4	-4	15 15	1	mm			
1			5	Thick-Long	6	-4	15	1	mm			
1			6	Thick-Short	0	-4	15	1	mm	Adjusts the timing to deactivate the External paper feed motor after a short		
1			7	Envelope-Long	6	-4	15	1	mm	feeding from the High-capacity feeder has reached the Registration roller, thus		
1			0	Post Card	U C	-4	10		(iiii)	changing the size of paper buckle to be formed at the top end of the said sheet individually for the respective paper types.	i o prevent a noise at paper buckle clearance, a folded	
-	00 0 C · ·	HCF PAPER	9	(Card Stock)	6	-4	15	1	mm		eading edge of a feeding sheet	
E	29-6-041	BUCKLE	10	U1-Long U1-Short	6	-4 -4	15 15	1	mm mm	vvnen the parameter value is increased, the size of paper buckle will be enlarged, while it will be reduced when the said value is decreased.	or a reeging sneet skew for a selected paper type when	
1			12	U2-Long	6	-4	15	1	mm	* The parameter value should be decreased to address a science to a d	feeding from the High-capacity	
1			13	U2-Short	0	-4	15	1	mm	the parameter value should be decreased to address a holse at paper buckle clearance or a folded leading edge of a feeding sheet, while it should be	leeder.	
1			14	U3-Short	0	-4 -4	15	1	mm mm	increased to address a feeding sheet skew.		
1			16	U4-Long	6	-4	15	1	mm			
1			17	U4-Short	0	-4	15	1	mm			
1			18 19	U5-Short	0	-4 -4	15	1	mm			
1			20	LW (Paper)-Long	6	-4	15	1	mm			
<u> </u>			21	LW (Paper)-Short	4	-4	15	1	mm			
1			1	Normal (Standard) Thin	0	-100 -100	100	1	ms ms			
1			3	Thick	0	100	100	1	ms			
1			4	Post Card	0	-100	100	4	rris	Adjusts the timing to activate the HCF Pickup drive motor in relation to the	To enhance paper feeding performance according to paper	
Е	29-6-042	HCF PAPER FEED	2	(Card Stock)	Ű	-100	100	1	1115	activation of the Registration motor to feed the respective types of paper from the High-capacity feeder.	type when feeding from the High	
1			7	U2	0	-100	100	1	ms ms	* The operation period of the former motor remains unchanged.	capacity feeder through an extra adjustment.	
1			8 9	U3 U4	0	100	100	1	ms ms			
			10	U5 IW Paper	0	-100	100	1	ms			

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Test Modes

Туре	Test mode	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
	110.		1	Normal (Standard)	1	0	1	1	-			
			23	Thin Thick	1	0	1	1	-			
			4	Envelope Post Cord	1	0	1	1	-	Selects whether to disable the supplementary feed action during the secondary paper feed operation when feeding from the High-capacity feeder individually	To disable the supplementary	
Е	29-6-043	HCF ASSIST	5	(Card Stock)	1	0	1	1	-	for the respective paper types.	paper feed operation when	
		CONTROL	6 7	U1 U2	1	0	1	1	-	0: Disabled	feeding from the High-capacity	
			9 G	U3 1.14	1	0	1	1		1: Enabled	leeder according to paper type.	
			10	U5	1	Ő	1	1	-			
		-	1	Normal (Standard)	0	-100	100	1	ms			
			2	Thin	0	-100	100	1	ms			
			4	Envelope	0	-100	100	1	ms	Adjusts the start timing of the supplementary feed action during the secondary		Take care not to specify an
-	20 6 044	HCF ASSIST START	5	Post Card (Card Stock)	0	-100	100	1	ms	for the respective paper types.	To reduce a noise at paper	excessively large negative
	23-0-044	TIMING	6	U1	0	-100	100	1	ms	When the parameter value is decreased, the poise will be reduced at paper	from the High-capacity feeder.	insufficient paper buckle
			8	U2 U3	0	-100 -100	100	1	ms ms	buckle clearance with a smaller-size paper buckle.		formation.
			9 10	U4 U5	0	-100	100	1	ms			
			11	LW Paper	0	-100	100	1	ms			
			1	Normal (Standard) Thin	0	0	200 200	1	ms ms			
			3	Thick	0	0	200	1	ms	Adjusts the end timing of the supplementary feed action during the secondary		
			4	Post Card	0	0	200	1	ms	be defined as the paper feed distance until the end of the said action since the	images due to unstable paper	
Е	29-6-045	TIMING	6	(Card Stock) U1	0	0	200	1	ms	slowdown of the Registration motor, individually for the respective paper types.	feed caused by the premature	
			7	U2	0	0	200	1	ms	to unstable paper feed caused by the premature end of the supplementary	action.	
			9	U4	0	0	200	1	ms	feed action.		
			10	U5 LW Paper	0	0	200	1	ms ms			
										Specifies the amount of time to be added to the one predefined to determine that a feeding sheet has not reached the HCF Intermediate feed IN sensor in	To address a paper misfeed	
Е	29-6-060	HCF INTERM IN SENSOR ADJ-NON	_	_	70	0	170	1	ms	time, thus leading a paper feed error in the High-capacity feeder to be notified.	before the Intermediate feed section of the High-capacity	
		ARRIVAL								* The said predefined amount of time is calculated on the assumption that the	feeder to be caused without	
										paper feeding force ratio of the HCF Pickup roller is 70%.	sufficient paper feeding force.	
										Specifies the amount of time to be added to the one predefined to determine		
		HCE INTERM OUT								that a feeding sheet has not reached the HCF Intermediate feed OUT sensor in	To address a paper misfeed in the Intermediate feed section of	
Е	29-6-061	SENSOR ADJ-NON	-	-	37	0	137	1	ms	time, thus leading a paper feed error in the High-capacity feeder to be notified.	the High-capacity feeder to be	
		ARRIV								* The said predefined amount of time is calculated on the assumption that the	caused without sufficient paper feeding force.	
										paper feeding force ratio of the HCF Intermediate feed rollers is 70%.		
High (Capacity Star	ker										
Е	30-6-001	HCS SERIAL NO.	-	-	0	0	32500	1	-	Registers the serial number of the High-capacity stacker.	To register the serial number of the High-capacity stacker	
											the right capacity statistics	
										Salaste whether to look (prohibit) aparations on the High capacity stacker		
										Selects whether to lock (prohibit) operations on the high-capacity stacker.	To prohibit the High-capacity	
F	30-6-006	HCS LOCK	_		1	0	1	1	_	0: Unlocked (Operations permitted) 1: Locked (Operations prohibited)	stacker from starting its	
L _	00-0-000	SELECTION			•	Ŭ			-		mechanical locks removed.	
										With operations locked (prohibited), the normal firmware package download and this test mode will only be available		
										Adjusts the position where the HCS Paper side guides are to be shifted on the	To adjust the packing position of	
Е	30-6-007	HCS SIDE FENCE POSITION (PACK)	-	-	150	100	343	1	mm	High-capacity stacker when executing the test mode TM No. 30-3-001 "HCS	the HCS Paper side guides on	
		· · · /								PACKING POSITION."	the High-capacity stacker.	
										Adjuste the position where the HCC Densy and guide is to be shifted on the	To adjust the positing position of	
Е	30-6-008	HCS END FENCE	_	_	400	148	490	1	mm	High-capacity stacker when executing the test mode TM No. 30-3-001 "HCS	the HCS Paper end guide on the	
		POSITION (PACK)								PACKING POSITION."	High-capacity stacker.	
	1					1						
1										Adjusts the position where the HCS Stacking tray (HCS Elevator motor) is to	To adjust the packing position of	
E	30-6-009	POSITION (PACK)	-	-	10	0	115	1	mm	be shifted on the High capacity stacker when executing the test mode TM No.	Elevator motor) on the High-	
1											capacity stacker.	
<u> </u>												
											To change the condition for	
Е	30-6-011	HUS ERROR DETECT PAPER	_	-	25	0	100	1	0.01	Specifies the reference value to be applied in detecting back-face peeling when	detecting back-face peeling when	
1		THICK SET							mm	u ansiening card stock unough the High-capacity stacker.	the High-capacity stacker.	
	Γ											
1		HCS PAPER LEAN								Specifies the number of sheets to be ejected (stacked) on the High-capacity	o change the number of ejected (stacked) sheets to be applied to	
Е	30-6-013		-	-	5	0	10000	1	sheets	stacker while blocking the Paper top face detection sensor 2, to lead a sheet	determine if a paper stacking	
1										starking error to be notified to suspend the current operation.	capacity stacker.	
<u> </u>												
1										Selects whether or not to return the Paper end quide to the home position		
-		HCS END FENCE HP						.		when a stacking jam (error) occurs on the High-capacity stacker.	to keep the Paper end guide at the current position when a	
E	ას-6-014	(JAM)	-	-	U	U	1	1	-	0: To be returned to the home position.	stacking error occurs on the	
1										1: To stay at the current position.	nigrecapacity stacker.	
-												
1										Specifies the number of sheets ejected (stacked) after the blockage of the	To adjust the timing to activate	
Е	30-6-016	HCS ELEVATOR	_	-	3	1	100	1	sheets	Paper top face detection sensor 1, based on which the HCS Stacking tray	motor to lower the Stacking tray	
1										capacity stacker.	during stacking operation on the	
1						L					- groupaony statket.	



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Туре	No.	Test mode name	No.	Туре	Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
E	30-6-017	HCS ELEVATOR DOWN LENGTH	-	-	20	1	100	1	0.1mm	Specifies the range by which the Stacking tray (elevator motor) descends in step actions during stacking operation on the High≻capacity stacker.	To adjust the range by which the Stacking tray (elevator motor) descends in step actions during stacking operation on the High- capacity stacker.	
E	30-6-018	HCS CART SET HEIGHT ADJUST	_	-	0	0	200	1	0.1mm	Specifies the range by which the Stacking tray (elevator motor) is to be lowered from the height (level) where the Tray carrier is to be housed into the High-capacity stacker.	To lower the Stacking tray (elevator motor) further from the predefined position at which the Tray carrier is to be taken out from the High-capacity stacker, thus facilitating the said action.	
E	30-6-019	HCS CAPACITY LIMIT SELECT (LW PAPER)	I	-	0	0	1	1	-	Selects the stacking height limit for light-weight paper in regular (straight) stacking on the High-capacity stacker. 0: 405mm 1: 440mm	To change the stacking height limit for light-weight paper in regular (straight) stacking on the High-capacity stacker.	
E	30-6-020	HCS CAPACITY LIMIT SELECT	_	-	0	0	1	1	-	Selects whether to disable the stacking height limit control on the High-capacity stacker when stacking small-format sheets or when the paper type (thickness) is set at "Envelope." 0: Enabled 1: Disabled * Small-format sheets: whose short edge is less than 182 mm or long edge less than 257 mm	To disable a stacking height limit control on the High-capacity stacker with small-format sheets or envelopes	Stacked sheets might be scattered due to excessive stacking with the stacking height limit control disabled.
E	30-6-021	HCS SWITCHBACK SPEED CONTROL SELECT	1	-	1	0	1	1	-	Selects whether to enable the switchback speed control when turning over received sheets on the High-capacity stacker. 0: Enabled (The switchback speed changes according to the operation speed of a printer.) 1: Disabled	To address a paper transport error on the High-capacity stacker to be caused when turning over received sheets before stacking.	
E	30-6-022	HCS REFEED ROLLER 2 DELAY DETECT SEL	-	-	1	0	1	1	-	Selects whether to detect the paper transport delay at the HCS Switchback transfer roller 2 on the High-capacity stacker, possibly due to the wear of the said roller. 0: Disabled 1: Enabled * The said paper transport delay will not be detected with sheets whose length is less than 182 mm (B5-SEF).		
E	30-6-031	HCS SIDE FENCE SHIFT ADJUST	1	-	0	-1000	1000	1	0.1mm	Adjusts the basic shift range of the HCS Paper side guides on the High- capacity stacker.		
E	30-6-032	HCS SIDE FENCE SHIFT ADJUST (PAPER)	1 2 3 4 5 6	Normal (Standard) Thin Thick Envelope Post Card (Card Stock) LW Paper	30 30 60 80 60 30	-1000 -1000 -1000 -1000 -1000 -1000	1000 1000 1000 1000 1000 1000	1 1 1 1 1 1	0.1mm 0.1mm 0.1mm 0.1mm 0.1mm 0.1mm	Adjusts the individual shift range of the HCS Paper side guides on the High- capacity stacker according to paper type (thickness).	To adjust the position of the HCS Paper side guides to enhance stacking alignment according to paper type on the High-capacity stacker.	
E	30-6-033	HCS END FENCE SHIFT ADJUST	-	-	0	-1000	1000	1	0.1mm	Adjusts the basic shift range of the HCS Paper end guide on the High-capacity stacker.		
E	30-6-034	HCS END FENCE SHIFT ADJUST (PAPER)	1 2 3 4 5 6	Normal (Standard) Thin Thick Envelope Post Card (Card Stock) LW Paper	30 30 130 80 130 30	-1000 -1000 -1000 -1000 -1000	1000 1000 1000 1000 1000	1 1 1 1 1	0.1mm 0.1mm 0.1mm 0.1mm 0.1mm 0.1mm	Adjusts the individual shift range of the HCS Paper end guide on the High- capacity stacker according to paper type (thickness).	To adjust the position of the HCS Paper end guide to enhance stacking alignment according to paper type on the High-capacity stacker.	
E	30-6-039	HCS EJECTION SETTING (PAPER)	1 2 3 4 5	U1 U2 U3 U4 U5	0 0 0 0 0	0 0 0 0 0	5 5 5 5 5 5	1 1 1 1 1	-	Selects the paper type (thickness) whose adjustment parameters are to be applied to the respective custom-size sheets to be stacked on the High- capacity stacker. 0: Standard / 1: Thin / 2: Thick / 3: Card Stock / 4: Envelope / 5: LW Paper	To specify paper types for registered custom-size sheets to apply proper parameters when stacking them on the High- capacity stacker.	
E	30-6-041	HCS EJECTION SPEED SELECT	1	-	0	0	1	1	-	Selects the reference parameters to be applied when determining a regular paper ejection speed on the High-capacity stacker. 0: Predefined-table-based parameters 1: Test mode parameters		
		HCS EJECTION	1 2 3 4 5	A3 B4 A4 B5 A4W (A4-LEF)	800 800 800 900 800	232 232 232 232 232 232	1600 1600 1600 1600 1600	1 1 1 1 1	mm/s mm/s mm/s mm/s	Specifies the regular paper ejection speed to be applied to standard (normal) sheets in regular stacking on the High-capacity stacker for the below-listed paper formats respectively, which is to be applied when the parameter is set at "1" in another test mode TM No. 30-6-041 "HCS EJECTION SPEED SELECT." 'This setting is to be applied when "Normal" (Standard) is selected as paper type on a printer.		
E	30-6-042	SPEED (NORMAL- DOWN)	6 7 8 9 10	B5W (B5-LEF) A5 B6 A6 U (Custom)	800 800 800 800 800	232 232 232 232 232 232 232	1600 1600 1600 1600 1600	1 1 1 1 1	mm/s mm/s mm/s mm/s	- A3: A3 / A3W / SRA3 / Ledger / 8K (CH) - B4: B4 - A4: A4 / Letter / Legal 8.5x14 / Legal 8.5x13 / Foolscap / 16K (CH) - B5: B5 - A4W: A4-LEF / Letter-LEF / 16K-LEF (CH) - B5W: B5-LEF - A5: A5 / Statement - B6: B6 - B6: A6 - A6: A6 / Postcard - U (Custom): custom-size paper		

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
			1	A3	900	232	1600	1	mm/s	Presides the regular nerver significan aread to be applied to standard (normal)		
			2	В4	900	232	1600	1	mm/s	Specifies the regular paper ejection speed to be applied to standard (internal) sheets in offset stacking on the High-capacity stacker for the below-listed paper formats respectively, which is to be applied when the parameter is set at ###im outputs-capacity to the capacity stacker of the DFCE of the CFC		
			3	A4	900	232	1600	1	mm/s	" In another test mode IM No. 30-6-041 "HCS EJECTION SPEED SELECT." * This setting is to be applied when "Normal" (Standard) is selected as paper type on a printer.		
Е	30-6-043	HCS EJECTION SPEED (NORMAL- UP)	4	B5	1000	232	1600	1	mm/s	[Paper formats] - A3: A3 / A3W / SRA3 / Ledger / 8K (CH)		
		,	5	A4W (A4-LEF)	900	232	1600	1	mm/s	- B4: B4 - A4: A4 / Letter / Legal 8.5x14 / Legal 8.5x13 / Foolscap / 16K (CH)		
			6	B5W (B5-LEF)	900	232	1600	1	mm/s	- B5: B5 - A4W: A4-LEF / Letter-LEF / 16K-LEF (CH) - B5W: B5-LEF		
			7	U (Custom)	900	232	1600	1	mm/s	- U (Custom): custom-size paper		
			1	A3	800	232	1600	1	mm/s	Specifies the regular paper ejection speed to be applied to thin sheets in		
			2	В4	800	232	1600	1	mm/s	regular stacking on the High-capacity stacker for the below-listed paper formats respectively, which is to be applied when the parameter is set at "1" in		
			3	A4	800	232	1600	1	mm/s	another test mode I M No. 30 6-041 "HCS EJECTION SPEED SELECT." * This setting is to be applied when "Thin" is selected as paper type on a		
			4	B5	900	232	1600	1	mm/s	printer.		
F	30-6-044	HCS EJECTION	5	A4W (A4-LEF)	800	232	1600	1	mm/s	[Paper formats] - A3: A3 / A3W / SRA3 / Ledger / 8K (CH)		
-		DOWN)	6	B5W (B5-LEF)	800	232	1600	1	mm/s	- B4: B4 - A4: A4 / Letter / Legal 8.5x14 / Legal 8.5x13 / Foolscap / 16K (CH)		
			7	A5	900	232	1600	1	mm/s	- B5: B5 - A4W: A4-LEF / Letter-LEF / 16K-LEF (CH)		
			8	B6	800	232	1600	1	mm/s	- B5W: B5-LEF - A5: A5 / Statement		
			9	A6	800	232	1600	1	mm/s	- B6: B6 - A6: A6 / Postcard		
			10	U (Custom)	800	232	1600	1	mm/s	- U (Custom): custom-size paper		
			1	A3	900	232	1600	1	mm/s	Specifies the regular paper ejection speed to be applied to thin sheets in offset		
			2	В4	900	232	1600	1	mm/s	stacking on the High-capacity stacker for the below-listed paper formats respectively, which is to be applied when the parameter is set at "1" in another the state of the local control and the parameter is set at "1" in another the state of the local control and the state of the local state of		
			3	A4	900	232	1600	1	mm/s	* This setting is to be applied when "Thin" is selected as paper type on a printer.		
Е	30-6-045	HCS EJECTION SPEED (THIN-UP)	4	В5	1000	232	1600	1	mm/s	[Paper formats] - A3: A3 / A3W / SRA3 / Ledger / 8K (CH)		
			5	A4W (A4-LEF)	900	232	1600	1	mm/s	- B4: B4 - A4: A4 / Letter / Legal 8.5x14 / Legal 8.5x13 / Foolscap / 16K (CH)		
			6	B5W (B5-LEF)	900	232	1600	1	mm/s	- B5: B5 - A4W: A4-LEF / Letter-LEF / 16K-LEF (CH) - B5W: B5-LEF		
			7	U (Custom)	900	232	1600	1	mm/s	- U (Custom): custom-size paper		
			1	A3	900	232	1600	1	mm/s	Specifies the regular paper ejection speed to be applied to thick sheets in		
			2	B4	900	232	1600	1	mm/s	regular stacking on the High-capacity stacker for the below-listed paper formats respectively, which is to be applied when the parameter is set at "1" in		
			3	A4	900	232	1600	1	mm/s	another test mode TM No. 30-6-041 "HCS EJECTION SPEED SELECT." * This setting is to be applied when "Thick" is selected as paper type on a		
			4	B5	900	232	1600	1	mm/s	printer.		
E	30-6-046	HCS EJECTION SPEED (THICK-	5	A4W (A4-LEF)	800	232	1600	1	mm/s	[Paper formats] - A3: A3 / A3W / SRA3 / Ledger / 8K (CH)		
		DOWN	6	B5W (B5-LEF)	900	232	1600	1	mm/s	- B4: B4 - A4: A4 / Letter / Legal 8.5x14 / Legal 8.5x13 / Foolscap / 16K (CH)		
			7	A5	900	232	1600	1	mm/s	- B5: B5 - A4W: A4-LEF / Letter-LEF / 16K-LEF (CH)		
			8	B6	900	232	1600	1	mm/s	- B5W: B5-LEF - A5: A5 / Statement		
			9	A6	1600	232	1600	1	mm/s	- B6: B6 - A6: A6 / Postcard		
			10	U (Custom)	900	232	1600	1	mm/s	- U (Custom): custom-size paper		
			1	A3	1000	232	1600	1	mm/s	Specifies the regular paper ejection speed to be applied to thick sheets in offset stacking on the High-capacity stacker for the below-listed paper formats		
			2	В4	1100	232	1600	1	mm/s	respectively, which is to be applied when the parameter is set at "1" in another test mode TM No. 30-6-041 "HCS EJECTION SPEED SELECT."		
			3	A4	1000	232	1600	1	mm/s	 This setting is to be applied when "Thick" is selected as paper type on a printer. 		
Е	30-6-047	HCS EJECTION SPEED (THICK-UP)	4	В5	1000	232	1600	1	mm/s	[Paper formats] - A3: A3 / A3W / SRA3 / Ledger / 8K (CH)		
			5	A4W (A4-LEF)	900	232	1600	1	mm/s	- D4, D4 - A4: A4 / Letter / Legal 8.5x14 / Legal 8.5x13 / Foolscap / 16K (CH) - B5: B5		
			6	B5W (B5-LEF)	1000	232	1600	1	mm/s	- A4W: A4-LEF / Letter-LEF / 16K-LEF (CH) - B5W: B5-LEF - U (Custom): custom-size paper		
			7	U (Custom)	1000	232	1600	1	mm/s			
			1	A3	1200	232	1600	1	mm/s	Specifies the regular paper ejection speed to be applied to envelopes in regular stacking on the High-capacity stacker for the below-listed formats respectively.		
			2	D4	1200	232	1600	1	mm/s	which is to be applied when the parameter is set at "1" in another test mode TM No. 30-6-041 "HCS EJECTION SPEED SELECT."		
			3	A4	1200	232	1600	1	mm/s	* This setting is to be applied when "Envelope" is selected as paper type on a printer.		
			4	в5	1200	232	1600	1	mm/s	[Envelope formats]		
Е	30-6-048	HUS EJECTION SPEED (ENV-	5	A4W (A4-LEF)	1200	232	1600	1	mm/s	- A3: Square 0 (Japan) / Square 1 (Japan) - B4: C4 (Global) / Square 2 (Japan)		
1		DOWN)	6	в5W (B5-LEF)	1200	232	1600	1	mm/s	- A4: Square 3 (Japan) - B5: C5 (Global)		
			7	A5	1200	232	1600	1	mm/s	- A4W: <not applicable=""> - B5W: <not applicable=""></not></not>		
			8	вб	1200	232	1600	1	mm/s	- A5: <not applicable=""> - B6:Long 3 (japan)</not>		
			9	Аб	1200	232	1600	1	mm/s	- A6: C6 (Global) / DL-LEF (Global) / Long 4 (Japan) - Custom: custom-size envelopes		
			10	U (Custom)	1200	232	1600	1	mm/s	6		

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
E	30-6-050	HCS EJECTION SPEED (P CARD- DOWN)	_	-	1600	232	1600	1	mm/s	Specifies the regular paper ejection speed to be applied to postcards in regular stacking on the High-capacity stacker, which is to be applied when the parameter is set at "1" in another test mode TM No. 30-6-041 "HCS EJECTION SPEED SELECT." * This setting is to be applied when "Card" is selected as paper type on a printer.		
			1	A3	800	232	1600	1	mm/s	Specifies the regular paper election speed to be applied to low-weight sheets		
			2	В4	800	232	1600	1	mm/s	in regular stacking on the High-capacity stacker for the below-listed paper formats respectively, which is to be applied when the parameter is set at "1" in		
			3	A4	800	232	1600	1	mm/s	another test mode TM No. 30-6-041 "HCS EJECTION SPEED SELECT." * This setting is to be applied when "LW Paper" is selected as paper type on a		
			4	B5	900	232	1600	1	mm/s	printer.		
Е	30-6-052	HCS EJECTION SPEED (LW PAPER-	5	A4W (A4-LEF)	800	232	1600	1	mm/s	[raper formats] - A3: A3 / A3W / SRA3 / Ledger / 8K (CH) - B4: B4		
		DOWN)	6	B5W (B5-LEF)	800	232	1600	1	mm/s	- A4: A4 / Letter / Legal 8.5x14 / Legal 8.5x13 / Foolscap / 16K (CH) - B5: B5		
			7	A5	800	232	1600	1	mm/s	- A4W: A4-LEF / Letter-LEF / 16K-LEF (CH) - B5W: B5-LEF		
			8	B6	800	232	1600	1	mm/s	- A5: A5 / Statement - B6: B6		
			9	A6	800	232	1600	1	mm/s	- A6: A6 / Postcard - U (Custom): custom-size paper		
			10	U (Custom)	800	232	1600	1	mm/s			
			1	A3	900	232	1600	1	mm/s	Specifies the regular paper ejection speed to be applied to low-weight sheets in offset stacking on the High-capacity stacker for the below-listed paper		
			2	B4	900	232	1600	1	mm/s	formats respectively, which is to be applied when the parameter is set at "1" in another test mode TM No. 30-6-041 "HCS EJECTION SPEED SELECT "		
			3	A4	900	232	1600	1	mm/s	This setting is to be applied when "LW Paper" is selected as paper type on a printer.		
Е	30-6-053	SPEED (LW PAPER- UP)	4	В5	1000	232	1600	1	mm/s	[Paper formats] - A3: A3 / A3W / SRA3 / Ledger / 8K (CH)		
		,	5	A4W (A4-LEF)	900	232	1600	1	mm/s	- B4: B4 - A4: A4 / Letter / Legal 8.5x14 / Legal 8.5x13 / Foolscap / 16K (CH)		
			6	B5W (B5-LEF)	900	232	1600	1	mm/s	- B5: B5 - A4W: A4-LEF / Letter-LEF / 16K-LEF (CH) BEW B5 LEE		
			7	U (Custom)	900	232	1600	1	mm/s	- U (Custom): custom-size paper		
E	30-6-061	HCS EJECTION INITIAL SPEED SELECT	_	-	0	0	1	1	-	Selects the reference parameters to be applied when determining the initial paper ejection speed on the High-capacity stacker. 0: Predefined-table-based parameters 1: Test mode parameters		
E	30-6-062	HCS EJECT INITIAL SPD (NORMAL-	1	B5	900	232	1600	1	mm/s	Specifies the initial paper ejection speed to be applied to standard (normal) sheets whose format is B5 or B5-LEF in regular stacking on the High-capacity stacker, which is to be applied when the parameter is set at "1" in another test when TA NA 20 = 0.61 "WHOSE SECTION INTIAL SPEED SELECT "		
		DOWN)	2	B5W (B5-LEF)	800	232	1600	1	mm/s	This setting is to be applied when "Normal" (Standard) is selected as paper type on a printer.		
E	30-6-063	HCS EJECT INITIAL	1	B5	1000	232	1600	1	mm/s	Specifies the initial paper ejection speed to be applied to standard (normal) sheets whose format is B5 or B5-LEF in offset stacking on the High-capacity stacker, which is to be applied when the parameter is set at "1" in another test when TA NA 20 = 0.61 "WHOSE ELECTIONITIAL SPEED SELECT "		
			2	B5W (B5-LEF)	900	232	1600	1	mm/s	This setting is to be applied when "Normal" (Standard) is selected as paper type on a printer.		
E	30-6-064	HCS EJECT INITIAL	1	В5	900	232	1600	1	mm/s	Specifies the initial paper ejection speed to be applied to thin sheets whose format is B5 or B5-LEF in regular stacking on the High-capacity stacker, which is to be applied when the parameter is set at "1" in another test mode TM No.		
			2	B5W (B5-LEF)	800	232	1600	1	mm/s	This setting is to be applied when "Thin" is selected as paper type on a printer.		
Е	30-6-065	HCS EJECT INITIAL	1	B5	1000	232	1600	1	mm/s	Specifies the initial paper ejection speed to be applied to thin sheets whose format is B5 or B5-LEF in offset stacking on the High-capacity stacker, which is to be applied when the parameter is set at "1" in another test mode TM No. 30-		
		SPD (THIN-UP)	2	B5W (B5-LEF)	900	232	1600	1	mm/s	6-061 "HCS EJECTION INITIAL SPEED SELECT." * This setting is to be applied when "Thin" is selected as paper type on a printer.		
			1	A3	900	232	1600	1	mm/s	Specifies the initial paper ejection speed to be applied to thick sheets in regular		
			2	B4	900	232	1600	1	mm/s	stackung on une reign-capacity stacker for the below-listed paper formats respectively, which is to be applied when the parameter is set at "1" in another test mode TN No. 30-6-061 "HCS EJECTION INITIAL SPEED SELECT." * This setting is to be applied when "Thick" is selected as paper type on a		
Е	30-6-066	HCS EJECT INITIAL	3	A4	900	232	1600	1	mm/s	printer.		
-		SPD (THICK-DOWN)	4	В5	900	232	1600	1	mm/s	[Paper formats] - A3: A3 / A3W / SRA3 / Ledger / 8K (CH) - B4: B4		
			5	A4W (A4-LEF)	800	232	1600	1	mm/s	- A4: A4 / Letter / Legal 8.5x14 / Legal 8.5x13 / Foolscap / 16K (CH) - B5: B5		
			6	B5W (B5-LEF)	900	232	1600	1	mm/s	- A4W: A4-LEF / Letter-LEF / 16K-LEF (CH) - B5W: B5-LEF		

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
			1	A3	1000	232	1600	1	mm/s	Specifies the initial paper ejection speed to be applied to thick sheets in offset		
			2	В4	1100	232	1600	1	mm/s	stacking on the High-capacity stacker for the below-listed paper formats respectively, which is to be applied when the parameter is set at "1" in another test mode TM No. 30-6-061 "HCS EJECTION INITIAL SPEED SELECT."		
_	20.0.007	HCS EJECT INITIAL	3	A4	1000	232	1600	1	mm/s	* This setting is to be applied when "Thick" is selected as paper type on a printer.		
E	30-6-067	SPD (THICK-UP)	4	В5	1000	232	1600	1	mm/s	[Paper formats] - A3: A3 / A3W / SRA3 / Ledger / 8K (CH)		
			5	A4W (A4-LEF)	900	232	1600	1	mm/s	- De. De - A4: A4 / Letter / Legal 8.5x14 / Legal 8.5x13 / Foolscap / 16K (CH) - B5: B5		
			6	B5W (B5-LEF)	1000	232	1600	1	mm/s	- A4W: A4-LEF / Letter-LEF / 16K-LEF (CH) - B5W: B5-LEF		
			1	B5	900	232	1600	1	mm/s	Specifies the initial paper ejection speed to be applied to low-weight sheets whose format is B5 or B5-LEE in regular stacking on the Hintpagarity stacker		
Е	30-6-068	CS EJECT INITIAL SPD (LW P-DOWN)								which is to be applied when the parameter is set at "1" in another test mode TM No. 30-6-061 "HCS EJECTION INITIAL SPEED SELECT."		
			2	B5W (B5-LEF)	800	232	1600	1	mm/s	printer.		
		HCS EJECT INITIAL	1	В5	1000	232	1600	1	mm/s	Specifies the initial paper ejection speed to be applied to low-weight sheets whose format is B5 or B5-LEF in offset stacking on the Hgh-capacity stacker,		
Е	30-6-069	SPD (LW PAPER- UP)				000	4000			which is to be applied when the parameter is set at "1" in another test mode TM No. 30-6-061 "HCS EJECTION INITIAL SPEED SELECT." * This setting is to be applied when "LW Paper" is selected as paper type on a		
			2	B5W (B5-LEF)	900	232	1600	1	mm/s	printer.		
		HCS EJECT INITIAL	1	В5	0	0	10	1	sheets	Specifies the number of to-be-initially-ejected sheets to which the initial paper ejection speed specified in another test mode is to be applied in regular densities are the block-specific standard of DE on DE 15 Constant (Constant).		
E	30-6-072	NBR (NORMAL- DOWN)	2	85W (85-LEE)	0	0	10	1	sheets	stacking on the righ-capacity stacker for b5 or b5-LEF normal (standard) sheets. * This setting is to be applied when "Normal" (Standard) is selected as paper		
			2	B300 (B3-EEF)	•	U	10	'	Silecta	type on a printer.		
			1	B5	0	0	10	1	sheets	Specifies the number of to-be-initially-ejected sheets to which the initila paper ejection speed specified in another test mode is to be applied in offset stacking		
E	30-6-073	NBR (NORMAL-UP)	2	P5W/(P5 EE)	0	0	10	1	shoots	on the High-capacity stacker for B5 or B5-LEF normal (standard) sheets. * This setting is to be applied when "Normal" (Standard) is selected as paper type on a printer.		
			2	B3W (B3-EEF)			10	-	3110013	upo on a praxon		
_		HCS EJECT INITIAL	1	В5	0	0	10	1	sheets	Specifies the number of to-be-initially-ejected sheets to which the initial paper ejection speed specified in another test mode is to be applied in regular		
E	30-0-074	NBR (THIN-DOWN)	2	B5W (B5-LEF)	0	0	10	1	sheets	stacking on the rign-capacity stacker for boor bo-∟⊑r thin sheets. * This setting is to be applied when "Thin" is selected as paper type on a printer.		
			1	В5	0	0	10	1	sheets	Specifies the number of to-be-initially-ejected sheets to which the initila paper		
Е	30-6-075	HCS EJECT INITIAL NBR (THIN-UP)								ejection speed specified in another test mode is to be applied in offset stacking on the High-capacity stacker for B5 or B5-LEF thin sheets. * This setting is to be applied when "Thin" is selected as paper type on a		
			2	B5W (B5-LEF)	0	0	10	1	sheets	printer.		
			1	A3	0	0	10	1	sheets	Specifies the number of to-be-initially-ejected sheets to which the initial paper ejection speed specified in another test mode is to be applied in regular		
			2	B4	0	0	10	1	sheets	stacking on the high-capacity stacker for the respective thick sheets whose format is as listed below. * This setting is to be applied when "Thick" is selected as paper type on a		
Е	30-6-076	HCS EJECT INITIAL	3	A4	0	0	10	1	sheets	printer.		
		NBR (THICK-DOWN)	4	В5	0	0	10	1	sheets	[Paper formats] - A3: A3 / A3W / SRA3 / Ledger / 8K (CH) - B4: B4		
			5	A4W (A4-LEF)	0	0	10	1	sheets	- A4: A4 / Letter / Legal 8.5x14 / Legal 8.5x13 / Foolscap / 16K (CH) - B5: B5 - A104 - CF / Letter LEF / 40K LEF (OL)		
			6	B5W (B5-LEF)	0	0	10	1	sheets	- B5W: B5-LEF		
			1	A3	0	0	10	1	sheets	Specifies the number of to-be-initially-ejected sheets to which the initial paper ejection speed specified in another test mode is to be availed in offset stocking		
			2	B4	0	0	10	1	sheets	on the high-capacity stacker for the respective thick sheets whose format is as listed below.		
_		HCS EJECT INITIAL	3	A4	0	0	10	1	sheets	* This setting is to be applied when "Thick" is selected as paper type on a printer.		
E	30-6-077	NBR (THICK-UP)	4	В5	0	0	10	1	sheets	[Paper formats] - A3: A3 / A3W / SRA3 / Ledger / 8K (CH) - 84: 84		
			5	A4W (A4-LEF)	0	0	10	1	sheets	- A4: A4 / Letter / Legal 8.5x14 / Legal 8.5x13 / Foolscap / 16K (CH) - B5: B5		
			6	B5W (B5-LEF)	0	0	10	1	sheets	- A4W: A4-LEF / Letter-LEF / 16K-LEF (CH) - B5W: B5-LEF		
			1	в5	0	0	10	1	sheets	Specifies the number of to-be-initially-ejected sheets to which the initila paper		
Е	30-6-078	HCS EJECT INITIAL NBR (LW P-DOWN)								ejection speed specified in another test mode is to be applied in regular stacking on the High-capacity stacker for B5 or B5-LEF light-weight sheets, * This setting is to be applied when "LW Paper" is selected as paper twoe on a		
			2	B5W (B5-LEF)	0	0	10	1	sheets	printer.		
		HCS EJECT INITIAL	1	B5	0	0	10	1	sheets	Specifies the number of to-be-initially-ejected sheets to which the initila paper ejection speed specified in another test mode is to be applied in offset stacking		
E	30-6-079	NBR (LW PAPER- UP)	2	B5W (B5-LEF)	0	0	10	1	sheets	on the High-capacity stacker for B5 or B5-LEF light-weight sheets. * This setting is to be applied when "LW Paper" is selected as paper type on a printer.		

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
E	30-6-081	HCS SIDE FENCE JOG AMT (NTHIN/LW)	1	-	2	0	5	1	mm	Specifies the jogger action range of the HCS Paper side guides on the High- capacity stacker for normal (standard), thin and low-weight sheets.	To change the jogger action range of the HCS Paper side guides on the High-capacity stacker for normal (standard), thin and low-weight sheets.	
E	30-6-082	HCS SIDE FENCE JOG AMT (N'THIN'LW) EX	-	-	3	0	5	1	mm	Specifies the jogger action range of the HCS Paper side guides on the High- capacity stacker for other types of sheets than normal (standard), thin and low- weight ones.	To change the jogger action range of the HCS Paper side guides on the Hgh-capacity stacker for other types of sheets than normal (standard), thin and low-weight ones.	
E	30-6-083	HCS END FENCE JOG AMT (N/THIN/LW)	1	-	3	0	5	1	mm	Specifies the jogger action range of the HCS Paper end guide on the High- capacity stacker for normal (standard), thin and low-weight sheets.	To change the jogger action range of the HCS Paper side guides on the High-capacity stacker for normal (standard), thin and low-weight sheets.	
E	30-6-084	HCS END FENCE JOG AMT (N'THIN'LW) EX	I	-	3	0	5	1	mm	Specifies the jogger action range of the HCS Paper end guide on the High- capacity stacker for other types of sheets than normal (standard), thin and low- weight ones.	To change the jogger action range of the HCS Paper side guides on the High-capacity stacker for other types of sheets than normal (standard), thin and low-weight ones.	
E	30-6-085	HCS JOGGER ACTION ON/OFF	1	-	0	0	1	1	-	Selects whether to enable the jogger actions by the HCS Paper side and end guides on the High-capacity stacker. 0: Disabled 1: Enabled	To enable the jogger actions by the HCS Paper side and end guides on the High-capacity stacker,	
E	30-6-091	HCS OFFSET CONTROL SELECT	-	-	0	0	1	1	-	Selects the operation sequence in offset stacking preparation on the High- capacity stacker. 0: Lowering the Stacking tray → Sliding up the Paper end base → Retracting the Paper end guide → Sliding down the Paper end base → Raising the Stacking tray 1: Lowering the Stacking tray → Sliding up the Paper end base → Retracting the Paper end guide → Raising the Stacking tray → Sliding down the Paper end base * The parameter should be set at "1" in case paper edges or corners are often folded in offset stacking preparation operation.	To address folded paper edges or corners to be caused during offset stacking preparation operation on the Hgh-capacity finisher.	
E	30-6-092	HCS END FENCE SHIFT ADJUST (OFFSET)	I	-	300	250	450	1	0.1mm	Adjusts the advancing shift range of the HCS Paper end guide on the High- capacity stacker when returning to the regular stacking position in offset stacking operation.	To change the advancing shift range of the HCS Paper end guide on the High-capacity stacker when returning to the regular stacking position in offset stacking operation.	
Е	30-6-093	HCS EJECTION SPEED ADJUST (OFFSET)	-	-	800	632	1600	1	mm/s	Adjusts the paper ejection speed during offset stacking on the High-capacity stacker, which is to be applied after the shift of the HCS Offset stacking guide and HCS Paper end guide along with the action of the Stacking tray following the interruption of paper ejection for stacking mode change. [Note] The default parameter value is 800 mm/s, which is the same as the default paper ejection speed in regular stacking.	To change the paper ejection speed during offset stacking on the High-capacity stacker.	
E	30-6-094	HCS TRAY DOWN LENGTH (U- OFFSET)	-	-	2532	0	10000	1	10 pulses	Adjusts the range by which the Stacking tray is to be lowered when the HCS Paper guides are shifted to the offset stacking position on the High-capacity stacker.	To change the range by which the Stacking tray is to be lowered when the HCS Paper guides are shifted to the offset stacking position on the High- capacity stacker.	
E	30-6-095	HCS TRAY DOWN LENGTH (D- OFFSET)	-	-	1765	0	10000	1	10 pulses	Adjusts the range by which the Stacking tray is to be lowered when the HCS Paper guides are shifted to the regular stacking position on the High-capacity stacker.	To change the range by which the Stacking tray is to be lowered when the HCS Paper guides are shifted to the regular stacking position on the High- capacity stacker.	
E	30-6-096	HCS PAPER PITCH ADJUST (U- OFFSET)	_	-	8600	0	30000	1	ms	Adjusts the paper ejection pitch compensation value which is to be applied when the HCS Paper guides are shifted to the offset stacking position on the Hgir-capacity stacker.	To change the paper ejection pitch (interval) during the offset stacking operation on the High- capacity stacker.	
E	30-6-097	HCS PAPER PITCH ADJUST (D- OFFSET)	_	-	7200	0	30000	1	ms	Adjusts the paper ejection pitch compensation value which is to be applied when the HCS Paper guides are shifted to the regular stacking position on the Hgl+capacity stacker.	To change the paper ejection pitch (interval) during the offset stacking operation on the High- capacity stacker.	
E	30-6-101	HCS TEST PATTERN PRINT NUMBER	-	-	1	1	9999	1	pages	Specifies the quantity of test prints to be made in the test mode TM No. 30-3- 036 "HCS TEST PATTERN PRINT."		
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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
E	30-6-102	HCS TEST PATTERN PRINT OFFSET NUMBER	_	-	0	0	9999	1	-	Specifies the number of stack sets to be offset in the test mode TM No. 30-3- 036 "HCS TEST PATTERN PRINT." When the parameter is set at "0" in this test mode, all test prints are to be stacked in regular position. When it is set at another value than "0," on the other hand, the specified sets of test prints are to be stacked in offset position. In this case, the number of sheets in an individual set is the value specified in the test mode TM No. 30-6- 101 "HCS TEST PATTERN PRINT NUMBER."		
E	30-6-103	HCS TEST PATTERN PRINT PATH SELECT	_	-	0	0	1	1	-	Selects the paper path through which test prints are to be delivered to be stacked on the High-capacity stacker in the test mode TM No. 30-3-036 "HCS TEST PATTERN PRINT." 0: Switchback transfer route 1: Face-up transfer route		
E	31-6-001	EXTERNAL CONTROLLER CONNECT SELECT	_	-	0	0	1	1	-	Selects whether an external PS (PostScript) printer controller is to be connected to a printer. 0: Not to be connected (No PS-printer-controller-related function available) 1: To be connected (PS-printer-controller-related functions available) * The communication between an external PS printer controller and a printer becomes enabled.		The parameter change is to take effect at reboot.
E	31-6-002	EXTERNAL CONTROLLER TYPE SELECT	_	-	0	0	2	1	-	Selects a model of an external PS (PostScript) printer controller to be connected. 0: FS2100C 1: General PS printer controller 2: RS1200C [Note] The parameter setting in this test mode will take effect only when the parameter value is set at "1" (To be connected) in the test mode TM No. 31-6- 001 "EXTERNAL CONTROLLER CONNECT SELECT."		
E	31-6-003	INTERNAL RIP ENABLE/DISABLE SEL		-	0	0	1	1	-	Selects whether to disable an internal PS (PostScript) RIP (Raster Image Processor). 0: Enabled 1: Disabled [Note] 1. This test mode is available only when an internal PS RIP is activated with an activation card (PS kit). 2. The error code W219-5011 (Unprepared Internal PS RIP activation) will be displayed when the test mode TM No. 31-3-001 'ACTIVATE INTERNAL RIP'' is executed with "1" (Disabled selected in this test mode. In this case, the activation card (PS kit) remains unused, 3. "None" will be displayed as connected accessory status in model information in System Info when the parameter value is set at "1" (Disabled) in this test mode.	To disable the activated internal PS RIP.	The parameter change is to take effect at reboot.
E	31-6-005	EXT. CONTROLLER MAC ADDR	_	-	-	-	-	-	-	Enters the MAC address to be applied in WOL (Wake-on-LAN) for the external PS (PostScript) printer controller, RS1200C. * 12 alphanumric characters, which should be 0 to 9 and A to F, are required to be entered. [Note] 1. This test mode is available only when the parameter values are set at "1" (To be connected) in the test mode TM No. 31-6-001 "EXTERNAL CONTROLLER CONNECT SELECT" and at "2" (RS1200C) in the the test mode TM No. 31-6-002 "EXTERNAL CONTROLLER TYPE SELECT." 2. The MAC address previously entered is to be displayed when entering this test mode. If no MAC address has been entered, the corresponding entry box remains blank.	To lead RS1200C to be powered on when a printer is booted up,	

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
Wrapp	oing Envelop	e Finisher			-			1				
E	33-6-001	MAIL SAMPLE PRINT BUTTON DISPLAY	-	-	0	0	1	1	-	Selects whether to lead the [Mail Sample Print] button to be displayed in the Administrator menu on a printer which is equipped with the Wrapping envelope finisher. 0: Not to be displayed 1: To be displayed	To lead the [Mail Sample Print] button to be displayed in the Administrator menu on a printer which is equipped with the Wrapping envelope finisher.	
E	33-6-002	WEF MAX INSERTS SHEETS NUMBER SET	_	-	6	6	15	1	sheets	Specifies the maximum number of enclosure (body) sheets to be enclosed in a mail (an envelope) on the Wrapping envelope finisher. [Note] 1. The corresponding value to be indicated on the operation panel display on a printer is to be changed according to the parameter value in this test mode. 2. The parameter value in this test mode should be kept within the number provided in the specifications of the Wrapping envelope finisher.	To change the maximum number of enclosure (body) sheets to be enclosed in a mail (an envelope) on the Wrapping envelope finisher if required.	
E	33-6-006	WEF PAPER FEED SETTING SELECT (MIX)	-	-	1	0	1	1	-	Selects whether to apply a dedicated paper transport mode to enclosure (body) sheets when "Light-weight paper" is specified as paper type for them on a printer which is equipped with the Wrapping envelope finisher. 0: A dedicated paper transport mode to be applied 1: The paper transport mode for normal (standard) paper type to be applied (Productivity is expected to be enhanced in mat-making jobs with this setting.) * "Normal (Standard)" is to be specified as paper type for envelope form sheets.	To address paper transportation errors on a printer during mail- making jobs with the Wrapping envelope finisher to be caused when using light-weight sheets as enclosure (body) sheets.	This test mode is to be applied only to mail-making jobs.
E	33-6-007	WEF WRAPPING BODY DET ON/OFF SELECT	-	-	0	0	1	1	-	Select whether to lead an error notification to be made when no enclosure (body) sheet exists to be wrapped by a envelope form sheet on the Wrapping envelope finisher. 0: No error notification 1: Error to be notified	To lead an error notification to be made when no enclosure (body) sheet exists to be wrapped by a envelope form sheet on the Wrapping envelope finisher.	
E	33-6-011	WEF EJECT TRAY FULL DETECT SELECT	I	-	1	0	1	1	-	Selects whether to disable the function of detecting that the Ejection tray (Mail stacker) is full of finished mails in the Ejection unit on the Wrapping envelope finisher. 0: Disabled (No detection) 1: Enabled (The said status to be detected)	To disable the function of detecting that the Ejection tray (Mail stacker) is full of finished mails in the Ejection unit on the Wrapping envelope finisher.	
E	33-6-012	WEF FULL DETECTION DETECT NUMBER	I	-	6	2	16	1	times	Specifies the number of times that the Ejection tray full detection sensors should detect finished mails consecutively to determine that the Ejection tray (Mail stacker) has become full on the Wrapping envelope finisher.	To address unstable detection of the filled Ejection tray on the Wrapping envelope finisher by changing the related number of finished mail detection times by the corresponding sensors.	
E	33-6-013	WEF NON-FULL DETECTION DETECT NUMBER	I	-	6	2	16	1	times	Specifies the number of times that the Ejection tray full detection sensors should detect no finished mail consecutively to determine that the Ejection tray (Mail stacker) has not become full on the Wrapping envelope finisher yet.	To address false detection of the filled Ejection tray on the Wrapping envelope finisher.	
E	33-6-014	WEF EJECT ENV NUMBER (FULL DETECT)	1	-	0	0	50	1	copies	Specifies the number of finished mails whch can be received on the Wrapping envelope finisher before the current mail-making job is suspended when the Ejection tray ful detection sensors detects that the Ejection tray (Mail stacker) has become ful.	To lead extra finished mails to be received on the Wrapping envelope finisher after it is detected that the Ejection tray has become fu l .	
E	33-6-021	WEF EJECT FENCE POS CHECK NUMBER	-	-	10	2	100	1	times	Specifies the number of times that the Eject (End) fence position sensors should detect the same status consecutively to determine the current position of the End fence on the Wrapping envelope finisher.	To address false status detection of the End fence on the Wrapping envelope finisher.	
E	33-6-026	WEF WATER PAD APPLY ACTION SELECT	I	-	1	0	1	1	-	Select whether or not to apply water to an envelope form sheet for the flap gluing on the Wrapping envelope finisher. 0: Not to be applied 1: To be applied	To prevent water from being applied to an envelope form sheet for the flap gluing on the Wrapping envelope finisher.	
E	33-6-027	WEF WATER PAD APPLY ACTION NUMBER	1	-	6	1	999	1	times	Specifies the number of times to apply water to an envelope form sheet for the flap gluing on the Wrapping envelope finisher.	To change the the number of times to apply water to an envelope form sheet for the flap gluing on the Wrapping envelope finisher if required.	
E	33-6-028	WEF WATER PAD APPLY WAIT TIME	_	-	1	0	100	1	sec	Specifies the period of waiting time until the Gluing motor is to be restarted to apply water repeatedly to an envelope form sheet for the flap gluing after suspension on the Wrapping envelope finisher. * When the parameter value is set at "0" in this test mode, the Gluing motor will not be suspended between the respective water application actions.	To adjust the whole operation period for water application on the Wrapping envelope finisher.	
E	33-6-029	WEF WATER PAD APPLY ROTATION TIME	_	-	10	1	300	1	msec	Specifies the period of time until the Gluing motor is to be suspended after the Gluing HP sensor has been blocked during a water application action for the flap gluing on the Wrapping envelope finisher.	To adjust the whole operation period for water application on the Wrapping envelope finisher.	
E	33-6-030	WEF WATER PAD APPLY PRESS TIME	_	-	3	1	100	1	sec	Specifies the period of suspension time of the Gluing motor, during which the water application pad is to be pressed against an envelope form sheet for the flap gluing on the Wrapping envelope finisher.	To adjust the whole operation period for water application on the Wrapping envelope finisher.	

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
E	33-6-036	WEF NO WATER DETECT NUMBER	I	-	10	1	16	1	times	Specifies the number of times that the Water level detection sensor should detect water depletion in the Water tank consecutively to determine that water has been deplated in the said tank on the Wrapping envelope finisher.	To address false detection of water depletion in the Water tank on the Wrapping envelope finisher.	
E	33-6-037	WEF EJECT ENV NUMBER (NO WATER DET)	-		4000	0	5000	1	copies	Specifies the number of mails which can be finished on the Wrapping envelope finisher before a mail-making job is prevented with the corresponding error code on a printer when the Water level detection sensor detects water depletion in the Water tank.	To change the number of mails to be finished on the Wrapping envelope finisher after it is detected that water has been depleted in the Water tank.	
E	33-6-041	WEF PAUSE MODE SELECT (LOW TEMP)	I	-	0	0	1	1	-	Selects how to determine how long the Ejection elevation belt is to be suspended on the Wrapping envelope finisher while ejecting finished mails to ensure more secure closure of envelopes under low operation temperature. 0: Automatically (To be determined according to operation temperature) 1: Manually (To be determined through the corresponding test mode setting)	To adjust the period of time during which the Ejection elevation belt is to be suspended on the Wrapping envelope finisher while ejecting finished mails depending on the gluing condition on envelopes under low operation temperature.	
Е	33-6-042	WEF LOW TEMPERATURE	1	LOW-TEP (Low temperature)	11	0	30	1	°C	Specifies the threshold operation temperatures below which the Ejection elevation belt is to be temporarily suspended on the Wrapping envelope finisher when ejecting finished mails to ensure more secure closure of envelopes.	To change the operation temperature levels which lead the Ejection elevation belt to be	
		MODE THRESHOLD	2	ULTRA-L TEP (Ultra low temperature)	5	0	30	1	°C	* The suspension period of the Ejection elevation belt can be specified individually for the respective temperature levels, i.e. "Low" and "Ultra low."	Wrapping envelope finisher when ejecting finished mails.	
E	33-6-044	WEF EJECT ELEVATION BELT PAUSE -MANL	_	-	55	0	600	1	100ms	Specifies the period of time during which the Ejection elevation belt is to be suspended on the Wrapping envelope finisher when ejecting finished mails to ensure more secure closure of envelopes when the parameter value is set at "1" (Manually) in the test mode TM No. 33-6-041 "WEF PAUSE MODE SELECT (LOW TEMP)." * When the parameter is set at "0" in this test mode, the Ejection elevation belt will not be suspended in the above case. [Note] When the parameter value specified here is not compatible with that in another test mode TM No. 33-6-047 "WEF WATER FLAP APPLY ACTION NUMBER." it will be returned to the previous one with the error code W070-3822 (WEF Test mode parameter configuration error) displayed on a printer. value of this test mode will be returned to the value prior to the change.	To adjust the period of time during which the Ejection elevation belt is to be suspended on the Wrapping envelope finisher while ejecting finished mails to ensure more secure closure of envelopes depending on their gluing condition.	
E	33-6-045	WEF EJECT ELEVATION BELT PAUSE TIME	1	LOW-TEP (Low temperature)	75	0	600	1	100ms	Specifies the period of time during which the Ejection elevation belt is to be suspended on the Wrapping envelope finisher when ejecting finished mails to ensure more secure closure of envelopes under the respective temperature levels, i.e. "Low" and "Ultra low." * When the parameter is set at "0" in this test mode, the Ejection elevation belt will not be suspended even under the given low operation temperature. [Note]	To adjust the period of time during which the Ejection elevation belt is to be suspended on the Wrapping envelope finisher while ejecting finished mails to ensure more secure	
			2	ULTRA-L TEP (Utra low temperature)	75	0	600	1	100ms	When the parameter value specified here is not compatible with that in another test mode TM No. 33-0-047 "WEF WATER FLAP APPLY ACTION NUMBER," iv all be returned to the previous one with the error code W070-3822 (WEF Test mode parameter configuration error) displayed on a printer, value of this test mode will be returned to the value prior to the change.	dosure of envelopes under the given low operation temperatures.	
E	33-6-047	WEF WATER FLAP APPLY ACTION NUMBER	-	•	1	1	3	1	times	Specifies the number of times to apply water to an envelope form sheet for the flap gluing on the Wrapping envelope finisher under low operation temperature. [Note] When the parameter value specified here is not compatible with that in another test mode TM No. 33-6-044 "WEF EJECT ELEVATION BELT PAUSE TMANL" or TM No. 33-6-045 "WEF EJECT ELEVATION BELT PAUSE TMAL", it will be returned to the previous one with the error code W070-3822 (WEF Test mode parameter configuration error) displayed on a printer. value of this test mode will be returned to the value prior to the change.	To address poor gluing conditions of envelope flaps on finished mails on the Wrapping envelope finisher.	
E	33-6-051	WEF GUIDE MOTOR SPEED ADJUST	I	-	990	900	1000	1	0.1%	Adjusts the rotation speed of the WEF Entrance motor in relation to the paper transportation speed on a printer.	To address poor paper reception conditions at the entrance of the Wrapping envelope finisher.	
			1	Speed 1 Speed 2	49	1	200	1	msec	Adjusts the timing, i.e. the time to elapse since the last enclosure (bodv) sheet		
F	33-6-052	WEF GUIDE	3	Speed 3	33	1	200	1	msec	has passed through the WEF Entrance sensor, to activate the WEF Sheet path switching solenoid according to the rotation speed of the WEF Entrance motor	envelope form sheets at the WEF	
-	33-0-032	TIMING-FORM	4	Speed 4	29	1	200	1	msec	to open the envelope form sheet path while closing the enclosure (body) sheet	Sheet path switching flipper on the Wrapping envelope finisher	
1			5	Speed 5 Speed 6	25 22	1	200	1	msec	one on the Wrapping envelope finisher.		
	<u> </u>	ł – – ł	1	Speed 0	47	1	200	1	msec			
1			2	Speed 2	23	1	200	1	msec	Adjusts the timing, i.e. the time to elapse since an envelope form sheet has	To address frequent jams of	
Е	33-6-053	FLIPPER SWITCH	3	Speed 3	18	1	200	1	msec	switching solenoid according to the rotation speed of the WEF Entrance motor	WEF Sheet path switching flipper	
1		TIMING-BODY	4	Speed 5	12	1	200	1	msec	to open the enclosure (body) sheet path while closing the envelope form sheet	on the Wrapping envelope	
1			5 6	Speed 6	4		200		msec	une un une wrapping envelope finisher.	misher.	
<u> </u>	t	ł ł	1	Speed 1	318	100	600	1	msec			
1			2	Speed 2	247	100	600	1	msec	Adjusts the period of time until the WEF End tamper motor is to be started to	To address vertical misalignment	
Е	33-6-056	WEF END TAMPER	3	Speed 3	232	100	600	1	msec	after the last enclosure (body) sheets vertically with the End tamper plate	of folded enclosure (body) sheets	
1			4	Speed 5	∠14 190	100	600	1	msec	sensor on the Wrapping envelope finisher, according to the rotation speed of the WEF Entrance motor.	finisher.	
			6	Speed 6	175	100	600	1	msec			
E	33-6-057	WEF END TAMPER WAIT POS TIMING	_	-	150	20	500	1	msec	Adjusts the period of time until the WEF End tamper motor is to be started to retract the End tamper plate from the Body transport path after the WEF Tamper nip HP sensor detects that compiled enclosure (body) sheets have been nipped by the Tmaper nip roller on the Wrapping envelope finisher.	To address wrinkles on the bottom part of folded enclosure (body) sheets on the Wrapping envelope finisher.	

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
E	33-6-061	WEF SIDE TAMPER START TIMING	_	-	10	10	200	1	msec	Adjusts the period of time until the WEF Side tamper motor is to be started to align compiled endosure (body) sheets horizontally with the Side tamper plates after the the WEF End tamper motor is started on the Wrapping envelope finisher.	To address horizontal misalignment of folded enclosure (body) sheets on the Wrapping envelope finisher.	
E	33-6-062	WEF SIDE TAMPER WAIT POS TIMING	_	-	180	10	300	1	msec	Adjusts the period of time until the WEF Side tamper motor is to be started to retreat the Side tamper plates after the WEF Tamper nip HP sensor detects that compiled enclosure (body) sheets have been nipped by the Tmaper nip roller on the Wrapping envelope finisher.	To address frequent paper jam at the entrance of the Body alignment unit on the Wrapping envelope finisher.	
			1	1st	115	24	126	1	pulses	Adjusts the range by which compiled enclosure (body) sheets are to be tamped	To address horizontal	
E	33-6-063	PULSE	2	2nd or later	28	24	100	1	pulses	with the state tamper plates, i.e. the totation period of the WEP state tamper motor, in the Body alignment unit on the Wrapping envelope finisher, separately for the initial one and the subsequent ones.	(body) sheets on the Wrapping envelope finisher.	
E	33-6-064	WEF SIDE TAMPER NUMBER	_	-	2	1	5	1	times	Specifies the number of times to tamp compiled enclosure (body) sheets with the Side tamper plates in the Body alignment unit on the Wrapping envelope finisher.	To address horizontal misalignment of folded enclosure (body) sheets on the Wrapping envelope finisher.	
			1	Speed 1 Speed 2	908	10	1500	1	msec	Adjusts the period of time until the WEF Tamper feed motor is to be stopped to		
-	22 6 071	WEF TAMPER FEED	3	Speed 2 Speed 3	640	10	1150	1	msec	finish transferring compiled enclosure (body) sheets with the Tamper transport	To address frequent paper jam at the Top tamper plate of the	
-	33-0-071	TIMING	4	Speed 4	583	10	1050	1	msec	initial enclosure (body) sheet for the subsequent mail on the Wrapping envelope	Body alignment unit on the	
			5	Speed 5 Speed 6	510 462	10	1050	1	msec	finisher, according to the rotation speed of the WEF Entrance motor.	wrapping envelope initiatier.	
E	33-6-072	WEF TAMPER FEED START TIMING	_	-	130	10	500	1	msec	Adjusts the period of time until the WEF Tamper feed motor is to be started to transfer compiled enclosure (body) sheets with the Tamper transport roller after the WEF Tamper nip HP sensor detects that they have been nipped by the Tmaper nip roller on the Wrapping envelope finisher.	To address frequent paper jam in the Body alignment unit on the Wrapping envelope finisher.	
E	33-6-076	WEF TAMPER NIP MOTOR BRAKE TIME	_	-	100	80	120	1	msec	Adjusts the period of time during which the WEF Tamper nip motor is decelerating to finish lowering the Tamper nip roller on compiled enclosure (body) sheets on the Wrapping envelope finisher.	To address a failure to transfer compiled enclosure (body) sheets in the Body alignment unit on the Wrapping envelope finisher.	
E	33-6-077	WEF TOP TAMPER SOLENOID TIMING- BACK	-		50	10	200	1	msec	Adjusts the period of time until the Top tamper plate is to be retracted from the Body transport path with the activation of the WEF Top tamper solenoid after the WEF Tamper nip HP sensor detects that compiled enclosure (body) sheets have been nipped by the Tmaper nip roller on the Wrapping envelope finisher.	To address frequent paper jam in the Body alignment unit on the Wrapping envelope finisher.	
E	33-6-078	WEF TOP TAMPER SOLENOID TIMING- HIT	_	-	1	1	100	1	msec	Adjusts the period of time until the Top tamper plate is to be returned into place with the deactivation of the WEF Top tamper solenoid after compiled enclosure (body) sheets have passed through the WEF Top tamper sensor on the Wrapping envelope finisher.	To address frequent paper jam at the Top tamper plate of the Body alignment unit on the Wrapping envelope finisher,	
E	33-6-079	WEF TAMPER NIP BACK TIMING	_	-	200	10	300	1	msec	Adjusts the period of time until the WEF Tamper nip motor is to be driven to raise the Tamper nip roller from compiled enclosure (body) sheets to release them from the nipping pressure after the WEF Tamper eject sensor has detected the leading edge of the said sheets.	To address frequent transfer errors of compiled enclosure (body) sheets in the Body alignment unit on the Wrapping envelope finisher.	
			1	A4	0	-25	94	1	pulses		To change the initial sheet	
_		WEF SIDE TAMPER	2	B5	0	-105	14	1	pulses	Adjusts the initial sheet reception position of the Side tamper plates in the Body	reception position of the Side	
E	33-6-081	ADJUST	3	Letter	0	-20	111	1	pulses	period of the WEF Side tamper motor for the respective paper formats.	of enclosure (body) sheets on the	
			4	Legal	0	-20	111	1	pulses		Wrapping envelope finisher	
			1	A4	0	500	500	1	pulsos			
			-		•	-500	500		pulaca	A disease where in this is a second second second with a state of the second second second second second second	To change the initial sheet	
Е	33-6-082	WAIT POSITION	2	Bo	U	-41	500	1	puises	alignment unit on the Wrapping envelope finisher by changing the operation	tamper plate to meet the length	
		ADJUST	3	Letter	0	-385	500	1	pulses	period of the WEF Top tamper motor for the respective paper formats.	of enclosure (body) sheets on the Wrapping envelope finisher	
			4	Legal	0	-500	43	1	pulses			
E	33-6-086	WEF TAMPER NIP BRAKE START TIMING	_	-	90	0	120	1	msec	Adjusts the period of time until the WEF Tamper nip motor starts decelerating after the WEF Tamper nip HP sensor detects that a nipping pressure has been applied to compiled enclosure (body) sheets in the Body alignment unit on the Wrapping envelope finisher.	To address the failure to apply sufficient nipping pressure to compiled enclosure (body) sheets in the Body alignment unit on the Wrapping envelope finisher.	
E	33-6-087	WEF TAMPER NIP- HP BRAKE START TIMING	_	-	90	0	120	1	msec	Adjusts the period of time until the WEF Tamper nip motor starts decelerating after the WEF Tamper nip HP sensor detects that compiled endosure (body) sheets have been released from a nipping pressure in the Body alignment unit on the Wrapping envelope finisher.	To address the failure to release compiled enclosure (body) sheets from a nipping pressure in the Body alignment unit on the Wrapping envelope finisher.	
E	33-6-088	WEF TAMPER FEED MOTOR DRIVE TIME	_	-	100	10	500	1	msec	Adjusts the period of time during which the WEF Tamper feed motor is to be driven at the speed specified in another test mode TM No. 33-6-089 "WEF TAMPER FEED MOTOR SPEED" at the start of compiled sheet transfer operation in the Body alignment unit on the Wrapping envelope finisher.	To address frequent transfer errors of compiled enclosure (body) sheets in the Body alignment unit on the Wrapping envelope finisher.	
E	33-6-089	WEF TAMPER FEED MOTOR SPEED	_	-	9	1	21	1	-	Specifies the speed level at which the WEF Tamper feed motor is to be driven at the start of compiled sheet transfer operation in the Body alignment unit on the Wrapping envelope finisher. * The WEF Tamper feed motor will operate at a predefined speed level after the sais initial operation period.	To address frequent transfer errors of compiled enclosure (body) sheets in the Body alignment unit on the Wrapping envelope finisher.	

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
E	33-6-091	WEF END TAMPER WAIT POSITION	-	-	22	17	27	1	pulses	Adjusts the retracted (lowered) position of the End tamper plate in the Body alignment unit on the Wrapping envelope finisher by changing the operation period of the WEF End tamper motor following its tamping action.	To address frequent paper jam at the entrance of the Body alignment unit on the Wrapping envelope finisher.	
E	33-6-092	WEF END TAMPER HIT POSITION	_	-	12	10	17	1	pulses	Adjusts the range by which compiled enclosure (body) sheets are to be tamped by the End tamper plate in the Body alignment unit on the Wrapping envelope finisher by changing the operation period of the WEF End tamper motor for a tamping action.	To address vertical misalignment of folded enclosure (body) sheets on the Wrapping envelope finisher.	
			1	A4_3-FOLD (A4-Threefold)	0	-479	10000	1	pulses			
			2	A4_2-FOLD (A4-Twofold)	0	-7400	10000	1	pulses	Adjusts the standby position of the Body hit plate 1 at which compiled enclosure (body) sheets are to be received to be folded, individually for the	To adjust the initial fold position	
Е	33-6-096	WEF BODY HIT1 WAIT POSITION	3	B5_3-FOLD (B5-Threefold)	0	-3570	10000	1	pulses	respective combinations of paper format and fold pattern, i.e. A4-format in threefold, A4-format in twofold, B5-format in threefold, Letter-format in	on folded enclosure (body) sheets according to paper format	
		ADJUST	4	Letter_3FOLD	0	-2092	10000	1	pulses	threefold and Legal-format in fourfold, on the Wrapping envelope finisher by changing the operation period of the WEF Body hit motor 1 during the	and fold pattern on the Wrapping envelope finisher	
			5	Legal_4FOLD	0	-3462	10000	1	pulses	corresponding positioning action.		
E	33-6-097	WEF BODY HIT1 BACKLASH CORRECT PULSE	_	-	0	0	269	1	pulses	Specifies an extra operation period of the WEF Body hit motor 1 against expected backlash to be caused when the said motor is stopped in the corresponding sheet folding operation on the Wrapping envelope finisher.	To address frequent shifting of the initial fold position on folded enclosure (body) sheets on the Wrapping envelope finisher	
			1	A4_3-FOLD	0	102	10000	1	pulsos			
			-	(A4-Threefold) B5_3-FOLD		1055	10000		Pulses	Adjusts the standby position of the Body hit plate 2 at which folded enclosure (body) sheets are to be received to be folded again individually for the	To adjust the second fold position	
Е	33-6-098	WEF BODY HIT2 WAIT POSITION	2	(B5-Threefold)	U	-1850	10000	1	pulses	respective combinations of paper format and fold pattern, i.e., A4-format in threefold, B5-format in threefold, Letter-format in threefold and Legal-format in	on tolded enclosure (body) sheets according to paper format	
		ADJUST	3	(Letter-Threefold)	0	-909	10000	1	pulses	fourfold, on the Wrapping envelope finisher by changing the operation period of the WEF Body hit motor 2 during the corresponding positioning action.	envelope finisher.	
			4	(Legal-Fourfold)	0	-1729	10000	1	pulses			
E	33-6-099	WEF BODY HIT2 BACKLASH CORRECT PULSE	_	-	0	0	269	1	pulses	Specifies an extra operation period of the WEF Body hit motor 2 against expected backlash to be caused when the said motor is stopped in the corresponding sheet folding operation on the Wrapping envelope finisher.	To address frequent shifting of the second fold position on folded enclosure (body) sheets on the Wrapping envelope finisher.	
E	33-6-100	WEF BODY FOLD SET FLIPPER WAIT POS	_	-	0	-32	32	1	pulses	Adjusts the position to which the Body fold set flipper is to be shifted when compiled enclosure (body) sheets are folded in two on the Wrapping envelope finisher by changing the operation period of the WEF Body fold set motor during the corresponding positioning action.	To address unexpected fold pattern change (from two-fold to three-fold) or irregular fold patterns for enclosure (body) sheets on the Wrapping envelope finisher.	
E	33-6-101	WEF WRAPPING FEED-PAUSE TIMING	-	-	321	250	345	1	pulses	Adjusts the remaining feed range of folded enclosure (body) sheets, i.e. the operation period of (number of pulses to be counted by) the WEF Wrapping feed motor, after they have reached the WEF Wrapping waiting sensor in the Wrapping unit on the Wrapping envelope finisher. This is the number of pulses from the detection of the middle paper leading edge by the wrapping wait sensor to the pausing of the wrapping feed motor.	To address improper enclosure of folded enclosure (body) sheets into an envelope form sheet on the Wrapping envelope finisher.	
E	33-6-102	WEF WRAPPING FEED MOTOR STOP TIMING	_	-	250	150	350	1	pulses	Adjusts the remaining refeed range of folded enclosure (body) sheets, i.e. the operation period of (number of pulses to be counted by) the WEF Wrapping feed motor, after they have passed through the WEF Wrapping waiting sensor in the Wrapping unit on the Wrapping envelope finisher. This is the number of pulses from the detection of the middle paper leading edge by the wrapping wait sensor to the pausing of the wrapping feed motor.	To address improper enclosure of folded enclosure (body) sheets into an envelope form sheet on the Wrapping envelope finisher.	
			1	Form A_3 Fold	0	-6836	1747	1	pulses	Adjusts the standby position of the Form hit plate 1 at which an envelope form	To address an improper fold	
E	33-6-106	WEF FORM HIT2 WAIT POSITION	2	Form B_3 Fold	0	-385	8198	1	pulses	sheet is to be received to enclose folded enclosure (body) sheets, individually for the respective form types, on the Wrapping envelope finisher by changing	position of envelope form sheets when wrapping folded enclosure	
		ADJUST	3	Form C_3 Fold	0	-6836	1747	1	pulses	the operation period of the WEF Form hit motor 2 (WEF Wrapping hit motor) during the corresponding positioning action.	(body) sheets on the Wrapping envelope finisher.	
Е	33-6-107	WEF FORM HIT2 BACKLASH CORRECT PULSE	_	-	0	0	269	1	pulses	Specifies an extra operation period of the WEF Form hit motor 2 (WEF Wrapping hit motor) against expected backlash to be caused when the said motor is stopped in the corresponding sheet folding operation on the Wrapping envelope finisher.	To address frequent shifting of the fold position on envelope form sheets on the Wrapping envelope finisher.	
		WEF WRAPPING	1	A4/Letter	20	1	80	1	msec	Adjusts the period of time until the WEF Wrapping feed motor is to be restarted to refeed folded and sure (body) sheets to be wrapped after a	To address improper enclosure	
E	33-6-108	FEED RESTART TIMING	2	B5/Legal	30	1	80	1	msec	feeding envelope form sheet has reached the WEF Wrapping sensor on the Wrapping envelope finisher, individually for the respective paper formats.	the Wrapping envelope finisher.	
E	33-6-109	WEF WRAPPING FOLD MOTOR SPEED ADJUST	_	-	100	90	100	1	%	Adjusts the rotation speed of the WEF Wrapping fold motor on the Wrapping envelope finisher by specifying the relative rate against a predefined level.	To address improper enclosure of folded enclosure (body) sheets into an envelope form sheet on the Wrapping envelope finisher.	
E	33-6-110	WEF WRAPPING FEED MOTOR SPEED	-	-	1	1	2	1	-	Specifies the rotation speed of the WEF Wrapping feed motor in the Wrapping unit on the Wrapping envelope finisher. 1: Speed level 1 2: The one specified with a trapezoidal pattern	To address improper enclosure of folded enclosure (body) sheets into an envelope form sheet on the Wrapping envelope finisher.	

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
E	33-6-116	WEF FORM HORIZ DRV MTR RE- ENERG TIME	-	-	20	20	100	1	msec	Adjusts the period of time during which the WEF Form horizontal position sensor remains energized after stopping its rotation in the form alignment operation on the Wrapping envelope finisher.	To adjust the pressure application position on an envelope form sheet during pressure bonding in the Compression unit on the Wrapping envelope finisher.	
			1	Speed 1	253	166	340	1	msec	Adjusts the period of time until the WEF Form registration motor is to be		
			2	Speed 2	189	123	254	1	msec	started to feed an envelope form sheet into the Wrapping unit after the said sheet has reached the WEF Form registration sensor in the Form registration		
F	33-6-117	WEF FORM	3	Speed 3	175	114	236	1	msec	alignmen unit on the Wrapping envelope finisher, according to the rotation speed of the WEE Entrance motor	To address misalignment of pressure-bonded side edges of	
		BUCKLE ADJUST	4	Speed 4	159	104	214	1	msec	* The size of namer buckle to be formed at the ton and of a feeding envelope	envelopes finished on the Wrapping envelope finisher.	
			5	Speed 5	137	90	185	1	msec	form sheet before the Form registration roller will be changed according to the		
			6	Speed 6	124	80	167	1	msec	above adjustment.		
E	33-6-118	WEF FORM WAIT POSITION ADJUST PULSE	I	-	502	443	564	1	pulses	Adjusts the feed range of an envelope form sheet beyond the Form registration roler before the said sheet is to be aligned horizontally in the Form registration alignment unit on the Wrapping envelope finisher by changing the operation period of (number of pulses to be counted by) the WEF Form registration motor.	To address an envelope form sheet jam in the Form registration alignment unit on the Wrapping envelope finisher, whose error code is X054-3654 (WEF Envelope form sheet edge detection failure).	
E	33-6-119	WEF FORM REGIST MOTOR STOP TIMING	_	-	483	458	534	1	pulses	Adjusts the remaining refeed range of an envelope form sheet after the said sheet has passed through the WEF Form registration sensor while refeeding after horizontally aligned in the Form registration alignment unit on the Wrapping envelope finisher by changing the operation period of (number of pulses to be counted by) the WEF Form registration motor.	To address an envelope form sheet jam in the Form registration alignment unit on the Wrapping envelope finisher, whose error ode is XO54-3654 (WEF Envelope form sheet edge detection failure).	
E	33-6-120	WEF FORM HORIZONTAL POS ADJUST PULSE	1	-	23	12	116	1	pulses	Adjusts the period of time (number of motor pulses to be counted) until the WEF Form horizontal position motor is to be stopped shifting a received envelope form sheet horizontally after the WEF Form edge detection sensor has detected the side edge of the said sheet on the Wrapping envelope finisher.	To address misalignment of pressure-bonded side edges of envelopes finished on the Wrapping envelope finisher.	
E	33-6-121	WEF FORM HORIZONTAL HP DOWN PULSE	1	-	47	12	116	1	pulses	Adjusts the period of time (number of motor pulses to be counted) until the WEF Form horizontal position motor is to be stopped shifting back the Form horizontal alignment unit to the home position after the WEF Form horizontal HP sensor has been blocked on the Wrapping envelope finisher.	To adjust the home position of the Form horizontal alignment unit on the Wrapping envelope finisher.	
E	33-6-122	WEF FORM HORIZONTAL MOTOR SPEED	_	-	2	1	6	1	-	Specifies the speed level at which the WEF Form horizontal position motor is to be operated to shift the Form horizontal alignment unit on the Wrapping envelope finisher.	To adjust the pressure application position on an envelope form sheet during pressure bonding in the Compression unit on the Wrapping envelope finisher.	
E	33-6-123	WEF FORM REGIST MOTOR SPEED 2	-	-	7	7	8	1	-	Specifies the rotation speed of the WEF Form registration motor to refeed an envelope form sheet after the said sheet is horizontally aligned in the Form registration alignment unit on the Wrapping envelope finisher. 7: Speed level 7 (632 mm/s) 8: The one specified with a trapezoidal pattern	To address frequent envelope form sheet jam in the Form registration alignment unit on the Wrapping envelope finisher.	
E	33-6-124	WEF FORM HORIZONTAL	1	No Body (sheets)	70	20	150	1	msec	Adjusts the period of time until the WEF Form horizontal position motor is to be started to align a received envelope form sheet horizontally in the Form registration alignment unit on the Wrapping envelope finisher, with or without enclosure (body) sheets to be enclosed, after the WEF Form registration motor	To address an envelope form sheet jam in the Wrapping unit on	
		DRIVE WAIT TIME	2	(With) Body (sheets)	200	20	300	1	msec	nas been suspended. * The Form horizontal alignment unit should not be shifted before a folded envelope form sheet has passed through the Form fold roller.	the Wrapping envelope finisher.	
E	33-6-125	WEF FORM ENT NIP MOTOR BRAKE TIME	I	-	100	80	120	1	msec	Adjusts the period of time during which the WEF Form entrance nip motor is decelerating to finish applying or removing nipping pressure to or from the Form entrance roller 3 in the Form transport path on the Wrapping envelope finisher.	To address an envelope form sheet misfeed or jam along the From transport path in the Guide unit on the Wrapping envelope finisher.	
			1	Form A_3 Fold	0	-8879	10000	1	pulses	Adjusts the standby position of the Form hit plate 2 at which a folded envelope	To address mindless (50	
Е	33-6-126	WEF FORM HIT3 WAIT POSITION	2	Form B_3 Fold	0	-2428	10000	1	pulses	form sheet is to be received to lead the flap to be folded down, individually for the respective form types, on the Wrapping envelope finisher by changing the	folded-down flap on a finished	
1		ADJUST	-		-					operation period of the WEF Form hit motor 3 (WEF Form hit motor 2) during the corresponding positioning action.	envelope on the Wrapping envelope finisher.	
<u> </u>	ļ		3	⊢orm C_3 Fold	0	-8879	10000		pulses			
E	33-6-127	WEF FORM HIT3 BACKLASH CORRECT PULSE	_	-	0	0	269	1	pulses	Specifies an extra operation period of the WEF Form hit motor 3 (WEF Form hit motor 2) against expected backlash to be caused when the said motor is stopped to receive a folded envelope form sheet for flap folding on the Wrapping envelope finisher.	To address misalignment of the folded-down flap on a finished envelope on the Wrapping envelope finisher.	
E	33-6-131	WEF GLUING STOP TIME	_	-	220	100	300	1	msec	Adjusts the suspension time of the WEF Flap fold motor during which water is to be applied to a glue line on a folded envelope form sheet on the Wrapping envelope finisher.	To address poor adhesion of a flap or wavy deformation of an adhered area on a finished envelope on the Wrapping envelope finisher.	
E	33-6-132	WEF GLUING START TIMING	_	-	32	1	100	1	msec	Adjusts the period of time until the WEF Gluing motor is to be started to apply water to a glue line on a folded envelope form sheet after the WEF Flap fold motor has been suspended on the Wrapping envelope finisher.	To address poor adhesion of a flap or wavy deformation of an adhered area on a finished envelope on the Wrapping envelope finisher.	



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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
E	33-6-133	WEF GLUING PLATE WAIT POSITION ADJ	1	-	1	1	100	1	msec	Adjusts the period of time unit the WEF Gluing motor is to be braked to a halt to keep the Gluing plate (Pressing plate) pressed on a folded envelope form sheet, thus applying water to a glue line thereon, after the WEF Gluing HP sensor has been blocked during water application operation in the Flap gluing unit on the Wrapping envelope finisher.	To address poor adhesion of a flap or wavy deformation of an adhered area on a finished erwelope on the Wrapping envelope finisher.	
E	33-6-134	WEF GLUING MOTOR BRAKE TIME	I	-	100	100	300	1	msec	Adjusts the period of time during which the WEF Gluing motor is being braked to keep the Gluing plate (Pressing plate) pressed on a folded envelope form sheet, thus applying water to a glue line thereon, during water application operation in the Flap gluing unit on the Wrapping envelope finisher.	To address poor adhesion of a flap or wavy deformation of an adhered area on a finished erwelope on the Wrapping envelope finisher.	
E	33-6-135	WEF FLAP FOLD MOTOR BRAKE TIME	-	-	100	100	300	1	msec	Adjusts the period of time during which the WEF Flap fold motor is being braked to a halt before the WEF Gluing motor starts during water application operation in the Flap gluing unit on the Wrapping envelope finisher.	To address poor adhesion of a flap on a finished envelope on the Wrapping envelope finisher.	
_		WEF GLUING	1	Form A/C	95	50	150	1	msec	Adjusts the remaining feed range of a folded envelope form sheet by the WEF Flap fold motor to apply water to a glue line thereon after the said sheet has	To address poor adhesion of a	
E	33-6-136	POSITION ADJUST	2	Form B	171	125	225	1	msec	reached the VNEH Gluing sensor in the Hap gluing unit on the Wrapping envelope finisher, individually for the respective form types, by changing the operation period of the said motor during the corresponding positioning action.	flap on a finished envelope on the Wrapping envelope finisher.	
E	33-6-141	WEF EJECTION MOTOR STOP TIMING ADJ	-	-	1000	0	2000	1	msec	Specifies an extra operation period to be provided to the WEF Ejection motor at the end of the current mail-making job to ensure complete ejection of the last finished mail into the Ejection tray (Mail stacker) on the Wrapping envelope finisher.	To extend the operation period of the WEF Ejection motor at the end of the current mail-making job on the Wrapping envelope finisher.	
E	33-6-142	WEF EJECTION ELEVATION MOTOR SPEED	-	-	7	1	7	1	-	Selects the rotation speed of the WEF Ejection elevation motor, i.e. the Ejection elevation belts, on the Wrapping envelope finisher. 1: Speed 1 (80 mm/s) 5: Speed 5 (160 mm/s) 2: Speed 2 (100 mm/s) 6: Speed 6 (180 mm/s) 3: Speed 3 (120 m/s) 7: Speed 7 (200 mm/s) 4: Speed 4 (140 mm/s)	To change the operation speed of the paper ejection elevation motor	
E	33-6-143	WEF EJECT ELEV MTR FLAP PRESS TIMING	-	-	700	0	2000	1	msec	Adjusts the timing to start transporting a finished mail on the Ejection elevation belt while pressing it in the Ejection unit on the Wrapping envelope finisher.	To change the timing to start transporting a finished mail on the Ejection elevation belt in the Ejection unit on the Wrapping envelope finisher.	
			1	Body - 0 Sheet	6	1	25	1	-	Selects the rotation speed of the WEF Ejection motor, i,e, the Ejection belt, on		
			2	Body - 1 Sheet	7	1	25	1	-	the Wrapping envelope finisher, according to the number of enclosure (body) sheets enclosed in a finished mail.		
			3	Body - 2 Sheets	7	1	25	1	-	* The said speed can be separately selected for the case in which the End fence is laid down on the Ejection tray.	To change the traveling speed of the Ejection belt at which a	
F	33-6-146	WEF EJECTION	4	Body - 3 Sheets	7	1	25	1	-	- 1: 300 mm/s -9: 950 mm/s -17: 1380 mm/s -25: 2020 mm/s	finished mail is to be ejected into the Ejection tray (Mail stacker)	
		MOTOR SPEED	5	Body - 4 Sheets	7	1	25	1	-	- 2: 600 mm/s 10: 1000 mm/s 18: 1460 mm/s - 3: 650 mm/s 11: 1050 mm/s 19: 1540 mm/s	on the Wrapping envelope finisher according to the number	
			6	Body - 5 Sheets	7	1	25	1	-	- 4: 700 mm/s - 12: 1100 mm/s - 20: 1620 mm/s - 5: 750 mm/s - 13: 1150 mm/s - 21: 1700 mm/s	of enclosure (body) sheets enclosed in a finished mail	
			7	Body - 6 Sheets	7	1	25	1	-	- 6: 800 mm/s - 14: 1200 mm/s - 22: 1780 mm/s - 7: 850 mm/s - 15: 1250 mm/s - 23: 1860 mm/s		
			8	Direct Eject	1	1	25	1	-	- 8: 900 mm/s -16: 1300 mm/s -24: 1940 mm/s		
E	33-6-151	WEF LOST JAM DETECT-INVALID AREA ADJ	_	-	0	-100	100	1	mm	Adjusts the timing to disable the function to detect if an endosure (body) sheet is misled into the envelope form sheet path on the Wrapping envelope finisher in relation to the distance between the WEF Entrance sensor and the WEF Form entrance sensor.	To address frequent notification of the error code X054-3532 (an enclosure (body) sheet has been misled into the envelope form sheet path on the Wrapping envelope finisher).	
E	33-6-152	WEF LOST JAM DETECT-VALID AREA ADJ	I	-	0	-100	100	1	mm	Adjusts the timing to enable the function to detect if an enclosure (body) sheet is misled into the envelope form sheet path on the Wrapping envelope finisher in relation to the distance between the WEF Entrance sensor and the WEF Form entrance sensor.	To address frequent notification of the error code X054-3532 (an enclosure (body) sheet has been misled into the envelope form sheet path on the Wrapping envelope finisher).	
E	33-6-156	WEF ENTRANCE- NON ARRIVAL JAM ADJUST	-	-	48	0	1000	1	mm	Specifies the extension feed range, i.e. extension time, to be provided before determining that an enclosure (body) or envelope form sheet has not reached the WEF Entrance sensor in time on the Wrapping envelope finisher to lead the corresponding error code to be indicated on a printer.	To address frequent endosure (body) or envelope form sheet misfeed into the Wrapping envelope finisher.	
			1	A4	99	0	1000	1	mm	Specifies the extension feed range, i.e. extension time, to be provided before		
			2	Letter	94	0	1000	1	mm	determining that an enclosure (body) or envelope form sheet has not passed through the WEF Entrance sensor in time on the Wrapping envelope finisher to	To address frequent enclosure	
Е	33-6-157	WEF ENTRANCE- REMAINJAM ADJ	4	Legal	119	0	1000	1	mm	lead the corresponding error code to be indicated on a printer, individually for the respective sheet formats (for enclosure (bodv) sheets) or types (for	(body) or envelope form sheet jams at the entrance of the	
			5	Form A	100	0	1000	1	mm	envelope form sheets). * Item No. 1 to 4 are for enclosure (body) sheets, while item No. 5 to 7 are for	Wrapping envelope finisher	
			6 7	Form B Form C	130	0	1000	1	mm mm	envelope form sheets.		
E	33-6-161	WEF MEDIUM TAMPER-REMAIN JAM ADJUST	_	-	46	0	1000	1	mm	Specifies the extension transfer range, i.e. extension time, to be provided before determining that compiled endosure (body) sheets have not been transferred from the Alignment unit in time on the Wrapping envelope finisher to lead the corresponding error code to be indicated on a printer.	To address frequent enclosure (body) sheet transfer errors in the Alignment unit on the Wrapping envelope finisher.	
E	33-6-162	WEF TOP TAMPER- NON ARRIVAL JAM ADJ	_	-	28	0	1000	1	mm	Specifies the extension transport range, i.e. extension time, to be provided before determining that an enclosure (body) sheet has not reached the WEF Top tamper sensor in time on the Wrapping envelope finisher to lead the corresponding error code to be indicated on a printer.	To address frequent endosure (body) sheet transport errors in the Alignment unit on the Wrapping envelope finisher.	

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
			1	A4	93	0	1000	1	mm	Specifies the extension transfer range, i.e. extension time, to be provided	To oddroop from out and on a	
F	33-6-163	WEF TOP TAMPER-	2	В5	80	0	1000	1	mm	before determining that compiled enclosure (body) sheets have not passed	(body) sheet transfer errors from	
-	00 0 100	ADJUST	3	Letter	88	0	1000	1	mm	to lead the corresponding error code to be indicated on a printer, individually	the Alignment unit on the Wrapping envelope finisher.	
			4	Legal	113	0	1000	1	mm	for the respective sheet formats.		
			1	A4	65	0	1000	1	msec	Specifies the extension time to be provided before determining that compiled	To address frequent endosure	
Е	33-6-164	WEF TAMPER EJECT-NON	2	B5	97	0	1000	1	msec	enclosure (body) sheets have not reached the WEF Tamper eject sensor in	(body) sheet transfer errors from	
		ARRIVAL JAM ADJ	3	Letter	79	0	1000	1	msec	time on the Wrapping envelope finisher to lead the corresponding error code to be indicated on a printer, individually for the respective sheet formats.	the Alignment unit on the Wrapping envelope finisher	
			4	Legal	19	0	1000	1	msec			
			1	A4	99	0	1000	1	mm	Specifies the extension transfer range, i.e. extension time, to be provided	To address frequent endosure	
Е	33-6-165	WEF TAMPER EJECT-REMAIN	2	B5	86	0	1000	1	mm	before determining that compiled enclosure (body) sheets have not passed through the WEF Tamper eject sensor in time on the Wrapping envelope	(body) sheet jams at the exit of	
		JAM ADJUST	3	Letter	94	0	1000	1	mm	finisher to lead the corresponding error code to be indicated on a printer, individually for the respective speet formats	Wrapping envelope finisher	
			4	Legal	119	0	1000	1	mm			
E	33-6-166	WEF BODY FOLD ENT-NON ARRVL JAM ADJ	I	-	121	0	1000	1	msec	Specifies the extension time to be provided before determining that compiled enclosure (body) sheets have not reached the WEF Body fold entrance sensor in time on the Wrapping envelope finisher to lead the corresponding error code to be indicated on a printer.	To address frequent enclosure (body) sheet jams at the entrance of the Body fold unit on the Wrapping envelope finisher.	
			1	A4_3-FOLD	100	0	1000	1	mm			
			2	A4_2-FOLD	65	0	1000	1	mm	Specifies the extension transfer range, i.e. extension time, to be provided		
-	22 6 167	WEF BODY FOLD	-	(A4-Twofold) B5_3-FOLD	94	0	1000			before determining that folded enclosure (body) sheets have not passed	To address frequent enclosure (body) sheet jams in the Body	
	33-0-107	ADJ	3	(B5-Threefold)	04	0	1000		mm	finisher to lead the corresponding error code to be indicated on a printer,	fold unit on the Wrapping envelope finisher.	
			4	(Letter-Threefold)	92	0	1000	1	mm	individually for the respective sheet formats and fold types.		
			5	Legal_4FOLD (Legal-Fourfold)	85	0	1000	1	mm			
			1	A4_3-FOLD (A4-Threefold)	253	0	1000	1	msec			
			2	A4_2-FOLD	137	0	1000	1	msec	Specifies the extension time to be provided before determining that folded		
F	33-6-168	WEF WRAPPING	3	B5_3-FOLD	225	0	1000	1	meac	enclosure (body) sheets have not reached the WEF Wrapping entrance sensor	(body) sheet transfer errors from	
-	33-0-100	JAM ADJ	3	(B5-Threefold)	225	0	1000	'	nisec	to be indicated on a printer, individually for the respective sheet formats and	the Body fold unit on the Wrapping envelope finisher	
			4	(Letter-Threefold)	239	0	1000	1	msec	fold types.		
			5	Legal_4FOLD (Legal-Fourfold)	226	0	1000	1	msec			
			1	A4_3-FOLD (A4-Threefold)	23	0	1000	1	mm			
			2	A4_2-FOLD	23	0	1000	1	mm	Specifies the extension transfer range, i.e. extension time, to be provided		
F	33-6-169	WEF WRAPPING	3	B5_3-FOLD	23	0	1000	1	mm	before determining that folded enclosure (body) sheets have not passed	(body) sheet jams at the	
-	00 0 100	ADJUST		(B5-Threefold) Letter 3FOLD	25		1000			finisher to lead the corresponding error code to be indicated on a printer,	entrance of the Wrapping unit on the Wrapping envelope finisher.	
			4	(Letter-Threefold)	23	0	1000	1	mm	individually for the respective sheet formats and foid types.		
			5	(Legal-Fourfold)	23	0	1000	1	mm			
E	33-6-170	WEF WRAPPING STBY-NON ARRVL JAM ADJ	I	-	112	0	1000	1	msec	Specifies the extension time to be provided before determining that folded enclosure (body) sheets have not reached the WEF Wrapping stand-by sensor in time on the Wrapping envelope finisher to lead the corresponding error code to be indicated on a printer.	To address frequent enclosure (body) sheet transport errors in the Wrapping unit on the Wrapping envelope finisher.	
			1	A4_3-FOLD	23	0	1000	1	mm			
			2	A4_2-FOLD	23	0	1000	1	mm	Specifies the extension transport range, i.e. extension time, to be provided		
-	22 6 171	WEF WRAPPING	-	(A4-Twofold) B5_3-FOLD		•	1000	•		before determining that folded enclosure (body) sheets have not passed	To address frequent enclosure (body) sheet jams at the exit of	
-	33-0-171	JAM ADJ	3	(B5-Threefold)	23	U	1000	1	mm	finisher to lead the corresponding error code to be indicated on a printer,	the Wrapping unit on the Wrapping envelope finisher	
			4	(Letter-Threefold)	23	0	1000	1	mm	individually for the respective sheet formats and fold types.		
			5	(Legal-Fourfold)	23	0	1000	1	mm			
E	33-6-172	WEF BODY EXIT- NON ARRVL JAM ADJ	-	-	44	0	1000	1	msec	Specifies the extension time to be provided before determining that folded enclosure (body) sheets have not reached the WEF Body exit sensor in time on the Wrapping envelope finisher to lead the corresponding error code to be indicated on a printer.	To address frequent endosure (body) sheet jams in the Wrapping unit on the Wrapping envelope finisher.	
			1	A4_3-FOLD	27	0	1000	1	mm			
1			2	A4_2-FOLD	43	0	1000	1	mm	Specifies the extension transport range, i.e. extension time, to be provided	To address from the day	
F	33-6-173	WEF BODY EXIT-	3	(A4- I wotold) B5_3-FOLD	23	n	1000	1	mm	before determining that folded enclosure (body) sheets have not passed through the WEF Body exit sensor in time on the Wranning envelope finisher to	(body) sheet wrapping errors in	
1		REMAIN JAM ADJ		(B5-Threefold) Letter_3FOLD	25	, ,	1000	'		lead the corresponding error code to be indicated on a printer, individually for the respective sheet formate and fold target	the Wrapping unit on the Wrapping envelope finisher	
			4	(Letter Threefold)	25	0	1000	-	mm	the respective sheet formats and fold types.		
<u> </u>			5	(Legal-Fourfold)	23	0	1000	1	mm			
		WEF WRAPPING-	1	Form A	64	0	1000	1	msec	Specifies the extension time to be provided before determining that an	To address frequent envelope	
Е	33-6-174	NON ARRVL JAM ADJUST	2	Form B	102	0	1000	1	msec	Wrapping envelope finisher to lead the corresponding error code to be	of the Wrapping unit on the	
			3	Form C	64	0	1000	1	msec	indicated on a printer, individually for the respective form types.	vvrapping envelope finisher.	
E	33-6-176	WEF FORM ENT- NON AARVL JAM ADJUST	-	-	52	0	1000	1	mm	Specifies the extension feed range, i.e. extension time, to be provided before determining that an envelope form sheet has not reached the WEF Form entrance sensor in time on the Wrapping envelope finisher to lead the corresponding error code to be indicated on a printer.	To address frequent envelope form sheet jams at the entrance of the envelope form sheet path on the Wrapping envelope finisher.	
E	33-6-178	WEF FORM REGIST-NON ARRVL JAM ADJUST	-	-	185	0	1000	1	mm	Specifies the extension feed range, i.e. extension time, to be provided before determining that an envelope form sheet has not reached the WEF Form registration sensor in time in the Form registration alignment unit on the Wrapping envelope finisher to lead the corresponding error code to be indicated on a printer.	To address frequent envelope form sheet transport errors along the envelope form sheet path on the Wrapping envelope finisher.	

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
E	33-6-180	WEF FORM HORIZ- NON ARRVL JAM ADJUST	I	-	688	1	30000	1	pulses	Specifies the number of pulses to be counted on the WEF Form horizontal position motor without detecting the side edge of an envelope form sheet with the WEF Form edge detection sensor since the start of the said motor, based on which it is to be determined that an envelope form sheet has failed to be horizontally aligned in the Form registration alignment unit on the Wrapping envelope finisher.	To address frequent notification of horizontal alignment errors with an envelope form sheet in the Form registration alignment unit on the Wrapping envelope finisher.	
			1	Form A	22	0	1000	1	mm	Specifies the extension transport range, i.e. extension time, to be provided	To address frequent prepared	
Е	33-6-183	WEF FLAP ENT- REMAIN JAM ADJUST	2	Form B	22	0	1000	1	mm	before determining that a prepared mail has not passed through the WEF Flap entrance sensor in time on the Wrapping envelope finisher to lead the corresponding error code to be indicated on a printer, individually for the	mail jams at the entrance of the Flap gluing unit on the Wrapping	
			3	Form C	22	0	1000	1	mm	respective form types.	envelope finisher.	
E	33-6-184	WEF GLUING-NON ARRVL JAM ADJUST	-	-	192	0	1000	1	msec	Specifies the extension time to be provided before determining that a prepared mail has not reached the WEF Gluing sensor in time on the Wrapping envelope finisher to lead the corresponding error code to be indicated on a printer.	To address frequent prepared mail jams in the Flap gluing unit on the Wrapping envelope finisher.	
			1	Form A	40	0	1000	1	mm	Specifies the extension transport range, i.e. extension time, to be provided	To address frequent water-	
Е	33-6-185	WEF GLUING- REMAIN JAM ADJUST	2	Form B	72	0	1000	1	mm	before determining that a water-applied mail has not passed through the WEF Gluing sensor in time on the Wrapping envelope finisher to lead the corresponding error code to be indicated on a printer, individually for the	applied mail jams in the Flap gluing unit on the Wrapping	
			3	Form C	40	0	1000	1	mm	respective form types.	envelope finisher.	
			1	Form A	222	0	1000	1	msec	Specifies the extension time to be provided before determining that a water-	To address frequent water-	
Е	33-6-186	EJCT-NON ARRVL	2	Form B	260	0	1000	1	msec	applied mail has not reached the WEF Flap gluing eject sensor in time on the Wrapping envelope finisher to lead the corresponding error code to be	applied mail jams in the Flap gluing unit on the Wrapping	
			3	Form C	222	0	1000	1	msec	indicated on a printer, individually for the respective form types.	envelope finisher.	
			1	Form A	17	0	1000	1	mm	Specifies the extension transport range, i.e. extension time, to be provided	To address frequent water-	
E	33-6-187	WEF FLAP GLUE EJECT-REMAIN JAM ADJ	2	Form B	17	0	1000	1	mm	before determining that a water-applied mail has not passed through the WEH Flap gluing eject sensor in time on the Wrapping envelope finisher to lead the corresponding error code to be indicated on a printer, individually for the	applied mail jams at the exit of the Flap gluing unit on the	
			3	Form C	17	0	1000	1	mm	respective form types.	Wrapping envelope finisher.	
E	33-6-188	WEF COMPRESS EXIT-NON ARRVL JAM ADJ	I	-	130	0	1000	1	msec	Specifies the extension time to be provided before determining that a finished mail has not reached the WEF Compression exit sensor in time on the Wrapping envelope finisher to lead the corresponding error code to be indicated on a printer.	To address frequent finished mail jams at the entrance of the Ejection unit on the Wrapping envelope finisher.	
			1	Form A	55	0	1000	1	mm	Specifies the extension transport range, i.e. extension time, to be provided	To address frequent finished mai	
Е	33-6-189	WEF COMPRESS EXIT-REMAIN JAM	2	Form B	79	0	1000	1	mm	before determining that a finished mail has not passed through the WEF Compression exit sensor in time on the Wrapping envelope finisher to lead the corresponding arror code to be indicated on a printer, individually for the	transport errors in the Ejection unit on the Wrapping envelope	
		7.00001	3	Form C	55	0	1000	1	mm	respective form types.	finisher.	
E	33-6-191	WEF EJECT- REMAIN JAM TIME	-	-	10	1	60	1	sec	Specifies the amount of time during which a finished mail remains detected by the WEF Eject sensor on the Wrapping envelope finisher, to be determined that it has failed to be ejected into the Ejection tray (Mail stacker) on the Wrapping envelope finisher.	To address frequent notification of finished mail ejection errors on the Wrapping envelope finisher.	
		WEE FLICT FLIEV	1	Form A	74	0	1000	1	msec	Specifies the extension time to be provided before determining that a finished	To address frequent finished mail	
E	33-6-192	EDGE-NON ARRVL JAM ADJ	2	Form B	58	0	1000	1	msec	mail has not reached the WEF Eject elevation edge sensor in time on the Wrapping envelope finisher to lead the corresponding error code to be indicated on a printer, individually for the respective form types	transport errors at the entrance of the Ejection unit on the Wranning envelope finisher	
			3	Form C	74	0	1000	1	msec		- spong envelope miloner.	
Е	33-6-201	WEF EJECT TRAY FULL DET SENSOR	1	Front	2048	0	4096	1	-	Adjusts the threshold sensitivity values for the respective WEF Eject tray full detection sensors F (Front) and R (Rear), based on which it is to be determined if the Ejection tray (Mail stacker) has become full of finished mails	To change the timing to determine that the Ejection tray (Mail stacker) has become full of finished mails on the Weapping	
		ADJ	2	Rear	2048	0	4096	1	-	on the Wrapping envelope finisher.	envelope finisher.	
E	33-6-203	WEF MEDIUM TAMPER SENSOR THRESHOLD	1	-	2048	0	4096	1	-	Adjusts the threshold sensitivity value for the WEF Body tamper sensor, based on which it is to be determined if enclosure (body) sheets are compled to be tamped in the Alignment unit on the Wrapping envelope finisher.	To address false detection of enclosure (body) sheet misfeed or jam in the Alignment unit on the Wrapping envelope finisher.	
E	33-6-204	WEF FORM EDGE DET SENSOR THRESHOLD	_	-	2048	0	4096	1	-	Adjusts the threshold sensitivity value for the WEF Form edge detection sensor, based on which it is to be determined if an envelope form sheet is horizontally aligned in the Form registration unit on the Wrapping envelope finisher.	To address poor side bonding of finished mails due to horizontal misalignment of envelope form sheets on the Wrapping envelope finisher.	
E	33-6-205	WEF DA1 BAR CODE SENSOR EMIT	-	-	60	0	255	1	-	Adjusts the luminous energy of the Bar-code reader (optional).		
E	33-6-206	WEF DA2 FORM EDGE SENSOR EMIT	-	-	72	0	255	1	-	Adjusts the luminous energy of the Finished-mail edge detection device (optional).		

RISO SQUARE WEB VERSION

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
E	33-6-211	WEF TEST PATTERN PRINT SETTING	_	-	1	0	12	1	-	Selects the operation conditions to be applied when executing the test mode TM No. 33-3-025 "WEF TEST PATTERN PRINT." [Operation conditions] 0: No enclosure (body) with envelope form type A (sealed) 1: A4-format 3-fold enclosure (body) with envelope form type A (unsealed) 3: B5-format 3-fold enclosure (body) with envelope form type A (sealed) 3: B5-format 3-fold enclosure (body) with envelope form type A (sealed) 4: B5-format 3-fold enclosure (body) with envelope form type A (sealed) 6: A4-format 2-fold enclosure (body) with envelope form type B (sealed) 6: A4-format 2-fold enclosure (body) with envelope form type B (unsealed) 7: A4-format 2-fold enclosure (body) with envelope form type B (unsealed) 8: No enclosure (body) sheet with envelope form type C (sealed) 9: Letter-format 3-fold enclosure (body) with envelope form type C (unsealed) 10: Letter-format 3-fold enclosure (body) with envelope form type C (unsealed) 11: Lega-format 4-fold enclosure (body) with envelope form type C (unsealed) 12: Lega-format 4-fold enclosure (body) with envelope form type C (unsealed) 12: Lega-format 4-fold enclosure (body) with envelope form type C (unsealed)	To check mail-making job performance during maintenance works with the Wrapping envelope finisher.	
E	33-6-212	WEF TEST PATTERN PRINT- INSERTS NBR	_	-	1	1	15	1	-	Specifies the quantity of enclosure (body) sheets to be enclosed in a finished mail to be made in the test mode TM No. 33-3-025 "WEF TEST PATTERN PRINT." * This parameter value will not be applied when no enclosure (body) sheet is specified in an operation conditon selected in the test mode TM No. 33-6-211 "WEF TEST PATTERN PRINT SETTING." [Note] In case this parameter value is beyond the one specified in the test mode TM No. 33-6-002 "WEF MAX INSERTS SHEETS NUMBER SET," the maximum number of enclosure (body) sheets specified in the said test mode will be enclosed.	To check mail-making job performance during maintenance works with the Wrapping envelope finisher.	
E	34-6-006	PB CLAMP UNIT HORIZONTAL POS ADJUST	_	-	0	-150	150	1	0.1mm	Adjusts the position of the PB CImap unit at which the body texts stacked in the PB Body text stack unit are to be clamped by the PB Clamp arms on the Perfect binder.	To adjust the position at which stacked body texts are to be clamped on tbe Perfect binder.	
E	34-6-007	PB CLAMP-GLUE HORIZONTAL POS ADJUST	-	-	0	-150	150	1	0.1mm	Adjusts the position of the PB CImap unit at which glue is to be applied to the body texts clamped by the PB Clamp arms on the Perfect binder.	To adjust the position at which glue is to be applied to clamped body texts on tbe Perfect binder.	
E	34-6-008	PPB CLAMP-BLADE HORIZONTAL POS ADJUST	_	-	0	-150	150	1	0.1mm	Adjusts the position of the PB CImap unit at which extra glue is to be scraped off from clamped body texts with the PB Glue squeegee blade on the Perfect binder.	To adjust the position at which extra glue is to be scraped off from clamped body texts on tbe Perfect binder.	
E	34-6-009	PB CLAMP-FORM HORIZONTAL POS ADJUST	_	-	0	-150	150	1	0.1mm	Adjusts the position of the PB Clamp unit at which a cover sheet is to be glued to clamped body texts to form a spine of a booklet on the Perfect binder.	To adjust the position at which a cover sheet is to be glued to clamped body texts to from a booklet spine on the Perfect binder.	
E	34-6-010	PB COVER-FORM POS ADJUST	_	-	0	-150	150	1	0.1mm	Adjusts the feed range of a prepared cover sheet to the position at which the said cover sheet is to be glued to damped body texts to form a booklet spine on the Perfect binder.	To adjust the feed range of a prepared cover sheet to the position at which the said cover sheet is to be glued to clamped body texts to from a booklet spine on the Perfect binder.	
E	34-6-011	PB FORE EDGE ALIGN PLATE POS ADJUST	_	-	0	-50	50	1	0.1mm	Adjusts the position to which the PB End face alignment plate (fore edge) is to be shifted to tamp body texts stacked in the PB Body text stack unit on the Perfect binder.	To address poor fore edge alignment of body texts in finished booklets on the Perfect binder.	
E	34-6-012	PB VERT ALIGN PLATE POS ADJUST	-	-	-20	-70	50	1	0.1mm	Adjusts the position to which the PB End face alignment plates (vertical) are to be shifted to tamp body texts stacked in the PB Body text stack unit on the Perfect binder.	To address poor vertical alignment of body texts in finished booklets on the Perfect binder.	
E	34-6-013	PB COVER ALIGN PLATE POS ADJUST	_	-	0	-50	50	1	0.1mm	Adjusts the position to which the PB Cover guides are to be shifted to align a cover sheet in the PB Forming unit on the Perfect binder.	To address vertical misalignment of a cover sheet on a finished booklet on the Perfect binder.	
E	34-6-014	PB COVER CUT POSITION ADJ	_	-	0	-150	150	1	0.1mm	Adjusts the feed range of a cover sheet to the position at which the said cover sheet is to be cut according to body text volume (thickness) on the Perfect binder.	To address cover sheet length mismatch with body texts on finished booklets on the Perfect binder.	
E	34-6-018	PB FORE EDGE PLATE ANGLE ADJ - HP POS	_	-	0	-300	300	1	0.1° (angle)	Adjust the angle of the PB Fore edge plate at the home (raised) position on the Perfect binder.	To address poor fore edge alignment of body texts in finished booklets on the Perfect binder.	
E	34-6-021	PB CLAMP -BODY STACK HEIGHT ADJ	_	-	0	-25	25	1	0.1mm	Adjusts the shift range of the PB Clamp arms to be raised to receive the body texts stacked in the FB Body text stack unit on the Perfect binder.	To address poor fore edge alignment of body texts in finished booklets on the Perfect binder.	
E	34-6-022	PB CLAMP -GLUING HEIGHT ADJ	_	-	0	-40	40	1	0.1mm	Adjusts the shift range of the PB Clamp arms to be lowered to apply glue to clamped body texts in the PB Gluing unit on the Perfect binder.	To address poor bonding of cover sheets on finished booklets on the Perfect binder.	

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Test Modes

Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
E	34-6-023	PB CLAMP - FORMING HEIGHT ADJ	-	-	0	-40	40	1	0.1mm	Adjusts the shift range of the PB Clamp arms to be lowered to glue a cover sheet to clamped body texts in the PB Forming unit on the Perfect binder.	To address poor bonding of cover sheets on finished booklets on the Perfect binder.	
E	34-6-024	PB CLAMP -BLADE HEIGHT ADJ	-	-	0	-30	30	1	0.1mm	Adjusts the shift range of the PB Clamp arms to be lowered to scrape off glue from clamped body texts with the PB Glue squeegee blade on the Perfect binder.	To address poor bonding of cover sheets or running-over glue at a spine on finished booklets on the Perfect binder.	
			1	Condition 1	0	-2	10	1	0.1ms	Adjusts the height of the PB Glue squeegee blade to scrape off glue from degrand heids taxto on the Defect binder seconding to backlet volume.		
			2	Condition 2	0	-2	10	1	0.1ms	(thickness).	.	
E	34-6-025	PB BLADE HEIGHT	3	Condition 3	0	-2	10	1	0.1ms	[Booket Volume (mickness)] - Condition 1: 1.0 to 2.4mm - Condition 2: 2.5 to 4.9mm	to address poor bonding of cover sheets or running-over glue at a spine on specific-volume	
		,	4	Condition 4	0	-2	10	1	0.1ms	- Condition 3: 5.0 to 9.9mm - Condition 4: 10.0 to 19.9mm - Condition 5: 20.0mm or more	(thickness) booklets on the Perfect binder.	
			5	Condition 5	0	-2	10	1	0.1ms	* When the parameter value is increased, the volume of glue to be scraped off will be decreased.		
E	34-6-031	PB COVER LENGTH DETECTION	_	-	6480	6400	6560	1	0.01um /pu i se	Adjusts the motor-pulse-to-length conversion value to calculate the length of cover sheets on the Perfect binder.	To address error in motor-pulse- based calculation of cover sheet length due to the wear of the corresponding paper feed rollers on the Perfect binder.	
E	34-6-032	PB COVER LENGTH DETECT-INSERTER	_	-	6480	6400	6560	1	0.01um /pulse	Adjusts the motor-pulse-to-length conversion value to calculate the length of cover sheets in the PB Cover inserter on the Perfect binder.	To address error in motor-pulse- based calculation of cover sheet length due to the wear of the corresponding paper feed rollers in the PB Cover inserter on the Perfect binder.	
E	34-6-036	PB CLAMP PULSE ADJUST-NO BODY	_	-	1180	1100	1250	1	pulses	Specifies the number of encoder pulses to be counted on the PB Clamp open/close motor, i.e. the operation period of the said motor, when the PB Clamp arms are closed to the innermost position without body texts stacked in the PB Body text stack unit on the Perfect binder.	To change the base encoder pulse count on the PB Clamp open/close motor, which is to be applied as reference value when calculating the thickness (volume) of stacked body texts on the Perfect binder.	
E	34-6-037	PB CLAMP PULSE ADJUST-BODY 20MM	-	-	700	600	800	1	pulses	Specifies the number of encoder pulses to be counted on the PB Clamp open/close motor, i.e. the operation period of the said motor, when the PB Clamp arms are closed to hold 20mm≻thick body texts stacked in the PB Body text stack unit on the Perfect binder.	To change the encoder pulse count on the PB Clamp open/close motor which is defined as standard value to determine that 20mm-thick body texts are held with the PB Clamp arms on the Perfect binder.	
			1	Condition 1	15	5	99	1	0.1mm	Adjusts the volume (thickness) of glue to remain at the left end (rear end) of damned body taxts without scraned off with the PB Glue scrueenee blade on		
			2	Condition 2	15	5	99	1	0.1mm	the Perfect binder according to booklet volume (thickness).	To address glue running over at	
E	34-6-041	(LEFT)	3	Condition 3	15	5	99	1	0.1mm	[Booklet volume (thickness)] - Condition 1: 1.0 to 2.4mm - Condition 2: 2.5 to 4.9mm	the top end of the finished booklet spine on the Perfect binder.	
			4	Condition 4	25	5	99	1	0.1mm	- Condition 3: 5.0 to 9.9mm - Condition 4: 10.0 to 19.9mm		
			5	Condition 5	25	5	99	1	0.1mm	- Condition 5:20,0mm or more		
			1	Condition 1	15	5	99	1	0.1mm	Adjusts the volume (thickness) of glue to remain at the right end (front end) of clamped body texts without scraped off with the PB Glue squeegee blade on		
			2	Condition 2	15	5	99	1	0.1mm	the Perfect binder according to booklet volume (thickness). [Booklet volume (thickness)]	To address glue running over at the bottom end of the finished	
E	34-6-042	(RIGHT)	3	Condition 3	15	5	99	1	0.1mm	- Condition 1: 10 to 2.4mm - Condition 2: 2.5 to 4.9mm	booklet spine on the Perfect binder.	
			4	Condition 4	20	5	99	1	0.1mm	- Condition 3: 5.0 to 9.9mm - Condition 4: 10.0 to 19.9mm Condition 5:00 0mm		
L			5	Condition 5	20	5	99	1	0.1mm			
		PB BODY PAPER	1	A4/LTR (Letter)	200	50	300	1	msec	Adjusts the interval (pitch) at which body text sheets are to feed into the	To address frequent body text sheet jams at the entrance of the	
E	34-6-046	PITCH ADJUST	2	B5	200	50	300	1	msec	Perfect binder individually for the respective paper formats.	Perfect binder to be caused when using specific-format sheets	
			3	A5	259	50	400	1	msec		uncolo.	
			2	632mm/s	626	600	664	1	mm/s		To address frequent body text or	
E	34-6-047	PB PAPER FEED SPEED	3 ⊿	550mm/s	545 495	523 475	578 525	1	mm/s	Adjusts the speed at which body text or cover sheets are to feed into the Perfect binder when priting on them at the respective print speeds.	cover sheet jams at the entrance of the Perfect binder to be	
			5	465mm/s	460	442	488	1	mm/s		caused wnen operating at specific print speeds.	
<u> </u>			6	350mm/s	347	333	368	1	mm/s			
E	34-6-051	PB BOOKLET FEED ADJUST-LOWER EXIT	_	-	10	5	50	5	mm	Adjusts the additional traveling range of the transport belts in the PB Booklet exit unit (lower) after a finished booklet has passed through the PB Booklet exit position 2 sensor on the Perfect binder.	To address a warped or dog- eared cover on a finished booklet or skew ejection of a finished booklet on the Perfect binder.	
										mode, it will be rounded up to the one divisible by 5 when applied to determine the said traveling range on the Perfect binder.		

CONFIDENTIAL

RISO SQUARE WEB VERSION

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
_	24.0.050	PB FORE EDGE	1	A4/LTR (Letter)	0	-200	100	1	msec	Adjusts the timing to lower (open) the PB Fore edge plate in the PB Body text stack unit on the Perfect binder, individually for the respective body text formats.	To address poor performance in stacking specific-format body texts in the PB Body text stack	
E	34-0-036	TIMING	2	B5/A5	-20	-150	150	1	msec	* When body texts are not stacked in the PB Body text stack unit well, it might help to advance the said timing, while it might be delayed to address misalignment of body texts in a finished booklet.	unit or misalignment of specific- format body texts in finished booklets on the Perfect binder.	
			1	A4/LTR (Letter)	280	50	300	1	msec	Adjusts the timing to raise (close) the PB Fore edge plate in the PB Body text stack unit on the Perfect binder, individually for the respective body text	To address poor performance in stacking specific-format body	
Е	34-6-057	PB FORE EDGE ALIGN PL CLOSE TIMING	2	B5	230	50	300	1	msec	formats. * When hody texts are not stacked in the PB Body text stack unit well it minist	texts in the PB Body text stack unit or misalignment of specific-	
			3	A5	180	50	300	1	msec	help to advance the said timing, while it might be delayed to address misalignment of body texts in a finished booklet.	format body texts in finished booklets on the Perfect binder.	
E	34-6-061	PB BODY PAPER SIZE ADJUST- STACK POS	-	-	0	0	3	1	-	Selects a paper format of body texts to be loaded on a printer when executing the test mode TM No. 34-3-061 "PB BODY STACK." [Paper format] 0: A4 LEF 1: B5 LEF 2: A5 LEF 3: Letter LEF	To check booklet-making job performance during maintenance works with the Perfect binder.	The parameter value will return to the default one at power-off.
E	34-6-062	PB BODY NUMBER ADJUST-STACK POS	-	-	50	15	300	1	sheets	Specifies the volume of body texts to be stacked in the test mode TM No. 34- 3-061 "PB BODY STACK."	To check booklet-making job performance during maintenance works with the Perfect binder.	The parameter value will return to the default one at power-off.
E	34-6-066	PB TEST PATTERN PRINT- BODY SIZE	I	-	0	0	3	1	-	Selects a paper format of body texts to be loaded on a printer when executing the test mode TM No. 34-3-062 "PB TEST PATTERN PRINT." [Paper format] 0: A4 LEF 1: 85 LEF 2: A5 LEF 3: Letter LEF	To check booklet-making job performance during maintenance works with the Perfect binder.	
E	34-6-067	PB TEST PATTERN PRINT- BODY NUMBER	_	-	50	15	600	1	Sheets	Specifies the volume of body texts to be compiled into a booklet in the test mode TM No. 34-3-062 "PB TEST PATTERN PRINT." [Note] The maximum volume of body texts which can be compiled into a booklet on the Perfect binder differs depending on paper type, e.g. 300 sheets with IJ paper and 600 sheets with light-weight paper.	To check booklet-making job performance during maintenance works with the Perfect binder.	
Е	34-6-068	PB TEST PATTERN PRINT- COVER LENGTH	-	-	4650	2985	4768	1	0.1mm	Specifies the length of cover sheets to be applied in the test mode TM No. 34- 3-062 "PB TEST PATTERN PRINT."	To check booklet-making job performance during maintenance works with the Perfect binder.	
E	34-6-069	PB TEST PATTERN PRINT- COVER TRAY	_	-	5	0	5	1	-	Selects a paper source for cover sheets to be applied in the test mode TM No. 34-3-062 "PB TEST PATTERN PRINT." [Paper source] 0: Standard paper feed tray 1: Paper tray 1 2: Paper tray 2 3: Paper tray 2 3: Paper tray 3 4: High-capacity feeder 5: PB Cover inserter [Note] Another paper source should be selected than the one selected in the test mode TM No, 04-6-064 "TM PRINT: PAPER FEED TRAY SELECTION."	To check booklet-making job performance during maintenance works with the Perfect binder.	
Additio	onal 2000 sh	eet feeder (Expansion	feed	ler) Normal (Standard)	6	-10	20	1	mm			
			2	Thin	6	-10	20	1	mm	Aujusts the timing to deactivate the External paper feed motor after a sheet feeding from the Additional 2000 sheet feeder has reached the Registration	To address the following issues	
			3	U1	6	-10	20	1	mm	said sheet individually for the respective paper types.	to be caused when feeding specific types of sheets from the	
Е	35-6-001		4	U2	6	-10	20	1	mm	When the parameter value is increased, the size of paper buckle will be	Additional 2000 sheet feeder: paper buckle noise, printed	
		ADJUSTMENT	5 6	U3 U4	6	-10 -10	20	1	mm mm	eniargeα, while it wi∎ be reduced when the said value is decreased.	image misalignment due to skewed paper, or Z-folding due	
			7	U5	6	-10	20	1	mm	When paper buckle noise or Z-folding occurs, the parameter value should be decreased, while it should be increased against printed image misalignment	to too much paper buckle.	
			8	LW Paper	6	-10	20	1	mm	due to skewed paper.		
E	35-6-002	EXF NON-ARRIVAL JAM ADJUST TIME	_	-	0	0	100	1	ms	Specifies the amount of time to be added to or deducted from the counted period when confirming that a misfeed error has occurred on the Additional 2000 sheet feeder.		This parameter value is to be stored on the Additional 2000 sheet feeder.
1			1	Normal (Standard)	1	0	1	1	-	Selects whether to disable the supplementary feed action during the secondarv	To disable the supplementary	
1_		EXF ASIST	2	Thin U1	1	0	1	1		paper feed operation when feeding from the Additional 2000 sheet feeder individually for the respective paper types.	feed action during the secondary paper feed operation when	
E	35-6-003	CONTROL	4 5	U2 U3	1	0	1	1	-	0: Disablad	feeding from the Additional 2000	
1			6 7	U4 U5	1	0	1	1	-	1: Enabled	type.	
┣─			8	LW Paper	1	0	1	1	-			
1			1	Normal (Standard)	0	0	2000	1	0.1 ms	Spacifies the value to be added to a prodofined one to adjust the siteh (asses).	To adjust the pitch (space)	
E	35-6-004	SIMPLEX-MCF TRAY	2	Thin	0	0	2000	1	0.1 ms	between sheets feeding from the Additional 2000 sheet feeder in simplex prints, individually for the respective paper types.	Additional 2000 sheet feeder in simplex prints according to paper type.	
			3	LW Paper	0	0	2000	1	0.1 ms			

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Image: Part of the section o	Туре	No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
Index Second state Second	1			1	Normal (Standard)	0	0	2000	1	0.1 ms		To adjust the pitch (space)	
	E	35-6-005	EXF PAPER PITCH	2	Thin	0	0	2000	1	0.1 ms	Specifies the value to be added to a predefined one to adjust the pitch (space) between sheets feeding from the Additional 2000 sheet feeder in duplex prints.	between sheets feeding from the Additional 2000 sheet feeder in	
Image: state in the s			DUPLEX-MCF TRAY	-							individually for the respective paper types.	duplex prints according to paper type.	
Image: state in the state	<u> </u>			3	LW Paper	0	0	2000	1	0.1 ms		···	
x x <td>E</td> <td>35-6-006</td> <td>EXF IMAGE CENTER MASK OFF</td> <td>_</td> <td>-</td> <td>0</td> <td>-100</td> <td>100</td> <td>1</td> <td>0.1mm</td> <td>Adjusts the center position of printed images on sheets feeding from the Additional 2000 sheet feeder when the Side masking processing is deactivated.</td> <td>To adjust the center position of printed images on sheets feeding from the Additional 2000 sheet feeder.</td> <td></td>	E	35-6-006	EXF IMAGE CENTER MASK OFF	_	-	0	-100	100	1	0.1mm	Adjusts the center position of printed images on sheets feeding from the Additional 2000 sheet feeder when the Side masking processing is deactivated.	To adjust the center position of printed images on sheets feeding from the Additional 2000 sheet feeder.	
Res Node: Problem:											Selects the paper format of sheets to be loaded in the Additional 2000 sheet		
Handbox data many rade Handbox data many rade Image: constraint of the second se	E	35-6-007	EXF PAPER SIZE SELECT	_	-	2	1	4	1	-	feeder. 0: - 1: B5-LEF 2: A4-LEF 3: Letter-LEF 4: 16K-LEF (Chinese A4-LEF)	To define the paper format of sheets to be loaded in the Additional 2000 sheet feeder.	This parameter value is to be stored on PMS on a printer.
Image: Biology Finds Find	wuith	unction finisi	ier FG20										
E France Product is 1000 1 <th1< th=""></th1<>	E	36-6-001	FI JAM DETECT TIMING COLLECTIVE SET	_	-	0	-2000	2000	1	msec	Specifies the margin period to be added to the paper jam detection time predefined for the respective paper sensors located along the paper paths in the FI unit of the Multifunction finisher.	To extend the paper jam detection time for the respective paper sensors located along the paper paths in the FI unit of the Multifunction finisher, thus addressing frequent paper jam in the said unit.	
E Product from out of the field of the field of the section of the sec					L . # OFF	050		2000		0.4		To adjust the start timing of the	
1 1 1 1 0 1 0 1 0 1 0	_F	37-6-001	FF FINGER SOL ON	1	Letter-SEF	850	U	2000	1	u.1mm	Adjusts the activation timing of the FF Finger solenoid in the inward threefold operation on the Multifunction finisher	folding assist action with a finger during the inward threefold	
Image: Control in the contr		37-0-001	TIMING-IN 3 FOLD	2	A4-SEE	854	0	2000	1	0 1mm	* The said solenoid would not be activated if the parameter is set at "0."	operation in the FF (Finisher Fold) unit on the Multifunction	
Image: Biology of the second in the secon				2	A-021	004	Ŷ	2000		0.111		finisher.	
Res Procession Procession I Late-SEF 0.95 0.9 0.9 0.100 Appende the exclusion time of 10 FeF Figure related in the schward line data Procession time of 10 FeF Figure related in the schward line data E 37-400 FF FIGER 90.000 - </td <td>E</td> <td>37-6-002</td> <td>FF FINGER SOL ON TIME ADJ-IN 3 FOLD</td> <td>-</td> <td>-</td> <td>150</td> <td>0</td> <td>2000</td> <td>1</td> <td>0.1mm</td> <td>Adjusts the activation duration of te FF Finger solenoid in the inward threefold operation on the Multifunction finisher.</td> <td>To adjust the duration of the folding assist action with a finger during the inward threefold operation in the FF (Finisher Fold) unit on the Multifunction finisher.</td> <td></td>	E	37-6-002	FF FINGER SOL ON TIME ADJ-IN 3 FOLD	-	-	150	0	2000	1	0.1mm	Adjusts the activation duration of te FF Finger solenoid in the inward threefold operation on the Multifunction finisher.	To adjust the duration of the folding assist action with a finger during the inward threefold operation in the FF (Finisher Fold) unit on the Multifunction finisher.	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$												To adjust the start timing of the	
E 37-600 PEND OLDE 2 ALSEP BBE 0 203 1 Clim The distance of the set of the output of the output of the output of the set of the output of the output of the set of the output of the set of the output of t	_	27.0.000	FF FINGER SOL ON	1	Letter-SEF	886	0	2000	1	0.1mm	Adjusts the activation timing of the FF Finger solenoid in the outward threefold	folding assist action with a finger during the outward threefold	
Image: state state is a state	Ē	37-6-003	FOLD		11.055						operation on the Multinunction linisher. * The said solenoid would not be activated if the parameter is set at "0."	operation in the FF (Finisher Fold) unit on the Multifunction	
E 37.4-604 FF FINGER 20.0 No. The EQUIT 32 FOLD - 140 0 200 1 0.1mm Adjust the advalue drating of the FF Figure releaned in the advalue of the figure releaned in the figure releaned in the advalue of the figure releaned in the advalue of the presenter is set it '.'''''''''''''''''''''''''''''''''	1			2	A4-SEF	886	0	2000	1	0.1mm		finisher.	
E 37.4-00 FEND GUDE 2 POL 1 (1) 84-6EF 886 0 200 1 0.1mm E 37.4-00 FFEND GUDE 1 POL 1 (1) 84-6EF 886 0 200 1 0.1mm G Charly POL 84 0 200 1 0.1mm 6 Mathematics 6 0 200 1 0.1mm 6 Mathematics 6 0 200 1 0.1mm 7 4 A>SEF 886 0 200 1 0.1mm 6 Mathematics 1 Later-SEF 30 10 0 1 2 publics 7 FEND GUDE 1 1 Later-SEF 50 10 50 1 2 publics The standbul position of the FF Enger sciencial in the 2-64 operation in	E	37-6-004	FF FINGER SOL ON TIME-OUT 3/Z FOLD		-	140	0	2000	1	0.1mm	Adjusts the activation duration of the FF Finger solenoid in the outward threefold or Z-fold operation on the Multifunction finisher.	To adjust the duration of the folding assist action with a finger during the outward threefold or Z-fold operation in the FF (Finisher Fold) unit on the Multifunction finisher.	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	╞			1	B4-SEF	886	0	2000	1	0.1mm			
E 37.4-008 FF END GUIDE 1 3 8/GOD-GEF 8/8 0 2000 1 0.1mm module in the 2-rote optimize of marks. duary the 2-rote optimize of marks. E 37.4-008 FF END GUIDE 1 1 Column 1 Under standard finitiation finitiate: module in the 2-rote optimize of marks. The standard optimize is set at '0.' E 37.4-008 FF END GUIDE 1 1 Lefter -SEF 50 10 90 1 2 pulses module is a disclored work for the actionate of the parameters is set at '0.' To adjust the primary fold optimize of marks. E 37.4-008 FF END GUIDE 1 1 Lefter -SEF 50 10 90 1 2 pulses "The parameters '10' to '30' should be read as '40' to '40.' To adjust the primary fold optimize of marks. E 37.4-008 FF END GUIDE 1 1 Lefter -SEF 50 10 90 1 2 pulses "The parameters '10' to '30' should be read as '40' to '40.' To adjust the primary fold optimit of the excluster of the parameters '10' to '30' should be read as '40' to '40.' To adjust the primary fold optimit on the distinction finiter. E 37.4-008 FF END GUIDE 1 <th1< th=""> Lefter -SEF 5</th1<>	1			2	8K TFX-SEF (Taiwan)	886	0	2000	1	0.1mm	Adjusts the activation limits of the EE Einstein solar side the 7.644 cm $^{-6}$	To adjust the start timing of the folding assist action with a finger	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	Е	37-6-005	START TIMING-Z	3	8K GCO-SEF (China)	886	0	2000	1	0.1mm	The said solar in word not be activated if the accessible in the Z-rold operation on the Multifunction finisher, individually for the respective paper formarts.	during the Z-fold operation in the FF (Finisher Fold) unit on the	
Image: Constraint of the second se	1		FULD	4	A3-SEF	886	0	2000	1	0.1mm	The said solenoid would not be activated if the parameter is set at "0."	Multifunction finisher according to paper format.	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$				5	Ledger-SEF	886	0	2000	1	0.1mm			
Image: Constraint of the secondary fold Image: Constraint of the se	E	37-6-006	FF END GUIDE 1 POS ADJ-IN 3 FOLD	1	Letter-SEF	50	10	90	1	2 pulses	Adjusts the standby position of the FF Upper end guide in the inward threefold operation on the Multifunction finisher.	To adjust the primary fold position (folded length from the trailing edge) in the inward theofeld operation	
E37-6-007FF END GUIDE 2 POS ADJ-NN S FOLD1Letter-SEF5010901pulseAdjusts the standby position of the FF Lower end guide in the inward threefold operation on the Multifunction finisher.To adjust the secondary fold position of the FF Lower end guide in the outward threefold operation on the Multifunction finisher.To adjust the secondary fold position of the FF Lower end guide in the outward threefold operation on the Multifunction finisher.E37-6-008FF END GUIDE 1 POS ADJ-OUT 31Letter-SEF5010901pulseZA4-SEF5010901pulseAdjusts the standby position of the FF Uoper end guide in the outward threefold operation on the Multifunction finisher.To adjust the primary fold noting (fold ength from the leading edge) in the outward threefold operation on the Multifunction finisher.E37-6-009FF END GUIDE 2 POS ADJ-OUT 31Letter-SEF5010901pulse2A4-SEF5010901pulseAdjusts the standby position of the FF Lower end guide in the outward threefold operation on the Multifunction finisher.To adjust the secondary fold position (fold edge) in the outward threefold operation on the Multifunction finisher.E37-6-010FF END GUIDE 2 POS ADJ-OUT 31Letter-SEF5010901pulse2A4-SEF5010901pulseAdjusts the standby position of the FF Lower end guide in the outward threefold operation on the Multifunction f				2	A4-SEF	50	10	90	1	2 pulses	parameters i v to so snould be lead as -00 to 00.	Multifunction finisher.	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	Е	37-6-007	FF END GUIDE 2	1	Letter-SEF	50	10	90	1	pulse	Adjusts the standby position of the FF Lower end guide in the inward threefold operation on the Multifunction finisher.	To adjust the secondary fold position (folded length from the leading edge) in the inward	
Image: constraint of the secondary fold operation on the Multifunction finisher.Image: constraint operation on the Multifunction finisher.E37-6-0101Letter-SEF5010901pulseAdjusts the standby position of the FF Upper end guide in the outward threefold operation on the Multifunction finisher.Image: constraint operation on the Multifunction finisher.E37-6-0101B4-SEF5010901pulse2A4-SEF5010901pulse<	1		PUS AUJ-IN 3 FOLD	2	A4-SEF	50	10	90	1	pulse	* The parameters "10" to "90" should be read as "-40" to "40."	threefold operation on the Multifunction finisher	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	╞		FF END GUIDE 1	1	Letter-SEF	50	10	90	1	pulse	Adjusts the standby position of the FF Upper end guide in the outward threefold	To adjust the primary fold position (folded length from the	
$\frac{1}{100} = \frac{1}{100} + \frac{1}$	E	37-6-008	POS ADJ-OUT 3 FOLD	2		50	40		4	- ماد بو	operation on the Multifunction finisher. * The parameters "10" to "90" should be read as "-40" to "40."	leading edge) in the outward threefold operation on the	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$				2	~4->EF	50	10	90		pulse		Multifunction finisher.	
Image: Constraint of the	E	37-6-009	FF END GUIDE 2 POS ADJ-OUT 3	1	Letter-SEF	50	10	90	1	pulse	Adjusts the standby position of the FF Lower end guide in the outward threefold operation on the Multifunction finisher.	To adjust the secondary fold position (folded length from the trailing edge) in the outward threafold operation on the	
Image: FF END GUIDE 1 POS ADJ-Z FOLD 1 84-SEF 50 10 90 1 pulse 4 A3-SEF 50 10 90 1 pulse Adjusts the standby position of the FF Upper end guide in the Z-fold operation on the Multifunction finisher for the respective paper formats. To adjust the primary fold position (folded length from the leading edge) in the Z-fold operation on the Multifunction finisher for the respective paper formats. To adjust the primary fold position on the Multifunction finisher according to paper format.	1			2	A4-SEF	50	10	90	1	pulse	nne per annerers i vi u ou Shound de reada as -40" to "40."	Multifunction finisher.	
Perform Pressure 2 8K TFX-SEF (Taiwan) 50 10 90 1 pulse 3 3K GCO-SEF 50 10 90 1 pulse 4 A3-SEF 50 10 90 1 pulse 5 Ledger-SEF 50 10 90 1 pulse	F			1	B4-SEF	50	10	90	1	pulse			
E 37-6-010 FF END GUIDE 1 POS ADJ-Z FOLD 4 A3-SEF 50 10 90 1 pulse A3-SEF 50 10 90 1 pulse Adjusts the standby position of the FF Upper end guide in the 2-fold operation of the Multifunction finisher for the Multifunction finisher according to paper formats. The parameters "10" to "90" should be read as "-40" to "40."	1			2	8K TFX-SEF (Taiwan)	50	10	90	1	pulse		To adjust the primary fold position (folded length from the	
4 A3-SEF 50 10 90 1 pulse 5 Ledger-SEF 50 10 90 1 pulse finisher according to paper	Е	37-6-010	FF END GUIDE 1 POS ADJ-Z FOLD	3	8K GCO-SEF (China)	50	10	90	1	pulse	Aujusts use standary position of the FF Upper end guide in the Z-fold operation on the Multifunction finisher for the respective paper formats.	leading edge) in the Z-fold operation on the Multifunction	
5 Ledger-SEF 50 10 90 1 putse	1			4	A3-SEF	50	10	90	1	pulse	on the Multifunction finisher for the respective paper formats. operation The parameters "10" to "90" should be read as "-40" to "40." finisher a pulse	finisher according to paper format.	
	L			5	Ledger-SEF	50	10	90	1	pulse			

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Test Modes

Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
			1	B4-SEF	50	10	90	1	pulse			
			2	8K TFX-SEF (China)	50	10	90	1	pulse		To adjust the secondary fold position (folded length from the	
Е	37-6-011	FF END GUIDE 2	3	8K GCO-SEF	50	10	90	1	pulse	Adjusts the standby position of the FF Lower end guide in the Z-fold operation on the Multifunction finisher for the respective paper formats.	trailing edge) in the Z-fold	
			4	A3-SEF	50	10	90	1	pulse	* The parameters "10" to "90" should be read as "-40" to "40."	finisher according to paper	
			5	Ledger-SEF	50	10	90	1	pulse		iormat.	
		NIP REL SOL SKEW	1	Inward or outward 3-fold	21	2	48	1	10msec	Adjusts the activation duration of the FF Nip release solenoid during skew	To adjust the release period of nip pressure by the FF Rake roller during skew correctoion in	
E	37-6-012	TIME	2	Z-fo l d	21	2	48	1	10msec	correction in folding operations on the Multifunction finisher.	folding operations in the FF (Finisher Fold) unit on the Multifunction finisher.	
			1	Condition 1	158	81	305	1	pulse	Adjusts the lateral position of punch holes to be made on the Multifunction finisher in the respective punching conditions. - Condition 1: When the sheets whose width is 203 to 225mm (or 203 to 230mm) are applied in 2-/4-hole (or SW4-hole) models.		
			2	Condition 2	158	81	305	1	pulse	- Condition 2: When the sneets whose width is 226 to 29/mm (or 231 to 23/mm) or 231 to 23/mm) are appled in 2-4/-hole (or SW4-hole) models. Or when the sheets whose width is 203 to 297mm are applied in 2-/3-hole models. The said position, besides, can also be additionally adjusted by changing it in		
			3	Add Fist-4	0	0	9999	1	5 pulses	relation to the FM Punch side registration sensor while adding or subtracting the values specified in item No. 3 to 6 to or from the ones specified in item No. 1 and 2. The respective digits in item No. 3 to 6 correspond to the extra adjustment values to be applied when punching the respective-width sheets as describe	To adjust the lateral position of punch holes to be made on	
E	37-6-030	PUNCH HOLE POSITION ADJUST	4	Add Last-4	0	0	9999	1	5 pulses	below. <add-fist (no.3)="" (no.5)="" 2-="" 3-hole="" 4="" :="" f-4="" for="" models="" subtract=""> - The rightmost one: For sheets whose width is 203 to 223mm - The Znd one to the right: For sheets whose width is 223 to 285mm (excl. 232mm)</add-fist>	sheets in punching operations in the FM (Finisher Main) unit on the Multifunction finisher accordin to paper width.	
			5	Subtract F-4	0	0	9999	1	5 pulses	- The 2nd one to the left: For sheets whose width is 285 to 297mm (excl. 285 and 297mm) - The leftmost one: For sheets whose width is 297mm <add-last (no.4)="" (no.6)="" (or="" 2-="" 4="" 4-hole="" :="" for="" l-4="" subtract="" sw4-hole)<="" td=""><td></td><td></td></add-last>		
			6	Subtract L-4	0	0	9999	1	5 pulses	- The rightmost one: For sheets whose width is 203 to 225mm - The Znd one to the right: For sheets whose width is 225 to 285mm (excl. 225mm) - The Znd one to the left: For sheets whose width is 285 to 297mm (excl. 285 and 297mm) - The End one to the left: For sheets whose width is 207mm - The Information of the left: For sheets whose width is 207mm - The Information of the left: For sheets whose width is 207mm - The Information of the left: For sheets whose width is 207mm - The Information of the left: For sheets whose width is 207mm - The Information of the left: For sheets whose width is 207mm - The Information of the left: For sheets whose width is 207mm - The Information of the left: For sheets whose width is 207mm - The Information of the left: For sheets whose width is 207mm - The Information of the left: For sheets whose width is 207mm - The Information of the left: For sheets whose width is 207mm - The Information of the left: For sheets whose width is 207mm - The Information of the left: For sheets whose width is 207mm - The Information of the left: For sheets whose width is 207mm - The Information of the left: For sheets whose width is 207mm - The Information of the left: For sheets whose width is 207mm - The Information of the left: For sheets whose width is 207mm - The Information of the left: For sheets whose width is 207mm - Formation of the left: For sheets whose width is 207mm - Formation of the left: Format		
			1	Near Fu l	15500	0	25000	1	time(s)	Specifies the number of punching actions, based on which the Punch dust box is assumed to be near full or full on the Multifunction finisher. * The said number is to be multipled as described below in other cases than 2- hole punching actions in 2/4-hole models. considering the difference of punch	To change the number of	
E	37-6-031	PUNCH DUST FULL DETECT NUMBER	2	Full	17000	0	25000	1	time(s)	chad volume in each action. - 2-hole punch with 2-/3-hole models: the actual number x 1.3 - 3- or 4-hole punch: the actual number x 1.5 [Note] The current punching action count can be checked through the test mode TM No. 37-50-37 "FM BURCH ACTION COUNT	punching actions, based on which it is notified that the Punch dust box is near full or full on the Multifunction finisher.	
E	37-6-032	PUNCH DUST FULL DETECT RELEASE TIME	-	-	40	0	60	1	100msec	Specifies the dismounting duration of the Punch dust box which leads the system to clear the notification of near-fulness or fulness of the said box while resetting the corresponding punching action count to zero on the Multifunction finisher.	To shorten or extend the dismounting duration of the Punch dust box which leads the system to clear the notification of near- fullness or fullness of the said box while resetting the corresponding punching action count to zero on the Multifunction finisher.	
E	37-6-033	PUNCH UNIT STBY POS ADJ-NO PUNCH OPE	_	-	0	-155	155	1	pulse	Adjusts the position to which the Puncher unit is to be retreated when no punching action is requested for the current finishing operation on the Multifunction finisher.	To change the retreat position of the Puncher unit to avoid unexpected damages on sheets passing through the Punching section on the Multitunction finisher, which may be caused by paper curls or lateral paper misregistration.	
E	37-6-034	PUNCH UNIT HOME POS START TIMING	_	-	60	0	127	1	-	Adjusts the time interval until the Puncher unit starts to return to the home position since the end of the preceding punching action on the Multifunction finisher.	To extend the time interval before the Puncher unit starts its home- position shift after the end of the preceding punching action in case of frequent punching operation errors on the Multifunction finisher.	The FM Punch motor makes inertial coasting for a certain period even when it is powered off. Therefore, a certain time interval is to be provided to ensure the stop of the said inertial coasting regardless of the setting in this test mode.
			1	A4L/A3S	110	0	150	1	-			
				(A4-LEF/A3-SEF) Other than B								
E	E 37-6-050 REAR STAPLE POSITION ADJUST	REAR STAPLE POSITION ADJUST	2	(Paper whose width is more than 250mm, excl. A4- LEF/A3-SEF) Other than S	126	0	150	1	-	Adjusts the rear-corner staple position for sheets to be stacked on the Stacking tray on the Multifunction finisher for the respective paper formats. * For diagonal (angled) stapling, the parameter setting in the item No. 1 is to be applied reparcless of paper format	To adjust the rear-corner staple position for sheets to be stacked on the Stacking tray on the Multifunction finisher according to paper format	
			3	(Paper whose width is 250mm or less, excl. A4- LEF/A3-SEF)	110	0	150	1	-		,	

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Test Modes

Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
		0.07401/50	1	Front	33	0	40	1	0.096 mm	Adjusts the respective side-edge staple positions (2 points) for sheets to be stacked on the Stacking tray on the Multifunction finisher.	To adjust the side-edge staple	
E	37-6-051	POSITION ADJUST	2	Front/Rear (Staple pitch)	33	0	40	1	0.096 mm	[Front]: The shift range to the front side [Front/Rear (Staple pitch)]: The distance between the front-side and rear-side staples	positions for sneets to be stacked on the Stacking tray on the Multifunction finisher.	
Е	37-6-052	FRONT STAPLE POSITION ADJUST	_	-	110	0	150	1	-	Adjusts the front-corner angled staple position for sheets to be stacked on the Stacking tray on the Multifunction finisher.	To adjust the front-corner staple position for sheets to be stacked on the Stacking tray on the Multifunction finisher.	
		STAPLE BOX FULL	1	Ful	4000	0	65535	1	-	Specifies the number of staples applied after the system notification of near fullness of the Staple bin on the Multifunction finisher, based on which the said bin is assumed to be full.	To change the number of staples which can be discarded into the	
E	37-6-053	QUANTITY	2	Near Full	0	0	20000	1	-	* The number of extra staples to be applied before the system notification of near fullness of the Staple bin after the activation (blockage) of the FM Staple bin near full sensor, can also be specified in the item number 2 [Near Full].	Staple bin on the Muttrunction finisher before it is notified that the said bin is fu ll.	
Е	37-6-054	STAPLE DUST COUNT SET THRESHOLD	_	-	70	0	150	1	sheets	Specifies the threshold volume of sheets to be stapled together on the Multifunction finisher, based on which the count-up number for each discarded staple is to be switched. The discarded staple counter (Staple bin counter) counts up by 1 when the volume of sheets to be stapled is more than the value specified here, while it counts up by 2 when the said voume is equal to the specified value or less.	To change the capacity of the Staple bin according to the accommodation condition of the said bin on the Multifunction finisher.	The more the volume of sheets to be stapled together is, the shorter the length of staples to be discarded becomes.
_		STAPLE DUST FULL	1	DET OWOFF (Detection OWOFF)	1	0	1	1	-	Selects whether to keep the activation (blockage) of the FM Staple bin near full sensor set as a trigger to start the Staple bin counter for detection of the fullness of the said bin on the Multifunction finisher.	To address the failure of the FM	The parameters in this test mode should not be changed
E	37-6-055	FAIL-SAFE SET	2	DUST QTY (Staple count)	40000	0	65535	1	-	 To be kept as a trigger In case the FM Staple bin near full sensor is not kept as a counter trigger, the value specified in the item No. 2 (Staple count) in this test mode is to be used as such a trigger instead. 	Staple bin near full sensor on the Multifunction finisher.	unless the FM Staple bin near full sensor fails.
E	37-6-056	STAPLE DUST FULL CLEAR TIME-N.F SNR	_	-	5	1	5	1	sec	Specifies the amount of time during which the FM Staple bin near full sensor has been open to reset the Staple bin (discarded staple) counter to zero when the Staple bin was put back after dismounted on the Multifunction finisher.	To change the amount of time required to reset the Staple bin (discarded staple) counter to zero when putting back the Staple bin after discarded staple disposal on the Multifunction finisher, thus dearing the notification of the fullness of the said bin.	
E	37-6-057	STAPLE UNIT MOVE NBR-DUST DISPOSAL	_	-	1	0	5	1	time(s)	Specifies the frequency of shuttling actions of the Stapler unit at the front corner of the Stapling section to discard leftover cut staples into the Staple bin on the Multifunction finisher.	To address the issue of leftover cut staples remaining in the Stapling section of the FM (Finisher Main) unit on the Multifunction finisher.	
E	37-6-058	NON-DISPOSAL STAPLE DUST QTY	_	-	200	0	800	1	-	Specifies the number of leftover cut staples which were not discarded into the Staple bin on the Multifunction finisher, with which the Stapler unit is to be led into leftover staple discarding operation. * When the number of the corresponding staples reaches the specified value during a stapling job, the Stapler unit will suspend the current job and start leftover staple discarding operation at the front corner of the Stapling section.	To change the number of non- discarded leftover cut staples which is to trigger the leftover staple discarding operation by the Stapler unit on the Multifunction finisher.	This test mode setting is enabled only when Z-fold sheets (up to 80) are to be stacked.
E	37-6-059	STAPLE UNIT PWM CTRL SELECT	_	-	1	0	4	1	-	Selects what stapling operation the PWM (Pulse Width Modulation) control is to be applied to on the Multifunction finisher. The operation sound will be quieter when the PWM control is applied. 0: None 1: All 2: Dual stapling 3: 4-point stapling 4: Dual or 4-point stapling	To cancel the PWM control which leads an operation sound to be quieter during stapling operations on the Multifunction finisher.	
			1	Condition 1	-10	-40	40	1	0.096 mm	Adjusts the shift range of the Stapler unit under the PWM (Pulse Width Modulation) control in the respective stanling operations on the Multifunction		
F	37-6-060	STAPLE UNIT MOVE	2	Condition 2	-20	-40	40	1	0.096 mm	finisher.	To adjust the stapling positions for the respective stapling	
	0, -0-000	ADJUST-PWM CTRL	3	Condition 3	-3	-40	40	1	0.096 mm	- Condition 1: Front-corner, dual or 4-point stapling - Condition 2: Dual or 4-point stapling - Condition 3: Rear-corner and/ed starling	operations on the Multifunction finisher	
			4	Condition 4	-2	-40	40	1	0.096 mm	- Condition 4: Rear-corner straight stapling		
E	37-6-061	STAPLE UNIT(CUT) FRONT STBY TIME ADJ	-	-	100	0	255	1	10 msec	Adjusts the staying time of the Stapler unit during staple cut operation for leftover staple disposal at the front corner of the Stapling section on the Multifunction finisher. * The actual staying time is the parameter value in this test mode + 30 msec.	To extend the staying time of the Stapler unit to allow adequate time for secure leftover staple disposal on the Multifunction finisher.	
		Z FOLD / UNSTAPLE	1	A3S/LedgerS (A3/Ledger)	150	10	5000	1	0.01 sheets	Spacifies the compliant limit of 7 fold choots on the FM Completence	To change the compiling limit of non-stapled Z-fold sheets on the	A full performance cannot be
E	37-6-100	NBR CNVAN- COMPILE	2	B4S/8KS (B4/8K (China))	200	10	5000	1	0.01 sheets	stapling on the Multifunction finisher for the respective paper formats.	FM Compile tray on the Multifunction finisher according to paper format	parameter is set less than the default one.

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
F	37-6-101	Z FOLD SET CLAMP	1	Unstaple (Non-stapled)	1000	500	3000	1	msec	Specifies the amount of time before the projection of the FM Set clamp since the FM Starking 2-fold shares on the	To enhance the stacking condition	
	37-0-101	EJECT WAIT TIME	2	Staple (Stapled)	1000	500	3000	1	msec	Multifunction finisher.	tray on the Multifunction finisher.	
			1	ACT ON/OFF (Tamping ON/OFF)	1	0	1	1	-	Selects whether to disable the tamper holding action for Z-fold sheets on the Multifunction finisher. 0: Disabled	To address unexpected push-	
E	37-6-120	ACTION								1: Enabled	back by Z-fold sheets on the Multifunction finisher.	
			2	(Tamping period)	0	0	150	1	msec	When the tamper holding action is enabled, the tamping period can be adjusted in the item no. 2 (Tamping period).		
			1	Condition 1	200	120	230	1	msec	Adjusts the tamping action start timing to be applied to the sheets specified in		
			2	Condition 2	200	120	230	1	msec	the following conditions on the Multifunction finisher. - - Condition 1: The 1st or 1st and 2nd buffered sheets to be stabled, whose		
			3	Condition 3	225	175	275	1	msec	length is 298 mm or shorter. - Condition 2: The 1st sheet to be stapled, whose length is longer than 298		
			4	Condition 4	245	170	350	1	msec	mm. - Condition 3: All sheets to be stapled excluding the last one and the 2nd and 3rd buffered ones, whose length is 288 mm or shorter.		
			5	Condition 5	85	5	170	1	msec	Condition 4: All sheets to be stapled excluding the last and 1st ones, whose length is longer than 298 mm.		
_		TAMPING START	6	Condition 6	415	315	515	1	msec	- Condition 5: All sheets to be stapled excluding the last and 1st ones, whose type is category 5.	To address misalignment of	
E	37-6-122	TIME CORRECTION	7	Condition 7	445	315	815	1	msec	Condition 7: All sheets to be stapled excluding the 1st one, whose length is conger than 298 mm and whose weight is 221 g/m ² to 300 g/m ² .	stapled sheets on the Multifunction finisher.	
			8	Condition 8	450	170	1000	1	msec	longer than 298 mm and whose weight is more than 300 g/m ² . - Condition 8: Z-fold sheets to be stapled excluding the 1st stapled one.		
			9	Condition 9	400	170	450	1	msec	- Condition 9: All sheets to be stapled excluding the 1st ones, whose length is 146 mm to 181 mm. Condition 10: The 1st sheet to be stapled where length is larger than 350.		
			10	Condition 10	415	120	440	1	msec	mm and whose weight is 221 g/m ² or more. Condition 11: The last sheet to be stapled excluding the 2nd and 3rd buffered.		
			11	Condition 11	273	175	2000	1	msec	ones, whose length is 298 mm or shorter. - Condition 12: The last sheet to be stapled, whose length is longer than 298		
			12	Condition 12	345	170	2000	1	msec	mm. - Condition 13: The last sheet to be stapled, whose type is category 5.		
			13	1 to 5 sheets	2	5	2000	1	msec			
Е	37-6-123	FRONT STAPLE F- MOVE PRESS	2	(to be stapled) 6 to 10 sheets	3	0	6	1	mm	Adjusts the sheet tamping range before shifting the Stapler unit to the front- corner stapling position on the Multifunction finisher individually for the	To address misalignment of stapled sheets on the	
		AMOUNT ADJ	3	10 to 100 sheets	4	0	6	1	mm	respective to-be-stapled sheet volume ranges.	Multifunction finisher.	
F	37-6-124	TAMPING HOME	1	Front	0	-90	90	1	0.193 mm	Adjusts the home (standby) position of the FM Front and Rear tampers on the	To adjust the home (standby) position of FM Front or Rear	
-	01 0 121	POSITION ADJ	2	Rear	8	-90	90	1	0.193 mm	Multifunction finisher.	tmaper on the Multifunction finisher.	
										Selects the paper ejection mode to be applied for sheets to be stacked on the Stacking tray without stapling on the Multifunction finisher.		
E	37-6-135	UNSTAPLE EJECT ACT SELECT	-	-	0	0	6	1	-	0: For collating stacking 1: For free (non-collating) stacking 2: For non-buffered sheets 3: For non-buffered coated sheets 4: For sheets whose weight exceeds a predefined standard value 5: For sheets whose weight exceeds a predefined standard value and whose length is 216 mm or longer 6: For coated sheets whose weight exceeds a predefined standard value and whose length is 216 mm or longer	To address unarranged stacking of ejected sheets on the Stacking tray on the Multifunction finisher.	
			1	Lengrh≧182mm	51	10	90	1	sheets	Constitue the minimum returns of the to be to be dealed which a third of the TM	To lead curled sheets to be	
E	37-6-136	COMPILE PADDLE UP QUANTITY SET	2	Length<182mm	51	10	100	1	sheets	Specines the minimum volume of sheets to be stapped which activates the FM Main paddle solenoid to raise the FM Main paddles during compling operation in the Stapling section on the Multifunction finisher.	compiled neatly, thus preventing misalignment of stapled sheets on the Multifunction finisher	
E	37-6-137	COMPILE PADDLE UP QTY SET-THIN PAPER	_	-	31	10	90	1	sheets	Specifies the minimum volume of smaller thin sheets to be stapled, such as described below, which activates the FM Main paddle solenoid to raise the FM Main paddles during compiling operation in the Stapling section on the Multifunction finisher. * Sheets whose weight is less than 64 g/m2 and whose length and width are 182 mm or less and 257 mm or less respectively, i.e. BS-LEF or smaller, excluding Z-folded ones.	To address misalignment of stapled thin sheets on the Multifunction finisher.	
			1	Lengrh≧182mm	51	10	90	1	sheets	Specifies the minimum volume of sheets to be stapled which activates the FM	To lead curled sheets to be	
E	37-6-138	SUB PADDLE UP QUANTITY SET	2	Length<182mm	85	10	100	1	sheets	Sub paddle solenoid to raise the FM Sub paddles during compiling operation in the Stapling section on the Multifunction finisher.	compiled neatly, thus preventing misalignment of stapled sheets on the Multifunction finisher.	
E	37-6-139	SUB PADDLE STOP CONTROL SELECT	_		0	0	2	1	-	Selects whether to keep operating the FM Sub paddles even when a to-be- stapled sheet, excluding the last one, has not reached the FM Comple tray within a predefined amount of time on the Multifunction finisher. 0: Operation to be suspended (, which is a regular process.) 1: Operation not to be suspended with coated sheets 2: Operation not to be suspended with any paper type	To address misalignment of stapled sheets, which may be caused by the suspended FM Sub paddles, on the Multifunction finisher.	The FM Sub paddles are designed to be suspended when a to-be-stapled sheet has not been transferred due to pitch skipping, etc.

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			1	Condition 1	250	0	250	1	msec	Adjusts the start timing of support action by the FM Sub paddles on the Multifunction finisher under the following conditions.		
			2	Condition 2	17	15	100	1	msec	- Condition 1: The 1st sheet to be compiled, whose length is 183 mm to 297		
		SUB PADDLE	3	Condition 3	250	0	250	1	msec	- Condition 2: The 2nd and subsequent sheets to be compiled, whose length is 183 mm to 297 mm	To address misalignment of	
E	37-6-140	SUPPORT ACT TIMING ADJ	4	Condition 4	17	15	100	1	msec	Condition 3: The 1st sheet to be compiled, whose length is longer than 297 mm Condition 4: The 2nd and subsequent sheets to be compiled, whose length is	stapled sheets on the Multifunction finisher	
			5	Condition 5	32	15	100	1	msec	longer than 297 mm - Condition 5: The 1st sheet to be compiled, whose size is B5-LEF or smaller and whose weight is 64 g/m ² or more		
			6	Condition 6	32	15	100	1	msec	 Condition 6: The 1st sheet to be compiled, whose size is B5-LEF or smaller and whose weight is less than 64 g/m2 		
_		SUB PADDLE	1	Plain Paper (64 g/m ² or more)	150	0	250	1	msec	Adjusts the start timing of support action by the FM Sub paddles with BS-LEF	To address misalignment of	
E	37-6-141	SUPPORT ACT TIMING ADJ-B5	2	Thin Paper (Less than 64 g/m ²)	150	0	250	1	msec	or smaller sheets on the Multifunction finisher.	stapled sheets on the Multifunction finisher.	
			1	Start Qty (Start timing)	80	55	100	1	sheets	Specifies the activation conditions for the FM Main paddle solenoid to raise and lower the FM Main paddles during stapling operation on the Multifunction finisher.	To address misalignment of stapled sheets on the	
E	37-6-142	MAIN PADDLE UP/DOWN ACT SET	2	Act Pitch (Interval)	5	1	5	1	sheets	 Start Qty (Start timing): The minimum volume of sheets to be stapled which actiavtes the FM Main paddle solenoid. Act Pitch (Interval): The number of sheets per which the FM Main paddle solenoid is to be activated. 	Multifunction finisher, which may be caused by curled-up sheets at the trailing edge.	
E	37-6-143	COMPILE PADDLE DOWN START TIMING ADJ	-	-	85	0	285	1	msec	Adjusts the timing to lower the FM Main paddles during compiling operation on the Multifunction finisher.	To address misregistration of buffered sheets on the Multifunction finisher.	
			1	Length≦216mm (Paper type 1)	5	2	50	1	sheets	Snarifiae the maximum number of cheets which can be elected as a set without		
		UNSTAPLE SET	2	Length>216mm (Paper type 2)	5	2	50	1	sheets	stapling on the Multifunction finisher while categorizing sheets as described below.	To address push-back or ejection	
E	37-6-144	EJECT LIMIT QTY	3	Width≦216mm (Paper type 3)	10	2	25	1	sheets	 Paper type 1: Length is 216mm or shorter Paper type 2: Length is longer than 216mm Paper type 3: Width is 216mm or shorter and weight is 106 g/m² to 216 g/m² 	errors of compiled sheets on the Multifunction finisher.	
			4	Width>216mm (Paper type 4)	10	2	25	1	sheets	 Paper type 4: Width is longer than 216mm and weight is 106 g/m² to 216 g/m² 		
			1	Length≦216mm	2	0	2	1	-	Selects the speed at which sheets are to be ejected into the Stacking tray to be stacked without stappling on the Multifunction finisher for the respective paper lengths. <paper 216mm="" is="" length="" or="" shorter="" whose=""> 0: 150.1 mm/s (512 pps (pulses per second))</paper>	To address push-back or ejection	
E	E 37-6-145 SF	SHEET EJECT SPEED SELECT	2	Length>216mm	4	0	8	1	-	1: 190.0 mm/s (648 pps) 2: 592.0 mm/s (2019 pps) <paper 216mm="" is="" length="" longer="" than="" whose=""> 0: 150.1 mm/s (512 pps) 1: 190.0 mm/s (648 pps) 5: 641.3 mm/s (2153 pps) 2: 549.2 mm/s (1873 pps) 3: 571.4 mm/s (1849 pps) 4: 592.0 mm/s (2019 pps) 5: 592.0 mm/s (2019 pps)</paper>	be stacked on the Stacking tray without stapling on the Multifunction finisher.	

Type Test mode No. Test mode name

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ype	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
			1	Condition 1	4	0	8	1	-	Selects the speed at which a set of compiled sheets is to be ejected into the Stacking tray on the Multifunction finisher under the following conditions.		
			2	Condition 2	4	0	8	1	-	0: 150.1 mm/s (512 pps) 9: 320.8 mm/s (1094 pps) 1: 290.9 mm/s (992 pps) 10: 350.7 mm/s (1196 pps) 2: 549.2 mm/s (1873 pps) 11: 380.3 mm/s (1297 pps)		
			3	Condition 3	4	0	8	1	-	3: 571.4 mm/s (1949 pps) 12: 409.0 mm/s (1395 pps) 4: 592.0 mm/s (2019 pps) 13: 437.2 mm/s (1491 pps) 5: 611.0 mm/s (2027 pps) 13: 437.2 mm/s (1491 pps)	To oddroop nuch book or ofestion	
			4	Condition 4	4	0	8	1	-	6: 631.3 mm/s (2153 pps) 15: 490.5 mm/s (173 pps) 7: 650.0 mm/s (2217 pps) 15: 490.5 mm/s (1758 pps)	errors of sets of compiled sheets to be stacked on the Stacking	
			5	Condition 5	13	0	16	1	-	6: r04.5 mm/s (2402 pps (puises per second)) * The parameter No.2 is 503.7 mm/s (1718 pps) for conditions 12 and 13.	tray on the Multifunction finisher.	
			6	Condition 6	4	0	8	1	-	- Condition 1: Non-stapled and 2-folded (with 64 or 8K-China sheets) - Condition 2: Otherwise finished than the above (with B4 or 8K-China sheets) - Condition 3: Non-stapled and Z-folded (with sheets whose format is other there D(a or 8(China))		
			7	Condition 7	13	0	16	1	-	- Condition 4: Otherwise finished than the above (with sheets whose format is other than B4 or 8K-China) - Condition 5: Non-standed (with sheets whose length is 216mm or shorter and		
Е	37-6-146	SET EJECT SPEED SELECT	8	Condition 8	4	0	8	1	-	whose minimum ejecton interval is 480 msec or less) - Condition 6: Stapled (with sheets whose length is 216mm or shorter and whose minimum ejecton interval is 480 msec or less)		
			9	Condition 9	4	0	8	1	-	Condition 7: Non-stapled (with sheets whose length is 216mm or shorter and whose maximum ejecton interval is more than 480 msec) Condition 8: Stapled (with sheets whose length is 216mm or shorter and	To address stacking errors on the Stacking tray on the Multifunction finisher.	
			10	Condition 10	4	0	8	1	-	whose maximum ejecton interval is more than 480 msec) - Condition 9: 2 stapled sheets (whose length is 216mm or shorter) - Condition 10: 3 to 5 stapled sheets (whose length is 216mm or shorter)		
			12	Condition 12	2	0	8	1	-	 Condition 11: Go to the cell below. Condition 12: 2 or more stapled sheets (whose length is longer than 216mm and whose weight is 64 cm² or more). 	To address push-back or ejection errors of sets of compiled sheets	
			13	Condition 13	8	0	8	1	-	 Condition 13: 1 non-stapled sheet (whose length is longer than 216mm and whose weight is 64 g/m² or more) 	to be stacked on the Stacking tray on the Multifunction finisher.	
										 Condition 11: Sheets whose length is longer than 216mm and whose weight is less than 64 g/m² 	To address stacking errors on	
			11	Condition 11	3	0	3	1	-	0: 290.9 mm/s (992 pps (pulses per second)) <non-stapled &="" stapled=""> 1: 290.9 mm/s (992 pps) <non-stapled> / 503.7 mm/s (1718 pps) <stapled> 2: 503.7 mm/s (1718 pps) <non-stapled> / 290.9 mm/s (992 pps) <stapled> 3: 503.7 mm/s (1718 pps) <non-stapled &="" stapled=""></non-stapled></stapled></non-stapled></stapled></non-stapled></non-stapled>	the Stacking tray on the Multifunction finisher.	
E	37-6-147	SET EJECT TIME ADJUST	_	-	570	0	2000	1	pulse	Adjusts the extended time of ejection action after a predefined amount of time has passed since the ejection speed was decelerated with the last set of compiled sheets ejected into the Stacking tray on the Multifunction finisher, which is to be applied when the sheet length is 216mm or shorter.	To address an ejection error of the last set of compiled sheets on the Stacking tray on the Multifunction finisher.	
E	37-6-148	SET EJECT SPEED CHANGE THRESHOLD	_		20000	0	20000	1	10 pulses	Specifies the threshold operation period (pulse) of the FM Stack tray elevator motor which leads the ejection speed of compiled sets to change on the Multifunction finisher.	To address stacking errors on the Stacking tray on the Multifunction finisher.	
E	37-6-149	SET CLAMP SOLENOID STRAGE TIME ADJ	_	-	160	110	500	1	msec	Adjusts the activation time of the FM Set clamp solenoid to retreat the FM Set clamp when a set of stapled sheets is to be ejected into the Stacking tray on the Multifunction finisher.	To weaken the push-back action of ejected sheets on the Stacking tray on the Multifunction finisher.	
E	37-6-150	FM STACK EJ MTR ANTI-MISS REGI SET	_	-	6	0	7	1	-	Selects a condition under which the FM Stack eject motor is led to take a misregistration prevention action on the Multifunction finisher. 0: When stapled at any position on compiled sheets. 1: When stapled at other positions than the front corner of compiled sheets or at the front corner of compiled sheets whose length is shorter than 24 tmm. 2: When stapled at other positions than the front corner of compiled sheets. 3: When stapled at other positions than the front corner of compiled sheets. 3: When stapled at other positions than the front corner of compiled sheets. 3: When stapled at ther positions than the front corner of compiled sheets. 4: When stapled at the front corner of compiled sheets. 5: When stapled at the front corner of compiled sheets. 6: When stapled at the front corner of compiled sheets. 6: When stapled at the front corner of compiled sheets whose length is shorter than 241mm. 7: None (No action)	To address buffering-action- induced misalignment of the sheet stapled at the bottom on the Multifunction finisher.	
		BUFFER PAPER	1	ACT ON/OFF	o	0	3	1	-	Selects the range of buffered sheets for which a misregistration prevention action is to be taken when the said sheets are curled upwards at the trailing edge by 7mm or more on the Multifunction finisher. 0: None (No action)	To address misalignment of the	
E	37-6-151	ANTI-MISS REGI ACT SET	2	Start Timing	0	0	100	1	msec	1: The initial 1 sheet 2: The initial 2 sheets 3: All sheets * The start timing of the above-described misregistration prevention action can be adjusted here as well.	bollered sneet scapped at the bottom on the Multifunction finisher.	
L	E 37-6-190	MIX STACK FULL	1	Condition 1	0	0	1	1	-	Selects whether to disable the detection of full stack on the Stacking tray on the Multifunction finisher even under the following mixed stack conditions. 0: Enabled 1: Disabled	To expand the conditions for	A full performance cannot b guaranteed in case the
E		DETECT SELECT	2	Condition 2	0	0	1	1	-	 - conduton 1: A sheet whose length or width is 18mm or more beyond the uppermost stacked one has been stacked on the Stacking tray above the full stack level defined for mixed-size-sheet stacking. - Condition 2: A sheet which is to be ejected with the FM Stacker flap raised, that is non-stapled one, one exceeding the per-set stapling limit or short-edge- fed one, has been stacked on stapled sets, whose sheets are long-edge-fed but not Z-folded, on the Stacking tray with the said flap lowered. 	sneet stacking on the Stacking tray on the Multifunction finisher.	parameter is set at "1" (Disabled).

Test Modes

[17-159]

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
			1	Condition 1	200	1	255	1	sets	Specifies the stacking limit of stapled or non-stapled compiled sets on the Stacking tray on the Multifunction finisher under the respective conditions		
			2	Condition 2	200	1	255	1	sets	described below Condition 1: Stapled sets whose maximum sheet length is 216mm or shorter		
_	27.0.404	STACK TRAY LOAD	3	Condition 3	100	1	255	1	sets	without dual- or 4-point-stapled sets stacked in advance. - Condition 2: Stapled sets whose maximum sheet length is 216mm or shorter with dual- or 4-point-stapled sets stacked in advance.	To change the stacking limit of stapled or non-stapled compiled	A full performance cannot be guaranteed in case the
E	37-0-191	STAPLE LIMIT QTY	4	Condition 4	100	1	255	1	sets	 Condition 3: Stapled sets whose maximum sheet length is longer than 216mm without dual or 4-point-stapled sets stacked in advance. Condition 4: Stapled sets whose maximum sheet length is longer than 216mm 	Multifunction finisher according to stacking conditions.	parameter is set larger than the defau l t one.
			5	Condition 5	100	1	255	1	sets	with dual or 4-point-stapled sets stacked in advance. - Condition 5: Stapled or non-stapled sets to be ejected with the FM Stacker flap raised and without dual- or 4-point-stapled sets stacked in advance.		
			6	Condition 6	100	1	255	1	sets	 Condition 6: Stapled or nor-stapled sets to be ejected with the FM Stacker flap raised and dual- or 4-point-stapled sets stacked in advance. 		
_	37.6.400	STACK TRAY LOAD	1	A3 / Ledger	80	0	255	1	sheets	Specifies the stacking limit of Z-fold sheets on the Stacking tray on the Multifunction finisher for the respective paper formats.	To change the stacking limit of specific-format Z-folded sheets	A fu ll performance cannot be guaranteed in case the
E	37-6-192	(Z-FOLD)	2	B4 / 8K (China)	60	0	255	1	sheets	* The parameter settings specified in this test mode will be applicable only when the option "80-Z-fold sheet stacking" is enabled.	on the Stacking tray on the Multifunction finisher	parameter is set larger than the default one.
E	37-6-193	SHEET EJECT OFFSET SELECT	I	-	1	0	2	1	-	Selects whether to disable offset stacking operation for non-stapled sheets to be ejected onto the Stacking tray on the Multifunction finisher. 0: Disabled 1: Enabled 2: Disabled only for sheets whose format is A5-SEF	To prevent offset stacking with non-stapled sheets to be stacked on the Stacking tray on the Multifunction finisher.	
E	37-6-194	STACK TRAY POS SELECT-PAPER REMOVE	-	-	1	0	3	1	-	Selects whether and where to shift the Stacking tray at the end of finishing (print) jobs to facilitate removal of stacked sheets on the Multifunction finisher. 0: No shift 1: Shift to front 2: Shift to center 3: Shift to rear	To change the position of the Stacking tray where stacked sheets are to be taken out at the end of finishing (print) jobs on the Multifunction finisher.	
			1	UNSTAPLE S (Condition 1)	10581	0	20000	1	40.54 μm	Specifies the number of pulses to be counted on the FM Stack tray elevation		
			2	STAPLE S (Condition 2)	10144	0	20000	1	40.54 μm	motor until it is notified that the Stacking tray has become full since the FM Staple paper top detection sensor was blocked on the Multifunction finisher for the respective stacking conditions as described below.		
F	37-6-105	STACK FULL DET	3	LARGE (Condition 3)	5320	0	20000	1	40.54 μm	 Count = 10 puises (0.04054mm) Condition 1: Non-stapled small-size sheets without Booklet-making unit mounted (Stack unlume: 2000 sheate) 	To adjust the shift range of the Stacking tray until it becomes full	
-	57-0-100	THRESHOLD	4	MIX (Condition 4)	1609	0	20000	1	40.54 μm	Condition 2: Stapled small-size sheets without Booklet-making unit mounted (Stack volume: 3000 sheets) - Condition 3: Non-stapled or stapled large-size sheets (Stack volume: 1500	Multifunction finisher for specific stacking conditions.	
			5	B/L UNSTP S (Condition 5)	7197	0	20000	1	40.54 μm	sheets) - Condition 4: Non-stapled or stapled mixed-size sheets - Condition 5: Non-stapled smal-size sheets (Stack volume: 2000 sheets)		
			6	B/L STP S (Condition 6)	6759	0	20000	1	40.54 μm	- Condition 6: Stapled small-size sheets (Stack volume: 2000 sheets)		
Е	37-6-240	2 FOLD POSITION	1	Large Size (B4 or larger)	100	0	200	1	pulse (0.1mm)	Adjusts the folding position of twofold sheets in a single-layered format in the Booklet making section on the Multifunction finisher by changing the decrement	To adjust the folding position of twofold sheets in a single-layered format in the Booklet making	
		ADJUST (1 SHEET)	2	Small Size (Smaller than B4)	100	0	200	1	pulse (0.1mm)	amount of the pre-load shuft range of a non-stapled single sheet by the specified value for the respective paper formats.	section on the Multifunction finisher according to paper format.	
_	27.0.244	B/L STAPLE POS	1	Large Size (B4 or larger)	100	0	200	1	pulse (0.1mm)	Adjusts the saddle stapling position on booklets, whose volume is 2 sheets, in the Booklet making section on the Multifunction finisher by changing the decrement arount of the pre-stapling shift range of compiled sheets by the specified value for the respective paper formats.	To correct the misalignment of saddle staples with a fold line on	
	57-0-241	ADJUST (2 SHEETS)	2	Sma ll Size (Sma∎er than B4)	100	0	200	1	pulse (0.1mm)	When booklets are stapled above the fold line: Subtract the 10-time value of the deviation amount (mm) from the default one and enter the calculation result. When booklets are stapled below the fold line: Add the 10-time value of the deviation amount (mm) to the default one and enter the calculation result.	Multifunction finisher according to paper format.	
F	37-6-242	B/L STAPLE FOLD	1	Large Size (B4 or larger)	100	0	200	1	pulse (0.1mm)	Adjusts the folding position on booklets, whose volume is 2 sheets, in the Booklet making section on the Multifunction finisher by changing the decrement amount of the pre-fold shift range of compiled sheets by the specified value for the respective paper formats.	To adjust the folding position of 2-sheet booklets on the	
	37-6-242 B/L STAPLE FOLD POS ADJ (2 SHEETS)	SHEETS)	2	Sma ll Size (Sma∎er than B4)	100	0	200	1	pulse (0.1mm)	When the bottom half is longer: Add the 5-time value of the deviation amount (mm) to the default one and enter the calculation result. When the top half is longer: Subtract the 5-time value of the deviation amount (mm) from the default one and enter the calculation result.	Multifunction finisher according to paper format.	
	E 37-6-243 FB FOLD ROLLER REPEAT ACT TIMES	1	NO THICK 10L (Condition 1: Less than 10 sheets)	0	0	10	1	time(s)	Specifies the number of additional folding roller actions in booklet making operation in the Booklet making section on the Multifunction finisher under the respective conditions described below.			
E		2	NO THICK 10O (Condition 2: 10 sheets or more)	1	0	10	1	time(s)	Condition 1: Booklets whose volume is less than 10 sheets and whose sheet weight is less than 150 g/m ² . Condition 2: Booklets whose volume is 10 sheets or more and whose sheet	To make fold lines sharper on booklets in the Booklet making section on the Multifunction finisher according to booklet-		
			3	INC THICK (Condition 3: Incl. 150-or-more gsm sheets)	2	0	10	1	time(s)	weight is less than 150 g/m ² . - Condition 3: Booklets which include sheets whose weight is 150 g/m ² or more.	making conditions.	

Test Modes

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Type Test mode No. Test mode name

[17-160]

F	Test mode	To at marks many	NI	Turne	Default			04.0	11	Description	Dumpere	Demontos
i ype	No.	rest mode name	NO.	туре	Setting	WIIII.	Widx.	Step	pulse	Description	Fuipose	Remarks
			1	3 sheets	100	0	200	1	(0.1mm)			
			2	4 sheets	100	0	200	1	(0.1mm)			
			3	5 - 7 sheets	100	0	200	1	(0.1mm)			
			4	8 - 9 sheets	100	0	200	1	pulse (0.1mm)			
			5	10 - 11 sheets	100	0	200	1	pulse (0.1mm)			
			6	12 - 13 sheets	100	0	200	1	pulse (0.1mm)	Adjusts the folding position on booklets, whose volume is more than 2 sheets and whose sheet size is smaller than B4, in the Booklet making section on the		
			7	14 - 15 sheets	100	0	200	1	pulse (0.1mm)	Multifunction finisher by changing the decrement amount of the pre-fold shift range of compiled sheets by the specified value for the respective booklet	to adjust the folding position of booklets whose volume is more	
Е	37 - 6-244	B/L STAPLE FOLD POS FINE ADJ-B4	8	16 - 17 sheets	100	0	200	1	pulse (0.1mm)	volumes.	than 2 sheets and whose sheet size is smaller than B4 in the	
		LESS	9	18 - 19 sheets	100	0	200	1	pulse	When the bottom half is longer: Add the 5-time value of the deviation amount (mm) to the default one and enter the calculation result.	Booklet making section on the Multifunction finisher according to	
			10	20 - 21 sheets	100	0	200	1	pulse	• When the top half is longer: Subtract the 5-time value of the deviation amount (mm) from the default one and enter the calculation result	booklet volumes.	
			11	22 - 23 sheets	100	0	200	1	pulse			
			12	24 - 25 sheets	100	0	200	1	(0.1mm) pulse			
			13	26 - 27 sheets	100	0	200	1	(0.1mm) pulse			
			14	28 29 sheets	100	0	200	1	(0.1mm) pulse			
			14	20 - 29 sileets	100	0	200	-	(0.1mm) pulse			
			15	30 (sneets) or over	100	U	200	-	(0.1mm) pulse			
			1	3 sheets	100	0	200	1	(0.1mm)			
			2	4 sheets	100	0	200	1	(0.1mm)			
			3	5 - 7 sheets	100	0	200	1	(0.1mm)			
			4	8 - 9 sheets	100	0	200	1	pulse (0.1mm)			
			5	10 - 11 sheets	100	0	200	1	pulse (0.1mm)			
			6	12 - 13 sheets	100	0	200	1	pulse (0.1mm)	Adjusts the folding position on booklets, whose volume is more than 2 sheets and whose sheet size is B4 or larger in the Booklet making section on the		
			7	14 - 15 sheets	100	0	200	1	pulse (0.1mm)	Multifunction finisher by changing the decrement amount of the pre-fold shift range of compiled sheets by the specified value for the respective booklet	To adjust the folding position of booklets whose volume is more	
Е	37-6-245	B/L STAPLE FOLD POS FINE ADJ-B4	8	16 - 17 sheets	100	0	200	1	pulse (0.1mm)	volumes.	than 2 sheets and whose sheet size is B4 or larger in the Booklet size is B4 or larger in the Booklet size is B4 or larger in the Booklet making section on the Multifunction finisher according to booklet volumes.	
		OVER	9	18 - 19 sheets	100	0	200	1	pulse	When the bottom half is longer: Add the 5-time value of the deviation amount (mm) to the default one and enter the calculation result.		
			10	20 - 21 sheets	100	0 0 200 1 pusse (0.1mm) Content of the default one and enter the calculation result. Multitum booklet Multitum booklet 00 0 200 1 pusse (mm) for the default one and enter the calculation result. Multitum booklet	booklet volumes.					
			11	22 - 23 sheets	100	0	200	1	(U.Tmm) pulse			
			12	24 - 25 sheets	100	0	200	1	(0.1mm) pulse			
			12	26 27 shosts	100	0	200		(0.1mm) pulse			
			13		100	•	200		(0.1mm) puise			
			14	28 - 29 sheets	100	U	200	1	(0.1mm) pulse			
			15	30 (sheets) or over Condition 1	100	0	200	1	(0.1mm)			
			1	(52 to 80 g/m ²)	20	1	35	1	sheets			
			2	Condition 2 (81 to 90 g/m ²)	20	1	35	1	sheets			
			3	Condition 3 (91 to 105 g/m ²)	20	1	30	1	sheets			
			4	Condition 4	15	1	30	1	sheets	Specifies the sheet volume limit of booklets (stapled) to be made on the Multifunction finisher according to the respective ranges of paper weight	To change the maximum number of sheets to be stapled into	
Е	37-6-246	LIMIT NUMBER	5	Condition 5	10	1	30	1	sheets	(thickness). * The paramter values in this test mode will not be applicable to coated sheets.	booklets on the Multifunction finisher according to sheet weight	
			6	(129 to 150 g/m ²) Condition 6	10	1	20	4	abaata		(thickness).	
			0	(151 to 176 g/m ²) Condition 7	10	'	20	-	sneets			
			7	(177 to 220 g/m ²)	5	1	10	1	sheets			
			10	(301 to 350 g/m ²)	3	1	10	1	sheets			
										Specifies the maximum number of sheets to be stapled into booklets in the		
		BOOKLET STAPLE				_				Booklet making section on the Multifunction finisher	To change the maximum number of sheets to be stapled into	
E	37-6-247	MAX NUMBER	-	-	20	2	35	1	sheets	* When the total number of pages (sheets) of to be made booklets exceeds the value specified here, the excess sheets are to be compled as a separate	booklets in the Booklet making section on the Multifunction	
										booklet and ejected without stapled.	finisher.	
		BOOKI ET MAX								Specifies the maximum number of speets to be compiled into booklets and	To change the maximum number of sheets to be compiled into	
Е	37-6-248	FOLD NUMBER-NO	-	-	5	1	15	1	sheets	ejected without stapled in the Booklet making section on the Multifunction finisher.	booklets and ejected without stapled in the Booklet making	
											section on the Multifunction finisher.	
_												
				2 abaata	100		200		pulse	Adjusts the folding position on non-stapled booklets in the Booklet making		
	1	BOOKLET FOLD		sneets	100	U	200		(0.1mm)	section on the Multifunction finisher by changing the decrement amount of the pre-fold shift range of compiled sheets by the specified value for the respective backture the section of the specified value for the respective backture and the section of the sec	To adjust the folding position on	
Е	37-6-249	POSITION ADJ-NO STAPLE								pookjet vojumes. 	non-stapled booklets in the Booklet making section on the	
	E 37-6-249 S								pulse	 writeri the bottom har is tonger: Subtract the 5-time value of the deviation amount (mm) from the default one and enter the calculation result. When the tap haf is began if the 5-time table is the subtract of the	booklet volumes.	
			2	3 (sheets) or over	100	0	200	1	(0.1mm)	 writeri the top nair is longer: Add the 5-time value of the deviation amount (mm) to the default one and enter the calculation result 		

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Test Modes

Description

[17-161]

Step Unit

Default Setting

Min. Max.

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Туре

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Test mode No.

		1	3 sheets	100	0	200	1	pulse (0.1mm)			
		2	4 sheets	100	0	200	1	pulse			
		3	5 - 7 sheets	100	0	200	1	pulse			
		4	8 - 9 sheets	100	0	200	1	pulse	Adjusts the saddle stapling position on booklets, whose volume is more than 2 sheets in the Booklet making section on the Multifunction finisher by changing		
		6	12 - 13 sheets	100	0	200	1	pulse	the decrement amount of the pre-stapling shift range of compiled sheets by the	To correct the misalignment of	
37-6-250	BOOKLET STAPLE	7	14 - 15 sheets	100	0	200	1	pulse	specified value for the respective booklet volumes.	saddle staples with a fold line on booklets to be made on the	
	ADJUST	8	16 - 17 sheets	100	0	200	1	pulse	• When booklets are stapled above the fold line: Subtract the 10-time value of	Multifunction finisher according to	
		9	18 - 19 sheets	100	0	200	1	pulse	 the deviation amount (mm) from the default one and enter the calculation result. When booklets are stapled below the fold line: Add the 10-time value of the 	booklet volumes.	
		10	20 - 21 sheets	100	0	200	1	pulse	deviation amount (mm) to the default one and enter the calculation result.		
		12	24 - 25 sheets	100	0	200	1	pulse			
		13	26 - 27 sheets	100	0	200	1	pulse			
		14	28 - 29 sheets	100	0	200	1	pulse			
37-6-251	B/L STAPLE & EJECT POS ADJ- F/R	_	-	30	0	50	1	pulse (0.2618 mm)	Adjusts the horizontal position of saddle staples on booklets, thus shifting the ejection position of booklets horizontally to the opposite direction in the Booklet making section on the Multifunction finisher. * This parameter value will be applicable only to booklet sheets whose width is 210 mm or more. * If the parameter value is increased from the default value (30), the staples are to be shifted to the front side, shifting booklets to the rear side when ejected, while they are to be shifted to the rear side, shifting to-be-ejected booklets to the front side in the same case if the said value is decreased.	To adjust the horizontal position of saddle staples on booklets to be made on the Multifunction finisher.	
37-6-252	B/L STAPLE POSITION ADJ (20	1	UNDER B4S (Smaller than B4)	100	0	200	1	pulse (0.06 mm)	Adjusts the saddle stapling position on booklets, whose volume is 20 sheets, in the Booklet making section on the Multifunction finisher by changing the decrement amount of the pre-stapling shift range of compiled sheets by the specified value for the respective booklet sheet formats.	To correct the misalignment of saddle staples with a fold line on booklets whose volume is 20 sheets on the Multifunction	In the Booklet making mode the pre-stapling shift range i automatically adjusted according to the booklet sheet volume, based on the
37-6-253 <i>A</i>	SHEETS)	2	B4S OR OVER (B4 or larger)	100	0	200	1	pulse (0.06 mm)	• When booklets are stapled above the fold line: Subtract the 16-lime value of the deviation amount (mm) from the default one and enter the calculation result. • When booklets are stapled below the fold line: Add the 16-lime value of the deviation amount (mm) to the default one and enter the calculation result.	finisher according to booklet sheet format.	parameter settings specifie for 2-sheet booklets (in TM No. 37-6-241) and 20-sheet ones (in this test mode).
	B/L MISREGI AVOID-P. LENGTH ADJ COND	_	-	4200	2500	5000	1	0.1mm	Specifies the length of sheets beyond which a misregistration prevention action is to be applied during booklet making operation in the Booklet making section on the Multifunction finisher. * The parameter range which is beyond specifications is provided in this test mode to enable possible adjustments for all kinds of available paper formats.	To address compiling misalignment of booklets to be made on the Multifunction finisher.	
37-6-254	B/L MISREGI AVOID(S SIZE P)END G ADJ	I	-	0	0	1	1	-	Selects whether to enable an extra action of the FB End guide when making booklets, including non-stapled ones, with smal-size sheets, thus preventing their compiling misalignment (misregistration) on the Multifunction finisher. 0: Disabled 1: Enabled * When enabled, the FB End guide is to be lowered further than a regular stapling level and then raised up to the said level during the pre-stapling shift action in the Booklet making mode.	To address compiling misalignment of smal-size booklets to be made on the Multifunction finisher.	When booklets are made with small-size sheets, a se of compiled sheets could be lowered but not raised from the compiled position, unlike with regular-or-large-size sheets.
37.6.255	BOOKLET ADD	1	Effect NBR (Sheet volume)	20	0	35	1	sheets	Specifies the threshold booklet volume which leads an additional tamping action to be provided to compiled sheets during the respective tamping operations in the Booklet making section on the Multifunction finisher and the number of the said additional tamping actions specifically for compiling operations.	To address compiling misalignment of booklets to be	
0,-0-200	TAMPING SETTING	2	Action Times	0	0	2	1	time(s)	 (compiling, final-sheet compiling, stapping and non-staped folding.) When the parameter value of the item No. 1 (Sheet volume) is set at "0," no additional tamping action will be provided in any case. 	made on the Multifunction finisher.	
37-6-256		1	Normal (Condition 1)	120	100	150	1	pulse (0.1mm)	Adjusts the standby position of the FB End guide, which receives coming sheets to be compiled, on the Multifunction finisher under the conditions described below. When the parameter value is set at "100," the FB End guide is positioned at the initial level, from which it is to be lowered or raised by incrementing or decrementing the parameter value from the said level (100).	To address compiling misalignment of booklets due to a catch of sheet edges on the entry chute frame during compiling on the Multifunction finisher.	
	GUDE SIZE POS ADJUST	2	Weight≦64gms (Condition 2)	120	50	120	1	pulse (0.1mm)	 Condition 1: The initial sheet to be compiled does not satisfy the condition 2 (described below) and the paper feed range is 18 inches (457.2mm) or less. When the paper feed range exceeds 18 inches (457.2mm), the default value will be applied. Condition 2: The length and weight of the initial sheet to be compiled are 450mm (SR-A3) or longer and 64 g/m² or less, with an enhanced fold to be appled. When the paper feed range exceeds 18 inches (457.2mm), the default value will be applied. 	To address a paper jam to be caused in the Booklet making section on the Multifunction finisher due to the crash of the following to-be-compled sheet against the preceding compiled set which was not ejected by the FB Paddles in time, pulled underneath the said paddles.	

Test Modes

Remarks

Purpose

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
E	37-6-257	B/L END GUIDE P- END HOLD START TIME	_	-	0	0	255	1	msec	Specifies the standby time before starting the below-described compiled sheet edge support action by the FB End guide on the Multifunction finisher, which is to be executed for non-stapled booklets whose volume is 2 sheets or more and which includes sheets whose weight exceeds 150 g/m ⁵ without an enhanced fold action. * When the parameter value is set at "0," the said support action will not be taken by the FB End guide under any conditions. [Compiled sheet edge support action] To raise the FB End guide further before starting a folding operation after it was raised to the folding operation position together with compiled sheets, thus holding the leading edge of compiled sheets during the folding operation to prevent the separated fold of the outermost sheet.	To address folding errors of non- stapled booklets to be made with card-stock-thick sheets included on the Multifunction finisher. * It is recommended to set the parameter at "150" in case the said folding errors frequently occur. If the said errors cannot be solved with the said setting, however, change the parameter within the range of ±50.	
E	37-6-258	B/L STAPLE NEARLY EMPTY DET NUMBER	-	-	6000	4500	6000	1	time(s)	Specifies the number of stapling actions in the Booklet making mode which leads the system (printer) to notify an operator of low staple volume for booklet making operation on the Multifunction finisher. * Once the said notification is given, it will not be indicated again until the current staple cartridges have been replaced with new ones.	To advance the notification timing of low staple volume in the Booklet making section on the Multifunction finisher.	
E	37-6-290	B/L FULL DET NBR SUBTRACTION- THICK P	I	-	0	0	20	1	-	Specifies the number of booklets to be deducted from the predefined maximum number of booklets to be stacked on the Booklet tray of the Multifunction finisher, i.e. Booklet tray capacity, when sheets whose weight exceeds 82 g/m ² are included in finished booklets.	To decrease the Booklet tray capacity for thicker booklets to be made on the Multifunction finisher.	
E	37-6-291	B/L TRAY BELT AUTO TRANF SELECT	_	-	0	0	1	1	-	Selects whether to enable the auto belt conveyance of finished booklets towards the open end of the Booklet tray of the Multifunction finisher. 0: Disabled 1: Enabled	To facilitate the removal of finished booklets stacked close to the exit of the Booklet making section on the Booklet tray of the Multifunction finisher.	
			1	16 (sheets) or less	20	3	30	1	sets		To change the Booklet trav	
Е	37-6-292	B/L TRAY LOAD	2	17 - 20 sheets	5	3	30	1	sets	Specifies the maximum number of booklets to be stacked on the Booklet tray of the Multifunction finisher, i.e. Booklet tray capacity, according to the booklet	capacity (the maximum number of stackable booklets) on the	
		(PLAIN)	3	21 - 25 sheets	5	3	30	1	sets	volume (number of sheets) when using sheets whose wight is 90 g/m 2 or less.	Multifunction finisher according to booklet volume	
			4	26 - 30 sheets	5	3	30	1	sets			
E	37-6-293	B/L TRAY LOAD LIMIT SET NBR (THICK)	-	-	0	0	1	1	-	Selects whether or not to apply the same parameter values as specified in the test mode TM No. 37-6-292 "B/L TRAY LOAD LIMIT SET NBR (PLAIN)" as Booklet tray capacity when using sheets whose wight exceeds 90 g/m ² on the Multifunction finisher. 0: The said parameter values to be applied 1: The said parameter values not to be applied 1: In this case, the parameter value of the item No. 2 (17 - 20 sheets) in the said test mode is to be used as a factor in a given calculation formula to change the capacity of the said tray accordingly.	To apply other parameter values than specified in the test mode TM No. 37-6-292 as Booklet tray capacity in case sheets whose weight exceeds 90 g/m ² are to be used to make booklets on the Multifunction finisher.	
			1	Under 297.0 (Shorter than 297.0mm)	3	1	10	1	sets			
		B/L TRAY LOAD	2	297.0 - 363.9mm	2	1	10	1	sets	Specifies the number of booklets to be deducted from the maximum number of booklets to be stacked on the Booklet tray on the Multifunction finisher. i.e.	To change the number of booklets to be stacked up to the	
E	37-6-294	NBR SUBTRACT-P LENGTH	3	364.0 -457.1mm	1	1	10	1	sets	Booklet tray capacity, accoding to booklet sheet length, which is to be used as a factor in a given calculation formula for determining the number of booklets to be stacked up to the FB Booklet tray paper detection sensor.	FB Booklet tray paper detection sensor on the Multifunction finisher accoding to booklet sheet length.	
			4	457.2 Over (457.2mm or longer)	1	1	10	1	sets			
E	37-6-295	B/L PAPER LOAD TIMMING ADJ-B/L NBR	-	-	16	1	36	1	sheets	Specifies the threshold booklet volume (number of sheets) which leads the start timing of belt conveyance action on the Booklet tray to be changed for ejected booklets on the Multifunction finisher.	To change the minimum booklet volume based on which the belt conveyance condition on the Booklet tray is to be changed on the Multifunction finisher.	
			1	Under 260mm (Shorter than 260mm)	-50	-100	100	1	10msec			
			2	260 - 297 (296.9) mm	-50	-100	100	1	10msec			
			3	297 - 330 (329.9) mm	-50	-100	100	1	10msec			
-	37 6 206	B/L PAPER LOAD	5	381mm Over (381mm or longer)	-50	-100	100	1	10msec	Adjusts the start timing of interval belt conveyance actions to stack finished booklets on the Booklet tray on the Multifunction finisher according to booklet sheet length and depending on whether thicker (heavier-weight) sheets are included in finished booklet.	To adjust the start timing of interval belt conveyance actions to stack finished booklets on the Booklet tray on the Multifunction	
	B/L PAI E 37-6-296 START ADJ	ADJ	6	T/Under 260 (Shorter than 260mm / Thick)	-50	-100	100	1	10msec	Thicker (heavier-weight) sheets are not included in booklets for item No. 1 to 5, while they are included there for item No. 6 to 10.	finisher accoding to booklet sheet length and depending on whether thicker (heavier-weight) sheets are included in finished booklets	
			7	T/260 - 297 (296.9)mm (/Thick)	-50	-100	100	1	10msec		are molace in mistice booklets.	
			8	T/297 - 330 (329.9) mm (/Thick)	-50	-100	100	1	10msec			
			10	T/381mm Over (381mm or longer / Thick)	-50	-100	100	1	10msec			

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
E	37-6-310	BUFFER CONTROL SELECT	_	-	0	0	6	1	-	Selects what buffer action is to be taken under what condition before stapling or stacking sheets on the Stacking tray on the Multifunction finisher. 0: 1-sheet buffer for all stapled and non-stapled stacking operations 1: No buffered sheet (No action) 2: 2-sheet buffer for all stapled stacking operations 3: 2-sheet buffer for all stapled and non-stapled stacking operations 4: 2-sheet buffer for all other stacking operations than dual-stapled duplex-print and front-corre-stapled-on-287/mm-wide-sheet ones 6: 2-sheet buffer for all stapled and non-stapled stacking operations with inserted sheets	To change the to-be-applied buffer action in case the sheets stapled or stacked on the Stacking tray are not aligned as expected due to misregistration during buffer actions on the Multifunction finisher.	
			1	Condition 1 (Setting 1 / Sheet type 1)	79	10	113	1	pulse			
			2	Condition 2 (Setting 1 / Sheet	79	10	113	1	pulse			
			3	Condition 3 (Setting 1 / Sheet	71	10	113	1	pulse			
			4	Condition 4 (Setting 1 / Sheet	79	10	113	1	pulse			
			5	Condition 5 (Setting 1 / Sheet	79	10	113	1	pulse			
			6	Condition 6 (Setting 1 / Sheet	71	10	113	1	pulse			
			7	Condition 7 (Setting 2 / Sheet	47	0	90	1	pulse	Adjusts the pre-plunching sheet reverse transfer range for plunching operation with the respective sheet types under the respective settings described below, by changing the operation period (pulse count) of the FM Top transfer and FM Charle transfers markers are the Multiferent Einstein.		
			8	Condition 8 (Setting 2 / Sheet	47	0	90	1	pulse	Static transfer motors on the mountaintain missier. <settings? Setting 1: 1056 2:12 beta sumabar (10 model) / For shorts where width is 202</settings? 	To change the pre-punching	
			9	Condition 9 (Setting 2 / Sheet	47	0	90	1	pulse	- Setting 1: With 2-/3-hole puncher (US model) / For sheets whose width is 203 to 223mm - Setting 2: With 2-/3-hole puncher (US model) / For sheets whose width is 203.1 to 223mm	sheet reverse transfer range in case punch holes are closer to or further from the side edge of	A full performance cannot be
E	37-6-311	ADJUST	10	Condition 10 (Setting 2 / Sheet	47	0	90	1	pulse	- Setting 3: With 2-/4-hole or SW4-hole puncher	sheets than expected or sheets are damaged at the punched- side edge on the Multifunction	parameter is set to another value than the default one.
			11	Condition 11 (Setting 2 / Sheet	47	0	90	1	pulse	- Sheet type 1: 216mm-or-less-long / less than 60 g/m ² - Sheet type 2: 216mm-or-less-long / 60 to 105.9 g/m ²	finisher according to the puncher model and sheet type.	
		12	Condition 12 (Setting 2 / Sheet	47	0	90	1	pulse	 Sheet type 3: 216mm-or-less-long / 106 g/m² or more Sheet type 4: More-than-216mm-long / less than 60 g/m² Sheet type 5: More-than-216mm-long / 60 to 105.9 g/m² 			
			13	Condition 13 (Setting 3 / Sheet	63	13	113	1	pulse	- Sheet type 6: More-than-216mm-long / 106 g/m ² or more		
			14	Condition 14 (Setting 3 / Sheet	63	13	113	1	pulse			
			15	Condition 15 (Setting 3 / Sheet	55	13	113	1	pulse			
			16	Condition 16 (Setting 3 / Sheet	63	13	113	1	pulse			
			17	Condition 17 (Setting 3 / Sheet	63	13	113	1	pulse			
			18	Condition 18 (Setting 3 / Sheet	55	13	113	1	pulse			
			1	Condition 1 (Sheet	168	100	220	1	msec	Adjusts the stop timing of the FM Top transfer and FM Stack transfer motors		
			2	Condition 2 (Sheet type 2)	168	100	220	1	msec	start to reverse their rotation for pre-punching shert reverse transfer action on the Multifunction finisher, which is the duration of motor rotation after the trailing edge of an advancing sheet has passed through the FM Punch IN sensor (FM Punch IN sensor has been onened)	T . I	
			3	Condition 3 (Sheet type 3)	168	100	220	1	msec	Sheet types> - Sheet type 1: Sheets whose width is 203 to 223mm and whose weight is less	sheet reverse transfer range in case punch holes are closer to or further from the side edge of	
E	37-6-312	PUNCH BACK STOP POSTION ADJUST	4	Condition 4 (Sheet	168	100	220	1	msec	than 60 g/m ² - Sheet type 2: Sheets whose width is 203 to 223mm and whose weight is 60 to 105.9 g/m ² - Sheet type 3: Sheets whose width is 203 to 223mm and whose weight is 106.	sheets than expected or sheets are damaged at the punched- side edge on the Multifunction finisher which is equipped with	
			5	Condition 5 (Sheet	168	100	220	1	msec	g/m ² or more - Sheet type 4: Sheets whose width is 203.1 to 223mm and whose weight is less than 60 g/m2	the 2-/3-hole (US model) puncher unit according to paper type.	
			6	Condition 6 (Sheet	168	100	220	1	msec	 Sheet type 5: Sheets whose width is 203.1 to 223mm and whose weight is 60 to 105.9 g/m2 Sheet type 6: Sheets whose width is 203.1 to 223mm and whose weight is 106 g/m2 or more 		
<u> </u>			1	type 6) Condition 1	20		70	1	mees			
Е	37-6-313	PUNCH BACK	2	(US)) Condition 2	45	0	100	1	msec	Adjusts the time interval until the FM Top transfer and FM Stack transfer motors start reverse rotation after stopping their forward rotation for pre- punching sheet reverse transfer action with sheets whose width is 203 to 205mp (203 ± 16 230mp for 2 / 2 bela exchange) as the Uniferentian of the start in the start of the sta	To address lateral misalignment of punch holes or damages along the trailing sheet edge during	
		STRAT TIMING	3	(2-/4-hole puncher) Condition 3 (SW4-hole	20	0	70	1	msec	recomm (203.1 to 223mm tor 2/3-note puncher) on the Multifunction finisher. * This test mode is to be applied only to sheets whose weight is less than 60 g/m ² for 2/3-hole and SW4-hole punchers.	puncing operation on the Multifunction finisher.	
				puncher)								
E	37-6-314	PUNCH BACK STOP TIME ADJUST	_	-	20	0	70	1	msec	Adjusts the power-off timing of the FM Top transfer and FM Stack transfer motors at the end of pre-punching sheet reverse transfer action on the Multifunction finisher.	To address lateral misalignment of punch holes or damages along the trailing sheet edge during puncing operation on the Multifunction finisher.	

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Туре	Test mode No.	Test mode name	No.	Туре	Default Setting	Min.	Max.	Step	Unit	Description	Purpose	Remarks
E	37-6-315	PUNCH BACK POST ACT START TIMING	_	-	40	20	60	1	msec	Adjusts the time interval until the FM Top transfer and FM Stack transfer motors are powered on again after powered off at the end of pre-punching sheet reverse transfer action on the Multifunction finisher.	To address lateral misalignment of punch holes or damages along the trailing sheet edge during puncing operation on the Multifunction finisher.	
Е	37-6-316	BUFFER PAPER MISS REGI ADJ	1	1 Sheet (1-sheet buffer)	0	0	1	1	-	Selects whether to suspend operation to measure the overlap range of buffered sheets, in 1-sheet and 2-sheet buffer actions respectively, during stapled or non-stapled stacking on the Stacking tray on the Multifunction finisher. 0: Operation not to be suspended 1: Operation to be suspended	To check the overlap range of buffered sheets on the	
		SET	2	2 Sheets (2-sheet buffer)	0	0	1	1	-		Multifunction finisher.	
			1	No punch (/Simplex)	46	0	100	1	msec		To address buffering-action-	
_	37 6 319	2ND BUFFER PAPER OVERLAP AMOUNT ADJ	2	Punch (/Simplex)	38	0	100	1	msec	Adjusts the overlap range of buffered sheets by changing the time interval until the FM Stack transfer motor starts rotation after the FM Top transfer motor	induced misalignment of stapled or non-stapled sheets stacked on the Stacking tray on the	
	37-0-318		3	No punch / D (Duplex)	53	0	100	1	msec	starts transferring the 2nd sheet to be buffered with or without punching operation on the Multifunction finisher in simplex or duplex print jobs.	Multifunction finisher with or without punching operation in	
			4	Punch / D (Duplex)	42	0	100	1	msec	1	simplex or duplex print jobs.	
			1	No punch (/Simplex)	44	0	100	1	msec		To address buffering-action-	
_		3RD BUFFER	2	Punch (/Simplex)	32	0	100	1	msec	Adjusts the overlap range of buffered sheets by changing the time interval until the FM Stack transfer motor starts rotation after the FM Top transfer motor	induced misalignment of stapled or non-stapled sheets stacked on	
-	37-6-320	AMOUNT ADJ	3	Nopunch / D (Duplex)	53	0	100	1	msec	starts transferring the 3rd sheet to be buffered with or without punching operation on the Multifunction finisher in simplex or duplex print jobs.	Multifunction finisher with or without punching operation in	
			4	Punch / D (Duplex)	42	0	100	1	msec		simplex or duplex print jobs.	
E	37-6-390	FOLDER FOLD ADJ VALUE STORE SELECT	_	-	0	0	1	1	-	Selects whether to store custom parameters for folding operations into the data memory in the FF (Finisher Fold) unit of the Multifunction finisher. 0: Parametes not to be stored 1: Parameters to be stored	To store custom parameters for folding operations into the data memory in the FF (Finisher Fold) unit of the Multifunction finisher.	The parameter in this test mode will always return to the default value (0) once the corresponding parameters are stored.
E	37-6-391	FOLDER FOLD ADJ VALUE READOUT SELECT	_	-	0	0	2	1	-	Selects whether to retrieve the parameters for folding operations which are stored in the data memory in the FF (Finisher Fold) unit of the Multifunction finisher when powered-on next time. 0: Parametes not to be retrieved 1: Factory default parameters to be retrieved 2: Custom parameters to be retrieved	To retrieve the parameters for folding operations which are stored in the data memory in the FF (Finisher Fold) unit of the Multifunction finisher when powered-on next time.	The parameter in this test mode will always return to the default value (0) once the corresponding parameters are stored.
E	37-6-392	PUNCH SELECT	_	-	0	0	6	1	-	Selects the type (model) of the puncher unit which is mounted on the FM (Finisher Main) unit of the Multifunction finisher when the existing PCB is replaced with a new one on the mounted puncher unit. 0: Not defined 1 or 4: 2-3-hole puncher (US model) 2 or 5: 2-/4-hole puncher 3 or 6: SVV4-hole puncher	To register the type (model) of the mounted puncher unit into its own PCB memory after replacement of the said PCB on the Multifunction finisher. The parameters 4 to 6 should be used for the above-mentioned manual data registration.	
E	37-6-393	PAPER STOP POS ACT TRIGGER SELECT	_	-	0	0	4	1	-	Selects the sensor to be used as a trigger to suspend the current finishing operation, thus stopping a sheet advancing inside the Multifunction finisher just after it has passed through the selected sensor. 0: None (No suspension) 1: FM Punch IN sensor 2: FM Stacking transfer sensor 3: FM Bolket transfer sensor 4: FF Entrance sensor [Note] The parameter in this test mode will always return to the default value (0) at power-off.	To check the sheet transfer condition around the selected sensor in the Multifunction finisher.	
E	37-6-394	PAPER STOP POSITION ACT TIMING	-	-	0	0	3000	1	msec	Specifies the time interval until the current finishing operation is suspended after an advancing sheet has passed through a selected trigger sensor in the Multifunction finisher.		
E	37-6-411	BOOKLET STAPLE MAX NUMBER PRINTER	-	-	20	2	35	1	sheets	Specifies the maximum sheet volume to be stapled into booklets on the Multifunction finisher, whose value is to be stored into the memory in a printer. * This value shoud correspond with the parameter specified in the test mode TM No. 37-6-247 "BOOKLET STAPLE MAX NUMBER."	To update the memorized data in a printer regarding the maximum booklet sheet volume on the Multifunction finisher according to the parameter change in the test mode TM No. 37-6-247.	The said data update is to be performed when a printer is rebooted.

[18-1]

Chapter 18. Printer Controller (GDI)

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1-1. Hardware and Software Specifications	
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2. PC Connection	
2-1. PC Connection Ports	

[18-2]

1. Specifications

1-1. Hardware and Software Specifications

Item		Descriptions	Remark
Туре		GDI (Built-in)	
	Memory type	DDR3L-1333 SO-DIMM	
Hardware	Resident memory volume	4GB	
That a ware	Max. memory volume	8GB	
	HDD	500GB	
Operating S	ystem	Linux	
	LAN	2 ports Ethernet (10BASE-T / 100BASE-TX / 1000BASE-T)	
Interface	USB	3 ports (USB 3.0) - On the rear side: 2 ports (for optional devices) - On the Operation Panel: 1 port (for USB drive)	
	Windows	Windows 8/8.1 (32-bit/64-bit) SP1 or laterWindows 10 (32-bit/64-bit)Windows Server 2008 (32-bit/64-bit) SP2 or laterWindows Server 2008 R2 (64-bit) SP2 or laterWindows Server 2012 (64-bit)RISO-Console-compatible browser> \boxed{OS} \boxed{OS} $\boxed{Browser}$ $\boxed{IE9}$ $\boxed{IE10}$ $\boxed{Browser}$ $\boxed{IE9}$ $\boxed{Browser}$ $\boxed{Server 2008}$ OX $\boxed{Server 2008}$ OX $\boxed{Server 2012}$ \boxed{X} </td <td></td>	
Compatible OS	Мас	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Only compatible with PS (PostScript) kit applied.
	Linux	Linux (Ubuntu 14.04 LTS, CUPS 1.5.2 tested) <riso-console-compatible browser=""> None</riso-console-compatible>	 Only compatible with PS (PostScript) kit applied. PPD files only provided. Operable on Linux CUPS. With several operational restrictions.
	Misc.	Connectable to iOS, Android or Windows RT through RISO PRINT-S	 Only compatible with PS (PostScript) kit applied. Setting items to be limited to the ones available in RISO PRINT-S
Compatible I	Protocol	TCP/IP, HTTP, HTTPs(TLS), DHCP, ftp, lpr, IPP, SNMP, Port 9100(RAW port), IPv4, IPv6, IPSec	
Print Port		Ipr, IPP, Port 9100 (RAW port), USB drive	
PDL			
Resident Fo	nts	None	

RISO Inc. Technical Operations

[18-3]

1-2. Main GDI Functions

Item		Descriptions
Color Manage	ement	ComuColor Standard Color Profile
	Resolution	K: Standard (600x600 dpi) / Fine (600x600 dpi) C,M,Y and G: Standard (300x300 dpi) / Fine (300x600 dpi)
	Screening	Dither (Default), Dot (70 lines / 100 lines)
Image Processing	Gamma Compensation	Brightness, Colorfulness and Contrast (-25 to +25 for each item) Red, Green and Blue (-25 to +25 for each item)
	Text Processing	Line Edge Smoothing (OFF / Weak / Strong)
	Print Density Adjustment	0 (standard), -1, -2, -3, +1, +2, +3 (Adjustment range)
	Print Mode	Photo and Line
	Color Mode Selection	Full Color (5 Colors: CMYKG), Black & White (K color only), Monochrome (Cyan), Monochrome (Magenta)
	Duplex Print	Short-edge feed / Long-edge feed
	Page Combination	N-up (2, 4, 8 pages / Layout: Horizontal, Vertical, Reverse Horizontal, Reverse Vertical), Repeat (2,4,8 images), Booklet (Right-/Left-binding)
	Page Format	A3W, A3, A4, A5, A6, B4, B5, B6, Postcard, Envelope (Landscape) 0, Envelope (Landscape) 1, Envelope (Landscape) 2, Envelope (Landscape) 3, Envelope (Portrait) 3, Envelope (Portrait) 4, Foolscap, Tabloid, Legal, Letter, Statement, Custom, C4, C5, C6, DL-R, Envelope1, Envelope2, No.10 envelope (Portrait) / (Landscape) Original Format Mix Print (with Imposition OFF)
	Paper Format	- Same as original - To be specified: A3W, A3, A4, A5, A6, B4, B5, B6, Postcar, Envelope (Landscape) 0, Envelope (Landscape) 1, Envelope (Landscape) 2, Envelope (Landscape) 3, Envelope (Portrait) 3, Envelope (Portrait) 4, Foolscap, Tabloid, Legal, Letter, Statement, Custom, C4, C5, C6, DL-R, Envelope1, Envelope2, No.10 envelope
	Paper Source	Auto, Tray 1, Tray 2, Tray 3, Standard Tray
Print Control	Paper Type	 Unspecified To be specified: Standard, IJ Paper, IJ Matte, High-quality, Low-weight, IJ Postcard, Rough paper
	Output Option	Print Only, Print & Storage, Storage, USB Drive Storage, Print to File
	Image Rotation	Auto, 0-degree, 90-degree, 180-degree, 270-degree
	Image Shift	Front and Rear Respectively (Vertical / Horizontal: -20mm to +20mm)
	Finishing Options	Sort (by Page/by Copy), Slip Sheet Insert (OFF / Per Group / Per Job), Cover Addition (Front/Rear), Binding (Left / Right / Top)
	Finishing Options (with FU paper ejection unit installed)	Offset Stacking, Booklet Binding, Stapling. Punching, Folding, Output Destination Selection
	Other Print Options	Program Printing, Blank Page Saving, Low Print Speed Mode, Continuous Paper Ejection (with Optional Paper Stacking Devices), Watermark Print, Stamping (Page number / Date)
Print Job Management		Print Job Setting Registration
	yemeni	Printer Profile Acquisition
Operation Mode		Print Mode, Copy Mode, Scan Mode, Storage Mode, USB Print Mode
RISO Console	Compatible Browser	Microsoft®Internet Explorer Ver 9, 10, 11, Edge Macintosh®Safari Ver 5, 6, 7, 8, 9
Management	Functions	Monitoring, Counter Display, Printer Control, Scan Control, etc.

2. PC Connection

2-1. PC Connection Ports

The printer is connected to a personal computer through a network (LAN) cable. Two network ports, LAN0 and LAN1, are provided and their configuration (IP address assignment) can be made in the Administrator mode.



* Viewed from the bottom of the printer.

LAN1 port: For extra use LAN0 port: For PC USB port (2 ports (USB3.0 x 2)): For scanner, IC card authentication kit or USB drive [19-LIST-1]

Chapter 19. Accessories

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[MEMO]

[19-FDF-1]

Chapter 19-1 Face Down Finisher

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Caution

This accessory is equipped with a separate power source. Therefore, always disconnect the power cables for both this equipment (Power cable A) and the printer (Power cable B) before working on this equipment to avoid possible electric shocks.





1. Structure Overview

1-1. Summary

- 1)The operation speed perfectly corresponds with the printing speed in both Simplex print and Duplex print modes.
 - 165 sheets per minute (140 sheets per minute for GL7430) at a maximum in non-sort mode
 - 125 sheets per minute (115 sheets per minute for GL7430) at a maximum in sort mode
- 2)Offset stacking and stapling, which are not available with the standard FD Paper Receiving Tray, are selectable.
 - 1. Offset paper stacking can be selected for multiple-copy print jobs.
 - 2. Two stapling positions, 2 staples at center and 1 staple at corner, are available in stapling. The paper ejection speed is 45 sheets per minute during stapling on 10 sheets whose format is A4 LEF at a corner in both simplex and duplex prints.
- 3)The paper stacking capacity is 1,000 sheets whose approximate height is 108mm for standard paper.

2-2. Functions

- 1) Straight (Non-sort) stacking
 - Stacks ejected sheets straight without sorting.
- 2) Offset stacking
- Stacks ejected sheets in a zig-zag manner while shifting the stacking tray back and forth for sorting.
- 3) Stapled stacking

Staples ejected sheets and stacks copies of stapled sheets straight.



Straight (Non-sort) stacking

Right corner Left corner Top (2 pos.) Left corner **Right corner** Right side (2 pos.) Left side (2 pos.) Binding side

1-3. Specifications

Face Down Finisher G10

Туре	External Unit (Single slide tray with face down ejection)		
Functions	Offset stacking, stapling		
Operation Speed (when stacking A4-size sheets laterally)	Straight (Non-sort) stacking: 165 sheets per minute (For GL9730) Offset stacking: 125 sheets per minute (For GL9730) Stapled stacking: 45 sheets per minute in simplex and duplex printing (when 10 sheets are stapled at a corner)		
	Straight (Non-sort) stacking: Maximum: 340 mm × 550 mm (13 3/8" × 21 5/8") Minimum: 90 mm × 148 mm (3 9/16" × 5 27/32")		
Applicable Paper Size	Offset stacking: - Standard format paper: 182 mm × 257 mm (7 3/16" × 10 1/8") to 297 mm × 431.8 mm (11 11/16" × 17") - Custom format paper: 131 mm × 148 mm (5 3/16" × 5 27/32") to 305 mm × 550 mm (12" × 21 5/8")		
Paper Weight	46 g/m ² (12-lb bond) to 210 g/m ² (56-lb bond)		
Tray Capacity	Height up to 108 mm (4 1/4") / 1000 sheets (85 g/m ² (23-lb bond))		
Maximum Number of Staples	50 sheets ^{*1} with A4, A4-LEF, JIS-B5, JIS-B5-LEF, Letter, Letter-LEF 25 sheets ^{*1} with A3, JIS-B4, Ledger, Legal, Foolscap / Mixed sizes		
Applicable Paper Size for Stapling	A3, JIS-B4, A4, A4-LEF, JIS-B5, JIS-B5-LEF, Ledger, Legal, Letter, Letter-LEF, Foolscap		
Paper Weight for Stapling	52 g/m ² (14-lb bond) to 210 g/m ² (56-lb bond) (plain paper or recycled paper)		
Staple Position	1 at front corner (angle stapling) 1 at rear corner (angle stapling) 2 at center (parallel stapling)		
Staple Cartridge Volume	5,000 staples		
Power Source	AC 100-240 V, 1.1-0.5 A, 50-60 Hz		
Power Consumption	Max. 110 W		
Operation noise level	Max. 66dB		
Weight	Approx. 35 kg (77 lb)		
Safety Information	 IEC60950-1 compliant, Indoor, pollution degree 2*, At altitudes of 2,000 m or lower * The pollution degree of the usage environment due to dirt and dust in the air. Degree "2" corresponds to a general indoor environment. 		
Dimensions When Operating (when Connected to the printer) (W × D × H)	1,440 mm × 1,240 mm × 1,345 mm (56 11/16" × 48 13/16" × 52 61/64")		

*1 When using plain paper or recycled paper (85 g/m² (23-lb bond))

[Note: Full stacking detection during stapling operation]

The maximum stackable number of stapled copies is predefined as 55 copies, while determined by the status of the full stacking detection sensor, so that the raised stapled edges of sheets may not block the exit of coming sheets to cause a paper ejection jam on the Face down finisher.

[19-FDF-6]

1-4. Major Components


RISO SQUARE WEB VERSION

[19-FDF-7]

1-5. Part Names and Locations



	Description of symbols		Description of functions
O Motor	Transmissive-type sensor	🗂 Switch	r↔ Controlled by 🕞 Power
Solenoid	 Reflection-type sensor 	Actuator-type	► HP sensor T transmission
de Clutch	Interrupt-type sensor	switch	Motor
🕀 Fan motor	 Actuator-type sensor 	從 Encoder	FG sensor

1-6. Components and their Functions

Component Name (Sensors/Switches)	Function	Туре
FDF Stapler slide HP sensor	Detects if the FDF Stapler assembly is at the home position.	Interrupt type sensor
FDF Entrance sensor	Detects if a printed sheet enters the finishing section of the Face down finisher.	Reflection type sensor
Rake roller elevation HP sensor	Detects if the FDF Rake roller is at the retreat (elevated) position.	Interrupt type sensor
FDF Stapler buffer tray paper detection sensor	Detects if retracted sheets are placed on the FDF Stapler buffer tray.	Interrupt type sensor
FDF Stapler base position sensor	Confirms that the Clinching head of the FDF Stapler assembly is not positioned over the Stapler paper stopper when stapling stacked sheets.	Interrupt type sensor
Front paper alignment plate HP sensor	Detects if the Paper alignment plate F is at the home position.	Interrupt type sensor
Rear paper alignment plate HP sensor	Detects if the Paper alignment plate R is at the home position.	Interrupt type sensor
Stacking tray shift sensor 1	Detect in which direction the FDF Paper stacking tray is shifted, to the front or the rear.	Interrupt type sensor
Stacking tray shift motor clock sensor	Detects the rotation volume of the Stacking tray shift motor to determine the lateral shift range of the FDF Paper stacking tray.	Interrupt type sensor
Stacking tray upper limit sensor	Detects if the FDF Paper stacking tray is at the upper limit position.	Interrupt type sensor
Stacking tray lower limit sensor	Detects if the FDF Paper stacking tray is at the lower limit position.	Interrupt type sensor
Stacking tray elevation motor clock sensor	Detects the rotation volume of the Stacking tray elevation motor to determine the vertical shift range of the FDF Paper stacking tray.	Interrupt type sensor
Stacking tray paper detection sensor	Detects if stacked sheets remain on the FDF Paper stacking tray.	Interrupt type sensor
FDF transfer sensor	Detects if a printed sheet ejected from the printer enters the Face down finisher.	Reflection type sensor
FDF switchback pass sensor	Detects if a printed sheet remains in the switchback pass in the Face down finisher.	Reflection type sensor
Paper stacking level detection sensors 1/2/3	Detect the position of the FDF Reverse roller in combination to track the paper stacking level transition.	Interrupt type sensor
Paper ejection roller elevation sensor	Detects if the FDF Paper ejection roller is at the elevated position.	Interrupt type sensor
Staple scratch prevention arm HP sensor	Detects if the Staple scratch prevention arm is at the retreat (home) position.	Interrupt type sensor
Reverse roller retreat position sensor	Detects if the FDF Reverse roller is at the retreat position.	Interrupt type sensor
FDF Stapler clinch HP sensor	Detects if the Clinching head of the FDF Stapler assembly is at the home position.	-
FDF Stapler self prime sensor	Detects if a staple is primed in the FDF Stapler assembly.	-
FDF Stapler staple detection sensor	Detects if the staple cartridge is empty in the FDF Stapler assembly.	-
FDF Jam release cover switch	Detects if the FDF Jam release cover is opened to interrupt the current print job.	Micro switch
FDF Staple cartridge cover switch	Detects if the FDF Staple cartridge cover is opened to interrupt the current print job.	Micro switch

[19-FDF-9]

Component Name (Motors/Solenoids/Fans)	Function	Туре
FDF Stapler slide motor	Slides the FDF Stapler assembly to place it at the stapling points.	Pulse motor
Stacking tray shift motor	Shifts the FDF Paper stacking tray laterally for offset stacking.	DC motor
Stacking tray elevation motor	Shifts up or down the FDF Paper stacking tray.	DC motor
Paper ejection roller elevation motor	Shifts up or down the FDF Paper ejection roller.	Pulse motor
FDF Reverse motor	Drives the FDF Reverse roller.	Pulse motor
FDF Reverse roller shift motor	Shifts up or down the FDF Reverse roller.	Pulse motor
Front tamper motor	Slides the Paper alignment plate F.	Pulse motor
Rear tamper motor	Slides the Paper alignment plate R.	Pulse motor
FDF Transfer motor	Drives the FDF Transfer roller.	Pulse motor
FDF Entrance motor	Drives the FDF Reception roller.	Pulse motor
FDF Finishing motor	Drives the FDF Entrance roller, FDF Finishing roller and FDF Rake roller.	Pulse motor
FDF Paper ejection motor	Drives the FDF Paper ejection roller.	Pulse motor
Staple scratch prevention arm motor	Projects and retreat the Staple scratch prevention arm.	Pulse motor
Rake roller elevation solenoid Triggers the shift-up-and-down motion of the FDF Rake roller.		Solenoid
FDF Transfer cooling fan	Cools down the FDF Transfer motor.	DC motor fan
FDF Power supply cooling fan	Cools down the FDF Power supply unit.	DC motor fan
Component Name (Rollers)	Function	Туре
FDF Entrance roller	Leads a sheet transferred from the FDF Transfer roller into the finishing section.	Rubber roller
FDF Rake roller	Leads sheets retracted from the FDF Paper stacking tray into the FDF Stapler assembly.	Rubber roller
FDF Reception roller	Transfer sheets ejected from the printer into the Face down finisher.	Rubber roller
FDF Transfer roller	Transfers sheets entering the Face down finisher further inside.	Rubber roller
FDF Paper ejection roller	Ejects transferred sheets onto the FDF Paper stacking tray or retracts them toward the FDF Rake roller during stapling operation. It also nips them while they are being stapled.	Rubber roller
FDF Finishing roller	Transfers received sheets toward the paper exit of the Face down finisher.	Rubber roller
FDF Reverse roller	Arranges a pile of sheets stacked on the FDF Paper stacking tray orderly. It is also used to detect the paper stacking level.	Sponge roller
FDF Paper ejection driven roller	Ejects or retracts received sheets, driven by the FDF Paper ejection roller.	Rubber roller
Component Name (Misc.)	Function	Туре
Paper alignment plates (F&R)	Align stacked sheets retracted from the FDF Paper stacking tray to be stapled.	-
FDF Paper stacking tray	Receives and piles up sheets ejected from the finishing section.	-
FDF Stapler assembly	Staples stacked sheets retracted from the FDF Paper stacking tray.	-
Power supply unit	Supplies power to electrical components.	-
FDF Control PCB	Controls the operation of the Face down finisher.	-

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2. Mechanism

2-1. Paper Transfer

Ejected sheets are handled differently depending on the selected stacking mode, i.e. straight (non-sort stacking, offset stacking or stapled stacking.

When straight (non-sort) or offset stacking is selected, the printed sheets ejected from the printer are to be transferred straight onto the FDF Paper stacking tray without reverse actions.

When stapled stacking is selected, on the other hand, they are to be switched back toward the FDF Stapler assembly, sheet by sheet until stapled, after they reaches the FDF Paper stacking tray. Then the stapled sheets will be ejected completely onto the FDF Paper stacking tray.



<Straight (Non-sort) or Offset stacking>

<Stapled stacking>

2-1-1. Straight (Non-sort) Stacking

Printed sheets are continuously ejected onto the FDF Paper stacking tray, sheet by sheet, and stacked as one pile.



ComColor GL Series Revision 1.0

<Paper transfer operation>

1. Paper Entry

The sheet ejected from the printer is transferred into the Face down finisher by the FDF reception roller. The paper transfer speed is equivalent to the paper ejection speed on the printer.

2. Paper Transfer Acceleration

The FDF transfer roller accelerates the paper transfer speed up to 700mm/second.

3. Paper Transfer Deceleration

The paper transfer speed is decelerated to the paper ejection speed on the printer (632mm/second) again. 4. Paper Ejection Roller's Descent

The FDF paper ejection roller shifts up and down against the driven roller positioned underneath. During straight (non-sort) stacking, this roller is lowered and pressed against the driven roller for continuous paper ejection.

5. Rake Roller's Shift (No Action)

The FDF Rake roller is also shifted up and down. During stapling, this roller is lowered to hold sheets in the stapling section. In other cases, this roller is to be raised up.

6. Paper Ejection Guide by FDF Paper Stacking Tray

The sheet ejected onto the FDF Paper stacking tray slides along the declined face of the said tray toward the paper exit.

7. Paper Alignment by FDF Reverse Roller

The FDF Reverse roller assists the said sheet to retract all the way against the Stacking paper stopper to align it with the existing ones.

2-1-2. Offset Stacking

Ejected sheets are stacked on the FDF Paper stacking tray in a zig-zag manner by shifting the tray back and forth between copies or print jobs, according to the settings on the printer driver. The shift (offset) range is fixed at 30mm.



<Offset stacking operation>

1. The paper transfer operation is exactly the same as in straight (non-sort) stacking.

2. Each time a set of printed sheets are ejected onto the FDF Paper stacking tray, the tray is shifted back or forth 30mm before receiving the following set.

2-1-3. Stapled Stacking

Printed sheets are stacked on the FDF Stapler buffer tray and ejected onto the FDF Paper stacking tray after stapled. The stapling positions are selectable among: front corner, rear corner and 2 center points along the side.

<Operation sequence>



- Initial sheet placement -

1. The FDF Paper ejection roller is lowered and pressed against the roller on the driven side.

 The FDF Paper ejection roller then receives a printed sheet and transports it onto the FDF Paper stacking tray.
 The Paper alignment plates F and R are opened wide.

4. A predefined amount of time after the trailing edge of the said sheet has passed through the FDF Entrance sensor, the rotation of the FDF Paper ejection roller is reversed.

5. The retracting sheet reaches the FDF Rake roller.

6. The FDF Paper ejection roller stops rotating and is raised to release the sheet underneath.

7. The FDF Rake roller leads the received sheet up to the Staple paper stopper by the so-called "Raking action."8. The Paper alignment plates F and R are narrowed to align the stacked sheet laterally.

9. The Paper alignment plates F and R are opened wide again.



- Subsequent sheet placement -

1. The following sheet advances under the FDF Paper ejection roller toward the FDF Paper stacking tray.

2. A predefined amount of time after the trailing edge of the said sheet has passed through the FDF Entrance sensor, the FDF Paper ejection roller is lowered to nip the sheet underneath.

3. The FDF Paper ejection roller starts rotating in reverse.

4. The retracting sheet reaches the FDF Rake roller.

5. The FDF Paper ejection roller stops rotating and is raised to release the sheet underneath.

6. The FDF Rake roller leads the received sheet up to the Staple paper stopper by the so-called "Raking action."

7. The Paper alignment plates F and R are narrowed to align the stacked sheet laterally.

- Stapling stacked sheets -

1. The FDF Paper ejection roller nips sheets stacked on the FDF Stapler buffer tray.

2. The FDF Rake roller is lifted up through the activation of the Rake roller elevation solenoid and the FDF Finishing motor.

3. The Paper alignment plates F and R are opened wide to retract the U-shape plate from the FDF Stapler assembly.

4. The FDF Staple assembly is moved to the stapling position to staple the stacked sheets.

2-2. Initializing Operation

This equipment always makes the below-described initializing operations to prepare for paper stacking at power-on or when a cover, such as Jam release cover and FDF Staple cartridge cover, is closed after opened.

1) Jammed sheet check

The FDF Entrance sensor and Joint transfer sensor 1 check if jammed sheets remain inside while driving the Joint transfer motor, FDF transfer motor and FDF Finishing motor. If any jammed sheet is detected, the corresponding error message is displayed.

2) Movable component position check

Component	Checking action		
	It is to be checked if the Paper alignment plates are at the home position. If not,		
Paper Alignment Plates	they are shifted to the home position. If already positioned there, on the other		
	hand, they are shifted off the home position and then repositioned there.		
EDE Paper Ejection Roller	The FDF Paper ejection roller is to be moved to the retreat position. If		
	already positioned there, no action is made.		
FDF Paper Stacking Tray /	The FDF Paper stacking tray is to be shifted to the home position while the FDF		
FDF Reverse Roller	Reverse roller makes the corresponding initialization actions.		
FDF Rake Roller	The FDF Rake Roller is to be moved to the retreat position.		
EDE Stapler Assembly	The FDF Stapler assembly is to be shifted to the home position after the Clincher		
FDF Staplel Assembly	and Paper alignment plates make their initialization actions.		

3) Staple priming action

Staples are to be primed unless they are in the stapling position. If they are not set in position within 20 actions, an error message is displayed. This action is interrupted if the FDF Staple cartridge cover is opened.

2-3. Operational Preparation

This equipment makes preparation actions as described below at the start of print jobs.

• Adjusting the height of the FDF Paper stacking tray

The FDF Paper stacking tray is to be lowered until the Stacking tray upper limit sensor is opened. The FDF Reverse roller is then lowered on the FDF Paper stacking tray, which is to be raised until the Stacking tray upper limit sensor is blocked and then to be lowered again until the same sensor is opened.

During this operation, the FDF Reverse roller rotates in the forward direction if stapling is not specified as a finishing option for the current print job, while it does not rotate if stapling is specified as said instead.

- Positioning the Paper alignment plates
 The Paper alignment plates are to be slided to meet the width of printing paper to guide and align coming printed sheets.
- Positioning the FDF Paper ejection roller
- The FDF Paper ejection roller is lowered from the retreat position and led to rotate.
- Positioning the Stapler assembly (only when stapling is specified as a finishing option for the current print job) The FDF Stapler assembly is to be slided to the position corresponding to the current printing paper size and the selected staple mode.

2-4. Paper Stacking Preparation

The FDF Reverse roller is preparatorily positioned according to the selected finishing mode and printing paper type, while the height of the FDF Paper stacking tray is adjusted according to the volume of stacked sheets.

2-4-1. Reverse Roller Positioning

The FDF Reverse roller is initially positioned in 3 ways according to the selected finishing mode and printing paper type: 60-degree angled when stapled, 45-degree angled without stapled and retreated for large-format thick paper and envelopes.

During stacking ejected sheets on the FDF Paper stacking tray, besides, it is pushed up, pivoting, by stacking sheets bit by bit, while lying on them, thus triggering the Stacking tray elevation motor to lower the FDF Paper stacking tray to secure additional space for coming sheets to be stacked. Through this operation, the top level of stacked sheets (or the height of the FDF Reverse roller) is kept constant against the paper exit (ejected sheets), thus securing orderly paper stacking.

The FDF Reverse roller is to be positioned at 60- and 45-degree angles by driving the FDF Reverse roller shift motor respectively by predefined pulses from the retreated position, which is detected by the FDF Reverse roller retreat position sensor, while it is kept at the retreated position without rotation during stacking large-format thick sheets or envelopes on the FDF Paper stacking tray.

Finishing mode	Paper type	FDF Reverse roller position	
	Standard	45-degree angled (Lower position)	
Stapled stacking	Thick (Regular)		
	Thick (Large) / Envelope	Retreated	
Straight (Non-sort)	Standard	60-degree angled (Higher position)	
stacking	Thick (Regular)		
Offset stacking	Thick (Large) / Envelope	Retreated	



[19-FDF-16]

2-4-2. Paper Stacking Volume Detection

The volume of sheets stacked on the FDF Paper stacking tray is detected by the Paper stacking level detection sensors 1, 2 and 3, through whose detection status combination the height of the FDF Reverse roller can be determined on stacked sheets to assume the elevated level of the top sheet on the said stack. The FDF Reverse roller retreat position sensor, beside, detects if the FDF Reverse roller is at the retreated position.



During stacking ejected sheets on the FDF Paper stacking tray, the said sensors check how high ejected sheets have been stacked on the said tray through detecting the position of the FDF Reverse Roller, thus triggering the Stacking tray elevation motor to lower the said tray to stack subsequent printed sheets there.



<Stacking position of FDF Paper stacking tray>

2-4-3. Initial Paper Stacking Tray Positioning

At the start of a print job (paper stacking), the FDF Paper stacking tray is shifted to the initial position for ejected sheet reception in the following sequence, while using the Stacking tray paper detection sensor.

- 1. To activate the Stacking tray elevation motor.
 - When stacked sheets remain on the tray: The tray is to be lowered until the Stacking tray paper detection sensor is opened (unblocked).
 - When no stacked sheet remains there: The tray is to be lowered by 25mm.
- 2. To activate the FDF Reverse roller shift motor to lower the FDF Reverse roller until it gets contact with the tray.
- 3. To reactivate the Stacking tray elevation motor in reverse direction to raise the tray.
- 4. To stop the said motor when the Stacking tray paper detection sensor is blocked.



2-5. Full Stacking Detection

It is determined that the FDF Paper stacking tray is full of stacked sheets when the Stacking tray lower limit sensor, which is attached to the Stacking tray elevation motor assembly, is blocked by the lowered tray.

2-6. Rake Roller Shifting

The FDF Rake roller is shifted up and down, using the following components: Rake roller elevation solenoid, an intermittent gear whose teeth are partially missing, a grooved-cam-bulit-in mechanism and Rake roller elevation HP sensor.



FDF Stapler Ass'y

1. The intermittent gear is not engaged with the FDF Finishing motor gear when the Rake roller elevation solenoid is deactivated, thus preventing the driving force of the said motor from being transmitted to the corresponding components to shift the FDF Rake roller.



- 2. When the said solenoid is activated, the Locking hook is disengaged from the intermittent gear, thus leading the said gear to turn counterclockwise, pulled by the tension spring, and to engage with the FDF Finishing motor dive gear to be turned with the drive force of the said motor.
- 3. When the intermittent gear is turned, the Grooved cam gear, which engages with the said gear, is turned as well.
- 4. When the intermittent gear makes one turn, the Locking hook is engaged with the said gear again, thus stopping its turn and disengaging it from the FDF Finishing motor drive gear, as before the above-mentioned operation.

5. When the Grooved cam gear is turned, the Rake roller lever is led to swing, guided along the groove on the said gear, thus shifting down and up the FDF Rake Roller. The initial half turn of the said gear leads the FDF Rake roller to go down, and the following one leads the same roller to go up.



2-7. Staple Scratch Prevention

When stapled at 2 points at center along the paper edge, ejected sheets may get caught on staple feet on stacked stapled sheets at their trailing edge to be jagged at contact points.

To prevent this problem, the Staple scratch prevention arm is projected over the FDF Paper stacking tray to hold ejected sheets for a moment before letting them fall on a stack of stapled sheets on the said tray.



[19-FDF-20]

3. Disassembly and Reassembly

3-1. Face Down Finisher Dismounting

- 1. Turn OFF the printer power. (The Face Down Finisher power goes off together with the printer power.)
- 2. Unplug the power cable from the Face Down Finisher.
- 3. Detach the FDF Paper Stacking Tray from the Face Down Finisher. (Binding screw 4x8 (2 pcs))
- 4. Detach the FDF Switchback Guide.
- 5. Remove the FDF Front Cover. (Binding screw 4x8 (4 pcs))
- 6. Remove the FDF Rear Sub-Cover. (Binding screw 4x8 (1 pc))
- 7. Remove the FDF Rear Cover. (Binding screw 4x8 (4 pcs)
- 8. Remove the Right top cover on the printer. (Round-tip IT3C screw 3x10 (3 pcs))
- 9. Remove the Left top cover on the printer. (Round-tip IT3C screw 3x10 (2 pcs))
- 10. Disconnect a connector. (1 pc)
- 11. Remove the mounting screws on the Face Down Finisher. (Double-washered screw 4x10 (2 pcs))
- 12. Dismount the Face Down Finisher from the printer.

3-2. FDF Front Cover

1. Remove the FDF Front Cover. (Binding screw 4x8 (4 pcs))



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3-3. FDF Rear Cover

1. Remove the FDF Rear Sub-Cover. (Binding screw 4x8 (1 pc))



2. Remove the FDF Rear Cover. (Binding screw 4x8 (4 pcs))

FDF Rear Cover



FDF Rear Cover



3-4. FDF Jam Release Assembly

- 1. Open the FDF Jam Release Assembly.
- 2. Detach the Jam Release Assembly Stopper Arm. (Shoulder screw 4x8 (1 pc))
 * Make sure to hold on to the assembly while removing the screw.



FDF Jam Release Assembly

Jam Release Assembly Stopper Arm

3. Lift off the FDF Jam Release Assembly.

(The pivot shaft is flattened on two sides and opening the assembly to approx. 45 degrees and lifting allows it to disengage from the main unit.)



3-5. FDF Switchback Guide

- 1. Detach the FDF Switchback Guide.
 - * Pushing the FDF Switchback Guide in the direction of the arrow mark enables the guide to detach.



FDF Switchback Guide

3-6. FDF Jam Release Assembly Switch

- 1. Remove the FDF Front Cover. (Refer to 3-2.)
- 2. Remove the FDF Jam Release Assembly Switch. (IT screw 3x6 (1pc))
- 3. Disconnect a connector. (1 pc)



FDF Jam Release Assembly Switch

[19-FDF-24]

3-7. FDF Staple Cartridge Cover Switch

- 1. Remove the FDF Front Cover. (Refer to 3-2.)
- 2. Remove the FDF Staple Cartridge Cover Switch. (IT screw 3x6 (2 pcs)).



FDF Staple Cartridge Cover Switch

- 3. Open wire saddles. (2 pcs))
- 4. Disconnect a connector. (1 pc))

3-8. FDF Offset Stacking Guide Ass'y

- 1. Remove the FDF Switchback Guide.
- 2. Remove the FDF Paper Stacking Tray. (Binding screw 4x8 (2 pcs))



FDF Paper Stacking Tray

FDF Switchback Guide

- 3. Remove the Paper Stacking Tray Bracket Cover (Front). (Binding screw 4x8 (1 pc))
- 4. Remove the Paper Stacking Tray Bracket Cover (Rear). (Binding screw 4x8 (1 pc))



Paper Stacking Tray Bracket Cover (Front)

Paper Stacking Tray Bracket Cover (Rear)

5. Remove the Paper Stacking Tray Bracket Assembly. (Binding screw 4x8 (4 pcs))



Paper Stacking Tray Bracket Assembly

6. Remove the FDF Offset Stacking Guide Ass'y. (Flat-head screw 3x5 (4pcs))

FDF Offset Stacking Guide Ass'y





CAUTION: Make sure to use the Flat-head screws. Normal round-headed screw will jam the FDF Paper Stacking Tray.

[19-FDF-26]

3-9. Staple Scratch Prevention Arm Ass'y

- 1. Remove the FDF Offset Stacking Guide Ass'y. (Refer to 3-8.)
- 2. Remove the Cover Plate (Front). (IT screw 3x6 (2 pcs))
- 3. Remove the Cover Plate (Rear). (IT screw 3x6 (2 pcs))

Cover Plate (Rear)

4. Remove the Staple Scratch Prevention Arm Ass'y. (IT screw 3x6 (6 pcs))



Staple Scratch Prevention Arm Ass'y



RISO Inc. Technical Operations

Cover Plate (Front)

3-10. FDF Stapler Buffer Tray Ass'y

- 1. Remove the FDF Offset Stacking Guide Ass'y. (Refer to 3-8.)
- 2. Remove the Staple Scratch Prevention Arm Ass'y. (Refer to 3-9.)
- 3. Remove the FDF Stapler Buffer Tray Ass'y. (IT 3x6 (2 pcs))

FDF Stapler Buffer Tray Ass'y



3-11. Paper Reception Guide Plate Ass'y

- 1. Remove the FDF Jam Release Assembly. (Refer to 3-4.)
- 2. Remove the FDF Rear Sub-Cover. (Refer to 3-3.)
- 3. Remove the FDF Front Cover. (Refer to 3-2.)
- 4. Remove the Right Top Cover on the printer.
- 5. Remove the Left Top Cover on the printer.

(Binding screw 4x8 1 pc, Double-washered screw 4x8 1 pc, Thumb screw 1 pc)



6. Release a wire harness and remove the Paper Reception Guide Plate Ass'y. (Binding screw 4x8 (4 pcs))



Paper Reception Guide Plate Ass'y

3-12. FDF Stapler Assembly

- 1. Remove the FDF Front Cover. (Refer to 3-2.)
- 2. Remove the FDF Stapler Cover. (Double-washered screw 3x6 (1 pc))



- 3. Remove the FDF Stapler Assembly. (IT screw 3x6 (2 pcs))
- 4. Disconnect connectors. (2 pcs)



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3-13. FDF Control PCB (Maintenance position)

- 1. Remove the FDF Rear Cover. (Refer to 3-3.)
- 2. Disconnect connectors. (6 pcs)
 - * One over the top left corner, three on the bottom left corner, two from the pulse motors on the left hand side.

FDF Control PCB





3. Remove the securing screws on the FDF Control PCB bracket and and let the bracket hang, paying attention not to scratch the PCB surface. (Double-washered screw 3x6 (4 pcs) / 4x8 (1 pc))



FDF Control PCB

3-14. FDF Control PCB

- 1. Remove the FDF Rear Cover. (Refer to 3-3.)
- 2. Disconnect all connectors from the FDF Control PCB.



- 3. Remove the securing screw at the bottom right corner of the PCB. (Double-washered screw 4x8 (1 pc))
- 4. Release the FDF Control PCB by unhooking the plastic hooks at the remaining three corners of the PCB.

[Replacement precautions]

- 1. Execute the following test modes before dismounting the existing FDF Control PCB to back up the current adjustment values and count information stored on the said PCB into the memory on the Engine control PCB on the printer.
 - TM No. 0243001 "FDF ADJUST VALUE STORE"
 - TM No. 0243004 "FDF COUNT INFORMATION STORE"
- 2. After mounting a replacement FDF Control PCB, execute the following test modes to retrieve the backup data stored on the Engine control PCB and write them into the mounted PCB.
 - TM No. 0243002 "FDF ADJUST VALUE RESTORE"
 - TM No. 0243003 "FDF COUNT INFORMATION RESTORE"
- 3. Update the firmware program for the Face down finisher from the printer.

3-15. Power Supply Unit

- 1. Remove the FDF Rear Cover. (Refer to 3-3.)
- 2. Remove the Power Supply Unit. (Round-tip IT3C screw 4x8 (4 pcs))
- 3. Release a wire from the wire saddle on the lower right side.
- 4. Disconnect connectors on the right-hand side. (2 pcs)
- 5. Disconnect a connector on the left-hand side. (1 pc)



Power Supply Unit





3-16. FDF Reception Roller / FDF Transfer Roller (identical components)

- 1. Remove the FDF Jam Release Assembly. (Refer to 3-4.)
- 2. Remove the Paper Reception Guide Plate Assembly. (Refer to 3-11.)
- 3. Remove the Transfer Guide Plate. (IT screw 3x6 (2 pcs))



Transfer Guide Plate

- 4. Remove a snap ring at the left end of the FDF Reception Roller (or FDF Transfer Roller).
- 5. Take out the FDF Reception Roller (or FDF Transfer Roller), detaching the shaft joint at the right end.



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3-17. FDF Entrance Roller

- 1. Remove the FDF Front Cover. (Refer to 3-2.)
- 2. Open the FDF Jam Release Assembly.
- 3. Remove the Transfer Guide Plate. (IT screw 3x6 (2 pcs))



Transfer Guide Plate

4. Remove the Top Transfer Guide Plate. (IT screw 3x6 (4 pcs))



Top Transfer Guide Plate



FDF Entrance Roller

[19-FDF-34]

5. Remove a snap ring from the front end of the roller shaft.



6. Remove another snap ring (gray) from the roller shaft at the location as shown in the picture below.

7. Remove the FDF Entrance Roller.



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19-1. Face Down Finisher

3-18. FDF Rake Roller

- 1. Remove the FDF Front Cover. (Refer to 3-2.)
- 2. Remove the FDF Rear Cover. (Refer to 3-3.)
- 3. Remove the FDF Paper Stacking Tray. (Binding screw 4x8 (2 pcs))

FDF Paper Stacking Tray



- 4. Detach a ground wire. (IT screw 3x6 (1 pc))
- 5. Remove the FDF Top Cover. (Round-tip IT3C screw 4x8 (2 pcs))



FDF Top Cover

Ground wire

- 6. Remove the Paper Ejection Roller Elevation Motor Assembly. (Refer to 3-41.)
- 7. Remove a plastic sector gear (black). (1 claw hook)



8. Remove snap rings (black) at both ends of the Swing Shaft Assembly. (2 pcs)



Snap ring (rear)



Snap ring (front)



9. Remove the Ejection Guide Assist Springs (2 pcs) from the roller shaft.



10. Remove the Swing Shaft Assembly by sliding the shaft to the rear while aligning a spring pin on the shaft with the cutout on the front frame of the unit.



(Match the shape of the hole and the spring pin.)

<Precaution in reassembly>

Insert the side pins on the white plastic pieces on the shaft into the vertical slit on the FDF Paper Ejection Roller Assembly.



Swing Shaft Assembly



FDF Transfer Driven Roller Assembly

11. Remove the FDF Transfer Driven Roller Assembly. (IT screw 3x6 (2 pcs))



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FDF Transfer Driven Roller Assembly



12. Lift up the FDF Paper Ejection Roller Assembly.



FDF Paper Ejection Roller Assembly

- 13. Slide the FDF Stapler Unit to the center of the unit.
- 14. Open wide the Front and Rear Tamper Plates to the ends, making sure that the FDF Stapler Unit is centered not to interfere with the Tamper Plate movement.



15. Remove a snap ring at the rear end of the shaft of the FDF Rake Roller.



16. Release metal bushings from the bracket plates on the rear and front sides of the shaft.



Metal bushing

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- 17. Unhook the Link Hooks (white plastic) of the FDF Rake Roller Assembly from the hanger hooks (black plastic hooks) on both the front and rear sides.
 - * The Link Hooks can be easily disengaged if they are vertically positioned.



Link Hook of the FDF Rake Roller Assembly

18. Remove the FDF Rake Roller Assembly.



FDF Rake Roller Assembly

3-19. FDF Paper Ejection Roller (Drive)

- 1. Remove the FDF Paper Stacking Tray. (Binding screw 4x8 (2 pcs))
- 2. Remove the FDF Top Cover. (IT3C screw 4x8 (2 pcs))
- 3. Remove the Paper Drop Guide Assembly.
- 4. Remove snap rings at both ends of the roller shaft.

Snap rings

FDF Paper Ejection Roller

- 5. Remove plastic bushing (gray) from both ends of the roller shaft.
- 6. Disengage the timing belt from the FDF Paper Ejection Roller Assembly (Drive).

Timing belt

FDF Paper Ejection Roller Assembly

- 7. Remove snap rings at both ends of the roller shaft.
- 8. Separate the FDF Paper Ejection Rollers (Drive) from the shaft, taking care not to drop parallel pins.



FDF Paper Ejection Rollers (Drive)

RISO Inc. Technical Operations

Snap rings [19-FDF-41]

RISO SQUARE WEB VERSION [19-FDF-42]

FDF Top Cover

3-20. FDF Paper Ejection Roller (Driven)

- 1. Remove the FDF Paper Stacking Tray. (Binding screw 4x8 (2 pcs))
- 2. Remove the FDF Top Cover. (IT3C screw 4x8 (2 pcs))





3. Remove the Paper Drop Guide Assembly.

Paper Drop Guide Assembly



4. Remove a snap ring at the end of the shaft of the FDF Paper Ejection Roller (Driven). * Remove the indicated snap ring only.


5. Push down the FDF Reverse Roller to make room and pull out the shaft of the FDF Paper Ejection Roller (Driven) to the left to free the said roller.



6. Remove the FDF Paper Ejection Roller (Driven).



3-21. FDF Reverse Roller

1. Release a claw hook and pull out the FDF Reverse Roller from the shaft.



* Take care not to install the FDF Reverse Roller in the wrong direction in assembly.

3-22. FDF Transfer Sensor

- 1. Remove the FDF Jam Release Assembly. (Refer to 3-4.)
- 2. Remove the Paper Reception Guide Plate Assembly. (Refer to 3-11.)
- 3. Remove the Transfer Guide Plate Assembly.



Transfer Guide Plate Assembly

- 4. Remove the FDF Transfer Sensor. (IT screw 3x6 (1 pc))
- 5. Open a wire saddle. (1 pc)
- 6. Disconnect a connector. (1 pc)





3-23. FDF Entrance Sensor

- 1. Remove the FDF Jam Release Assembly. (Refer to 3-4.)
- 2. Paper the Paper Reception Guide Plate Assembly. (Refer to 3-11.)
- 3. Remove the Transfer Guide Plate Assembly. (IT screw 3x6 (2 pcs))
- 4. Remove the Top Transfer Guide Plate. (IT screw 3x6 (4 pcs))



- 5. Remove the FDF Entrance Sensor Ass'y. (IT screw 3x6 (1pc))
- 6. Open a wire saddle. (1 pc)
- 7. Disconnect a connector. (1 pc)
- 8. Detach the FDF Entrance Sensor from the bracket.



FDF Entrance Sensor

3-24. FDF Stapler Buffer Tray Paper Detection Sensor

- 1. Remove the FDF Offset Stacking Guide Ass'y. (Refer to 3-8.)
- 2. Remove the Staple Scratch Prevention Arm Assembly. (Refer to 3-9.)
- 3. Remove the FDF Stapler Buffer Tray Assembly. (Refer to 3-10.)
- 4. Disconnect connectors. (2 pcs)
- 5. Remove the FDF Stapler Buffer Tray Paper Detection Sensor. (IT screw 3x6 (1 pc))
- 6. Disconnect a connector and detach the sensor from the bracket.





FDF Stapler Buffer Tray Assembly

FDF Stapler Buffer Tray Assembly



FDF Stapler Buffer Tray Paper Detection Sensor

3-25. FDF Switchback Pass Sensor

- 1. Remove the FDF Jam Release Assembly. (Refer to 3-4.)
- 2. Remove the Paper Reception Guide Plate Assembly. (Refer to 3-11.)
- 3. Remove the Transfer Guide Plate Assembly. (IT screw 3x6 (2 pcs))
- 4. Using a stubby screwdriver, remove the FDF Stay with the sensor attached. (IT screw 3x6 (2 pcs))



- 5. Remove the FDF Switchback Pass Sensor Assembly from the FDF Stay. (IT screw 3x6 (1 pc))
- 6. Open a wire saddle. (1 pc)
- 7. Disconnect a connector and detach the sensor from the bracket.

Switchback Pass Sensor



3-26. Paper Ejection Roller Elevation Sensor

- 1. Remove the FDF Front Cover. (Refer to 3-2.)
- 2. Disconnect a connector. (1 pc)
- 3. Detach the Paper Ejection Roller Elevation Motor Assembly. (Refer to 3-41.)
- 4. Disconnect a connector. (1 pc)
- 5. Detach the Paper Ejection Roller Elevation Sensor from the motor bracket.

Paper Ejection Roller Elevation Sensor



3-27. Rake Roller Elevation HP Sensor

- 1. Remove the FDF Rear Cover. (Refer to 3-3.)
- 2. Let the FDF Control PCB hang free. (Refer to 3-13.)
- 3. Remove the FDF Top Cover. (Round-tip IT3C 4x8 (2 pcs))
- 4. Open a wire saddle. (1 pc)
- 5. Remove the metal plate mounted above the FDF Control PCB.
- 6. Remove the Wire Harness Guide.
- 7. Disconnect a connector. (1 pc)

Wire Harness Guide

8. Detach the Rake Roller Elevation HP Sensor from the Wire Harness Guide.



Rake Roller Elevation HP Sensor



19-1. Face Down Finisher

3-28. Stacking Tray Upper Limit Sensor

- 1. Remove the FDF Rear Cover. (Refer to 3-3.)
- 2. Let the FDF Control PCB hang free. (Refer to 3-13.)
- 3. Disconnect a connector.
- 4. Detach the Stacking Tray Upper Limit Sensor from the bracket.

Stacking Tray Upper Limit Sensor



3-29. Stacking Tray Elevation Motor Clock Sensor

- 1. Remove the FDF Rear Cover. (Refer to 3-3.)
- 2. Remove the Power Supply Unit. (Refer to 3-15.)
- 3. Remove the Stacking Tray Elevator Motor Assembly. (Refer to 3-47.)
- 4. Disconnect connectors. (3 pcs)
- 5. Remove the Stacking Tray Elevation Motor Clock Sensor along with the bracket. (IT3C screw 4x8 (1 pc)).
- 6. Detach the Stacking Tray Elevation Motor Clock Sensor from the bracket.



Stacking Tray Elevation Motor Assembly

3-30. Stacking Tray Lower Limit Sensor

- 1. Remove the FDF Rear Cover. (Refer to 3-3.)
- 2. Remove the Power Supply Unit. (Refer to 3-15.)
- 3. Remove the Stacking Tray Elevator Motor Assembly. (Refer to 3-47.)
- 4. Disconnect connectors. (3 pcs)
- 5. Detach the Stacking Tray Lower Limit Sensor from the motor bracket.

Stacking Tray Lower Limit Sensor



Stacking Tray Elevation Motor Assembly

3-31. Stacking Tray Shift Motor Clock Sensor

- 1. Remove the Stacking Tray Shift Motor Assembly. (Refer to 3-49.)
- 2. Remove the Stacking Tray Shift Motor Clock Sensor. (Round-tip IT3C screw 4x8 (1 pc))
- 3. Disconnect a connector (1 pc) and detach the sensor from the bracket.

Stacking Tray Shift Motor Assembly



Stacking Tray Shift Motor Clock Sensor

3-32. Stacking Tray Shift Sensors 1 / 2

- 1. Remove the Stacking Tray Shift Motor Assembly. (Refer to 3-49.)
- 2. Remove the Sensor Disc. (1 snap ring)

Stacking Tray Shift Sensor 2 Stacking Tray Shift Motor Assembly



Stacking Tray Shift Sensor 1 Snap ring Sensor Disc

- 3. Remove a parallel pin, a snap ring and a metal collar from the disc shaft.
- 4. Remove the Stacking Tray Shift Sensor Assembly. (IT screw 3x6 (4 pcs))



Stacking Tray Shift Sensor Assembly

- 5. Disconnect connectors. (2 pcs)
- 6. Detach the Stacking Tray Shift Sensors 1 and 2 from the bracket.



Stacking Tray Shift Sensors 1 and 2 (rear view)

<Precaution in reassembly>

Make sure to align the white cam with the Sensor Disc.



3-33. FDF Stapler Slide HP Sensor

- 1. Remove the FDF Front Cover. (Refer to 3-2.)
- 2. Remove the FDF Offset Stacking Guide Ass'y. (Refer to 3-8.)
- 3. Remove the FDF Stapler Cover (Front). (IT screw 3x6 (2 pcs))
- 4. Turn the indicated gear and slide the FDF Stapler Assembly from the home position to the rear side by approx. 10 mm.



FDF Stapler Assembly

- 5. Remove the FDF Stapler Slide HP Sensor Assembly. (IT screw 3x6 (1 pc))
- 6. Disconnect a connector (1 pc) and detach the sensor from the bracket.







<Precaution in reassembly> Make sure to insert the hook of the sensor bracket into the slit far inside.



FDF Stapler Slide HP Sensor

3-34. FDF Reverse Roller Retreat Position Sensor

- 1. Remove the FDF Offset Stacking Guide Ass'y. (Refer to 3-8.)
- 2. Remove the timing belt cover (black). (Flat-head screw 3x5 (2 pcs))



Timing belt cover (black)

- 3. Turn the gear of the FDF Reverse Roller Shift Motor manually and move the sensor actuator away from the FDF Reverse Roller Retreat Position Sensor.
- 4. Disconnect a connector. (1 pc)
- 5. Detach the FDF Reverse Roller Retreat Position Sensor from the bracket.



FDF Reverse Roller Shift Motor



FDF Reverse Roller Retreat Position Sensor

3-35. Stacking Tray Paper Detection Sensor

- 1. Remove the FDF Offset Stacking Guide Ass'y. (Refer to 3-8.)
- 2. Remove the timing belt cover (black). (Flat-head screw 3x5 (2 pcs)) (Refer to 3-34.)
- 3. Disconnect a connector. (1 pc)
- 4. Detach the Stacking Tray Paper Detection Sensor from the bracket.



3-36. Front / Rear Paper Alignment Plate HP Sensors

- 1. Remove the FDF Offset Stacking Guide Ass'y. (Refer to 3-8.)
- 2. Remove the Staple Scratch Prevention Arm Ass'y. (Refer to 3-9.)
- 3. Remove the FDF Stapler Buffer Tray Ass'y. (Refer to 3-10.)
- 4. Remove the Front (or Rear) Paper Alignment Plate HP Sensor Ass'y. (IT screw 3x6 (1 pc))



Rear Paper Alignment Plate HP Sensor Ass'y

FDF Stapler Buffer Tray Ass'y

5. Disconnect a connector (1pc) and detach the Front (or Rear) Paper Alignment Plate HP Sensor from the bracket.

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Front Paper Alignment Plate HP Sensor



RISO Inc. Technical Operations

Front Paper Alignment Plate HP Sensor Ass'y





ComColor GL Series Revision 1.0

[19-FDF-55]

3-37. Staple Scratch Prevention Arm HP Sensor

- 1. Remove the FDF Offset Stacking Guide Ass'y. (Refer to 3-8.)
- 2. Remove the Staple Scratch Prevention Arm Ass'y. (Refer to 3-9.)
- 3. Take off timing belts (2 pcs) from pulleys.
- 4. Remove a snap ring. (1 pc)
- 5. Disconnect a connector. (1 pc)
- 6. Remove the Staple Scratch Prevention Arm HP Sensor Assembly. (IT screw 3x6 (1 pc))
- 7. Open a wire saddle.
- 8. Disconnect a connector. (1 pc)
- 9. Detach the Staple Scratch Prevention Arm HP Sensor from the bracket.



Staple Scratch Prevention Arm HP Sensor

3-38. Paper Stacking Level Detection Sensors 1 / 2 / 3

- 1. Remove the FDF Offset Stacking Guide Ass'y. (Refer to 3-8.)
- 2. Remove the Staple Scratch Prevention Arm Ass'y. (Refer to 3-9.)
- 3. Take off timing belts (2 pcs) from pulleys.
- 4. Remove a snap ring. (1 pc)
- 5. Disconnect a connector. (1 pc)



Paper Stacking Level Detection Sensor 3

Paper Stacking Level Detection Sensor 2

- 6. Remove the Paper Stacking Level Detection Sensor 2 Ass'y. (Doube-washered screw 3x6 (1 pc))
- 7. Disconnect a connector. (1 pc)
- 8. Detach the Paper Stacking Level Detection Sensor 2 from the bracket.



Paper Stacking Level Detection Sensor 2

• Paper Stacking Level Detection Sensors 1 / 3

- 6. Open a wire saddle.
- 7. Open edge saddles. (3 pcs)
- 8. Remove the Paper Stacking Level Detection Sensor (1 /3) Ass'y. (IT screw 3x6 (1 pc))



- 9. Disconnect a connector. (1 pc each)
- 10. Detach the Paper Stacking Level Detection Sensor 1 (or 3) from the bracket.

3-39. FDF Stapler Base Position Sensor

- 1. Remove the FDF Stapler Assembly. (Refer to 3-12.)
- 2. Disconnect a connector. (1 pc)
- 3. Detach the FDF Stapler Base Position Sensor from the bracket.



FDF Stapler Base Position Sensor

3-40. FDF Stapler Slide Motor Assembly

- 1. Remove the FDF Front Cover. (Refer to 3-2.)
- 2. Disconnect a connector. (1 pc)
- 3. Remove the FDF Stapler Slide Motor Assembly. (IT screw 3x6 (2 pcs))



FDF Stapler Slide Motor



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3-41. Paper Ejection Roller Elevation Motor Assembly

- 1. Remove the FDF Front Cover. (Refer to 3-2.)
- 2. Open wire saddles. (2 pcs)
- 3. Disconnect connectors. (2 pcs.)
- 4. Remove the Paper Ejection Roller Elevation Motor Assembly. (IT screw 3x6 (2 pcs))



Paper Ejection Roller Elevation Motor Assembly

3-42. Rake Roller Elevation Solenoid

- 1. Remove the FDF Rear Cover. (Refer to 3-3.)
- 2. Let the FDF Control PCB hang free. (Refer to 3-13.)
- 3. Unhook a spring.
- 4. Open a wire saddle.
- 5. Disconnect a connector. (1 pc)
- 6. Remove the Rake Roller Elevation Solenoid. (IT screw 3x6 (1 pc))



Spring

Rake Roller Elevation Solenoid

3-43. FDF Entrance Motor

- 1. Remove the FDF Rear Cover. (Refer to 3-3.)
- 2. Disconnect a connector. (1 pc)
- 3. Remove a spring.
- 4. Remove the FDF Entrance Motor. (IT screw 3x6 (2 pcs))



FDF Entrance Motor

Spring

[Reassembly Notes]

- 1. Hold a timing belt with a finger when putting it on the motor pulley.
- 2. Attach a spring without tightening securing screws on the motor and then tighten the screws, which leads an appropriate tension to be applied to the timing belt.



Timing belt

3-44. FDF Transfer Motor

- 1. Remove the FDF Rear Cover. (Refer to 3-3.)
- 2. Disconnect a connector. (1 pc)
- 3. Remove a spring.
- 4. Remove the FDF Transfer Motor. (IT screw 3x6 (2 pcs))



FDF Transfer Motor

[Reassembly Notes]

- 1. Hold a timing belt with a finger when putting it on the motor pulley.
- 2. Attach a spring without tightening securing screws on the motor and then tighten the screws, which leads an appropriate tension to be applied to the timing belt.



Timing belt

3-45. FDF Finishing Motor

- 1. Remove the FDF Rear Cover. (Refer to 3-3.)
- 2. Let the FDF Control PCB hang free. (Refer to 3-13.)
- 3. Remove the FDF Top Cover. (Round-tip IT3C screw 4x8 (2 pcs))
- 4. Open a wire saddle.
- 5. Remove the plate above the FDF Control PCB. (IT screw 3x6 (5 pcs))
- 6. Remove wire harness guides (plastic hooks) at 3 locations.
- 7. Disconnect a connector. (1 pc)



- 8. Remove a spring.
- 9. Remove the FDF Finishing Motor. (IT screw 3x6 (2 pcs))



[Reassembly Notes]

- 1. Hold a timing belt with a finger when putting it on the motor pulley.
- 2. Attach a spring without tightening securing screws on the motor and then tighten the screws, which leads an appropriate tension to be applied to the timing belt.



3-46. FDF Paper Ejection Motor

- 1. Remove the FDF Rear Cover. (Refer to 3-3.)
- 2. Let the FDF Control PCB hang free. (Refer to 3-13.)
- 3. Remove the FDF Top Cover. (IT3C screw 4x8 (2 pcs))



- 4. Open a wire saddle. (1 pc)
- 5. Remove the plate above the FDF Control PCB. (IT screw 3x6 (5 pcs))



Plate above the FDF Control PCB





6. Remove wire harness guides (plastic hooks) at 3 locations.



- 7. Disconnect a connector. (1 pc)
- 8. Remove a spring.
- 9. Remove the FDF Paper Ejection Motor. (IT screw 3x6 (2 pcs))



FDF Paper Ejection Motor [19-FDF-64]

[Reassembly Notes]

- 1. Hold a timing belt with a finger when putting it on the motor pulley.
- 2. Attach a spring without tightening securing screws on the motor and then tighten the screws,
- which leads an appropriate tension to be applied to the timing belt.



3-47. Stacking Tray Elevator Motor Assembly

- 1. Remove the FDF Rear Cover. (Refer to 3-3.)
- 2. Remove the Power Supply Unit. (Refer to 3-15.)
- 3. Disconnect connectors. (3 pcs)
- 4. Remove the Stacking Tray Elevator Motor Assembly. (IT3C screw 4x8 (4 pcs))



Stacking Tray Elevator Motor Assembly

[19-FDF-65]

3-48. FDF Transfer Cooling Fan Assembly

- 1. Remove the FDF Rear Cover. (Refer to 3-3.)
- 2. Let the FDF Control PCB hang free. (Refer to 3-13.)
- 3. Detach a ground wire. (IT screw 3x6 (1 pc))
- 4. Remove the FDF Transfer Cooling Fan Assembly. (IT screw 3x6 (4 pcs))
- 5. Release wires from wire saddles (at 10 locations).
- 6. Disconnect a connector. (1 pc)





Ground wire

FDF Transfer Cooling Fan



FDF Transsfer Cooling -Fan Assembly

3-49. Stacking Tray Shift Motor

- 1. Remove the FDF Offset Stacking Guide Ass'y. (Refer to 3-8.)
- 2. Remove the FDF Cover Plate (Rear). (IT screw 3x6 (2 pcs))



- 3. Disconnect connectors. (2 pcs)
- 4. Remove the Stacking Tray Shift Motor Assembly. (IT screw 3x6 (3 pcs))



Stacking Tray Shift Motor Assembly

5. Detach the Stacking Tray Shift Motor from the assembly. (IT screw 3x6 (2 pcs))



Stacking Tray Shift Motor Assembly

3-50. Staple Scratch Prevention Arm Motor Assembly

- 1. Remove the FDF Offset Stacking Guide Ass'y. (Refer to 3-8.)
- 2. Remove the FDF Cover Plate (Front). (IT screw 3x6 (2 pcs))



- 3. Remove a spring.
- 4. Detach the Staple Scratch Prevention Arm Motor Assembly. (Double-washered screw 3x6 (2 pcs))
- 5. Disconnect a connector. (1 pc)



Spring



Staple Scratch Prevention Arm Motor Assembly

3-51. FDF Reverse Motor Assembly

- 1. Remove the FDF Offset Stacking Guide Ass'y. (Refer to 3-8.)
- 2. Remove a spring.
- 3. Remove the FDF Reverse Motor Assembly. (Double-washered screw 3x6 (2 pcs))
- 4. Disconnect a connector. (1 pc)



FDF Reverse Motor Assembly

Spring

3-52. FDF Reverse Roller Shift Motor Assembly

- 1. Remove the FDF Offset Stacking Guide Ass'y. (Refer to 3-8.)
- 2. Remove a snap ring. (1 pc)
- 3. Slide off the tip end of the Link Lever from the shaft.
- 4. Remove the FDF Reverse Roller Shift Motor Assembly. (Double-washered screw 3x6 (2 pcs))
- 5. Disconnect a connector. (1 pc)



FDF Reverse Roller Shift Motor Assembly

3-53. Front / Rear Tamper Motors

- 1. Remove the FDF Offset Stacking Guide Ass'y. (Refer to 3-8.)
- 2. Remove the Staple Scratch Prevention Arm Ass'y. (Refer to 3-9.)
- 3. Remove the FDF Stapler Buffer Tray Ass'y. (Refer to 3-10.)
- 4. Disconnect a connector. (1 pc each)
- 5. Remove the Front (or Rear) Paper Alignment Plate HP Sensor.
- 6. Remove the FDF Grounding Plate. (IT screw 3x6 (2 pcs))



Grounding Plate

- 7. Cut a wire harness band. (1 pc each)
- 8. Disconnect a connector. (1 pc each)
- 9. Remove the Front (or Rear) Tamper Motor. (Double-washered screw 3x6 (2 pcs))



Front Paper Alignment Plate HP Sensor

3-54. FDF Stapler Cable

- 1. Remove the FDF Front Cover. (Refer to 3-2.)
- 2. Remove the FDF Rear Cover. (Refer to 3-3.)
- 3. Remove the FDF Jam Release Assembly. (Refer to 3-4.)
- 4. Remove the Paper Reception Guide Plate Ass'y. (Refer to 3-11.)
- 5. Remove the Transfer Guide Plate. (IT3C screw 3x6 (2 pcs))
- 6. Disconnect the connector at the end of the FDF Stapler Cable from the FDF Control PCB and release the cable from a wire saddle.



- 7. Let the FDF Control PCB hang free. (Refer to 3-13.)
- 8. Dismount the FDF Stapler Assembly. (Refer to 3-12.)



FDF Stapler Cable

9. Remove the FDF Stapler Slide Motor Assembly on the front side and take off a timing belt from the pulley on the rear side, loosening the tension on the belt. (Refer to 3-40.)



RISO Inc. Technical Operations

US.RISO.COM ComColor GL Series Revision 1.0 Remove the securing screws (2 pcs. on the front side and 2 pcs. on the rear side) on the FDF Stapler Rail (the plate on which the Stapler is mounted) and pull out the rail halfway from the opening on the front side frame. (IT screw 3x6 (4 pcs))



- inside the holes in the above picture.
- 11. Remove shoulder screws (2 pcs) on the FDF Stapler Cable Guide.



FDF Stapler Rail (shifted aside)

12. Pull out the FDF Stapler Rail completely and remove the FDF Stapler Cable.

<Precaution in reassembly>

Slide the FDF Stapler Rail inside while keeping the Base Plate on which the FDF Stapler Assembly is to be mounted positioned just at the opening on the front side frame.



The Base Plate on which the FDF Stapler Assembly is mounted

[19-HS-1]

Chapter 19-2 Scanner HS7000

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1. Structure Overview



1-1. Functions

- 1) The AF scanning speed has been increased. [Scan mode]
 - Single-side (A4 (or Letter)-LEF): 100 ppm
 - Double-side (A4 (or Letter)-LEF): 100 ppm
 - [Copy mode]
 - Simplex (A4 (or Letter)-LEF): 80 ppm
 - Duplex (A4 (or Letter)-LEF): 80 ppm
- 2) A scanning device module has been applied as a scanner unit in place of a composite mirror component.
- 3) High-intensity LED lamps have been applied as light source in place of fluorescent light tubes.

[19-HS-4]

1-2. Specifications

Scanner HS7000

Туре		Flatbed scanner with automatic feeder		
Scanning Mode	es	Color / Monochrome / Grayscale / Auto		
Optical Scanni	ng Resolution	600 dpi		
Output Resolu	tion	200 dpi / 300 dpi / 400 dpi / 600 dpi		
Halftone Level	S	10-bit input and 8-bit output for each RGB color		
Scanned Data	File Format	TIFF, JPEG (excluding monochrome data), PDF, PDF/A * A multiple-page file is available for PDF.		
Scanned Data	Destination	Printer's SSD, file server, USB drive or mail server		
Maximum Scar	nning Size	- On Stage glass: 303 mm × 432 mm (11 15/16" × 17") - With AF unit: 295 mm × 430 mm (11 5/8" × 16 15/16")		
	Туре	Simultaneou	s double-sided scanning	
45	Paper Size	Maximum: 297 mm × 432 mm (11 11/16" × 17") (equivalent to A3) Minimum: 100 mm × 148 mm (3 15/16" × 5 27/32")		
AF (Automatic	Paper Weight	52 g/m ² (14-lb bond) to 128 g/m ² (34-lb bond)		
Feeder)	Stacking Capacity	Max. 200 sheets with 80 g/m ² (21-lb bond) paper * Height up to 25 mm (1")		
	Scanning Speed	- Scanning mode: 100 ppm (with A4 (Letter)-LEF / 300dpi) - Copy mode: 80 ppm (300dpi)		
	Print Resolution	Color K	600 dpi × 600 dpi	
Copy Mode		Other than color K	Standard: 300 dpi × 300 dpi Fine: 300 dpi × 600 dpi	
	First Copy Time	7 sec or less (with A4 (Letter)-LEF in simplex mode)		
	Reproduction Size	50% to 200%		
Power Source		AC 100-240 V, 50-60 Hz, 1.2A or more		
Power Consun	nption	Max. 100 W		
Dimensions (V	V × D × H)	640 mm × 560 mm × 250 mm (25 3/16" × 22 1/16" × 9 27/32")		
Weight		Approx. 25 kg (55.2 lb)		
Safety Informa	tion	 IEC60950-1 compliant, Indoor, pollution degree 2*, At altitudes of 2,000 m or lower * The pollution degree of the usage environment due to dirt and dust in the air. Degree "2" corresponds to a general indoor environment. 		
Dimensions in connected to a	use (when a printer) (W × D × H)	1,235 mm × 1,345 mm × 1,635 mm (48 5/8'' × 52 61/64'' × 64 3/8'')		

1-3. Major Components

- FB (Flatbed) Unit

1) FB carriage composition

The FB carriage is a box unit consisting of scanning components, such as LEDs, reflective mirrors, a lens, a CCD PCB and module cases, which scans an original placed on the Stage glass while shifting underneath the Stage glass parallel to the original.

 The 4 high-intensity and white-colored LEDs, which are located on the rear side of the FB carriage, illuminate the whole range of the Scanner module with a stick-type light guiding panel to light an original placed above in the way called the "edge-light method."
 The original is illuminated at approximately 45 degrees from two sides to prevent shadows from being

generated when a thick original, such as an opened book, is applied.

- The reflective mirrors lead the light reflected on an original to a lens inside the FB carriage while refracting the reflected light several times until it reaches the lens.
- The lens converges the reflected light on the image sensor called CCD (Charge Coupled Device) while reducing the beam by approx. a tenth to contain it within the tiny CCD, located close to the CCD far from the original on the Stage glass.
- The CCD is a semiconductor device which captures light to convert it into different levels of electrical signals according to its intensity and generally used in digital video or still camera products. It is composed of 7,000 pieces of microscopic optical sensors, which are arranged in a line, each the size of 5 micrometer in a rectangular shape.

To scan images in full color, as on the Scanner HS7000, the said CCD is composed of 3 to 4 rows of optical sensors, each of which is covered with a different color filter to disperse received light into the respective color spectra.



2) FB carriage driving mechanism

A timing belt, whch is driven by a pulse motor, shifts the FB carriage along the guide shaft at a constant speed.

3) FB carriage locking mechanism

The FB carriage is to be shifted to the locking position and mechanically fixed with a locking lever before transporting the Scanner HS7000 for shipment.

To shift back the FB carriage from the locking position before operating the scanner, the corresponding test modes, i.e. TM No. 21-6-002 and 21-3-003, are required to be executed to unlock and shift it back to the operational position by activating the corresponding pulse motor, after releasing it from the said mechanical lock.

- AF (Auto Feeder) Unit

1) Original feed assist

The AF original feed assist roller, which is raised at power-on or when the AF original feed unit is reset, driven by the AF original feed motor with the AF separation clutch activated, is lowered on originals at the start of a scanning operation to assist their feeding and raised again at the end of the said operation.

2) AF original feed roller driving mechanism

The AF original feed roller is driven by the AF original feed motor, only when the AF separation clutch is activated.

3) Original stopper

The AF original stopper, which holds the leading edge of originals loaded on the AF unit, is raised to allow originals to feed into the AF unit when the AF original feed assist roller is lowered on the originals to start their feeding.

4) Original separation

An original is separated from a stack of originals loaded on the AF unit, pinched by the AF original feed roller and the AF stripper roller, to feed up to the AF registration roller.

The AF stripper roller, which is equipped with a torque limiter, is driven to rotate along with the AF original feed roller against its original rotation direction when a single original duly feeds, while it stands still, braked by the torque limiter, when multiple originals feed together, thus preventing other originals than the top one from feeding together.

5) Original transfer

The feeding original is transferred to the scanning position by the AF registration roller, which is also driven by the AF original feed motor while activating the AF registration clutch, and the AF transfer rollers 1 and 2, which are both driven by the AF read pulse motor.

6) Original ejection

The scanned original is ejected onto the AF original receiving tray by the AF original ejection roller, which is also driven by the AF read pulse motor.

7) Other components

It is detected by the AF original feed unit set sensor whether the said unit is opened or not. Besides, two cooling fans, i.e. AF LED cooling fan and AF fan, are placed inside the AF unit to prevent the temperature from rising too much in the said unit. They are activated at the start of original feeding and deactivated 180 seconds after original scanning finishes.


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2. Mechanism

2-1. FB Original Placement

- An original is to be placed face-down on the Stage glass while aligning its top left corner with the rear left corner of the Stage glass.
- It is detected by the CCD in the FB carriage whether an original is placed on the Stage glass.
- It is detected by the FB stage cover set sensor whether the the Stage cover (AF unit) is closed down on an original, while it is detected by the FB stage cover angle sensor that it has been closed to a predefined angle, at which the FB carriage once measures the size of the original placed on the Stage glass.



2-2. FB Original Size Detection

- The length of the original placed on the Stage glass is determined by the FB original size sensors 1 and 2.
- The FB carriage is moved to the original width measurement position, with the Stage cover (AF unit) opened up, and then measures the width of the original placed on the Stage glass, while emitting the LED, when the Stage cover (AF unit) is closed to a predefined angle (approx. 12 degrees), which is detected by the FB stage cover angle sensor, and stores the measurement value as "Data A."
- When the Stage cover (AF unit) is further closed to another predefined angle (approx. 3 degrees), which is detected by the FB stage cover set sensor, the FB carriage emits the LED again to measure the original width once more, while storing the second measurement value as "Data B," and then returns to the home position with the Stage cover closed down on the original.
- The width of the original is finally determined by referring to both "Data A" and "Data B," to finalize the original size in combination with the detection results of the FB original size sensors 1 and 2.

2-3. FB Carriage (Scanner) Positioning



2-3-1. Base Positioning

The FB carriage, whose base position is determined by the FB carriage HP sensor, is placed 20mm off on the left side of the right side edge of the said sensor while the scanner is idle.

2-3-2. Offset/Gain Adjustment

The Offset and Gain adjustments are always made at power-on to calibrate the scanning sensitivity of the CCD in the FB carriage while shifting the FB carriage to under the White shading plate. In the Offset adjustment, the scanning signal level is to be adjusted for black color images, with the CCD LED turned off, while the scanning signal range is to be adjusted for the whole color spectrum, with the CCD LED turned on, in the Gain adjustment. (The Offset adjustment is to be repeated after the Gain adjustment to restore the initially-set signal level, which could be fluctuated due to the subsequent Gain adjustment.) After the Offset and Gain adjustments are finished, the FB carriage is to be returned to the base (home) position.

2-3-3. Shading Compensation

The difference in sensitivity among the respective CCD elements in the FB carriage is to be leveled out through the shading compensation operations, which are executed for both black and white color images before each original scanning.

The shading compensation operations are executed in the following sequence:

- 1) The shading compensation for black color images is executed while leaving the CCD LED turned off at the base (home) position of the FB carriage.
- 2) The FB carriage is shifted to under the White shading plate after turning on the CCD LED and then the shading compensation for white color images is executed while shifting the FB carriage further to the FB scanning start position (when scanning an original on the Stage glass) or shifting it back to the AF scanning position (when scanning originals in the AF unit).

[Note]

The Auto base control operation is not performed on this scanner because the background color of an original is to be duly erased there.

2-4. AF Original Placement

- Originals are to be placed face-up on the AF original tray and held by the Original guides during feeding.
- It is detected by the AF original detection sensor whether originals are placed on the AF original tray.
- The originals placed on the AF unit are to be scanned only when the said unit is closed down on the Stage glass, which is detected by the FB stage cover set sensor.
- When an original is placed on the Stage glass as well, the originals on the AF unit are to be scanned first.

2-5. AF Original Size Detection

- The width of originals placed on the AF original tray is determined according to what sensor, among the AF original width sensors 1, 2 and 3, is blocked by the corresponding feet of the AF original guides, which are to be shifted inward or outward to hold originals on the AF original tray.
- The length of the same originals is detected by the AF original length sensors 1 and 2, which are to be blocked by the plates to be pushed down by the originals overlaid on them on the AF original tray.

[Note]

In case originals of different formats, e.g. A3-SEF and A4-LEF, are placed on the AF unit to make multiplepage copies with Z-folded ones included, using the optional Multifunction finisher, it is not possible to detect the sizes of the said originals on the AF unit only with the above-mentioned sensors. In this case, therefore, the original size is to be finally determined after confirming the page size of scanned originals.

2-6. AF Original Transfer

- A single original feeds into the AF unit, separated from a stack of originals loaded on the AF original tray by the AF original feed roller and the AF stripper roller, both of which are driven by the AF original feed motor while the AF separation clutch is activated.
- The AF original feed assist roller, which remains raised before original feeding starts, is to be lowered, also driven by the AF original feed motor, with the AF separation clutch activated, when an original starts feeding as above, to lead the said original to feed to the AF original feed roller.
- The AF registration roller remains still before a feeding original arrives from the AF original feed roller. When the feeding original arrives there, then, the leading edge of the said original gets contact with the AF registration roller for alignment to form a buckle at the front end, detected by the AF registration sensor.
- The AF registration roller then starts rotating a predefined amount of time later, also driven by the AF original feed motor, through activation of the AF registration clutch, thus feeding the original further to the AF transfer roller 1.
- The original which has reached the AF transfer roller 1 is further transferred by the said roller and other two rollers, i.e. AF transfer roller 2 and AF original ejection roller, all of which are driven by the AF read pulse motor, to be scanned and ejected onto the AF original receiving tray.
- The advancing original is detected by the AF front and back read sensors during scanning, while the subsequent original starts feeding when the trailing edge of the current one is detected by the AF separation sensor.
- When the last original that is loaded on the AF original tray has been scanned, the AF original feed motor is reversed while keeping the AF separation clutch activated, thus raising the AF original feed assist roller to the retreat position.

2-7. AF Scanning

- An original is scanned on both sides by different image scanners, i.e. the front side by the CCD in the FD carriage and the back side by the same in the AF carriage, while advancing through the AF unit.
- For the AF image scanner, the Offset and Gain adjustments are to be made while temporarily shifting the AF shading plate to under the CCD in the AF carriage.
- The shading compensation for the AF image scanner is also to be made in the same way as above.

AF Carriage (for back side scanning)

FB Carriage (for front side scanning)

3. Disassembly and Reassembly

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3-1. Stage Glass Ass'y

(1) Remove the Stage glass support.

(Stepped screw (2pcs))



(2) Remove the FB left cover.

(Binding screw 3x6 (2 pcs) / 4x6 (2 pcs))



(3) Remove the FB original guide plate.

(Binding screw 3x6 (2 pcs))



(4) Remove the Stage glass ass'y.



[Caution]

Take care not to brake the Stage glass because the FB original guide plate is combined with it.

3-2. FB Original Size Sensors 1/2

(1) Remove the Stage glass ass'y.

(Refer to 3-1 of this chapter.)

(2) Remove the FB original size sensor 1 (or 2).

(IT screw 3x6 (1 pc each))

• Disconnect a connector. (1pc each)



3-3. FB Carriage Shift Motor Ass'y

(1) Remove the Stage glass ass'y.

(Refer to 3-1 of this chapter.)

(2) Remove the FB right cover ass'y.

(Binding screw 4x6 (2 pcs))



- (3) Slide the FB carriage to the right to access to the belt tensioner.
- (4) Loosen the securing screws on the belt tensioner to release tension on the belt and tighten the screws again while keeping the belt tension loosened.



- (4) Remove the FB carriage shift motor assembly. (Double-washer screw 3x8 (4 pcs))
 - Disconnect a connector. (1pc)





FB carriage shift motor ass'y

3-4. FB Carriage

- (1) Remove the Stage glass ass'y.
 - (Refer to 3-1 of this chapter.)
- (2) Slide the FB carriage to the right to access to the belt tensioner.
- (3) Loosen the securing screws on the belt tensioner to release tension on the belt and tighten the screws again while keeping the belt tension loosened.



(4) Take off a timing belt from the pulley on the belt tensioner.



Note: Make sure to keep the timing belt away from the FB carriage or the Guide shaft not to lead grease to be put on the belt accidentally. It is recommended to bind the belt into a small block as indicated in the picture above. (5) Detach the FFC (Flexible Flat Cable) holder from the top of the FB carriage. (IT screw 3x6 (1 pc)).



(6) Remove the Guide shaft support plate on the right side frame of the FB unit.

(Double-washer screw 3x8 (2 pcs))



 (7) Turn the removed Guide shaft support plate up-sidedown, so that the wide projected part may point down, and secure it with a single screw (on the right side).
(Double-washer screw 3x8 (1 pc))



(8) Remove the securing screw of the Guide shaft on the left side frame of the FB unit.

(IT screw 4x8 (1 pc))

* Hold the Guide shaft not to let it turn when removing the screw.



(9) Pull out the Guide shaft carefully on the opposite side of the FB unit.



(10) Take out the FB carriage from the FB unit and place it on the top frame of the said unit while turning it over.



(11) Remove the FB carriage holding plate.

(P-tight-washer-head screw 3x10 (1 pc))



(12) Remove the FFC holder cover.



(13) Disconnect the FFCs (Flexible Flat Cables) from the FB CCD PCB.

The narrow FFC needs to be unlocked to be disconnected by flipping open the locking plate, while the wide one can be disconnected just by pulling it upwards.





(14) Detach the FFC holder together with the FCCs and dismount the FB carriage from the FB unit.



[Replacement Notes] Applying grease to the Guide shaft

Always apply grease to the Guide shaft after replacing a new FB carriage, following the procedures below.

 Take out a small plastic bag containing grease from the large one provided along with the replacement FB carriage.



(2) Gather grease to a bottom corner inside the plastic bag.



(3) Pinch the bottom corner of the plastic bag to push back grease.



US.RISO.COM ComColor GL Series Revision 1.0 (4) Cut off the bottom corner of the plastic bag by the width of approximately 3mm.



(5) Confirm that grease is squeezed out from the opened corner.



- (6) Slide the FB carriage to place it at the center of the FB unit.
- (7) Locate the grease injection slot on the FB carriage.



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(8) Insert the opened corner of the plastic bag into the grease injection slot on the FB carriage and squeeze out grease.

[Note]

The amount of grease to be applied is approximately 700 mg, which corresponds to that to be put on the Guide shaft while squeezing grease 10mm wide on the said shaft back and forth 7 times as indicated below.



(9) Slide the FB carriage back and forth manually 5 times to apply grease to the whole of the Guide shaft.



[19-HS-19]

3-5. FB Unit Rear Cover

- (1) Remove the AF Harness Cover.
 - (Binding screw 4×10 2 pcs)



(4) Remove the FB unit left cover.

(Binding screw 3×6 (2 pcs) / 4×6 (2pcs))



(5) Remove the FB unit right cover.





(3) Disconnect connectors from the FB main control PCB. (3 pcs)





(6) Remove the mounting screws (2 pcs) on the AF unit hinges and dismount the AF unit.



(7) Remove the FB unit rear cover.

(Binding screw 3×6 (2 pcs) / 4×6 (2pcs), stepped screw (2 pcs))



3-6. FB Power Supply Unit

(1) Remove the FB unit rear cover.

(Refer to 3-5 of this chapter.)

(2) Remove the FB power supply unit cover.

(Round-tip IT3C screw 3×6 (6 pcs))



(3) Open edge saddles (at 3 locations) and a wire saddle (at 1 location) and release wire harnesses.



(4) Disconnect connectors. (4 pcs)



(5) Detach the FB power supply unit from the bracket. (Round tip IT3C screw 3×6 (6 pcs))



3-7. FB Power Supply Unit Cooling Fan

(1) Remove the FB power supply unit.

(Refer to 3-6 of this chapter.)

(2) Remove the FB power supply unit cooling fan. (Double-washer screw 4×20 (2 pcs))



3-8. FB Main Control PCB

(1) Remove the FB power supply unit.

(Refer to 3-6 of this chapter.)

- (2) Open an edge saddle and a wire saddle and release wire harnesses.
- (3) Remove the FB unit rear plate.

(Round tip IT3C screw 3×6 (3 pcs), binding screw 3×6 (1 pc))



(4) Open edge saddles (at 2 locations) and disconnect connectors. (5 pcs)



(5) Detach the FB main control PCB from the bracket. (IT screw 3x6 (4 pcs))



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[Replacement precautions]

- Always remove the existing EEPROM from the current FB main control PCB and attach it to a replacement one to provide the "Shading profile," whose data are stored in the EEPROM to enable high-speed scanning, to the replacement one as well because a spare FB main control PCB does not contain the said data.
- Always update the firmware program for the Scanner HS7000 from a printer after mounting the replacement FB main control PCB on the FB unit and then reboot the scanner.

3-9. FB Cooling Fan Ass'y

(1) Remove the FB unit rear cover.

(Refer to 3-5 of this chapter.)

(2) Remove the FB cooling fan ass'y.

(IT screw 3×6 (2 pcs))

• Disconnect a connector. (1pc)



3-10. FB Stage Cover Angle Sensor

(1) Remove the FB unit rear cover.

(Refer to 3-5 of this chapter.)

- (2) Remove the FB cooling fan ass'y. (Refer to 3-9 of this chapter.)
- (3) Remove the FB stage cover angle sensor.
 - Disconnect a connector. (1pc)



3-11. FB Stage Cover Set Sensor

(1) Remove the FB unit rear cover.

(Refer to 3-5 of this chapter.)

(2) Remove the FB cooling fan ass'y.

(Refer to 3-9 of this chapter.)

- (3) Remove the FB stage cover set sensor.
 - Disconnect a connector. (1pc)



3-12. FB LED PCB

- (1) Remove the FB unit left cover.
- (Binding screw 3×6 (2 pcs) / 4×6 (2pcs))
- (2) Remove the FB unit right cover.

(Binding screw 4x6 (2 pcs))

FB unit left cover



(3) Remove the FB unit front cover ass'y (Binding screw 4x6 (4 pcs))



- (4) Remove the FB LED PCB. (IT screw 3x6 (1 pc))
 - Disconnect a connector. (1pc)



3-13. FB Carriage HP Sensor

- (1) Remove the FB unit left cover.
 - (Binding screw 3×6 (2 pcs) / 4×6 (2pcs))



(2) Remove the FB unit right cover.

(Binding screw 4x6 (2 pcs))



(3) Remove the FB unit front cover ass'y (Binding screw 4x6 (4 pcs))



(4) Detach the FB carriage HP sensor together with the bracket. (IT screw 3x6 (1 pc))



(5) Detach the FB carriage HP Sensor from the bracket.(6) Disconnect a connector. (1 pc)



3-14. AF Stripper Roller

- (1) Open the AF original feed unit.
- (2) Open the AF stripper roller cover.



(3) Pull off the AF stripper roller shaft holder.(4) Pull off the AF stripper roller from the shaft.



3-15. AF Original Feed Assist Roller

- (1) Open the AF original feed unit.
- (2) Open the AF original guide (upper).



(3) Remove the AF original feed roller holder.



(4) Pull off the AF original feed assist roller from the shaft.



[19-HS-27]

3-16. AF Original Feed Roller

- (1) Open the AF original feed unit.
- (2) Open the AF original guide (upper).



(3) Remove the AF original feed roller holder.



(4) Pull off the AF original feed roller from the shaft.



[Reassembly Notes]

When reassembling the AF original feed roller, take care not to put it on the shaft in a wrong direction because a one-way clutch is built in the said roller.

3-17. AF Separation Sensor

- (1) Open the AF original feed unit.
- (2) Remove the AF original feed roller unit.

(P-tight binding screw 3x8 (4 pcs))



- (3) Remove the AF separation sensor. (Double-washer IT screw 3x8 (1 pc))
 - Disconnect a connector. (1pc)





3-18. AF Registration Sensor

- (1) Open the AF original feed unit.
- (2) Remove the AF original feed roller unit.
 - (P-tight binding screw 3x8 (4 pcs))



 (3) Remove the AF registration sensor. (Double-washer IT screw 3x8 (1 pc))
Disconnect a connector. (1pc)





3-19. AF Original Feed Position Sensor

- (1) Open the AF original feed unit.
- (2) Remove the AF original feed roller unit.

(P-tight binding screw 3x8 (4 pcs))



- (3) Remove the AF original feed position sensor.
 - Disconnect a connector. (1pc)





3-20. AF Front Read Sensor

- (1) Remove the AF carriage.
 - (Refer to 3-38 of this chapter.)
- (2) Detach the AF front read sensor together with the bracket. (P-tight binding screw 3x10 (1 pc))
- (3) Detach the AF front read sensor from the bracket.
 - Disconnect a connector. (1pc)





3-21. AF Shading Plate HP Sensor

(1) Remove the AF unit rear cover.

(Refer to 3-22 of this chapter.)

(2) Remove the AF LED cooling fan.

(Refer to 3-33 of this chapter.)

- (3) Remove the AF shading plate HP sensor.
 - Disconnect a connector. (1pc)



3-22. AF Unit Rear Cover

- (1) Remove the AF unit rear cover.
 - (P-tight binding screw 4x14 (5 pcs))





3-23. AF Original Tray

(1) Remove the AF unit rear cover.

(Refer to 3-22 of this chapter.)

(2) Remove the AF original tray fulcrum shaft. ((P-tight binding screw 3x10 (1 pc))



(3) Detach the AF original tray.

To separate the AF original tray from the AF unit completely, remove all sensors attached there together with the connected wire harnesses.



3-24. AF Original Set Sensor

- (1) Detach the AF original tray from the AF unit. (Refer to 3-23 of this chapter.)
- (2) Remove the AF original set sensor.
 - Disconnect a connector. (1pc)



3-25. AF Original Detection Sensor

- (1) Detach the AF original tray from the AF unit. (Refer to 3-23 of this chapter.)
- (2) Remove the AF original detection sensor.
 - Disconnect a connector. (1pc)



3-26. AF Original Width Sensors 1/2/3

- (1) Detach the AF original tray from the AF unit. (Refer to 3-23 of this chapter.)
- (2) Detach the AF original width sensor bracket from the the AF original tray.
 - ((P-tight binding screw 3x10 (1 pc))



- (3) Detach the AF original width sensor 1 (, 2 or 3) from the bracket.
 - Disconnect a connector. (1pc each)



3-27. AF Read Pulse Motor Ass'y

(1) Remove the AF unit rear cover.

(Refer to 3-22 of this chapter.)

(2) Remove the AF tension spring.



(3) Detach the AF read pulse motor ass'y. (Double-washer IT screw 3x8 (2 pcs))



- (4) Disconnect a connector. (1 pc)
- (5) Remove the AF read pulse motor bracket.

(Double-washer screw 3x5 (2 pcs))

(6) Remove a ground wire. (Pan-head screw 3x6 (1 pc))



3-28. AF Original Feed Motor Ass'y

(1) Remove the AF unit rear cover.

(Refer to 3-22 of this chapter.)

- (2) Remove a tension spring.
- (3) Remove a ground wire. (Pan-head screw 3x3 (1 pc))
- (4) Disconnect a connector. (1 pc)
- (5) Remove the AF original feed motor ass'y.

(Double-washer screw 3x8 (3 pcs))



3-29. AF Original Tray Elevation Motor Ass'y

(1) Remove the AF unit rear cover.

(Refer to 3-22 of this chapter.)

(2) Remove the AF harness cover.

(Binding screw 4×10 (2 pcs))



(3) Detach the AF original tray elevation motor ass'y.
(Double-washer IT screw 3x8 (2 pcs))

(4) Open an edge saddle (at 1 point).



- (5) Open a wire saddle (at 1 point) and another edge saddle (at 1 point).
- (6) Disconnect a connector. (1 pc)



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3-30. AF Original Feed Unit Set Sensor

- (1) Remove the AF unit rear cover.
 - (Refer to 3-22 of this chapter.)
- (2) Detach the AF original feed unit set sensor ass'y.

(IT 3C screw 3x6 (1 pc))



- (3) Open a wire saddle (at 1 point).
- (4) Disconnect a connector. (1 pc)



3-31. AF Original Tray HP Sensor

(1) Remove the AF unit rear cover.

(Refer to 3-22 of this chapter.)

(2) Detach the AF original tray HP sensor ass'y.

(IT 3C screw 3x6 (2 pcs))



- (3) Disconnect a connector. (1 pc)
- (4) Detach the AF original tray HP sensor from the bracket.



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3-32. AF Original Length Sensors 1/2

(1) Remove the AF unit rear cover.

(Refer to 3-22 of this chapter.)

(2) Remove the AF original tray HP sensor ass'y.

(Refer to 3-31 of this chapter.)

- (3) Remove snap rings (2 pcs) at both ends of the AF original tray elevation shaft.
- (4) Remove the securing screw on the AF original tray elevation plate. (IT 3C screw 3×6 (1 pc))



(5) Remove the AF original tray elevation ass'y.



(6) Remove the AF original tray unit.

(P-tight binding screw 3x10 (4 pcs))





(7) Remove the AF original tray cover from the bottom of the AF original tray unit.

(P-tight binding screw 3x10 (2 pcs)).



- (8) Detach the AF original length sensor 1 (or 2).
 - Disconnect a connector. (1pc each)



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3-33. AF LED Cooling Fan

- (1) Remove the AF unit rear cover.
 - (Refer to 3-22 of this chapter.)
- (2) Remove the AF LED cooling fan.
 - (IT 3C screw 3×6 (2 pcs))
 - Disconnect a connector. (1pc)





3-34. AF Original Feed Motor Cooling Fan

- (1) Remove the AF unit rear cover.
 - (Refer to 3-22 of this chapter.)
- (2) Open edge saddles (at 2 points) and wire saddles (at 5 points).



(3) Disconnect a connector. (1 pc)



(4) Remove the AF original feed motor cooling fan ass'y. (IT 3C screw 3×6 (2 pcs))



3-35. AF Separation Clutch

- (1) Remove the AF unit rear cover.
 - (Refer to 3-22 of this chapter.)
- (2) Remove the securing screws on the AF separation clutch bracket. (IT 3C screw 3×6 (3 pcs))
- (3) Open wire saddles (at 3 points).





(4) Pull off a snap ring at the shaft end and remove the AF separation clutch bracket.



- (5) Disconnect a connector. (1 pc)
- (6) Remove the AF separation clutch.



[Reassembly Notes]

Engage the projecting part of the AF separation clutch bracket with the stopper slit of the AF separation clutch as indicated in the picture below.



3-36. AF Registration Clutch

(1) Remove the AF unit rear cover.

(Refer to 3-22 of this chapter.)

- (2) Open a wire saddle (at 1 point).
- (3) Disconnect a connector. (1 pc)



(3) Remove the AF wire harness holder.

(IT 3C screw 3×6 (1 pc))

(4) Open another wire saddle. (1 pc)



(5) Remove the AF junction PCB ass'y. (P-tight binding screw 3x10 (1 pc), IT3C screw 3×6 (1 pc))

(6) Remove a ground wire.



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- (7) Pull off a snap ring at the shaft end and remove the AF registration clutch bracket.
- (IT 3C screw 3×6 (2 pcs)) (8) Remove the AF registration clutch.





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3-37. AF Main Control PCB

- (1) Remove the AF unit rear cover.
- (Refer to 3-22 of this chapter.)(2) Open an edge saddle (at 1 point) and a wire saddle (at 1 point).
- (3) Disconnect connectors. (13 pcs)



(4) Remove the AF main control PCB. (P-tight binding screw 3x10 (2 pcs), Double-washer screw 3x8 (2 pcs)



[Replacement precautions]

- Always remove the existing EEPROM from the current AF main control PCB and attach it to a replacement one to provide the "Shading profile," whose data are stored in the EEPROM to enable high-speed scanning, to the replacement one as well because a spare AF main control PCB does not contain the said data.
- Always update the firmware program for the Scanner HS7000 from a printer after mounting the replacement AF main control PCB on the AF unit and then reboot the scanner.

3-38. AF Carriage



(1) Lift open the AF unit and release open the AF maintenance door by turning the release lever.



(2) Open the AF original feed unit and turn the AF jam release dial on the front side in a direction opposite to the arrow mark, to retract the AF shading plate (white plate) to the "original scanning position."





(3) Remove the AF unit rear cover.

(Refer to 3-22 of this chapter.) (4) Remove the AF original guide (lower). (P-tight binding screw 3x10 (4 pcs))



(5) Turn up the AF feed tray.



- (6) Remove a plastic gear at the end of the AF registration roller shaft.
- (7) Pull off a snap ring on the roller shaft as well.



(8) Pull off another snap ring at the same end of the AF registration roller shaft.



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- (9) Pull off a snap ring at the other end of the AF registration roller shaft.
- (10) Remove a bearing at the same end of the AF registration roller shaft.



- (13) Disconnect a connector. (1 pc)
- (14) Remove the AF wire harness cover.
 - (P-tight binding screw 4x14 (1 pc) / 3x10 (1 pc))



(11) Remove the AF registration roller.



(12) Remove the AF original protection sheet. (P-tight binding screw 3x10 (2 pcs))



(15) Disconnect FFC connectors. (2 pcs)



- (16) Take out the AF carriage from the AF unit.
 - (P-tight binding screw 4x14 (1 pc))





3-39. AF Back Read Sensor

(1) Take out the AF carriage from the AF unit.

(Refer to 3-38 of this chapter.)

(2) Slide down the AF shading plate.



- (3) Remove the AF back read sensor.
 - (Double^washer screw 3x8 (1 pc))
 - Disconnect a connector. (1pc)


4. Adjustment

4-1. AF Unit Height

The height of the AF unit may be required to be adjusted when the images scanned through the AF unit is not satisfactory.





• Rotate the AF height adjustment screw clockwise to lower the AF unit on the rear side.



- 1. Enter the test mode on a printer.
- 2. Start the test mode TM No. 21-2-001 to turn on the LED lamp in the FB carriage.
- 3. With the AF unit closed, check the space between the bosses of the AF unit and the Stage glass from Window A and Window B.
 - Rear side (Window A) ... 0.2 mm or less
 - Front side (Window B) .. 0.5 mm or less

Note: Insert a mylar sheet to check the height.

Important:

Do not let the mylar sheet get caught at the part (C) indicated in the figure to the left.

- If the space is larger than the above value;

Rotate the AF height adjustment screw on the hinge of the AF unit as indicated in the figures to the left.

Note: The AF unit height is automatically determined on the front side when it is adjusted on the rear side.

4-2. AF Back-page Image Scanning Angle

If the back-page images scanned through the AF unit are slanted on pages, the securing position of the AF carriage should be adjusted as described below.

Important:

The AF image scanning angle for back pages should always be adjusted before that for front ones.



- 1. Open the AF original feed unit and shift the securing position of the screw on the AF adjustment plate to the right hand.
- 2. Slide the AF adjustment plate as described below depending on the direction in which scanned images are slanted on pages.



If image are slanted as shown in the figure to the left, slide the AF adjustment plate in the direction [A].



If images are slanted in the other way, on the other hand, slide the the said plate in the direction [B].

4-3. AF Front-page Image Scanning Angle

If the front-page images scanned through the AF unit are slanted on pages, the mounting position of the AF unit should be adjusted as described below.

Important:

The AF image scanning angle for front pages should always be adjusted after that for back ones.



- 1. Loosen the AF unit fixing screw.
- Turn the AF angle adjustment screw on the AF unit hinge as described below depending on the direction in which scanned images are slanted on pages.



If image are slanted as shown in the figure to the left, turn the AF angle adjustment screw in the direction [A].



If images are slanted in the other way, on the other hand, turn the the said screw in the direction [B].

Note: When turning the screw in the direction [B], gently push the AF unit to the rear.

3. Tighten the AF unit fixing screw when comleting the adjustment

4-4. AF Lateral Scanning Position

If the images scanned through the AF unit are laterally shifted on pages, compared with those scanned on the Stage glass, the said scanned image position should be adjusted as described below.

Important:

The test mode parameters configured through the below-described adjustment, which are saved in the EEPROM on the AF main control PCB, are recommended to be stored in the SSD on a printer as backup data through another test mode TM No. 21-3-010 "SCANNER TEST SET VALUE STORE." Therefore, execute the same test mode when replacing the said SSD on the printer with a new one as well.

- The printed image scanned on the Stage glass Bottom
- The printed image scanned through the AF unit



- Enter the test mode on a printer and start the test mode TM No. 21-6-031 "AF SCAN HORIZON POSITION ADJUST."
- 2. Specify required values for the corresponding parameters in the said test mode window.
 - Per-step shift range: approx. 0.04mm
 - Parameter range: 81 to 175 (128 as default)

When "81" is specified as a parameter value, a scanned image shifts 2.0mm to the right from a predefined base position, while it shifts 2.0mm to the left from the said position when "175" is specified there.

4-5. AF Vertical Scanning Position (AF Scanning Start Timing)

If the images scanned through the AF unit are vertically shifted on pages, compared with those scanned on the Stage glass, the said scanned image position should be adjusted by changing the scanning start timing as described below.

Important:

The test mode parameters configured through the below-described adjustment, which are saved in the EEPROM on the AF main control PCB, are recommended to be stored in the SSD on a printer as backup data through another test mode TM No. 21-3-010 "SCANNER TEST SET VALUE STORE." Therefore, execute the same test mode when replacing the said SSD on the printer with a new one as well.



- Enter the test mode on a printer and start the test mode TM No. 21-6-032 (for front pages) or -033 (for back pages) "AF SCAN START POSITION ADJUST (F) or (B)."
- 2. Specify required values for the corresponding parameters in the said test mode window.
 - Per-step shift range: 0.1mm
 - Parameter range: -40 to +40 (0 as default)

When "-40" is specified as a parameter value, the top margin is widened by 4.0mm from a predefined range, while it is narrowed by 4.0mm from the said range when "40" is specified there. CONFIDENTIAL

[19-FIN-1]

Chapter 19-3 Multifunction Finisher FG20

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1 Overview

1.1 System Layout



[FI (Finisher Interface) Unit] [A]

This unit connects the Multifunction Finisher to the printer and transfers paper.

[FF (Finisher Fold) Unit] <Optional> [B]

This unit can be added before the FM (Finisher Main) unit as an optional component and folds received sheets in three (Inward or outward) or Z-form.

Threefold sheets are delivered into the dedicated stacking box below, while Z-fold ones are passed to the FM unit to the right for further finishing.

Note: When folding is not specified in print jobs, printed sheets pass through this unit straight. [FM (Finisher Main) Unit] **[C]**

This unit provides multiple finishing options, such as punching, stapling, offset stacking, separate cover sheet supplement, half folding (twofold), and saddle stitch binding (booklet making).

1.2 Component Names

The FM (Finisher Main) Unit is composed of the Punching Section **[A]**, Stapling Section **[B]**, Stacking Tray **[C]**, Top Tray **[D]** and Booklet Making Section **[E]** (including Booklet Tray **[F]**) while the optional FF (Finisher Fold) Unit is composed of the Folding Section **[G]** and Folder Tray **[H]**.



1.3 Main Functions

(1) Punching

Individual sheets can be punched one by one.

You can select the number of punch holes (2 or 4 on metric models / 2 or 3 on inch ones) and their location on pages (top, right or left).

This function is available with the following paper formats: A3 (or Ledger) SEF, A4 (or Letter) LEF, B4 (or Legal) SEF (2 holes only), A4 (or Letter) SEF (2 holes only) and B5 (or Statement) LEF (2 holes only).

(2) Stapling

2 to 100 sheets, including punched ones, can be stapled, which are stacked in a zig-zag manner on the Stacking tray. (The maximum sheet volume is reduced to 65 when the paper size is larger than A4 (or Letter).)

This function is available with the following paper formats: A3 (or Ledger) SEF, A4 (or Letter) LEF, B4 (or Legal) SEF, A4 (or Letter) SEF, B5 (or Statement) LEF, A5 LEF and





custom-registered ones.

Since staples are driven into paper from underneath at fixed positions, images are automatically rotated during image processing on the printer accordingly, while simplex prints are flipped over in advance in the Finisher Interface unit for sheets whose length is 182mm (7 11/64") to 432mm (17 1/64") or on the printer for sheets with another length than mentioned above.



When stapled at a corner, a staple will be directed parallel to a paper edge if it cannot be placed at an angle.

(3) Binding side margin allocation

An additional margin (max. 50mm) can be allocated on the binding side for punched or stapled prints.

If the "Auto size reduction" function is selected, in this case, page images will be scaled down to fit in the printable area excluding the said margin. If not, however, the images shifted beyond the printable area will not be printed.

(4) Offset stacking

Prints can be stacked in a zig-zag manner on the Stacking tray by shifting the stacking position back and forth per page or copy, thus dividing stacks into each page or copy.

(5) Separate cover sheet supplement

Front and back covers can be added separately from body text prints, using different types of paper for them. Cover sheets, whose format should be identical with the body text one, are to be loaded into separate paper trays on the printer.

(6) Half folding (Twofold)

Printed sheets can be folded in half in either direction, i.e. inward or outward, which are ejected onto the Booklet tray.

When folding simplex prints inward, besides, they are to be flipped over in advance in the Finisher Interface unit. For duplex prints, their page print order is changed in accordance with the folding direction.

This function is available with the following paper formats: A3 (or Ledger) SEF, B4 (or Legal) SEF, A4 (or Letter) SEF, Foolscap SEF and custom-registered SEF ones.







(7) Saddle stitch binding (Booklet making)

Printed sheets (up to 20 sheets) can be folded in half and bound into booklets with staples driven along the center fold, which are ejected onto the Booklet tray.

When the sheet volume exceeds the binding capacity in this case, the excessive sheets will be ejected onto the Stacking tray without stapled

If desired, on the other hand, stapling can be cancelled for manual binding. In this case, the maximum sheet volume is reduced to 5 for each folded stack.

This function is available with the following paper formats: A3 (or Ledger) SEF, B4 (or Legal) SEF, A4 (or Letter) SEF and custom-registered SEF ones.

Binding page assignment is also available for regular document files while other print job settings, such as 2-page combination, duplex and collation, are automatically selected.

(8) Saddle stitch binding margin allocation

An additional margin (max. 50mm) can be allocated in the saddle stitch binding area for booklets.

If the "Auto size reduction" function is selected, in this case, page images will be scaled down to fit in the printable area excluding the said margin. If not, however, the images shifted beyond the printable area will not be printed.

(9) Separate booklet cover printing

Booklet covers can be printed on a different type of paper from body text pages and bound together as a booklet.

The initial 2 pages of original document data are printed on the said paper as front cover while the last 2 pages are printed there as back cover. If "Print covers only" is specified in this operation, cover sheets will be separately printed and stacked on the Top tray while original body text data are to be processed into RIP-format ones and stored as an on-hold print job on the printer if "Hold print jobs except covers" is specified at the same time.

The print job on hold on the printer is configured so that original body text data would be printed without covers while acquiring a cover sheet from another paper source, which is assigned to store cover sheets as default.







(10) Separate binding

A large-volume booklet, whose total page count (sheet volume) is beyond the saddle stitch binding capacity, can be automatically divided into sub units for separate binding. In this case, binding page assignment will be configured to enable finished sub booklet units to be piled on top of each other to form a complete booklet.

If this function is disabled, on the other hand, a default binding page assignment pattern will be applied to the whole range of the said booklet data, thus requiring sub booklet units to be piled in the saddle-stitch-binding style to finish a full booklet.

1



[Separate binding enabled]



[Separate binding disabled]

- [Note] The sheet volume of sub booklet units can be individually specified in advance if a PS printer driver is applied.
- (11) Z-fold <Optional>

Printed sheets can be folded in a Z-shape and stapled together with unfolded sheets which are stacked on the Stacking tray, while they can also be stacked on the Top tray unless stapled. They can be punched as well and their binding side can also be selected.

This function is available with the following paper formats: A3 (or Ledger) SEF and B4 (or Legal) SEF.

(12) Outward and Inward threefold < Optional>

Printed sheets can be folded outward or inward in three, which are stacked in the Folder tray.

This function is available with the following paper formats: A4 (or Letter) SEF.

The facing page can also be selected in both types of threefold and the requirement of preliminary operations, such as page rotation, print order reversal and paper turnover, will be determined accordingly.

- A page is to be rotated to lead the first page to face you in outward threefold.
- A print order is to be reversed to lead the first page to face inside in inward threefold of duplex prints while an original print order is to be kept in simplex prints in the same case.





[Outward threefold]



[Inward threefold]

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• A printed sheet is to be turned over to lead the first page to face outside in inward threefold of simplex prints while no paper turnover is to be made in duplex prints in the same case.

1.4 Compatible Function Charts

(1) Paper format

		Paper format						
Function		A3 (Ledger) SEF	B4 (Legal) SEF	A4 (Letter) SEF	A4 (Letter) LEF	B5 (Statement) LEF	Custom	
	2 holes	OK	OK	OK	ОК	OK	NG	
Punching	4 (or 3) holes	ОК	NG	NG	ОК	NG	NG	
Ctabling	Front corner (angled)	、 →	、 →	、 →	→	+	→	
	Rear corner (angled)	•	NG	NG	,	NG	Wide ones	
	Rear corner (parallel)	NG	• →	•	NG	•	Short	
	2 points on side edge	: →	: →	. ↑	: →	+	+	
Offset stacking		ОК	OK	OK	OK	ОК	ОК	
Booklet making		ОК	ОК	ОК	NG	NG	OK	
	2-fold	ОК	ОК	ОК	NG	NG	OK	
Folding	Z-fold	ОК	ОК	NG	NG	NG	NG	
	3-fold	NG	NG	OK	NG	NG	NG	

[Note] Red arrows indicate the direction of paper ejection on the Stacking tray.

SEF means "Short-edge feed" and LEF "Long-edge feed."

<Applicable custom paper formats for the respective functions>

Custom-format paper is also available when registered if the size is within the following ranges.

	Stapling	Stacking tray ejection	Offset stacking	Booklet making	2-fold
Width (mm)	204 to 297	182 to 330	203 to 297	203 to	320
Length (mm)	182 to 432	182 to 488	182 to 488	279 to	o 457

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		Output destination							
Function comb	pination	Stacking tray	Top tray	Booklet tray	Folder tray				
	(None)	\checkmark							
Stapling	Punching	\checkmark							
	Z-fold	\checkmark							
Dunching	(None)	√	\checkmark						
Punching	Z-fold	\checkmark	\checkmark						
Booklet making				✓					
2-fold				✓					
Z-fold		✓	✓						
3-fold					√				

(2) Output destination and function combination

1.5 Specifications

	Top trav		Collating, stacking			
Trav type	Stacking trav		Collating stacking (incl. offset mode)			
indy type	Booklet tra		Collating, stacking (incl. shoet mode)			
	Top tray		Maximum: 330 mm × 488 mm (13" × 19 3/16")* ² Minimum: 100 mm × 148 mm (3 15/16" × 5 27/32")			
	Stacking tray		Maximum: 330 mm × 488 mm (13" × 19 3/16")* ² Minimum: 148 mm × 148 mm (5 53/64" × 5 53/64")			
Paper size	Stacking tr	ay with	Maximum: 297 mm × 488 mm (11 11/16" ×19 3/16")* ²			
	offset stack	king	Minimum: 203 mm × 148 mm (8" ×5 53/64")			
	stanling tr	ay with	Maximum: $297 \text{ mm} \times 432 \text{ mm} (11 \text{ m}) \times 7 3/16^{\circ})$			
			Maximum: 330 mm × 460 mm $(13" × 18" 7/64)^{*2}$			
	Booklet tra	У	Minimum: 182 mm × 257 mm (7 11/64" × 10 1/8")			
	Top tray		52 g/m ² to 210 g/m ² (14-lb bond to 56-lb bond)			
Paper	Stacking tr	ay	52 g/m ² to 210 g/m ² (14-lb bond to 56-lb bond)			
weight	Booklet tra	у	60 g/m ² to 90 g/m ² (16-lb bond to 24-lb bond) (Cover: 60 g/m ² to 210 g/m ² (16-lb bond to 56-lb bond))			
	Top tray		Up to 50 mm (1 15/16") or 500 sheets* ³			
Tray capacity	Stacking tray		Up to 200 mm (7 7/8") or 2,000 sheets or 200 copies* ⁴			
	Booklet tray		Up to 50 mm (1 15/16'') or approx. 20 copies* ³			
	Maximum sheet volume		100 sheets* ^{3/*5}			
Stapling	Location		1 at front corner (angled), 1 at rear corner (angled* ⁶ or parallel), 2 on side edge (parallel)			
	Pattern		2 holes / 4 holes (or 3 holes)			
Punching	Paper size		2 holes: A3 (or Ledger), JIS-B4 (or Legal), A4 (or Letter), A4 (or Letter)-LEF and JIS-B5-LEF 4 holes: A3 and A4-LEF (3 holes: Ledger and Letter-LEF)			
	Paper weight		52 g/m ² to 210 g/m ² (14-lb bond to 56-lb bond)			
Booklet making	Maximum : volume	sheet	Saddle stitch binding: 20 sheets (80 pages) * ^{3/*7} 2-fold: 5 sheets (20 pages) * ^{3/*7}			
	Z-fold*8		Paper size: A3 (or Ledger) and JIS-B4 (or Legal) Paper weight: 60 g/m ² to 90 g/m ² (16-lb bond to 24-lb bond)			
Folding (optional)	3-fold		Paper size: A4 (or Letter) Paper weight: 60 g/m ² to 90 g/m ² (16-lb bond to 24-lb bond)			
	Tray capac	ity	Approx. 30 sheets ^{*3}			
Power source			AC 100 V - 240 V, 50 Hz - 60 Hz, 2.0 A - 1.0 A			
Power	Standard s	ystem	Max. 230 W			
consumption	With option	nal old unit	Max. 300W			
Operational ne	oise		68 dB (A) or less			
Dimensions	Standard	When operating	1,205 mm × 735 mm × 1,215 mm (47 7/16" × 28 15/16" × 47 53/64")			
(W × D × H)	system	When covers opened	1,205 mm × 1,280 mm × 1,215 mm (47 7/16" × 50 13/32" × 47 53/64")			

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	With	When operating	1,440 mm × 735 mm × 1,215 mm (56 11/16" × 28 15/16" × 47 53/64")			
	Finisher Fold unit	When covers opened	1,440 mm × 1,280 mm × 1,215 mm (56 11/16'' × 50 13/32'' × 47 53/64'')			
	Standard system		Approx. 146 kg (308 lb)			
Weight	With optional Finisher Fold unit		Approx. 198 kg (436 lb)			
Operational er	nvironment		Temperature: 15°C to 30°C (59°F to 86°F) Humidity: 40% to 70% (without condensation)			
Safety information			IEC60950-1 compliant, Indoor, pollution degree 2*, At altitudes of 2,000 m or lower * The pollution degree of the usage environment due to dirt and dust in the air. Degree "2" corresponds to a general indoor environment.			

* 1: Only twofold is available for stacking.

- * 2: When printing on paper whose length is more than 432 mm (17") in color, images may be distorted in the area beyond 432 mm (17") from the leading edge of paper.
- * 3: When using plain paper or recycled paper (85 g/m² (23-lb bond))
- * 4 : When using A4 (or Letter)-LEF or B5 (or Statement)-LEF plain paper (85 g/m² (23-lb bond)). In other cases, the tray capacity is to be 1,500 sheets or 100 copies.
- * 5: 65 sheets for paper whose size is larger than A4 (or Letter).
- * 6 : Angled stapling is only available for A4 (or Letter)-LEF and A3 (Ledger) on the rear corner.
- * 7 : Added covers are also included.
- *8: When stacked on the Stacking Tray, the number of stackable sheets varies depending on the paper size. (A3 (or Ledger): 30 sheets / B4 (or Legal): 20 sheets)

[NOTE] The above specifications are for reference only. Check with your Marketing or Sales Department for the precise specifications in your country. The specifications are subject to change without prior notice.

1.6 Consumables

- Staples for stapling on Stacking tray / 1 pack: 5,000 staples x 4 sets including 1 staple bin
- Staples for saddle stitch binding / 1 pack: 5,000 staples x 2 sets

1.7 Output Tray Capacity

The approximate capacities of the respective output trays are as indicated in the table below, which are based on plain or recycled paper whose weight is 85 g/m^2 (23-lb bond).

The capacity limits of the said trays are actually detected by the corresponding sensors.

Tray type	Extra Cond	itions	Capacity
Top tray	None		500 sheets
		Without stapling	2,000 sheets
	LEF	With stapling	200 copies or 2,000
			sheets
Stacking trav	SEF	Without stapling	1,500 sheets
Stacking tray		With stapling	100 copies or 1,500
			sheets
	Z-fold	A3 (or Ledger)	30 sheets*1
		JIS-B4 (or Legal)	20 sheets*1

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	16 sheets or less per copy	20 copies*2	
Booklet tray	More than 16 sheets per copy	6 copies* ²	
Folder tray	None	30 sheets	

*1 : The stackable number of Z-folded sheets can be changed through the following test mode.

TM 37-6-192 "STACK TRAY Z-FOLD SHEET STACKING LIMIT" / Variable range: 0 to 255 sheets

[Default] A3 (or Ledger): 80 sheets / JIS-B4 (or Legal): 60 sheets

*2 : The number of booklets which can be stacked on the Booklet tray can be changed through the following test mode.

TM 37-6-292 "BOOKLET TRAY STACK VOLUME (STANDARD)" [Default] 16 sheets or less: 20 copies / 17 to 20 sheets: 6 copies / 21 to 25 sheets: 6 copies / 26 to 30 sheets: 6 copies

1.8 Part Names and Locations

<Motors, Solenoids and Clutches>



Motors		Motors	
M1	FI Entrance Transfer Motor	M27	FM Paddle Motor
M2	FI Switchback Transfer Motor	M28	FM Staple Motor
М3	FI Switchback Motor	M29	FM Stapler Slide Motor
M4	FI Secondary Transfer Motor	M30	FM End Wall Motor
M5	FI Switchback Elevation Motor	M31	FM Rear Tamper Motor
M6	FI Exit Motor	M32	FM Front Tamper Motor
M7	FF Horizontal Transport Motor	M33	FM Shelf Motor
M8	FF Rake Motor	M34	FM Flap Motor
M9	FF Upper End Guide Elevation Motor	M35	FM Stacker Offset Motor
M10	FF Transfer Motor	M36	FM Stack Tray Elevation Motor
M11	FF Lower End Guide Elevation Motor	Solenc	oids / Clutches
M12	FM Punch Motor	SL1	FI Gate Solenoid
M13	FM Entrance Motor	SL2	FF Upper Gate Solenoid
M14	FM Punch Slide Motor	SL3	FF Nip Release Solenoid
M15	FM Top Transfer Motor	SL4	FF Finger Solenoid
M16	FM Booklet Transfer Motor	SL5	FF Lower Gate Solenoid
M17	FB Rear Tamper Motor	SL6	FF Tray Solenoid
M18	FB Front Tamper Motor	SL7	FM Punch Slide Clutch
M19	FB Paddle Motor	SL8	FM Gate Solenoid 1
M20	FB End Guide Elevation Motor	SL9	FB Knife Solenoid
M21	FB Transfer Motor	SL10	FM Gate Solenoid 2
M22	FB Staple Motor	SL11	FM Main Paddle Solenoid
M23	FB Tray Belt Drive Motor	SL12	FM Sub Paddle Clutch
M24	FM Stack Transfer Motor	SL13	FM Sub Paddle Solenoid
M25	FM Eject Nip Motor	SL14	FM Set Clamp Solenoid
M26	FM Stack Eject Motor		

<Rollers and Paddles>



Rollers	3	Ro	llers	3
R1	FI Entrance Transfer Roller	R	22	FM Transfer Roller 2
R2	FI Face-up Transfer Roller	R	23	FM Top Transfer Roller 1
R3	FI Switchback Transfer Roller	R	24	FM Top Transfer Roller 2
R4	FI Switchback Roller	R	25	FM Top Eject Roller
R5	FI Switchback Elevation Roller	R	26	FM Booklet Transfer Roller 1
R6	FI Secondary Transfer Roller	R	27	FM Booklet Transfer Roller 2
R7	FI Exit Roller	R	28	FB Rake Roller
R8	FF Entrance Roller	R	29	FB Fold Roller
R9	FF Relay Roller	R	30	FB Eject Roller
R10	FF Exit Roller	R	31	FM Buffer Roller
R11	FF Rake Roller	R	32	FM Stack Transfer Roller 1
R12	FF Fold Roller 1	R	33	FM Stack Transfer Roller 2
R13	FF Descent Roller 1	R	34	FM Stack Upper Eject Roller
R14	FF Descent Roller 2	R	35	FM Stack Lower Eject Roller
R15	FF Fold Roller 2	Pa	ddle	es
R16	FF Elevation Roller 1	P	D1	FB Rake Paddle
R17	FF Elevation Roller 2	P	D2	FB Paddle
R18	FF Elevation Roller 3	P	D3	FM Main Paddle
R19	FF Elevation Roller 4	P	D4	FM Sub Paddle
R20	FM Entrance Roller			
R21	FM Transfer Roller 1			

19-3. Multifunction Finisher FG20

<Sensors and Switches>



Sensor	rs	Sensor	"S
SN1	FI Entrance Sensor	SN29	FM Punch Exit Sensor
SN2	FI Face-up Transfer Sensor	SN30	FM Punch Box Set Sensor
SN3	FI Entrance Transfer Motor FG Sensor	SN31	FM Punch Cam Plate Sensor
SN4	FI Switchback Transfer Motor FG Sensor	SN32	FM Punch Hole Select Sensor
SN5	FI Switchback Transfer Sensor	SN33	FM Punch OUT Sensor
SN6	FI Switchback Motor FG Sensor	SN34	FM Top Tray Transfer Sensor
SN7	FI Switchback Sensor	SN35	FM Top Tray Exit Sensor
SN8	FI Switchback Elevation Sensor	SN36	FM Top Tray Full Sensor
SN9	FI Switchback Elevation Motor FG Sensor	SN37	FM Booklet Transfer Sensor
SN10	FI Secondary Transfer Motor FG Sensor	SN38	FB Entrance Sensor
SN11	FI Secondary Transfer Sensor	SN39	FB Paper Detection Sensor
SN12	FI Exit Motor FG Sensor	SN40	FB Booklet Set Sensor
SN13	FI Exit Sensor	SN41	FB Knife HP Sensor
SN14	FF Entrance Sensor	SN42	FB Staple Head Position Sensor
SN15	FF Exit Sensor	SN43	FB Rear Low Staple Sensor
SN16	FF Rake Sensor	SN44	FB Front Low Staple Sensor
SN17	FF Fold Sensor 1	SN45	FB Rear Tamper HP Sensor
SN18	FF Lower End Guide HP Sensor	SN46	FB Front Tamper HP Sensor
SN19	FF Fold Sensor 2	SN47	FB End Guide HP Sensor
SN20	FF Tray Full Sensor	SN48	FB Eject Sensor
SN21	FF Elevation Sensor	SN49	FB Booklet Tray Paper Detection Sensor
SN22	FF Upper End Guide HP Sensor	SN50	FM Buffer Path Sensor
SN23	FM Punch IN Sensor	SN51	FM Stapler Slide Center Sensor
SN24	FM Punch Side Registration HP Sensor	SN52	FM Staple Bin Set Sensor
SN25	FM Punch Slide HP Sensor	SN53	FM Staple Bin Near Full Sensor
SN26	FM Punch HP Sensor	SN54	FM Stapler Slide HP Sensor
SN27	FM Punch FG Sensor	SN55	FM End Wall HP Sensor
SN28	FM Punch Side Registration Sensor	SN56	FM End Wall OPEN Sensor

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Sensors		Sensors	
SN57	FM Compile Paper Detection Sensor	SN68	FM Stack Tray Upper Limit Sensor
SN58	FM Front Tamper HP Sensor	SN69	FM Stacking Paper Detection Sensor
SN59	FM Rear Tamper HP Sensor	SN70	FM Stack Tray Paper Detection Sensor
SN60	FM Shelf HP Sensor	SN71	FM Stack Tray Offset Sensor
SN61	FM Sub Paddle HP Sensor	Switches	
SN62	FM Main Paddle HP Sensor	SW1	FI Front Door SW
SN63	FM Stack Transfer Sensor	SW2	FF Tray Release SW
SN64	FM Stacking Eject Sensor	SW3	FF Front Door SW
SN65	FM Eject Nip HP Sensor	SW4	FF Tray Set SW
SN66	FM Staple Paper Top Detection Sensor	SW5	FM Front Door SW
SN67	FM Paper Top Detection Sensor	SW6	FM Eject Roller Nip SW

2 Mechanism

2.1 Overall Paper Flow

Printed sheets are sent to the FI unit via the optional FU Paper ejection attachment and passed to the FM unit (through the FF unit if it is additionally installed as optional equipment) after turned over in the FI unit if required.

The printed sheets which have reached the FM unit are then punched in the Punching section or pass through it to be finished in another way.

If the optional FF unit is installed, on the other hand, they can be led into the Folding section via the FF Upper Gate and folded in a Z-shape there before punched. They can also be folded outward or inward in three there, which are, however, stacked in the Folder tray below via the FF Lower Gate without being passed to the FM unit.

Printed sheets, irrespective of whether punched or not, including Z-folded ones, advance further and are ejected into the Top tray or the Stacking tray, led via the FM Gate 2. When the Half folding or Booklet making is selected as a finishing option, however, they are led into the Booklet Making section via the FM Gate 1 without punching.

The printed sheets which are led into the Booklet Making section are folded in half with or without saddle stitch binding and ejected onto the Booklet tray, while the ones ejected into the Stacking tray can be stacked in a zig-zag manner there with or without staples on a side or at a corner.

In the Stapling section, which is located close to the Stacking tray, printed sheets ejected halfway into the said tray are retreated and collected into the Stapler unit to be stapled before fully ejected.



2.2 Paper Flow in FI Unit

2.2.1 Paper Transport in FI Unit (Straight)

The printed sheet ejected from the printer is received by the FI Entrance Transfer Roller **[A]** (driven by the FI Entrance Transfer Motor **[B]**) and delivered to the FI Secondary Transfer Roller **[C]** (driven by the FI Secondary Transfer Motor **[D]**) through the FI Face-up Transfer Roller **[E]** (driven by the FI Switchback Elevation Motor **[F]**) along the straight paper path, guided by the FI Gate **[G]** lowered by the FI Gate Solenoid **[H]**, while keeping pace with the paper transfer speed of the Transfer Belt on the printer.

The above 3 rollers then accelerate their rotation up to the pre-finishing paper handover speed a predefined amount of time after the leading edge of the ejected sheet reaches the FI Exit Sensor **[J]**, while they return their rotation to the original speed when the trailing edge of the same sheet passes through the respective paper sensors, i.e. FI Entrance Sensor **[K]** for FI Entrance Transfer Roller, FI Secondary Transfer Sensor **[L]** for FI Secondary Transfer Roller and FI Face-up Transfer Sensor **[M]** for FI Face-up Transfer Roller.

The said paper sensors also check the transfer status of the ejected sheet.



2.2.2 Paper Transport in FI Unit (Switchback)

The printed sheet ejected from the printer is received by the FI Entrance Transfer Roller **[A]** (driven by the FI Entrance Transfer Motor **[B]**) and delivered to the FI Switchback Roller **[C]** (driven by the FI Switchback Motor **[D]**) through the FI Switchback Transfer Roller **[E]** (driven by the FI Switchback Transfer Motor **[F]**) along the switchback paper path, guided under the raised FI Gate **[G]** (without activation of the FI Gate Solenoid **[H]**), while keeping pace with the paper transfer speed of the Transfer Belt on the printer.

The above 3 rollers then accelerate their rotation up to the switchback transfer speed a predefined amount of time after the leading edge of the ejected sheet reaches the FI Switchback Transfer Sensor **[J]**, while the FI Entrance Transfer Roller and FI Switchback Transfer Roller return their rotation to the original speed when the trailing edge of the same sheet passes through the respective paper sensors, i.e. FI Entrance Sensor **[K]** for FI Entrance Transfer Roller and FI Switchback Transfer Roller Roller Roller and FI Switchback Transfer Roller Rol

The said paper sensors also check the transfer status of the ejected sheet.



2.2.3 Paper Turnover

The FI Switchback Roller **[A]** transfers the sheet received from the FI Switchback Transfer Roller further and suspends a predefined amount of time after the leading edge of the received sheet reaches the FI Switchback Sensor **[B]**, to reverse the rotation.

When the rotation of the FI Switchback Roller is reversed, then, the transferred sheet is turned over and further delivered up to the FI Switchback Elevation Roller **[C]** (driven by the FI Switchback Elevation Motor **[D]**) at the switchback transfer speed.

The FI Switchback Roller then suspends and reverse rotation again to start rotating in the forward direction at the initial speed when the trailing edge of the flipped sheet passes through the FI Switchback Sensor, which also checks the transfer status of the flipped sheet.



2.2.4 Paper Transfer after Turnover

The FI Switchback Elevation Roller **[A]** delivers the flipped sheet, which has been received from the FI Switchback Roller, further up to the FI Secondary Transfer Roller **[B]** (driven by the FI Secondary Transfer Motor **[C]**) at the switchback transfer speed, while the FI Secondary Transfer Roller receives it at the said speed as well.

The FI Switchback Elevation Roller and FI Secondary Transfer Roller then decelerate their rotation down to the pre-finishing paper handover speed a predefined amount of time after the leading edge of the flipped sheet reaches the FI Secondary Transfer Sensor **[D]**, while they accelerate their rotation to the initial switchback transfer speed when the trailing edge of the same sheet passes through the respective paper sensors, i.e. FI Switchback Elevation Sensor **[E]** for FI Switchback Elevation Roller and FI Secondary Transfer Sensor for FI Secondary Transfer Roller. The said paper sensors also check the transfer status of the flipped sheet.



2.2.5 Paper Transfer into FM (or FF) Unit

The FI Exit Roller **[A]** (driven by the FI Exit Motor **[B]**) receives the sheet transferred from the FI Secondary Transfer Roller **[C]** and delivers it to the FM Entrance Roller or FF Entrance Roller (when the optional Finisher Fold unit is installed), while keeping pace with the paper transfer speed of the Transfer Belt on the printer when the sheet is transferred along the straight paper path or accelerating up to the switchback transfer speed when transferred along the switchback paper path.

The FI Secondary Transfer Roller and FI Exit Roller then accelerate or decelerate their rotation to the pre-finishing paper handover speed a predefined amount of time after the leading edge of the advancing sheet reaches the FI Exit Sensor **[D]**, while the FI Exit Roller returns to the rotation to the original speed when the trailing edge of the same sheet passes through the FI Exit Sensor, which also checks the transfer status of the advancing sheet to be handed over to the FM unit or FF unit (optional).



2.3 Paper Flow in FF Unit

2.3.1 Leading printed sheets into the Folding section

A printed sheet entering the FF unit is led into the Folding section via the FF Upper Gate **[A]**, which is released open with the FF Upper Gate Solenoid **[B]** deactivated, while transported by the FF Entrance Roller **[C]**, driven by the FF Horizontal Transport Motor **[D]**.

When the said gate is closed, pulled down by the said solenoid, on the other hand, the advancing sheet is passed straight to the Punching section in the FM unit by the FF Relay Roller **[E]** and FF Exit Roller **[F]**, driven by the FF Horizontal Transport Motor as well. The sheet led into the Folding section is then transported down to the FF Rake Roller **[G]**.



2.3.2 Transporting sheets for the initial folding

The printed sheet which has reached the FF Rake Roller **[G]** is further transported down to the FF Upper Paper End Guide **[H]** by the said roller, driven by the FF Rake Motor **[J]**.

When the leading edge of the sheet reaches the FF Upper Paper End Guide, whose position differs depending on a selected folding pattern, the nip which is provided to the sheet at the FF Rake Roller is released by the FF Nip Release Solenoid **[K]**, to correct a possible skewed transport with a turbine-shaped rubber paddle attached to the same roller.

When the sheet is nipped again, then, it is further transported by the FF Rake Roller, generating a slack at a given length from its leading edge. The slack part of the sheet is then caught by the FF Fold Roller 1 **[L]**, which is rotating nearby, driven by the FF Transfer Motor **[M]**, leading the sheet to be folded at the given length, while the folded sheet is transported down to the FF Descent Rollers **[N]** by the same roller. This paddle is in gentle contact with the advancing sheet during rotation for paper skew compensation through additional short-range paper transfer.

2.3.3 Transporting sheets for the secondary folding

The folded sheet which has reached the FF Descent Roller 1 **[A]** is further transported down to the FF Lower Paper End Guide **[B]** by the said roller and the FF Descent Roller 2 **[C]**, both of which are driven by the FF Transfer Motor **[D]** as well.

When the folded edge of the sheet reaches the bottom of the FF Lower Paper End Guide, the sheet is pressed against the FF Fold Roller 2 **[E]**, which is also rotating nearby, driven by the FF Transfer Motor as well, at a given length from its trailing edge by the FF Finger Ass'y **[F]** through the activation of the FF Finger Solenoid **[G]**.

The pressed point of the sheet is then caught by the FF Fold Roller 2, leading the single-folded sheet to be folded at the given length again, while the folded sheet is transported down to the FF Lower Gate **[H]**.



2.3.4 Discharge of folded sheets

At the FF Lower Gate **[H]**, the paper path branches into two directions. If a coming sheet is 3-folded, it is sent to the Folder Tray **[J]**.

If it is Z-folded, on the other hand, it is transferred to the Punching section in the FM unit by the FF Elevation Rollers 1 through 4 **[K]**.

The paper transport status is detected by the FF Entrance Sensor, FF Exit Sensor, and other sensors located along the paper path.

2.3.5 Paper path switch through solenoid operations

The FF Upper Gate is raised and lowered by the FF Upper Gate Solenoid, which sets the paper path to the Puncher side when contracted or to the Folder side when released. The FF Lower Gate is raised and lowered by the FF Lower Gate Solenoid **[L]**, which sets the paper path to the Folder side when contracted or to the Puncher side when released.

2.4 Folding Operations

2.4.1 Folder Tray action

The FF Tray Set SW **[A]**, which is an interlock switch, checks whether the Folder Tray **[B]** is set in place.

When the Folder Tray is pulled out, the said switch is turned OFF, thus leading +24VDC power supply to the following components to be interrupted in the FF unit.

- FF Rake Motor / FF Transfer Motor / FF Upper End Guide Elevation Motor / FF Lower End Guide Elevation Motor / FF Horizontal Transport Motor

FF Upper Gate Solenoid / FF Lower Gate Solenoid / FF Tray Solenoid / FF Finger Solenoid
When the FF Tray Release SW [C] is kept pressed on the control panel, the FF Tray Solenoid
[D] is activated to release the lock on the Folder Tray, thus leading the said tray to jump out of the unit, forced by a spring.

It is detected by the FF Tray Full Sensor **[E]** whether the Folder Tray is full or not. When the Folder Tray is pulled out, i.e. the FF Tray Set SW is turned OFF, after it is notified that the said tray has become full, on the other hand, the said notification will be cleared



2.4.2 Folding mechanism

- Outward 3-fold operation -

- The FF Upper and Lower Paper End Guides, whose initial position is determined by the respective End Guide HP Sensors, are shifted up to the positions where one third of an advancing sheet can be laid on them, driven by the FF Upper and Lower End Guide Elevation Motors.
- 2. After the leading edge of the advancing sheet reaches the bottom of the FF Upper Paper End Guide and a possible paper skew is corrected while releasing a roller nip on the sheet, the existing sheet is nipped again and further transported, generating a slack at the onethird-paper-length point from its leading edge. The slack part of the sheet is then caught by the FF Fold Roller 1, leading the sheet to be folded at one-third the paper length from the leading edge as the primary fold, while the folded sheet is transported further downward.
- 3. When the folded edge of the transported sheet reaches the bottom of the FF Lower Paper End Guide, the sheet is pressed against the rotating FF Fold Roller 2 at the one-thirdpaper-length point from its trailing edge by the FF Finger Ass'y, thus leading the said roller to pull in and fold the single-folded sheet at one-third the paper length from its trailing edge as the secondary fold.



[Outward 3-fold]

- Inward 3-fold operation -

The primary fold point, i.e. the position of the FF Upper Paper End Guide, is different from that for the outward 3-fold operation.

- Z-fold operation -

Both the primary and secondary fold points, i.e. the positions of the FF Upper and Lower Paper End Guides, are different from those for the outward 3-fold operation.



2.5 Paper Path in FM Unit (Punching Section)

2.5.1 Paper transport in Punching section

The FM Entrance Roller **[A]** (driven by the FM Entrance Motor **[B]**) receives the sheet transferred through the FI Unit (and then the optional FF unit if it is installed) and transports it further into the Punching section **[C]** in the FM Unit.

The received sheet is then punched there, if so specified, and transported by the FM Transfer Rollers 1 and 2 **[D]**, which are driven by the FM Top Transfer Motor **[E]**, up to the FM Gate 2 **[F]**, at which it is selected into which the coming sheet is to be ejected, the Top Tray or the Stacking Tray.

When the Half folding or Booklet making is selected as a finishing option, however, it is led into the Booklet Making section via the FM Gate 1 **[G]** without punching.

During this process, the paper transport status is detected by the FM Punch IN **[H]** and OUT **[J]** Sensors, located before and after the Puncher.



As soon as the trailing edge of the advancing sheet passes through the Puncher Guide **[K]** a predefined amount of time after passing through the FM Punch IN Sensor, the following rollers reverse their rotation correspondingly, before it also passes through the Puncher Pins **[L]**, to align it with the Puncher Guide to secure the alignment of punch holes on the sheet: FM Transfer Rollers 1 and 2, FM Top Transfer Rollers 1 and 2 **[M]**, FM Top Eject Roller **[N]** and FM Stack Transfer Rollers 1 and 2 **[O]**.

The movable bottom half of the Puncher Guide is pushed up by a coming sheet to let the said sheet pass underneath, while it is let down to hold the receding sheet for a punching operation after the said sheet has passed through underneath.

The above sheet receding range can be adjusted through the test mode TM No. 37-6-311 "PUNCH LOOP ACTION RANGE ADJUST" individually for the respective paper types.

Note that if the said range is increased too much from the default value, paper may get stained, while punch holes may be misaligned if it is decreased too much from the same.

2.6 Punching Operations

2.6.1 Overview of Puncher Unit position adjustment mechanism

The Puncher Unit **[A]** is prepared for metric models with 2/4-hole arrangement and for inch ones with 2/3-hole one, whose Puncher Pins **[B]** are positioned according to applied paper size and minutely shifted back and forth according to possible lateral shift of each transported sheet, thus ensuring consistent punching position.

The base position of the Puncher Unit is determined by the FM Punch Side Registration Sensor **[C]**, which is attached on the front side of the said unit. When the said sensor detects the front-side edge of a sheet placed below, the Puncher Unit finishes its shift to be in place. As the distance between punch holes and the side edges of sheets varies according to paper size, besides, the Punching Head **[D]** can be moved separately from the whole Puncher Unit by deactivating the FM Punch Slide Clutch **[E]** while keeping the FM Punch Slide Motor **[F]** activated.



When the said clutch is activated, on the other hand, the Punching Head is moved along with the whole Puncher Unit, driven by the FM Punch Slide Motor.

The home position of the Punching Head is detected by the FM Punch Slide HP Sensor **[G]**, while that of the whole Puncher Unit is detected by the FM Punch Side Registration HP Sensor **[H]**.



2.6.2 Overview of Puncher Unit preparatory movement

<Initial positioning>

At power-on or after the end of a punching job, the Puncher Unit always returns to the initial position, which corresponds to the punching position for A4 LEF (or A3 SEF) sheets.

Initially, the Punching Head only moves, passing through the FM Punch Slide HP Sensor, until detected by the FM Punch Side Registration Sensor, driven by the FM Punch Slide Motor without activating the FM Punch Slide Clutch.

The whole Puncher Unit is then slid back until detected by the FM Punch Slide HP Sensor, by reversing the rotation of the same motor while activating the said clutch.

<Alignment for punching>

If the format of sheets to be punched is other than A4 LEF or A3 SEF, the whole Puncher Unit is once moved toward the rear end as soon as the corresponding print job starts.

When a printed sheet enters the Punching section to be punched, then, the whole Puncher Unit is moved back toward the front side until the front-side edge of the said sheet is detected by the FM Punch Side Registration Sensor.

2.6.3 Overview of punching operation

The Puncher Pins move up and down along the slits on the Punch Cam Plate, which laterally slides, driven by the FM Punch Motor **[A]**, thus making punch holes on a sheet underneath.

The indented sections of the slits on the Punch Cam Plate cause the pins to lower. While there is only one indented section for the outer pins, there are two indented sections for the inner pins. The Punching Head makes two or four holes, based on the position of the Punch Cam Plate, whose notched sections are detected by the FM Punch HP Sensor **[B]**.

The FM Punch Hole Select Sensor **[C]** determines whether the Punch Cam Plate is to be positioned for 2-hole or 4-hole punching.

Since punch holes can be made through one-way slide action of the Punch Cam Plate in either direction, the position of the Punch Cam Plate is detected by the FM Punch Cam Plate Sensor **[D]** to determine the rotation direction, forward or reverse, of the FM Punch Motor for the respective punching actions.



2.6.4 Punch chad disposal

Punch chads are collected in the Punch Box **[A]**, whose placement is detected by the FM Punch Box Set Sensor **[B]**.

It is determined by the number of punching actions (counted by an internal counter) whether the Punch Box is full. If the Punch Box is removed after it is notified that the said box has become full, the internal counter for the said box capacity will be reset to zero (0), triggered by the status change ("blocked" to "open") of the FM Punch Box Set Sensor.

The box capacity can be changed through the following test mode:

TM No. 37-6-031 "PUNCH DUST FULL DETECT NUMBER"

01: Near Full [Default value: 15,500 / Parameter: 0 to 25,000] (times)

* The corresponding panel message: Y021-3204 "MFF Punch dust bin nearly full"

02: Full [Default value: 17,000 / Parameter: 0 to 25,000] (times)

* The corresponding panel message: Y021-3200 "MFF Punch dust bin full"

[NOTE] 4-hole punch jobs are counted as 1.5 times of 2-hole ones.

The current internal counter reading can be viewed through the following test mode:

TM No. 37-5-023 "FM PUNCH ACTION COUNT"



- 2.7 Paper Path in FM Unit (From Punching Section to Top Tray)
 - 2.7.1 Paper transport up to the Top Tray

The sheet that has entered the Punching section is led into the paper path leading to the Top Tray **[A]** or the Stacking Tray **[B]** by opening the FM Gate 1 **[C]** through the activation of the FM Gate Solenoid 1 **[D]** and transported up to the FM Gate 2 **[E]** by the FM Transfer Rollers 1 and 2 **[F]**, which are driven by the FM Top Transfer Motor **[G]**.

Without the FM Gate Solenoid 2 **[H]** activated, the sheet that has reached the FM Gate 2 advances toward the Top Tray and is further transferred by the FM Top Transfer Rollers 1 and 2 **[J]**, which are also driven by the FM Top Transfer Motor.



2.7.2 Paper ejection onto the Top Tray

The transferred sheet is then ejected onto the Top Tray by the FM Top Eject Roller **[K]**, which is driven by the FM Stack Transfer Motor **[L]**.

2.7.3 Paper transport error and full tray detection

The paper transport status is checked by the FM Top Tray Transfer Sensor **[M]** and FM Top Tray Exit Sensor **[N]**, which are both located along the paper path, while it is detected by the FM Top Tray Full Sensor **[O]** whether the Top Tray is full.

- 2.8 Paper Path in FM Unit (From Punching Section to Stacking Tray)
 - 2.8.1 Paper transport up to the Stacking Tray

The sheet that has entered the Punching section is led into the paper path leading to the Top Tray **[A]** or the Stacking Tray **[B]** by opening the FM Gate 1 **[C]** through the activation of the FM Gate Solenoid 1 **[D]** and transported up to the FM Gate 2 **[E]** by the FM Transfer Rollers 1 and 2 **[F]**, which are driven by the FM Top Transfer Motor **[G]**.

With the FM Gate Solenoid 2 **[H]** activated, the sheet that has reached the FM Gate 2 advances toward the Stacking Tray and is further transferred by the FM Stack Transfer Rollers 1 and 2 **[J]**, which are driven by the FM Stack Transfer Motor **[K]**.



2.8.2 Paper ejection onto the Stacking Tray

The transferred sheet is then ejected onto the Stacking Tray by the FM Stack Upper and Lower Eject Rollers **[L]**, which is driven by the FM Stack Eject Motor **[M]**.

2.8.3 Paper transport error detection

The paper transport status is checked by the FM Stack Transfer Sensor **[N]** and FM Stacking Eject Sensor **[O]**, which are both located along the paper path.
2.9 Stacking Operations

2.9.1 Offset stacking

The Stacking Tray is to be shifted back and forth, through the one-way rotation of the positioning cam driven by the FM Stacker Offset Motor **[A]**, to stack ejected sheets in a zigzag manner (for non-stapled sets) or a staircase pattern (for stapled ones) as shown below, thus sorting non-stapled sets of sheets or preventing stapled ones from being stacked unevenly due to overlapping staples.

The current position of the Stacking Tray is detected by the FM Stack Tray Offset Sensor [B].





2.9.2 Stacked sheet clamping

A non-stapled sheet or a set of stapled sheets is clamped twice (immediately after ejected and just before the following one is ejected) by the Set Clamp **[A]**, which is projected by the FM Set Clamp Solenoid **[B]**, after ejected onto the Stacking Tray, thus securing tidy sheet stacking. The bottom end of the ejected sheet (or set) is held down, initially to be set in place, and secondly not to be shifted by the following ejected sheet, through this action.

The Set Clamp retreats to the retracted position before the following sheet is completely ejected in the second case.



2.9.3 Sharping creases on stacked Z-fold sheets

The Stacking Tray is equipped with a flap (Stacking Flap **[B]**) at the base, which is to be raised, driven by the FM Flap Motor **[A]**, to sharpen the creases on stacked Z-fold sheets, thus reducing their bulge to maintain the given capacity of the Stacking Tray.



2.9.4 Downward shift of Stacking Tray

The Stacking Tray shifts down according as the volume of stacked sheets increases, driven by the FM Stack Tray Elevation Motor **[A]**.



2.9.5 Stacking Tray paper detection and height control

It is detected by the FM Stack Tray Paper Detection Sensor **[A]** whether stacked sheets remain on the Stacking Tray.

The Stacking Tray shifts down intermittently during stacking operation, checking the level of sheets stacked there with FM Paper Top Detection Sensor **[B]** or FM Staple Paper Top Detection Sensor **[C]**.

 FM Paper Top Detection Sensor:
 To be used for checking the stacking level of non-stapled sheets or that of the stapled ones whose length is 217mm (8 35/64") or more and whose stapled volume is 65 sheets or less.

- FM Staple Paper Top Detection Sensor:

To be used for checking the stacking level of stapled sheets whose length is less than 217mm (8 35/64") or whose length is 217mm (8 35/64") or more and whose stapled volume is 66 sheets or more.

When stacked sheets are removed from the Stacking Tray, which is detected by the FM Stacking Paper Detection Sensor **[D]**, the tray is raised to the initial (upper limit) position, which is determined by the FM Stack Tray Upper Limit Sensor **[E]**.

The bottom (lower limit) position of the Stacking Tray, on the other hand, is determined by the predefined number of pulses read from the rotation of the FM Stack Tray Elevation Motor during the downward shift of the said tray.





2.10 Paper Path in FM Unit (Stapling Section)

2.10.1 Overall paper flow and handling in stapling operation

The sheets led into the paper path leading to the Stacking Tray can be stapled together before ejected onto the said tray by following the steps below:

- (1) To extend the Shelf under the Compile Tray [A].
- (2) To compile sheets to be stapled in the Compile Tray.
- (3) To tamp compiled sheets for preparatory alignment.
- (4) To staple compiled sheets.
- (5) To retract the Shelf.
- (6) To eject a set of stapled sheets onto the Stacking Tray.

It is detected by the FM Compile Paper Detection Sensor **[B]** whether sheets to be stapled are compiled in the Compile Tray.

2.10.2 Pre-stapling sheet stand-by (buffering) through Buffer Path

While a set of compiled sheets is stapled in the Compile Tray, the subsequent sheet is kept on standby, retracted into the Buffer Path **[C]**. After the current set of stapled sheets is ejected onto the Stacking Tray, then, the sheet retracted into the Buffer Path is transferred into the Compile Tray together with the following one to be stapled.

For the paper whose type is cardstock or whose length is 217mm (8 35/64") or more, however, the Buffer Path is not available, thus leading the paper feed to be skipped once on the printer to secure the said stand-by period.

During this operation, the related components act in the following sequence.

- The FM Stack Transfer Motor [D] stops a predefined number of pulses after the FM Stack Transfer Sensor [E] detects the leading edge of a coming sheet.
- (2) The said motor reverses the rotation to retract the said sheet into the Buffer Path with the FM Stack Transfer Rollers 1/2 **[F]** and the FM Buffer Roller **[G]**, whose rotation is also reversed accordingly.
- (3) The same motor stops a predefined number of pulses after the FM Buffer Path Sensor[H] detects the trailing edge of the retreating sheet.
- (4) The same motor starts rotating forward when the subsequent sheet enter the Punching section, thus transporting the retracted sheet into the Compile Tray together with the subsequent one.



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The following test modes are prepared to address buffering-action-induced misalignment of stapled or non-stapled sheets stacked on the Stacking Tray by changing the configuration of pre-stapling sheet stand-by (buffering) actions.

Test mode No.	Test mode name	Descriptions		
37-6-310	BUFFER ACTION CONTROL SETUP	Descriptions Selects what buffer action is to be taken under what condition. 0: 1-sheet buffer for all stapled and non-stapled stacking operations [Default] 1: No buffered sheet (No action) 2: 2-sheet buffer for all stapled stacking operations 3: 2-sheet buffer for all stapled and non-stapled stacking operations 4: 2-sheet buffer for dual-stapled stacking operations only 5: 2-sheet buffer for all other stacking operations than dual-stapled duplex-print and front-corner-stapled-on-297mm (11 11/16")-wide-sheet ones 6: 2-sheet buffer for all stapled and non-stapled stacking operations with inserted sheets		
37-6-319	POST-BUFFER-PAUSE RESTART TIMING ADJUST (For 1-sheet buffer action)	Adjusts the overlap range the initially buffered one b FM Stack Transfer Motor Transfer Motor starts tran 1: No punch / Simplex 2: With punch / Simplex 3: No punch / Duplex 4: With punch / Duplex	e of the subseque by changing the i starts rotation af sferring the said 1 to 100 (ms)	ent sheet on nterval until ter FM Top sheet. 46 [Default] 38 [Default] 53 [Default] 42 [Default]
37-6-320	POST-2ND-BUFFER- PAUSE RESTART TIMING ADJUST (For 2-sheet buffer action)	Adjusts the overlap range of the subsequent sheet on the secondly buffered one by changing the interval until FM Stack Transfer Motor starts rotation after FM Top Transfer Motor starts transferring the said sheet.1: No punch / Simplex 2: With punch / Simplex 3: No punch / Duplex44 [Default] 32 [Default] 53 [Default]4: With punch / Duplex1 to 100 (ms)		

2.10.3 Shelf actions

The Shelf **[A]** is extended under the Compile Tray, driven by the FM Shelf Motor **[B]**, before sheets are compiled on the said tray for stapling or offset stacking, thus preventing the front end of compiled sheets from hanging out from the Compile Tray.

The Shelf is retracted into the home (retreat) position, which is determined by the FM Shelf HP Sensor **[C]**, through the reverse operation of the FM Shelf Motor just before the compiled sheets are ejected onto the Stacking Tray.



2.10.4 Compiling sheets with Paddles

The sheet which has landed on the Compile Tray is conveyed downward against the End Wall with the revolving FM Main and Sub Paddles **[A]** / **[B]**, which are driven by the FM Paddle Motor **[C]**.

The FM Main Paddles stay contacted with the delivered sheet, while the FM Sub Paddles are lowered from the retracted (home) position, with the activation of the FM Sub Paddle Clutch **[D]**, to move the received sheet downward through a one-cycle paddle action, after which the said paddles are raised back into the retracted position.

The retracted (home) position of the FM Sub Paddles is determined by the FM Sub Paddle HP Sensor **[E]**.



The FM Main and Sub Paddles are shifted up by activating the FM Main and Sub Paddle Solenoids **[F]** / **[G]** when the number of compiled sheets reaches a predefined volume, which can be changed through the corresponding test modes.

- TM No. 37-6-136 "PADDLE-UP COMPILED SHEET NUMBER" (For FM Main Paddles)
 [-1] Paper length: 182mm (7 3/16") or more → 51 sheets [Default] (10 to 90 sheets)
 [-2] Paper length: less than 182mm (7 3/16") → 51 sheets [Default] (10 to 100 sheets)
- TM No. 37-6-138 "SUB PADDLE UP SHEET NUMBER (For FM Sub Paddles)
 - [-1] Paper length: 182mm (7 3/16") or more \rightarrow 51 sheets [Default] (10 to 90 sheets)
 - [-2] Paper length: less than 182mm (7 3/16") \rightarrow 85 sheets [Default] (10 to 100 sheets)

2.10.5 Tamping compiled sheets

Compiled sheets are tamped on both sides with the FM Front and Rear Tampers **[A]** / **[B]**, which are shifted inward by the FM Front and Rear Tamper Motors **[C]** / **[D]**, to be aligned laterally before stapled.

It is detected by the FM Front and Rear Tamper HP Sensors **[E]** / **[F]** whether the FM Front and Rear Tampers are opened wide to be prepared for the following sheet compiling.



2.10.6 Ejecting compiled sheets

A set of compiled sheets is ejected from the Compile Tray with the FM Stack Upper and Lower Eject Rollers, which are both driven by the FM Stack Eject Motor **[A]**, and the ejection status is checked by the FM Stacking Eject Sensor **[B]**.

The FM Stack Upper Eject Roller **[C]**, which is shifted up and down by the FM Eject Nip Motor **[D]**, is lowered from the retracted (home) position to be pressed against the FM Stack Lower Eject Roller **[E]**, thus nipping compiled sheets between them while rotating to eject them onto the Stacking Tray.

It is detected by the FM Eject Nip HP Sensor **[F]** whether the FM Stack Upper Eject Roller is raised at the retracted (home) position to release sheets below from a nipping pressure, while it is found by the FM Eject Roller Nip SW that the said roller is lowered to hold them, thus allowing a stapling operation to be executed. If this switch is not pressed ON, the 24V power supply to the FM Staple Motor, which is located inside the FM Stapler Head Assembly, is interrupted to prohibit the stapling operation.



[Note]

The initial sheet which has landed on the Compile Tray to be compiled is not conveyed downward against the End Wall with the FM Main and Sub Paddles as described in 2.10.4 but with the FM Stack Upper and Lower Eject Rollers instead.

In this case, the FM Stack Upper Eject Roller is lowered to lead a received sheet to advance toward the Stacking Tray, while rotating forward together with the FM Stack Lower Eject Roller, and then reverses the rotation direction when the trailing edge of the said sheet has passed through the FM Stack Transfer Roller 2, thus retracting it toward the End Wall. For the subsequent sheets to be compiled, the FM Stack Upper Eject Roller is raised at the

retracted (home) position to avoid interference with sheet conveyance through paddle actions.

2.11 Stapling Operations

2.11.1 End Wall actions

Printed sheets are laid on the Compile Tray to be stapled, held by the End Wall **[A]** at their trailing edges.

The End Wall is lowered, driven by the FM End Wall Motor **[B]**, to avoid possible contact with the Stapler Head just before a stapling operation.

The raised (home) position of the End Wall is detected by the FM End Wall HP Sensor **[C]**, while its lowered position is detected by the FM End Wall OPEN Sensor **[D]**.



2.11.2 Positioning the FM Stapler Head

The FM Stapler Head **[A]** is positioned at a predefined point, driven by the FM Stapler Slide Motor **[B]**, to staple a set of compiled sheets when the sheet compiling operation has been completed.

When the compiled sheets are stapled at the front corner, the FM Stapler Head stays at the home position, which is determined by the FM Stapler Slide HP Sensor **[C]**, while it is shifted to the center position, which is determined by the FM Stapler Slide Center Sensor **[D]**, before the sheet compiling operation has been completed, and then to the corresponding position thereafter, if the said sheets are stapled at any other position.

If the End Wall may get contact with the lowered Stapler Head during a stapling operation in the above case, it will be lowered in advance as described in 2.11.1.



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2.11.3 Stapling procedures

The rail on which the FM Stapler Unit travels is curved at the front and rear ends to enable angled stapling at the front and rear corners of compiled sheets. (The rear-corner angled stapling is only available with A4 LEF and A3 SEF sheets.)

When the sheet compiling operation has been completed, besides, the FM Stack Upper Eject Roller is lowered to hold down compiled sheets, thus preventing their misalignment during stapling operation.

Staples are driven into compiled sheets by the Stapler Head, which is driven by the FM Staple Motor, while feeding from the FM Staple Cartridge, and cut at the corresponding length.



2.11.4 Disposal of unused staples

Cut pieces of staples are collected into the FM Staple Bin **[A]**, whose placement is detected by the FM Staple Bin Set Sensor **[B]**, unless used to staple compiled sheets.

The number of stapling actions is counted and to be used to determine if the FM Staple Bin has become full of cut pieces of staples while designating the activation (blockage) of the FM Staple Bin Near Full Sensor **[C]** as the starting point of count-up for notification of the said event.

The number of stapling actions required for the said notification can be changed through the corresponding test mode.

- TM No. 37-6-053 "STAPLE BIN FULL DETECT NUMBER"
 - [-1] Full \rightarrow 4000 times [Default] (0 to 65535 times)
 - [-2] Near Full \rightarrow 0 times [Default] (0 to 20000 times)



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2.12 Paper Path in FM Unit (Booklet Making Section)

2.12.1 Leading printed sheets into the Booklet making section

A printed sheet passing through the Punching section in the FM unit is led into the Booklet making section via the FM Gate 1 **[A]**, which is released open with the FM Gate Solenoid 1 **[B]** deactivated, while transported by the FM Booklet Transfer Rollers 1 and 2 **[C]** / **[D]**, driven by the FM Booklet Transfer Motor **[E]**.

It is detected by the FM Booklet Transfer Sensor **[F]** whether the said sheet has entered the Booklet making section.



2.12.2 Transporting sheets for compiling

The printed sheet which has reached the FB Rake Roller **[G]** is further transported down to the FB End Guide **[H]** by the said roller, driven by the FM Booklet Transfer Motor as well, with an additional conveyance by a rotating rubber paddle, FB Paddle **[J]**, which is driven by the FB Paddle Motor **[K]**, thus correcting a possible skewed transport.

The FB End Guide, whose home position is determined by the FB End Guide HP Sensor **[L]**, is shifted up or down according to the length of applied sheets, driven by the FB End Guide Elevation Motor **[M]**.

2.13 Booklet Making Operations

2.13.1 Tamping received sheets

Received sheets are respectively tamped on both sides with the FB Front and Rear Tampers **[A]** / **[B]**, which are shifted inward by the FB Front and Rear Tamper Motors **[C]** / **[D]**, to be aligned laterally before folded in half or into a booklet.

It is detected by the FB Front and Rear Tamper HP Sensors **[E]** / **[F]** whether the FB Front and Rear Tampers are opened wide to be prepared for the receipt of the following sheet.

The above-described tamping action is made once again when all sheets to be folded into a booklet have been received.



2.13.2 Stapling and folding compiled sheets

When the tamping operation is completed, compiled sheets are stapled and folded into a booklet by following the steps below.

- (1) To shift up the FB End Guide **[A]** to place compiled sheets at the stapling position, which is a little higher than the folding position. In the 2-fold operation, however, this action is skipped without stapling required.
- (2) To staple compiled sheets at 2 points along the center line with the FB Staplers [B], which are driven by the FB Staple Motor [C]. It is detected by the FB Front and Rear Low Staple Sensors [D] / [E] whether the remaining volume of staples is low in the respective cartridges, while the home (raised) position of the FB Stapler Heads is detected by the FB Staple Head Position Sensor [F].
- (3) To shift down the FB End Guide to place the stapled sheets at the folding position. In the 2-fold operation, however, the FB End Guide is lifted up to this position from the bottom, carrying a single sheet, when the tamping operation is completed.
- (4) To protrude the FB Knife **[G]** by activating the FB Knife Solenoid **[H]** while rotating the FB Transfer Motor **[J]**, thus pressing a sheet or sheets against the FB Fold Rollers **[K]**, which are rotating nearby, also driven by the FB Transfer Motor.

The pressed sheet or sheets are then folded in half by the said rollers while conveyed toward the Booklet Tray **[L]**.

As for the driving mechanism of the FB Knife, the corresponding gears are engaged when the FB Knife Solenoid is activated, thus leading the FB Knife to project and retreat during one rotation of the said gear, which is also rotated by the FB Transfer Motor.

It is, besides, detected by the FB Knife HP Sensor **[M]** whether the FB Knife has returned to the home (retracted) position after the above action.



A 2-fold sheet or a finished booklet is finally delivered onto the Booklet Tray by the FB Eject Roller **[N]**, which is driven by the FB Transfer Motor as well.

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[Note]

1. The default number of sheets that are allowed to be compiled in the booklet making operation is limited to 20 sheets when stapled and 5 sheets unless stapled.

These numbers, however, can be changed through the corresponding test modes.

- TM No. 37-6-411 "BOOKLET STAPLE MAX SHEET VOL (FOR PRINTER)"
 - \rightarrow 20 sheets [Default] (2 to 35 sheets)
- TM No. 37-6-247 "BOOKLET STAPLE MAXIMUM SHEET VOLUME"
 - \rightarrow 20 sheets [Default] (2 to 35 sheets)
- TM No. 37-6-248 "BOOKLET NON-STAPLE MAXIMUM SHEET VOLUME"
 - \rightarrow 5 sheets [Default] (1 to 15 sheets)
 - * The parameter values should be equal between the test modes TM No. 37-6-411 and TM No. 37-6-247.
 - * Compiled sheets may not be folded nor stapled properly if the above parameter values are set much larger than the default one.
- 2. You can lead the FB Fold Rollers to repeat the folding action by desired times through the corresponding test mode, thus making the crease (fold line) sharper on folded sheets if it is not satisfactory enough.
 - TM No. 37-6-243 "FB FOLD ROLLER ACTION REPEAT"
 - [-1] Less than 10 sheets \rightarrow 0 time [Default] (0 to 10 times)
 - [-2] 10 sheets or more \rightarrow 1 time [Default] (0 to 10 times)
 - [-3] Including 150-or-more-gsm sheets \rightarrow 2 times [Default] (0 to 10 times)

2.13.3 Paper transport error detection

The paper transport status is checked by the FB Entrance Sensor **[A]**, FB Paper Detection Sensor **[B]** and FB Eject Sensor **[C]**, all of which are located along the paper path.

It is, besides, detected by the FB Booklet Set Sensor **[D]** whether sheets are compiled in the Booklet making section (FB Unit).



2.13.4 Booklet Tray operation

The 2-fold sheet or finished booklet which has been ejected onto the Booklet Tray is conveyed on the Booklet Tray Belts **[A]**, which travel for a predefined amount of time, driven by the FB Tray Belt Drive Motor **[B]**, to stack ejected sheets or booklets while partially overlapping them. Stacked sheets or booklets are conveyed further to facilitate their collection when the Booklet Tray Belt SW is pressed on the operation panel. If the setting is changed through the test mode, i.e. TM No. 37-6-291 "BOOKLET TRAY BELT AUTO CONVEY ON/OFF," however, they will be automatically conveyed toward the open end of the Booklet Tray when the current finishing job ends.

The Booklet Tray is also equipped with the FB Booklet Tray Paper Detection Sensor **[C]** to detect whether it has reached the stacking limit.



The open end of the Booklet Tray, which is normally tilted up, can be tilted down to allow stacked sheets or booklets to slide out of the tray without detected by the FB Booklet Tray Paper Detection Sensor, thus enabling continuous stacking without notification of stacking limit.



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- 3.1. FI Unit
 - 3.1.1. FI Front Door
 - (1) Remove a plastic clip on the hinge.
 - (2) Pull up and off the whole body from the hinge.



- 3.1.2. FI Rear Cover
- (1) Remove securing screws. (8 pcs.) (Hex-head flange screw 3x8)



- 3.1.3. FI Entrance Sensor **[A]** / FI Face-up Transfer Sensor **[B]** / FI Secondary Sensor **[C]** / FI Exit Sensor **[D]**
- (1) Detach the printer from the FI unit.
- (2) Face the left side of the FI unit.



(3) Remove a securing screw and take off a sensor's cover. (P-tight screw 3x8)



- (4) Pull off a connector.
- (5) Pull off the sensor, unfixing the hooks.



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3.1.4. FI Entrance Transfer Roller

- (1) Detach the printer from the FI unit.
- (2) Remove the FI front door. (Refer to 3.1.1.)
- (3) Remove the FI rear cover. (Refer to 3.1.2.)
- (4) Remove a plastic stopper and detach a



- (5) Loosen a securing screw and shift a belt tensioner to the left.
- (6) Unhook a spring and disconnect a connector.
- (7) Remove 2 securing screws and detach the FI gate solenoid [A].

(Hex-head wide flange screw 4x10)



- (8) Remove an E ring and pull off a pulley.
- (9) Remove a timing belt.
- (10) Remove a plastic stopper and detach a bearing.
- (11) Take out the roller downward, pushing off the shaft from the frame.



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- 3.1.5. FI Entrance Transfer Motor Ass'y
- (1) Remove the FI rear cover. (Refer to 3.1.2.)
- (2) Loosen a securing screw and shift a belt tensioner to the left.



- (3) Disconnect a connector.
- (4) Remove 3 securing screws.

(Hex-head wide flange screw 4x10)



3.1.6. FI Face-up Transfer Roller

- (1) Remove the FI front door. (Refer to 3.1.1.)
- (2) Remove the FI rear cover. (Refer to 3.1.2.)
- (3) Flip open the Fl face-up transfer guide plate (top).
- (4) Remove the FI face-up transfer guide plate (bottom) **[A]**.

(Hex-head flange screw 3x8 (2 pcs.))

(5) Remove a plastic stopper and detach a bearing.



(6) Loosen a securing screw and shift down a belt tensioner.



- (7) Remove an E ring and pull off a pulley.
- (8) Remove a timing belt.
- (9) Remove a plastic stopper and detach a bearing.



(10) Take out the roller upward, pushing off the shaft from the frame.



- 3.1.7. FI Face-up Transfer Motor
- (1) Remove the FI rear cover. (Refer to 3.1.2.)
- (2) Loosen a securing screw and shift down a belt tensioner.
- (3) Disconnect a connector.
- (4) Remove 3 securing screws.

(Hex-head wide flange screw 4x10)



3.1.8. FI Secondary Transfer Roller

- (1) Remove the FI front door. (Refer to 3.1.1.)
- (2) Remove the FI rear cover. (Refer to 3.1.2.)
- (3) Remove a jam release knob from the roller
- shaft. (Double-washer screw 3x12 (1 pc.))(4) Remove a plastic stopper and detach a
- bearing.
- (5) Loosen 2 securing screws and shift a motor gear to the right.
- (6) Remove a timing belt.
- (7) Remove an E ring and pull off a pulley.



- (8) Remove a plastic stopper and detach a bearing.
- (9) Take out the roller downward, pushing off the shaft from the frame.



- 3.1.9. FI Secondary Transfer Motor
- (1) Detach the FI unit from the FF unit (or FM unit).
- (2) Remove the FI rear cover. (Refer to 3.1.2.)
- (3) Remove the FI secondary transfer roller cover [A]. (Hex-head flange screw 3x8 (4 pcs.))



(4) Remove the FI secondary transfer motor cover **[B]**.

(Hex-head flange screw 3x8 (1 pc.))



(5) Disconnect a connector.



- (6) Disconnect 2 connectors.
- (7) Remove 2 securing screws and take off a timing belt. (Pan-head IT 3C screw 3x6)



3.1.10. FI Exit Roller

- (1) Remove the FI front door. (Refer to 3.1.1.)
- (2) Remove the FI rear cover. (Refer to 3.1.2.)
- (3) Flip open the FI exit guide plate (top).
- (4) Remove the FI exit guide plate (bottom) [A]. (Hex-head flange screw 3x8 (1 pc.))
- (5) Remove a plastic stopper and detach a bearing.



(6) Loosen a securing screw and shift a belt tensioner to the right.



- (7) Remove an E ring and pull off a pulley.
- (8) Remove a timing belt.
- (9) Remove a plastic stopper and detach a bearing.



(10) Take out the roller upward, pushing off the shaft from the frame.



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3.1.11. FI Exit Motor Ass'y

- (1) Remove the FI rear cover. (Refer to 3.1.2.)
- (2) Loosen a securing screw and shift a belt tensioner to the right.



- (3) Disconnect a connector.
- (4) Remove 3 securing screws. (Hex-head wide flange screw 4x10)



- 3.1.12. FI Switchback Transfer Sensor
- (1) Remove the FI front door. (Refer to 3.1.1.)
- (2) Loosen a securing screw, shift down a connector cover and disconnect a connector.
- (3) Open wire saddles and release the wires extending from the connector.



- (4) Unhook the FI switchback transfer guide plate (bottom) to let it down.
- (5) Remove the Switchback transfer guide plate (top) **[A]**.

(Hex-head flange screw 3x8 (2 pcs.))



- (6) Remove a securing screw on the sensor bracket. (Pan-head IT 3C screw 3x8)
- (7) Remove the sensor from the bracket.



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3.1.13. FI Switchback Transfer Roller

- (1) Remove the FI front door. (Refer to 3.1.1.)
- (2) Remove the FI rear cover. (Refer to 3.1.2.)
- (3) Loosen a securing screw, shift down a
- connector cover and disconnect a connector.(4) Open wire saddles and release the wires
- extending from the connector.



- (5) Unhook the FI switchback transfer guide plate (bottom) to let it down.
- (6) Remove the Switchback transfer guide plate (top) **[A]**. (Hex-head flange screw 3x8 (2 pcs.))



(7) Remove a plastic stopper and detach a bearing.



(8) Loosen a securing screw and shift down a belt tensioner.



- (9) Remove an E ring and pull off a pulley.
- (10) Remove a timing belt.
- (11) Remove a plastic stopper and detach a bearing.



(12) Take out the roller downward, pushing off the shaft from the frame.



- 3.1.14. FI Switchback Transfer Motor Ass'y
- (1) Remove the FI rear cover. (Refer to 3.1.2.)
- (2) Loosen a securing screw and shift down a belt tensioner.
- (3) Disconnect a connector.
- (4) Remove 3 securing screws.

(Hex-head wide flange screw 4x10)



- 3.1.15. FI Switchback Sensor **[A]** / FI Switchback Elevation Sensor **[B]**
- (1) Detach the FI unit from the FF unit (or FM unit).
- (2) Face the right side of the FI unit.



- (3) Remove a securing screw and take off a sensor's cover. (P-tight screw 3x8)
- (4) Pull off a connector.
- (5) Pull off the sensor, unfixing the hooks.



- 3.1.16. FI Switchback Roller
- (1) Remove the FI front door. (Refer to 3.1.1.)
- (2) Remove the FI rear cover. (Refer to 3.1.2.)
- (3) Remove a plastic stopper and detach a bearing.



- (4) Unhook a tension spring from the FI switchback motor **[A]**.
- (5) Loosen 3 securing screws on the motor, shift it up and remove a timing belt.



(6) Remove a securing screw and pull off a pulley and a plastic washer.



(7) Remove a plastic stopper and detach a bearing.



(8) Take out the roller downward, pushing off the shaft from the frame.



- 3.1.17. FI Switchback Motor
- (1) Remove the FI rear cover. (Refer to 3.1.2.)
- (2) Unhook a tension spring.



- (3) Disconnect 2 connectors.
- (4) Remove 3 securing screws and take off a timing belt.

(Hex-head wide flange screw 4x10)



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3.1.18. FI Switchback Elevation Roller

- (1) Remove the FI front door. (Refer to 3.1.1.)
- (2) Remove the FI rear cover. (Refer to 3.1.2.)
- (3) Flip open the FI face-up transfer guide plate (top).
- (4) Remove the FI face-up transfer guide plate (bottom) **[A]**.

(Hex-head flange screw 3x8 (2 pcs.))



- (5) Flip open the Fl switchback elevation guide plate (top) **[B]**.
- (6) Remove a plastic stopper and detach a bearing.



(7) Loosen a securing screw and shift down a belt tensioner.



- (8) Remove an E ring and pull off a pulley.
- (9) Remove a timing belt.
- (10) Remove a plastic stopper and detach a bearing.



(11) Take out the roller aside, pushing off the shaft from the frame.



3.1.19. FI Front Door SW Ass'y

- (1) Remove the FI front door. (Refer to 3.1.1.)
- (2) Remove 2 securing screws.
- (Hex-head flange screw 3x8 (2 pcs.)) (3) Disconnect a connector.
- (3) Disconnect a connector.



3.1.20. FI Gate Solenoid

- (1) Remove the FI rear cover. (Refer to 3.1.2.)
- (2) Unhook a spring and disconnect a connector.
- (3) Remove 2 securing screws.
 - (Hex-head wide flange screw 3x10)



3.1.21. FI Main Control PCB

[Important]

Take care of the following points when replacing the FI Main Control PCB

- Detach the EEPROM from the removed PCB and attach it to a replacement one.
- Download the corresponding firmware program from the printer's system after replacement.
- (1) Remove the FI rear cover. (Refer to 3.1.2.)
- (2) Disconnect connectors. (11 pcs.)



(3) Remove securing screws. (Binding screw 3x6 (7 pcs.))



3.1.22. FI Power Supply PCB

- (1) Remove the FI rear cover. (Refer to 3.1.2.)
- (2) Disconnect connectors. (3 pcs.)
- (3) Remove securing screws.

(Pan-head IT 3C screw 4x8 (3 pcs.))



3.1.23. FI Relay PCB

- (1) Remove the FI rear cover. (Refer to 3.1.2.)
- (2) Disconnect connectors. (2 pcs.)
- (3) Remove securing screws.
 - (Binding screw 3x6 (4 pcs.))



3.2. FF Unit

3.2.1. FF Front Door

- (1) Remove a plastic clip on the hinge.
- (2) Pull up and off the whole body from the hinge.



3.2.2. FF Top Cover

(1) Remove securing screws. (4 pcs.) (Hex-head flange screw 3x6)



- 3.2.3. FF Rear Blind Cover
- (1) Remove a securing screw.

(Hex-head flange screw 3x6)



- 3.2.4. FF Rear Cover
- (1) Remove securing screws. (5 pcs.) (Hex-head flange screw 3x8)



3.2.5. FF Upper Left Side Cover

(1) Remove securing screws (4 pcs.).(Hex-head flange screw 3x6)



- 3.2.6. FF Lower Left Side Cover
- (1) Remove securing screws (4 pcs.). (Hex-head flange screw 3x6)



- 3.2.7. FF Middle Left Side Cover
- (1) Remove securing screws (2 pcs.). (Hex-head flange screw 3x6)



- 3.2.8. FF Unit Detachment
- (1) Remove a securing screw on the FF docking plate **[A]**. (Hex-head flange screw 3x6)



(2) Pull out the FF docking plate.



3.2.9. FF Main Control PCB

- (1) Remove the FF rear cover. (Refer to 3.2.4.)
- (2) Disconnect connectors. (13 pcs.)
- (3) Remove securing screws. (4 pcs.)
 - (Hex-head flange screw 3x6)



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3.2.10. FF Upper End Guide Ass'y

- (1) Remove the FF front door. (Refer to 3.2.1.)
- (2) Pull out and off the Folder tray.
- (3) Remove the FF rear cover. (Refer to 3.2.4.)
- (4) Remove 2 securing screws and turn open the FF power supply unit **[A]**.

(Hex-head flange screw 3x6)

- (5) Unhook a tension spring.
- (6) Loosen securing screws, shift a belt tensioner to the right and remove a timing belt.



- (7) Remove E rings and pull off pulleys.(8) Remove the FF support pulley bracket [B].
- (Hex-head flange screw 3x6 (2 pcs.))



- (9) Disconnect a connector.
- (10) Open wire saddles and release the wires extending from the connector.



(11) Remove a securing screw and take out the 2f chute assembly [C].(Hex-head flange screw 3x6)



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[Reattachment Note]

When reattaching the 2f chute assembly, never fail to insert the screw shaft protruding from the rear frame **[D]**, which is indicated in the picture below, into the hooking hole of the said assembly.



(12) Remove 2 securing screws on the FF upper end guide assembly on the front side. (Hex-head flange screw 3x6)



- (13) Disconnect connectors (2 pcs.).
- (14) Open a wire saddle and pull off a reusable band to release the wires extending from the connectors.



(15) Remove 2 securing screws on the rear side and take out the assembly from the front side. (Hex-head flange screw 3x6)



3.2.11. FF Lower End Guide Ass'y

- (1) Detach the FF unit from the FI unit. (Refer to 3.2.8.)
- (2) Remove the FF front door. (Refer to 3.2.1.)
- (3) Pull out and off the Folder tray.
- (4) Remove the FF rear cover. (Refer to 3.2.4.)
- (5) Remove the FF upper left side cover. (Refer to 3.2.5.)
- (6) Remove 2 securing screws and turn open the FF power supply unit **[A]**.

(Hex-head flange screw 3x6)



(7) Remove the FF connector mount **[B]**. (Hex-head flange screw 3x6 (1 pc.))



(8) Remove securing screws and shift aside the FF outlet bracket **[C]**.

(Hex-head flange screw 3x6 (4 pcs.))



- (9) Disconnect connectors (2 pcs.).
- (10) Open wire saddles and release the wires extending from the connectors.



 (11) Remove 2 securing screws on the FF lower end guide assembly on the front side.
 (Hex-head flange screw 3x6)


(12) Remove a securing screw on the rear side and take out the assembly from the front side.

(Hex-head flange screw 3x6)



[Reattachment Note]

When reattaching the FF lower end guide ass'y, never fail to insert the tab and boss (pin) into the openings **[D]**, which are indicated in the picture below, on the front side frame.



- 3.2.12. FF Entrance Sensor **[A]** / FF Exit Sensor **[B]**
- (1) Detach the FF unit from the FI unit. (Refer to 3.2.8.)
- (2) Remove the FF upper left side cover. (Refer to 3.2.5.)
- (3) Disconnect a connector.
- (4) Remove securing screws and take out the FF sensor mounting board **[C]**.



- (5) Disconnect a connector.
- (6) Remove a securing screw. (P-tight screw 3x12)



- 3.2.13. FF Horizontal Transport Motor
- (1) Remove the FF rear cover. (Refer to 3.2.4.)
- (2) Disconnect a connector.
- (3) Remove 3 securing screws and take off a timing belt. (Hex-head flange screw 3x6)



3.2.14. FF Rake Motor

- (1) Remove the FF rear cover. (Refer to 3.2.4.)
- (2) Unhook a tension spring.



- (3) Disconnect a connector.
- (4) Open wire saddles and release the wires running on the motor bracket.
- (5) Remove 2 securing screws and take off a timing belt. (Hex-head flange screw 3x6)



3.2.15. FF Elevation Sensor

- (1) Detach the FM unit from the FF unit.
- (2) Disconnect a connector.
- (3) Remove a securing screw.

(Hex-head flange screw 3x6)



- 3.2.16. FF Transfer Motor
- (1) Remove the FF rear cover. (Refer to 3.2.4.)
- (2) Unhook a tension spring.



- (3) Disconnect connectors (2 pcs.).
- (4) Remove 3 securing screws and take off a timing belt. (Hex-head flange screw 3x6)



- 3.2.17. FF Fold Sensor 1
- (1) Detach the FF unit from the FI unit. (Refer to 3.2.8.)
- (2) Remove the FF lower left side cover. (Refer to 3.2.6.)
- (3) Disconnect a connector.
- (4) Remove a securing screw.

(Hex-head flange screw 3x6)



3.2.18. FF Fold Roller 1

- (1) Detach the FF unit from the FI unit. (Refer to 3.2.8.).
- (2) Remove the FF lower left side cover. (Refer to 3.2.6.)
- (3) Remove the FF upper end guide ass'y. (Refer to 3.2.10.)
- (4) Unhook springs (2 pcs.).



[Reattachment Note]

When reattaching the springs, hook them on the closest groove of the corresponding arm plate as indicated in the picture below.



- (5) Open wire saddles and release the wires running on the FF wire harness bracket **[A]**.
- (6) Remove the FF wire harness bracket. (Hex-head flange screw 3x6 (2 pcs.))



- (7) Loosen a securing screw and pull off the dial knob 2C.
- (8) Remove an E ring, pull off a bearing from the front frame and then slide it off the roller shaft.



- (9) Remove an E ring and pull off a pulley while taking off a timing belt.
- (10) Take off a bearing from the rear frame while pulling the roller shaft toward you.



- (11) Slide down the roller shaft along the slit on the rear frame and take out the roller from the opening of the rear frame.
- (12) Slide the bearing off the roller shaft.



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3.2.19. FF Fold Roller 2

- (1) Remove the FF lower left side cover. (Refer to 3.2.6.)
- (2) Remove the FF lower end guide ass'y. (Refer to 3.2.11.)
- (3) Unhook springs (2 pcs.).



[Reattachment Note]

When reattaching the springs, hook them on the farther groove of the corresponding arm plate as indicated in the picture below.



(4) Remove an E ring and pull off a bearing from the front frame.



(5) Remove an E ring and slide off a gear from the roller shaft.



- (6) Take off a bearing from the rear frame while pulling the roller shaft toward you.
- (7) Slide down the roller shaft along the slit on the rear frame and take out the roller from the opening of the rear frame.
- (8) Slide the bearing off the roller shaft.



3.2.20. FF Fold Sensor 2

- (1) Remove the FF front door. (Refer to 3.2.1.).
- (2) Disconnect a connector.
- (3) Open a wire saddle and release the wires extending from the connector.
- (4) Remove a securing screw on the sensor bracket. (Hex-head flange screw 3x6)
- (5) Take out the sensor together with the bracket.



3.2.21. FF Descent Roller 1

- (1) Detach the FF unit from the FI unit. (Refer to 3.2.8.)
- (2) Remove the FF front door. (Refer to 3.2.1.)
- (3) Pull out and off the Folder tray.
- (4) Remove the FF rear cover. (Refer to 3.2.4.)
- (5) Remove the FF lower left side cover. (Refer to 3.2.6.)
- (6) Remove 2 securing screws and turn open the FF power supply unit **[A]**.

(Hex-head flange screw 3x6)



- (7) Unhook a tension spring.
- (8) Loosen securing screws, shift a belt tensioner to the right and remove a timing belt.



- (9) Remove a plastic clip and pull off a pulley from the roller shaft.
- (10) Remove an E ring, pull off a bearing from the rear frame and then slide it off the roller shaft.



(11) Remove an E ring and pull off a bearing from the front frame.



- (12) Move to the left side of the FF unit.
- (13) Push the roller to the rear side and take it out toward you while detaching it from the frame.



3.2.22. FF Descent Roller 2

- (1) Detach the FF unit from the FI unit. (Refer to 3.2.8.)
- (2) Remove the FF front door. (Refer to 3.2.1.)
- (3) Pull out and off the Folder tray.
- (4) Remove the FF rear cover. (Refer to 3.2.4.)
- (5) Remove the FF lower left side cover. (Refer to 3.2.6.)
- (6) Remove 2 securing screws and turn open the FF power supply unit **[A]**.

(Hex-head flange screw 3x6)



- (7) Unhook a tension spring.
- (8) Loosen securing screws, shift a belt tensioner to the right and remove a timing belt.



- (9) Remove a plastic clip and pull off a pulley from the roller shaft.
- (10) Remove an E ring, pull off a bearing from the rear frame and then slide it off the roller shaft.



(11) Remove an E ring and pull off a bearing from the front frame.



- (12) Move to the left side of the FF unit.
- (13) Push the roller to the rear side and take it out toward you while detaching it from the frame.



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3.2.23. FF Elevation Roller 1

- (1) Detach the FM unit from the FF unit.
- (2) Remove the FF front door. (Refer to 3.2.1.)
- (3) Pull out and off the Folder tray.
- (4) Remove the FF rear cover. (Refer to 3.2.4.)
- (5) Remove 2 securing screws and turn open the FF power supply unit **[A]**.

(Hex-head flange screw 3x6)



- (6) Unhook a tension spring.
- (7) Loosen securing screws, shift a belt tensioner to the right and remove a timing belt.



- (8) Remove a plastic clip and pull off a pulley from the roller shaft.
- (9) Remove an E ring, pull off a bearing from the rear frame and then slide it off the roller shaft.



(10) Remove an E ring and pull off a bearing from the front frame.



- (11) Move to the right side of the FF unit.
- (12) Push the roller to the rear side and take it out toward you while detaching it from the frame.



- 3.2.24. FF Upper End Guide Elevation Motor **[A]** / FF Upper End Guide HP Sensor **[B]**
- (1) Take out the FF upper end guide ass'y **[C]**. (Refer to 3.2.10.)



(2) Remove securing screws. (Pan-head IT 3C screw 3x6 (2 pcs.))



- (2) Disconnect a connector.
- (3) Pull out the sensor, unfixing the hooks.



- 3.2.25. FF Lower End Guide Elevation Motor **[A]** / FF Lower End Guide HP Sensor **[B]** / FF Tray Full Sensor (Left) **[C]**
- (1) Take out the FF lower end guide ass'y **[D]**. (Refer to 3.2.11.)



(2) Remove securing screws. (Pan-head IT 3C screw 3x6 (2 pcs.))



- (2) Disconnect a connector.
- (3) Pull out the sensor, unfixing the hooks.



- (2) Disconnect a connector.
- Remove a securing screw on the sensor bracket and take off the sensor with the bracket. (Hex-head flange screw 3x6)



3.2.26. FF Tray Full Sensor (Right)

- (1) Detach the FM unit from the FF unit.
- (2) Disconnect a connector.
- (3) Remove a securing screw.

(Hex-head flange screw 3x6)



3.2.27. FF Nip Release Solenoid

- (1) Detach the FF unit from the FI unit. (Refer to 3.2.8.)
- (2) Remove the FF lower left side cover. (Refer to 3.2.6.)
- (3) Disconnect a connector.
- (4) Remove 2 securing screws.

(Hex-head flange screw 3x6)



- 3.2.28. FF Finger Solenoid
- (1) Detach the FF unit from the FI unit. (Refer to 3.2.8.)
- (2) Remove the FF lower left side cover. (Refer to 3.2.6.)
- (3) Remove the FF rear cover. (Refer to 3.2.4.)
- (4) Remove 2 securing screws and turn open the FF power supply unit.

(Hex-head flange screw 3x6)

(5) Disconnect a connector and open wire saddles to release the wires extending from the connector.



(6) Remove 2 securing screws and detach the solenoid from the link shaft.

(Hex-head flange screw 3x6)



3.2.29. FF Upper Gate Solenoid

- (1) Remove the FF rear cover. (Refer to 3.2.4.)
- (2) Disconnect a connector and open wire saddles to release the wires extending from the connector.



 (3) Remove 2 securing screws and detach the solenoid from the link plate. (Hex-head flange screw 3x6)



- 3.2.30. FF Tray Solenoid
- (1) Remove the FF rear cover. (Refer to 3.2.4.)
- (2) Remove the FF connector mount **[A]**. (Hex-head flange screw 3x6 (1 pc.))



- (3) Disconnect a connector.
- (4) Open wire saddles and release the wires extending from the connectors.



- (5) Remove 2 securing screws on the bracket and take out the solenoid together with the bracket. (Hex-head flange screw 3x6)
- (6) Open an edge saddle on the bracket and release the wires extending from the solenoid.
- (7) Remove the solenoid from the bracket.



3.2.31. FF Lower Gate Solenoid

- (1) Remove the FF tray solenoid. (Refer to 3.2.30.)
- (2) Disconnect a connector.
- (3) Open a wire saddle and release the wires extending from the connector.
- (4) Remove 2 securing screws on the bracket and take out the solenoid together with the bracket. (Hex-head flange screw 3x6)
- (5) Remove the solenoid from the bracket.



3.3. FM Unit

- 3.3.1. FM Front Door
- (1) Remove a plastic clip on the hinge.
- (2) Pull up and off the whole body from the hinge.



- 3.3.2. FM Rear Upper Cover
- (1) Remove securing screws. (4 pcs.) (Hex-head flange screw 3x8)



- 3.3.3. FM Rear Connector Cover
- (1) Remove a securing screw.
 - (Hex-head flange screw 3x6)



- 3.3.4. FM Rear Lower Cover
- (1) Remove the FM rear connector cover. (Refer to 3.3.3.)
- (2) Remove securing screws. (4 pcs.) (Hex-head flange screw 3x6)



- 3.3.5. FM Bottom Right Side Cover
- (1) Remove securing screws. (2 pcs.) (Hex-head flange screw 3x6)



3.3.6. FM Top Cover Assembly

(1) Loosen a securing screw on the FM top tray and take off the said tray.



- (2) Remove the FM rear upper cover. (Refer to 3.3.2.)
- (3) Remove securing screws. (5 pcs.) (Hex-head flange screw 3x6)



- 3.3.7. FM Front Upper Right Side Cover
- (1) Remove securing screws. (3 pcs.) (Hex-head flange screw 3x6)



- 3.3.8. FM Front Lower Right Side Cover
- (1) Remove securing screws. (3 pcs.) (Hex-head flange screw 3x6)



3.3.9. FM Rear Upper Right Side Cover

(1) Remove securing screws. (4 pcs.) (Hex-head flange screw 3x6)



- 3.3.10. FM Rear Lower Right Side Cover
- (1) Remove securing screws. (2 pcs.) (Hex-head flange screw 3x6)



3.3.11. FM Inner Upper Left Cover

- (1) Take off the FM front door. (Refer to 3.3.1.)
- (2) Pull out and off the Punch box [A].
- (3) Remove a securing screw and pull off the dial knob 3b **[B]**. (Hex-head flange screw 3x6)
- (4) Remove securing screws. (3 pcs.) (Hex-head flange screw 3x6)



- 3.3.12. FM Inner Lower Left Cover
- (1) Take off the FM front door. (Refer to 3.3.1.)
- (2) Remove securing screws. (3 pcs.) (Hex-head flange screw 3x6)



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3.3.13. FM Inner Upper Right Cover

- (1) Take off the FM front door. (Refer to 3.3.1.)
- (2) Remove a securing screw and pull off the dial knob 3e **[A]**. (Hex-head flange screw 3x6)
- (3) Remove a plastic clip and pull off the dial knob 3f **[B]**.
- (4) Remove securing screws. (6 pcs.) (Hex-head flange screw 3x6)



- 3.3.14. FM Inner Lower Right Cover
- (1) Take off the FM front door. (Refer to 3.3.1.)
- (2) Remove securing screws. (3 pcs.) (Hex-head flange screw 3x6)





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- 3.3.15. FM Punch Assembly
- (1) Detach the FM unit from the FI unit (or FF unit).
- (2) Remove the FM rear upper cover (Refer to 3.3.2.)
- (3) Pull off the Punch box [A].



- (4) Remove securing screws and detach the FM punch assembly from the FM body frame. (Hex-head flange screw 3x6 (2 pcs.))
- (5) Pull out the said assembly from the rear side.



- (6) Pull off a reusable band.
- (7) Disconnect connectors (3 pcs.).



[Note]

Always lead the FM punch motor to point upward when laying down the FM punch assembly so that the FM punch FG sensor and its encoder **[B]** may not touch the floor.



[Reattachment Note]

When reattaching the FM punch assembly, push it into the FM unit from the rear side, while sliding the side guide plates **[C]** on the guiding hooks **[D]** on both sides.



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- 3.3.16. FM Punch Motor
- (1) Take out the FM punch assembly. (Refer to 3.3.15.)
- (2) Disconnect a connector.



(3) Remove securing screws. (IT 3C screw 3x6 (2 pcs.))



3.3.17. FM Punch FG Sensor

- (1) Take out the FM punch assembly. (Refer to 3.3.15.)
- (2) Disconnect a connector
- Remove securing screws on the sensor bracket and detach the bracket with the sensor attached. (IT 3C screw 3x6 (2 pcs.))
- (4) Pull off the sensor from the bracket, unfixing the hooks.



- 3.3.18. FM Punch Exit Sensor **[A]** / FM Punch Side Registration Sensor **[B]**
- (1) Take out the FM punch assembly. (Refer to 3.3.15.)
- (2) Remove the sensor bracket **[C]** with the sensors attached.

(Hex-head flange screw 3x6 (2 pcs.))



- (3) Disconnect a connector.
- (4) Remove a securing screw and detach the sensor from the bracket.

(Hex-head flange screw 3x6)



- 3.3.19. FM Punch Slide Motor
- (1) Take out the FM punch assembly. (Refer to 3.3.15.)
- (2) Disconnect a connector.
- (3) Remove securing screws and take off a timing belt.





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3.3.20. FM Punch Slide Clutch

- (1) Take out the FM punch assembly. (Refer to 3.3.15.)
- (2) Remove the FM punch slide motor. (Refer to 3.3.19.)
- (3) Remove E rings and detach bearings.



(4) Remove the FM punch slide clutch bracket. (Hex-head flange screw 3x6 (2 pcs.))



- (6) Disconnect a connector
- (7) Open a wire saddle and release the wires extending from the connector.
- (8) Remove a securing screw and slide off the FM punch slide clutch.



- 3.3.21. FM Punch Slide HP Sensor
- (1) Take out the FM punch assembly. (Refer to 3.3.15.)
- (2) Remove securing screws and turn over the FM punch slide base **[A]**.

(Hex-head flange screw 3x6 (2 pcs.))



- (3) Disconnect a connector.
- (4) Turn over the FM punch slide base again and pull off the sensor from the base, unfixing the hooks.



- 3.3.22. FM Punch Side Registration HP Sensor
- (1) Take out the FM punch assembly. (Refer to 3.3.15.)
- (2) Detach the sensor bracket **[A]** with the sensor attached.

(Hex-head flange screw 3x6 (1 pc.))



- (3) Disconnect a connector.
- (4) Pull off the sensor from the bracket, unfixing the hooks.



- 3.3.23. FM Punch HP Sensor **[A]** / FM Punch Hole Select Sensor **[B]** / FM Punch Cam Plate Sensor **[C]**
- (1) Take out the FM punch assembly. (Refer to 3.3.15.)
- (2) Disconnect a connector.
- (3) Pull off the sensor from the bracket, unfixing the hooks.



- 3.3.24. FM Punch Box Set Sensor
- (1) Detach the FM unit from the FI unit (or FF unit).
- (2) Pull off the Punch box [A].



- (3) Disconnect a connector.
- (4) Remove a securing screw and detach the sensor bracket [B] with the sensor attached. (Hex-head flange screw 3x6)
- (5) Pull off the sensor from the bracket, unfixing the hooks.



- 3.3.25. FM Punch Main Control PCB
- (1) Remove the FM rear upper cover. (Refer to 3.3.2.)
- (2) Open wire saddles (5 pcs.) and pull off reusable bands (2 pcs.).
- (3) Disconnect connectors (7 pcs.).
- (4) Remove securing screws. (Hex-head flange screw 3x6 (4 pcs.))



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3.3.26. FM Compile Assembly

- (1) Remove the FM stack tray guide assembly. (Refer to 3.3.49.)
- (2) Disconnect connectors (2 pcs.).
- (3) Open a wire saddle and release the wires extending from the connectors.



(4) Loosen a securing screw, shift up a belt tensioner and remove a timing belt.



- (5) Remove a securing screw on the rear side. (Hex-head flange screw 3x6)
- (6) Push the released connectors into behind the rear frame to allow smoother disassembly.



- (7) Remove the FM clamp shaft assembly. (Refer to 3.3.43.)
- (8) Remove securing screws and take out the assembly toward you.
 - (Hex-head flange screw 3x6 (4 pcs.))



- 3.3.27. FM Shelf Bracket Assembly **[A]** / FM Shelf HP Sensor **[B]**
- (1) Take out the FM compile assembly. (Refer to 3.3.26.)
- (2) Disconnect a connector.
- (3) Remove securing screws and disengage the sector gear while shifting the assembly **[A]** to the left. (Hex-head flange screw 3x6 (2 pcs.))
- (4) Pull off the sensor **[B]** from the assembly, unfixing the hooks.



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3.3.28. FM Shelf Motor

- (1) Take out the FM compile assembly. (Refer to 3.3.26.)
- (2) Disconnect a connector.
- (3) Remove securing screws and detach the motor bracket with the motor attached.
- (Hex-head flange screw 3x6 (2 pcs.))(4) Detach the motor from the bracket.

(Hex-head flange screw 3x6 (2 pcs.))



[Reattachment Note]

When reattaching the FM shelf motor, make sure that the left-end tooth of the sector gear **[A]** on the FM shelf bracket assembly is engaged with the motor gear.

- 3.3.29. FM Front Tamper Motor **[A]** / FM Front Tamper HP Sensor **[B]**
- (1) Take out the FM compile assembly. (Refer to 3.3.26.)
- (2) Disconnect a connector.
- (3) Remove securing screws.

(Pan-head screw 3x6 (2 pcs.) [A])

(Hex-head flange screw 3x6 (1 pc.) [B])

(4) For **[B]**, open a wire saddle to release wires.



[Reattachment Note]

When reattaching the FM front tamper motor, put a timing belt on the motor pulley before securing the said motor.

- 3.3.30. FM Rear Tamper Motor **[A]** / FM Rear Tamper HP Sensor **[B]** / FM End Wall Motor **[C]**
- (1) Take out the FM compile assembly. (Refer to 3.3.26.)
- (2) Disconnect a connector.
- (3) Remove securing screws.
 (Pan-head screw 3x6 (2 pcs.) [A])
 (Hex-head flange screw 3x6 (1 pc.) [B])
 (Hex-head flange screw 3x6 (2 pcs.) [C])
- (4) For [B] & [C], open wire saddles (2 pcs. for [B] / 1 pc. for [C]) to release wires.



[Reattachment Note]

When reattaching the FM rear tamper motor, put a timing belt on the motor pulley before securing the said motor.

- 3.3.31. FM End Wall HP Sensor [A] / FM End Wall OPEN Sensor [B]
- (1) Take out the FM compile assembly. (Refer to 3.3.26.)
- (2) Unhook a tension spring from the sensor bracket.
- (3) Remove securing screws and detach the said bracket with the sensors attached.



- (4) Disconnect a connector.
- (5) Pull off the sensor from the bracket, unfixing the hooks.

3.3.32. FM Stack Transfer Sensor

- (1) Remove the FM stack eject assembly. (Refer to 3.3.53.)
- (2) Disconnect a connector.
- (3) Remove a securing screw and detach the sensor bracket with the sensor attached.
- (Hex-head flange screw 3x6)(4) Detach the sensor from the bracket.

(Pan-head screw 3x12)



3.3.33. FM Stack Transfer Roller 2

- (1) Remove the FM stack eject assembly. (Refer to 3.3.53.)
- (2) Remove an E ring and pull off a bearing from the frame on the front side.



- (3) Unhook a hook on the pulley on the rear side and pull off the said pulley from the roller shaft while taking off a timing belt.
- (4) Pull off a bearing from the rear frame and the roller shaft.
- (5) Slide the roller to the rear side and take it out toward you while detaching it from the frame.



- 3.3.34. FM Exit Upper Chute Assembly
- (1) Remove the FM stack transfer sensor. (Refer to 3.3.32.)
- (2) Remove the FM stack transfer roller 2. (Refer to 3.3.33.)
- (3) Remove securing screws on the front side. (Hex-head flange screw 3x6 (2 pcs.))



 (4) Remove securing screws on the rear side. (Hex-head flange screw 3x6 (2 pcs.))



(5) Take out the assembly toward you.



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3.3.35. FM Exit Lower Chute Assembly

- (1) Open the FM front door.
- (2) Remove the FM inner upper right cover. (Refer to 3.3.13.)
- (3) Shift the FM compile end wall **[A]** to the open position.



- (4) Disconnect the connector of the FM main paddle solenoid **[B]**, which is located above the FM stapler unit
- (5) Shift the FM stapler unit to the rear side.



(6) Remove securing screws on the front side. (Hex-head flange screw 3x6 (2 pcs.))



(7) Release a hook **[C]** on the rear side and take out the assembly from the opening on the front side.



- 3.3.36. FM Main Paddle Solenoid
- (1) Take out the FM exit lower chute assembly. (Refer to 3.3.35.)
- (2) Disconnect a connector.
- (3) Open a wire saddle and release the wires extending from the connector.
- (4) Remove securing screws.



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3.3.37. FM Main Paddles

- (1) Take out the FM exit lower chute assembly. (Refer to 3.3.35.)
- (2) Pull off the whole body from the shaft.



[Reattachment Note]

When reattaching the FM main paddle, push the projection portion **[A]** into the hole **[B]** on the shaft.



- 3.3.38. FM Staple Bin Set Sensor **[A]** / FM Staple Bin Near Full Sensor **[B]**
- (1) Remove the FM stack tray guide assembly. (Refer to 3.3.49.)
- (2) Open wire saddles (4 pcs.) and remove a wire harness cover.



(3) Remove securing screws and detach the sensor bracket, with the sensor attached, from the front frame.



- (4) Disconnect a connector. (For **[A]**, open a wire saddle to release wires as well.)
- (5) Pull off the sensor from the bracket, unfixing the hooks.



- 3.3.39. FM Stack Tray Elevation Motor Assembly
- (1) Remove the FM rear upper cover and FM top cover assembly. (Refer to 3.3.2. & 3.3.6.)
- (2) Remove the FM rear lower cover. (Refer to 3.3.4.)
- (3) Remove the FM stacking tray stopper bracket [A]. (Hex-head flange screw 3x6 (2 pcs.))



- (4) Disengage the elevation motor gear from the counterpart on the FM stacking tray shaft by pushing on the Gear docking clutch **[B]** while holding the FM stacking tray from underneath.
- (5) Lower the FM stacking tray to the bottom.





- (7) Disconnect a connector.
- (8) Remove securing screws and detach the assembly from the rear frame.

(Hex-head flange screw 3x6 (3 pcs.))



3.3.40. FM Stapler Slide Motor Assembly

- (1) Remove the FM stack tray guide assembly. (Refer to 3.3.49.)
- (2) Open wire saddles (4 pcs.) and remove a wire harness cover.



- (3) Disconnect a connector.
- (4) Remove securing screws.



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- 3.3.41. FM Stapler Slide Center Sensor **[A]** / FM Stapler Slide HP Sensor **[B]**
- (1) Open the FM front door.
- (2) Remove the FM inner upper right cover. (Refer to 3.3.13.)
- (3) Shift the FM compile end wall **[C]** to the open position.



(4) Shift the FM stapler head assembly **[D]** deep inside (to the rear side).



- For **[A]** -
- (5) Disconnect a connector.
- (6) Pull off the sensor from the frame, unfixing the hooks underneath.



- For **[B]** -

- (5) Remove the sensor cover.
 - (Hex-head flange screw 3x6 (1 pc.))



- (6) Disconnect a connector.
- (7) Pull off the sensor from the frame, unfixing the hooks underneath.



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3.3.42. FM Stapler Head Assembly

- (1) Open the FM front door.
- (2) Remove the FM inner upper right cover. (Refer to 3.3.13.)
- (3) Shift the FM compile end wall **[A]** to the open position.



(4) Remove securing screws. (Hex-head flange screw 3x6 (2 pcs.))



- (5) Disconnect connectors (2 pcs.).
- (6) Hold up the assembly and take it off from the bracket.



[Reattachment Note]

Before reattaching the FM stapler head assembly, make sure that the FM compile end wall is lowered to the open position.

When securing the said assembly on the bracket, besides, insert the hooks on the rear side of the assembly into the slits indicated in the picture below.



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3.3.43. FM Clamp Shaft Assembly

- (1) Remove the FM stack tray guide assembly. (Refer to 3.3.49.)
- (2) Remove the FM stack upper front and rear plates [A] / [B].

(Hex-head flange screw 3x6 (2 pcs.))



(3) Remove an E ring and pull off a gear from the shaft.



- (4) Remove a securing screw and pull off the shaft securing plate from the shaft.
- (5) Take out the assembly while detaching it from the front and rear frames.



[Reattachment Note]

When reattaching the FM clamp shaft assembly, engage the gear on the shaft with the sector gear below as indicated in the picture below.



- 3.3.44. FM Set Clamp Solenoid
- (1) Remove the FM rear upper cover. (Refer to 3.3.2.)
- (2) Disconnect a connector and open a wire saddle to release the wires running nearby.
- (3) Remove securing screws and detach the FM set clamp solenoid bracket assembly [A].
 (Hex-head flange screw 3x6 (3 pcs.))
- (4) Remove securing screws and detach the solenoid from the said bracket assembly. (Hex-head flange screw 3x6 (2 pcs.))



[Reattachment Note]

When reattaching the FM set clamp solenoid bracket assembly, engage the sector gear with the gear above as indicated in the picture above.

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- 3.3.45. FM Paper Top Detection Sensor (Emission) **[A]** / FM Staple Paper Top Detection Sensor (Reception) **[B]** / FM Stacking Paper Detection Sensor (Reception) **[C]**
- (1) Remove the FM front door. (Refer to 3.3.1.)
- (2) Remove the FM top cover assembly. (Refer to 3.3.6.)
- (3) Remove the FM front upper right side cover. (Refer to 3.3.7.)
- (4) Remove the FM inner upper right cover. (Refer to 3.3.13.)
- (5) Remove the FM front door upper hinge bracket **[D]**.



- (6) Pull off the reusable bands binding the wires extending from the connectors (4 pcs.).
- (7) Remove the FM front paper sensor bracket[E]. (Hex-head flange screw 3x6 (2 pcs.))
- (8) Disconnect a connector
- (9) Pull off the sensor from the bracket, unfixing the hooks underneath.



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- 3.3.46. FM Paper Top Detection Sensor (Reception) [A] / FM Staple Paper Top Detection Sensor (Emission) [B] / FM Stacking Paper Detection Sensor (Emission) [C] / FM Stack Tray Upper Limit Sensor [D]
- (1) Remove the FM rear upper cover and FM top cover assembly. (Refer to 3.3.2. & 3.3.6.)
- (2) Pull off the reusable bands binding the wires extending from the connectors (3 pcs.).
- (3) Remove the FM rear sensor bracket **[E]**. (Hex-head flange screw 3x6 (2 pcs.))
- (4) Disconnect a connector.
- (5) Pull off the sensor from the bracket, unfixing the hooks underneath.



3.3.47. FM Flap Motor

(1) Remove the FM stacking tray bottom cover[A]. (Hex-head flange screw 3x6 (2 pcs.))



- (2) Disconnect a connector.
- Remove securing screws and detach the motor while disengaging gears. (Hex-head flange screw 3x6 (2 pcs.))



- 3.3.48. FM Stack Tray Paper Detection Sensor
- (1) Remove the FM stacking tray bottom cover[A]. (Hex-head flange screw 3x6 (2 pcs.))



(2) Remove the FM stacking tray **[B]**. (Hex-head flange screw 3x6 (2 pcs.))



- (3) Disconnect a connector.
- (4) Remove a securing screw and detach the sensor bracket with the sensor attached. (Hex-head flange screw 3x6)
- (5) Pull off the sensor from the bracket, unfixing the hooks underneath.



- 3.3.49. FM Stack Tray Guide Assembly
- (1) Remove the FM rear upper cover, FM rear lower cover and FM top cover assembly. (Refer to 3.3.2., 3.3.4. & 3.3.6.)
- (2) Remove a securing screw underneath the FB booklet tray and detach the said tray while disconnecting the communication cable. (Hex-head flange screw 3x6)
- (3) Disconnect connectors (2 pcs.).
- (4) Remove a securing screw on the rear side. (Hex-head flange screw 3x6)



(5) Remove the FM stacking tray stopper bracket **[A]**. (Hex-head flange screw 3x6 (2 pcs.))



(6) Disengage the elevation motor gear from the counterpart on the FM stacking tray shaft by pushing on the Gear docking clutch [B] while holding the FM stacking tray from underneath.
(7) Lower the FM stacking tray to the bottom.



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(8) Remove securing screws on the assembly and take it out toward you.

(Hex-head flange screw 3x6 (4 pcs.))



[Reattachment Note 1]

When reattaching the FM stack tray guide assembly, make sure that the Link roller **[C]** on the FM clamp shaft is set into the holder **[D]** at the top end of the assembly.



[Reattachment Note 2]

After reattaching the FM stack tray guide assembly, shift up the FM stacking tray while catching the rail **[E]** on the rear side of the assembly with the Shifting guide **[F]** of the tray.



- 3.3.50. FM Stack Tray Offset Sensor [A] / FM Stacker Offset Motor [B]
- (1) Take out the FM stack tray guide assembly. (Refer to 3.3.49.)



- For **[A]** -

- (2) Disconnect a connector.
- Remove securing screws and detach the sensor bracket with sensor attached. (Hex-head flange screw 3x6 (2 pcs.))
- (4) Pull off the sensor from the bracket, unfixing the hooks underneath.



- For **[B]** -

- (2) Disconnect a connector.
- (3) Remove securing screws and detach the motor from the bracket while taking off a timing belt.



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3.3.51. FM Eject Nip HP Sensor

- (1) Remove the FM rear upper cover and FM top cover assembly. (Refer to 3.3.2. & 3.3.6.)
- (2) Remove the FM stack low pad cover **[A]**. (Hex-head flange screw 3x6 (5 pcs.))



 (3) Remove a securing screw and detach the sensor bracket with the sensor attached. (Hex-head flange screw 3x6)



- (4) Disconnect a connector.
- (5) Pull off the sensor from the bracket, unfixing the hooks underneath.



- 3.3.52. FM Sub Paddle HP Sensor
- (1) Remove the FM rear upper cover and FM top cover assembly. (Refer to 3.3.2. & 3.3.6.)(2) Remove the FM stack low pad cover [A].
 - (Hex-head flange screw 3x6 (5 pcs.))



 Remove a securing screw and detach the sensor bracket with the sensor attached. (Hex-head flange screw 3x6)



- (4) Disconnect a connector.
- (5) Pull off the sensor from the bracket, unfixing the hooks underneath.



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3.3.53. FM Stack Eject Assembly

- (1) Remove the FM rear upper cover and FM top cover assembly. (Refer to 3.3.2. & 3.3.6.)
- (2) Remove the FM stack low pad cover **[A]**. (Hex-head flange screw 3x6 (5 pcs.))



(3) Remove securing screws and detach the brackets of the FM eject nip HP sensor and the FM sub paddle HP sensor, with the sensors attached.

(Hex-head flange screw 3x6 (2 pcs.))



- (4) Disconnect connectors (7 pcs.).
- (5) Open wire saddles (11 pcs.) and release running wires.
- (6) Pull off reusable bands (2 pcs.).



- (7) Disconnect connectors (5 pcs.).
- (8) Open wire saddles (6 pcs.) and release running wires.
- (9) Pull off a reusable band (1 pc.).



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US.RISO.COM ComColor GL Series Revision 1.0 (10) Remove the FM stack eject harness bracket [**B**]. (Hex-head flange screw 3x6 (2 pcs.))



(11) Loosen a securing screw, shift up a belt tensioner and remove a timing belt.



(12) Unhook a hook on the pulley and pull off the said pulley from the roller shaft while taking off a timing belt.



(13) Remove securing screws on the front side. (Hex-head flange screw 3x6 (3 pcs.))



(14) Remove securing screws on the rear side. (Hex-head flange screw 3x6 (5 pcs.))



3.3.54. FM Sub Paddle Assembly

- (1) Remove the FM rear upper cover and FM top cover assembly. (Refer to 3.3.2. & 3.3.6.)
- (2) Remove the FM stack low pad cover **[A]**. (Hex-head flange screw 3x6 (5 pcs.))



- (3) Remove a plastic clip on the FM sub paddle cam shaft on both front and rear sides.
- (4) Pull off the FM sub paddle cams **[B]** from the cam shaft.



- (5) Remove a plastic clip on the FM sub paddle shaft **[C]** on both front and rear sides.
- (6) Slide the FM sub paddle shaft to the rear side and off the FM sub paddle link on the front side **[D]**.



- (7) Remove a pulley from the FM sub paddle shaft **[C]** while taking off a timing belt
- (8) Pull off the FM sub paddle shaft from the FM sub paddle link on the rear side **[E]** and take out the assembly toward you.



3.3.55. FM Sub Paddle Solenoid

- (1) Remove the FM rear upper cover and FM top cover assembly. (Refer to 3.3.2. & 3.3.6.)
- (2) Open wire saddles (2 pcs.) and release the wires extending from the connector.
- (3) Remove a securing screw on the solenoid bracket. (Hex-head flange screw 3x6)
- (4) Take out the FM sub paddle solenoid assembly while pulling the solenoid arm toward you.
- (5) Detach the solenoid from the assembly.


3.3.56. FM Stacking Eject Sensor

- (1) Remove the FM rear upper cover and FM top cover assembly. (Refer to 3.3.2. & 3.3.6.)
- (2) Remove a securing screw and detach the FM stacking eject sensor wire guide plate [A]. (Hex-head flange screw 3x6)
- (3) Disconnect a connector.
- (4) Detach the sensor from the bracket, unfixing the hooks.



- 3.3.57. FM Eject Nip Motor **[A]** / FM Stack Transfer Motor **[B]**
- (1) Remove the FM rear upper cover and FM top cover assembly. (Refer to 3.3.2. & 3.3.6.)
- (2) Disconnect a connector.
- (3) Remove securing screws and detach the motor while disengaging gears for **[A]** or taking off a timing belt for **[B]**.

(Hex-head flange screw 3x6 (2 pcs.) **[A]**) (Hex-head flange screw 3x6 (2 pcs.) **[B]**)



- 3.3.58. FM Stack Eject Motor
- (1) Remove the FM rear upper cover and FM top cover assembly. (Refer to 3.3.2. & 3.3.6.)
- (2) Disconnect a connector.
- (3) Open wire saddles (5 pcs.) and release running wires.
- (4) Pull off a reusable band.



(5) Remove the FM stack eject harness bracket[A]. (Hex-head flange screw 3x6 (2 pcs.))



 (6) Remove securing screws and detach the motor while taking off a timing belt. (Hex-head flange screw 3x6 (3 pcs.))



3.3.59. FM Paddle Motor

- Remove the FM rear upper cover and FM top cover assembly. (Refer to 3.3.2. & 3.3.6.)
- (2) Disconnect a connector.
- (3) Pull off reusable bands (2 pcs.)



 (4) Remove securing screws and detach the motor while taking off a timing belt. (Hex-head flange screw 3x6 (3 pcs.))



3.3.60. FM Top Transfer Motor

- (1) Remove the FM rear upper cover and FM top cover assembly. (Refer to 3.3.2. & 3.3.6.)
- (2) Disconnect a connector.
- (3) Remove securing screws and detach the motor while taking off a timing belt. (Hex-head flange screw 3x6 (3 pcs.))



- 3.3.61. FM Sub Paddle Clutch
- (1) Remove the FM paddle motor. (Refer to 3.3.59.)
- (2) Disconnect a connector.
- (3) Remove an E ring and pull off the clutch from the roller shaft.



- 3.3.62. FM Front Door SW
- (1) Remove the FM top cover assembly. (Refer to 3.3.6.)
- (2) Remove the FM inner upper left cover. (Refer to 3.3.11.)
- (3) Remove securing screws and detach the bracket with the switch attached.
 - (Hex-head flange screw 3x6 (2 pcs.))
- (4) Disconnect a connector.
- (5) Detach the switch from the bracket.



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3.3.63. FM Eject Roller Nip SW

- (1) Remove the FM rear upper cover and FM top cover assembly. (Refer to 3.3.2. & 3.3.6.)
- (2) Disconnect a connector.
- (3) Pull off a plastic clip and detach the bracket with the switch attached.
- (4) Detach the switch from the bracket.(Pan-head screw 3x14 (2 pcs.))



- 3.3.64. FM Punch IN Sensor **[A]** / FM Top Tray Transfer Sensor **[B]**
- (1) Open the FM front door.
- (2) Remove the FM top cover assembly. (Refer to 3.3.6.)
- (3) Disconnect a connector.
- (4) Open a wire saddle and release the wires extending from the connector.
- (5) Remove a securing screw and detach the sensor bracket with the sensor attached. (Hex-head flange screw 3x6)
- (6) Detach the sensor from the bracket. (Pan-head screw 3x14 (1 pc.))



3.3.65. FM Top Tray Exit Sensor

- (1) Open the FM front door.
- (2) Remove the FM top cover assembly. (Refer to 3.3.6.)
- Remove a securing screw and detach the sensor bracket with the sensor attached. (Hex-head flange screw 3x6)



- (4) Disconnect a connector.
- (5) Remove a securing screw.

(Pan-head screw 3x14)



- 3.3.66. FM Compile Paper Detection Sensor
- (1) Remove the FM compile assembly. (Refer to 3.3.26.)
- (2) Disconnect a connector.
- (3) Remove a securing screw.

(Pan-head screw 3x14)



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3.3.67. FM Buffer Path Sensor

- (1) Remove the FM transfer roller 2 **[A]**. (Refer to 3.3.71.)
- (2) Remove a securing screw and detach the sensor bracket with the sensor attached.



- (3) Disconnect a connector.
- (4) Detach the sensor from the bracket.(Pan-head screw 3x14 (1 pc.))



3.3.68. FM Booklet Transfer Sensor

- (1) Open the FM front door.
- (2) Disconnect a connector.
- (3) Remove a securing screw and detach the sensor bracket with the sensor attached.
- (Hex-head flange screw 3x6)(4) Detach the sensor from the bracket.(Pap head screw 3x14 (1 pa))

(Pan-head screw 3x14 (1 pc.))



3.3.69. FM Entrance Motor

- (1) Remove the FM rear upper cover and FM top cover assembly. (Refer to 3.3.2. & 3.3.6.)
- (2) Disconnect a connector.
- (3) Remove securing screws and detach the motor while disengaging gears.





3.3.70. FM Entrance Roller

- (1) Remove the FM punch assembly. (Refer to 3.3.15.)
- (2) Remove the FM entrance motor. (Refer to 3.3.69.)
- (3) Remove the FM inner upper left cover. (Refer to 3.3.11.)
- (4) Disconnect a connector.
- (5) Open a wire saddle and release the wires extending from the connector.



(6) Remove securing screws and take out the FM entrance chute assembly.

(Hex-head flange screw 3x6 (4 pcs.))



(7) Remove an E ring and pull off a plastic collar and a bearing from the roller shaft on the front side.



- (8) Remove an E ring and pull off a plastic gear, a plastic collar and a bearing from the roller shaft on the rear side.
- (9) Slide the roller to the rear side and take it out toward you while detaching it from the frame.



3.3.71. FM Transfer Roller 2

- (1) Remove the FM top 1 chute assembly. (Refer to 3.3.76.)
- (2) Remove the FM punch assembly if required. (Refer to 3.3.15.)
- (3) Remove an E ring and pull off a pulley, a plastic collar and a bearing from the roller shaft on the rear side while taking off timing belts.



- (4) Remove an E ring and pull off a bearing from the roller shaft on the front side.
- (5) Slide the roller to the rear side and take it out toward you while detaching it from the frame.



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3.3.72. FM Top Transfer Roller 1

- (1) Remove the FM top 2 chute assembly. (Refer to 3.3.77.)
- (2) Remove an E ring and pull off a pulley, a plastic collar and a bearing from the roller shaft on the rear side while taking off a timing belt.



- (3) Remove an E ring and pull off a bearing from the roller shaft on the front side.
- (4) Slide the roller to the rear side and take it out toward you while detaching it from the frame.



3.3.73. FM Top Transfer Roller 2

- (1) Remove the FM rear upper cover and FM top cover assembly. (Refer to 3.3.2. & 3.3.6.)
- (2) Remove an E ring and pull off a hooked pulley, a plastic collar and a bearing from the roller shaft on the rear side while taking off a timing belt.



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- (3) Remove an E ring and pull off a bearing from the roller shaft on the front side.
- (4) Slide the roller to the rear side and take it out toward you while detaching it from the frame.



3.3.74. FM Stack Transfer Roller 1

- (1) Remove the FM stack chute assembly. (Refer to 3.3.80.)
- (2) Remove the FM inner upper right cover. (Refer to 3.3.13.)
- (3) Remove an E ring and pull off a plastic collar, a pulley and a pulley gear from the link shaft on the rear side while taking off timing belts.
- (4) Remove a hooked pulley gear and a bearing from the roller shaft on the rear side while taking off a timing belt.



- (5) Remove an E ring and pull off a bearing from the roller shaft on the front side.
- (6) Slide the roller to the rear side and take it out toward you while detaching it from the frame.



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3.3.75. FM Gate Solenoid 1 [A] / 2 [B]

- (1) Remove the FM rear upper cover and FM top cover assembly. (Refer to 3.3.2. & 3.3.6.)
- (2) Remove the FM rear lower cover for **[A]**. (Refer to 3.3.4.)
- (3) Disconnect a connector.
- (4) Removing securing screws and detach the FM gate solenoid assembly (the bracket with the solenoid attached) while disengaging the solenoid link plate **[C]**.

(Hex-head flange screw 3x6 (2 pcs.))

(5) Open a wire saddle and detach the solenoid from the assembly (bracket).

(Hex-head flange screw 3x6 (2 pcs.))



- 3.3.76. FM Top 1 Chute Assembly
- (1) Remove the FM gate solenoid 1 and 2 assemblies. (Refer to the steps 1 to 4 in 3.3.75.)
- (2) Remove the FM inner upper right cover. (Refer to 3.3.13.)
- (3) Take out the FM staple bin.
- (4) Remove the FM top 2 chute assembly. (Refer to 3.3.77.)
- (5) Remove securing screws on the rear side. (Hex-head flange screw 3x6 (3 pcs.))



- (6) Remove securing screws on the front side. (Hex-head flange screw 3x6 (3 pcs.))
- (7) Take out the assembly from the opening on the front side.



3.3.77. FM Top 2 Chute Assembly

- (1) Remove the FM top cover assembly. (Refer to 3.3.6.)
- (2) Remove the FM inner upper right cover. (Refer to 3.3.13.)
- (3) Remove securing screws on the rear side. (Hex-head flange screw 3x6 (2 pcs.))



(4) Remove securing screws on the front side. (Hex-head flange screw 3x6 (2 pcs.))



- (5) Disconnect a connector.
- (6) Pull off reusable bands (2 pcs.).
- (7) Take out the assembly upward.



- 3.3.78. FM Top 3 Chute Assembly
- (1) Remove the FM rear upper cover and FM top cover assembly. (Refer to 3.3.2. & 3.3.6.)
- (2) Remove securing screws on the rear side. (Hex-head flange screw 3x6 (2 pcs.))



(3) Remove securing screws on the front side. (Hex-head flange screw 3x6 (2 pcs.))



- (4) Disconnect a connector.
- (5) Open wire saddles (3 pcs.) and release the wires extending from the connector.
- (6) Pull off a reusable band.
- (7) Shift the assembly to the left under the FM top transfer roller 2 and take it out toward the right.



- 3.3.79. FM Top 4 Chute Assembly (FM Top Eject Roller)
- (1) Remove the FM rear upper cover and FM top cover assembly. (Refer to 3.3.2. & 3.3.6.)
- (2) Remove the FM inner upper right cover. (Refer to 3.3.13.)
- (3) Remove an E ring and pull off a pulley from the roller shaft on the rear side while taking off a timing belt.



(4) Remove securing screws on the rear side. (Hex-head flange screw 3x6 (2 pcs.))



- (5) Remove securing screws on the front side. (Hex-head flange screw 3x6 (2 pcs.))
- (6) Take out the assembly upward while pressing the front frame outward a little.



- 3.3.80. FM Stack Chute Assembly
- (1) Remove the FM rear upper cover and FM top cover assembly. (Refer to 3.3.2. & 3.3.6.)
- (2) Remove the FM inner upper right cover. (Refer to 3.3.13.)
- (3) Remove securing screws on the rear side. (Hex-head flange screw 3x6 (2 pcs.))



- (4) Disconnect a connector.
- (5) Open wire saddles and release the wires extending from the connector.



- (6) Disconnect the connector of the FM main paddle solenoid.
- (7) Pull off a reusable band from the rear frame.



- (8) Remove securing screws on the front side. (Hex-head flange screw 3x6 (2 pcs.))
- (9) Take out the assembly from the opening on the front side.



3.3.81. FM Top Tray Full Sensor

- (1) Remove the FM top 4 chute assembly (FM top eject roller). (Refer to 3.3.79.)
- (2) Pull off a sensor cover [A].
- (3) Disconnect a connector.
- (4) Take out the sensor from the sensor holder.



- 3.3.82. FM Booklet Transfer Motor
- (1) Remove the FM rear upper cover and FM top cover assembly. (Refer to 3.3.2. & 3.3.6.)
- (2) Remove the FM rear lower cover. (Refer to 3.3.4.)
- (3) Disconnect a connector.
- (4) Remove securing screws and detach the motor while taking off a timing belt. (Hex-head flange screw 3x6 (3 pcs.))



- 3.3.83. FM Booklet Transfer Roller 2
- (1) Remove the FM rear upper cover and FM top cover assembly. (Refer to 3.3.2. & 3.3.6.)
- (2) Remove the FM rear lower cover. (Refer to 3.3.4.)
- (3) Remove the FM inner upper right cover. (Refer to 3.3.13.)
- (4) Remove a hooked pulley and a bearing from the roller shaft on the rear side while taking off a timing belt.



- (5) Remove an E ring and pull off a bearing from the roller shaft on the front side.
- (6) Slide the roller to the rear side and take it out toward you while detaching it from the frame.



3.3.84. FM Main Control PCB

- (1) Remove the FM rear lower cover. (Refer to 3.3.4.)
- (2) Disconnect connectors, whose number differs depending on the system configuration.
- (3) Remove securing screws and detach the PCB from the bracket.

(Hex-head flange screw 3x6 (11 pcs.))



- 3.3.85. FM Power Supply PCB **[A]** / FM Relay PCB **[B]**
- (1) Remove the FM rear lower cover. (Refer to 3.3.4.)
- (2) Disconnect connectors from the FM main control PCB.
- (3) Remove securing screws on the FM main control PCB bracket and detach the said bracket with the PCB attached.

(Hex-head flange screw 3x6 (10 pcs.))



- For **[A]** -

- (4) Disconnect connectors (4 pcs.).
- (5) Remove securing screws and detach the PCB from the bracket.

(Hex-head flange screw 3x6 (3 pcs.))



- For **[B]** -
- (4) Disconnect a connector.
- (5) Pull off the PCB from the mounting feet.



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3.4. FB (Booklet Making) Unit

- 3.4.1. Booklet Making Unit (Booklet Transport Assembly)
- (1) Open FM front door.
- (2) Pull out the Booklet making unit (Booklet transport assembly) to the end.



(3) Remove the FB upper stopper bracket **[A]**. (Hex-head flange screw 3x6 (1 pc.))



(4) Slide out the unit (assembly) further, pressing the hook plate on the FB left rail assembly [B], until the connector terminal comes out at the lower section of the unit (assembly).



- (5) Disconnect connectors (5 pcs.)
- (6) Open a wire saddle and release the wire harness extending from the connectors.



(7) Move to the other side of the unit (assembly) and pull out the unit (assembly) a little further while pressing the hook plate on the FB right rail assembly **[C]**.



(8) Pull out the unit (assembly) further and unload it from the rails.



- 3.4.2. FB Rake Roller
- (1) Unload the Booklet making unit (Booklet transport assembly) from the FM unit. (Refer to 3.4.1.)
- Remove the securing screws of the FB chute assembly [A] on the front side.
 (Hex-head flange screw 3x6 (2 pcs.))



- (3) Remove the securing screws of the said assembly on the rear side.
- (Hex-head flange screw 3x6 (2 pcs.))(4) Take out the said assembly from the Booklet



(5) Remove an E ring and pull off a plastic gear from the roller shaft.



- (6) Pull off a spring, washers and a parallel pin from the roller shaft.
- (7) Remove an E ring and pull off a bearing from the frame.



- (8) Remove an E ring and pull off a bearing from the other end of the roller shaft.
- (9) Push the roller to the rear side and take it out toward you while detaching it from the frame.



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3.4.3. FB Paddles

- (1) Unload the Booklet making unit (Booklet transport assembly) from the FM unit. (Refer to 3.4.1.)
- (2) Shift down the FB paddles [A] to the point indicated in the picture below and remove the FB end guide center plate [B].
 (Hex-head flange screw 3x6 (2 pcs.))



(3) Remove E rings and detach the paddle shaft from the support bracket while sliding off collars. (Hex-head flange screw 3x6)



[Note]

When reattaching the FB paddles, always insert the boss of the one-way clutch into the hole of the support bracket.



3.4.4. FB Transfer Motor

- Unload the Booklet making unit (Booklet transport assembly) from the FM unit. (Refer to 3.4.1.)
- (2) Unhook a spring, disconnect a connector and push off a reusable band.
- (3) Remove an E ring on the gear shaft.
- (4) Remove the FB transfer motor bracket 1 [A]. (Hex-head flange screw 3x6 (6 pcs.))



- (5) Open wire saddles and release the wires running along the FB transfer motor bracket 2 [B].
- (6) Remove the said bracket with the FB transfer motor attached, taking off a timing belt. (Hex-head flange screw 3x6 (3 pcs.))



(7) Separate the motor from the bracket. (Hex-head flange screw 3x6 (3pcs.))



- 3.4.5. FB End Guide Elevation Motor
- (1) Unload the Booklet making unit (Booklet transport assembly) from the FM unit. (Refer to 3.4.1.)
- (2) Remove the FB stopper end up bracket **[A]**. (Hex-head flange screw 3x6 (1 pc.))



- (3) Disconnect a connector.
- (4) Remove securing screws and detach the motor from the bracket, taking off a timing belt. (Hex-head flange screw 3x6 (2 pcs.))



- 3.4.6. FB Front Tamper Motor **[A]** / FB Rear Tamper Motor **[B]**
- (1) Unload the Booklet making unit (Booklet transport assembly) from the FM unit. (Refer to 3.4.1.)
- (2) Remove the FB tamper motor cover **[C]**. (Hex-head flange screw 3x8 (1 pc.))



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- (3) Disconnect a connector.
- (4) Remove securing screws. (Hex-head flange screw 3x6 (2 pcs.))



- 3.4.7. FB Knife Solenoid
- (1) Unload the Booklet making unit (Booklet transport assembly) from the FM unit. (Refer to 3.4.1.)
- (2) Disconnect a connector.
- (3) Remove a securing screw. (Hex-head flange screw 3x6)



- 3.4.8. FB Entrance Sensor **[A]** / FB Paper Detection Sensor **[B]**
- (1) Unload the Booklet making unit (Booklet transport assembly) from the FM unit. (Refer to 3.4.1.)
- (2) Disconnect a connector and remove a securing screw. (Hex-head flange screw 3x8)



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3.4.9. FB Eject Sensor

- (1) Unload the Booklet making unit (Booklet transport assembly) from the FM unit. (Refer to 3.4.1.)
- (2) Detach the FB eject sensor bracket **[A]** with the sensor attached.

(Hex-head flange screw 3x8 (1 pc.))



- (3) Disconnect a connector.
- (4) Remove a securing screw and detach the sensor from the bracket.





- 3.4.10. FB End Guide HP Sensor
- (1) Unload the Booklet making unit (Booklet transport assembly) from the FM unit. (Refer to 3.4.1.)
- (2) Loosen 2 upper securing screws, remove 2 lower ones and take off the FB left side cover
 [A]. (Hex-head flange screw 3x8)



(3) Remove the FB stopper end up bracket **[B]**. (Hex-head flange screw 3x6 (1 pc.))



- (4) Open a wire saddle and release the wires extending from a connector.
- (5) Disconnect the connector.
- (6) Pull off the sensor, unfixing the hooks.



- 3.4.11. FB Front Tamper HP Sensor
- (1) Unload the Booklet making unit (Booklet transport assembly) from the FM unit. (Refer to 3.4.1.)
- (2) Remove a securing screw and pull off a dial knob. (Hex-head flange screw 3x12)



(3) Remove the FB front cover assembly **[A]**. (Hex-head flange screw 3x8 (4 pcs.))



- (4) Disconnect a connector.
- (5) Pull off the sensor, unfixing the hooks.



- 3.4.12. FB Rear Tamper HP Sensor
- (1) Unload the Booklet making unit (Booklet transport assembly) from the FM unit. (Refer to 3.4.1.)
- (2) Disconnect a connector.
- (3) Pull off the sensor, unfixing the hooks.



- 3.4.13. FB Booklet Set Sensor
- (1) Unload the Booklet making unit (Booklet transport assembly) from the FM unit. (Refer to 3.4.1.)
- (2) Remove the FB booklet set sensor cover **[A]**. (Hex-head flange screw 3x6 (1 pc.))
- (3) Disconnect a connector.
- (4) Pull off the sensor from the bracket, unfixing the hooks.



3.4.14. FB Knife HP Sensor

- (1) Unload the Booklet making unit (Booklet transport assembly) from the FM unit. (Refer to 3.4.1.)
- (2) Loosen 2 upper securing screws, remove 2 lower ones and take off the FB left side cover
 [A]. (Hex-head flange screw 3x8)



- (3) Disconnect a connector.
- (4) Remove a securing screw on the sensor bracket and detach the said bracket with the sensor attached.

(Hex-head flange screw 3x6)

(5) Pull off the sensor from the bracket, unfixing the hooks.



- 3.4.15. FB Booklet Tray Paper Detection Sensor [A] / FB Booklet Tray Belt Drive Motor [B]
- (1) Remove a securing screw underneath the FB booklet tray.
- (2) Disconnect a communication cable and detach the FB booklet tray from the FM unit.
 (3) Remove the FB booklet tray cover [C].
- (3) Remove the FB booklet tray cover [C]. (Hex-head flange screw 3x10 (4 pcs.))



- (4) Disconnect a connector.
- (5) Remove a securing screw.

(Hex-head flange screw 3x6)



- (4) Disconnect a connector and push off a reusable band.
- (5) Remove securing screws on the motor bracket and take off the bracket with the motor attached.

(Hex-head flange screw 3x8 (2 pcs.))



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3.4.16. FB Eject Roller

- (1) Unload the Booklet making unit (Booklet transport assembly) from the FM unit. (Refer to 3.4.1.)
- (2) Remove a metal plate on the rear side. (Hex-head flange screw 3x6 (1 pc.))



(3) Remove the securing screws of the FB eject roller cover **[A]** on the rear side.

(Hex-head flange screw 3x6 (2 pcs.))



- (4) Remove the securing screws of the said cover on the front side.
- (Hex-head flange screw 3x6 (2 pcs.)) (5) Take off the FB eject roller cover.



(6) Remove an E ring and pull off a metal bearing from the roller shaft on the front side.



- (7) Remove an E ring and pull off a gear from the roller shaft on the rear side.
- (8) Remove an E ring and pull off a metal bearing from the roller shaft on the rear side as well.
- (9) Push the roller to the rear side and take it out toward you while detaching it from the frame.



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3.4.17. FB Stapler unit

- (1) Unload the Booklet making unit (Booklet transport assembly) from the FM unit. (Refer to 3.4.1.)
- (2) Remove a securing screw and pull off a dial knob. (Hex-head flange screw 3x12)



(3) Remove the FB front cover assembly **[A]**. (Hex-head flange screw 3x8 (4 pcs.))



(4) Disconnect a connector on the rear side.



 (5) Remove the securing screw of the FB stapler unit on the front side. (Hex-head flange screw 3x8 (1 pc.))



 (6) Remove other securing screws of the FB stapler unit and unload the unit. (Hex-head flange screw 3x8 (2 pcs.))



3.4.18. FB Main Control PCB

- (1) Remove the FM rear upper cover. (Refer to 3.3.2.)
- (2) Disconnect connectors (7 pcs.).
- (3) Remove securing screws and detach the PCB from the bracket.
 - (Hex-head flange screw 3x6 (4 pcs.))



4 Adjustment

4.1 Fold accuracy adjustments in FF Unit (Folding section)

The following steps should be taken to adjust the accuracy of fold actions in the Folding section.

- (1) Fold angle adjustment
- (2) Fold position adjustment

Two fold actions are made for each sheet, with the first fold facing backward when a folded sheet is stacked on the tray, regardless of folding patterns. When the folded sheet is opened, however, the relative position of two folds, i.e. the first and the second, is different among folding patterns as shown below. Therefore, take extra care when making adjustments.



The accuracy of fold positions in the respective folding patterns is specified as given below.



4.1.1 Fold angle adjustment

Though this adjustment is mechanical and does not depend on folding patterns, it is recommended that Z-fold sheets should be used for it, since they most obviously show the deviation of fold lines (angles).

<Adjustment procedures>

(1) Make a regular or test-pattern print and check fold lines (angles) on it by measuring the distance at the points indicated in the figure below. The said distances should be equal between the points [A] and [B] and the points [C] and [D].



- (2) If the measured distances are not equal between the indicated points, which means that the fold lines are inclined, pull out the Folder Tray, loosen the knob screw indicated in the picture, then slide the adjustment lever to the right or left to adjust the level of the FF Upper and/or Lower Paper End Guide.
 - If the distance [A] exceeds the distance [B], slide the adjustment lever on the FF Upper Paper End Guide to the left (toward the rear end).
 - If the distance [C] exceeds the distance [D], slide the adjustment lever on the FF Lower Paper End Guide to the right (toward the front end).

If the adjustment lever is shifted by 3mm, the fold line (angle) will be shifted by approximately 1 mm at the front or rear side edge of folded sheets.



4.1.2 Fold position adjustment

* You should make sure that the fold lines (angles) are not inclined on folded sheets before this adjustment.

This adjustment can be separately made for the respective fold patterns and paper formats through test modes.

<Adjustment procedures>

- (1) Make a regular or test-pattern print and check fold positions on it by measuring the length of the corresponding folded sections.
- (2) If the said length is not as expected, i.e. too short or too long, enter the corresponding test modes and change their parameter values.

<Adjustment test mode descriptions for the respective fold patterns>

[Outward 3-fold]

2mm 2±2mm	Test mode No.	Test mode name	Descriptions
	37-6-008 [01] Letter SEF [02] A4 SEF	FF UP END GUIDE POSITION ADJUST (OUTWARD 3-FOLD)	Adjusts the 1st fold position, i.e. the length from the leading edge, in the outward 3-fold operation. [Default] 50 (Range: 10 to 90 / Unit: 0.1mm)
	37-6-009 [01] Letter SEF [02] A4 SEF	FF LOW END GUIDE POSITION ADJUST (OUTWARD 3-FOLD)	Adjusts the 2nd fold position, i.e. the length from the trailing edge, in the outward 3-fold operation. [Default] 50 (Range: 10 to 90 / Unit: 0.1mm)

[Note] The printer should be rebooted after parameter change.



[Inward 3-fold]



Test mode No.	Test mode name	Descriptions
37-6-006 [01] Letter SEF [02] A4 SEF	FF UP END GUIDE POSITION ADJUST (INWARD 3-FOLD)	Adjusts the 1st fold position, i.e. the length from the trailing edge, in the inward 3-fold operation. [Default] 50 (Range: 10 to 90 / Unit: 0.1mm)
37-6-007 [01] Letter SEF [02] A4 SEF	FF LOW END GUIDE POSITION ADJUST (INWARD 3-FOLD)	Adjusts the 2nd fold position, i.e. the length from the leading edge, in the inward 3-fold operation. [Default] 50 (Range: 10 to 90 / Unit: 0.1mm)

[Note] The printer should be rebooted after parameter change.



[19-FIN-130]

[Z-fold]

2±2mm	Test mode No.	Test mode name	Descriptions
Half the paper length +0/-4mm	37-6-010 [01] B4SEF [02] 8K TFX SEF [03] 8K GCO SEF [04] A3 SEF [05] Ledger SEF	FF UP END GUIDE POSITION ADJUST (Z-FOLD)	Adjusts the 1st fold position, i.e. the length from the leading edge, in the Z-fold operation. [Default] 50 (Range: 10 to 90 / Unit: 0.1mm)
	37-6-011 [01] B4SEF [02] 8K TFX SEF [03] 8K GCO SEF [04] A3 SEF [05] Ledger SEF	FF LOW END GUIDE POSITION ADJUST (Z-FOLD)	Adjusts the 2nd fold position, i.e. the length from the trailing edge, in the Z-fold operation. [Default] 50 (Range: 10 to 90 / Unit: 0.1mm)

[Note] The printer should be rebooted after parameter change.



<Fold position gauge sheets>

- Preparation and usage –

- (1) Make original data as A4 format for outward or inward 3-fold or as A3 format for Z-fold, drawing lines as indicated below. For reference, the sample original data are provided on the following pages.
- (2) Print the said original data while specifying the corresponding fold pattern as a finishing option and check the resulting folded sheet.
- (3) If the fold lines deviate from the drawn lines, adjust the fold positions in the folding order through the corresponding test modes.



[Z-fold]



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Outward 3-fold gauge sheet

TM 37-6-009



TM 37-6-008



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[19-FIN-133]



TM 37-6-006

TM 37-6-007



Inward 3-fold gauge sheet

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RISO SQUARE WEB VERSION [19-FIN-134]

19-3. Multifunction Finisher FG20

Z-fold gauge sheet

TM 37-6-011



4.2 Punch hole position adjustments

This adjustment can be separately made for the respective paper formats through test modes. <Adjustment procedures>

- (1) Make a regular or test-pattern print and check the position of punch holes on it by measuring the distance of the closest punch hole from the front edge of sheet.
- (2) If the said distance is not as expected, i.e. too short or too long, enter the corresponding test modes and change their parameter values. If the said values are increased, punch holes are shifted toward the front.

<Punch hole position specifications for the respective paper formats> [2/4-hole metric punch model]



Bapar Format	2 Punch Holes	4 Punch Holes	
Faper Format	Distance A (mm)	Distance B (mm)	
A4 SEF	65.0		
B5 LEF / B4 SEF	88.5		
16 LEF / 8K SEF	95.0	15.0	
A4 LEF / A3 SEF	108.5	28.5	

[2/3-hole inch punch model]



Dener Fernet	2 Punch Holes	3 Punch Holes
PaperFormat	Distance A (mm)	Distance B (mm)
Letter SEF	73.0	
Legal SEF	73.0	
Ledger SEF	105.0	32.0
Letter LEF	105.0	32.0

Test mode No.	Test mode name	Descriptions
37-6-030	PUNCH HOLE POSITION ADJUST	Adjusts the lateral position of punch holes to be made in the respective punching conditions. [Condition 1] When the sheets whose width is 203 to 225mm (or 203 to 230mm) are applied in 2-/4-hole (or SW4-hole) models; [Default] 158 (Range: 81 to 305 / Unit: 0.125mm) [Condition 2] When the sheets whose width is 226 to 297mm (or 231 to 297mm) are applied in 2-/4-hole (or SW4-hole) models; When the sheets whose width is 203 to 297mm are applied in 2-/3-hole models;
[01] Condition 1 [02] Condition 2		[Default] 158 (Range: 81 to 305 / Unit: 0.125mm)

<Adjustment test mode descriptions for the respective paper formats>

[Note] 1. The printer should be rebooted after parameter change.

2. The punch hole pitches cannot be changed because they are mechanically fixed.

4.3 Vertical staple position adjustment

The staple position can be adjusted vertically by changing the mounting position of the FM Stapler Head Assembly as indicated in the picture below.

The normal lateral staple position is as given below.



<Adjustment procedures>



- (1) Loosen the securing screw at the right end.
- (2) Relocate the securing screw at the left end to the screw hole to the right.
- (3) Shift the FM Stapler Head Assembly to the right or the left along the elongated adjustment holes.
- (4) Tighten the securing screws.

[Note]

When the securing screw at the left end is returned to the original screw hole to the left, the FM Stapler Head Assembly is to be located at the factory-default position. 4.4 Lateral staple position adjustment

This adjustment can be separately made for the respective staple patterns and paper formats through test modes.

<Adjustment procedures>

- (1) Make a regular or test-pattern print and check the staple position on it by measuring the distance of a staple from the front edge of sheet (and between staples for the center stapling).
- (2) If the said distance is not as expected, i.e. too short or too long, enter the corresponding test modes and change their parameter values. If the said values are increased, punch holes are shifted toward the front.

<Lateral staple position specifications for the respective paper formats>



Depar Format	Center	Rear Corner	Front Corner
	Distance A (mm)	Distance B (mm)	Distance B (mm)
A4 SEF	27.25	204.0	204.0
B5 LEF / B4 SEF	50.75	251.0	251.0
A4 LEF / A3 SEF	70.75	291.0	291.0
Letter SEF	30.20	209.90	209.90
Legal SEF	30.20	209.90	209.90
Ledger SEF	61.95	273.40	273.40
Letter LEF	61.95	273.40	273.40



Test mode No. Test mode name Descriptions Adjusts the rear-corner staple position for sheets to be stacked on the Stacking tray. [Condition 1] For sheets whose format is A4 LEF or A3 SEF; [Default] 110 (Range: 0 to 150 / Unit: 0.157mm) [Condition 2] For sheets whose width is more than 250mm (9 27/32"), excluding A4 LEF or A3 SEF; **REAR STAPLE** [Default] 126 (Range: 0 to 150 / Unit: 0.157mm) 37-6-050 POSITION ADJUST [Condition 3] For sheets whose width is 250mm (9 27/32") or less, excluding A4 LEF or A3 SEF; [Default] 110 (Range: 0 to 150 / Unit: 0.157mm) The staple position is shifted toward the rear when the parameter value is increased. * For diagonal (angled) stapling, the parameter setting [01] Condition 1 in the item No. 1 (Condition 1) is to be applied [02] Condition 2 regardless of paper width. [03] Condition 3 Adjusts the front-corner angled staple position for sheets to be stacked on the Stacking tray. FRONT STAPLE 37-6-052 [Default] 110 (Range: 0 to 150 / Unit: 0.157mm) POSITION ADJUST The staple position is shifted toward the front when the parameter value is increased. Adjusts the respective center (side-edge) staple positions (2 points) for sheets to be stacked on the Stacking tray. [Front]: The shift range to the front side [Default] 33 (Range: 0 to 40 / Unit: 0.157mm) The staple position is shifted toward the front when the parameter value is increased. DUAL STAPLE * The staple pitch remains unchanged. 37-6-051 POSITION ADJUST [Rear (Staple pitch)]: The distance from the front-side staple position [Default] 33 B (Range: 0 to 40 / Unit: 0.157mm) The staple pitch is widened when the parameter value is increased. [01] Front * The front staple position is fixed. [02] Rear (Pitch)

<Adjustment test mode descriptions for the respective staple patterns and paper formats>

4.5 Booklet staple alignment adjustment

This adjustment should be made when staples are not aligned with the fold line of finished booklets.



<Adjustment procedures>

- (1) Pull out the Booklet Making Unit to the maintenance position.
- (2) Remove the FB Front Cover Assembly.
- (3) Adjust the mounting position of the FB Stapler Unit as instructed below.
 - 1. Loosen the securing screw [1] on the FB Stapler Unit.
 - 2. Remove the securing screws [2] and [3].
 - 3. Relocate the screw [2] to the upper adjustment hole (an oversized one) and the screw [3] to the right-side one (an elongated one).
 - 4. Shift up or down the FB Stapler Unit.
 - 5. Tighten all three securing screws.
- (4) Make a sample booklet to check if the staples are aligned on it.


4.6 Fold angle adjustments in FB Unit (Booklet Making section)

This adjustment is mechanical and does not depend on paper format, sheet volume or staple binding.

The normal fold angle on a 2-fold sheet or a booklet is as given below.



<Adjustment procedures>

(1) Make a regular or test-pattern print and check a fold line (angle) on it by measuring the distance at the points indicated in the figure below. The said distances should be equal between the points [A] and [B].



[Note] The distance is not required to be equal between the points [A] and [C] at this stage.

- (2) If the measured distances are not equal between the indicated points, which means that the fold line is inclined, pull out the Booklet Making Unit, loosen the securing screw of the FB End Guide and turn the adjustment screw for the FB End Guide, which is indicated in the picture on the next page, to adjust the level of the FB End Guide.
 - If the distance [A] exceeds the distance [B], turn the adjustment screw clockwise.
 - If the distance [B] exceeds the distance [A], on the other hand, turn it counterclockwise.
 If the adjustment screw is turned half, the fold line (angle) will be shifted by approximately
 1 mm at the front or rear side edge of folded sheets.
- (3) Tighten the securing screw of the FB End Guide and check the adjustment result with another regular or test-pattern print.



<Supplementary notes>

(1) Make a 2-fold print and measure the amount of deviation at side edges. If it is 1mm for A3 sheet, turn the adjustment screw a half, and if it is 2mm, turn it full.



(2) To make this adjustment more accurately, it is recommended to turn the adjustment screw (with your right hand) while lightly holding down the FB End Guide inside (with your left hand) and then tighten the securing screw of the FB End Guide without releasing your left hand from the FB End Guide as shown below.



(3) 2 scale lines are marked above and below the V-cut section, with 1mm distance between them, on the plate beside the securing screw of the FB End Guide to allow references to the mounting position of the said component during this adjustment.
 It is the standard mounting position of the FB End Guide when the bottom of the V-cut is aligned with the bottom edge of the plate [A] above.

- 4.7 Fold position and staple alignment adjustments in FB Unit (Booklet Making section)
 - * You should make sure that the fold lines (angles) are not inclined on folded sheets before this adjustment.

This adjustment can be separately made according to applied paper formats and folded (booklet) sheet volumes through test modes.

<Adjustment procedures for non-bound (non-stapled) operations>

The basic adjustment is required to be initially made for a single-sheet folding operation and be followed by the compensation value adjustments for multiple-sheet ones, whose fold positions are to be automatically determined based on the parameter values for the single-sheet one.

(1) Make a regular or test-pattern print and check the position of the fold line by measuring the length of the edges [A] and [B] on the folded sheet as indicated in the figure below. The said lengths should be equal between the edges [A] and [B].



- (2) If the said length is not equal, enter the corresponding test modes and change their parameter values.
 - If the length [A] exceeds the length [B], increase the parameter value.

If the said values are increased by 1, the fold position shifts by 0.1mm, thus increasing or decreasing the difference of length between the edges [A] and [B] by 0.2mm.

[Adjustment test mode descriptions for single- (basic) and multiple-sheet folding operations]

Test mode No.	Test mode name	Descriptions			
37-6-240	1-SHEET 2- FOLD POSITION BASIC ADJUST	Adjusts the folding position of twofold sheets in a single-layered format in the Booklet making section by changing the decrement amount of the pre-fold shift range of a non-stapled single sheet by the specified value. [01]: For sheets whose length is 364mm or longer [02]: For sheets whose length is shorter than 364mm			
[01] B4 of larger [02] Smaller than B4		[Default] 100 (Range: 0 to 200 / Unit: 0.1mm)			

[Note] 1. The printer should be rebooted after parameter change.

2. This parameter value is to be applied to both single- and multiple-sheet folding operations, regardless of the folded sheet volume.

[19-FIN-144]

Test mode No.	Test mode name	Descriptions
37-6-249 [01] 2 sheets [02] 3 sheets or more	BOOKLET NON-STAPLE FOLD POSITION ADJUST	Adjusts the folding position on non-stapled booklets in the Booklet making mode by changing the decrement amount of the pre-fold shift range of compiled sheets by the specified value. [Default] 100 (Range: 0 to 200 / Unit: 0.1mm)

[Note] The printer should be rebooted after parameter change.

<Adjustment procedures for bound booklet-making operations>

The basic adjustments are required to be initially made for 2-sheet and 20-sheet bookletmaking operations and be followed by the compensation value adjustments for other-sheetvolume ones, whose fold and staple positions are to be automatically determined based on the parameter values for the single-sheet one.

- Make a regular or test-pattern print and check the alignment of staples with the fold line. They should be aligned with the fold line.
- (2) Check the position of the fold line as well by measuring the length of the edges [A] and
 [B] on booklets as indicated in the figure below. The said lengths should be equal between the edges [A] and [B].



- (3) If staples are not aligned with the fold line, enter the corresponding test modes and change their parameter values.
 - If they are positioned off the fold line toward the top page as shown in the figure above, increase the parameter value.

If the said values are increased by 1, the staple position shifts by 0.1mm.

- (4) If the length of the corresponding booklet edges is not equal as well, enter other related test modes and change their parameter values.
 - If the length [A] exceeds the length [B], increase the parameter value.

If the said values are increased by 1, the fold position shifts by 0.1mm, thus increasing or decreasing the difference of length between the edges [A] and [B] by 0.2mm.

Test mode No.	Test mode name	Descriptions		
37-6-241 [01] B4 or larger [02] Smaller than B4	2-SHEET BOOKLET STAPLE POSITION BASIC ADJUST	Adjusts the saddle stapling position on booklets, whose volume is 2 sheets, in the Booklet making section by changing the decrement amount of the pre-stapling shift range of compiled sheets by the specified value. [01]: For sheets whose length is 364mm or longer [02]: For sheets whose length is shorter than 364mm [Default] 100 (Range: 0 to 200 / Unit: 0.1mm)		
37-6-252 [01] B4 or larger [02] Smaller than B4	20-SH BOOKLET STAPLE POSITION BASIC ADJUST	Adjusts the saddle stapling position on booklets, whose volume is 20 sheets, in the Booklet making section by changing the decrement amount of the pre-stapling shift range of compiled sheets by the specified value. [01]: For sheets whose length is 364mm or longer [02]: For sheets whose length is shorter than 364mm [Default] 100 (Range: 0 to 200 / Unit: 0.1mm)		
37-6-242 [01] B4 or larger [02] Smaller than B4	2-SHEET BOOKLET FOLD POSITION BASIC ADJUST	Adjusts the folding position on booklets, whose volume is 2 sheets, in the Booklet making section by changing the decrement amount of the pre-fold shift range of compiled sheets by the specified value. [01]: For sheets whose length is 364mm or longer [02]: For sheets whose length is shorter than 364mm [Default] 100 (Range: 0 to 200 / Unit: 0.1mm)		

[Test mode descriptions for basic staple and fold position adjustments]

[Note] The printer should be rebooted after parameter change.

[Test mode descriptions	for staple and fold positio	n compensation adjustments]

Test mode No.	Test mode name	Descriptions	
	BOOKLET STAPLE POSIITION FINE ADJUST	Adjusts the position of saddle staples on booklets, separately for the respective booklet volumes.	
		[Default] 100 (Range: 0 to 200 / Unit: 0.1mm)	
37-6-250		[01]: 3 sheets [02]: 4 sheets [03]: 5-7 sheets [04]: 8-9 sheets [05]: 10-11 sheets [06]: 12-13 sheets [07]: 14-15 sheets [08]: 16-17 sheets [09]: 18-19 sheets [10]: 20-21 sheets [11]: 22-23 sheets [12]: 24-25 sheets [13]: 26-27 sheets [14]: 28-29 sheets	
	BOOKLET FOLD POSITION FINE ADJUST (LESS THAN B4)	Adjusts the folding position on booklets, whose volume is more than 2 sheets and whose sheet size is smaller than B4, in the Booklet making section by changing the decrement amount of the pre-fold shift range of compiled sheets by the specified value.	
37-6-244		[Default] 100 (Range: 0 to 200 / Unit: 0.1mm)	
		[01]: 3 sheets [02]: 4 sheets [03]: 5-7 sheets [04]: 8-9 sheets [05]: 10-11 sheets [06]: 12-13 sheets [07]: 14-15 sheets [08]: 16-17 sheets [09]: 18-19 sheets [10]: 20-21 sheets [11]: 22-23 sheets [12]: 24-25 sheets [13]: 26-27 sheets [14]: 28-29 sheets [15]: 30 sheets or more	

[19-FIN-146]

Test mode No.	Test mode name	Descriptions	
37-6-245	BOOKLET FOLD POSITION FINE ADJUST (B4 OR LARGER)	Adjusts the folding position on booklets, whose volume is more than 2 sheets and whose sheet size is B4 or larger, in the Booklet making section by changing the decrement amount of the pre-fold shift range of compiled sheets by the specified value. [Default] 100 (Range: 0 to 200 / Unit: 0.1mm) [01]: 3 sheets [02]: 4 sheets [03]: 5-7 sheets [04]: 8-9 sheets [05]: 10-11 sheets [06]: 12-13 sheets [07]: 14-15 sheets [08]: 16-17 sheets [09]: 18-19 sheets [10]: 20-21 sheets [11]: 22-23 sheets [12]: 24-25 sheets [13]: 26-27 sheets [14]: 28-29 sheets [15]: 30 sheets or more	

[Note] The printer should be rebooted after parameter change.

- 4.8 Lateral staple position adjustment in FB Unit (Booklet Making section)
 - * You should make sure that the fold lines (angles) are not inclined on folded sheets before this adjustment.

This adjustment can be applied to all paper formats because the shift deviation of compiled sheets is to be compensated against the stapling point through this one.

<Adjustment procedures>

- Make a regular or test-pattern print and check the staple position on it by measuring the distance [X] of a staple from the front edge of sheet.
- (2) If the said distance is not as expected, i.e. too short or too long, enter the corresponding test mode and change its parameter values. If the said values are increased, the position of staples is shifted toward the front.



Paper Format	Width (mm)	Distance X (mm)	
A4 SEF	210.0	39.5	
B4 SEF	257.0	63.0	
8K SEF	267.0	68.0	
A3 SEF	297.0	83.0	
Letter SEF	216.0 (8.5 inch)	42.5	
Legal SEF	216.0 (8.5 inch)	42.5	
Ledger SEF	279.0 (11 inch)	74.0	

<Adjustment test mode descriptions>

Test mode No.	Test mode name	Descriptions
37-6-251	BOOKLET STAPLE/EJECT F/R POSITION ADJUST	Adjusts the horizontal position of saddle staples on booklets, thus shifting the ejection position of booklets horizontally to the opposite direction. [Default] 30 (Range: 0 to 50 / Unit: 0.2618mm)

[Note] The printer should be rebooted after parameter change.

19-3. Multifunction Finisher FG20

Wiring Diagrams

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5-1. Overall Wiring Diagram



5-2. Power Supply





ComColor GL Series

Revision 1.0



5-4. FI Unit - Transfer Motors and FG Sensors

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[19-FIN-151]

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5-5. FI Unit - Solenoid and Fan





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9-3. Multifunction Finisher FG20

FI Unit - Paper Sensors and Interlock SW

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[MEMO]

[19-EXF-1]

Chapter 19-4 Additional 2000 Sheet Feeder FG20

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1-1. System Layout

This equipment is installed under the Standard Paper Feed Tray of the printer and has a pull-out-type paper feed tray in which up to 2,000 sheets of A4 size (or letter size) paper can be stored. The paper feeding from this equipment is transferred to the Internal Paper Merge Roller inside the printer and further to the Registration Roller via the Vertical Transfer Roller.



1-2. Component Names

This equipment is composed of the Primary Feed Unit **[A]**, Joint Feed Unit **[B]**, Tray Elevator Unit **[C]** and Paper Feed Tray Unit **[D]**.



[19-EXF-3]

1-3. Part Names and Locations



Motors		Switch	Switches	
M1	EXF Tray Elevator Motor	SW1	EXF Top Access Cover Switch (Rear)	
M2	EXF Primary Feed Motor	SW2	EXF Top Access Cover Switch (Front)	
М3	EXF Joint Feed Motor	SW3	EXF Feed Tray Set Switch	
Senso	prs	SW4	EXF External Feed Tray Bottom Safety	
SN1	EXF Paper Volume Sensor (Top)		Switch	
SN2	EXF Paper Volume Sensor (Middle)	Rollers	3	
SN3	EXF Paper Volume Sensor (Bottom)	R1	EXF Scraper Roller	
SN4	EXF Tray Elevation Limit Sensor	R2	EXF Pickup Roller	
SN5	EXF Paper Detection Sensor	R3	EXF Joint Feed Roller	
SN6	EXF Joint Feed Sensor			
SN7	EXF Connection Sensor			
SN8	EXF Primary Feed Motor FG Sensor			
SN9	EXF Joint Feed Motor FG Sensor			

[19-EXF-4]

2. Mechanism

2-1. Paper Loading and Feed Guides

Paper is to be loaded after pulling the Paper Feed Tray Unit **[A]** toward you and opening the End Paper Feed Guide **[B]**. Up to 2,000 sheets of A4 size (or letter size) paper can be stored in the unit, whose sideways misalignment and skew feed are prevented by the Side Paper Feed Guides **[C]** and the End Paper Feed Guide.

The positions of the Side Paper Feed Guides and End Paper Feed Guide can be adjusted to match the loaded paper size by loosening the Side Guide Extension Securing Screws **[D]** at the top of the respective Paper Feed Guides and securing the Side Guide Extensions **[E]** or End Guide Support after shifting them to specified positions. For fine position adjustment in the horizontal direction, besides, the securing position of the Side Paper Feed Guides can be changed by ±2 mm as well.

Regarding paper size detection, the corresponding mechanism is not provided in this equipment, thus applying the paper size information registered on the printer to control paper transfer during paper feeding from this equipment.



[19-EXF-5]

2-2. Feed Tray Operation

When the Paper Feed Tray Unit is set in place, the EXF Feed Tray Set Switch **[A]** is turned ON, thus leading the EXF Tray Elevator Motor **[B]** to operate to rotate the Tray Elevation Wire Reel Shaft **[C]**, through whose rotation the Tray Elevation Wires are reeled via the Tray Elevation Wire Reel Fulcrums **[D]** (at 4 points), thus elevating the Paper Feed Tray **[E]**.

When the EXF Tray Elevation Limit Sensor detects paper on the Paper Feed Tray, the EXF Tray Elevator Motor stops operating after adjusting the height of the tray for paper feed operation.

During paper feeding (printing), the EXF Tray Elevator Motor intermittently operates according to the paper detection status of the EXF Tray Elevation Limit Sensor **[F]** in the same manner as the Paper Feed Tray Elevator Motor does for the Standard Paper Feed Tray on the printer, thus keeping the level of the uppermost sheet of loaded paper stack as constant as possible for stable paper feed performance.



The remaining volume of loaded paper stack on the Paper Feed Tray is detected at four levels, as shown in the table on the following page, through a combination of the EXF Paper Volume Sensors **[G]**, 3 of which are located in line on the rear side frame.

When paper feeding (printing) ends, furthermore, the EXF Tray Elevator Motor is rotated in reverse for a predefined amount of time to lower the Paper Feed Tray as much as to prevent the top of loaded paper stack from collapsing when the Paper Feed Tray Unit is pulled out.

Although it can be detected with the EXF Paper Detection Sensor **[H]** whether paper runs out in the Paper Feed Tray Unit during printing, the Paper Feed Tray will not be lowered when paper runs out during printing but be let down under its own weight, following the disengagement of the joint **[J]** of the Tray Elevation Wire Reel Shaft, when the Paper Feed Tray Unit is pulled out, while slowing down the dropping speed, braked by the dampers on the shaft, thereby alleviating the dropping impact.

	Interrupt-type photo sensors' light path blockage						
Loaded paper stack volume percentage	Paper Detection Sensor	Paper volume Sensor (Top)	Paper volume Sensor (Middle)	Paper volume Sensor (Bottom)			
0% (No paper)	Blocked	Blocked	Blocked No				
1% to 10%	No	Blockod	No	No			
1 /8 10 10 /8	NO	DIOCKEU	Blocked	NO			
11 % to 30%	Nia	No	Blocked	No			
11 % 10 50 %	NO	NO	DIOCKEU	Blocked			
31% to 50%	No	No	No	Blocked			
51% to 100%	No	No	No	No			

<Loaded paper stack volume detection conditions>

2-3. Primary Paper Feeding

When the paper feeding signal turns ON, the EXF Primary Feed Motor **[A]** starts operating to rotate the EXF Scraper Roller **[B]** (which is in contact with paper with constant pressure at all times) and EXF Pickup Roller **[C]**, thus picking up a sheet of paper from the top of paper stack loaded on the Paper Feed Tray while pressing the Stripper Plate **[D]** against the Pickup Roller to feed it to the Joint Feed Unit.

The EXF Primary Feed Unit is equipped with the Stripper Angle Adjustment Dial **[E]** to enable the adjustment of the angle at which the Stripper Plate gets in contact with the Pickup Roller. Turning this dial changes the angle of the Stripper Plate and, consequently, the force with which a sheet of paper is separated from a paper stack (the stripper pressure).



A predefined amount of time after the leading edge of the sheet feeding to the Joint Feed Unit reaches the EXF Joint Feed Sensor **[F]**, the EXF Primary Feed Motor stops operating, while the EXF Pickup Roller and the EXF Scraper Roller keep rotating even during further paper feeding inside the printer, given one-way clutches inside, to prevent a brake on the feeding sheet.

When the Paper Feed Tray Unit is pulled out, the Stripper Plate releases the stripper pressure applied against the EXF Pickup Roller, while the EXF Scraper Roller, EXF Tray Elevation Limit Detection Lever and EXF Paper Detection Lever are shifted up to avoid contact with a loaded paper stack.



[19-EXF-7]

2-4. Joint Paper Feeding

In the Joint Feed Unit, the EXF Joint Feed Motor **[A] also** starts operation at the start of printing (paper feeding) operation, thus feeding the sheet arriving from the Primary Feed Unit further to the Internal Paper Merge Roller **[B]** inside the printer with the EXF Joint Feed Roller **[C]**.

During this operation, the timing at which the feeding sheet reaches the EXF Joint Feed Sensor **[D]** is compared with a predefined value for slippage compensation in paper feeding, thus advancing or delaying the timing at which the same sheet reaches the Vertical Transfer Roller **[E]** and Registration Roller **[F]** further inside the printer by accelerating or decelerating the Internal Paper Feed Transport Motor, i.e. Internal Paper Merge Roller, in case a delay or an advance is found in the said sheet arrival timing.

The EXF Joint Feed Roller keeps rotating in synchronization with the Internal Paper Merge Roller to transfer a feeding sheet even after it feeds further inside the printer.



[19-EXF-8]

2-5. Safety Interlock System

The Additional 2000 Sheet Feeder has a separate interlock circuit from those for the external paper feed and internal paper feed systems in the printer, thus enabling an operator to add paper into the Additional 2000 Sheet Feeder Paper during paper feeding from the Standard Paper Feed Tray or Internal Paper Feed Trays of the printer.



[EXF Connection Sensor] [A]

This sensor checks whether the Additional 2000 Sheet Feeder is connected with the printer.

[EXF Top Access Cover Switch (Rear)] [B]

When this switch is turned OFF, the supply of power to the motors within the Additional 2000 Sheet Feeder is interrupted.

[EXF Feed Tray Set Switch] [C]

This switch checks whether the Paper Feed Tray Unit is set inside the Additional 2000 Sheet Feeder. When this switch is turned OFF, the supply of power to the motors within the Additional 2000 Sheet Feeder is interrupted.

[EXF External Feed Tray Bottom Safety Switch **[D]**, EXF Top Access Cover Switch (Front) **[E]**]

When either of these switches is turned OFF, the supply of power to the Paper Feed Tray Elevator Motor on the printer is interrupted.

- 3. Disassembly and Reassembly
- 3-1. Covers (Front Cover [A] / Rear Cover [B] / Right Side Cover [C] / Left Side Cover [D] / Top Safety Cover [E] / Top Cover [F] / Top Access Cover Ass'y [G])



- 1. Pull out the Paper Feed Tray Unit.
- 2. Remove 4 screws.



1. Remove 4 screws.



- 1. Detach the Additional 2000 Sheet Feeder from the printer.
- 2. Remove 4 screws.



1. Remove 4 screws.



- 1. Detach the Additional 2000 Sheet Feeder from the printer.
- 2. Remove 4 screws.



[Note] Do not lose coil springs put on the Top safety cover shafts while the Top Safety Cover is off.



- 1. Remove the Top Safety Cover [E].
- 2. Pull out the Paper Feed Tray Unit.
- 3. Open the Top Access Cover.
- 4. Remove 4 screws.

[19-EXF-10]



- 1. Remove the Top Cover [F].
- 2. Remove the fulcrum shaft on the rear side of the Top Access Cover Ass'y.
- Remove the tension spring on the rear side.
 * Be careful not to drop the tension spring.
- 4. Take out the Top Access Cover Ass'y.
- 3-2. EXF Paper Volume Sensors (Top) [A] / (Middle) [B] / (Bottom) [C]



- 1. Pull out the Paper Feed Tray Unit.
- 2. Open the Top Access Cover.
- 3. Remove the EXF Paper Volume Sensor Cover.



- 4. Disconnect a connector.
- 5. Pull off the sensor, unfixing the base hooks.
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3-3. EXF Tray Elevator Motor Ass'y



- 1. Pull out the Paper Feed Tray Unit.
- 2. Remove the Rear Cover.
- 3. Disconnect a connector.
- 4. Remove securing screws.

3-4. Tray Elevation Wire Reel Shaft Ass'y



- 1. Pull out the Paper Feed Tray Unit.
- 2. Remove the Front Cover.
- 3. Remove securing screws and detach the stopper.



 Pull out the Paper Feed Tray Unit further and remove securing screws on the Paper Feed Tray Unit Rear Cover to take off the cover.

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[19-EXF-11]



 Remove snap rings and detach the Tray Elevation Wire End Holders from the support shafts on the front and rear sides of the Paper Feed Tray to release the Tray Elevation Wires.



 Remove securing screws on the Tray Elevation Wire Reel Fulcrum Brackets on the front and rear sides of the Paper Feed Tray Unit and detach them.



- 7. Move to the right side of the Paper Feed Tray Unit and remove E rings on the Tray Elevation Wire Reel Shaft.
- 8. Detach metal bearings from the shaft brackets and take off the shaft assembly from the said brackets.



[Note] The outer wires are longer than the inner ones.

3-5. Joint Feed Unit



- 1. Detach the Additional 2000 Sheet Feeder from the printer.
- 2. Remove the Right Side Cover, Top Safety Cover and Top Cover. (Refer to 3.1.)
- 3. Disconnect the connector of the EXF Joint Feed Motor.



4. Open wire saddles and disconnect the connector of the EXF Joint Feed Sensor.

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[19-EXF-12]



- 5. Remove securing screws and take out the Joint Feed Unit.
- 3-6. EXF Joint Feed Roller **[A]** / EXF Joint Feed Motor **[B]** / Primary Feed Unit **[C]**



- 1. Remove the Joint Feed Unit. (Refer to 3-5.)
- Loosen a securing screw and shift a belt tensioner to the left to loosen the tension on the EXF Joint Feed Motor Belt.



- 3. Take off the belt, remove an E ring on the shaft of the EXF Joint Feed Roller and pull off a pulley from the shaft.
- 4. Remove a plastic stopper and detach a bearing.



 Detach a bearing at the other end of the shaft as well after removing a plastic stopper and take off the EXF Joint Feed Roller.



- 1. Remove the Joint Feed Unit. (Refer to 3-5.)
- Loosen a securing screw and shift a belt tensioner to the left to loosen the tension on the EXF Joint Feed Motor Belt.
- 3. Remove a tension spring hooked to the belt tensioner and take off the belt.
- 4. Remove securing screws and take off the EXF Joint Feed Motor.



- 1. Remove the Joint Feed Unit. (Refer to 3-5.)
- Disconnect the connector of the EXF Primary to Feed Motor.



- 3. Unhook a spring at the unit-side end and open a wire saddle at the rear end of the unit.
- Disconnect the connectors of the EXF Tray Elevation Limit Sensor and EXF Paper Detection Sensor.



- 5. Remove securing screws and take out the Primary Feed Unit.
- 3-7. EXF Paper Detection Sensor **[A]** / EXF Tray Elevation Limit Sensor **[B]**



- 1. Remove the Primary Feed Unit. (Refer to 3-6.[C])
- 2. Unfix the base hooks by pinching them and pull off the sensor.

3-8. EXF Pickup Roller **[A]** / EXF Scraper Roller **[B]** / Stripper Plate **[C]**



- 1. Pull out the Paper Feed Tray Unit.
- Reach inside the Additional 2000 Sheet Feeder and remove a snap ring on the corresponding roller shaft.
- 3. Pull off the EXF Pickup Roller (or EXF Scraper Roller) from the shaft.
- 4. Take off the Stripper Plate Holder from the support and remove the Stripper Plate from the holder.
- [Note] When replacing the rollers, take care not to attach them in the wrong direction.

3-9. EXF Connection Sensor



- 1. Detach the Additional 2000 Sheet Feeder from the printer.
- 2. Remove the Right Side Cover.
- 3. Disconnect a connector.
- 4. Remove a securing screw on the sensor bracket.
- 5. Pull off the sensor from the bracket, unfixing the base hooks.

3-10. EXF External Feed Tray Bottom Safety Switch



- 1. Detach the Additional 2000 Sheet Feeder from the printer.
- 2. Remove the Top Safety Cover.
- 3. Open a wire saddle and disconnect a connector.
- 4. Remove a securing screw on the switch bracket and take off the bracket with the switch attached.
- 5. Detach the switch from the bracket.

3-11. EXF Feed Tray Set Switch



- 1. Pull out the Paper Feed Tray Unit.
- 2. Remove the Rear Cover.
- 3. Open a wire saddle and disconnect a connector.
- 4. Remove a securing screw on the switch bracket and take out the bracket with the switch attached.
- 5. Detach the switch from the bracket.

3-12. EXF Top Access Cover Switch (Front) / (Rear)



- 1. Detach the Additional 2000 Sheet Feeder from the printer.
- Remove the Top Cover and Rear Cover. (Refer to 3.1.)
- 3. Disconnect connectors.
- 4. Remove securing screws on the switch bracket and take out the bracket with the switch attached.
- 5. Detach the switch from the bracket.

3-13. EXF Control PCB



- 1. Remove the Rear Cover.
- 2. Disconnect connectors (7 in total).
- 3. Remove securing screws and take off the PCB, pushing off a plastic support pin.

<PCB replacement notes>

- Detach the EEPROM from an old PCB and attach it to a replacement one.
- After replacement, always download the latest firmware program into the replacement PCB.

4. Adjustment

4-1. Feed Tray Upper Limit Position

Adjust this position when the upper limit position changes due to the wear of the EXF Scraper Roller, etc.



<Adjustment procedure>

- 1. Remove the Front Cover.
- 2. Remove the Top Safety Cover.
- 3. Adjust the feed tray upper limit position by changing the position of the Tray Elevation Limit Sensor Bracket **[A]**.
- 4. While checking visually through the inspection window on the front side, make adjustments so that the gap between the top face of loaded paper stack and the EXF Pickup Roller **[B]** is 4.0 to 5.0 mm.



5. Wiring Diagrams

5-1. Overall Wiring Diagram







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Power Supply / Interface / Interlock



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19-4. Additional 2000 Sheet Feeder FG20

5-3. Actuators



[19-EXF-18]



RISO SQUARE WEB VERSION

CONFIDENTIAL

[19-EXF-19] 19-4. Additional 2000 Sheet Feeder FG20

[MEMO]