Model Z-P2
Machine Codes: M257

Field Service Manual

April, 2015

Important Safety Notices

Responsibilities of the Customer Engineer

Customer Engineer

Maintenance shall be done only by trained customer engineers who have completed service training for the machine and all optional devices designed for use with the machine.

Reference Material for Maintenance

- Maintenance shall be done using the special tools and procedures prescribed for maintenance of the machine described in the reference materials (service manuals, technical bulletins, operating instructions, and safety guidelines for customer engineers).

- In regard to other safety issues not described in this document, all customer engineers shall strictly obey procedures and recommendations described the "CE Safety Guide".

- Use only consumable supplies and replacement parts designed for use of the machine.

Before Installation, Maintenance

Shipping and Moving the Machine

⚠ CAUTION

- Work carefully when lifting or moving the machine. If the machine is heavy, two or more customer engineers may be required to prevent injuries (muscle strains, spinal injuries, etc.) or damage to the machine if it is dropped or tipped over.

- Personnel moving or working around the machine should always wear proper clothing and footwear. Never wear loose fitting clothing or accessories (neckties, loose sweaters, bracelets, etc.) or casual footwear (slippers, sandals, etc.) when lifting or moving the machine.

- Always unplug the power cord from the power source before you move the product. Before you move the product, arrange the power cord so it will not fall under the product.

Power

⚠ WARNING

- Always disconnect the power plug before doing any maintenance procedure. After switching off the machine, power is still supplied to the main machine and other devices. To prevent electrical

shock, switch the machine off, wait for a few seconds, then unplug the machine from the power source.

- Before you do any checks or adjustments after turning the machine off, work carefully to avoid injury. After removing covers or opening the machine to do checks or adjustments, never touch electrical components or moving parts (gears, timing belts, etc.).

- After turning the machine on with any cover removed, keep your hands away from electrical components and moving parts. Never touch the cover of the fusing unit, gears, timing belts, etc.

Installation, Disassembly, and Adjustments

⚠ CAUTION

- After installation, maintenance, or adjustment, always check the operation of the machine to make sure that it is operating normally. This ensures that all shipping materials, protective materials, wires and tags, metal brackets, etc., removed for installation, have been removed and that no tools remain inside the machine. This also ensures that all release interlock switches have been restored to normal operation.

- Never use your fingers to check moving parts causing spurious noise. Never use your fingers to lubricate moving parts while the machine is operating.

Special Tools

⚠ CAUTION

- Use only standard tools approved for machine maintenance.

- For special adjustments, use only the special tools and lubricants described in the service manual. Using tools incorrectly, or using tools that could damage parts, could damage the machine or cause injuries.

During Maintenance

General

⚠ CAUTION

- Before you begin a maintenance procedure:
  1) Switch the machine off,
  2) Disconnect the power plug from the power source,
  3) Allow the machine to cool for at least 10 minutes.

- Avoid touching the components inside the machine that are labeled as hot surfaces.

Safety Devices

⚠ WARNING

- Never remove any safety device unless it requires replacement. Always replace safety devices immediately.

- Never do any procedure that defeats the function of any safety device. Modification or removal of a safety device (fuse, switch, etc.) could lead to a fire and personal injury. Always test the operation of the machine to ensure that it is operating normally and safely after removal and replacement of any safety device.

- For replacements use only the correct fuses or circuit breakers rated for use with the machine. Using replacement devices not designed for use with the machine could lead to a fire and personal injuries.

Organic Cleaners

⚠ CAUTION

- During preventive maintenance, never use any organic cleaners (alcohol, etc.) other than those described in the service manual.

- Make sure the room is well ventilated before using any organic cleaner. Use organic solvents in small amounts to avoid breathing the fumes and becoming nauseous.

- Switch the machine off, unplug it, and allow it to cool before doing preventive maintenance. To avoid fire or explosion, never use an organic cleaner near any part that generates heat.

- Wash your hands thoroughly after cleaning parts with an organic cleaner to contamination of food, drinks, etc. which could cause illness.

- Clean the floor completely after accidental spillage of silicone oil or other materials to prevent slippery surfaces that could cause accidents leading to hand or leg injuries. Use "My Ace" Silicone Oil Remover (or dry rags) to soak up spills. For more details, please refer to Technical Bulletin "Silicone Oil Removal" (A024-50).

Lithium Batteries

⚠ WARNING

- Always replace a lithium battery on a PCB with the same type of battery prescribed for use on that board. Replacing a lithium battery with any type other than the one prescribed for use on the board could lead to an explosion or damage to the PCB.

- Never discard used batteries by mixing them with other trash. Remove them from the work site and dispose of them in accordance with local laws and regulations regarding the disposal of such items.

Power Plug and Power Cord

⚠ WARNING

- Before serving the machine (especially when responding to a service call), always make sure that the power plug has been inserted completely into the power source. A partially inserted plug could lead to heat generation (due to a power surge caused by high resistance) and cause a fire or other problems.

- Always check the power plug and make sure that it is free of dust and lint. Clean it if necessary. A dirty plug can generate heat which could cause a fire.

- Inspect the length of the power cord for cuts or other damage. Replace the power cord if necessary. A frayed or otherwise damaged power cord can cause a short circuit which could lead to a fire or personal injury from electrical shock.

- Check the length of the power cord between the machine and power supply. Make sure the power cord is not coiled or wrapped around any object such as a table leg. Coiling the power cord can cause excessive heat to build up and could cause a fire.

- Make sure that the area around the power source is free of obstacles so the power cord can be removed quickly in case of an emergency.

- Make sure that the power cord is grounded (earthed) at the power source with the ground wire on the plug.

- Connect the power cord directly into the power source. Never use an extension cord.

- When you disconnect the power plug from the power source, always pull on the plug, not the cable.

After Installation, Servicing

Disposal of Used Items

⚠ WARNING

- Never incinerate used toner or toner cartridges.

- Toner or toner cartridges thrown into a fire can ignite or explode and cause serious injury. At the work site always carefully wrap used toner and toner cartridges with plastic bags to avoid spillage before disposal or removal.

⚠ CAUTION

- Always dispose of used items (developer, toner, toner cartridges, OPC drums, etc.) in accordance with the local laws and regulations regarding the disposal of such items.

- To protect the environment, never dispose of this product or any kind of waste from consumables at a household waste collection point. Dispose of these items at one of our dealers or at an authorized collection site.

- Return used selenium drums to the service center for handling in accordance with company policy regarding the recycling or disposal of such items.

Points to Confirm with Operators

At the end of installation or a service call, instruct the user about use of the machine. Emphasize the following points.

- Show operators how to remove jammed paper and troubleshoot other minor problems by following the procedures described in the operating instructions.

- Point out the parts inside the machine that they should never touch or attempt to remove.

- Confirm that operators know how to store and dispose of consumables.

- Make sure that all operators have access to an operating instruction manual for the machine.

- Confirm that operators have read and understand all the safety instructions described in the operating instructions.

- Demonstrate how to turn off the power and disconnect the power plug (by pulling the plug, not the cord) if any of the following events occur: 1) something has spilled into the product, 2) service or repair of the product is necessary, 3) the product cover has been damaged.

- Caution operators about removing paper fasteners around the machine. They should never allow paper clips, staples, or any other small metallic objects to fall into the machine.

Special Safety Instructions for Toner

Accidental Physical Exposure

⚠️CAUTION

- Work carefully when removing paper jams or replacing toner bottles or cartridges to avoid spilling toner on clothing or the hands.

- If toner is inhaled, immediately gargle with large amounts of cold water and move to a well ventilated location. If there are signs of irritation or other problems, seek medical attention.

- If toner gets on the skin, wash immediately with soap and cold running water.

- If toner gets into the eyes, flush the eyes with cold running water or eye wash. If there are signs of irritation or other problems, seek medical attention.

- If toner is swallowed, drink a large amount of cold water to dilute the ingested toner. If there are signs of any problem, seek medical attention.

- If toner spills on clothing, wash the affected area immediately with soap and cold water. Never use hot water! Hot water can cause toner to set and permanently stain fabric.

Handling and Storing Toner

⚠ WARNING

- Toner, used toner, and developer are extremely flammable.
- Never store toner, developer, toner cartridges, or toner bottles (including empty toner bottles or cartridges) in a location where they will be exposed to high temperature or an open flame.

⚠ CAUTION

- Always store toner and developer supplies such as toner and developer packages, cartridges, and bottles (including used toner and empty bottles and cartridges) out of the reach of children.
- Always store fresh toner supplies or empty bottles or cartridges in a cool, dry location that is not exposed to direct sunlight.

Toner Disposal

⚠ WARNING

- Never attempt to incinerate toner, used toner, or empty toner containers (bottles or cartridges). Burning toner can explode and scatter, causing serious burns.
- Always wrap used toner and empty toner bottles and cartridges in plastic bags to avoid spillage. Follow the local laws and regulations regarding the disposal of such items.
- Dispose of used toner and toner cartridges at one of our dealers or at an authorized collection site. Always dispose of used toner cartridges and toner bottles in accordance with the local laws and regulations regarding the disposal of such items.

Safety Instructions for this Machine

Prevention of Physical Injury

1. Before disassembling or assembling parts of the machine and peripherals, make sure that the machine and peripheral power cords are unplugged.
2. The plug should be near the machine and easily accessible.
3. Note that some components of the machine and the paper tray unit are supplied with electrical voltage even if the main power switch is turned off.
4. If any adjustment or operation check has to be made with exterior covers off or open while the main switch is turned on, keep hands away from electrified or mechanically driven components.

5. If the [Start] key is pressed before the machine completes the warm-up period (the [Start] key starts blinking red and green), keep hands away from the mechanical and the electrical components as the machine starts making copies as soon as the warm-up period is completed.

6. The inside and the metal parts of the fusing unit become extremely hot while the machine is operating. Be careful to avoid touching those components with your bare hands.

7. To prevent a fire or explosion, keep the machine away from flammable liquids, gases, and aerosols.

Health Safety Conditions

1. Always replace the ozone filters with the specified types at the proper intervals.

2. Toner and developer are non-toxic, but if you get either of them in your eyes by accident, it may cause temporary eye discomfort. Try to remove with eye drops or flush with water as first aid. If unsuccessful, get medical attention.

Observance of Electrical Safety Standards

1. The machine and its peripherals must be installed and maintained by a customer service representative who has completed the training course on those models.

2. The NVRAM on the system control board has a lithium battery which can explode if replaced incorrectly. Replace the NVRAM only with an identical one. The manufacturer recommends replacing the entire NVRAM. Do not recharge or burn this battery. Used NVRAM must be handled in accordance with local regulations.

Safety and Ecological Notes for Disposal

1. Do not incinerate toner bottles or used toner. Toner dust may ignite suddenly when exposed to an open flame.

2. Dispose of used toner, developer, and organic photoconductors in accordance with local regulations. (These are non-toxic supplies.)

3. Dispose of replaced parts in accordance with local regulations.

4. When keeping used lithium batteries in order to dispose of them later, do not put more than 100 batteries per sealed box. Storing larger numbers or not sealing them apart may lead to chemical reactions and heat build-up.

⚠ CAUTION

- The danger of explosion exists if a battery of this type is incorrectly replaced.

- Replace only with the same or an equivalent type recommended by the manufacturer. Discard used batteries in accordance with the manufacturer's instructions.
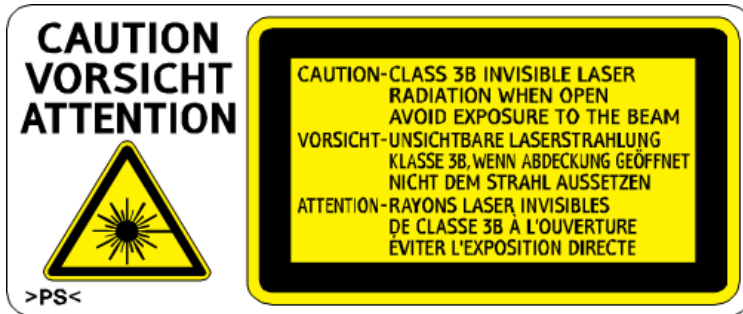
Laser Safety

The Center for Devices and Radiological Health (CDRH) prohibits the repair of laser-based optical units in the field. The optical housing unit can only be repaired in a factory or at a location with the requisite equipment. The laser subsystem is replaceable in the field by a qualified Customer Engineer. The laser chassis is not repairable in the field. Customer engineers are therefore directed to return all chassis and laser subsystems to the factory or service depot when replacement of the optical subsystem is required.

⚠ WARNING

- Use of controls, or adjustment, or performance of procedures other than those specified in this manual may result in hazardous radiation exposure.

⚠ WARNING

- WARNING: Turn off the main switch before attempting any of the procedures in the Laser Optics Housing Unit section. Laser beams can seriously damage your eyes.

- CAUTION MARKING:

CAUTION VORSICHT ATTENTION

>PS<

CAUTION-CLASS 3B INVISIBLE LASER RADIATION WHEN OPEN AVOID EXPOSURE TO THE BEAM
VORSICHT-UNSICHTBARE LASERSTRAHLUNG KLASSE 3B, WENN ABDECKUNG GEÖFFNET NICHT DEM STRAHL AUSSETZEN
ATTENTION-RAYONS LASER INVISIBLES DE CLASSE 3B À L'OUVERTURE ÉVITER L'EXPOSITION DIRECTE

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Symbols, Abbreviations and Trademarks

This manual uses several symbols and abbreviations. The meaning of those symbols and abbreviations are as follows:

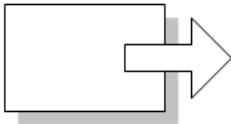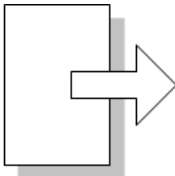|	
☞	See or Refer to
〰	Clip ring
✇	Screw
⊏⊐	Connector
⬚	Clamp
ℂ	E-ring
SEF	Short Edge Feed
LEF	Long Edge Feed

Short Edge Feed (SEF)   **Long Edge Feed (LEF)**

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Trademarks

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2. Installation

3. Preventive Maintenance

4. Replacement and Adjustment

5. System Maintenance Reference

6. Troubleshooting

1. Product Information

Specifications

See "Appendices" for the following information:

- "General Specifications"
- "Supported Paper Sizes"
- "Software Accessories"
- "Optional Equipment"

Machine Configuration

1 ## Machine Configuration

Item	Machine Code	Remarks
SP C440DN	M257	
Paper Feed Unit PB1020	M384	Up to three tray units can be installed. Common with Z-P1 (M065/ M066)
Caster Table Type C	M393	Common with Z-P1 (M065/ M066)
Hard Disk Drive Option Type P7	M479-00	
IEEE802.11 Interface unit Type O	M417	
IEEE1284 Interface Board Type A	B679-17	Common with Z-P1 (M065/ M066)
USB Device Server Option Type M12	D3A7	
Camera Direct Print Card Type P7	M479-04	
VM CARD Type P7	M479-08	
IPDS Unit Type P7	M479-01, -02, -03	
Direct Print Option Type P7	M479-05, -06, -07	
SD CARD SET FOR FONT TYPE D FOR MFP	D641-54	

Guidance for Those Familiar with Predecessor Products

The Z-P2b (M257) is similar to the Z-P1a (M065) and P1b (M066) models.

If you have experience with those products, the following information will be of help when you read this manual.

Different Points from Previous Products

	New	Predecessor Models	
	M257	M065	M066
PPM	LT: 42 ppm, A4: 40 ppm	LT: 37 ppm, A4: 35 ppm	LT: 42 ppm, A4: 40 ppm
Controller Type	GW+	GW	
Power Switch	DC Switch	AC Switch	
Light Detection Sensor	Available	Not available	
HDD	Option	Option	Standard
Additional network interface port	Option	Not available	
ELP-NX	Option	Option	Standard
Data Overwrite Security Unit and HDD Encryption Unit	On board	SD card	SD card
Log-storing function	Available	Not available	

Overview

Mechanical Component Layout

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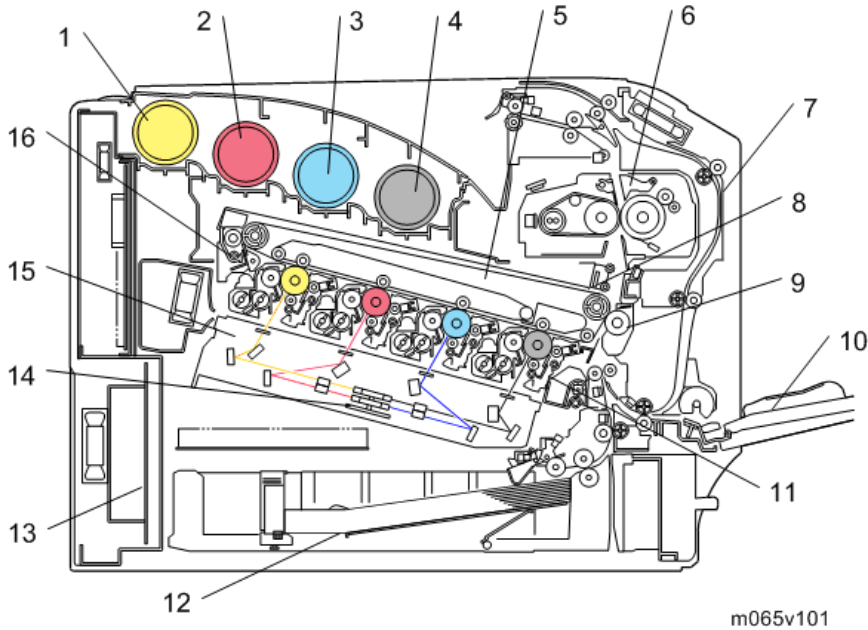
1. Toner Bottle [Y]	10. By-pass Tray
2. Toner Bottle [M]	11. PCDU (Photo Conductor Development Unit)
3. Toner Bottle [C]	12. Standard Paper Feed Tray (Tray 1)
4. Toner Bottle [K]	13. PSU (Power Supply Unit)
5. ITB (Image Transfer Belt) Unit	14. Polygon Mirror Motor
6. Fusing Unit	15. LDU
7. Duplex Unit	16. ITB (Image Transfer Belt) Cleaning Unit
8. ID Sensor	
9. PTR (Paper Transfer Roller)	

Paper Path
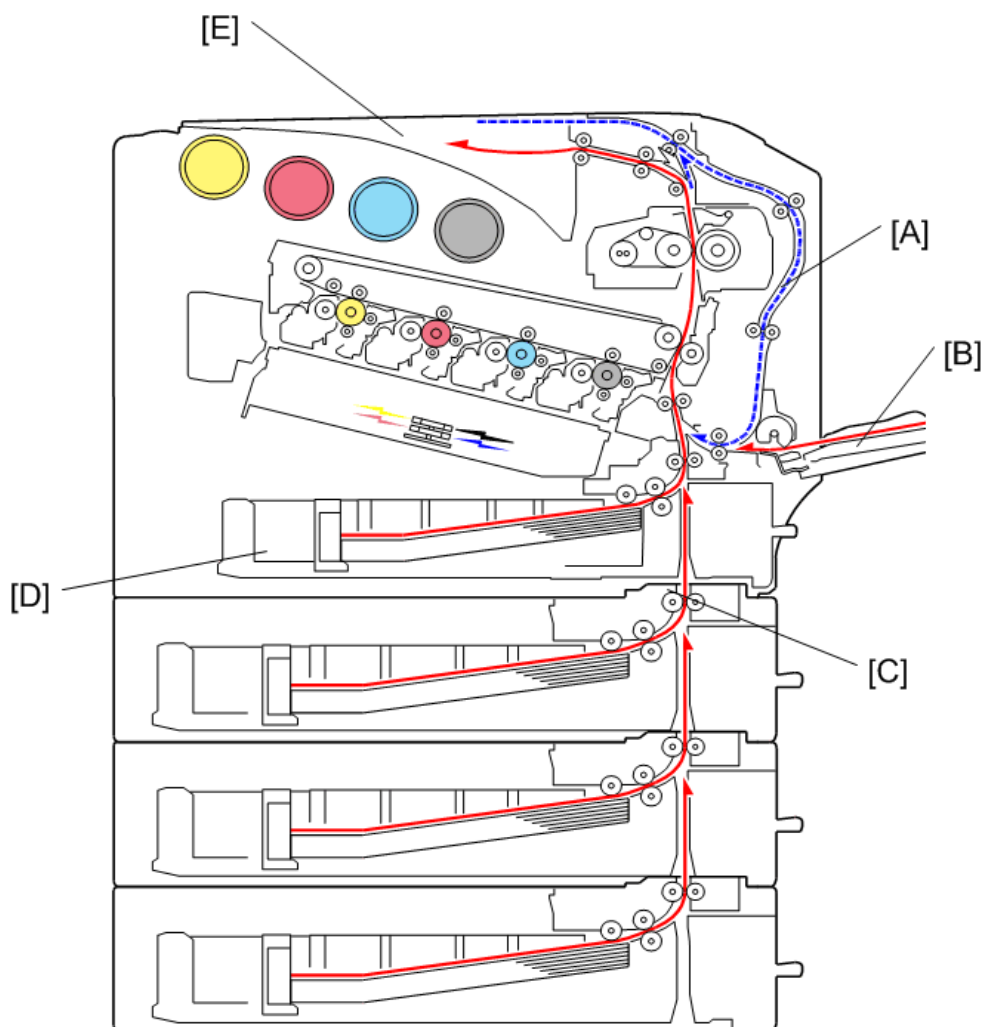
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[A]: Duplex Unit

[B]: By-pass Tray

[C]: Optional Paper Feed Trays (Trays 2, 3, and 4)

[D]: Standard Paper Feed Tray (Tray 1)

[E]: Standard Paper Exit Tray

Drive Layout

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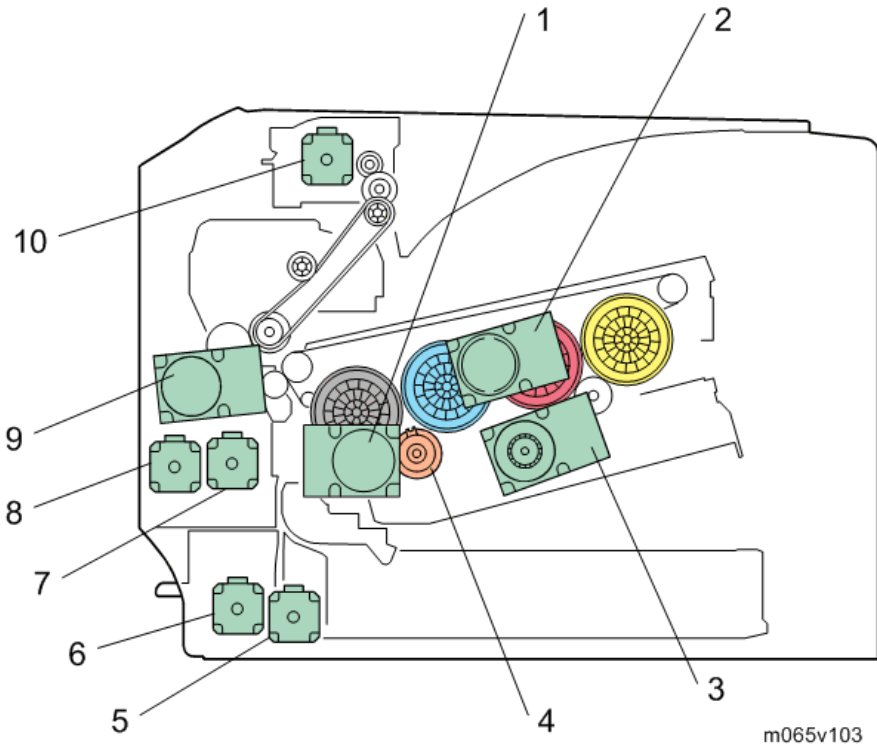
1. ITB Unit/ Drum-K/ Development-K Motor:

   This controls the OPC for black, development unit for black, and ITB unit.

2. Drum Motor: CMY:

   This controls the OPCs for cyan, magenta, and yellow.

3. Development Motor: CMY:

   This controls the color development units (cyan/ magenta/ yellow).

4. Development Clutch: K:

   This controls the drive power to the development unit for black.

5. Paper Feed Motor:

   This controls the paper feed mechanisms (tray 1).

6. Vertical Transport Motor:

   This controls the vertical transport roller.

7. Registration Motor:

   This controls the registration rollers.

8. Duplex/By-pass Motor:

This controls the duplex entrance, relay, exit, and by-pass feed rollers.

9. Fusing/ Paper Exit Motor:

This controls the fusing unit and paper exit rollers.

10. Inverter Motor:

This controls the inverter roller.

2. Installation

Installation Requirements

Environment

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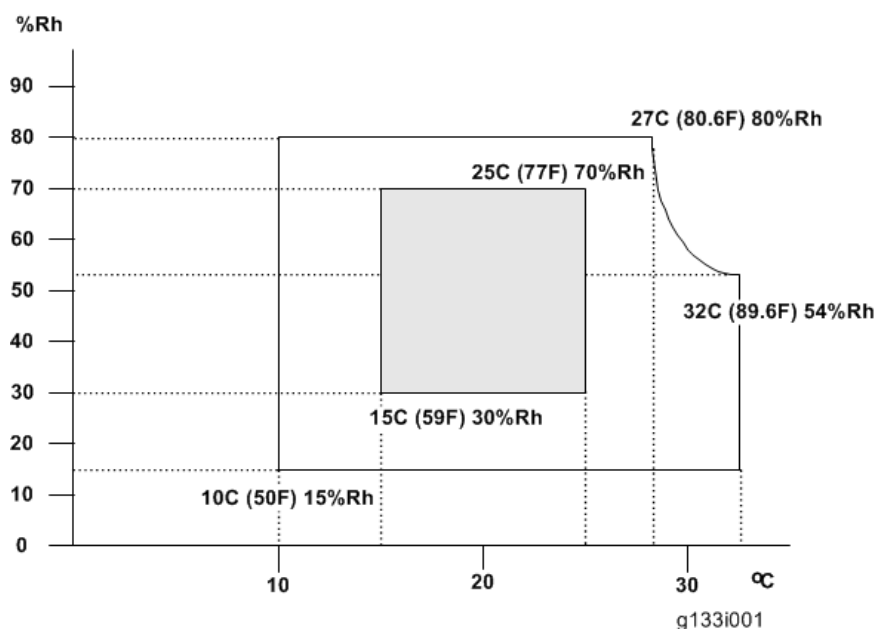
1. Temperature Range: 10°C to 32°C (50°F to 89.6°F)

2. Humidity Range: 15% to 80% RH

3. Ambient Illumination: Less than 1500 lux (do not expose to direct sunlight)

4. Ventilation: 3 times/hr/person or more

5. Do not let the machine get exposed to the following:

    1) Cool air from an air conditioner

    2) Heat from a heater

6. Do not install the machine in areas that are exposed to corrosive gas.

7. Install the machine at locations lower than 2,000 m (6,500 ft.) above sea level.

8. Install the machine on a strong, level base. (Inclination on any side must be no more than 5 mm.)

9. Do not install the machine in areas that get strong vibrations.

Machine Level

Front to back: Within 5 mm (0.2")

Right to left: Within 5 mm (0.2")

Machine Space Requirements

⚠CAUTION

- This machine, which uses high voltage power sources, can generate ozone gas. High ozone density is harmful to human health. Therefore, the machine must be installed in a well-ventilated room.

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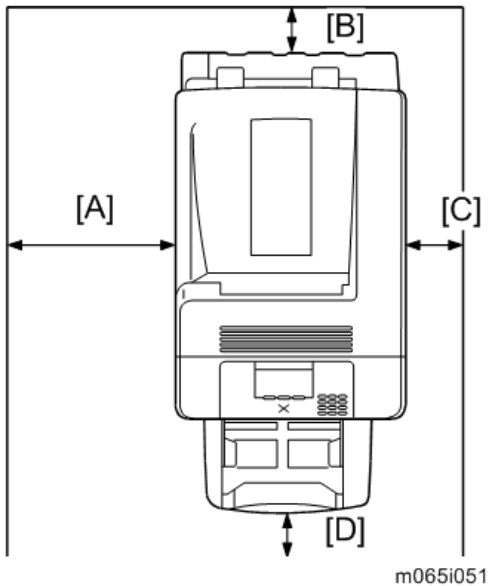
A: Over 500 mm (19.7")

B: Over 20 mm (0.8")

C: Over 100 mm (4.0")

D: Over 700 mm (27.6")

Above the machine: Over 350 mm (13.8")

Put the machine near the power source with the clearance.

Power Requirements

⚠CAUTION

- Insert the plug firmly in the outlet.

- Do not use an outlet extension plug or cord.

- Ground the machine.

1. Input voltage level:

   120 V to 127 V, 60 Hz: More than 12 A

   220 V to 240 V, 50 Hz/60 Hz: More than 8 A

2. Permissible voltage fluctuation: NA: ±8.66 %/ EU: ±10 %

3. Do not put things on the power cord.

Optional Unit Combinations

Machine Options

U: User installation, C: CE installation

No.	Options		Remarks
1	Paper Feed Unit PB1020 (M384)	U/C	Up to x 3 User: For installing on the table CE: For installing on the floor
2	Caster Table Type C (M393)	C	Install the caster table if the machine is on the floor.

Controller Options

U: User installation, C: CE installation

No.	Options		Remarks
1	Hard Disk Drive Option Type P7 (M479)	U	-
2	IEEE1284 Interface Board Type A (B679-17)	U	I/F slot
3	IEEE802.11 Interface unit Type O (M417)	U	
4	USB Device Server Option Type M12	C	
5	Camera Direct Print Card Type P7	U	SD slot 1
6	VM CARD Type P7	U	
7	IPDS Unit Type P7	U	
8	XPS Direct Print Option Type P7	U	
9	SD CARD SET FOR FONT TYPE D FOR MFP(D641-54)	U	

Printer Installation

Installation Procedure

⤵ **Note**

- Keep the shipping retainers after you install the machine. You may need them in the future if you transport the machine to another location.

Unpacking

⚠ **CAUTION**

- When lifting the machine, use the inside grips on both sides of the machine.

- If not, the machine could be dropped. This may cause an injury and may damage the machine.

- Place no objects on the left cover or on the inner cover.

1. **Remove the plastic bag.**

2. **Lift the machine with four people by using the inset grips on both sides of the machine.**

   ⚠ **CAUTION**

   - Do not hold the machine at the front and rear bottom corners when lifting.

   - Grips must be used only for moving the machine without caster table and paper feed unit. If these items are also installed when you move the machine, do not use the grips.
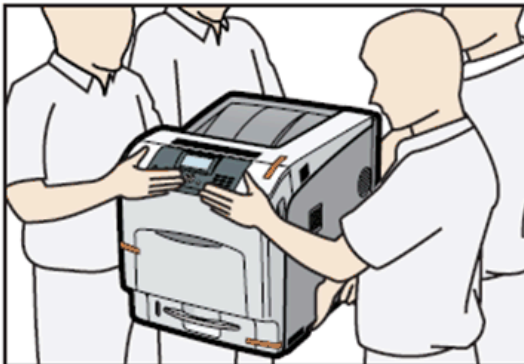
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   ⭐ **Important**

   - Do not remove the tapes before placing the machine.

   - Lower the machine slowly and carefully, so as not to pinch your hands.

3. **Remove the tape from the printer.**

4. Open the left cover [A].
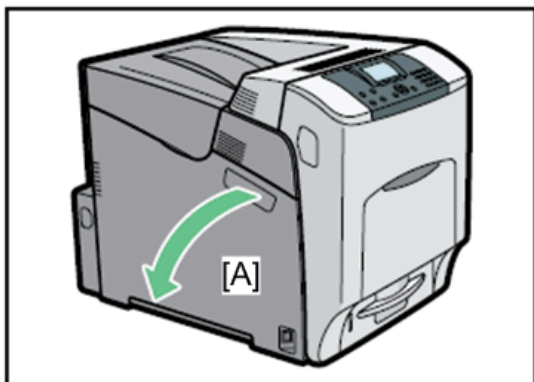
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5. Turn the green lever counterclockwise (①), and then slowly open the inner cover (②).
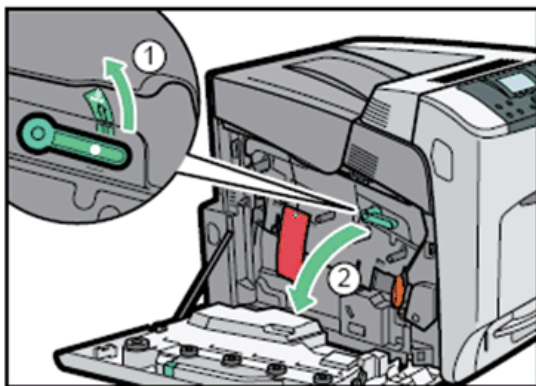
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6. Remove the securing pin, as shown, from the transfer unit. Pinch it (①), and then pull it out (②-③).
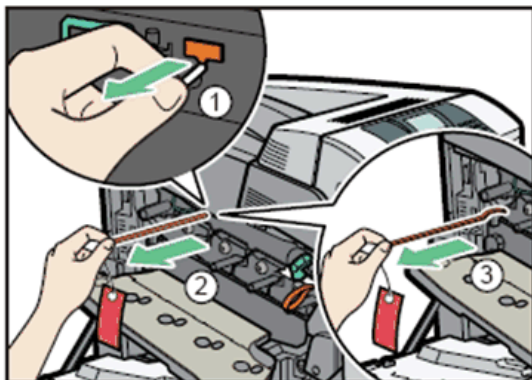
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7. Turn the green lever of the transfer unit counterclockwise to unlock the unit (①). Remove the protective sheet, as shown. Pinch the orange tape (②), and then pull it out (③).
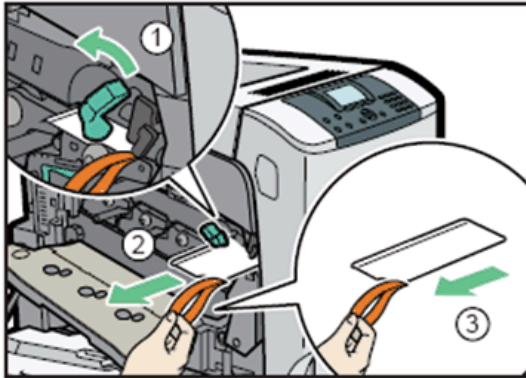
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8. Turn the green lever clockwise to lock the unit.
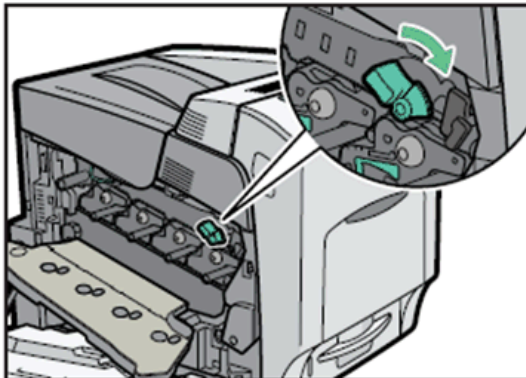
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9. Close the inner cover.

10. **Lock the inner cover by pushing on both ends (①), and then turning the green lever clockwise (②).**
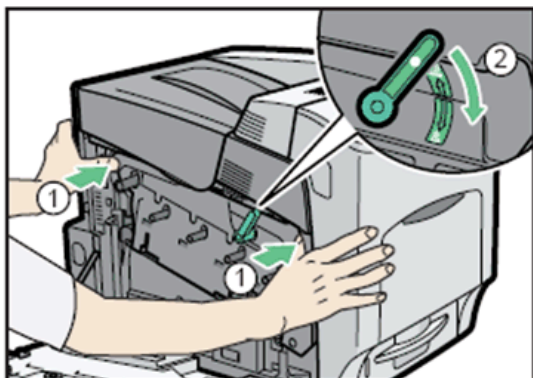
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11. **Close the left cover.**

   🔽Note

   • Using both hands, push the left cover firmly, until it clicks into place.

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12. **Put labels "1" on the front of the paper tray.**

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Installing the toner

1. **Open the upper cover.**

2. **Shake the toner bottles up and down seven or eight times.**
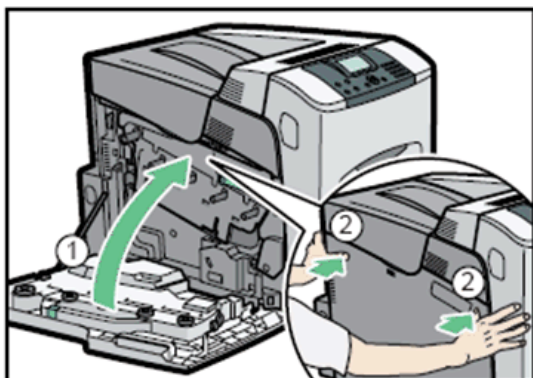
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3. **Install the yellow toner bottle first. Holding the toner bottle horizontally with the label facing up, align the label with the position of the triangular mark.**
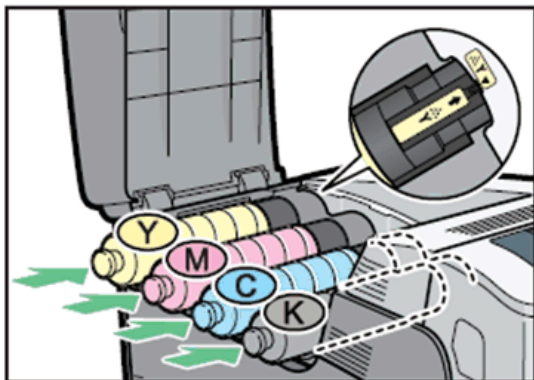
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🔽 **Note**

- Be sure to set the toner bottles so that they are straight and flat.

- Carefully align the label on each toner bottle with the triangular mark on the receiving side.
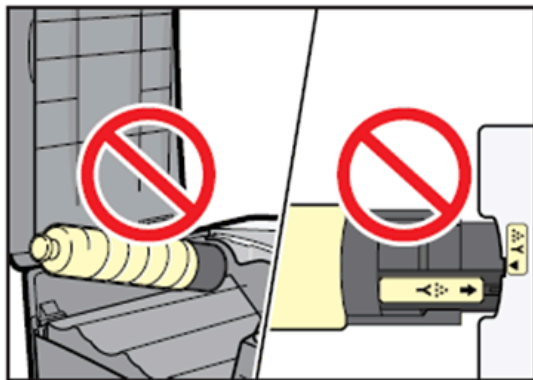
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4. **Push in the toner bottle until you hear a clicking sound.**

🔽 **Note**

- Do not repeatedly insert and remove toner bottles. This causes toner leakage.

5. **Close the upper cover.**

Loading Paper

1. **Pull out the paper tray until it stops.**

2. **Lift it slightly, and then pull it out.**
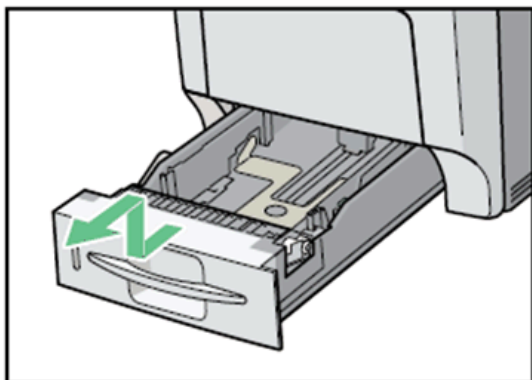
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3. **Pinch the green clips on the side guide and the end guide, and then adjust the guides to the paper size being loaded.**
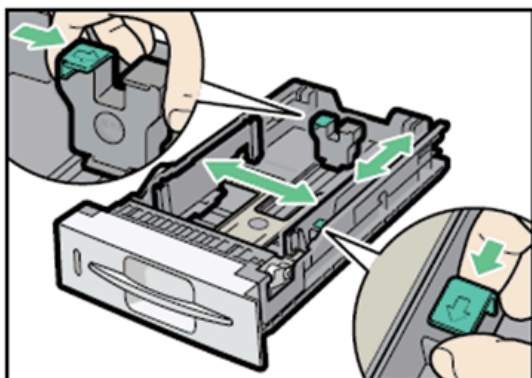
m065i514

4. **Load the new paper stack print side up, making sure the paper is flush against the paper guides.**
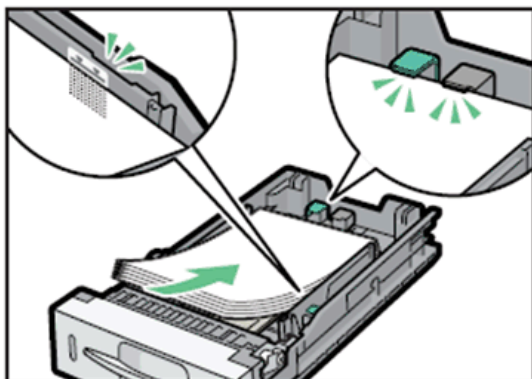
m065i515

5. **Adjust the paper guides to close any gaps.**
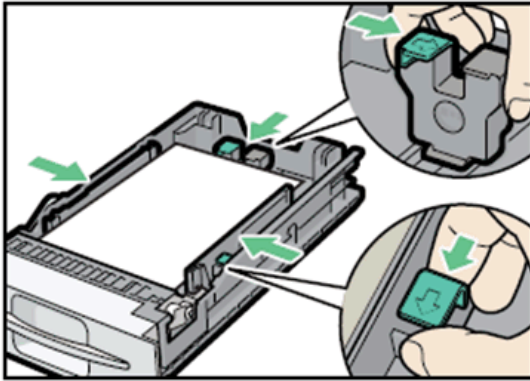
m065i516

⬇Note

- Do not move paper loaded in the tray more than a few millimeters. Excessive movement of loaded paper can cause edges of sheets to snag on the openings of the tray's lifting plate, resulting in sheets being folded or becoming jammed.

- When adjusting the paper width, use the right side guide only, with the green clip. Do not hold the left side guide at this time, or skew will occur.

6. **Lift the front of the paper tray, and slowly slide the paper tray back until it stops. Make sure that the paper tray is fully inserted to prevent paper jams.**
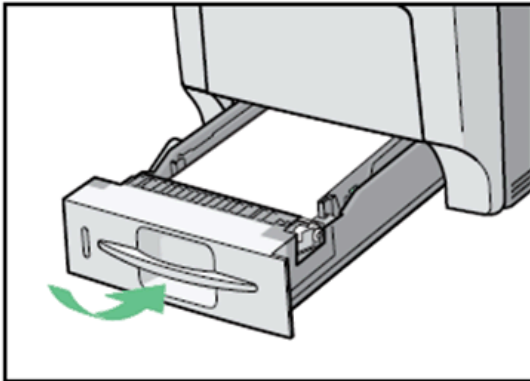
m065i517

Turning Power On

⚠CAUTION

- Turn off the power switch whenever you plug in and unplug the power cord.

1. **Plug in the machine.**
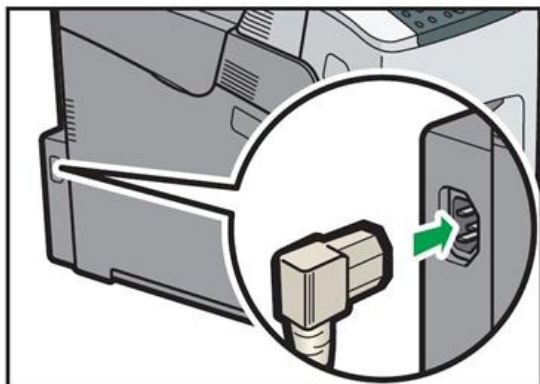
m257i0001

2. **Turn on the power switch.**
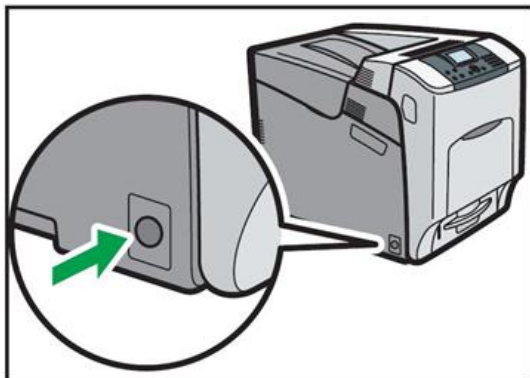
m257i0002

⭐**Important**

- Do not turn off the power switch until initialization is completed ("Ready" appears on the display when initialization is completed). Otherwise, the machine may malfunction.

Selecting the Panel Display Language

🔽**Note**

- You can select one of these languages (the default is English): English, German, French, Italian, Dutch, Swedish, Norwegian, Danish, Spanish, Finnish, Portuguese, Czech, Polish or Hungarian.

- You do not have to do this procedure if you use English. Do this procedure if you want to use a different language.

1. **Turn on the power switch of the printer.**

   🔽 **Note**

   • "Ready" shows on the panel display after the machine warms up.

2. **Press the "Menu" key.**

3. **Press the "▽" or "△" key to select "Language."**

4. **Press the "OK" key.**

5. **Press the "▽" or "△" key to select the language you want.**

6. **Press the "OK" key.**

7. **Press the "Menu" key to return to the initial screen.**

Printing the Test Page

You can check if the printer works correctly by printing a test page such as the configuration page. However, you cannot check the connection between the printer and the computer by printing the test page.

1. **Turn on the power switch of the printer.**

   🔽 **Note**

   • "Ready" shows on the panel display after the machine warms up.

2. **Press the "Menu" key.**

3. **Press the "▽" or "△" key to select "List/Test Print".**

4. **Press the "OK" key.**

5. **Press the "▽" or "△" key to select "Config. Page".**

6. **Press the "OK" key.**

7. **The test printing starts shortly after.**

8. **Press the "Menu" key to return to the initial screen.**

9. **Turn off the power switch of the printer.**

Settings Relevant to the Service Contract

Change the necessary settings depending on the each customer's service contract. For details, refer to "Meter Click Charge" following this section.

Meter Click Charge

Basically, there are two ways to set up this function.

Meter click charge enabled (SP 5-930-001 set to "1 (enabled)"): The counter can be displayed and printed by the customer. The technician can then call the customer and ask them to read the counter.

Meter click charge disabled (SP 5-930-001 set to "0 (disabled)"; this is the default setting): The counter cannot be displayed or printed by the customer. To check the counter, the technician must print the SMC report (SP 5-990).

 Note

- You must select one of the counter methods (developments/prints) in accordance with the contract (See "SP5-045-001".).

- If the setting of SP5-930-001 is set to "1 (enabled)", the settings of SP5-930-010, -014 and -016 must be adjusted.
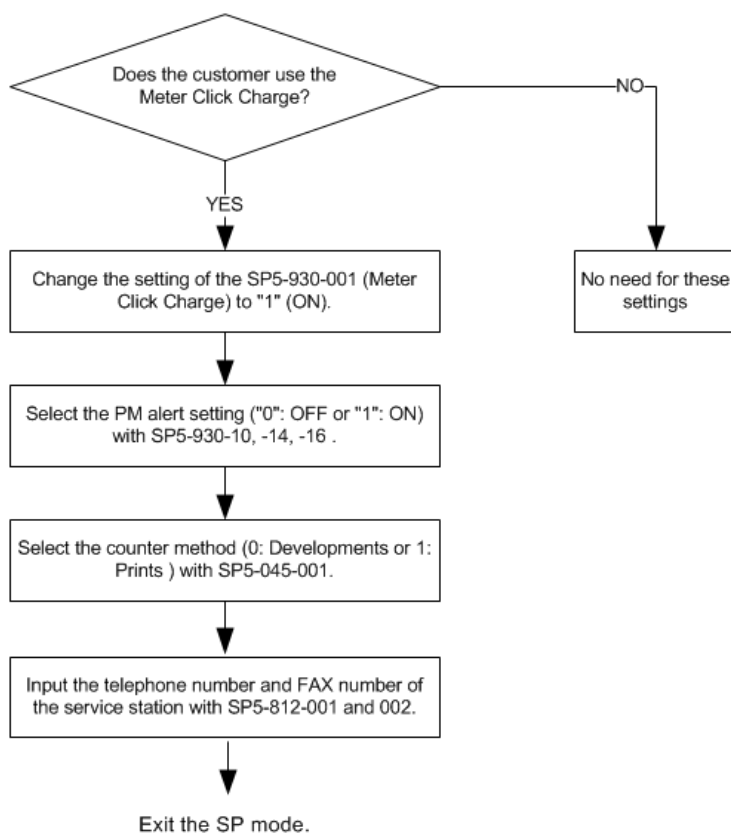
g133i528a

Item	SP No.	Function	Default
Meter Click Charge	SP5-930-001	Enables or disables Meter Click Charge. When enabled: • The counter menu shows immediately after you push the "Menu" key. The "Counter Method" (SP5-045) sets the type of the counter. • You can print the counter from the counter menu. When disabled: • The counter menu does not show.	"0": OFF
Meter Click Charge: PCDU	SP5-930-010	Enables or disables the PM alert for the PCDUs. If this SP is enabled, an alert message is displayed when the PCDUs need to be replaced.	"1": No alert
Meter Click Charge: Image Transfer Belt Unit	SP5-930-014	Enables or disables the PM alert for the image transfer belt unit. If this SP is enabled, an alert message is displayed when the image transfer belt unit needs to be replaced.	"1": No alert
Meter Click Charge: Fusing Unit	SP5-930-016	Enables or disables the PM alert for the fusing unit. If this SP is enabled, an alert message is displayed when the fusing unit needs to be replaced.	"1": No alert
Counter method	SP5-045-001	Specifies if the counting method used in meter charge mode is based on developments or prints.	"1": Prints

Item	SP No.	Function	Default
Service Tel: Telephone / Facsimile	SP5-812-001 and -002	-001: shows or sets the telephone number of the service representative. -002: shows or sets the fax number of the service station. The number is printed on the counter list when the "Meter Click Charge" is enabled. User can send a fax message with the counter list.	-

Moving the Machine

This section shows you how to manually move the machine from one floor to another floor. See the section "Transporting the Machine" if you have to pack the machine and move it a longer distance.

- Remove all trays from the optional paper feed unit.

Transporting the Machine

1. **Make sure there is no paper left in the paper trays. Then fix down the bottom plates with a sheet of paper and tape.**
2. **Do one of the following:**
    - Attach shipping tape to the covers and doors.
    - Shrink-wrap the machine tightly.

Note

- After you move the machine, make sure you do the "Auto Color Registration" as follows. This optimizes color registration.
- 1) Do the "Forced Line Position Adj. Mode c" (SP2-111-3).
- 2) Then do the "Forced Line Position Adj. Mode a" (SP2-111-1).
- To check if SP 2-111-1 was successful, watch the screen during the process. A message is displayed at the end. Also, you can check the result with SP 2-194-10 to -12.

Paper Feed Unit (M384)

For details, refer to the "Hardware Guide" for this machine.

↓Note

- Install the caster table and securing bracket if the machine is installed on the floor (page 48 "Caster Table (M393)").

1. **Remove the tape from the paper feed unit.**
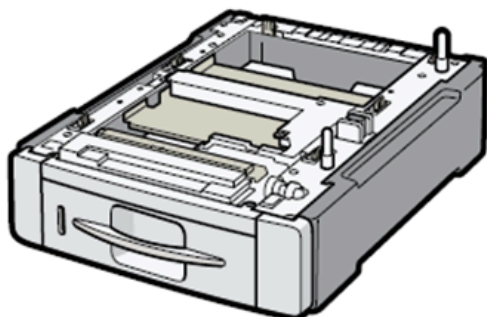
m384i515

2. **Lift the machine with four people by using the inset grips on both sides of the machine.**

m065i501

3. **Align the machine with the two upright pins on the paper feed unit and then lower the machine slowly.**
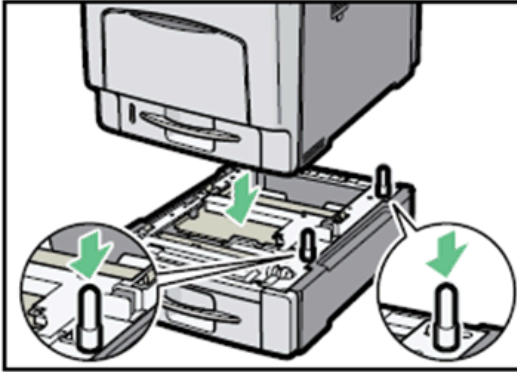
m384i502

Note

- When installing two or three units, first connect the units to each other (using the same procedure as described above), and then connect them as a single unit to the machine.

Caster Table (M393)

Accessory Check

Check the quantity and condition of the accessories against the following list.

No.	Description	Q'ty
1	Screws (M3 x 8)	3
2	Spring washer screws	13
3	Washers	3
4	Spring washers	3
5	Securing pins	2
6	Securing brackets (left)	3
7	Securing holders	3
8	Securing brackets (right rear)	3
9	Table joint bracket (left)	1
10	Table joint brackets (right front)	1
11	Table joint bracket (right rear)	1

↓Note

- Some of these accessories may not be used. It differs depending on how many optional trays are installed in the machine.

m393i100
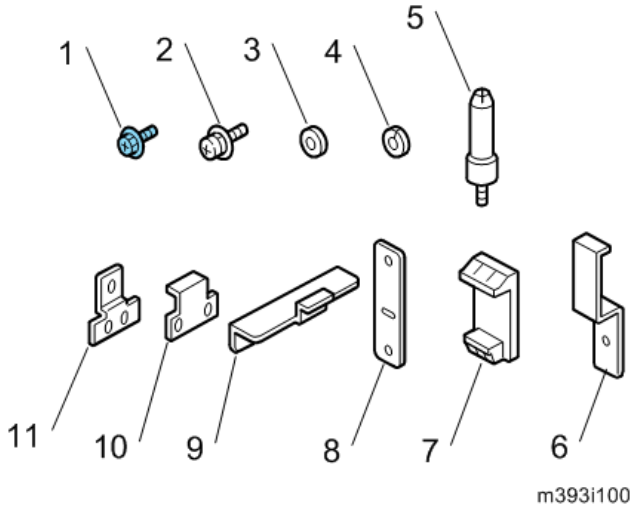
Installation Procedure

⚠️**CAUTION**

- Handles must be used only for moving the machine without caster table and paper feed unit. If either or both of these items are installed when you move the machine, do not use the handles.

For Installing the Caster Table (M393) Only

1. **Open the left cover.**
2. **Inner left lower cover (🔩 x 3)**
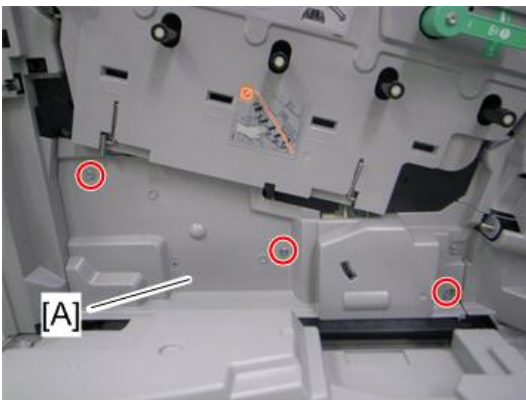
m065r724

3. **Push the holder [A] down.**
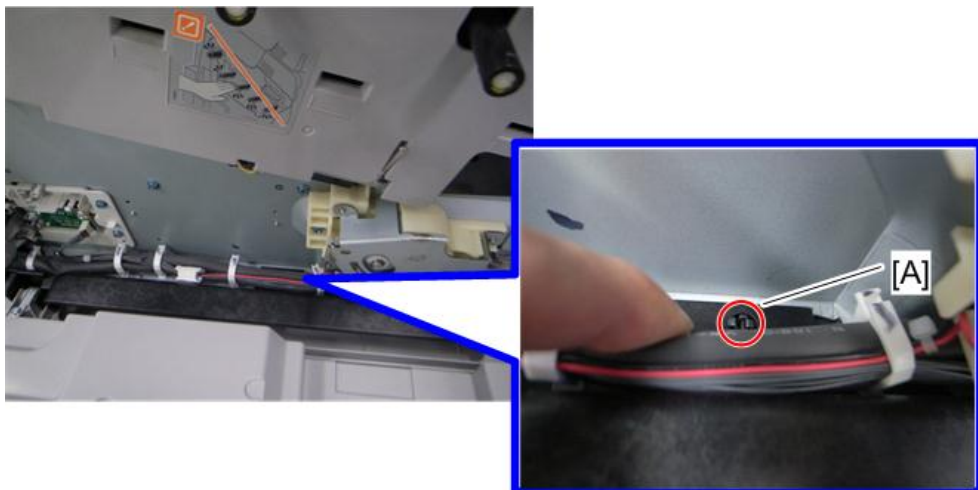
m393i504a

4. **Remove the holder [A].**
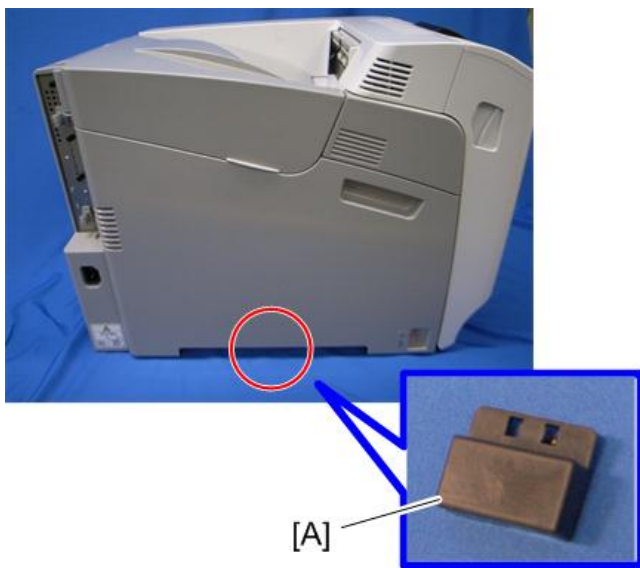
m393i511

5. **Reinstall the inner left lower cover (x 3).**

6. **Close the left cover.**

7. **Install the two pins [A] in the screw holes.**
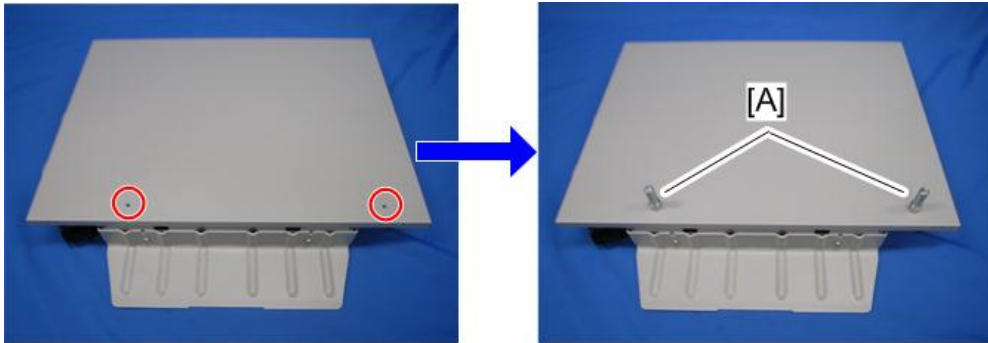
m393i501

8. **Lift the machine and install it on the caster table.**

   🔽**Note**

   • Hold the handle and grips of the machine when you lift and move the machine.

9. **Open the duplex unit.**

10. **Right cover [A] (🔩 x 1)**

m393i503

11. Install the two table joint brackets [A] at the right side ($\mathscr{F}$ x 5).
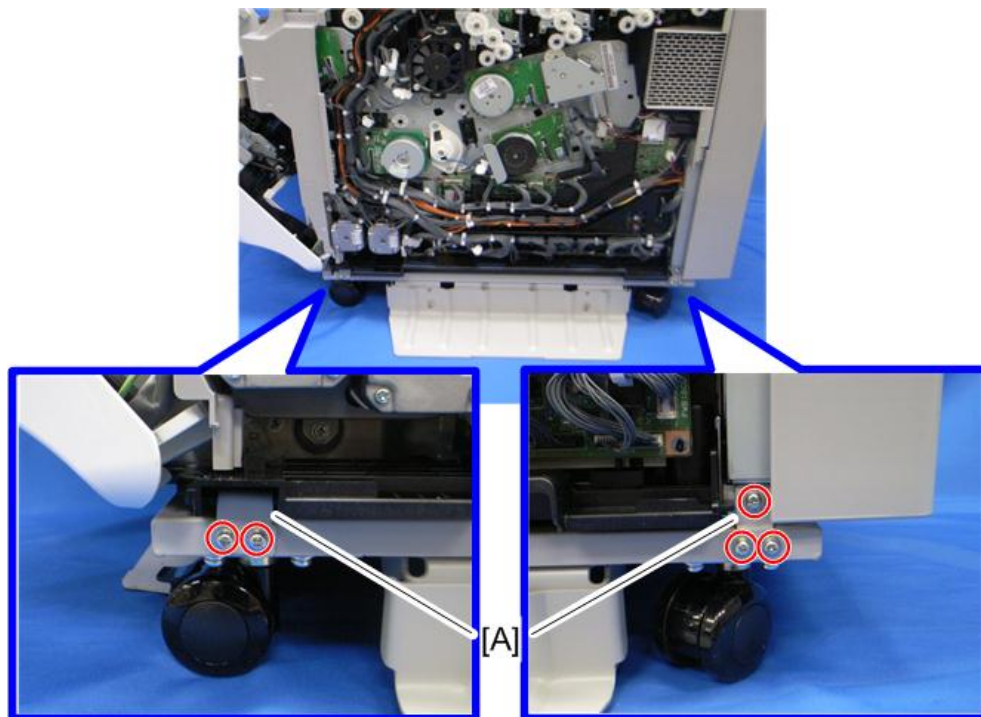
m393i502

12. Reinstall the right cover ($\mathscr{F}$ x 1).

13. Install the table joint bracket [A] at the left side ($\mathscr{F}$ x 2).
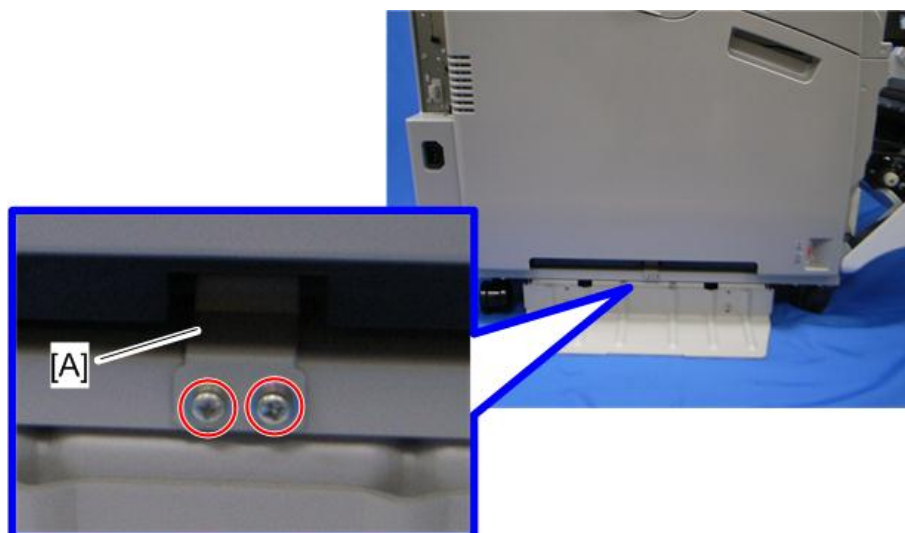
m393i505

14. Close the front door.

15. Adjust the plate [A] until it is level by rotating each screw.

m393i512
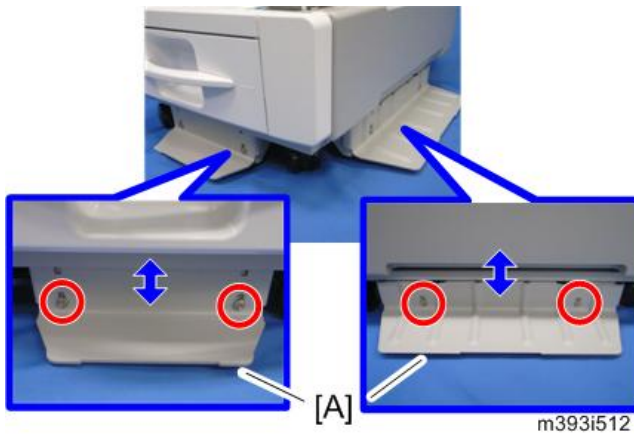
For Installing with the Paper Feed Unit (M384)

1. Remove all tapes from the paper feed unit.

2. Lift the paper feed unit, and then install it on the caster table.

3. Lift the machine and install it on the paper feed unit.

   🟡 **Note**

   • Hold the handle and grips of the machine when you lift and move the machine.

4. Open the front door.

5. Right cover (**page 49**)

6. Remove the right cover [A] of the paper feed unit (🔧 x 2).
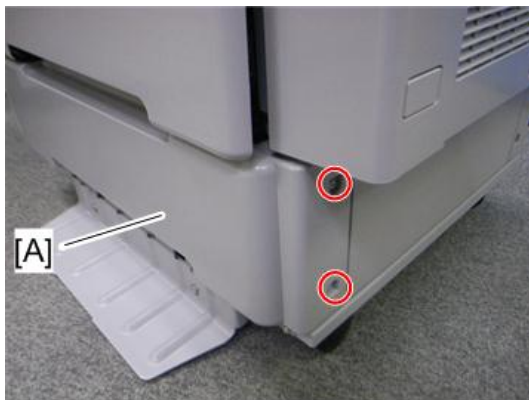
m393i507

7. **Install the securing bracket [A] (🔩 x 2).**

   - If two or three optional paper feed units are to be installed, install the securing bracket [A] at the right side of the optional paper feed units in a similar location to that shown below to secure them (🔩 x 2).

8. **Install the joint table brackets [B] (🔩 x 5).**

9. **Install the securing holder [C].**
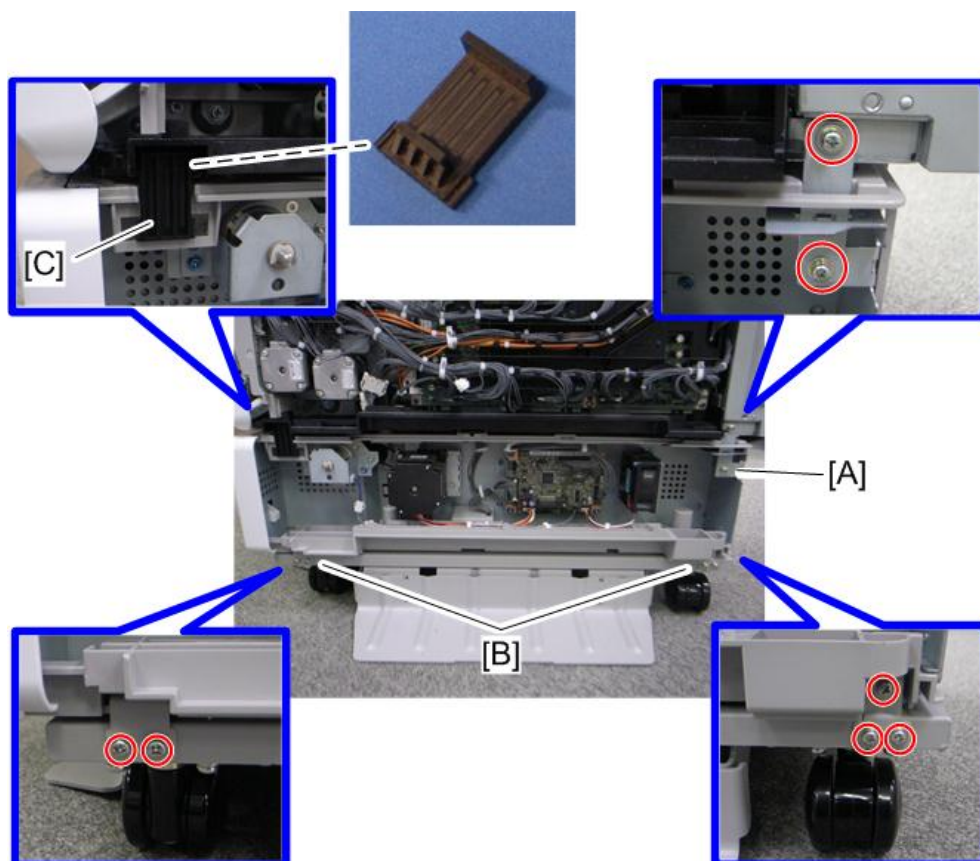
m393i506

10. **Reinstall the right cover and the right cover of the paper feed unit (🔩 x 2).**

11. Remove the left cover [A] of the paper feed unit (x 2).

m393i508

12. Remove the screw shown above.
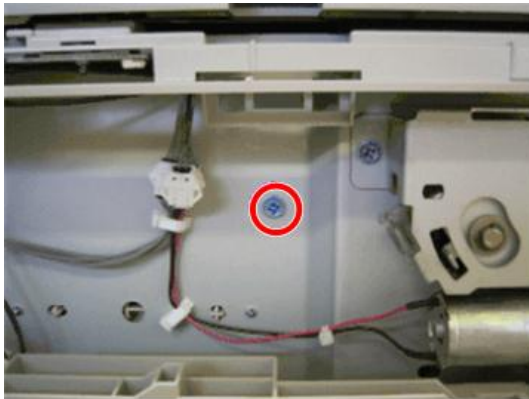
m393i509

13. Install the table joint bracket [A] (x 2).

14. Install the securing bracket [B] (x 1 (M3x8) [C], spring washer x 1 [D], washer x 1 [E]).

- If two or three optional paper feed units are to be installed, install the securing bracket [B] at the left side of the optional paper feed units in a similar location to that shown above to secure them (x 1 (M3x8) [C], spring washer x 1 [D], washer x 1 [E]).

2

m393i510
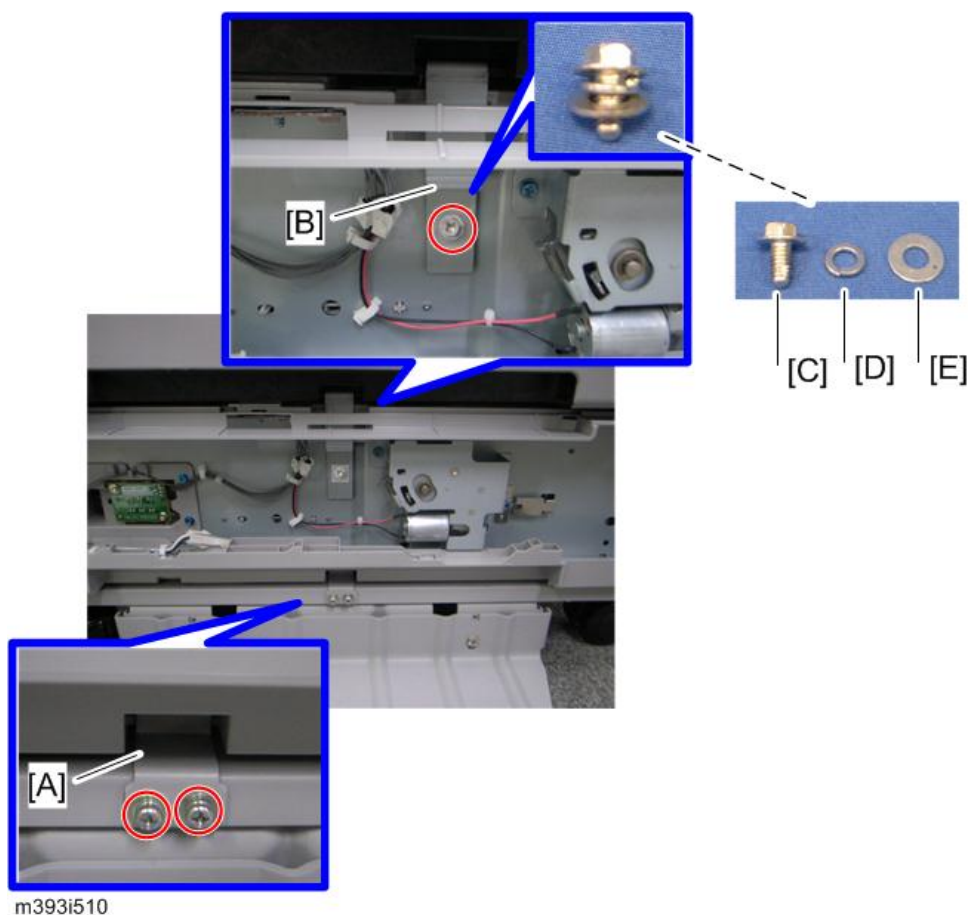
15. Reinstall the right cover of the paper feed unit ($\mathscr{O}$ x 2).

16. Close the front door.

17. Adjust the plate until it is level by rotating each screw (**page 49**).

Tray Heater

Component Check

Check the quantity and condition of the accessories against the following list.

No.	Description	Q'ty
1	Heater cover	1
2	Tray heater	1
3	Heater bracket	1
4	On-standby decal	1
5	Harness bracket	1
6	Harness	1
7	Clamp	2
8	Screw (M3 x 6)	7

m065i100
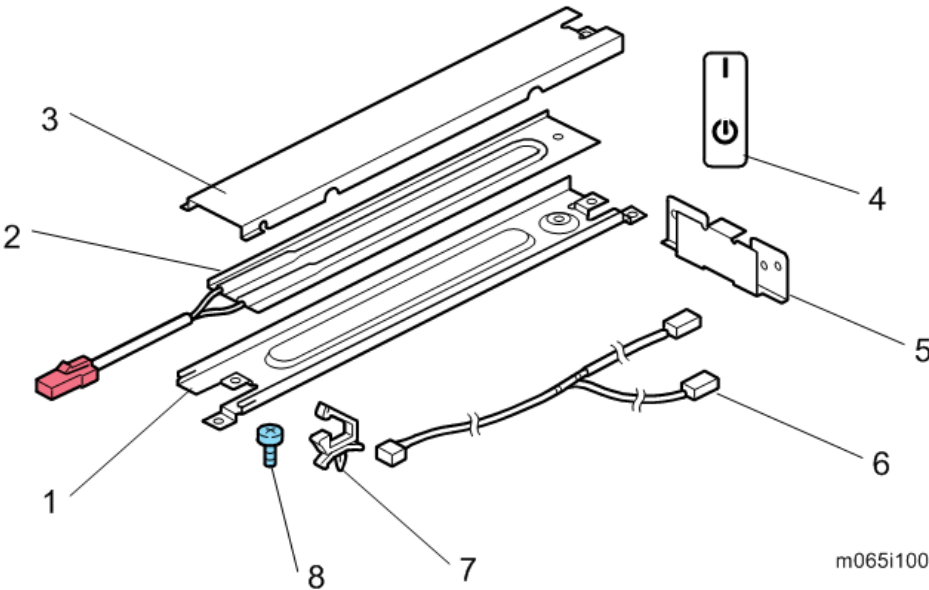
Tray Heater (Mainframe)

⭐ **Important**

- Before installing, make sure that the power source rating of the tray heater is same as the machine.

1. Assemble the tray heater (🔩 x 3).

m065i101
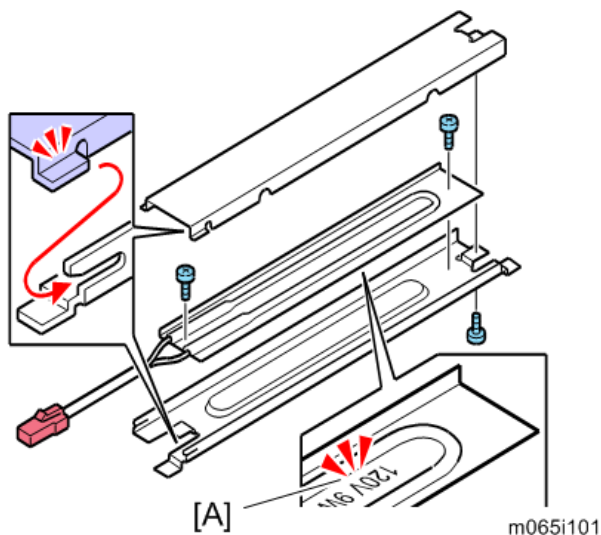
⬇ **Note**

- Before installing the tray heater, check if the destination is correct.
- [A]; 120V 9W: NA, 230V 9W: EU/AA

2. **Rear cover (page 91)**

3. **Right cover (page 90)**

4. **Controller box (page 235)**

5. **Inner left lower cover (page 96)**

6. **HVPS: CB bracket (page 242 "HVPS: CB Board")**

7. Install the heater [A] on the bracket (🔧 x 2).
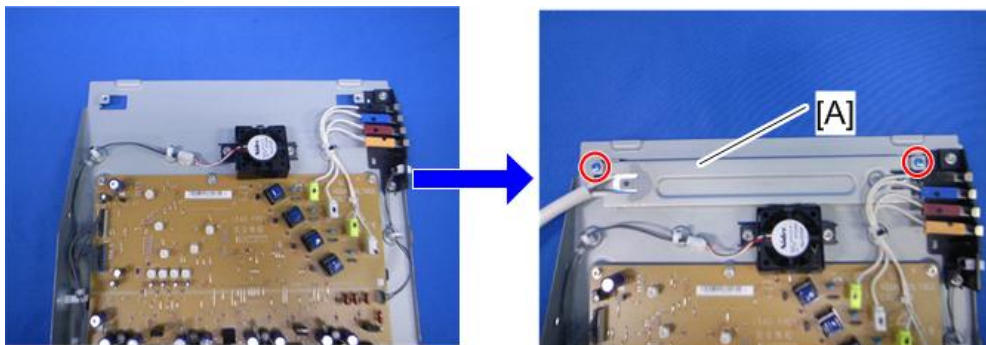
m065r725

8. Remove the two clamps [A].
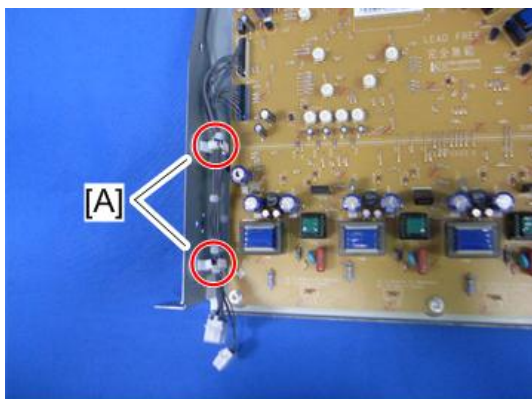
m065r726

9. Attach the two clamps [A] (removed in step 8) to the bracket [B].
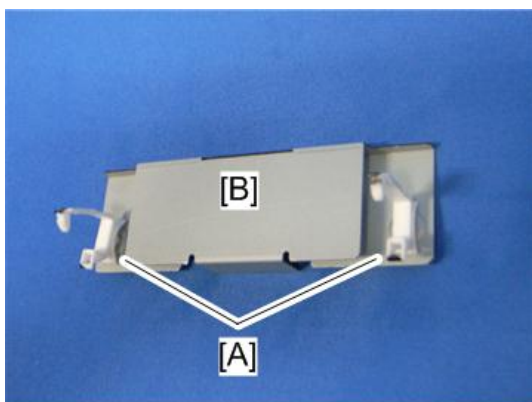
m065r727

10. Route the harnesses as shown below (📷 x 2).
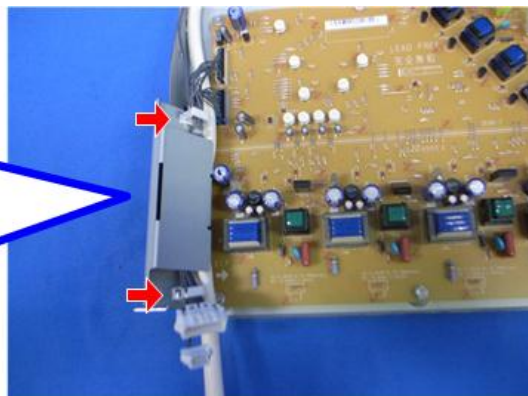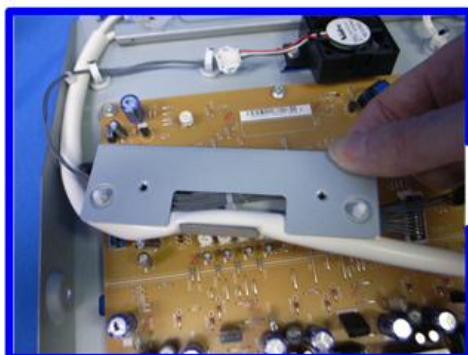
m065r728

11. Install the bracket [A] (🔩 x 2).

[A]
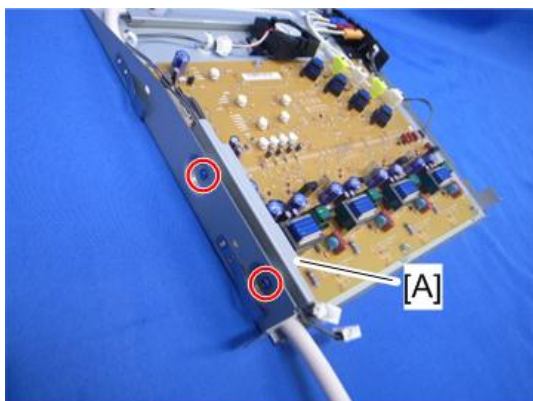
m065r729

12. Reinstall the HVPS: CB bracket.

13. Pass the heater harness [A] through the hole [B] in the controller box (shown in the red circle).

m065r730
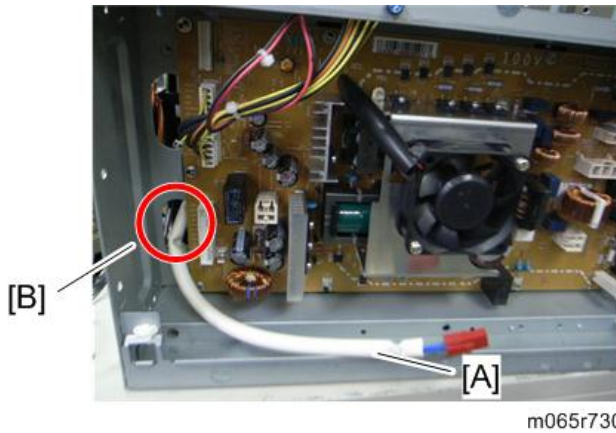
14. Reinstall the controller box.

15. Attach the two clamps [A] to the controller box.

m065r731
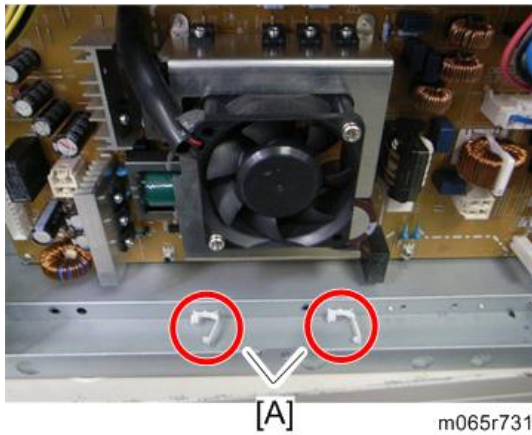
16. Connect the relay harness [A] to CN906 [B] (🖳 x 2).

17. Connect the relay harness [A] to the heater harness [C] (🖐 x 2).

m065r732
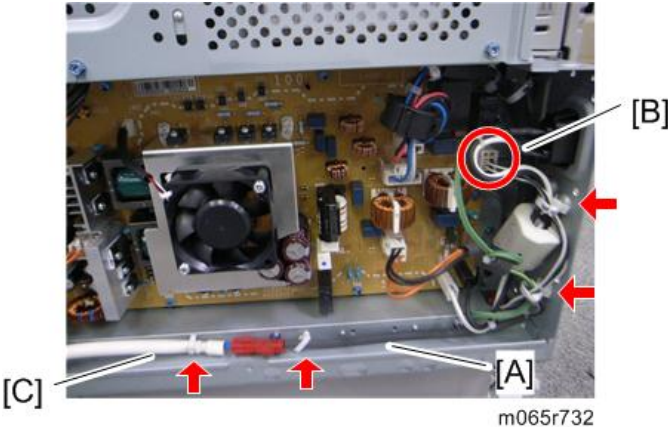
18. Reassemble the machine.

Tray Heater (Optional Unit)

⚠️CAUTION

1. Unplug the machine power cord before starting the following procedure.

2. Do the following procedure not to damage any harnesses.

3. Check that no harnesses are damaged or pinched after installation.

Component Check

Check the quantity and condition of the accessories against the following list.

No.	Description	Q'ty
1	Tray heater	1
2	Securing bracket (right rear)	1
3	Securing holder	1
4	Securing bracket (left)	1
5	On-standby decal	1
6	Edge clamp	1
7	Clamp	6

No.	Description	Q'ty
8	Screw (M4 x 8)	3
9	Screw (M3 x 8)	2
10	Spring washer (ϕ4)	3
11	Spring washer (ϕ3)	2
12	Washer (ϕ4)	3
13	Washer (ϕ3)	2
14	Harness	1

m384i200
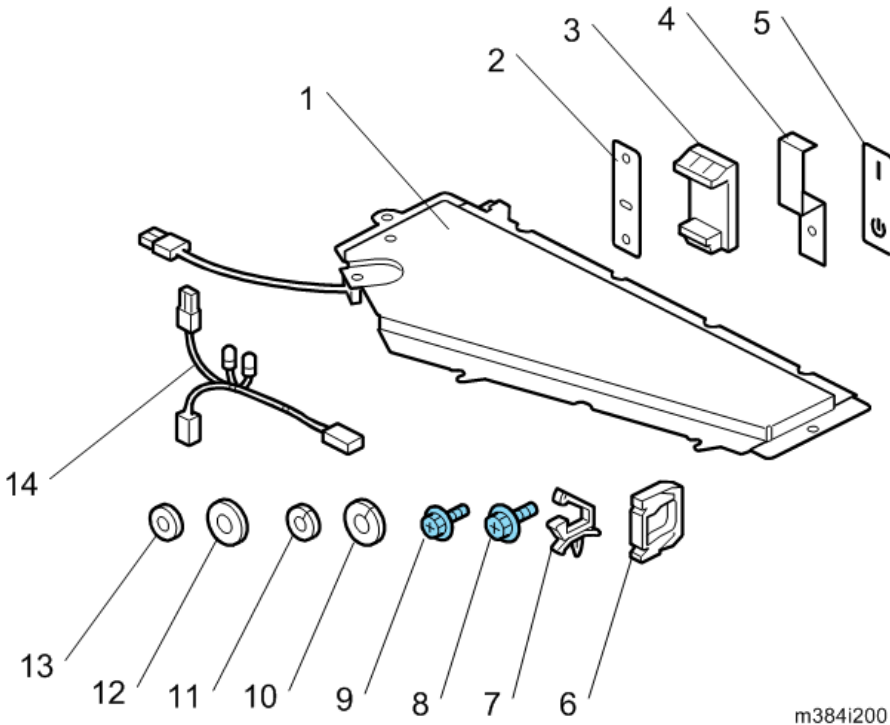
For Installing the Tray Heater in M384

1. **Pull out the tray [A] from the optional paper tray.**

2. Put the tray heater [B] into the optional paper feed unit.
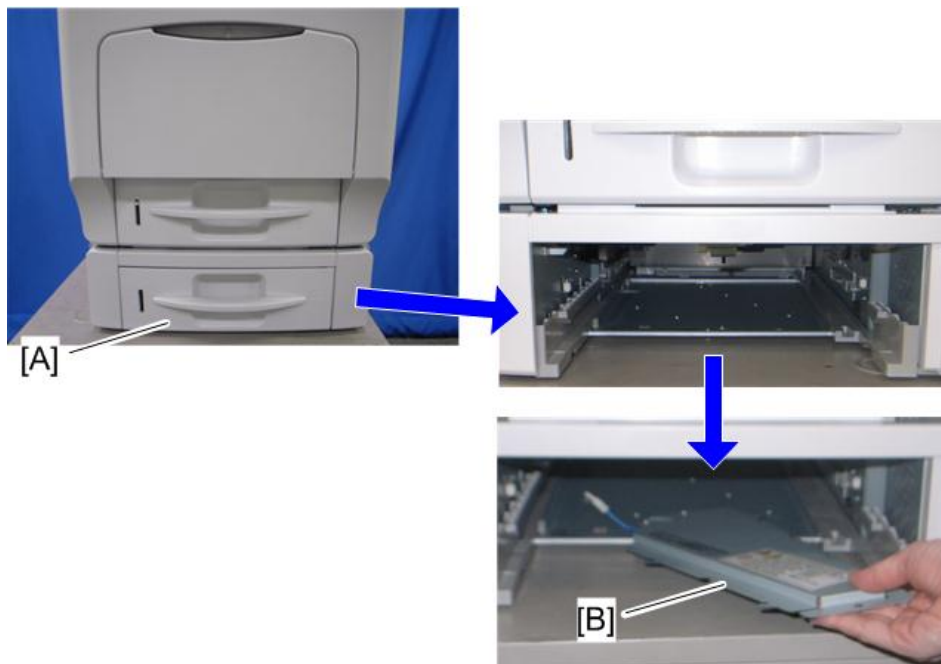
m384i514

3. Pass the heater harness [A] through the square hole [B].
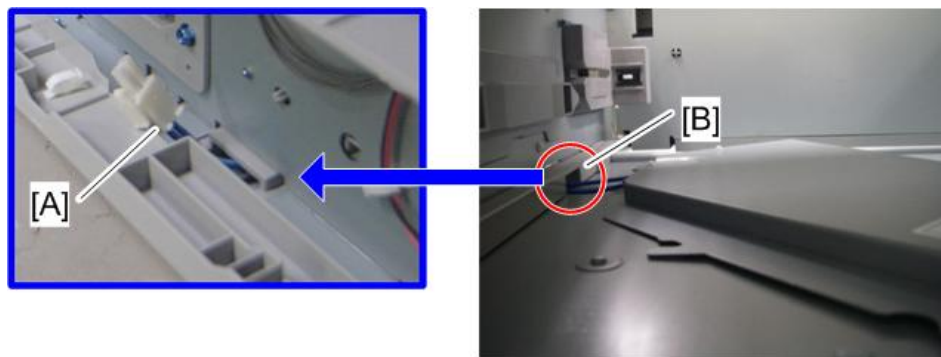
m384i505

4. **Position the tray heater [A] (3 hooks)**
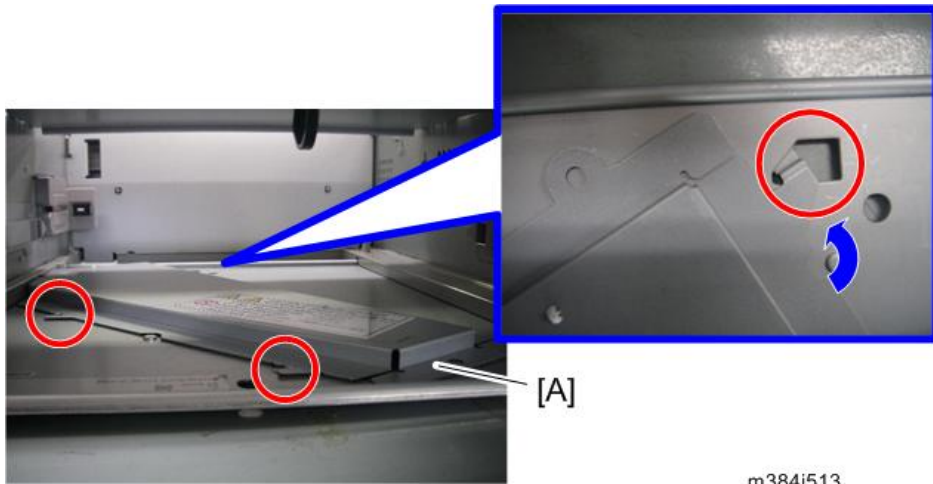
m384i513

5. **Install the tray heater [A] in the machine (🔩 x 1 (M4x8) [B], spring washer x 1 (φ4) [C], washer x 1 (φ4) [D]).**

m384i503

2
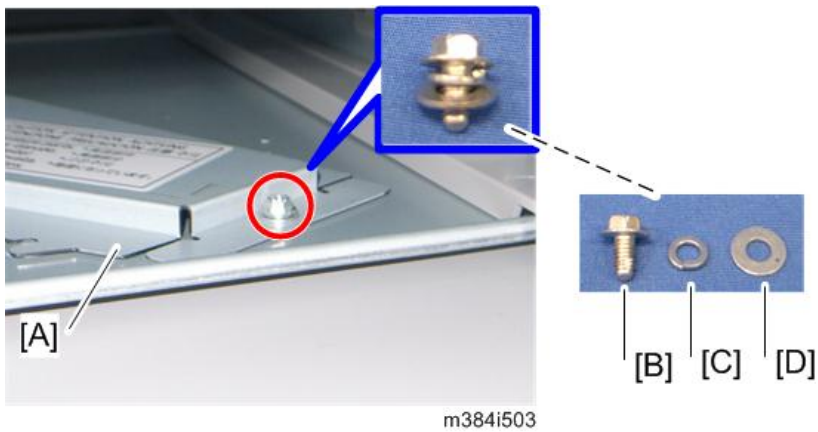
6. **Install the edge clamp [A] and the six clamps.**

m384i504
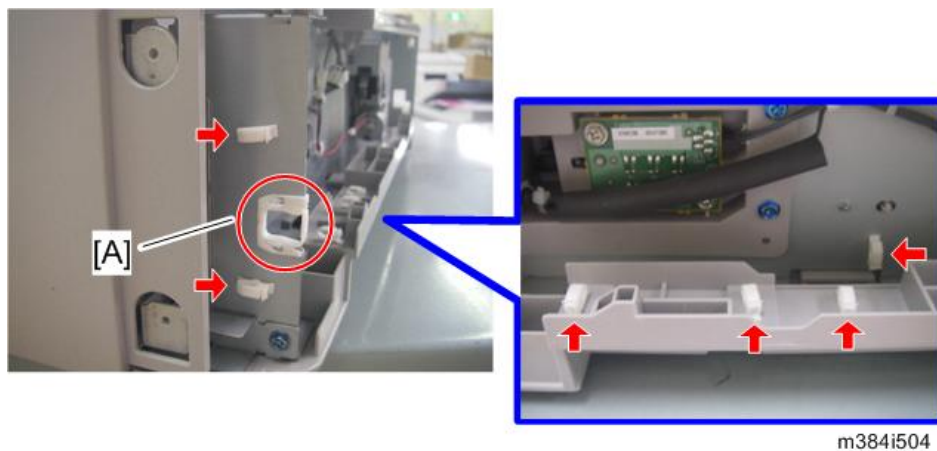
7. **Connect the relay harness [A] to the heater harness [B] (⬚ x 4).**

m384i506
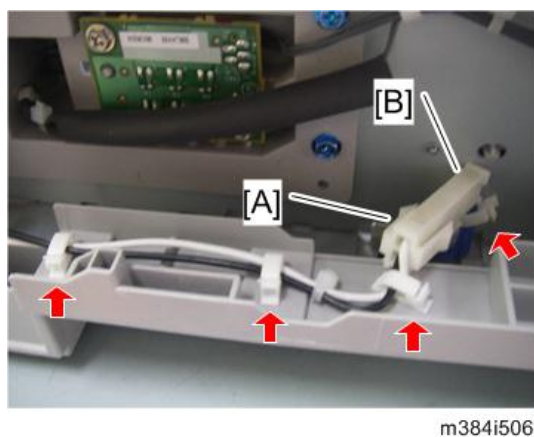
8. **Route the relay harness [A] as shown above (⬚ x 3).**

⬇Note

• Make sure that the connector [B] is placed securely as shown above.

2

m384i507
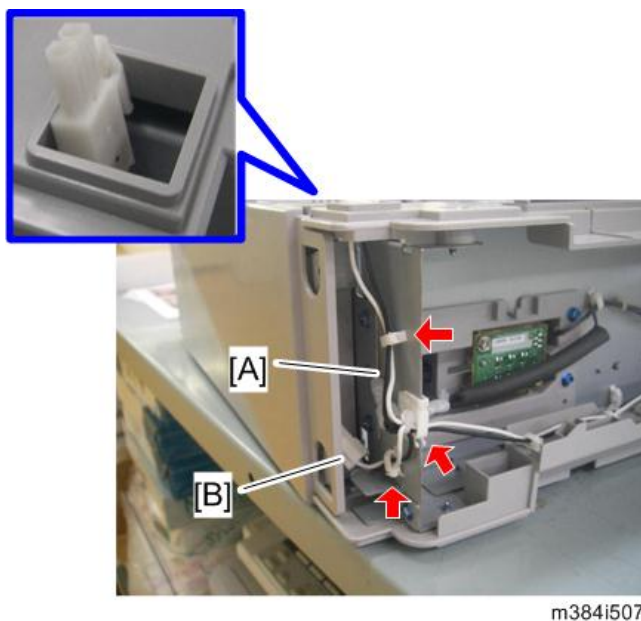
9. If you do not install another optional paper feed unit, replace the screw [A] with the screw [B] (🔧 x 1 (M3x8) [C], spring washer x 1 (φ3) [D], washer x 1 (φ3) [E]).
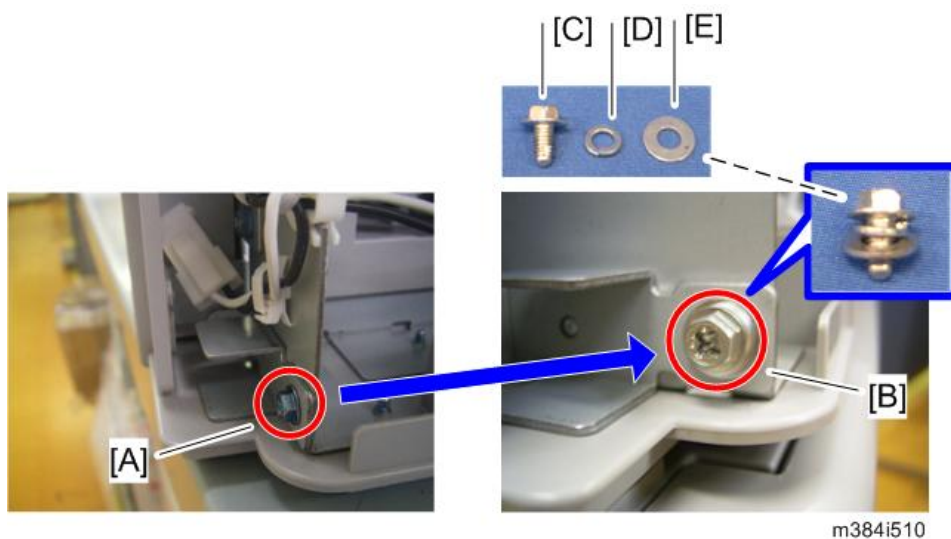
m384i510

Do steps 10 and 11 if you install another optional paper feed unit below M384. If not, go to step 12.

10. **Bracket [A] (🔩 x 1)**
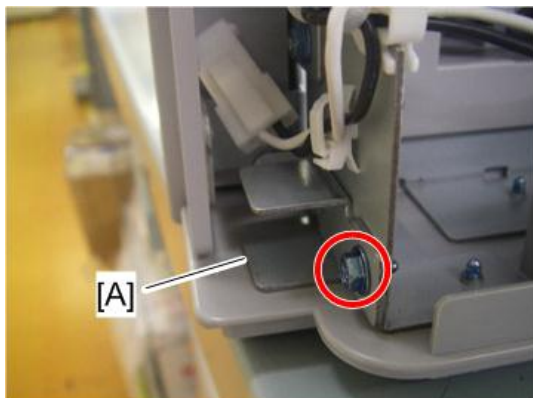
m384i511

11. **Install the relay harness [A] as shown above.**
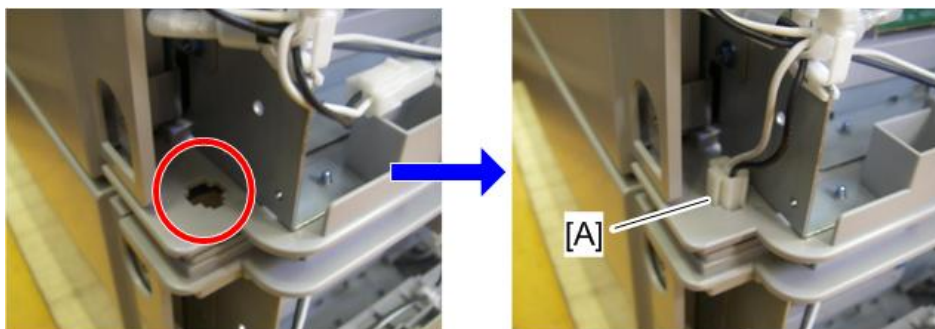
m384i512

↓Note

- Repeat steps from 1 to 11 if two or three optional paper feed units are to be installed.

12. **Rear cover [A] (🔩 x 1)**
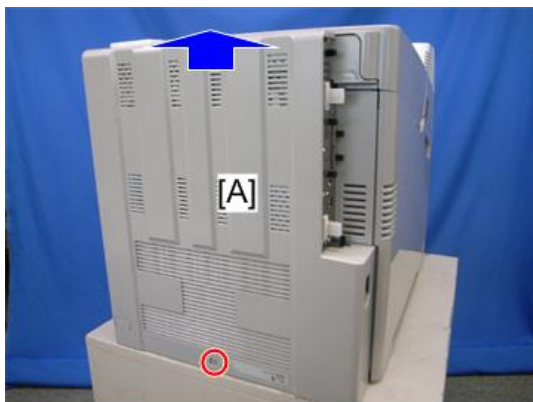
m065r589

13. Bracket [A] (🔧 x 1)

m384i508

14. Connect the relay harness to the relay harness of the mainframe.

15. Reassemble the machine.

For Installing the Securing Bracket

⚠️**CAUTION**

- The securing bracket must be installed when the tray heater is installed in the machine with the paper feed unit (M384).

1. Remove the holder (**page 48 "Caster Table (M393)"**).

2. Reinstall the inner left lower cover (🔧 x 3).

3. Close the left cover.

4. Remove the left cover of the paper feed unit (**page 48 "Caster Table (M393)"**).

5. Remove the screw.

m393i509

6. Install the securing bracket [A] (🔩 x 1 (M3x8) [B], spring washer x 1 (φ3) [C], washer x 1 (φ3) [D]).
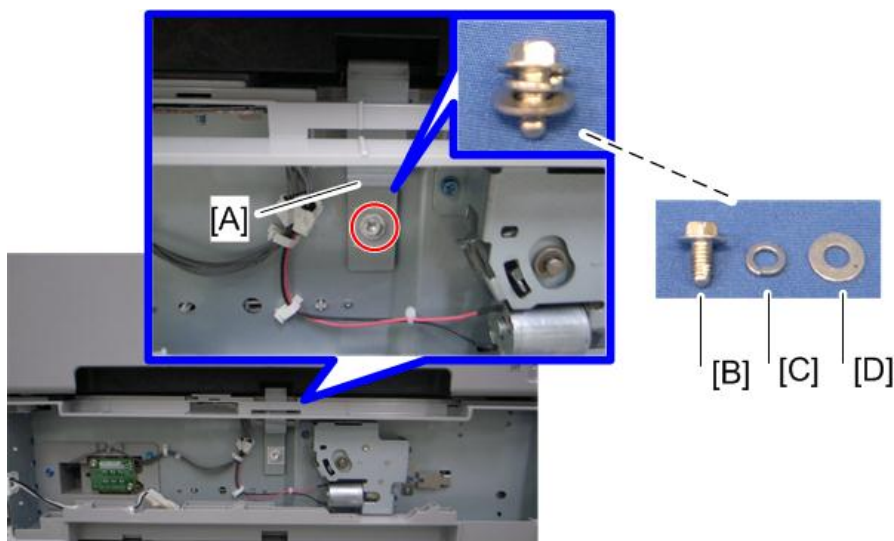
m393i510a

7. Remove the right cover of the paper feed unit (**page 48 "Caster Table (M393)"**).

8. Install the securing bracket [A] (🔩 x 2 (M4x8) [B], spring washer x 2 (φ4) [C], washer x 2 (φ4) [D]).

9. **Install the securing holder [E].**

m393i506a
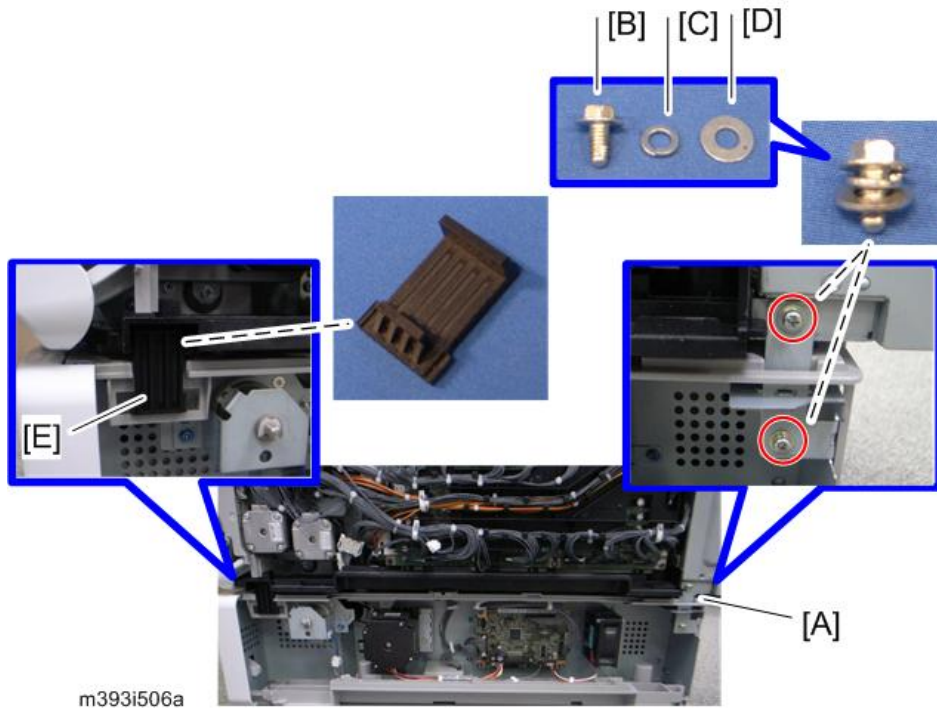
10. **Reassemble the machine.**

Controller Options

The following options are available for this machine; refer to the "Hardware Guide" about the installation procedure for each option except "USB Device Server Option Type M12". Only "USB Device Server Option Type M12" should be installed by a customer engineer.

- Hard Disk Drive
- IEEE1284 Interface Board Type A
- IEEE802.11 Interface unit Type O
- USB Device Server Option Type M12
- Camera Direct Print Card Type P7
- IPDS Unit Type P7
- XPS Direct Print Option Type P7
- SD CARD SET FOR FONT TYPE D FOR MFP
- VM CARD Type P7

Overview

This machine has I/F card slot for optional I/F connections and SD card slots applications.

After you install an option, check that the machine can recognize it.
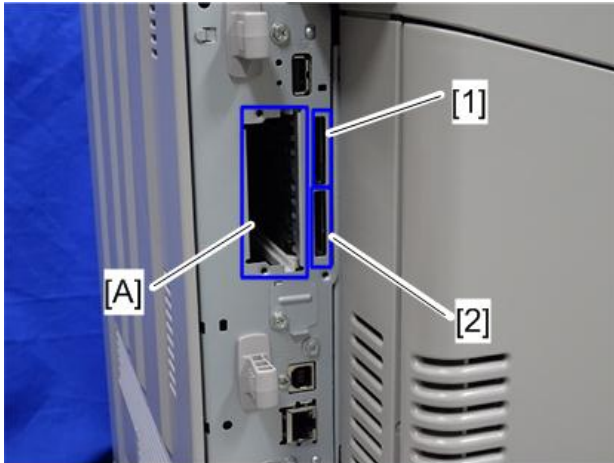
m257z0023

I/F Card Slots

- Slot [A] is used for one of the optional I/F connections (only one can be installed): IEEE1284, IEEE802.11a/b/g/n, USB Device Server Option Type M12

SD Card Slots

- Slot 1 [1] is used for "Camera Direct Print Card Type P7", "IPDS Unit Type P7", "XPS Direct Print Option Type P7", "SD CARD SET FOR FONT TYPE D FOR MFP" or "VM CARD Type P7".

- Slot 2 [2] is used for installing one of the optional applications for service only (for example, updating the firmware).

Installation Procedure for USB Device Server Option Type M12

Component Check

d197f0141
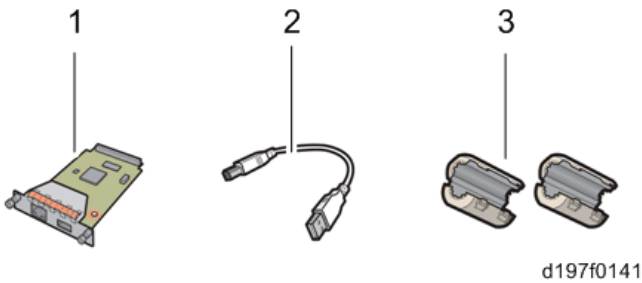
No	Items	Q'ty	Remark
1	Interface Board	1	
2	USB Cable	1	
3	Ferrite Core	4	
-	Band	2	NA only

Note

- An Ethernet cable is not packed with this option.

Interface Board Surface

d197f0142
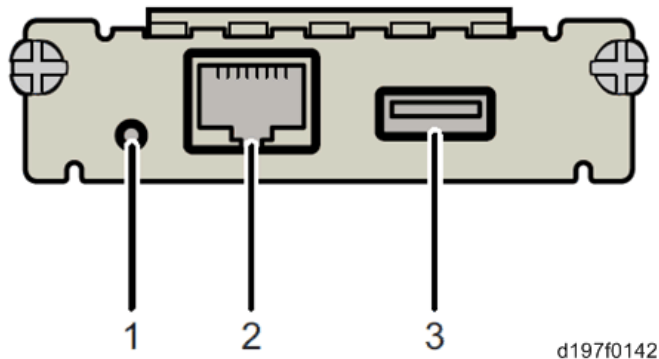
No.	Item	Description
1	Switch	Used to reset to the factory settings.
2	Ethernet port	Used to connect the Ethernet cable.
3	USB port	Used to connect this option to the main machine. Do not use this port with other options.

Installation Procedure

⚠ CAUTION

* Turn off the main power and disconnect the power supply cord.

⭐ Important

* When you install this option on the main machine for the first time, the interface board must be connected directly to your PC to set up the IP address and other network settings.

1. Turn off the main power of the machine, and unplug the power cord from the wall socket.

2. Remove the interface slot cover [A] (🔩x 2).

3. Install the interface board in the interface slot [B] (🔩x 2).

m257z0003
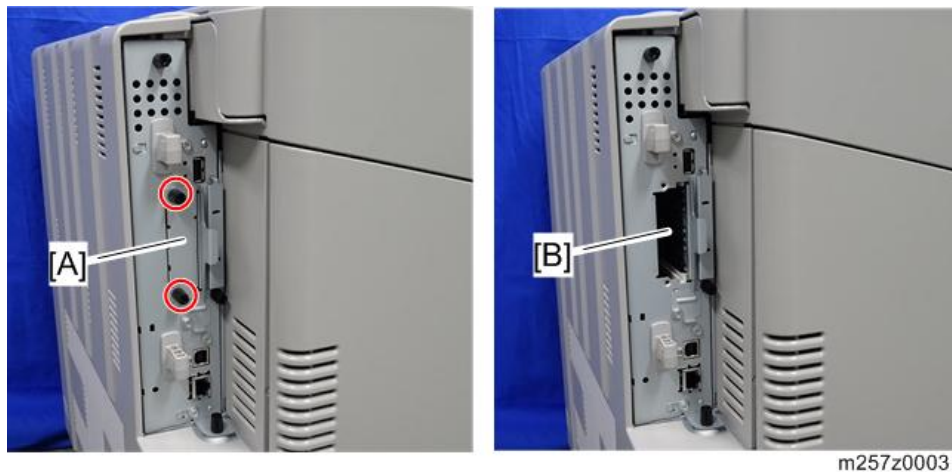
4. Insert the USB cable into the USB port on this option.
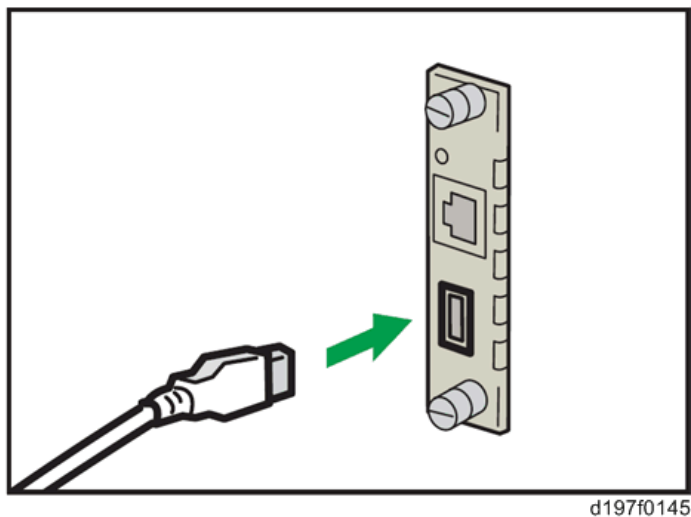
d197f0145

5. Insert the other side of the USB cable into the USB port B on the main machine.

🔻Note

- The machine shape and/or USB port location differs depending on the machine.
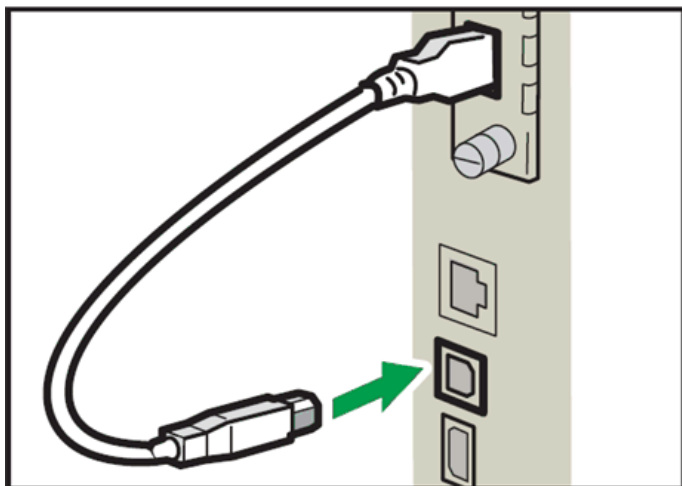
d197f0146

6. **Attach the ferrite cores to the Ethernet cable, while looping the cable at 3 cm (approx. 1.2 inch) [A] from the each end of the cable.**
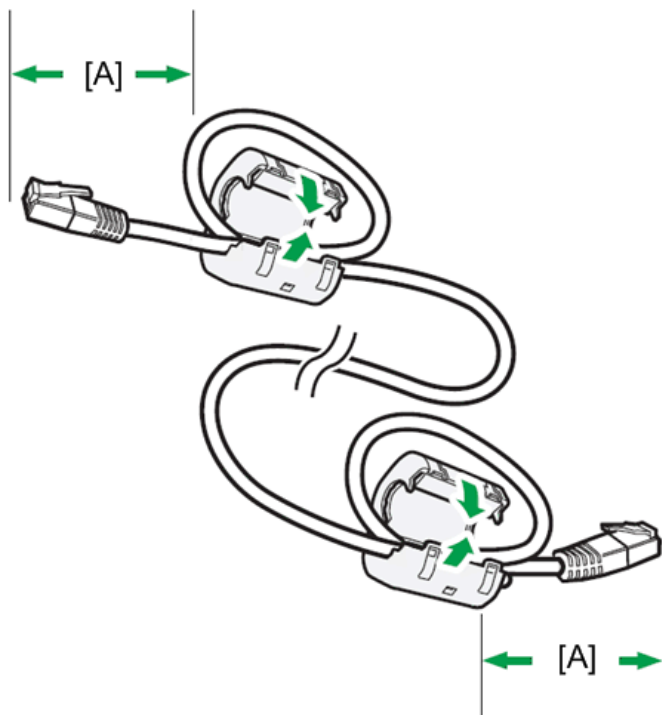
d197f0147

7. **Only for installing this option in North America, bind the both cores with two bands [A] as shown below.**
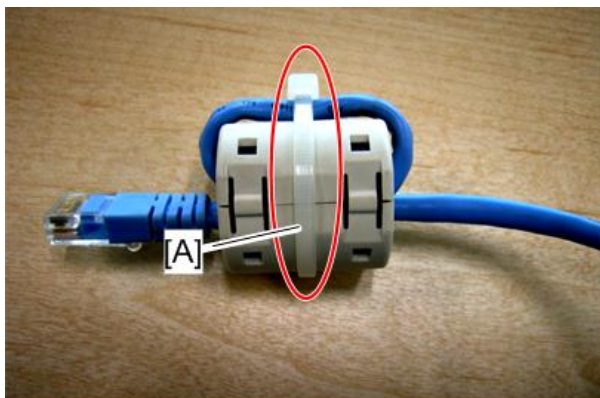
m257z0004

8. **Insert the Ethernet cable into the Ethernet port on this option.**
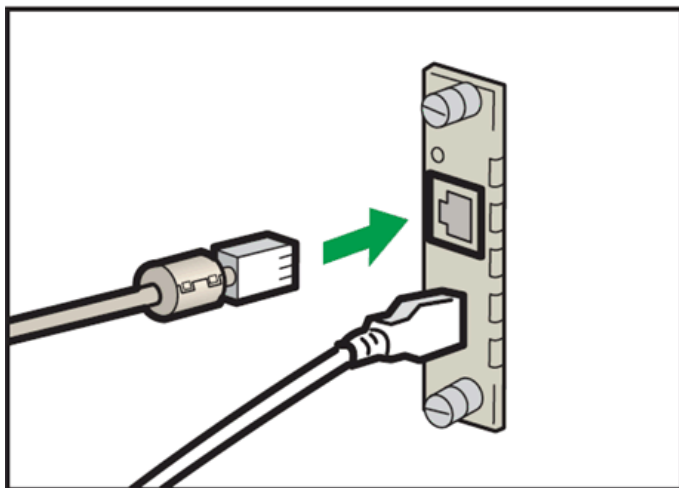
d197f0148

9. **Insert the other end of the Ethernet cable to a PC for network setting.**

10. **Plug the power cord into the wall socket and turn on the main power of the machine.**

   ◆Note

   • Do not unplug the USB cable while the machine is recognizing this option. It may take between 30 seconds to 1 minute to finish recognizing it (the LEDs on the Ethernet port of this option light up after recognizing this option; see below). If unplugged, connect the cable again.

11. **Access the option's IP address from a computer browser, and then check to see if the option is detected correctly.**

🔽Note

- The installation status of this option cannot be checked in the "Configuration Page".

What Do the LED Indications Mean?

When this option is properly installed and recognized by the main machine, the LED indicators light up under the following conditions.

d197f0149
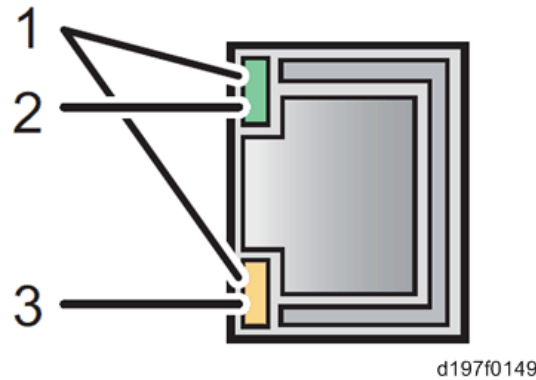
No.	Light Color	Lights Up When:
1	Green and Yellow	1000BASE-T operates
2	Green	10BASE-T operates
3	Yellow	100BASE-TX operates

[Notes for Energy Save Mode Setting]

If the machine which has this option enters into the energy save mode, you cannot print because there will be a communication error. Follow the instructions below to disable the machine's entering into the energy save mode.

1. **Press [Menu] on the operation panel.**
2. **Select [System], and then press [OK].**
3. **Select [Engy Sv Md to Dsbl Prt Srv], and then press [OK].**
4. **Select [Disable Mode], and then press [OK].**
5. **Press [Escape] to go back to the main menu.**

IP Address Setting

This section describes how to set an IP address on this option manually. Note that you can set an IP address which is not only on the same network segment but also on a different network segment to share a single printer with devices in multiple networks.

⭐ **Important**

- You cannot change the IP address for this option from the operation panel of the main machine. The setting must be done from a web browser on your PC.

- The network setting of this option is initially assigned as follows:
  IP address: 192.168.100.100 / Subnet mask: 255.255.255.0

- The network setting of your PC must be in the same network segment to change the network setting of this option.

1. Make a note of the current network settings of your computer.

2. Change the IP address on your PC to [192.168.100.xxx (*0 - 255)].

3. Change the subnet mask on your PC to [255.255.255.0].

4. Open a web browser.

5. Type [http://192.168.100.100/] in the address bar.

6. Press the "Enter" key.

   ⬇ **Note**

   - The setting screen for this option appears.

7. Click [Network Setting].
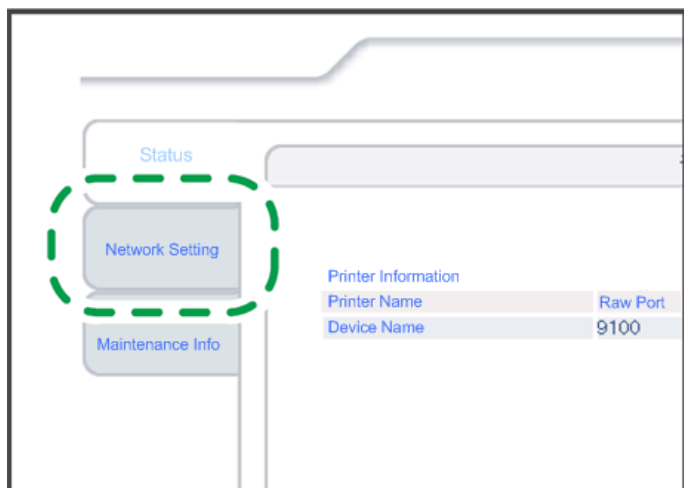
d197f0134

8. Type [root] in the user name textbox and click [OK].

9. **Input [IP Address], [Subnet Mask] and [Default Gateway].**

d197f0135a

10. **Set other items if needed.**

11. **Press [Set].**

12. **Close the web browser.**

13. **Disconnect the Ethernet cable from the computer.**

14. **Connect the Ethernet cable to a network device (e.g. switching hub).**

15. **Set the IP address of this option in the printer driver which you use.**

SD Card Appli Move

Overview

The service program "SD Card Appli Move" (SP5-873) lets you copy application programs from one SD card to another SD card.

You cannot run application programs from Slot 2. However you can move application programs from Slot 2 to Slot 1 with the following procedure.

Consider the following limitations when you try to merge SD cards.

- The destination SD card should have the largest memory size of all the application SD cards.

Outline of SD Card Appli Move

1. **Choose an SD card with enough space.**

   ⬇️Note

   - Do not use an SD card if it has been used on a computer or other device such as a copier, printer, or camera. Normal operation is not guaranteed when such an SD card is used.

2. **Enter SP5873 "SD Card Appli Move". Then move the application from the SD card in slot 2 to the card in slot 1.**

3. **Exit the SP mode.**

4. **Use caution when you do the SD Card Appli Move procedure:**

   ⬇**Note**

   - The necessary data for authentication is transferred with the application program from an SD card to another SD card. Authentication fails if you try to use the SD card after you copy the application program from one card to another card.

5. **Pull out the paper feed tray.**

6. **Keep the SD card in the location [A] after you have copied the application program from one card to another card.**

   m065i519

   This is done for the following reasons:

   - 1) The SD card can be the only proof that the user is licensed to use the application program.

   - 2) You may need to check the SD card and its data to solve a problem in the future.

Move Exec

The menu "Move Exec" (SP5-873-001) lets you copy application programs from the original SD card to another SD card.

⭐**Important**

- **Do not turn ON the write protect switch of an application SD card on the machine. If the write protect switch is ON, a download error (e.g. Error Code 44) occurs during a firmware upgrade or application merge.**

1. **Turn the main switch off.**

2. **Make sure that an SD card is in SD card slot 1. The application program is copied to this SD card.**

3. Insert the SD card (having stored the application program) in SD card slot 2. The application program is copied from this SD card.

4. Turn the main switch on.

5. Start the SP mode.

6. Select SP5-873-001 "Move Exec".

7. Follow the messages shown on the operation panel.

8. Turn the main switch off.

9. Remove the SD card from SD card slot 2.

10. Turn the main switch on.

11. Check that the application programs run normally.

Undo Exec

The menu "Undo Exec" (SP5-873-002) lets you copy back application programs from an SD card to the original SD card. You can use this program when, for example, you have mistakenly copied some programs by using Move Exec (SP5-873-001).

⭐ Important

- Do not turn ON the write protect switch of an application SD card on the machine. If the write protect switch is ON, a download error (e.g. Error Code 44) occurs during a firmware upgrade or application merge.

1. Turn the main switch off.

2. Insert the original SD card in SD card slot 2. The application program is copied back into this card.

3. Insert the SD card (having stored the application program) in SD card slot 1. The application program is copied back from this SD card.

4. Turn the main switch on.

5. Start the SP mode.

6. Select SP5-873-002 "Undo Exec".

7. Follow the messages shown on the operation panel.

8. Turn the main switch off.

9. Remove the SD card from SD card slot 2.

   ⬇ Note

   - This step assumes that the application programs in the SD card are used by the machine.

10. Turn the main switch on.

11. Check that the application programs run normally.

3. Preventive Maintenance

Maintenance Tables

See "Appendices" for the following information:

- "Maintenance Tables"

3

4. Replacement and Adjustment

Notes on the Main Power Switch

Push Switch

The main power button of this machine has been changed to a push-button switch (push button) from the conventional rocker switch. The push switch has characteristics and specifications different from the rocker switch. Care must be taken when replacing and adjusting parts.

Characteristics of the Push Switch (DC Switch)

Power is supplied to the machine even when the main power switch is turned OFF.

The push switch in this machine uses DC (direct current). Therefore, if the AC power cord is connected to an electrical outlet, power is supplied to the controller board, the operation unit and other modules even when the main power is turned OFF. When replacing the controller board and the operation unit in this state, not only these boards, it will damage other electrical components.

In 100V models, only one of the AC lines for the fusing unit is shut off when you turn off the main power; the other line carries current even when you turn off the main power switch.

So, when performing maintenance work such as replacing parts, in addition to turning off the main power with the push switch, always unplug the AC power cord.

When you disconnect the power cord from the AC wall outlet, inside the machine there is still residual charge.

When you disconnect the power cord from the AC wall outlet, inside the machine for a while there is still residual charge. Therefore, if you remove boards in this state, it can cause a blown fuse or memory failure.

- How to remove the residual charge inside the machine

    After you unplug the power cord from the AC wall outlet, in order to remove the residual charge from inside the machine, be sure to press the main power switch. Thus, the charge remaining in the machine is released, and it is possible to remove boards.

When you reconnect the AC power cord into an AC wall outlet, the machine will start automatically.

In order to remove the residual charge, push the main power switch while you disconnect the AC power cord. At that time, the power ON flag inside the machine is set. Therefore, after you finish work on the machine and reconnect the power cord to the AC, even if you do not press the main power switch, the machine will start automatically and the moving parts will begin to move. **When working on moving parts, be careful that fingers or clothes do not get caught.**

🔽 **Note**

- Automatic restart deals with cases when you accidentally unplugged the AC power cord or unexpected power outages. By keeping the power flag ON, after the resumption of power, the machine will start up automatically.

In rare cases, when you reconnect the AC power cord to a power outlet, the machine does not start automatically. In this case, the machine has not failed. The cause is due to the timing of releasing the residual charge. If you press the main power switch while the residual charge was already released, the power ON flag will not be set. At this time, start the machine manually by pressing the main power switch.

Shutdown Method

1. Press the main power switch on the left side of the machine.

2. Take out the power cord

3. Wait 3 minutes (this is the time required if you will remove the rear cover and access the interior of the machine, to take out the controller board for example).

🔽 **Note**

- If some LEDs on any of the boards are blinking or lit, current is still flowing. After the shutdown process, the main power is turned off automatically.

When the shutdown is complete

Main power LED: Off

Operation panel LED: Off

🔽 **Note**

- How to start from shutdown

- To start the machine, press the main power switch. However, if you press the main power switch between the beginning and the end of a shutdown, the machine will not start.

Forced Shutdown

In case normal shutdown does not complete for some reason, the machine has a forced shutdown function.

To make a forced shutdown, press and hold the main power switch for 6 seconds.

In general, do not use the forced shutdown.

⭐ **Important**

- **Forced shutdown may damage the hard disk and memory, and can cause damage to the machine. Use a forced shutdown only if it is unavoidable.**

Before You Start

⚠ CAUTION

- Turn off the main power switch and unplug the machine before you do the procedures in this section.

Special Tools

Tools

Item	Part Number	Description	Q'ty
1	B6455010	SD Card 128MB for Firmware Update	1
2	B6455020	SD Card 1GB for Firmware Update	1
3	B6455030	SD Card 2GB for Firmware Update	1
4	B6455040	SD Card 8GB for Log Storing	1
5	B6456705	PCMCIA Card Adapter	1
6	B6456820	USB Reader/Writer	1
7	VSSM9000	Digital Multimeter – FLUKE87	1
8	C4019503	20X Magnification Scope	1
9	A2579300	Grease Barrierta – S552R	1
10	52039502	Silicon Grease G-501	1
11	D0159500	G104 YELLOW TONER	1

Exterior Covers

Left Cover

1. **Open the left cover.**

2. **Remove the waste toner bottle.**

3. **Release the belt [A].**
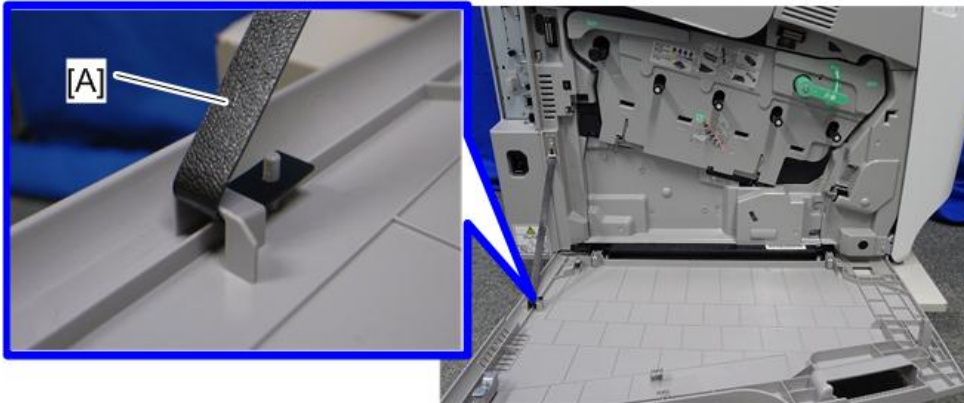
m257z0007

4. **Remove the two brackets [A] (🔩 x 2).**

5. **Left cover [B]**

m257z0008
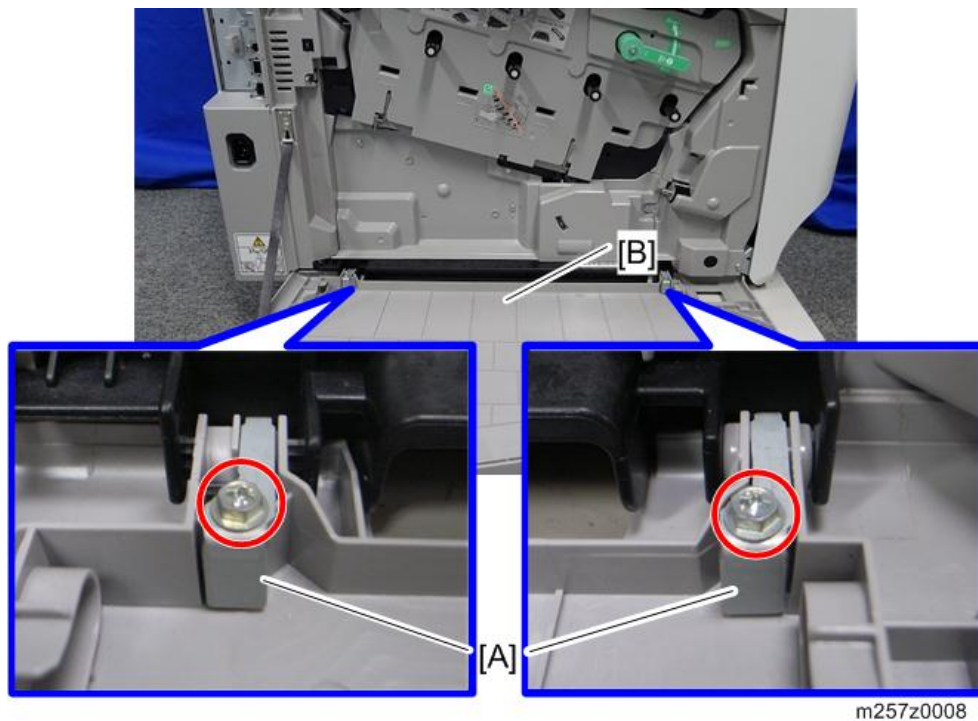
Right Cover

1. **Open the duplex unit [A].**

m065r505

2. Right cover [A] (🔩 x 1)

m065r508

Rear Cover

1. Rear cover [A] (🔩 x 1)
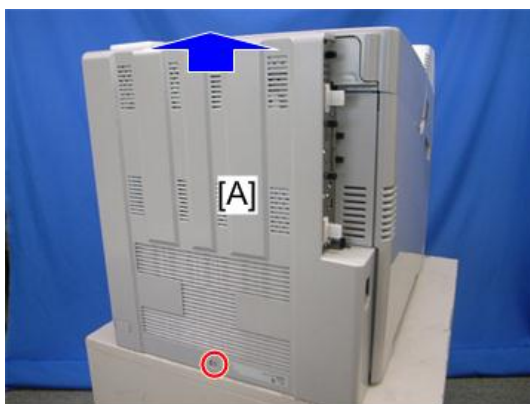
m065r589

When Reinstalling the Rear Cover

⬇️Note

• Make sure that these hinge covers [A] can be moved smoothly (up and down) after installing the rear cover. If these hinge covers do not move smoothly, try installing the rear cover again.
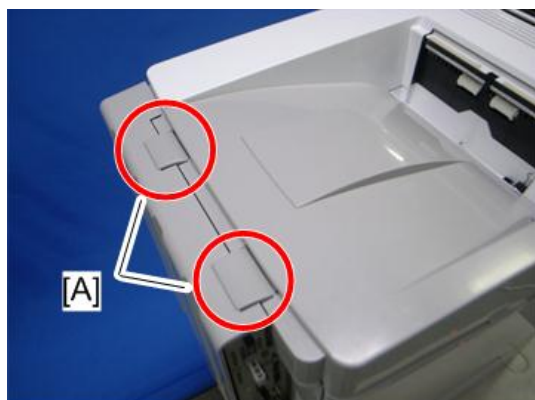
m065r819

Top Cover

1. **Right cover (page 90)**

2. **Rear cover (page 91)**

3. **Open the upper cover [A].**

m065r758

4. Top cover [A] ($\mathscr{P}$ x 3)

m065r510
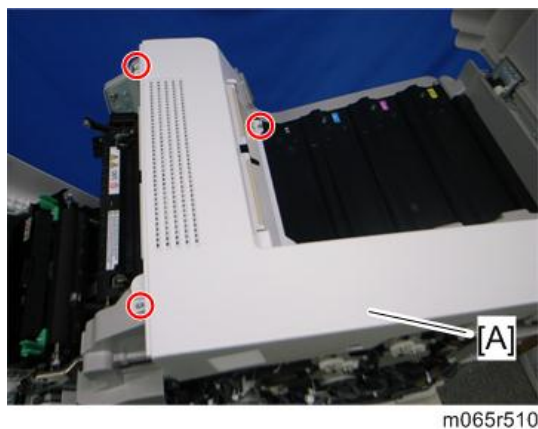
When Reinstalling the Top Cover

⤵Note

- Make sure that the hook [A] is installed in the hole [B] when reinstalling the top cover.

m065r821
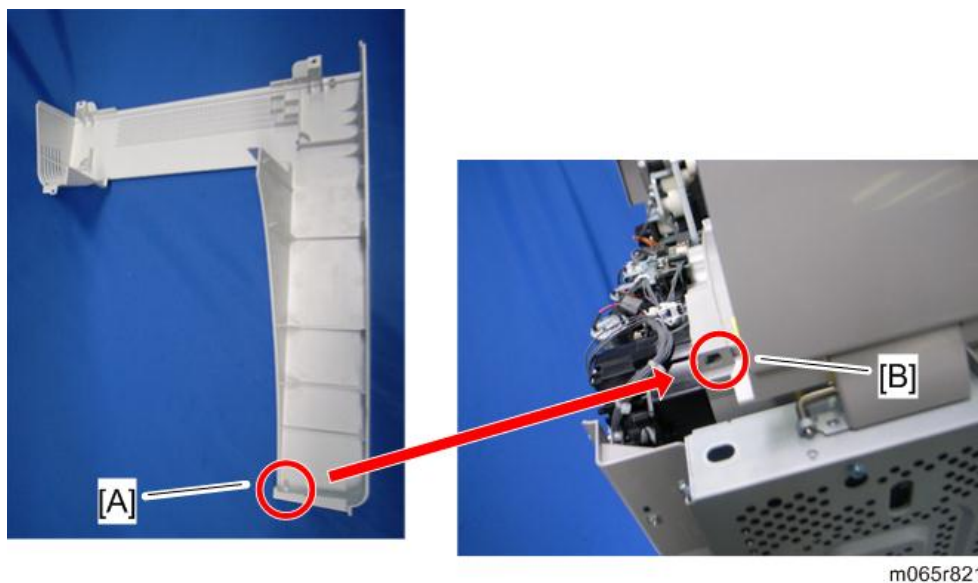
Operation Panel

1. Open the duplex unit (page 90 "Right Cover").

2. Remove the four screws.
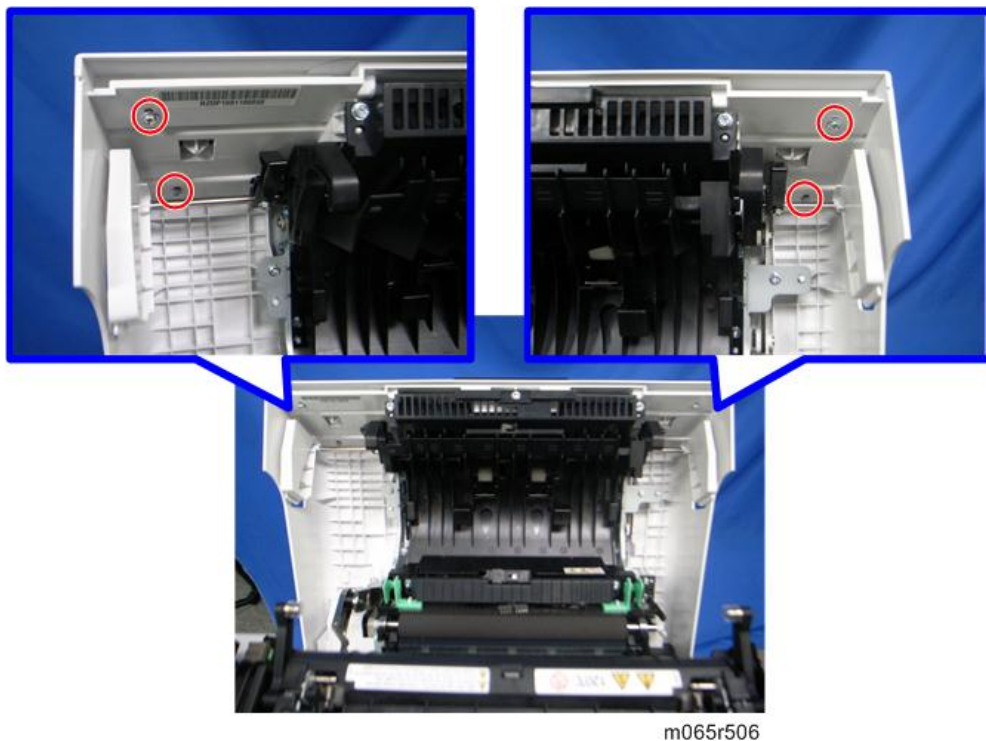
m065r506

3. Operation panel [A] (⬚ x 1, ⬚ x 1)

[A]

m257z0009
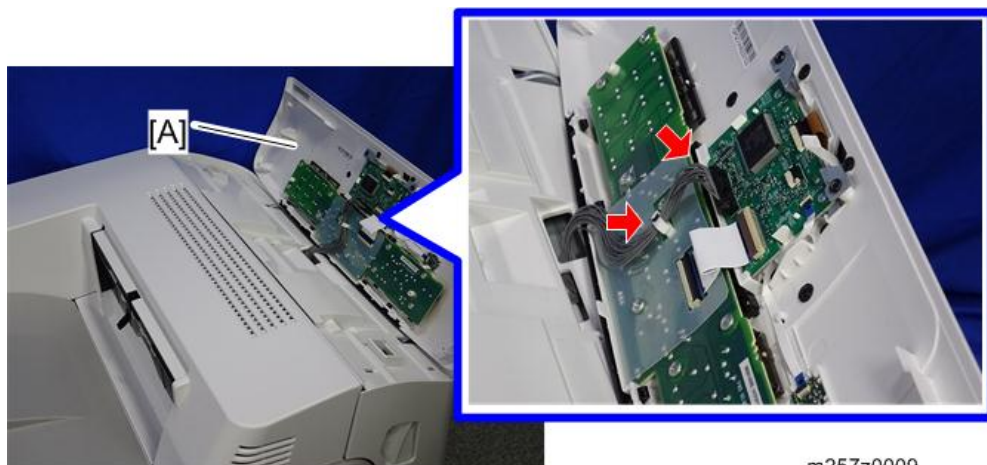
Inner Left Upper Cover

1. Right cover (page 90)

2. Top cover (**page 92**)

3. Open the left cover.

4. Inner left upper cover [A] (🔩 x 2)

m065r516

Inner Left Front Cover

1. Left cover (**page 89**)

2. Inner left upper cover (**page 94**)

3. Inner left lower cover (**page 96**)

4. Turn the lock lever [A] counterclockwise, and then open the drum securing plate [B].

m065r809

4
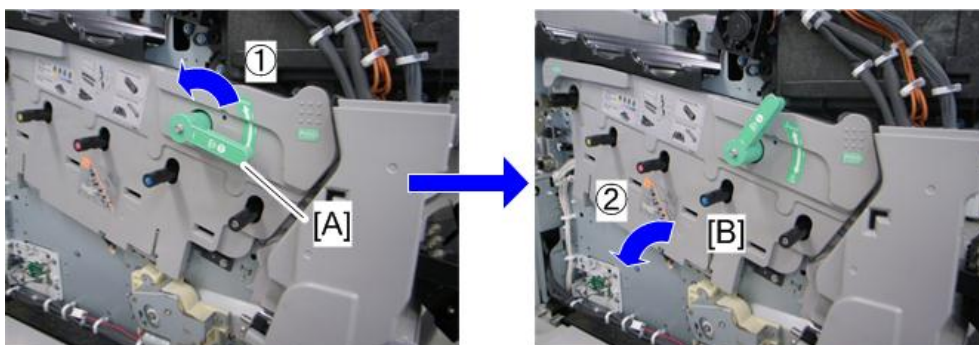
5. **Inner left front cover [A] ($\mathscr{P}$ x 3)**
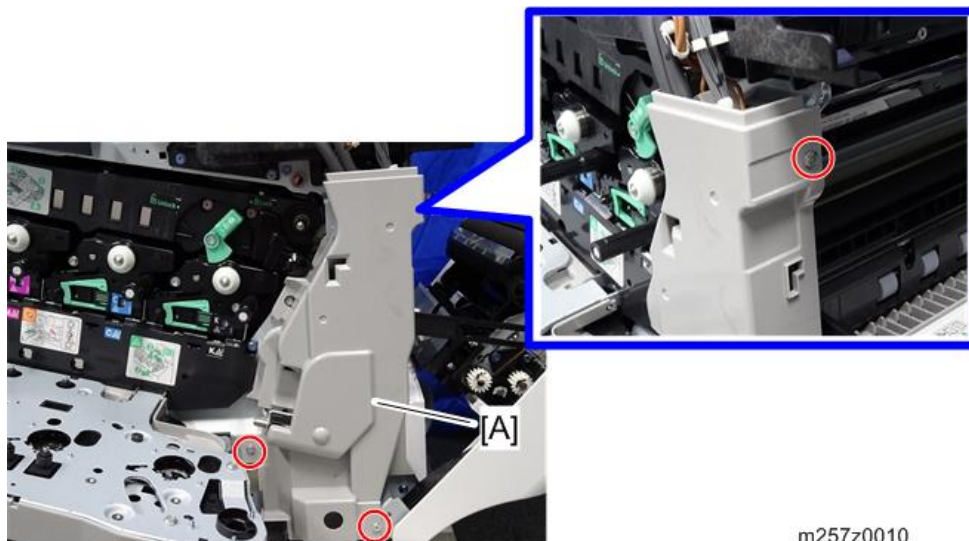
m257z0010

Inner Left Rear Cover

1. **Left cover (page 89)**
2. **Rear cover (page 91)**
3. **Inner left rear cover [A] ($\mathscr{P}$ x 2)**

m065r517
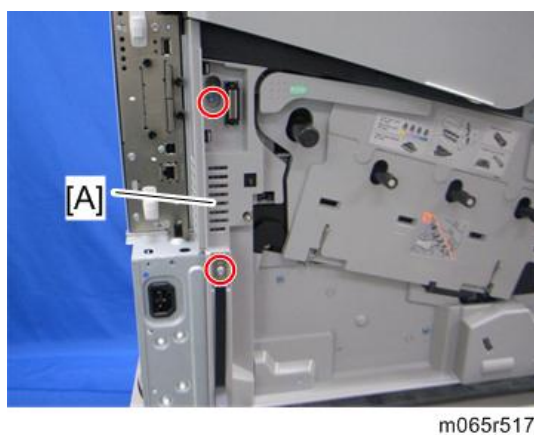
Inner Left Lower Cover

1. **Open the left cover.**
2. **Waste toner bottle (page 110)**

3. **Inner left lower cover [A] (🔩 x 3)**
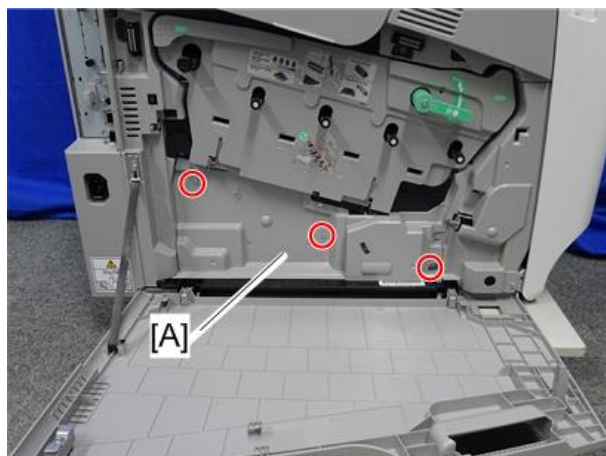
m257z0011

Inner Right Front Cover

1. **Right cover (page 90)**

2. **Top cover (page 92)**

3. **Connector cover [A] (hook)**
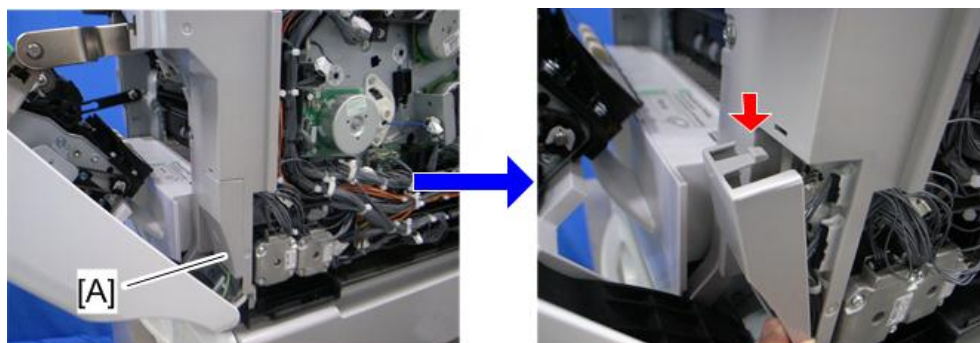
m065r759

4. **Disconnect the six harnesses [A] (🖵 x 1).**
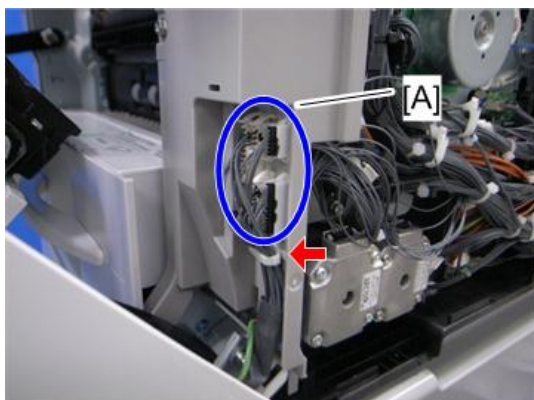
m065r760

5. **Release the inner right front cover [A] (🔩 x 2).**
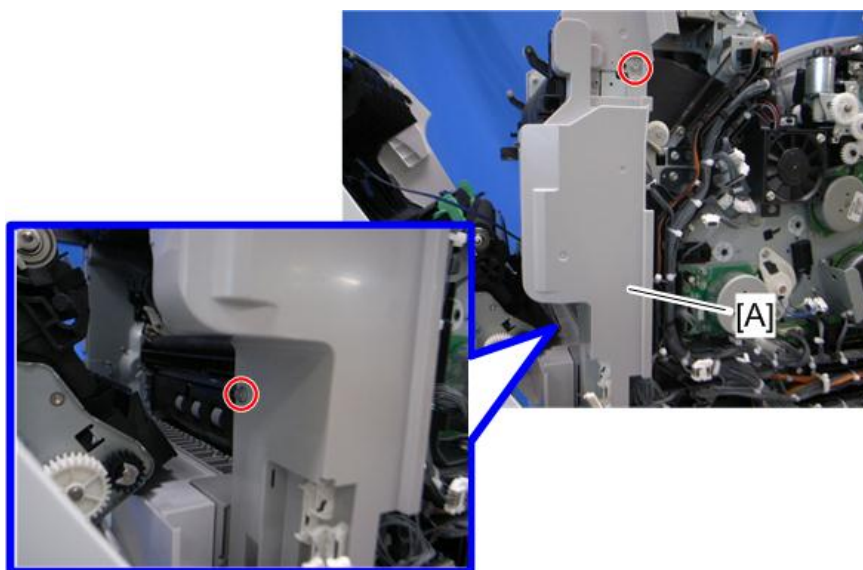
m065r564

6. **Inner right front cover [A] (⬚ x 6)**
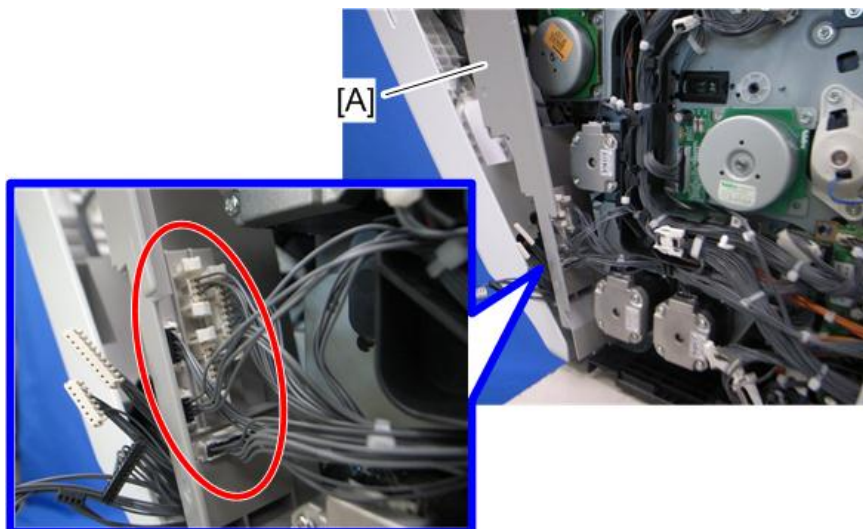
m065r565

Inner Right Rear Cover

1. **Rear cover (page 91)**
2. **Right cover (page 90)**
3. **Inner right rear cover [A] (✐ x 3)**
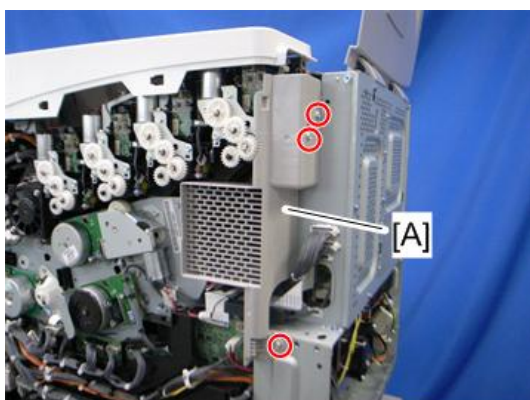
m065r714

Laser Optics

⚠ WARNING

- Turn off the main power switch and unplug the machine before beginning any of the procedures in this section. Laser beams can cause serious eye injury.

Caution Decal Locations

Caution decals are attached as shown below

m257z0006

⚠ WARNING

- Make sure to turn off the main power switch and disconnect the power plug from the power outlet before beginning any disassembly or adjustment of the laser unit. This machine uses a class IIIb laser beam with a wavelength of 657 - 663 nm and an output of 15 mW. The laser can cause serious eye injury.

Laser Unit

⚠ CAUTION

- Before installing a new laser unit, remove the polygon motor holder bracket and the tag from the new unit.

Before removing the old laser unit

Do the following settings before removing the laser unit. These are adjustments for skew adjustment motors in the laser unit, main scan start position, and laser diode power.

1. Plug in and turn on the main power switch of the machine.

2. Enter the SP mode.

3. Execute SP2-220-001 to clear the mirror positioning motor setting for Cyan.

4. Execute SP2-220-002 to clear the mirror positioning motor setting for Magenta.

5. Execute SP2-220-003 to clear the mirror positioning motor setting for Yellow.

6. Execute SP2-180-004 for clearing main scan start position adjustment setting.

7. Execute SP2-153-001 for clearing LD power.

8. Exit the SP mode.

9. Turn off the main power switch and disconnect the power cord of the copier.

Recovery procedure for no replacement preparation of laser unit

If you did not do the procedure in "Before removing the old laser unit" before removing the laser unit, you must do the following.

1. Turn off the main power switch and disconnect the power cord of the machine.

2. Controller box (page 235)

3. Disconnect the harness [A] of the skew correction motor.
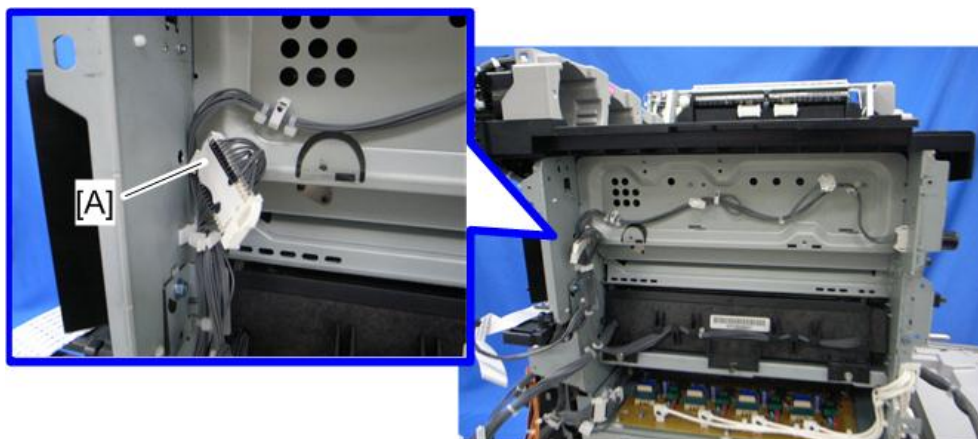
m065r807

4. Do steps 1 to 9 of "Before removing the old laser unit".

5. Connect the harness [A] and reinstall the controller box.

6. Plug in and turn on the main power switch.

Removing the laser unit

1. Rear cover (page 91)

2. **Right cover (page 90)**

3. **Controller box (page 235)**

4. **Development fan duct (page 123 "Development Fan")**

5. **Bracket [A] (🔩 x 1)**
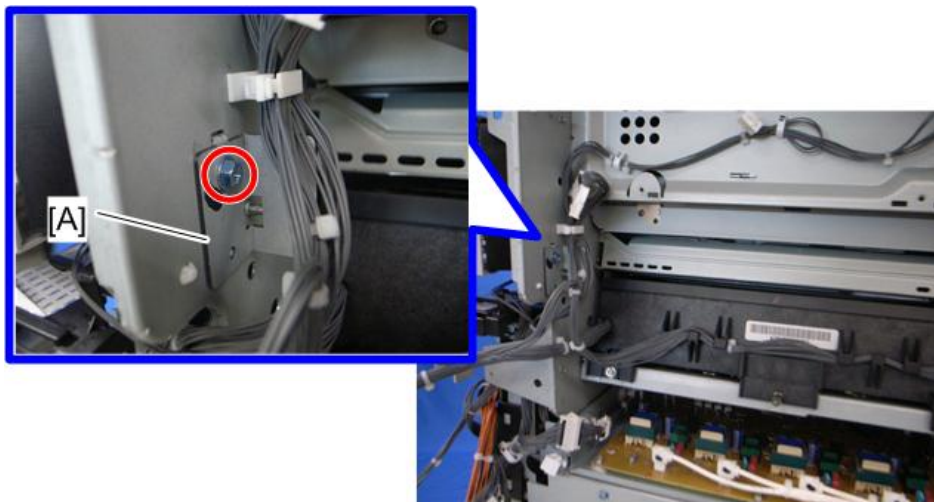
m065r599

6. **Pull out the laser unit [A] (🔩 x 2, 🔌 x 1, 🔗 x 1).**
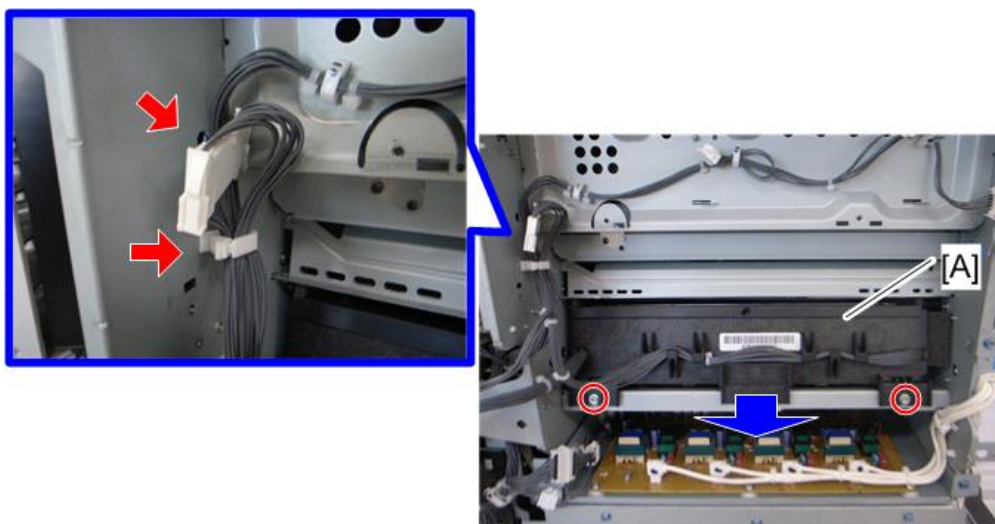
m065r600

After installing a new laser unit

Do the following adjustment after installing the new laser unit.

1. **Plug in and turn on the main power switch.**

2. **Check that the settings of SP2-119-001, -002 and -003 are "0". If these settings are not "0", execute "Recovery procedure for no replacement preparation of laser unit" described above.**

   ⭐**Important**

   - If this step is not correctly done, an image problem may occur on printouts.

3. **Input the SP settings on the sheet provided with a new laser unit.**

   - SP2-101-001: Color Registration Adjustment for Black

   - SP2-102-013, 015, 017, 019: Magnification Adjustment Main Beam Pitch Dot for each color

   - SP2-102-014, 016, 018, 020: Magnification Adjustment Main Beam Pitch Subdot for each color

   - SP2-102-001: Main Magnification for Black and Standard line speed

   - SP2-102-002: Main Magnification for Black and Medium line speed

   - SP2-102-003: Main Magnification for Black and Low line speed

   - SP2-104-001 to -008: LD Initial Power Adjustment for each color
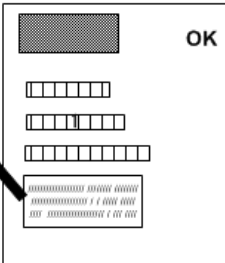
   ⬇**Note**

   - The printed values [A] are different for each laser unit.

   - If the SP settings shown above are not input correctly, it may cause color registration errors.

d037r513

4. **Print the test pattern (14: 1-dot trimming pattern in the SP2-109-003).**

5. **Check that the left and right trim margin is within 4 ± 1 mm. If not, change the standard value for the main scan magnification adjustment.**

6. **Select "0" with SP2-109-003 after printing the "1-dot trimming pattern.**

7. **Do the line position adjustment.**

   • First do SP2-111-003.

   • Then do SP2-111-001.

   • To check if SP 2-111-001 was successful, watch the screen during the process. A message is displayed at the end. Also, you can check the result with SP 2-194-010 to -012.

8. **Exit the SP mode.**

Laser Unit Fan

⚠**CAUTION**

• If the optional tray heater is installed in the machine, the HVPS: CB bracket may be still hot. Wait until the HVPS: CB bracket cools before doing this procedure.

1. **Rear cover (page 91)**
2. **Right cover (page 90)**
3. **Controller box (page 235)**
4. **HVPS: CB bracket (page 242 "HVPS: CB Board")**
5. **Laser unit fan [A] (⬚ x 1, hooks)**

m065r605
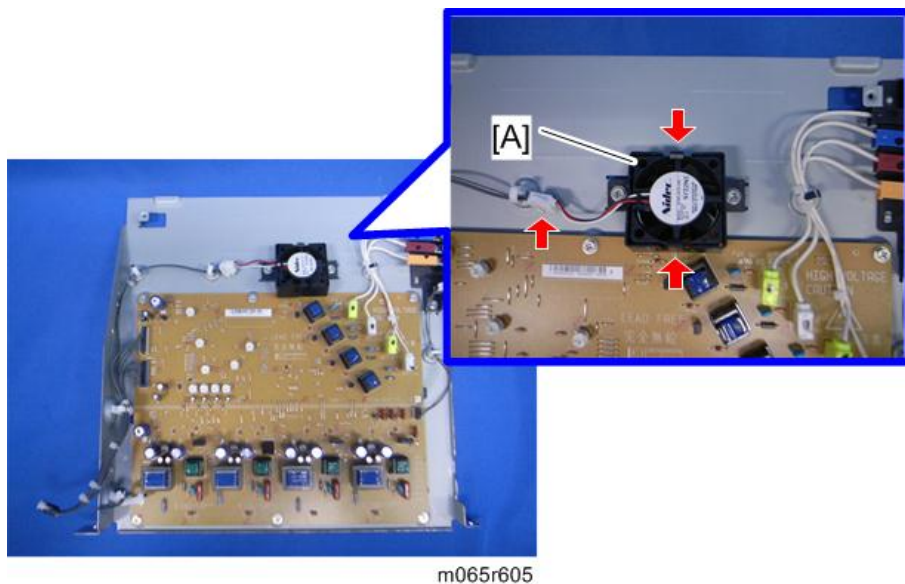
When installing the laser unit fan

Make sure that the laser unit fan is installed with its decal facing upward.

LDU Shutter Motor

1. Duplex unit (**page 208**)

2. Paper feed unit (**page 184**)

3. Release the LDU shutter motor [A] (🔩 x 3).
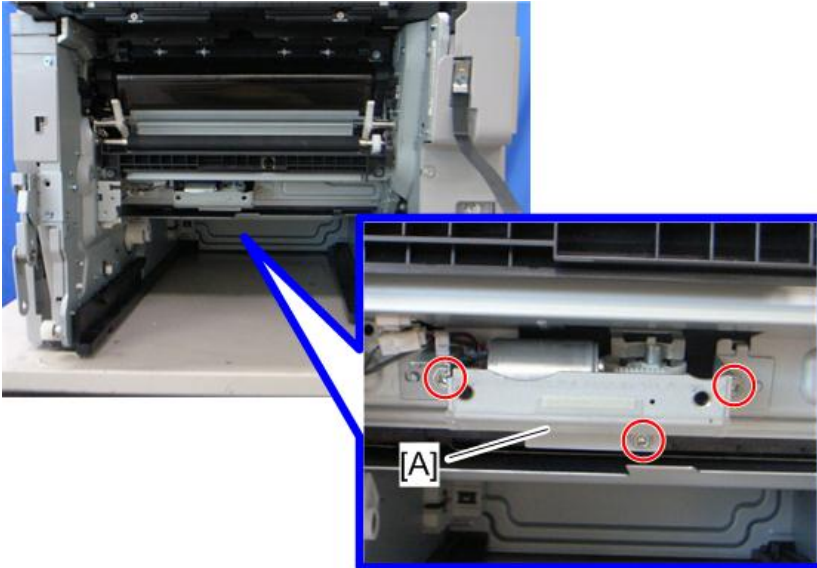
m065r733

4. LDU shutter motor [A] (🔲 x 2, 🔌 x 1).
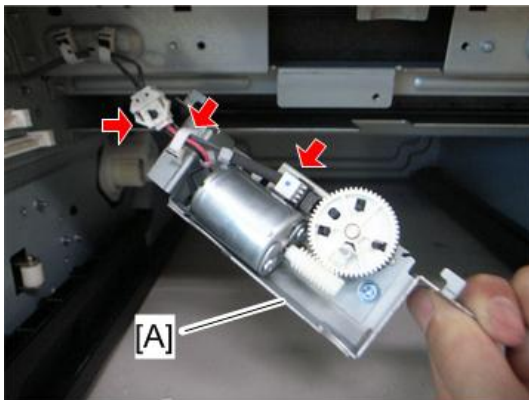
m065r734

Image Creation

PCDU (Photo Conductor and Development Unit)

Note

- Do not touch the OPC drum. Do not let metal objects touch the development sleeve.

1. **Open the left cover.**
2. **Turn the lock lever [A] counterclockwise, and then open the drum securing plate [B].**

m257z0012
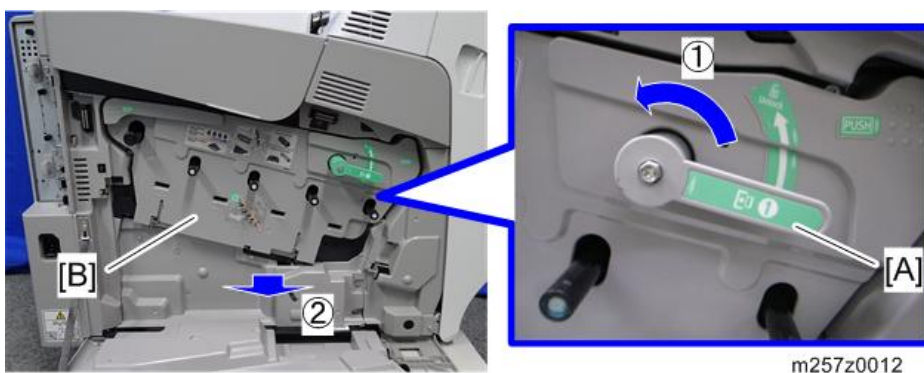
3. **Turn the ITB lock lever [A] counterclockwise (this step is only needed if you remove the PCDU: K).**
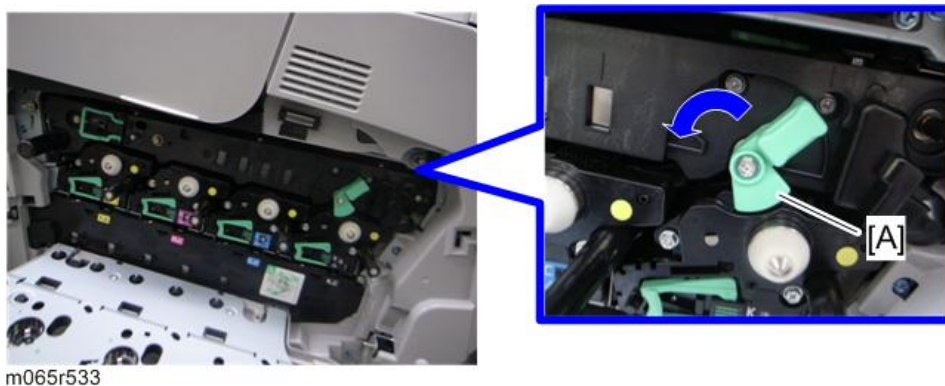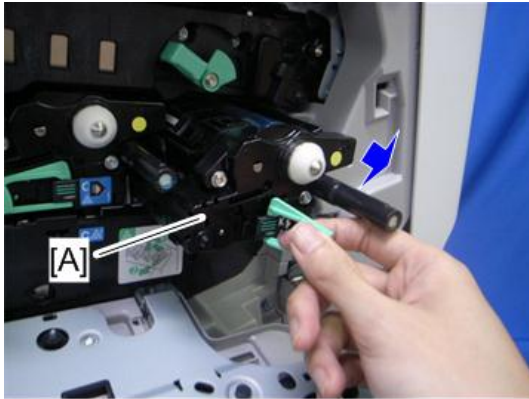
m065r533

4. PCDU [A]

m065r534

When installing a new PCDU

1. Remove the cover [A] and pull out the tape from the new development unit before installing a new PCDU in the machine.
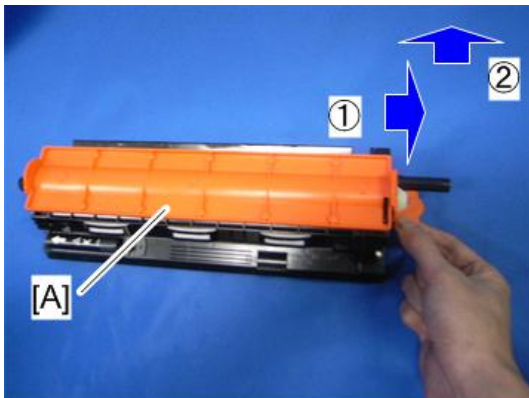
m065r805

2. After inserting a PCDU, always push the PCDU lever in until you hear it click and lock.
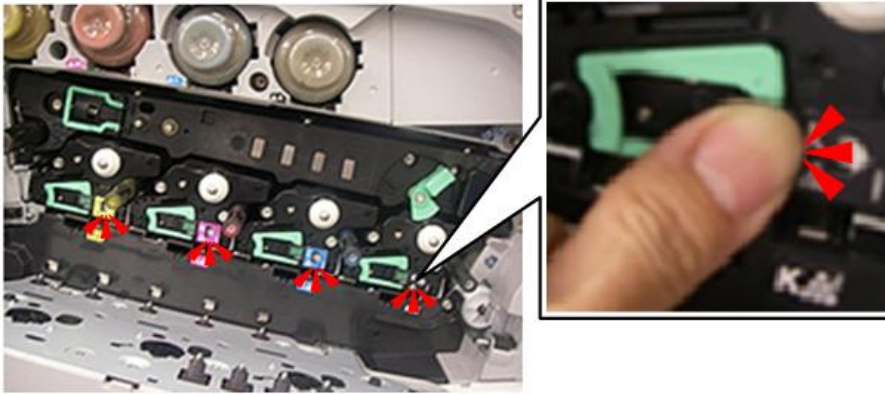
d190b0501

3. Check the five-sided window of each PCDU.

- If the area inside the window is all white [A], the unit is installed correctly.
- If you see any red color [B] inside the window, the unit is installed incorrectly.
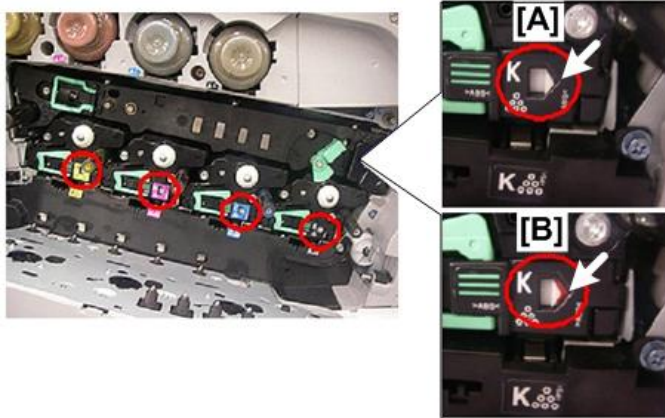
d190b0502

4. On each unit, check the slot and bracket alignment.

- If you see the white lock tab inside its slot [A], the unit is installed correctly.
- If you do not see the white tab inside the slot [B], the unit is installed incorrectly.
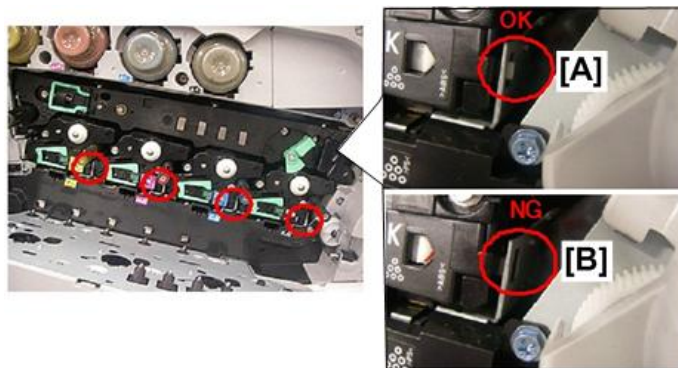
d190b0503

5. Turn the ITB lock lever clockwise to lock it.
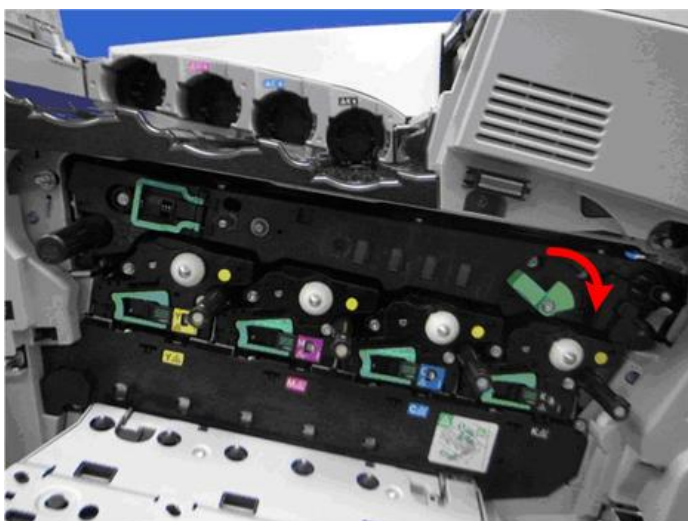
d190b0504

6. Use both hands to close the drum securing plate [A].
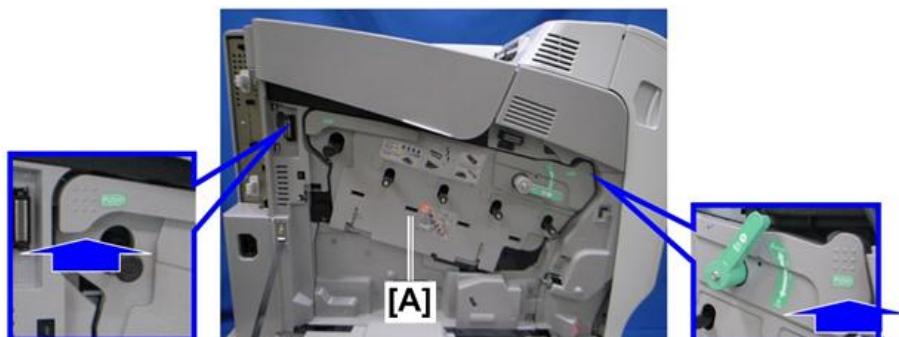
d190b0505

7. Turn the lock lever clockwise to lock it.

d190b0506

8. Close the left cover.

Waste Toner Bottle

If you replace the waste toner bottle after the machine detects that it is full or near-full, the machine automatically resets the PM counter for the waste toner bottle after replacement.

But, if you replace a bottle that is not full or near-full, then you must reset the PM counter for this unit. To do this, set SP3-902-020 to 1 before you start to work on the machine.

1. Open the left cover [A].

m065r501

2. Attach the seals (provided with the new waste toner bottle) [A] to the five sponge pads. This closes the waste toner bottle.

3. Release the lock [B].

4. Remove the waste toner bottle [C].

5. Put the waste toner bottle [C] into the supplied plastic bag to prevent toner from leaking out of the bottle, and then seal the bag.
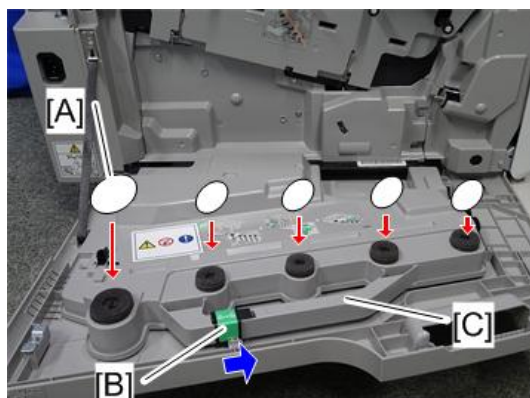
m257z0013

Toner Supply Tube

1. Remove the toner bottles.

2. Open the upper cover.

3. Clean each toner hopper entrance [A] with a vacuum cleaner.
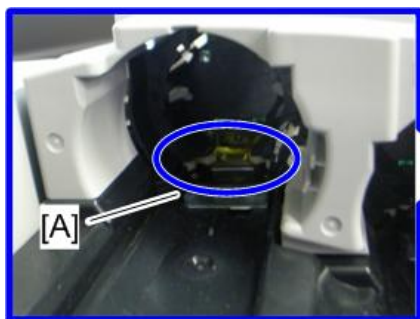
m065r718

4. PCDUs (page 106)

5. **Right cover (page 90)**

6. **Rear cover (page 91)**

7. **Top cover (page 92)**

8. **Inner left upper cover (page 94)**

9. **Inner right rear cover (page 99)**

10. **Drive unit fan base (page 162 "Drive Unit Fan")**

11. **Inner upper right cover [A] (x 2)**
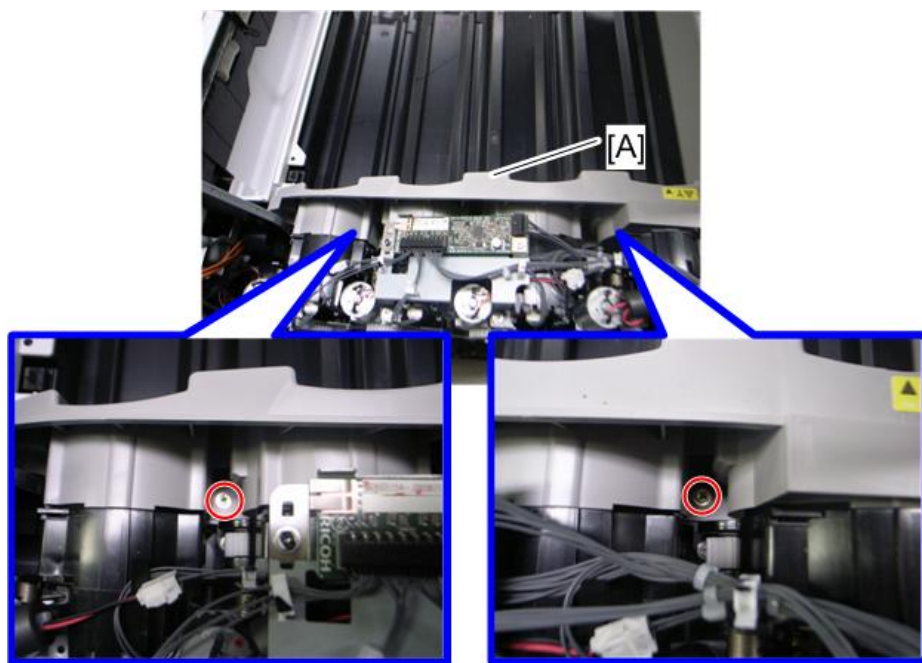
m065r536

12. **Inner upper cover [A] (x 1)**
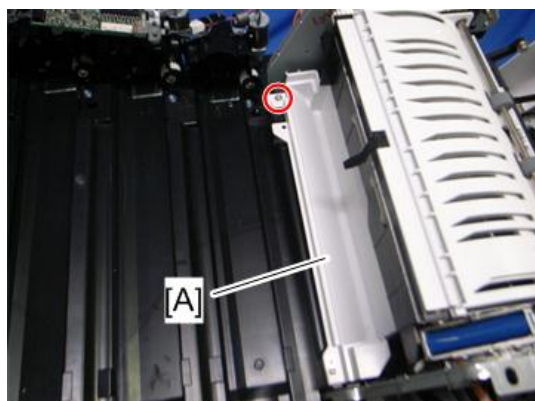
m065r537

13. Remove the two screws.
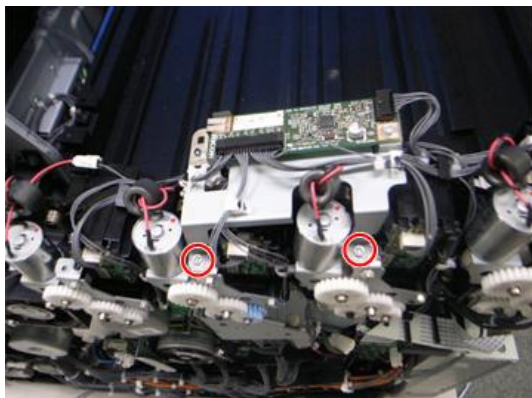
m065r716

14. Release each clamp and disconnect each connector.
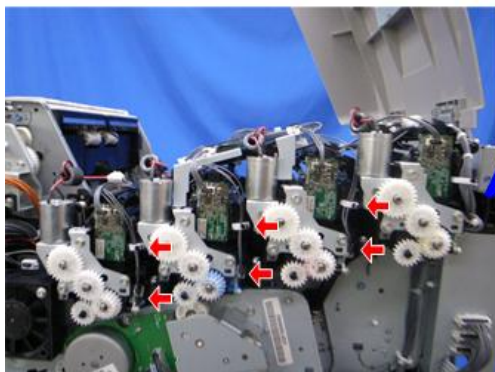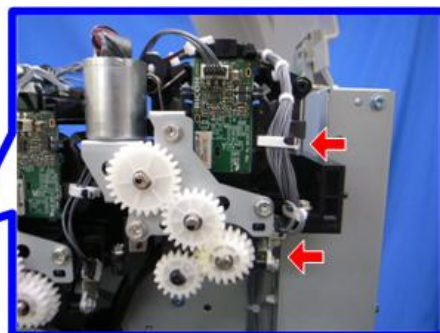
m065r717

15. Release the toner supply motor brackets [A] (🔩 x 3 each).

[A]
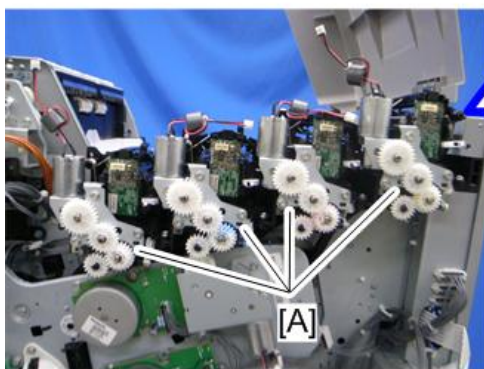
m065r641
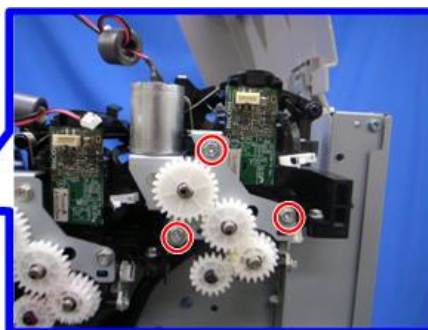
⬇Note

- Place the toner supply motor brackets on a sheet of paper [A] because grease may fall from the toner supply motors.
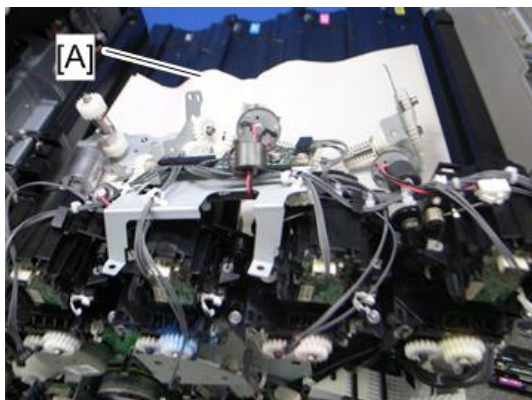
m065r719

16. **Release each toner supply tube [A] by pulling out its gear assembly a short distance.**
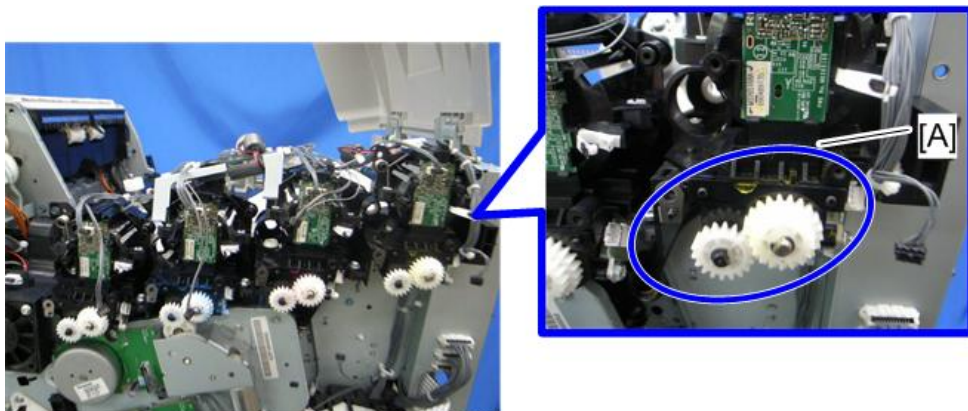
m065r720

⬇Note

- Work carefully when releasing the toner supply tube [A] to avoid spilling toner on clothing or the hands.

17. **Release the upper cover sensor [A] (hooks).**
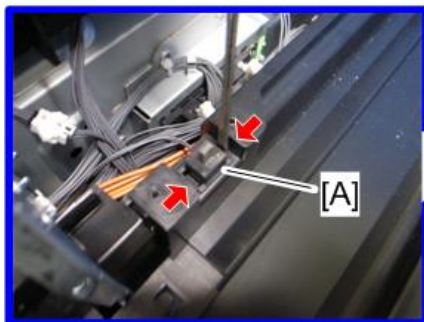
m065r721
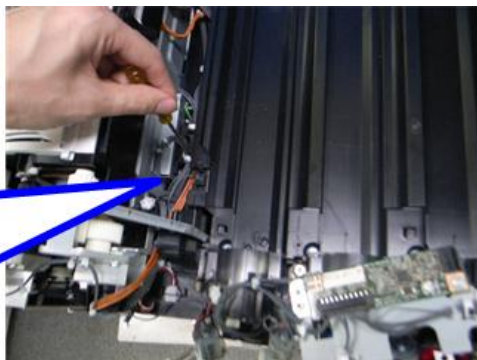
18. **Release the toner plate [A] ($\mathscr{P}$ x 7).**
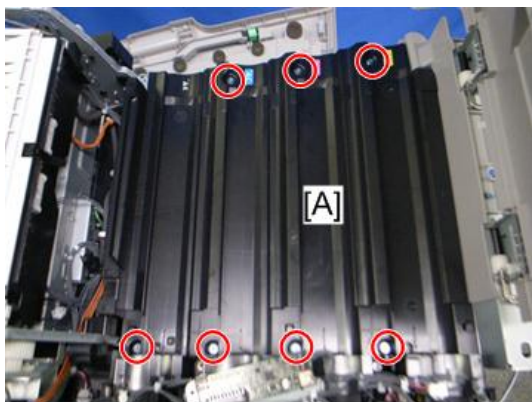
m065r722

19. **Remove each clip [A].**
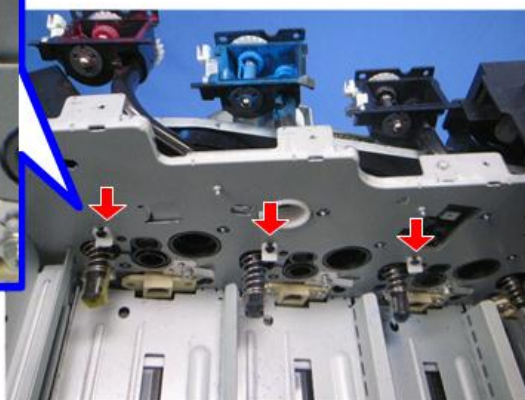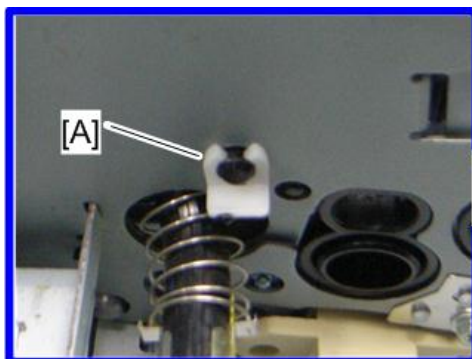
m065r813

🡇 Note

- Make sure that the clip [A] does not fall inside the machine during maintenance.

20. **Turn the toner tube [A] as shown above.**
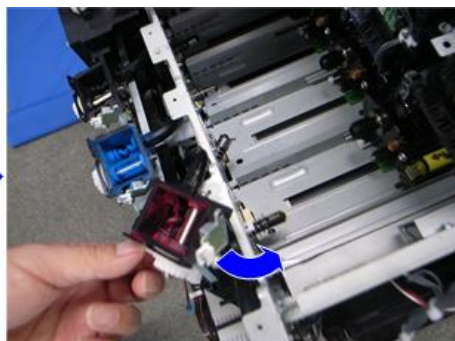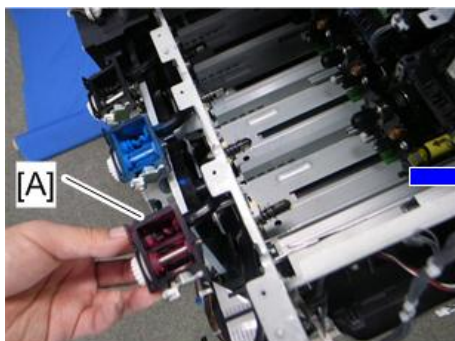
m065r814

21. **Pull out each toner supply tube [A].**
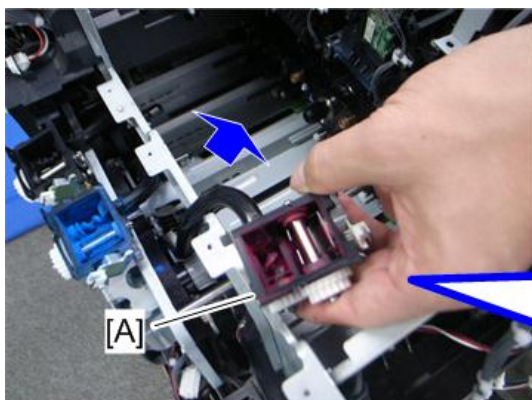
m065r815

🡇 Note

- Clean each toner tube entrance with a vacuum cleaner.
- Work carefully when removing the toner supply tube [A] to avoid spilling toner on clothing or the hands.

🡇 Note

- Do not push the tip [A] of the toner tube because this will spill toner.

m065r816

Toner Supply Motor

1. Right cover (**page 90**)

2. Rear cover (**page 91**)

3. Top cover (**page 92**)

4. Motor bracket [A] (🔩 x 3, 🔌 x 1)
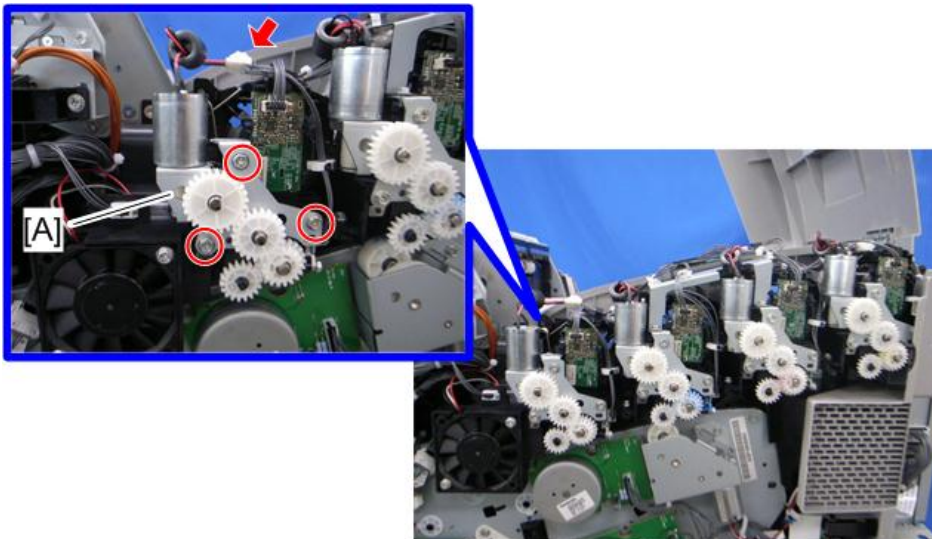
m065r774

5. Toner supply motor [A] ($\mathscr{P}$ x 2)

↓Note

- If the bushing (white) [B] is removed with toner supply motor, install it in the toner hopper frame (as shown below).
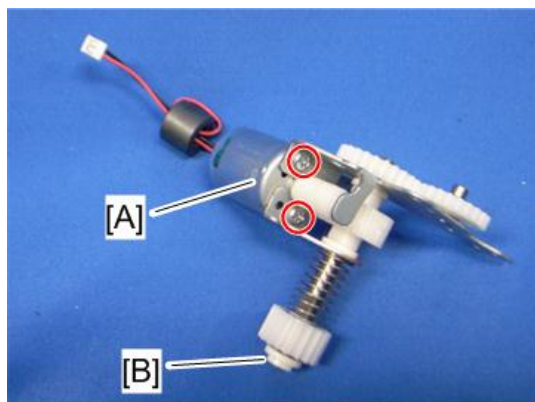
m065r775

↓Note

- Make sure that the bushing (white) [A] is installed in the toner hopper frame [B].
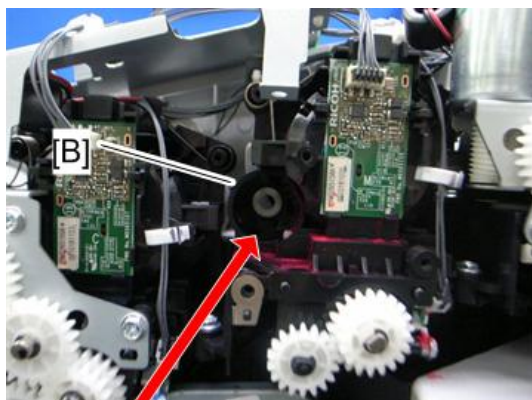
m065r823

Toner Collection Motor

1. Inner left lower cover (**page 96**)
2. Inner left front cover (**page 95**)

3. Motor bracket [A] (🔩 x 2, 📇 x 1, 📇 x 1)
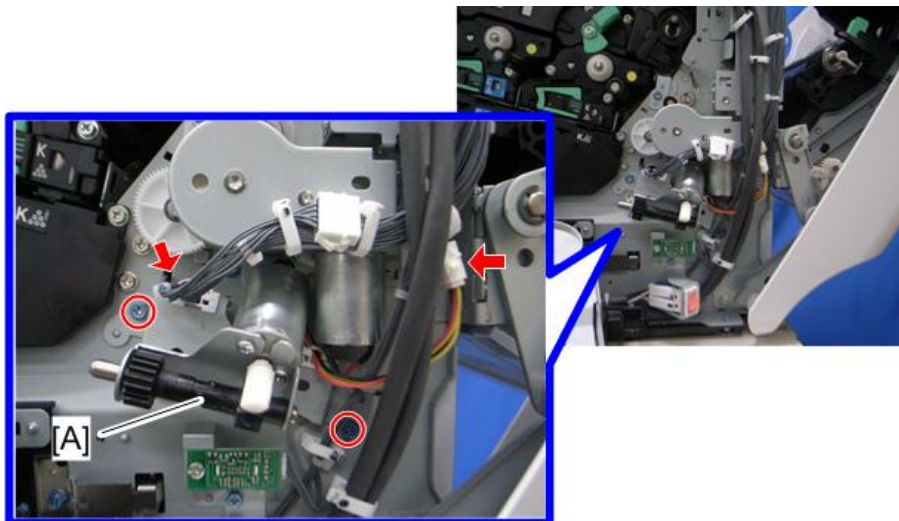
m065r529

4. Toner collection motor [A] (🔩 x 2)
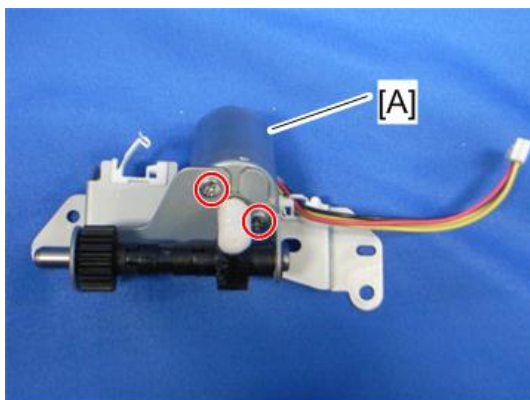
m065r530

⬇ Note

• Apply a small amount of "Silicone Grease G501" to the gear of the motor as shown below.
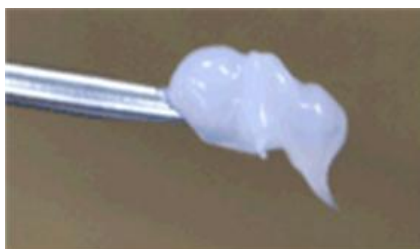
d037r561

Waste Toner Bottle Full Sensor

1. Inner left rear cover (page 96)
2. Sensor bracket [A] (x 2, x 1)
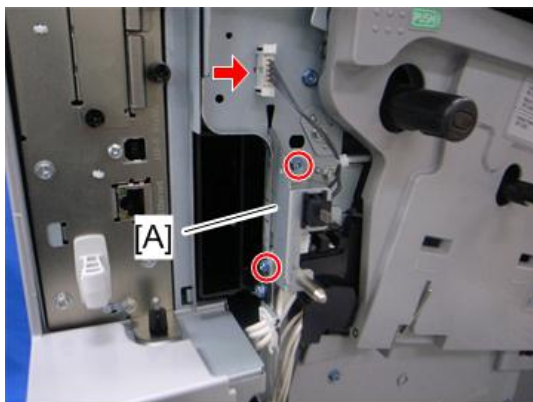
m065r526

3. Waste toner bottle full sensor [A] (x 1, hooks)
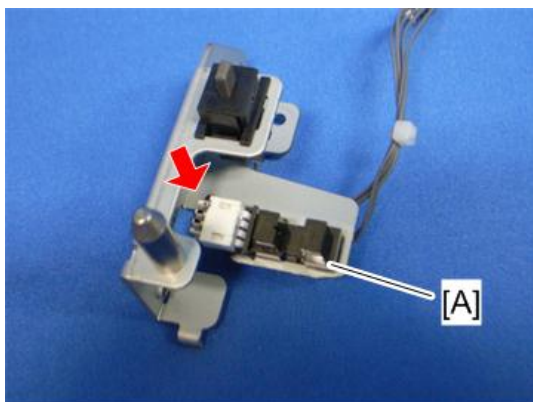
m065r527

Waste Toner Bottle Set Sensor

1. Inner left rear cover (page 96)

2. Sensor bracket [A] (🔩 x 2, 🔌 x 1)
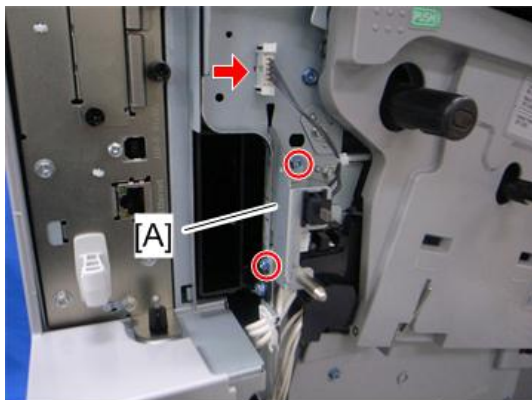
m065r526

3. Waste toner bottle set sensor [A] (🔌 x 1, hooks)
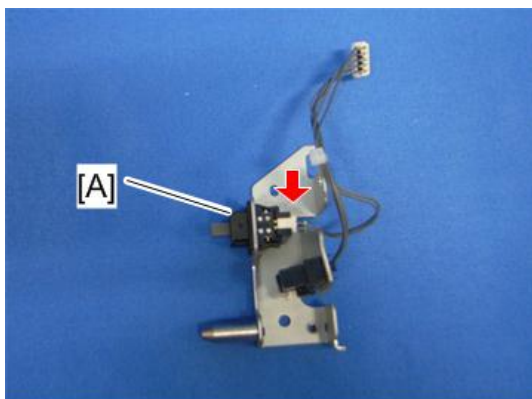
m065r528

RFID CPU Board

1. Right cover (**page 90**)
2. Rear cover (**page 91**)
3. Top cover (**page 92**)

4. **RFID CPU Board [A]** (🔩 x 2, 🔌 x 2)
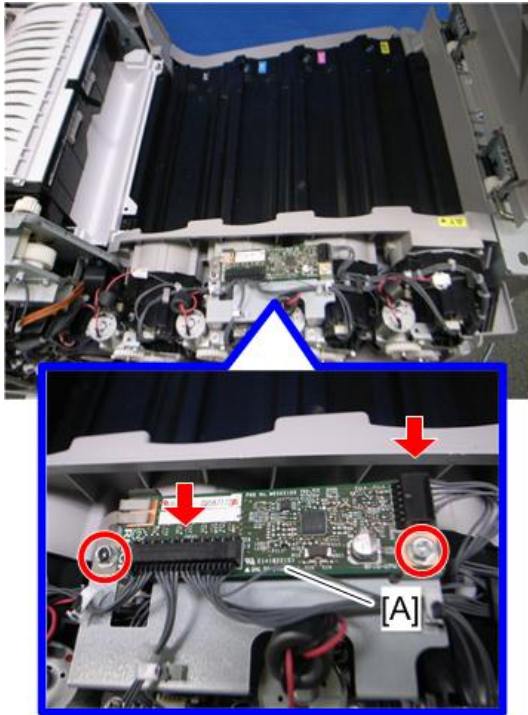
m065r713

RFID Board

1. **Right cover (page 90)**

2. **Rear cover (page 91)**

3. **Top cover (page 92)**

4. RFID board [A] (▣ x 1, hooks)
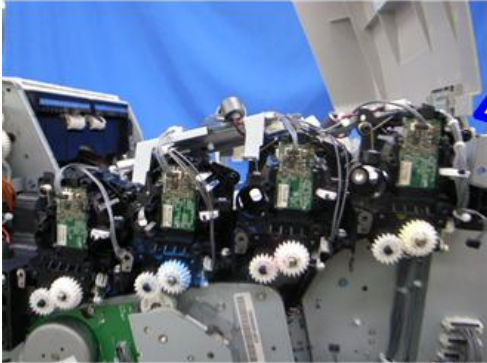
m065r738
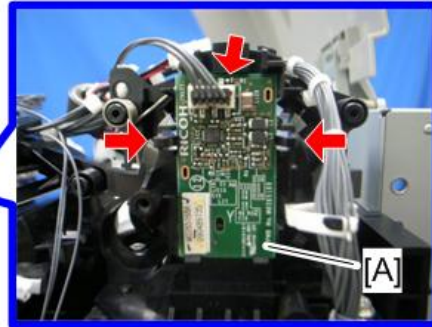
Development Fan

1. Rear cover (**page 91**)

2. Right cover (**page 90**)

3. Controller box (**page 235**)

4. Development fan duct [A] (🔩 x 4, ▣ x 2, ▣ x 1)
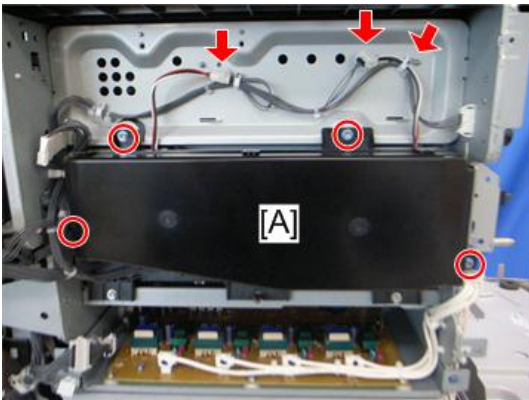
m065r606

5. **Development fan duct cover [A] (6 hooks)**

m065r607
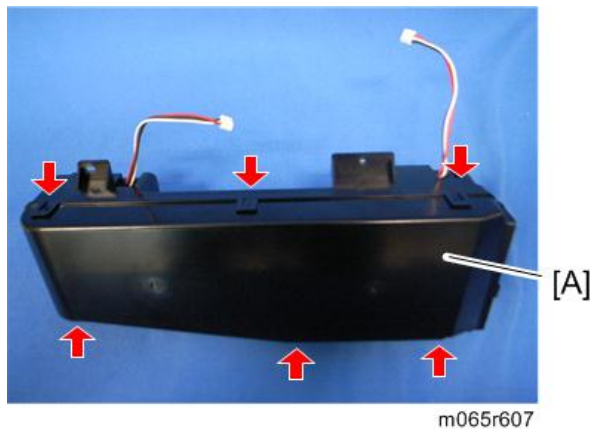
6. **Development fans [A] (🔩 x 2 each)**

m065r608
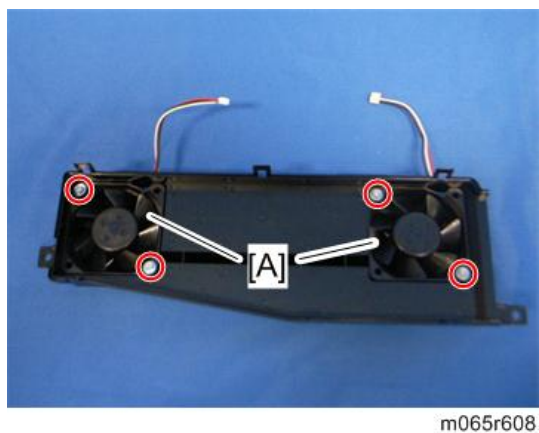
When installing the development fan

Make sure that the development fan is installed with its decal facing to the rear of the machine.

Image Transfer

ITB (Image Transfer Belt) Unit

1. Open the left cover.

2. Turn the lock lever [A] counterclockwise, and then open the drum securing plate [B].

m065r532

3. Turn the ITB lock lever [A] counterclockwise.
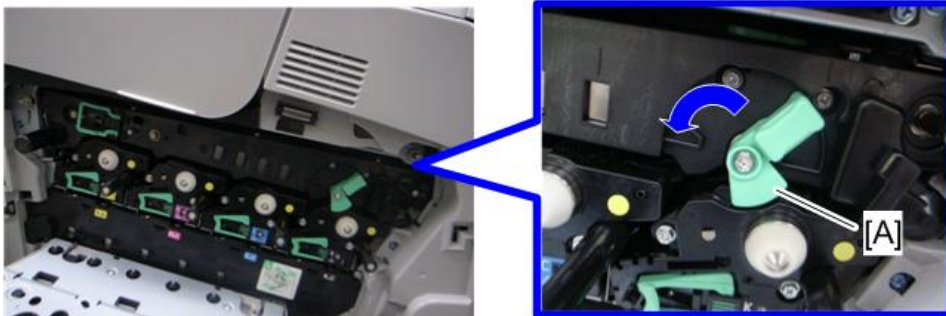
m065r533

4. Open the front door [A].

   🔸Note

   • Opening the front door [A] automatically releases the lock [B] for the ITB unit.

m065r554

5. **Open the upper cover [A].**

m065r555

6. Grasp the handles [A], and then pull out the ITB unit fully [B].
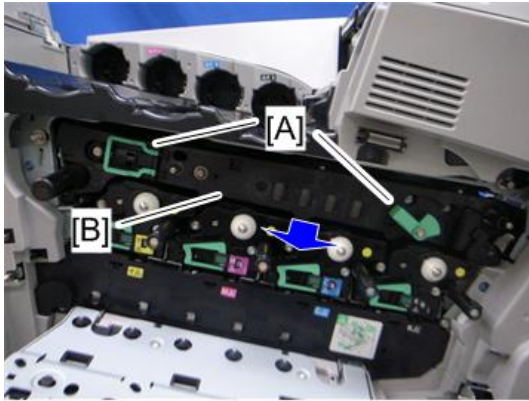
m065r556

7. Grasp the handles [A], and then lift the ITB unit [B].
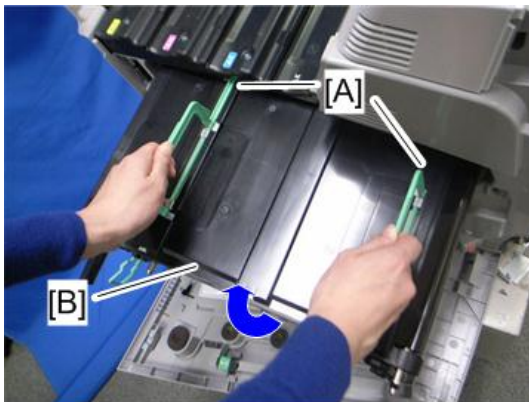
m065r557

Image Transfer Belt

Note

- Do not touch or damage the surface of the image transfer belt during servicing.

1. ITB unit (page 125)

2. **ITB unit cover [A] and the handles [B] (8 hooks).**
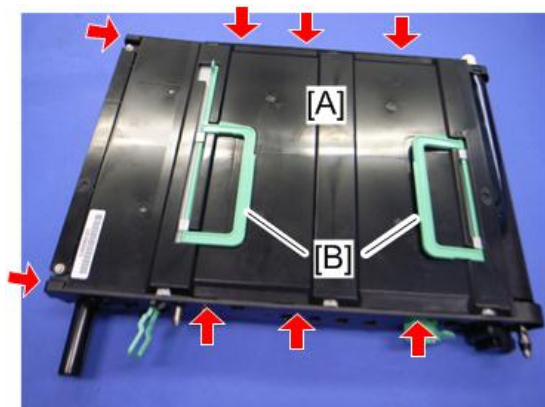
m022r569

3. **Three stays [A] (⌀ x 2 each)**
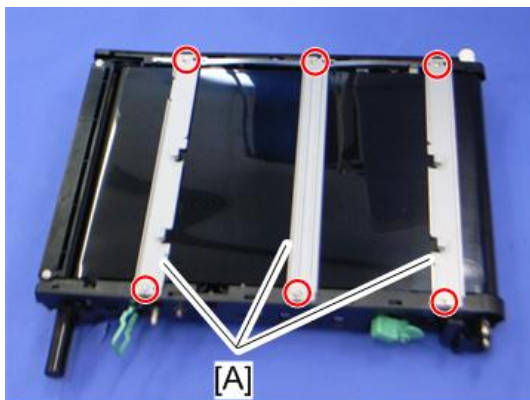
m022r568

4. The left stay [A] ($\mathscr{P}$ x 4)
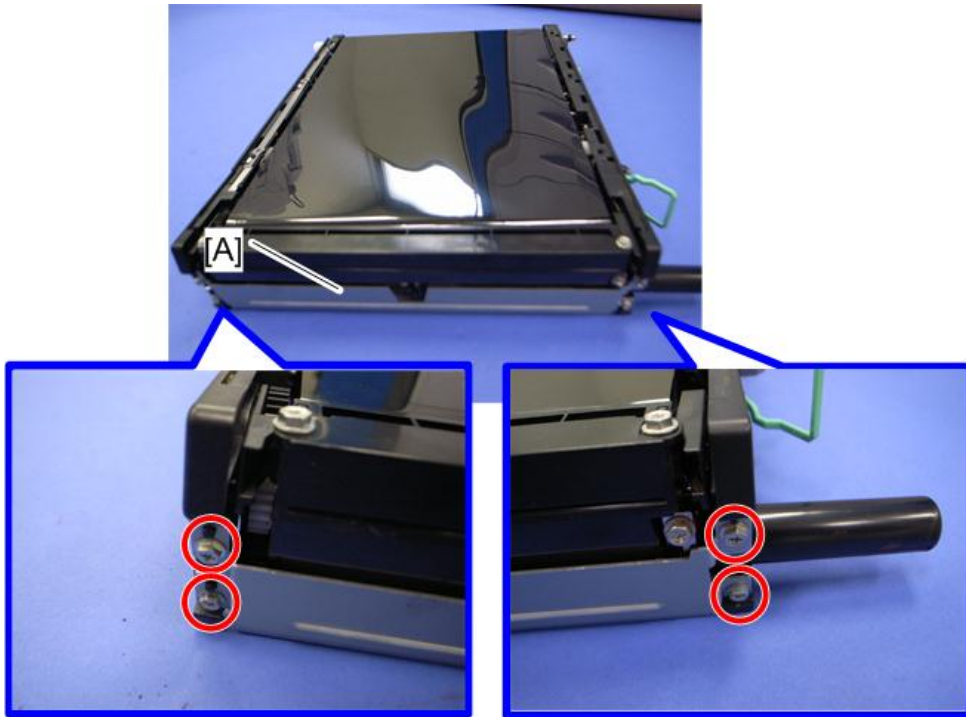
m022r570

5. Rear holder bracket [A] ($\mathscr{P}$ x 2)

m022r572

6. **ITB cleaning unit [A]**
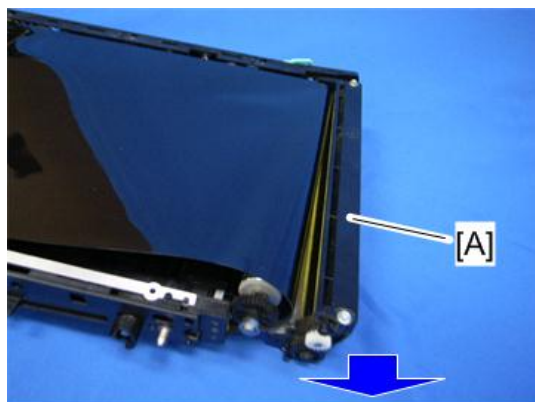
m022r571

7. **Pull the tension roller [A] as shown below.**
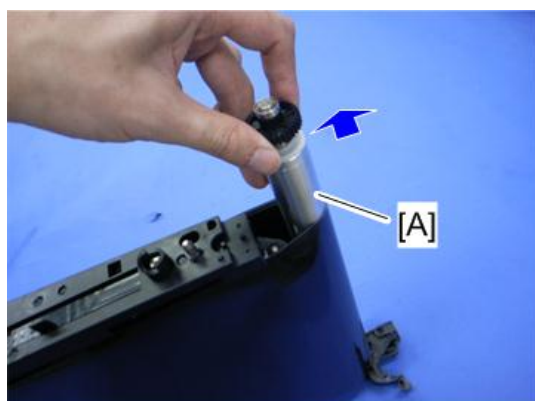
m022r574

8. **Remove a screw.**
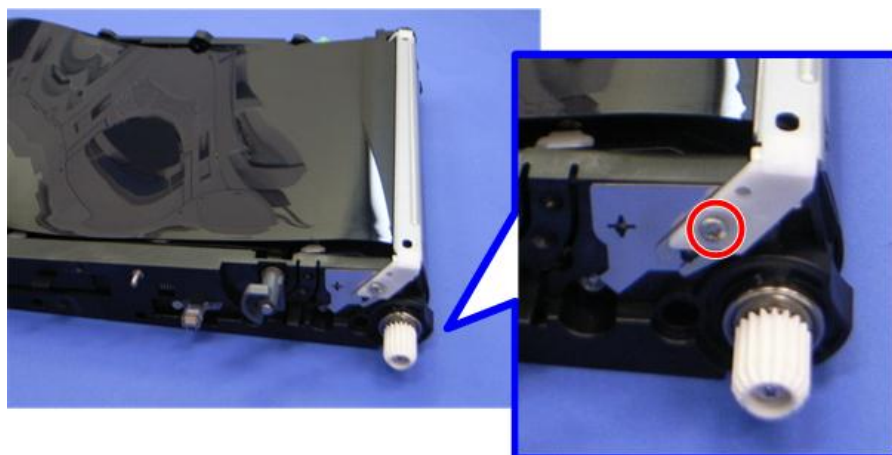
m022r575

9. **Front holder bracket [A]**
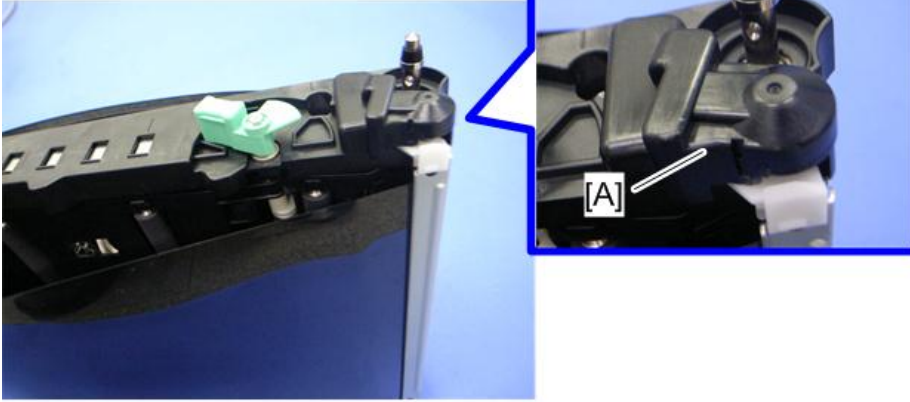
m022r576

10. **Remove a screw, and then turn the encoder sensor [A] to the left.**

⬇Note

- When replacing the image transfer belt, work carefully to avoid damaging the encoder sensor [A].
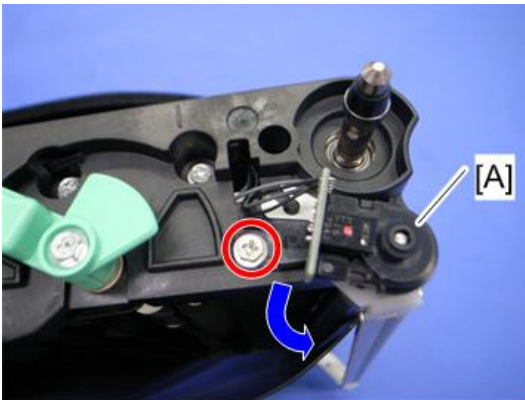
m022r577

11. **The right stay [A] (⬭ x 1)**
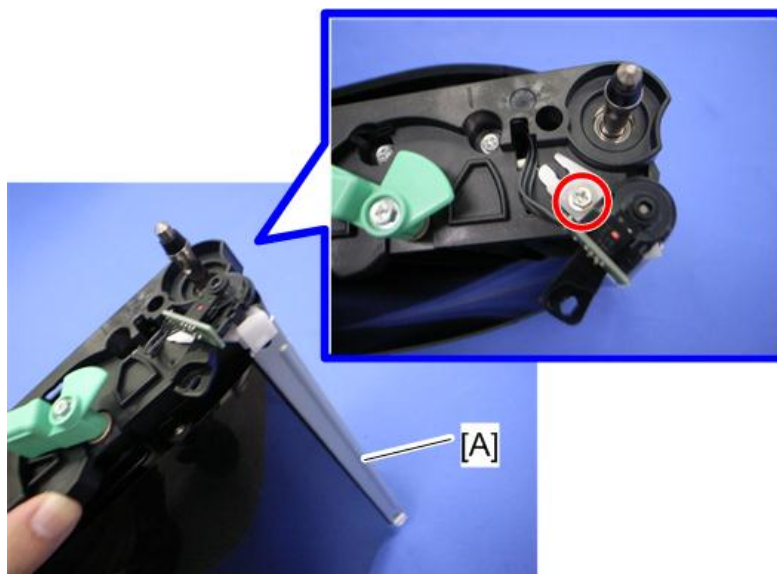
m022r578

12. **Stand the ITB unit [A] as shown above.**

13. **Image transfer belt [B]**
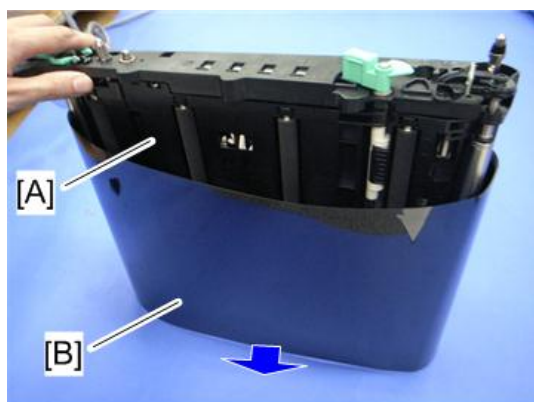
m022r579

When Installing the Image Transfer Belt

⬇Note

- The image transfer belt does not have any directional characteristics. When installing the image transfer belt, it is not required to install the image transfer belt in a specific orientation.

1. Lubricate a part of the surface of the image transfer belt [A] with yellow toner, and then turn the image transfer belt to the position [B] as shown above.

m065r800
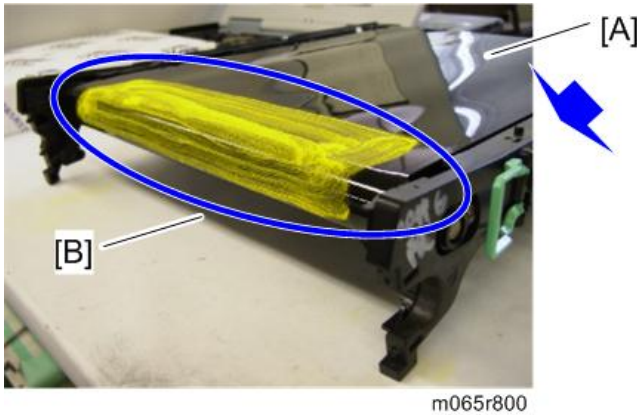
Note

- Be sure to use yellow toner for the Z-P2; do not use lubricant powder, developer, or waste toner.

- You can also use the provided service part: D0159500 (G104 Yellow Toner)

2. Install the ITB cleaning unit [A], and then collect the yellow toner by turning the image transfer belt [B].

m065r801
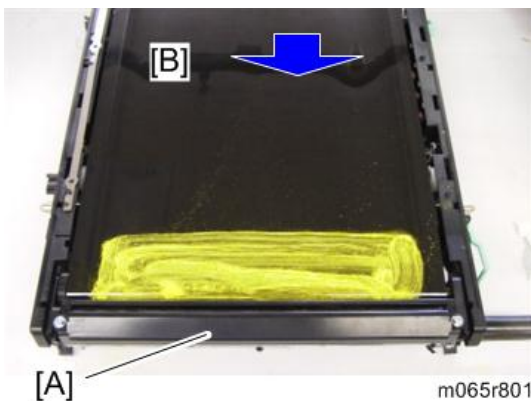
ITB Contact Motor

1. Right cover (page 90)

2. ITB contact motor unit [A] (🔩 x 2, 🔌 x 1, 🔗 x 1)
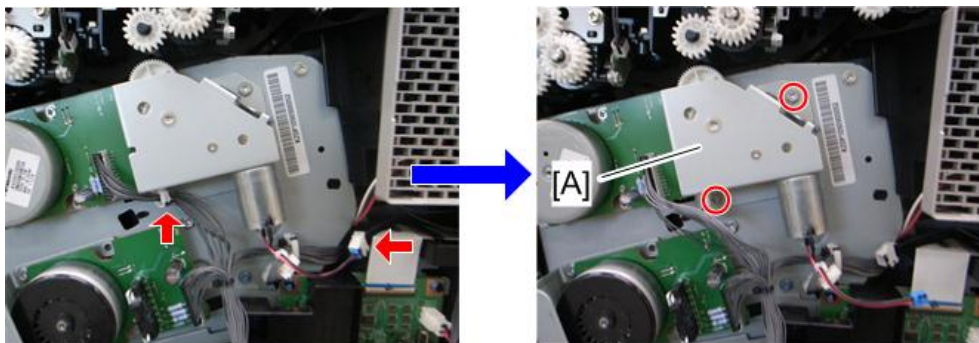
m065r558

3. ITB contact motor [A] (🔩 x 2)
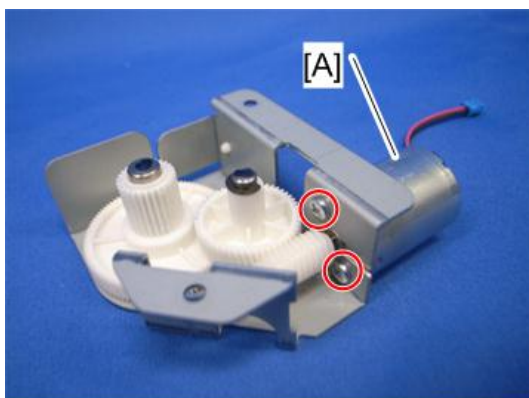
m065r773

↓Note

- Apply a small amount of "Silicone Grease G501" to the gear of the motor as shown below.

d037r561

ITB Contact Sensor

1. PCDU: K (page 106)

2. Right cover (page 90)

3. **Toner supply fan (page 151)**

4. **Toner supply bracket: K [A] (🔩 x 3, 🔌 x 1)**
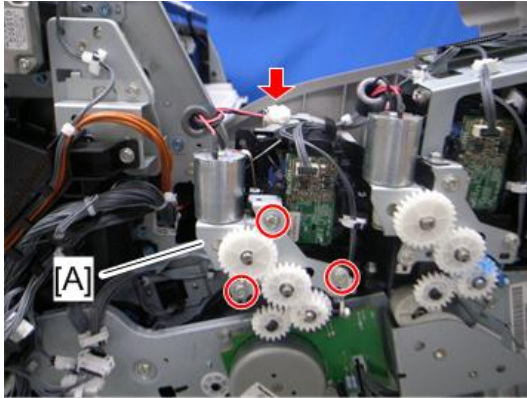
m065r739

5. **Release the toner tube: K [A] by pulling out its gear assembly a short distance.**

   🔽 **Note**

   • Work carefully when releasing the toner supply tube [A] to avoid spilling toner on clothing or the hands.
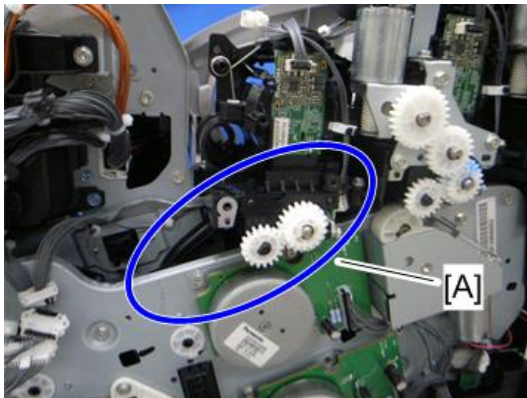
m065r740

6. **Sensor holder [A]** (🔧 x 1, 🔌 x 1)
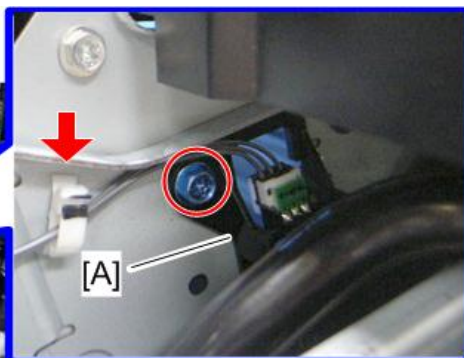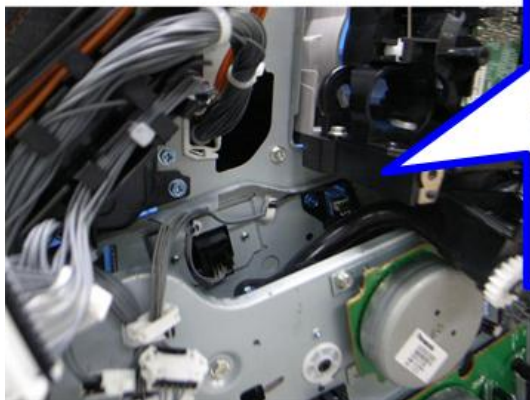
m065r741

7. **ITB contact sensor [A]** (🔲 x 1, hooks)
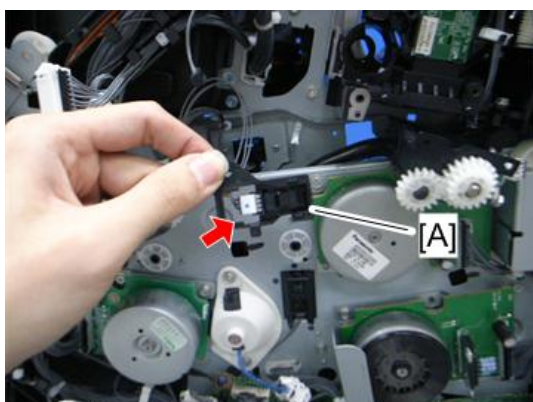
m065r742

ID Sensor Board

1. **Fusing unit (page 164)**

2. **Paper exit unit (page 198)**

3. **Remove the two screws.**
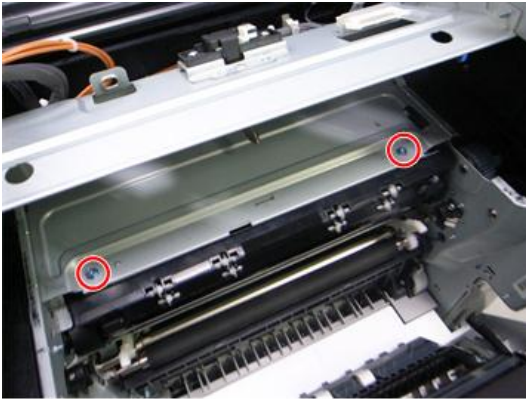
m065r545

4. **ID sensor board bracket [A] (🔲 x 1)**

[A]

m065r546

4
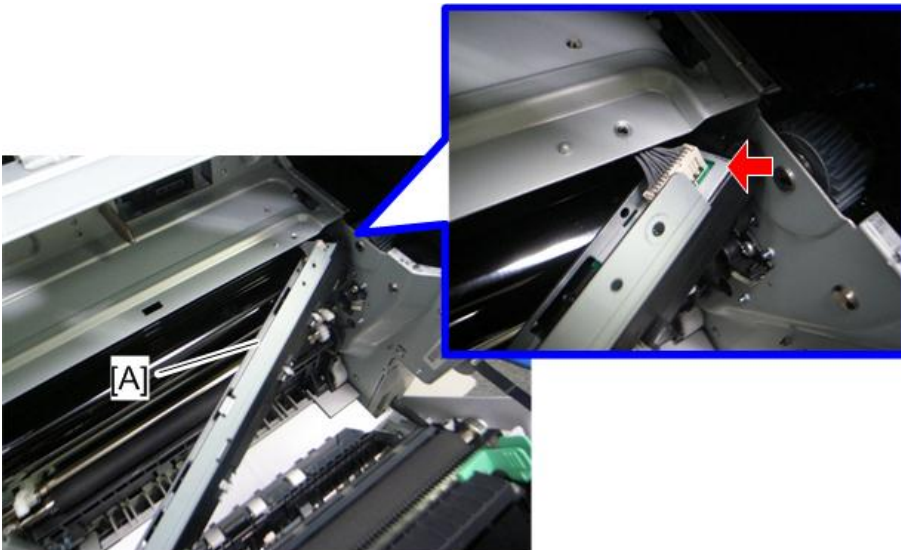
5. **ID sensor board cover [A] (🔩 x 1)**
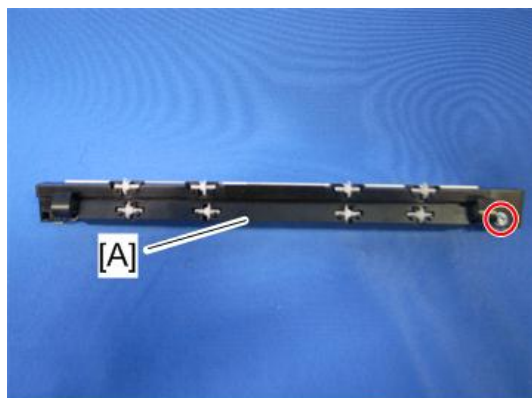
m065r547

6. **ID sensor board [A] (🔩 x 3)**
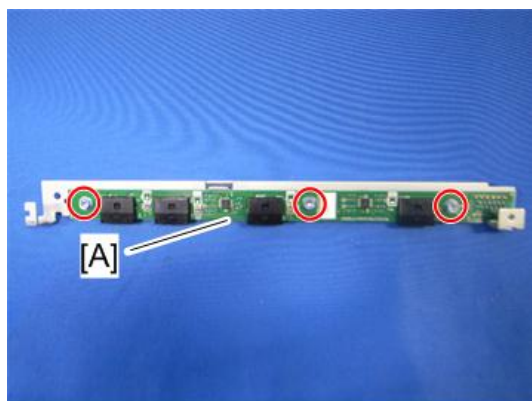
m065r548

After installing a new ID sensor board

Do the following adjustment after installing a new ID sensor board.

1. **Plug in and turn on the main power switch of the machine.**
2. **Enter the SP mode.**
3. **Input all correction coefficients [A] for the ID sensor with the SP modes referring to the barcode sheet provided with the new ID sensor board.**

   ⬇️Note

   • For example, input "**0.99**" with SP3-362-013.

m065r808

4. **Exit the SP mode.**

Paper Transfer

PTR (Paper Transfer Roller) Unit

1. **Open the duplex unit.**
2. **Remove the PTR unit [A], releasing the two locks [B].**
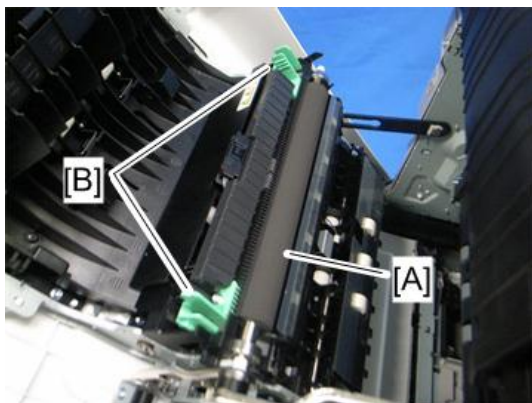
m065r573

When Installing the PTR Unit

To install the PTR unit, pinch the two green locks [A] while you push the unit back into position.

Do not insert objects between the metal plate [B] and its black plastic base. Otherwise, the plate could be bent, and this can cause poor image quality.

m065r802
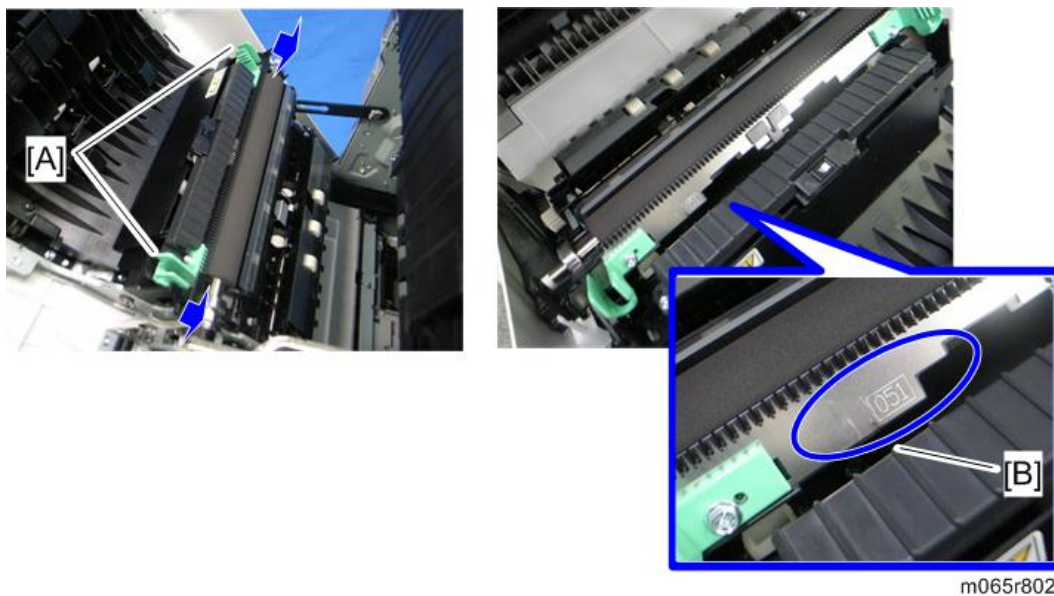
PTR Contact Motor

1. Toner collection motor (**page 118**)

2. Interlock switch bracket [A] (🔩 x 2, 🔌 x 4)

m065r551

3. **Motor bracket [A] (🔩 x 2, 🔌 x 1)**

m065r552
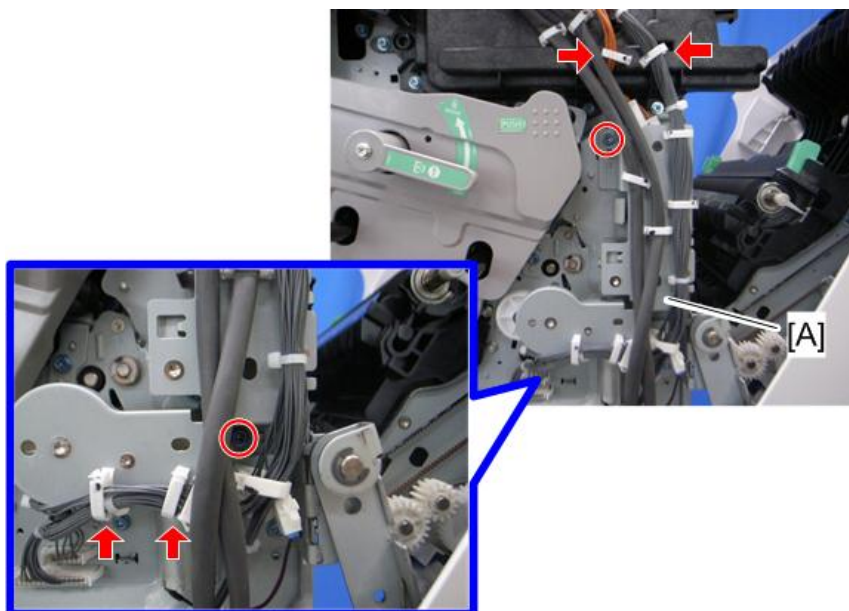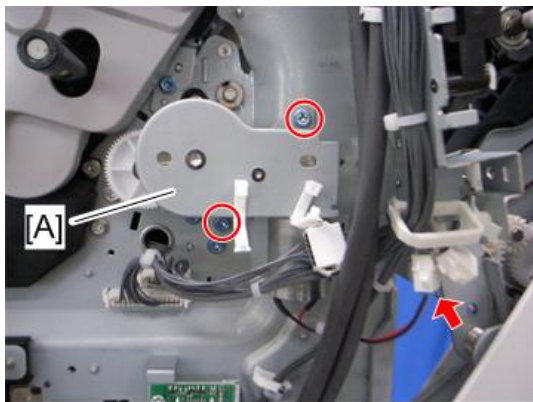
4. **PTR contact motor [A] (🔩 x 2)**
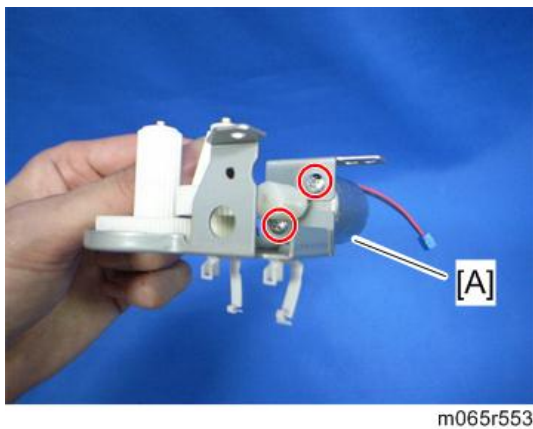
m065r553

🔽**Note**

• Apply a small amount of "Silicone Grease G501" to the gear of the motor as shown above.

d037r561
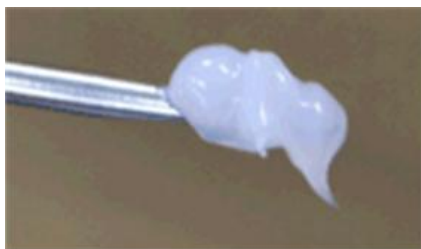
PTR Contact Sensor

1. **Right cover (page 90)**

2. Top cover (**page 92**)

3. Inner right front cover (**page 97**)

4. Motors with bracket (**page 156**)

5. Sensor bracket [A] (🔩 x 1)
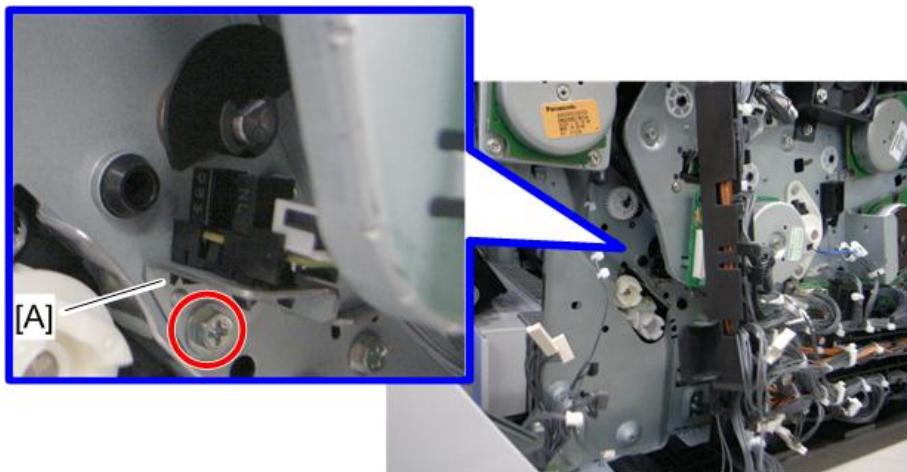
m065r574

6. PTR contact sensor [A] (🔌 x 1, hooks)
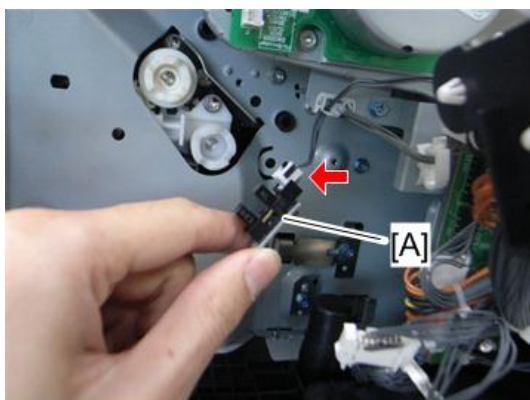
m065r575

Temperature/Humidity Sensor

1. Inner left lower cover (**page 96**)

2. **Temperature/Humidity sensor [A] ($\mathscr{P}$ x 1, $\square$ x 1)**
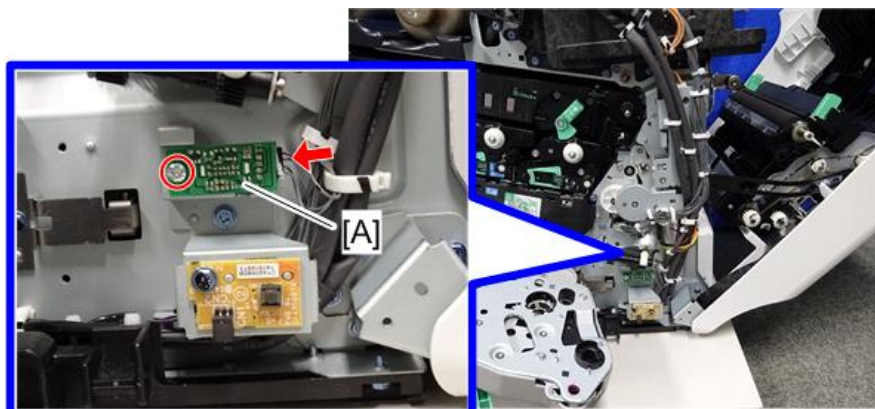
m257z0014

Drive Unit
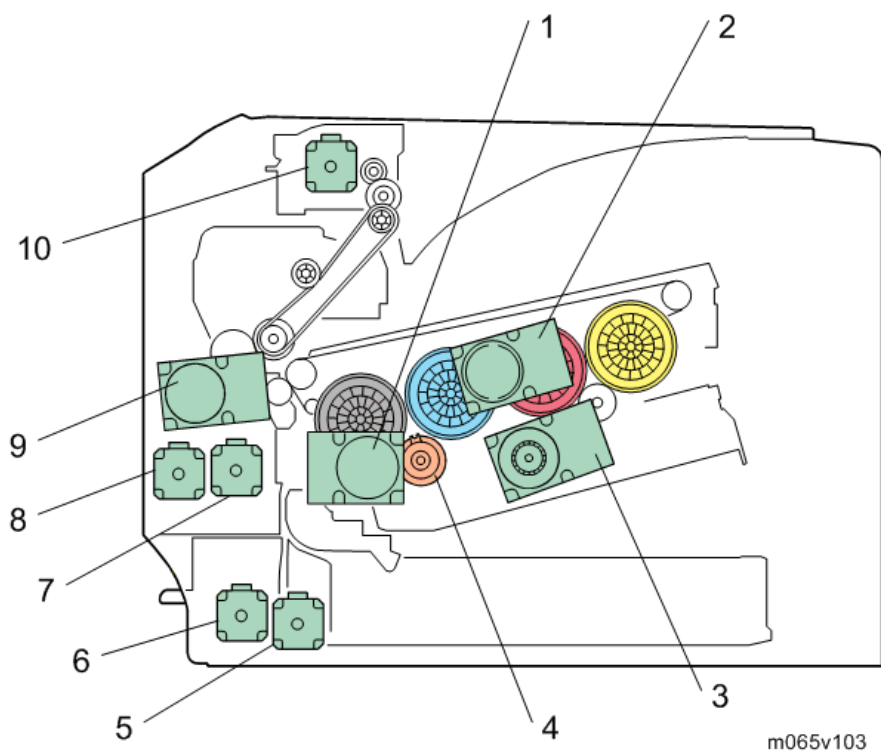
The drawing above shows the drive layout.

1. ITB unit /drum-K/ development-K motor	6. Vertical transport motor
2. Drum motor: CMY	7. Registration motor
3. Development motor: CMY	8. Duplex/ by-pass motor
4. Development clutch: K	9. Fusing/ paper exit motor
5. Paper feed motor	10.Inverter motor

Gear Unit

1. **Remove the toner bottles.**

2. **Open the upper cover.**

3. **Clean each toner hopper entrance [A] with a vacuum cleaner.**

m065r718

4. **ITB unit (page 125)**

5. **PCDUs (page 106)**

6. **Remove the four clips.**

m065r818

7. **Right cover (page 90)**

8. **Rear cover (page 91)**

9. **Top cover (page 92)**

10. **Inner right rear cover (page 99)**

11. **Inner right front cover (page 97)**

12. Release the upper harness guide [A] and the lower harness guide [B] (🔗 x 4, 📎 x all, 🖇 x all)

m065r568
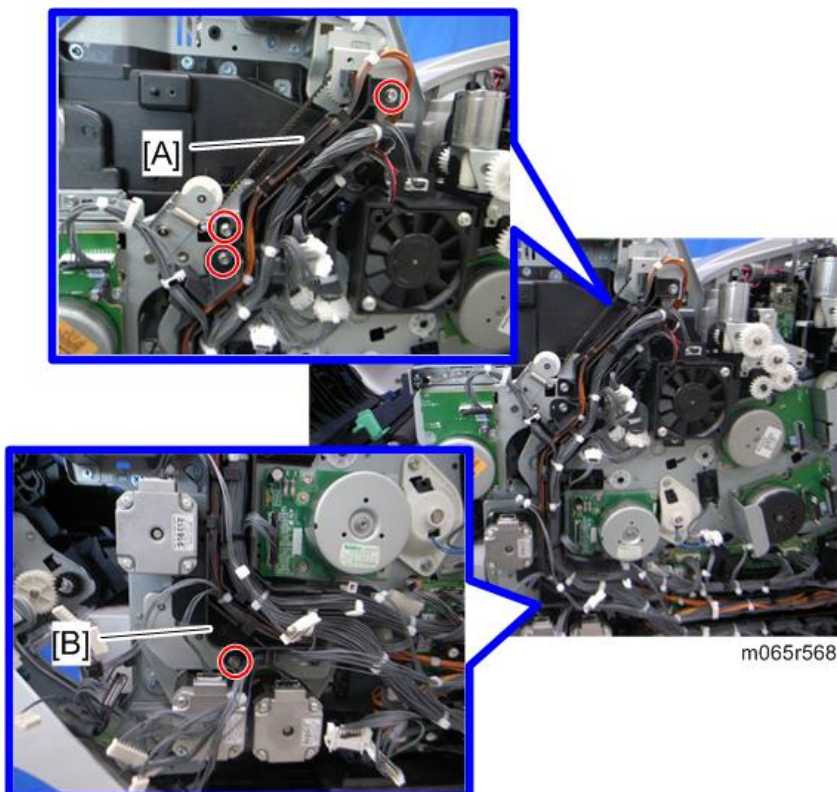
13. BCU with bracket (**page 240**)

14. Remove the two screws.
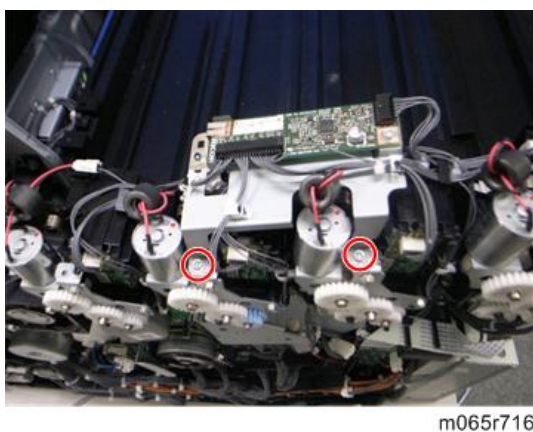
m065r716

15. **Release each clamp and disconnect each connector.**
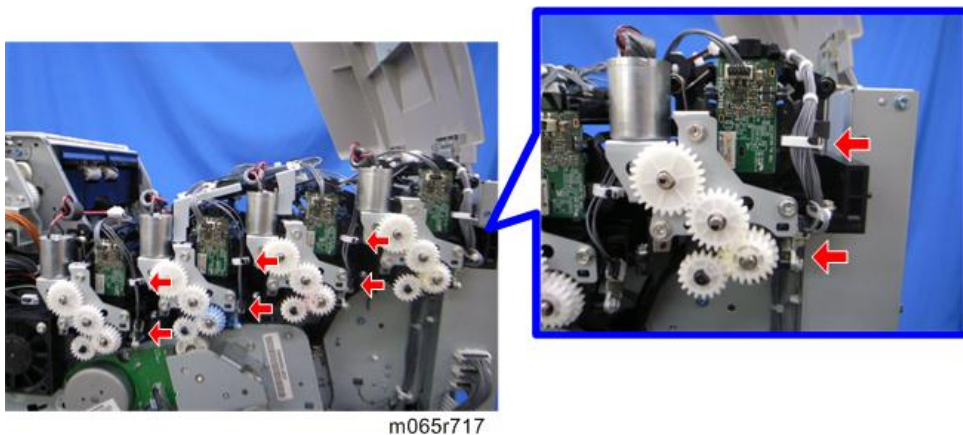
m065r717

16. **Release the toner supply motor brackets [A] (🔩 x 3 each).**

m065r641
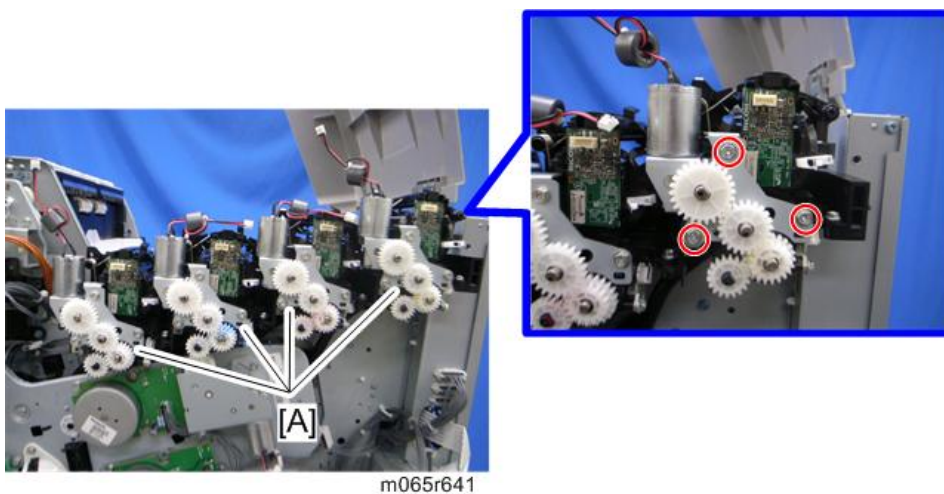
⬇ Note

- Place the toner supply motor brackets on a sheet [A] of paper because grease may fall from the toner supply motors.
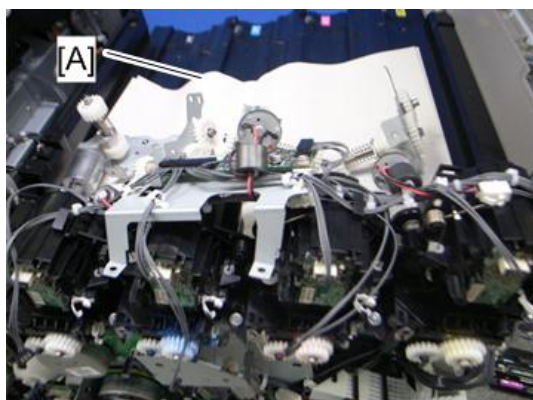
m065r719

17. **Toner supply tube: Y [A]**

   ⬇Note

   • Work carefully when removing the toner supply tube [A] to avoid spilling toner on clothing or the hands.
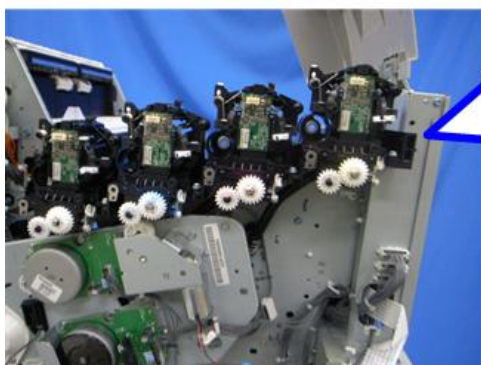
m065r642
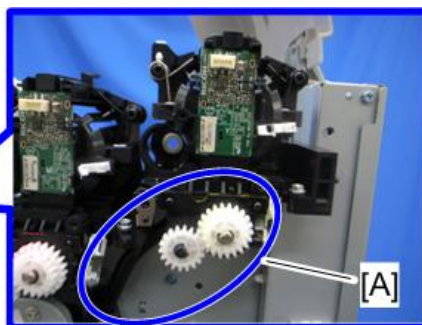
18. **Release the toner supply tubes for M, C and K.**
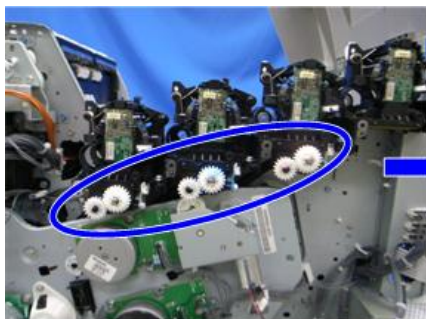
m065r643

Note

- Work carefully when releasing the toner supply tubes to avoid spilling toner on clothing or the hands.

19. **Gear unit [A] with the toner supply tubes for M, C and K (x 6).**
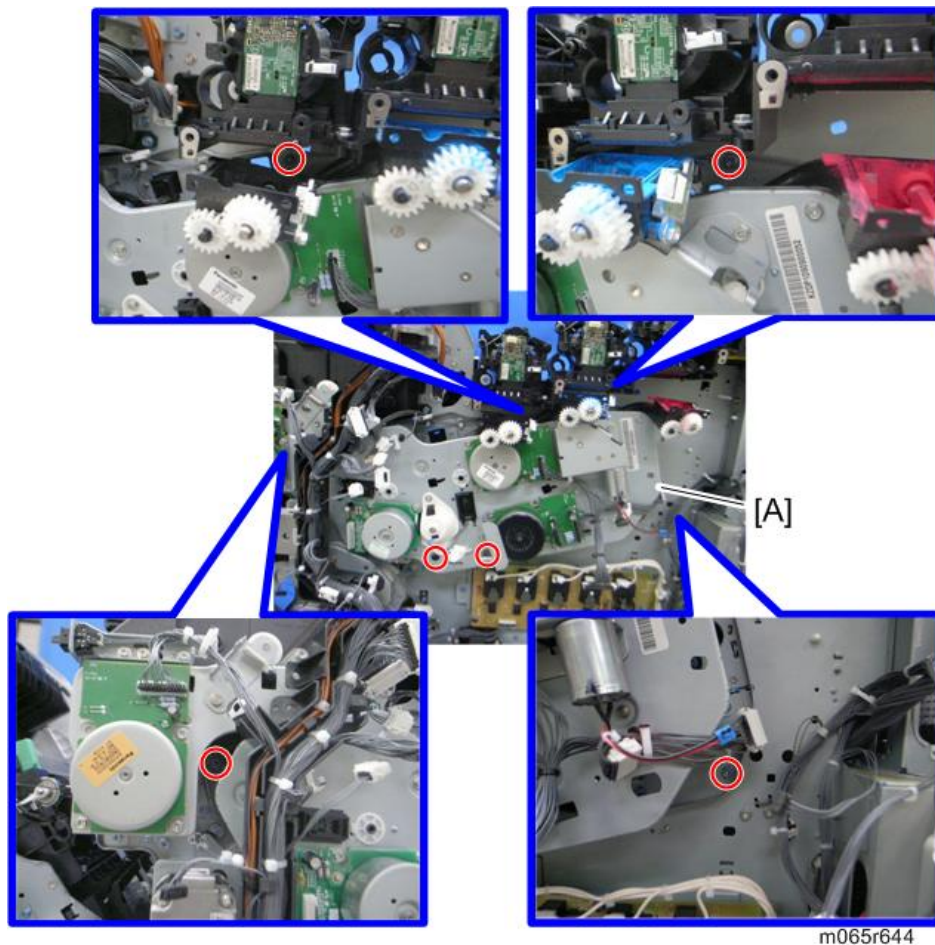
m065r644

20. **Remove the toner supply tubes for M, C and K [A] from the gear unit [B].**

Note

- Work carefully when removing the toner supply tubes [A] to avoid spilling toner on clothing or the hands.
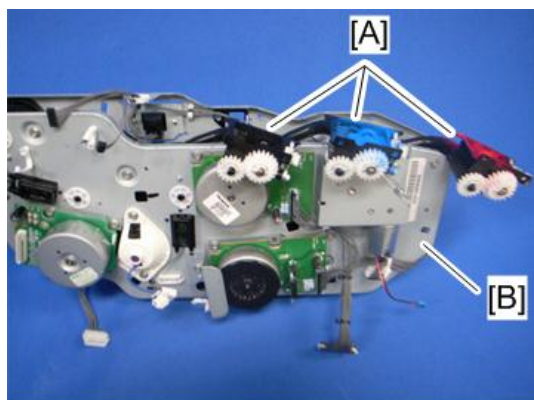
m065r645

When installing the gear unit

Make sure that the positioning pin [A] is set correctly when installing the gear unit.
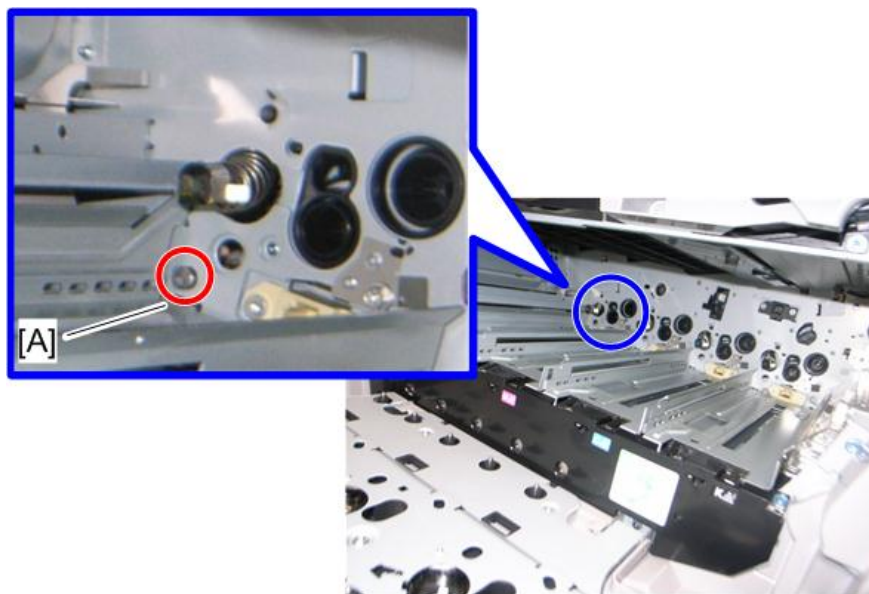
m065r784

Toner Supply Fan

1. **Right cover (page 90)**

2. **Toner supply fan [A] (🔧 x 2, 🔌 x1)**

m065r509
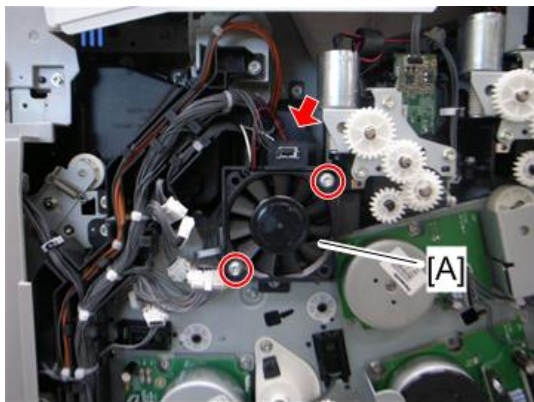
When installing the toner supply fan

Make sure that the toner supply fan is installed with its decal facing to the left of the machine.

Toner Supply Fan Base

1. **Right cover (page 90)**
2. **Toner supply fan base [A] (🔧 x 2, 🔌 x1)**
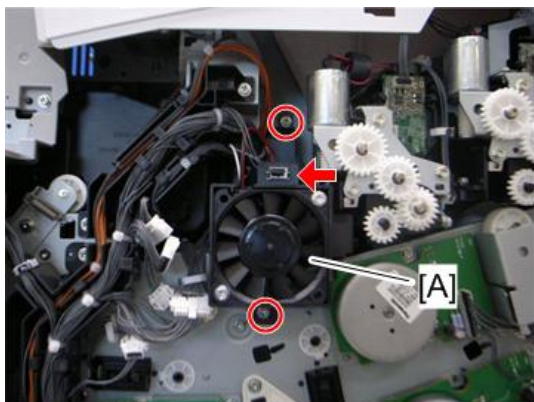
m065r511

Drum Motor: CMY

1. **Right cover (page 90)**
2. **Toner supply fan base (page 151 "Toner Supply Fan")**

3. Drum motor: CMY [A] (🔩 x 3, 🔌 x 1)
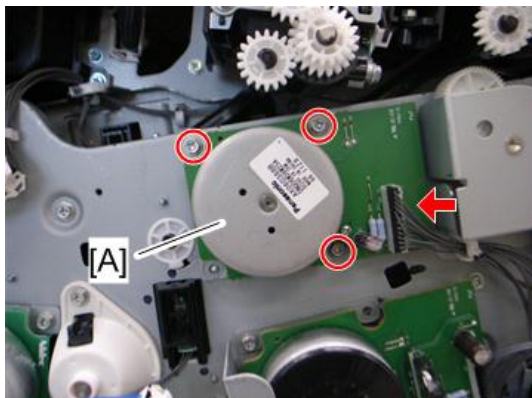
m065r512

Development Motor: CMY

1. Right cover (page 90)
2. Bracket [A] (🔩 x 1)
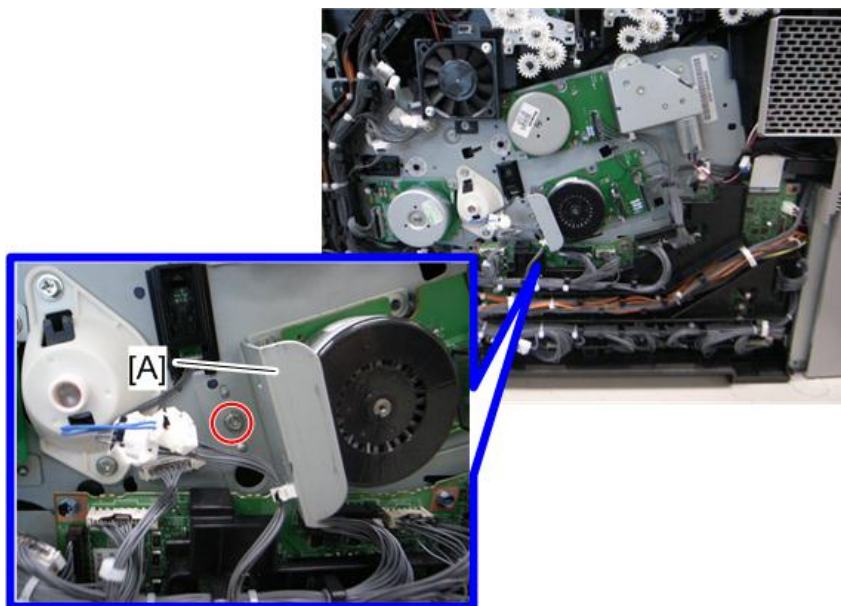
m065r513

3. **Development motor: CMY [A]** ($\mathscr{P}$ x 3, ⬚ x 1)
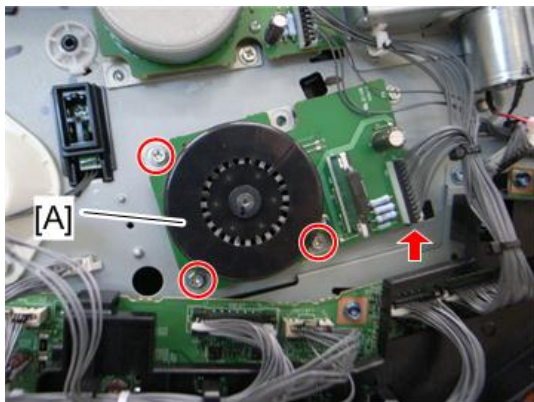
m065r514

ITB Unit/ Drum-K/ Development-K Motor

1. **Right cover (page 90)**

2. **ITB unit/ Drum-K/ Development-K motor [A]** ($\mathscr{P}$ x 3, ⬚ x 1)
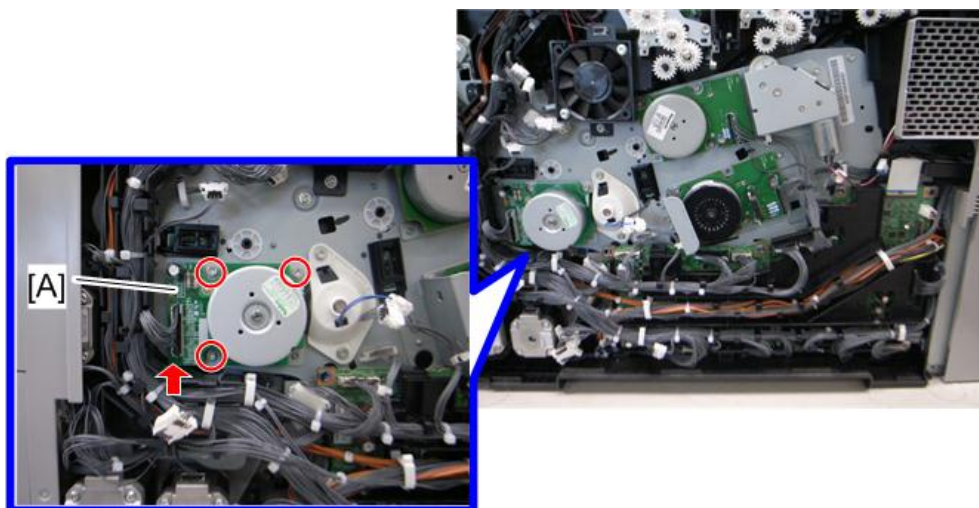
m065r515

Development Clutch: K

1. **Right cover (page 90)**

2. **ITB unit/ Drum-K/ Development-K motor (page 154)**

3. **Development clutch: K cover [A]** ($\mathscr{P}$ x 2, ⬚ x 1)

4. Development clutch: K [B]

m065r535
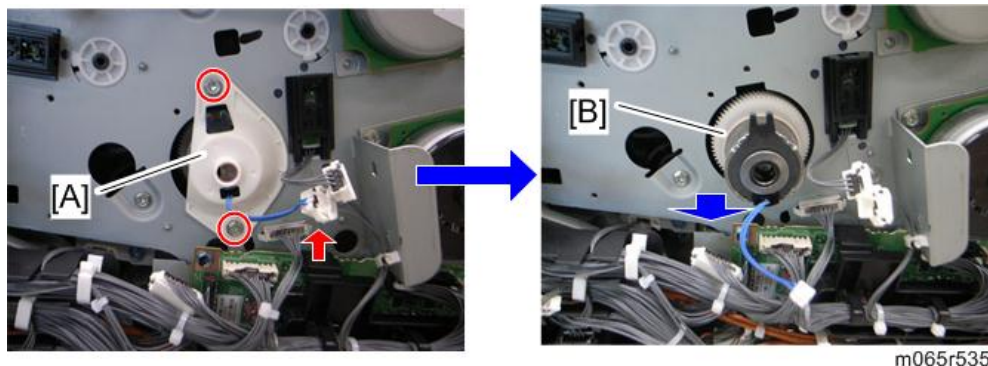
Fusing/Paper Exit Motor

1. Right cover (**page 90**)

2. Top cover (**page 92**)

3. Inner right front cover (**page 97**)

4. Fusing/paper exit motor [A] (⌀ x 3, 🔌 x 1)
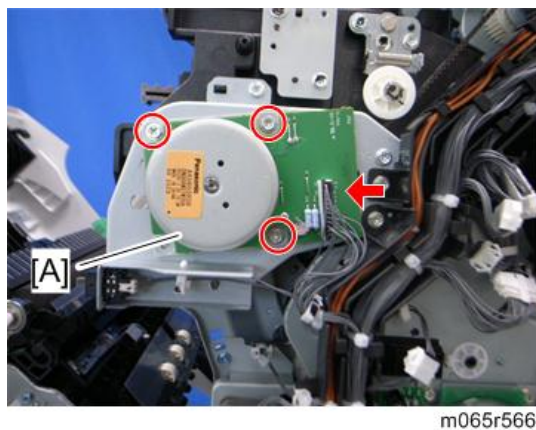
m065r566

Front Door Sensor

1. Right cover (**page 90**)

2. Top cover (**page 92**)

3. Inner right front cover (**page 97**)

4. **Front door sensor [A] (🔲 x 1, hooks)**
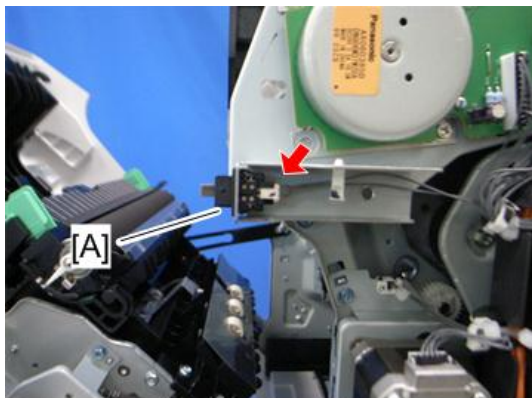
m065r567

Motors with Bracket

1. **Right cover (page 90)**

2. **Top cover (page 92)**

3. **Inner right front cover (page 97)**

4. Release the upper harness guide [A] and the lower harness guide [B] (![screw] x 4, ![connector] x all, ![clamp] x all).
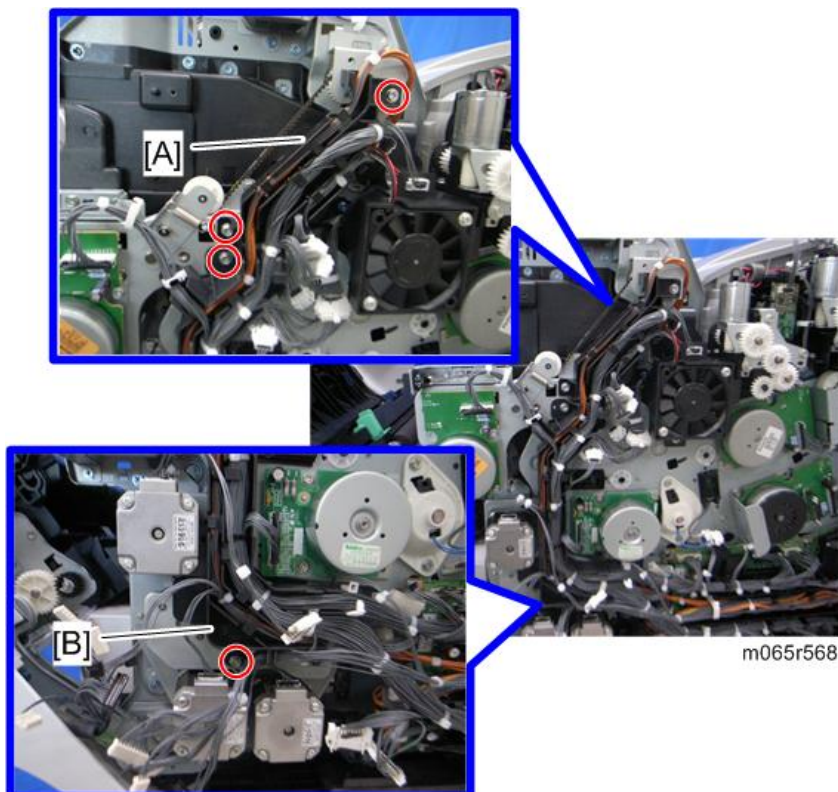
m065r568

5. **Motors with bracket [A] (🔧 x 4)**
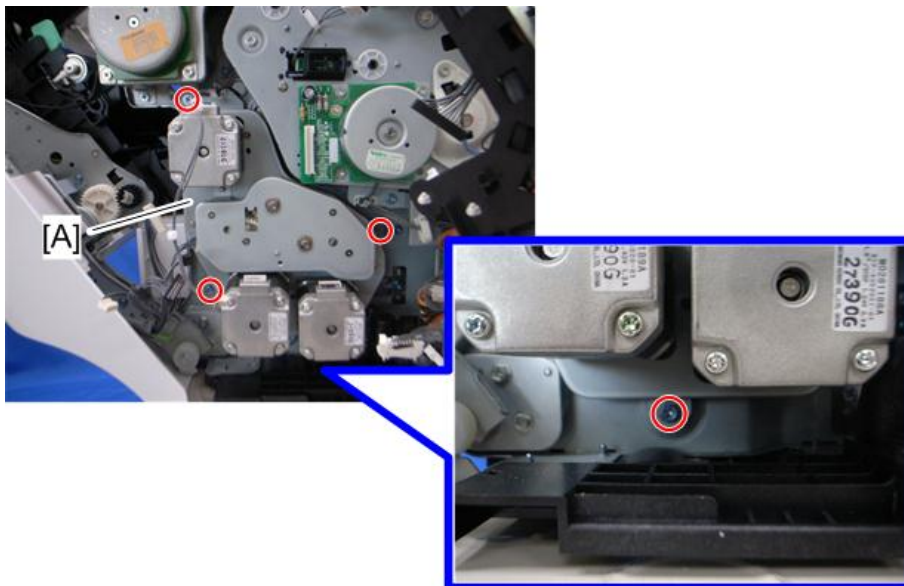
m065r569

Registration Motor

1. **Right cover (page 90)**

2. **Top cover (page 92)**

3. **Inner right front cover (page 97)**

4. **Motors with bracket (page 156)**

5. Registration motor [A] (🔩 x 2, timing belt x 1)
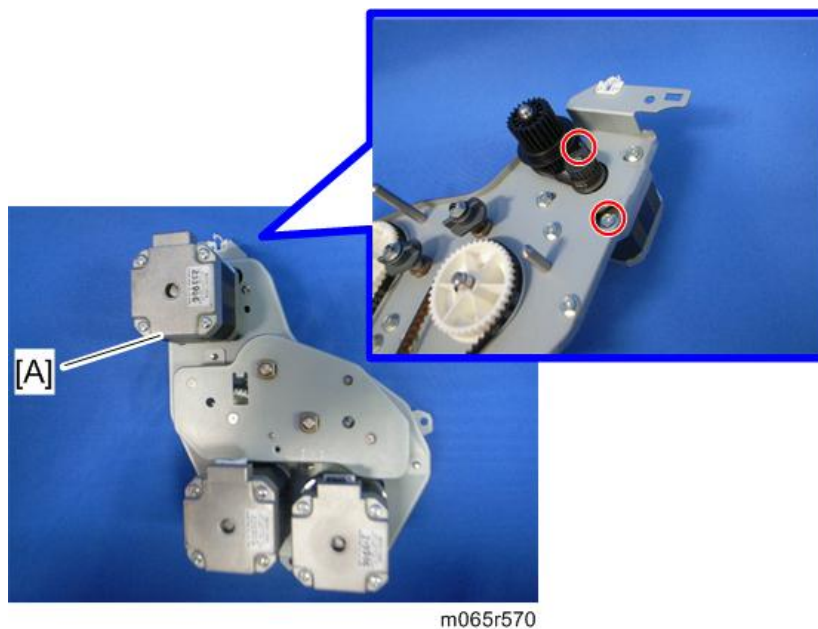
m065r570

Paper Feed Motor

1. Right cover (**page 90**)

2. Top cover (**page 92**)

3. Inner right front cover (**page 97**)

4. Motors with bracket (**page 156**)

5. **Paper feed motor [A] ($\mathscr{F}$ x 2, timing belt x 1)**
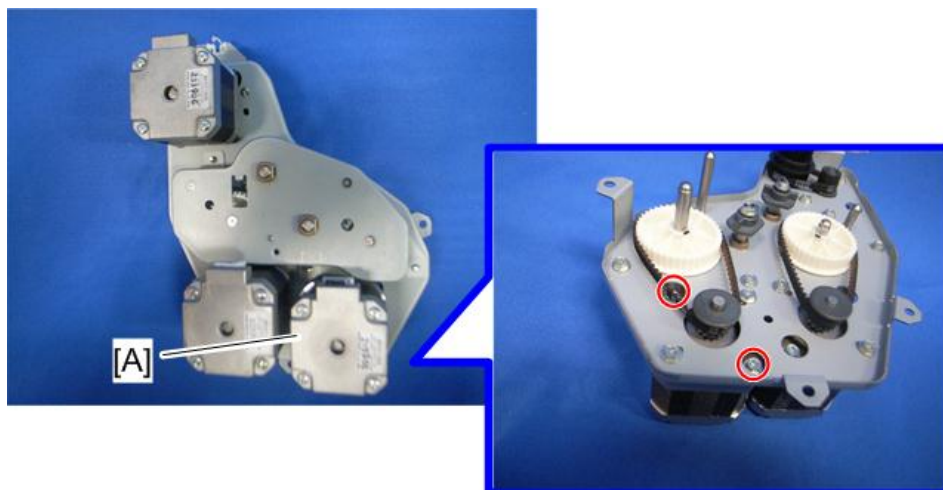
m065r571

Vertical Transport Motor

1. **Right cover (page 90)**

2. **Top cover (page 92)**

3. **Inner right front cover (page 97)**

4. **Motors with bracket (page 156)**

5. **Vertical transport motor [A] ($\mathscr{F}$ x 2, timing belt x 1)**
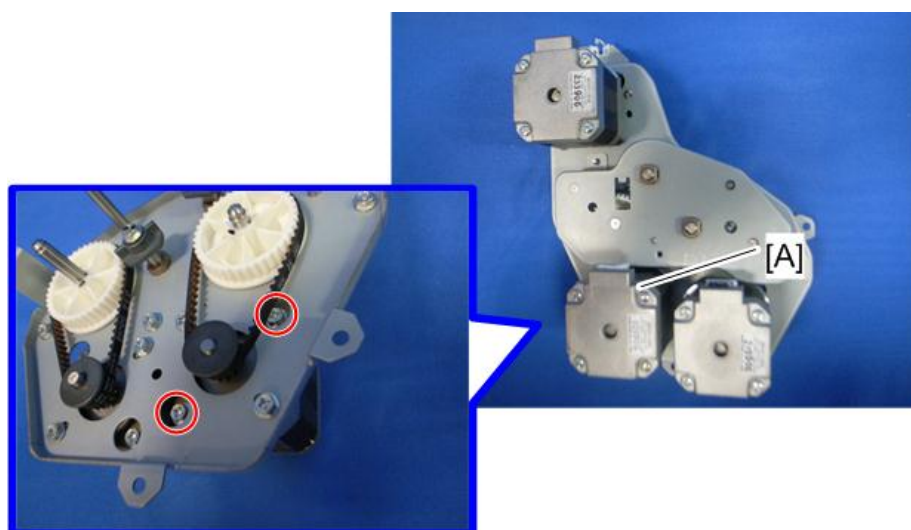
m065r572

Drum Phase Sensor: CMY

1. **Right cover (page 90)**

2. **Push the hook, and then release the sensor holder [A].**
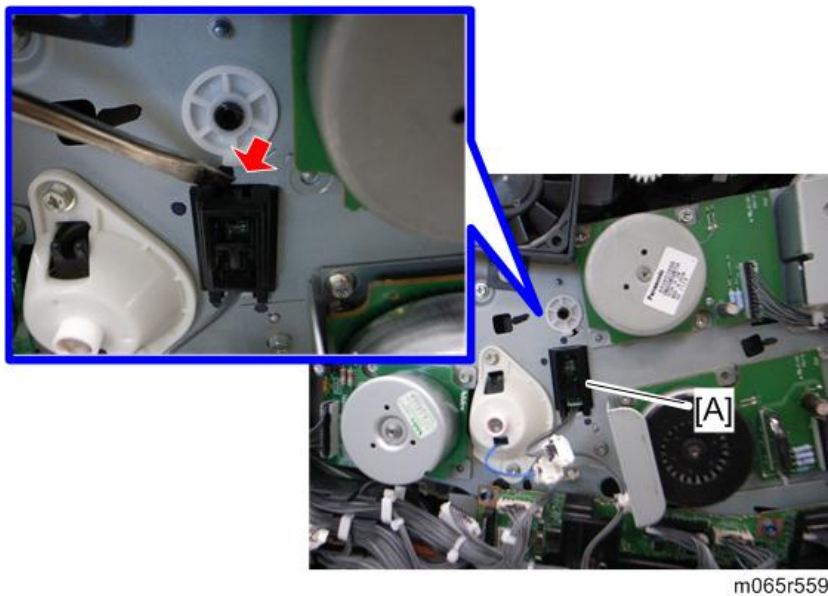
m065r559

3. **Drum phase sensor: CMY [A] (🔌 x 1, hooks)**
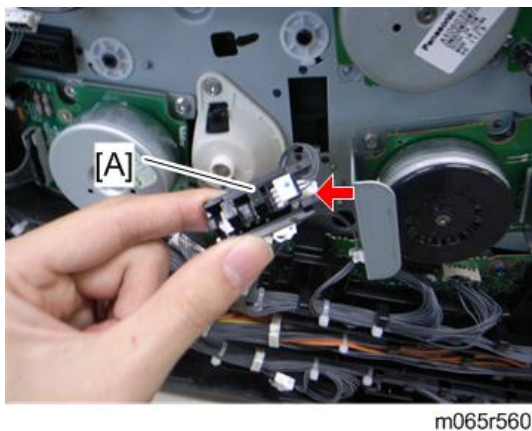
m065r560

Drum Phase Sensor: K

1. **Right cover (page 90)**

2. **Push the hook, and then release the sensor holder [A].**
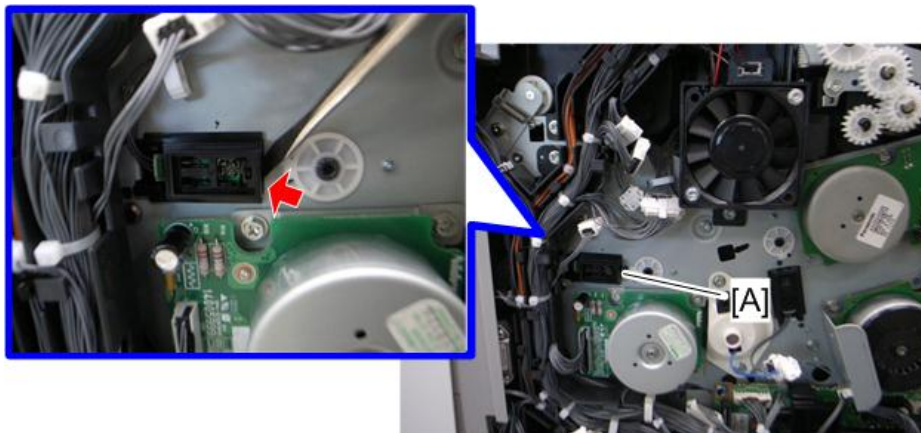
m065r561

3. **Drum phase sensor: K [A] (⊡ x 1, hooks)**
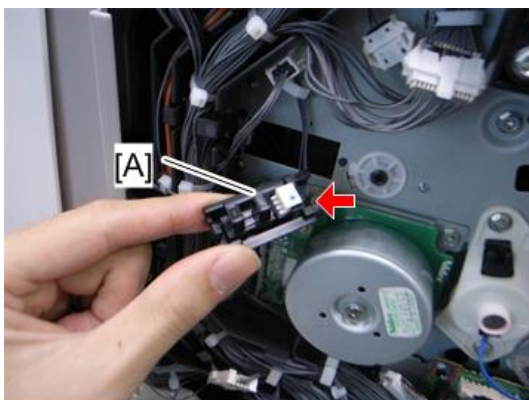
m065r562

Drive Unit Fan

1. **Rear cover (page 91)**

2. **Right cover (page 90)**

3. **Inner right rear cover (page 99)**

4. **Drive unit fan base [A] (🔩 x 2, ⬚ x 1)**
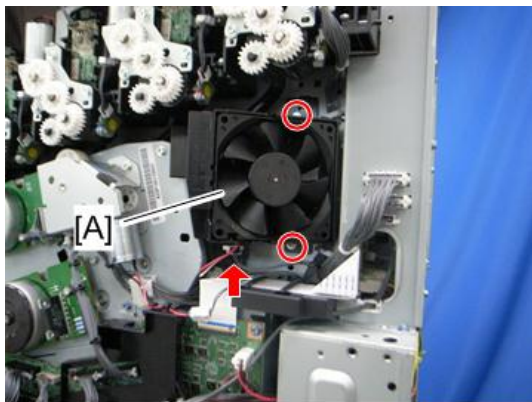
m065r577

5. **Drive unit fan (⬚ x 1, hooks)**
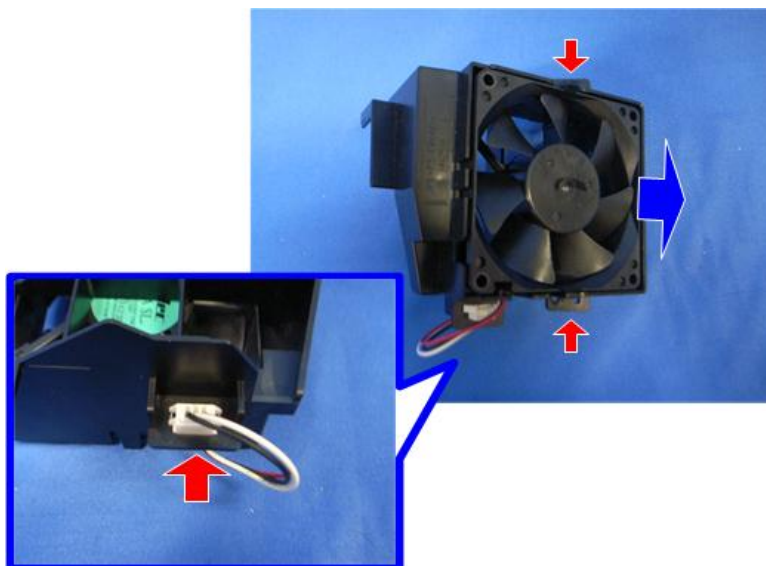
m065r578

When installing the drive unit fan

Make sure that the drive unit fan is installed with its decal facing to the left of the machine.

Fusing

Fusing Unit

⚠CAUTION

- Turn off the main switch and wait until the fusing unit cools down before beginning any of the procedures in this section. The fusing unit can cause serious burns.

1. **Open the duplex unit.**
2. **Release the lock levers [A].**
3. **Pull out the pressure levers [B] a short distance.**
4. **Hold the fusing unit handles [C], and then pull out the fusing unit.**

m065r770
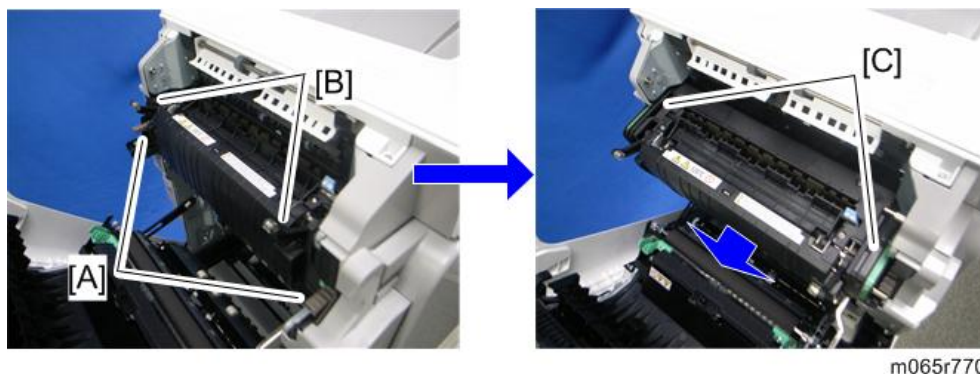
When installing the fusing unit

Make sure that the both lock levers [A] are locked before closing the duplex unit. Otherwise, these lock levers [A] can be broken.

Cleaning Unit

1. **Fusing unit (page 164)**

2. Fusing front cover [A] (🔩 x 2)
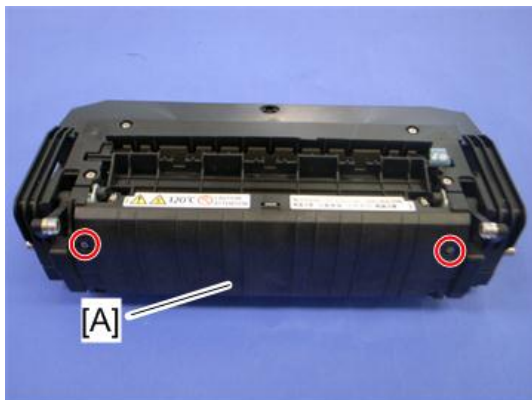
m065r667

3. Cleaning unit [A] (🔩 x 4)
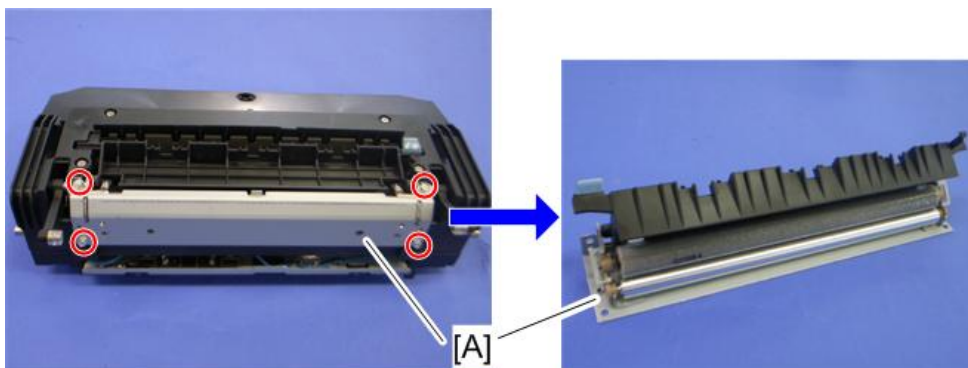
m065r671

Pressure Roller Fusing Lamp

1. Fusing front cover (**page 164 "Cleaning Unit"**)

2. **Fusing upper cover [A] (🔩 x 4)**

m065r668

3. **Fusing lower cover [A] (🔩 x 3)**
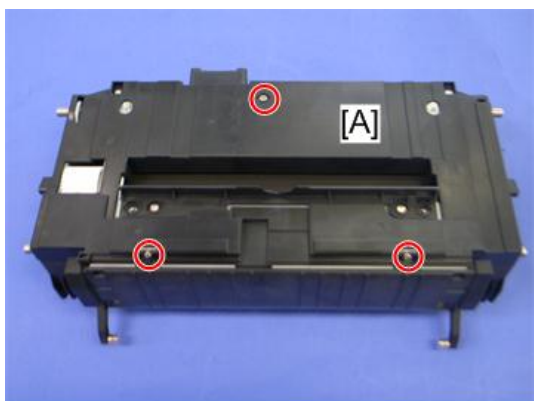
m065r665

4. **Cleaning unit (page 164)**

5. **Pressure levers [A] (🔗 x 1 each, spring x 1 each)**
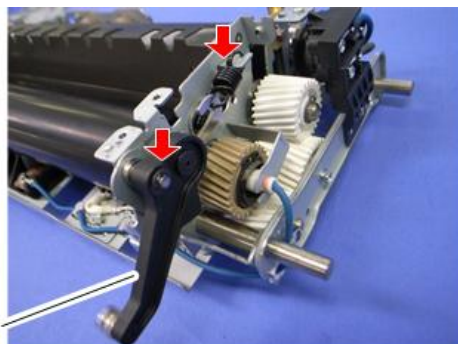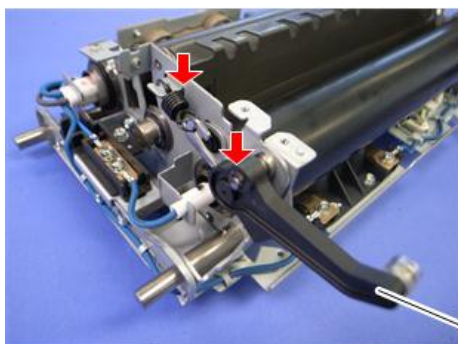
m065r674

6. Release the fusing lamp harness [A] at the right side ($\mathcal{F}$ x 1, $\stackrel{\square}{\hookleftarrow}$ x 5).
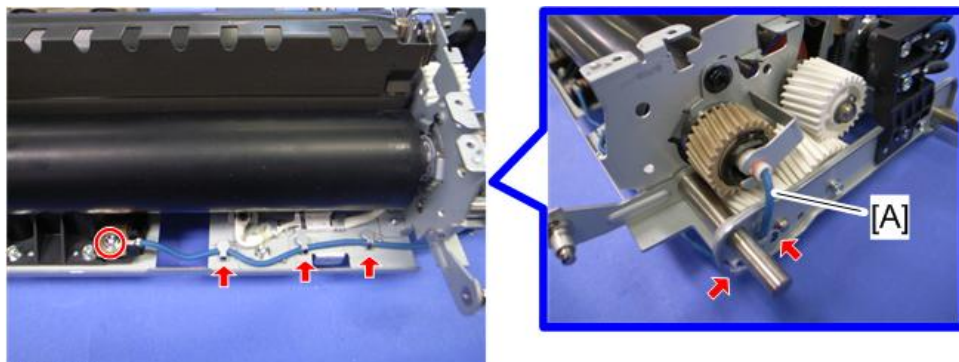
m065r675

7. Release the fusing lamp harness [A] at the left side ($\mathcal{F}$ x 1)

8. Lamp holder [B] ($\mathcal{F}$ x 1)
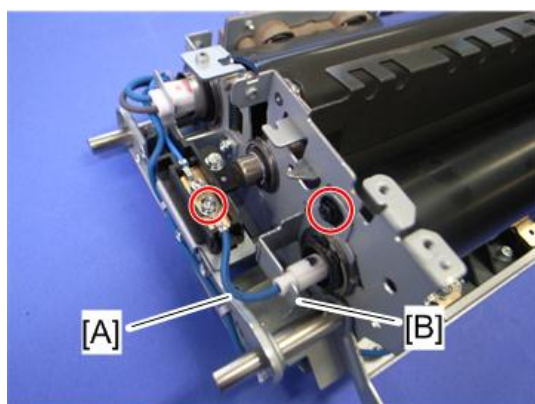
m065r677

9. Remove the fusing lamp holder [A] at the right side ($\mathcal{F}$ x 1)
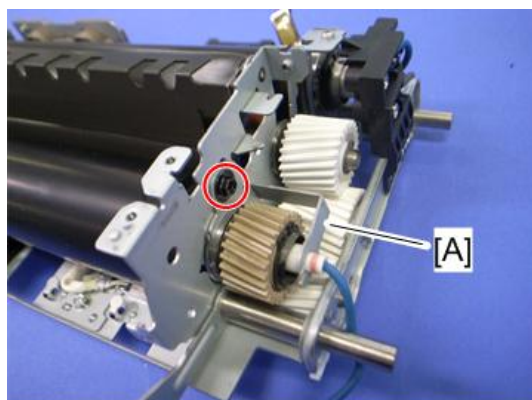
m065r676

10. **Pressure roller fusing lamp [A]**
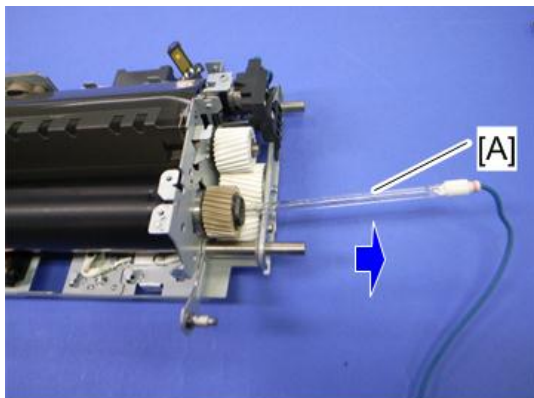
m065r678

Pressure Roller

1. **Pressure roller fusing lamp (page 165)**
2. **Right stay [A] (🔩 x 3)**
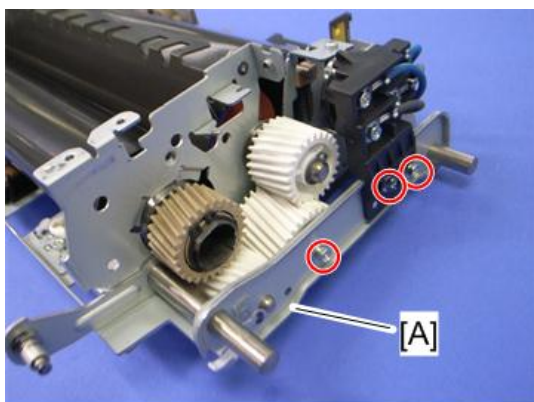
m065r747

3. Thermostat holder [A] and thermistor bracket [B] (🔩 x 4).

m065r820
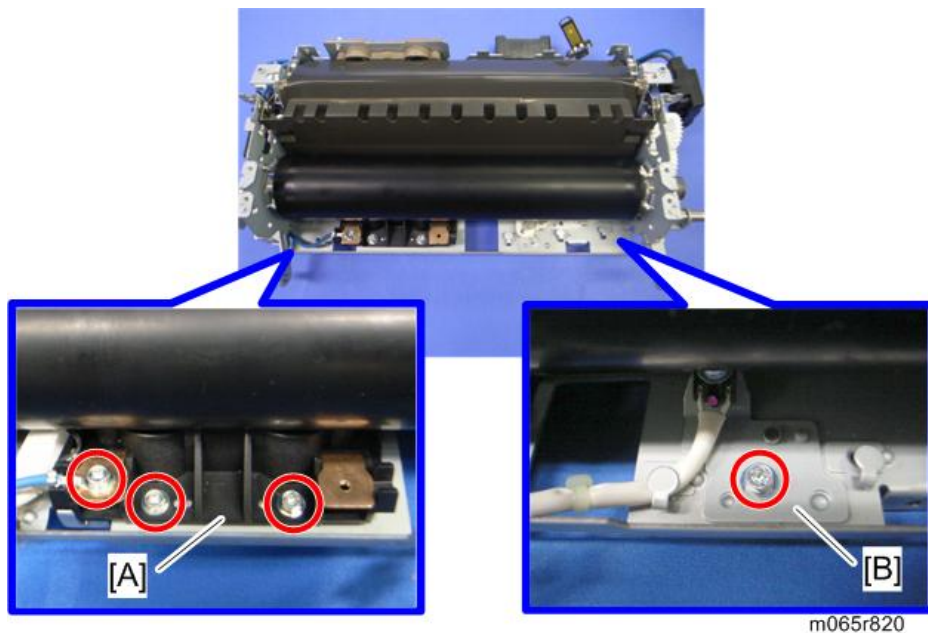
4. Remove the C-rings, bearings [A], and gear [B].

5. Pressure roller [C]

m065r748
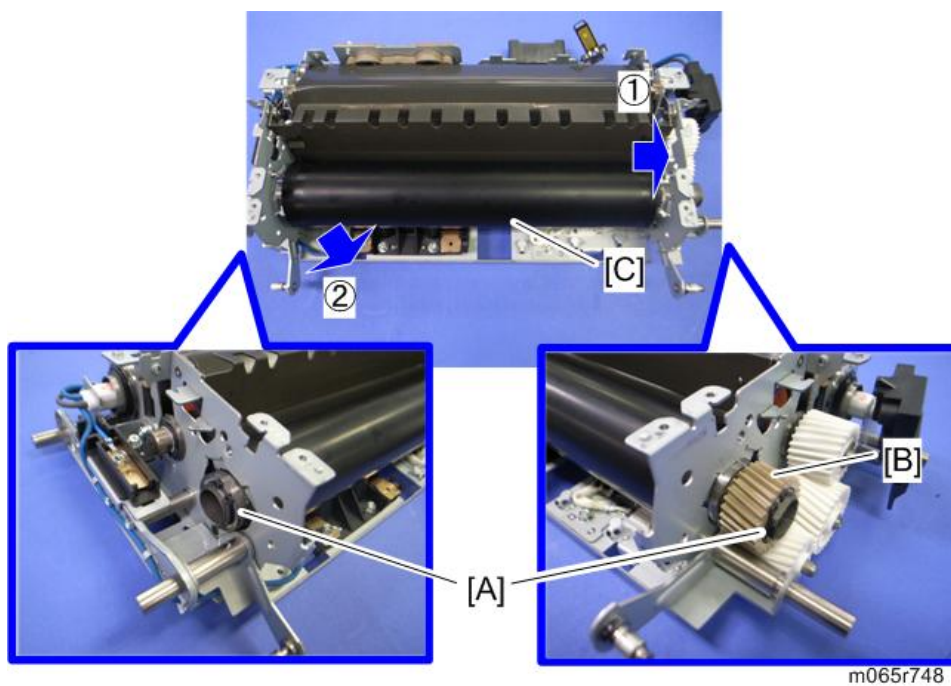
When Reinstalling the Pressure Roller

When replacing the pressure roller, you have to apply lubricant to the following places.

- Apply "Barrierta S552R" (0.15g to 0.25g) to the left end [A] and right end [B] of the pressure roller as shown above.

m065r749
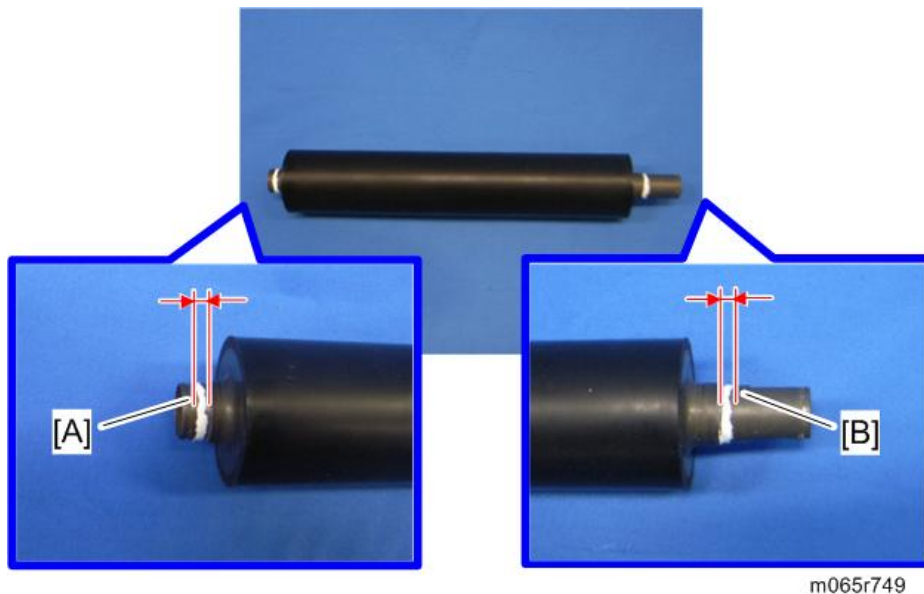
Heating Roller Fusing Lamp

1. **Fusing unit (page 164)**
2. **Fusing lower cover (page 165 "Pressure Roller Fusing Lamp")**
3. **Cleaning unit (page 164), Fusing upper cover (page 165 "Pressure Roller Fusing Lamp")**

4. Release the pins [A], and then remove the stripper plate [B].

m065r811
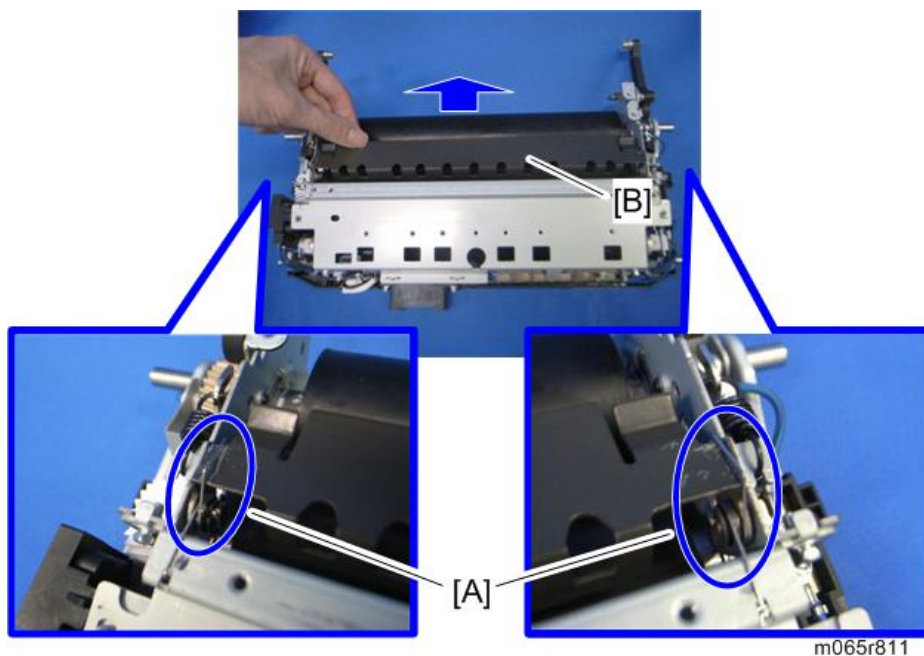
5. Release the pins [A], and then remove the bracket [B] (🔩 x 4).

m065r812
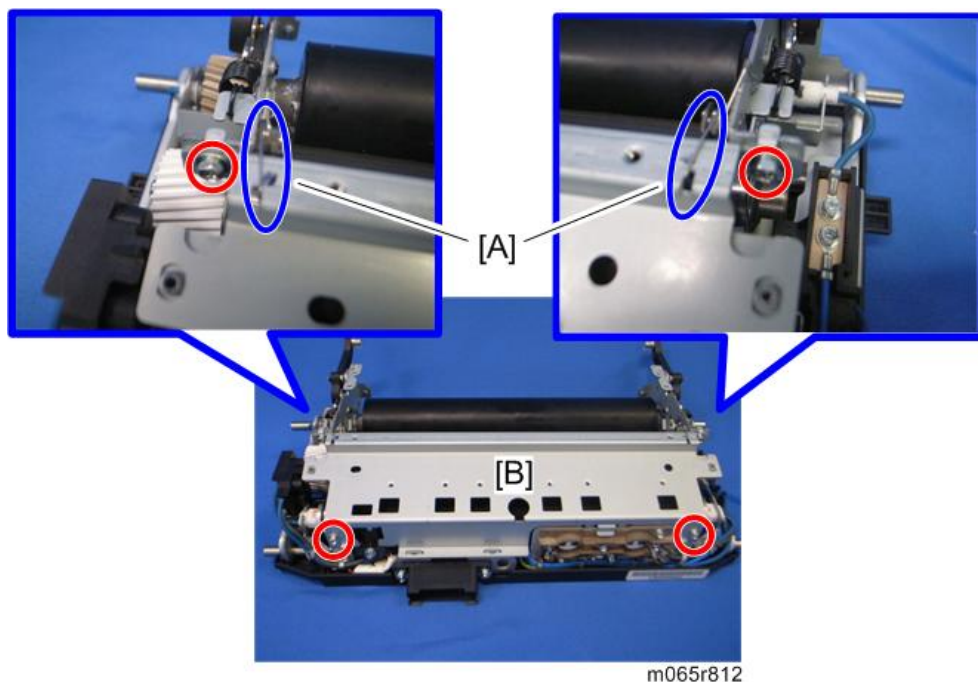
6. **Release the fusing lamp harness [A] at the left side (⚙ x 1, 🔌 x 4).**
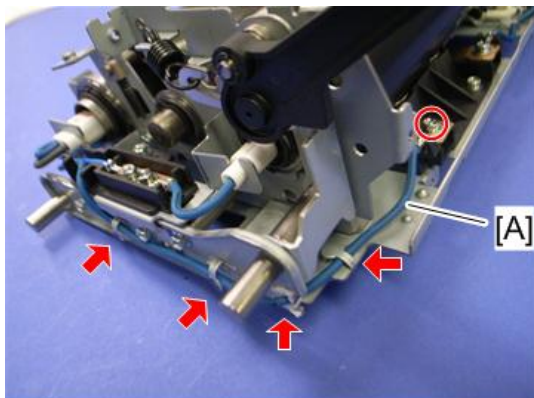
m065r681

7. **Left stay [A] (⚙ x 3)**
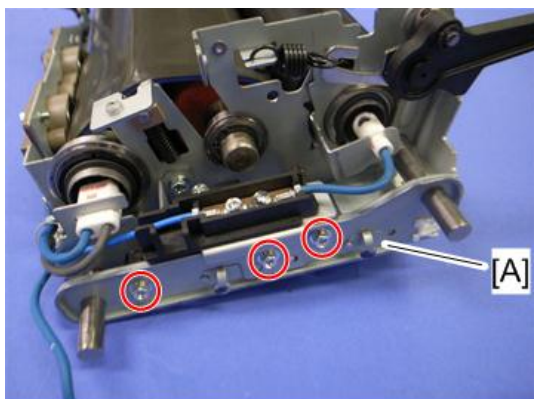
m065r682

8. **Remove the screw.**
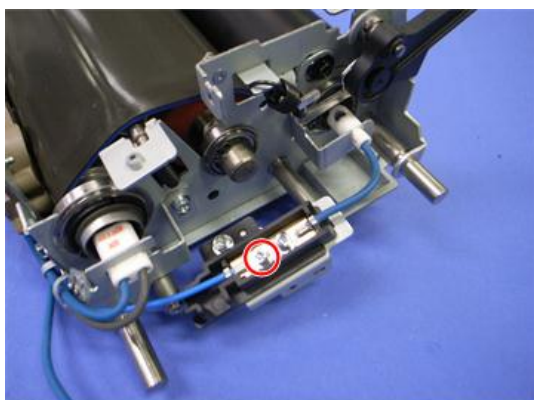
m065r683

9. Release the fusing lamp harnesses [A], and then remove the plate [B] (🔩 x 2, 🔌 x 2).
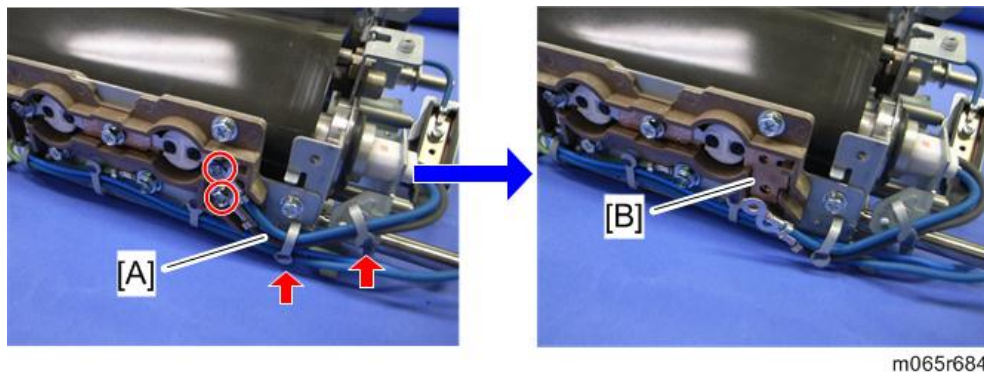
m065r684

10. Remove the fusing lamp holder [A] (🔩 x 1).
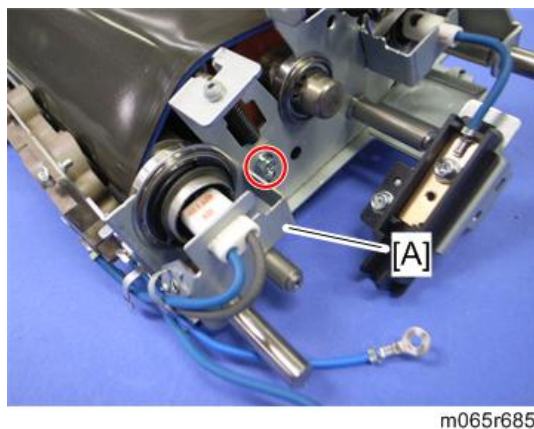
m065r685

11. Release the fusing lamp harness [A] at the right side (🔩 x 1, 🔌 x 5).
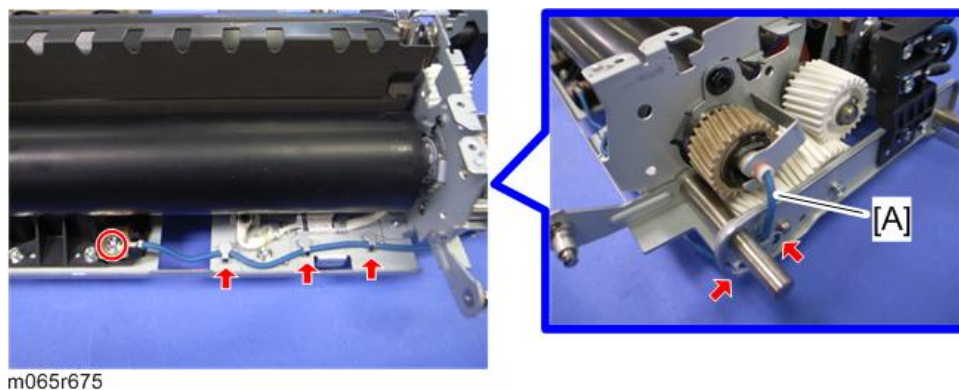
m065r675

12. **Right stay [A] (🔧 x 3)**
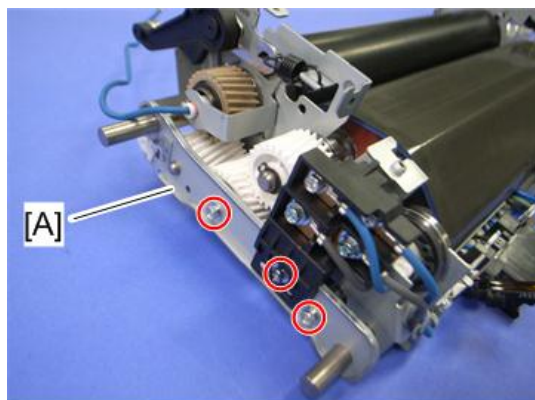
m065r686

13. **Release the fusing lamp harnesses [A] (🔧 x 2).**
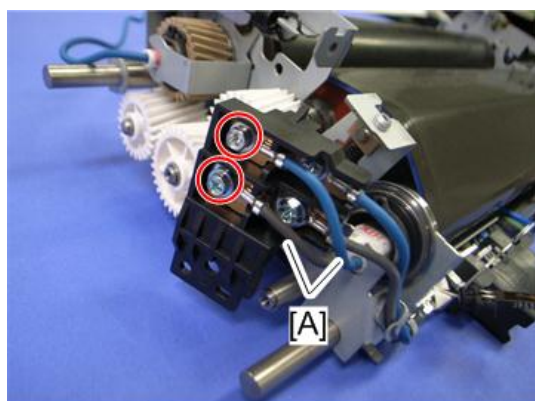
m065r687

14. **Lamp holder [A] (🔧 x 1)**
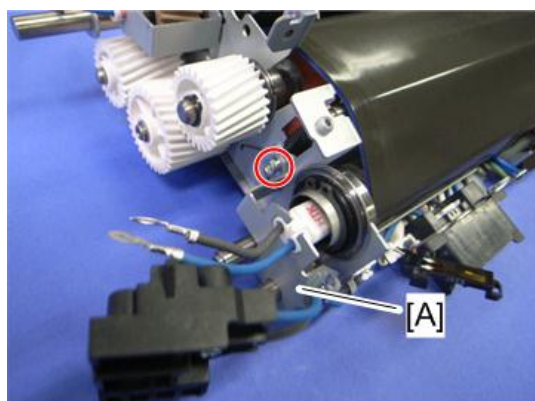
m065r688

15. **Heating roller fusing lamp [A]**
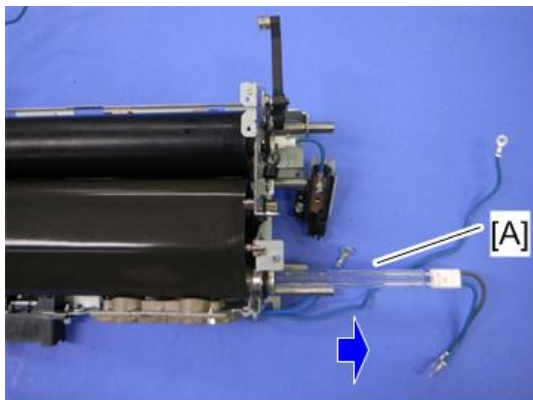
m065r689

Fusing Belt

1. **Heating roller fusing lamp (page 170)**
2. **C-rings and bearings [A]**
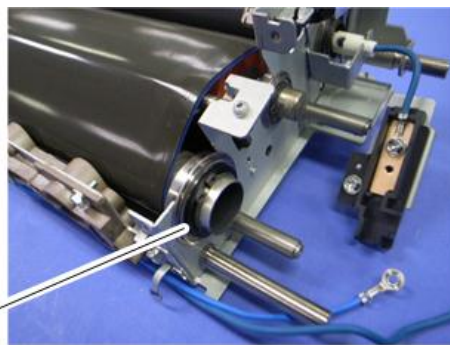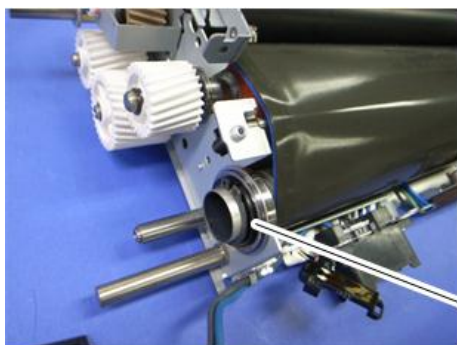
m065r750

3. Gear [A] at the left side (C-ring x 1)
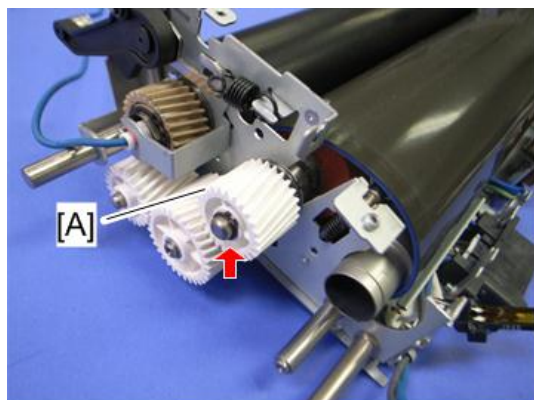
m065r751

4. C-rings and bearings [A]
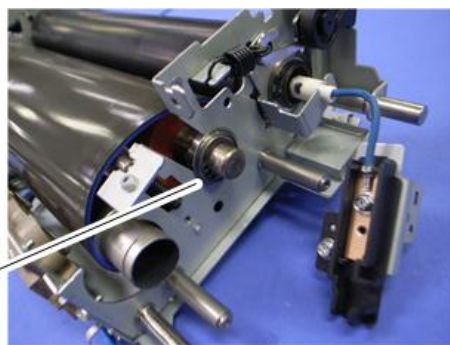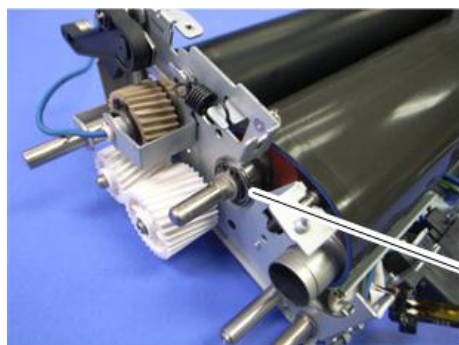
m065r752

5. Remove the fusing belt [A] with rollers, lifting the shafts [B] up.
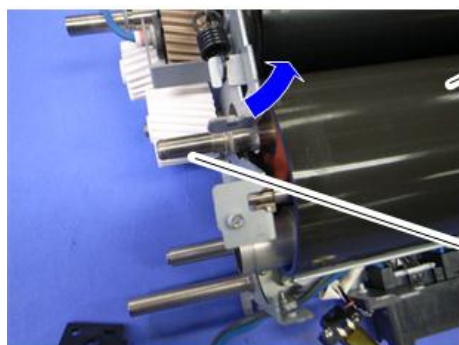
m065r753

6. **Fusing belt [A]**
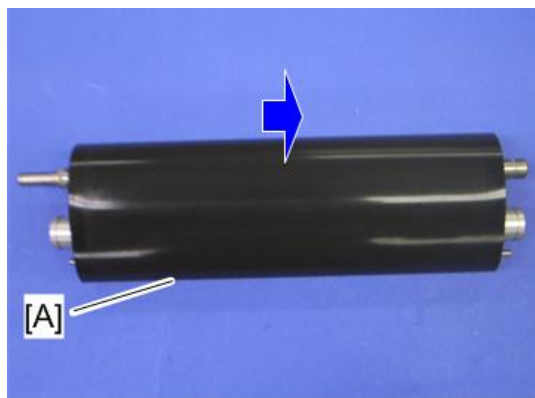
m065r754

Fusing, Heating and Tension Roller

1. **Fusing belt with rollers (page 175 "Fusing Belt")**

2. **Fusing roller [A], heating roller [B] and tension roller [C]**
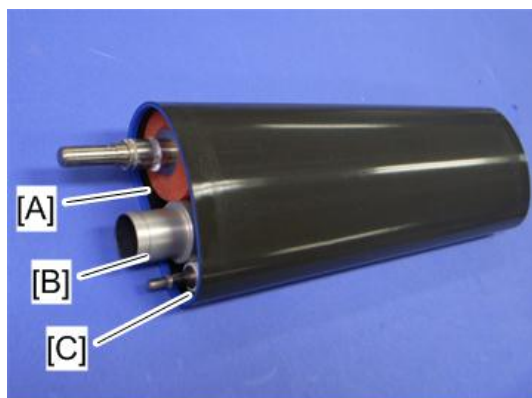
m065r756

When Reinstalling the Fusing Roller

When replacing the fusing roller, you have to apply lubricant to the following places.

- Apply "Barrierta S552R" (0.1g to 0.2g) to the left end [A] and right end [B] of the fusing roller as shown below.

m065r757
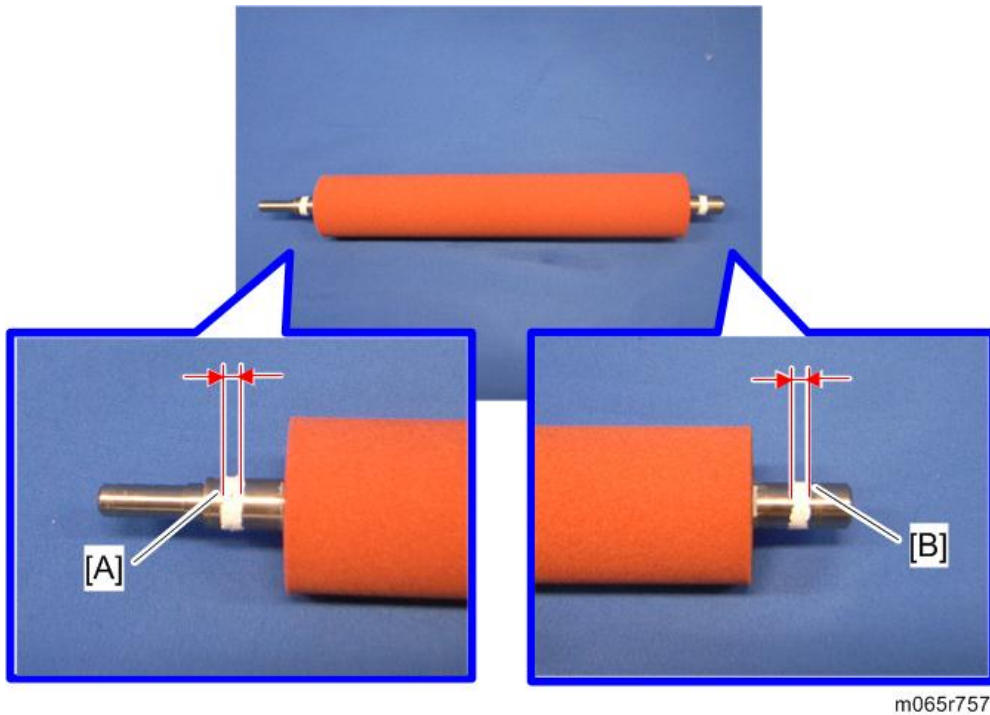
Heating Roller Thermostat

1. **Fusing front cover (page 164 "Cleaning Unit")**

2. **Fusing upper cover (page 165 "Pressure Roller Fusing Lamp")**

3. Remove the four screws.
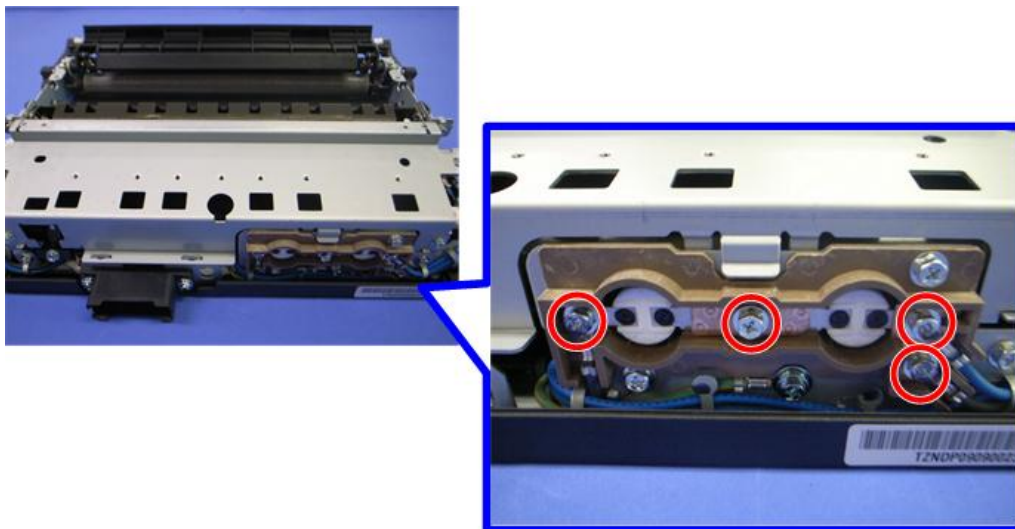
m065r669

4. Remove the plate [A], and then remove the heating roller thermostats [B].

⚠️CAUTION

• Do not re-use a thermostat that is already opened. Safety is not guaranteed if you do this.
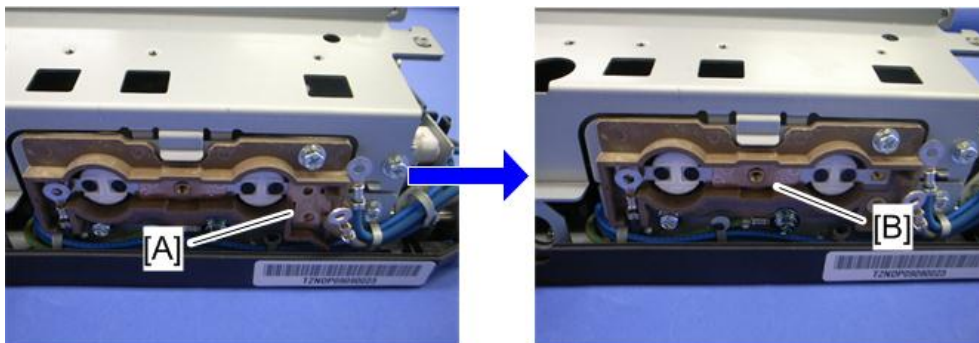
m065r670

Heating Roller Thermistor

1. Fusing front cover (**page 164 "Cleaning Unit"**)

2. Fusing upper cover (**page 165 "Pressure Roller Fusing Lamp"**)

3. Fusing lower cover (**page 165 "Pressure Roller Fusing Lamp"**)

4. Release the harness [A] (🔧 x 2).
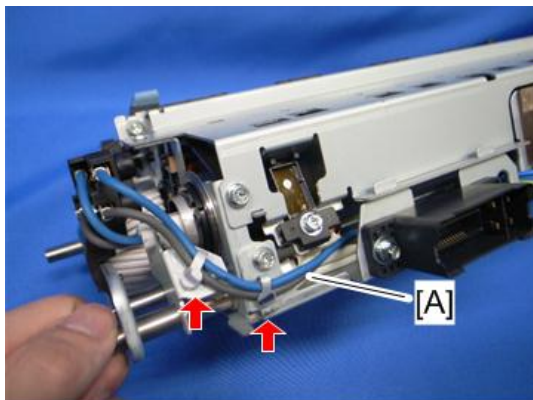
m065r803

5. Heating roller thermistor [A] (🔧 x 1, 🔌 x 1)
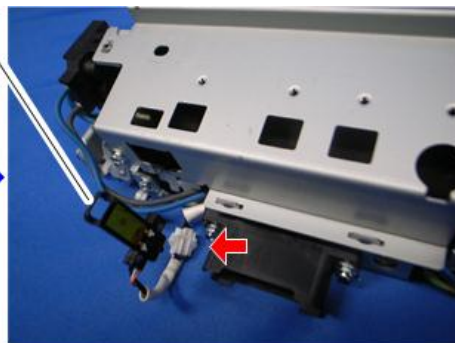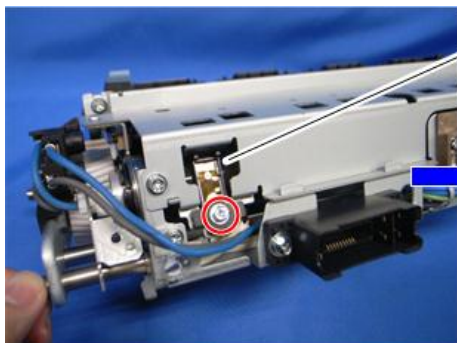
m065r804

Pressure Roller Thermistor

1. Cleaning unit (**page 164**)

2. Thermistor assembly [A] (🔧 x 1, 🔌 x 1)
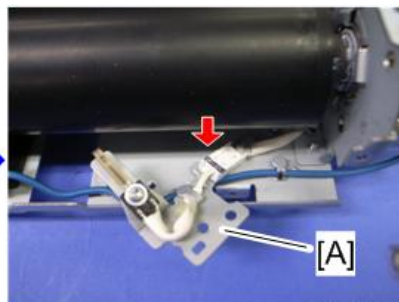
m065r672

3. **Pressure roller thermistor [A] (🔩 x 1, 🔌 x 1)**
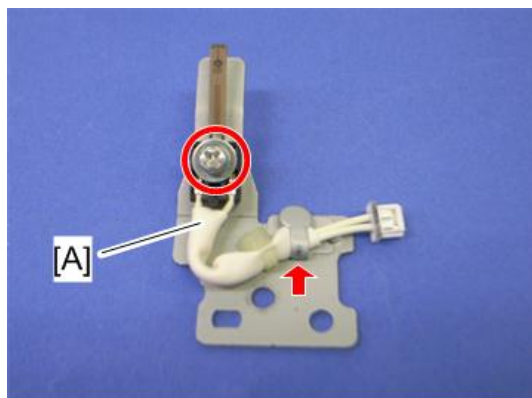
m065r673

Pressure Roller Thermostat

1. **Fusing lower cover (page 165 "Pressure Roller Fusing Lamp")**

2. **Pressure roller thermostats [A] (🔩 x 2)**
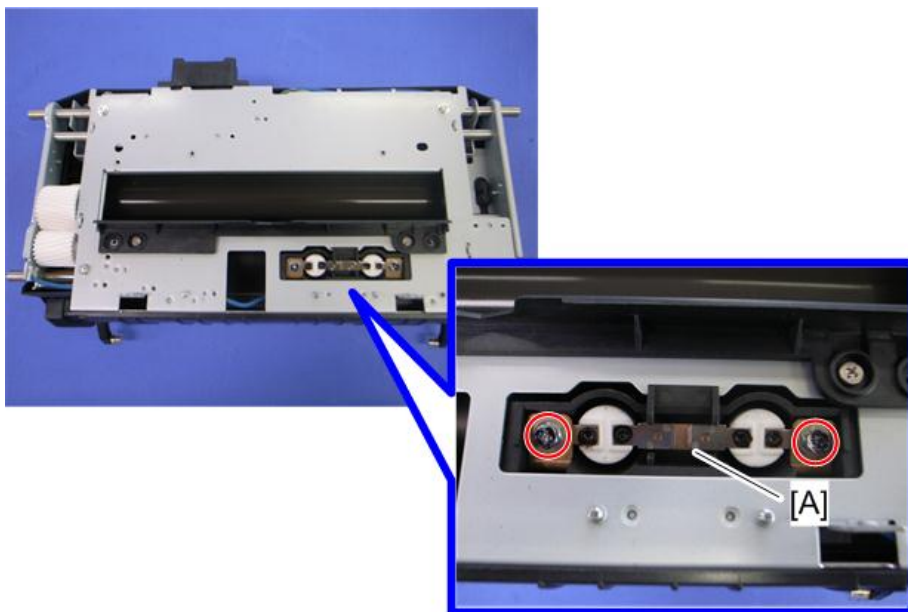
m065r666

Thermopile

1. **Paper exit unit (page 198)**

2. **Thermopile base [A] (🔩 x 2, 🔌 x 1)**
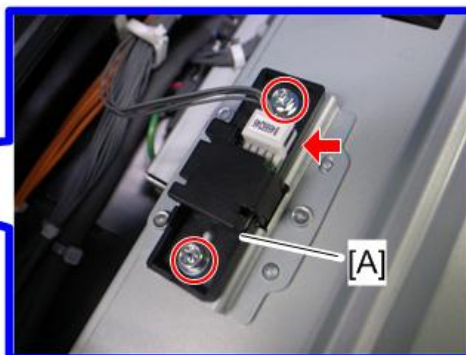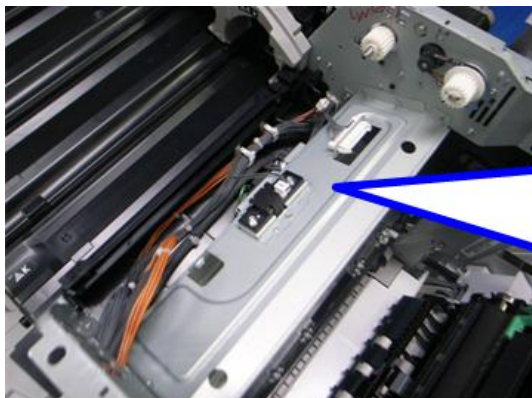
m065r549

3. **Thermopile cover [A] (hooks)**
4. **Thermopile [B]**
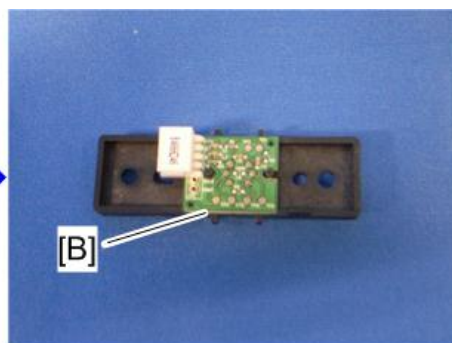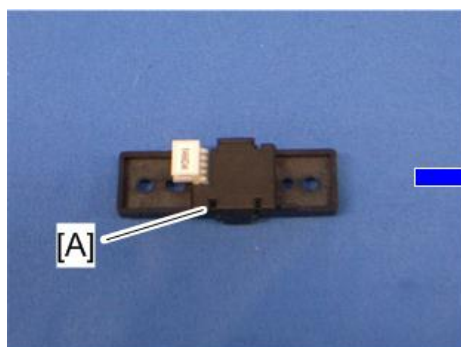
m065r550

Paper Feed

Separation Roller

1. **Pull out the paper tray.**
2. **Cover [A] (🔩 x 2)**
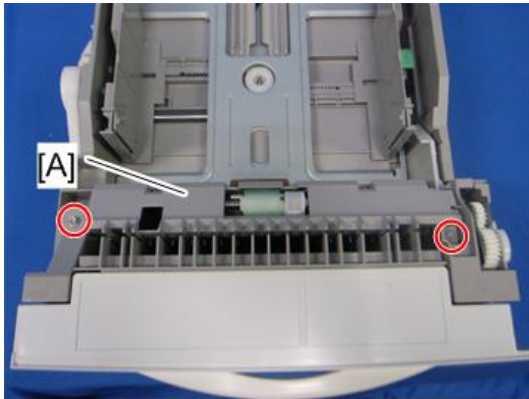
m384r500

3. **Separation roller [A] (⟨⟩ x 1)**
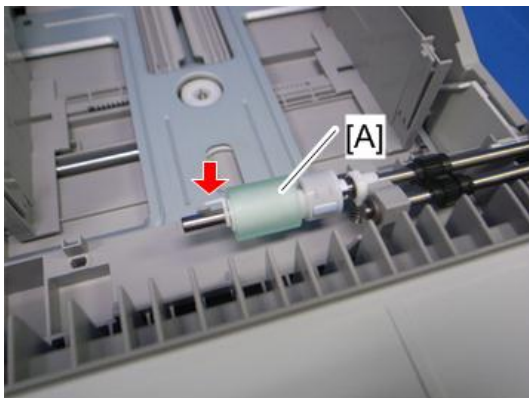
m384r501

Pick-up and Paper Feed Rollers

1. **Pull out the paper tray.**

2. **Roller holder [A] (🔩 x 1)**
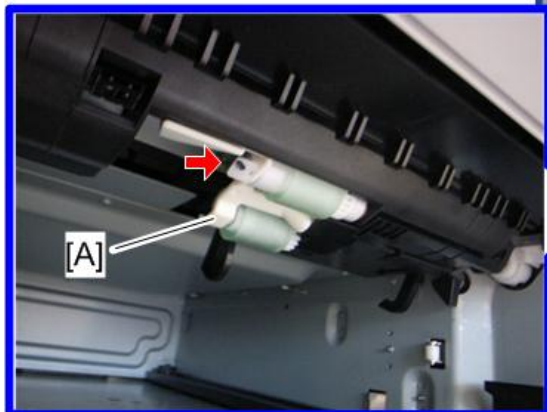
m065r614

3. **Pick-up roller [A]**
4. **Paper feed roller [B]**
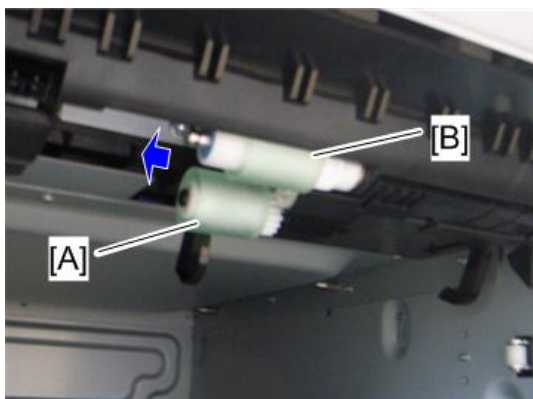
m065r615

Paper Feed Unit

1. **Pull out the paper tray.**
2. **Duplex unit (page 208)**

3. Bracket [A] ($\mathscr{P}$ x 1)
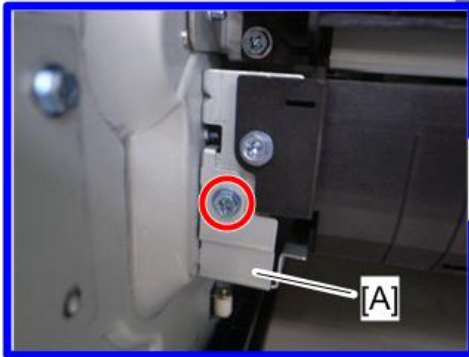
m065r649

4. Release the paper feed unit [A] ($\mathscr{P}$ x 1)
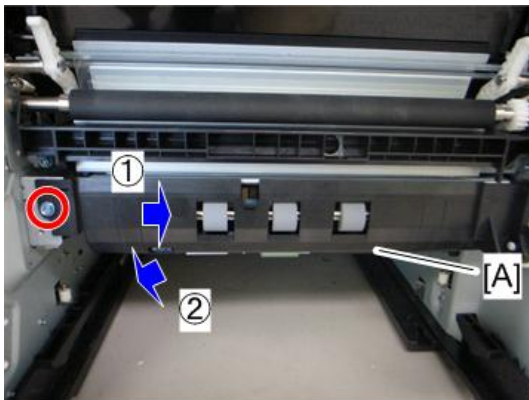
m065r650

5. **Paper feed unit [A] (⬛ x 2)**
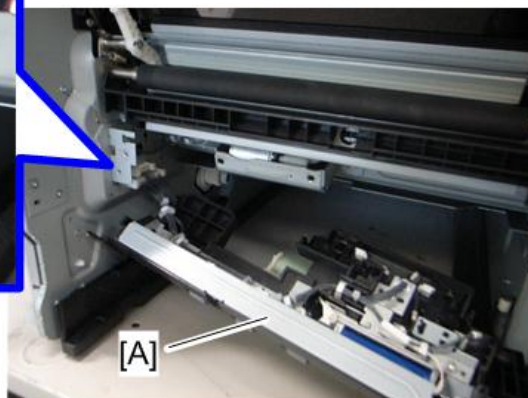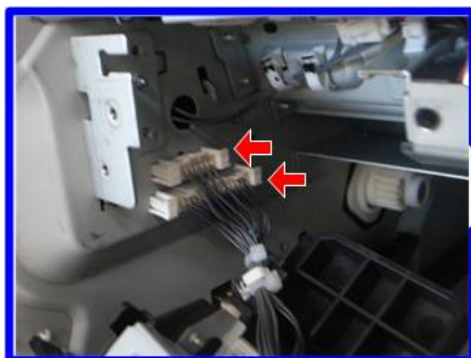
m065r651

Registration Sensor

1. **Duplex unit (page 208)**

2. **Registration roller guide [A] (⬛ x 2)**
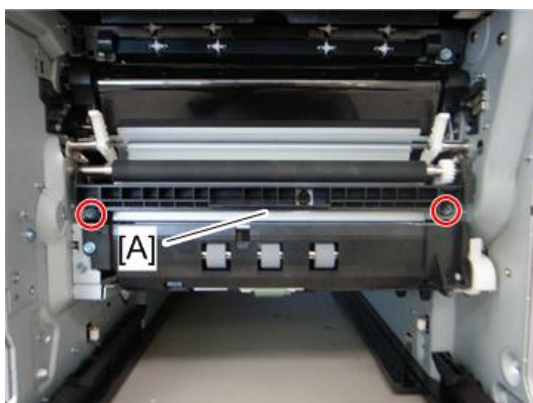
m065r646

3. **Bracket [A] (🔩 x 2)**
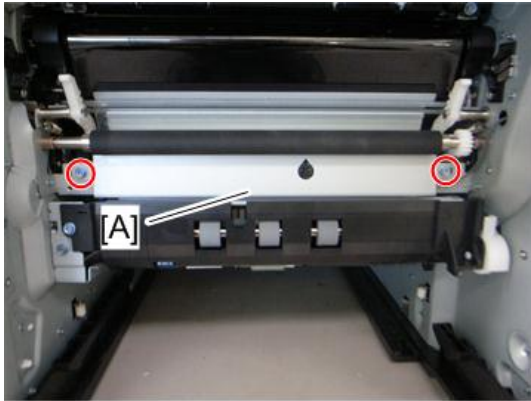
m065r647

4. **Registration sensor [A] (🔌 x 1, hooks)**
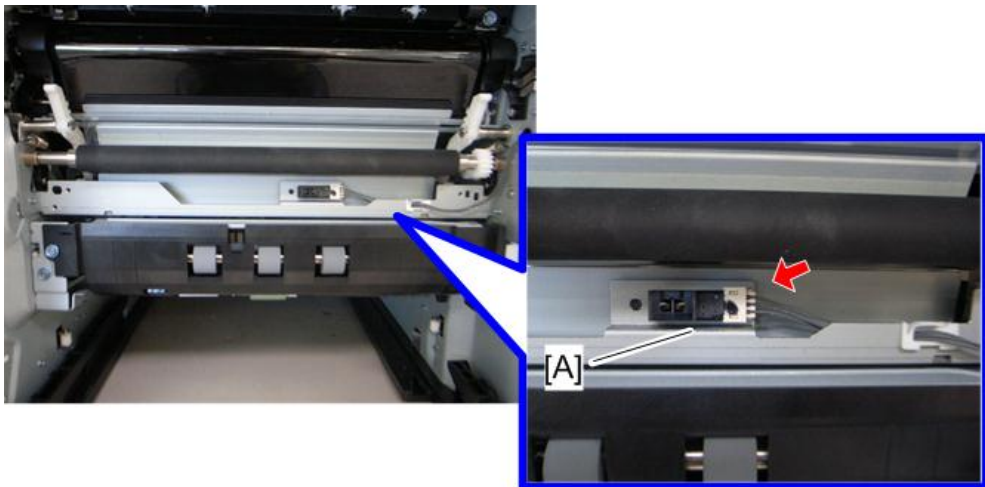
m065r648

Vertical Transport Sensor

1. **Paper feed unit (page 184)**

2. Vertical transport sensor bracket [A] (🔩 x1, 🔌 x1)
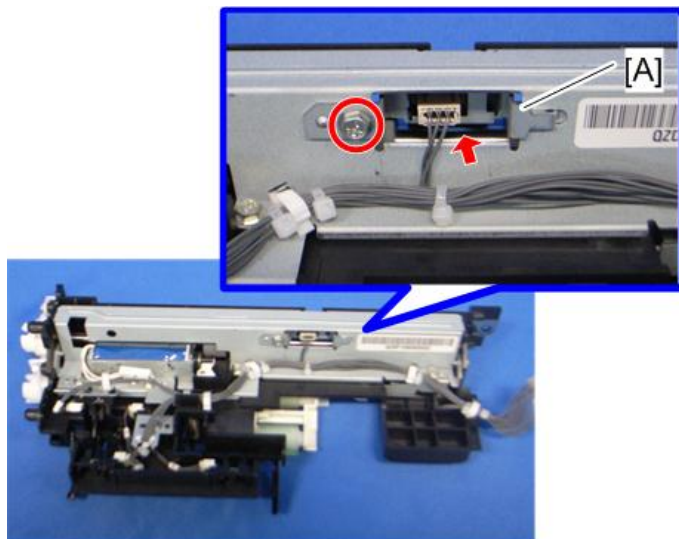
m065r652

3. Vertical transport sensor [A] (hooks)
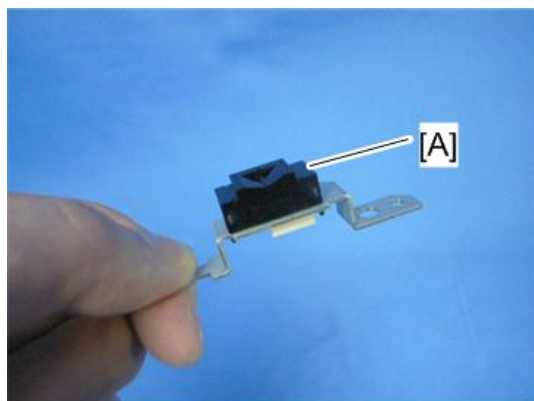
m065r653

Paper Height Sensor 1

1. Paper feed unit (**page 184**)

2. Release the paper height sensor 1 [A] (hooks).
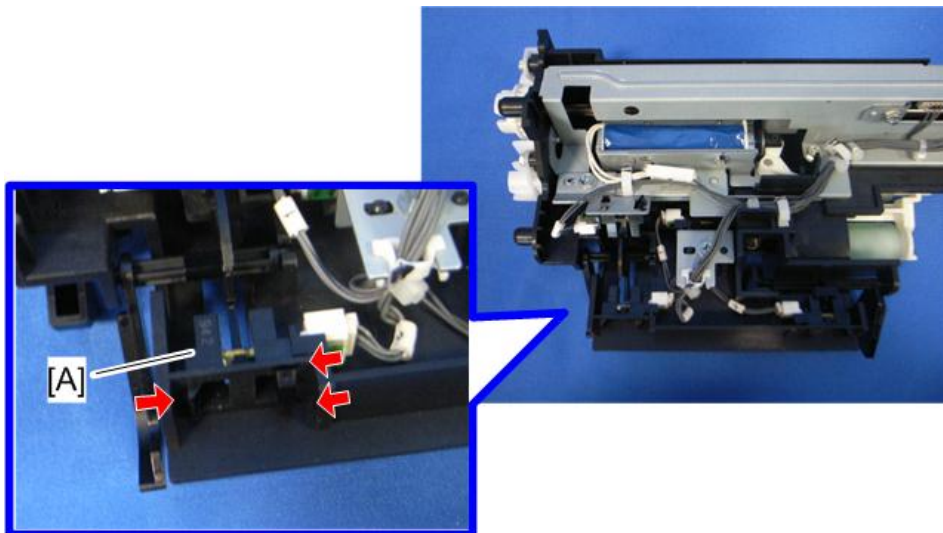
m065r656

3. Paper height sensor 1 [A] (x1)
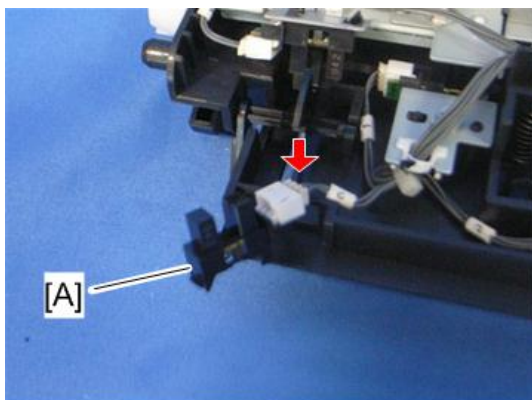
m065r657

Paper Height Sensor 2

1. Paper feed unit (**page 184**)

2. **Paper height sensor 2 bracket [A] (🔩 x1)**
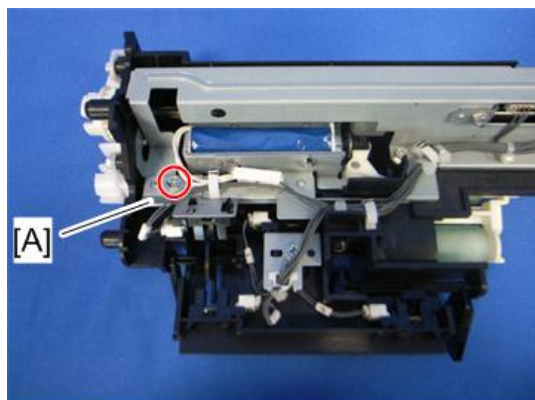
m065r654

3. **Paper height sensor 2 [A] (🔌 x1, hooks)**
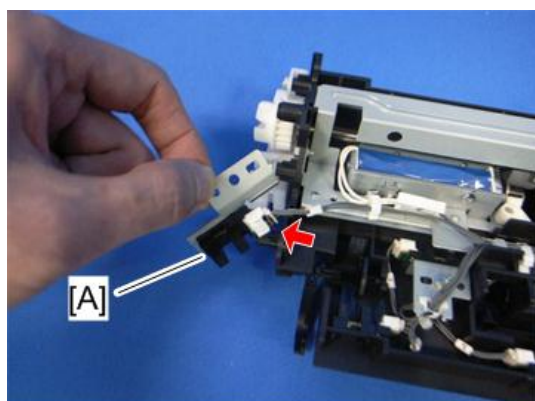
m065r655

Paper Lift Sensor

1. **Paper feed unit (page 184)**

2. **Paper lift sensor bracket [A] (🔧 x1, 🔌 x1)**
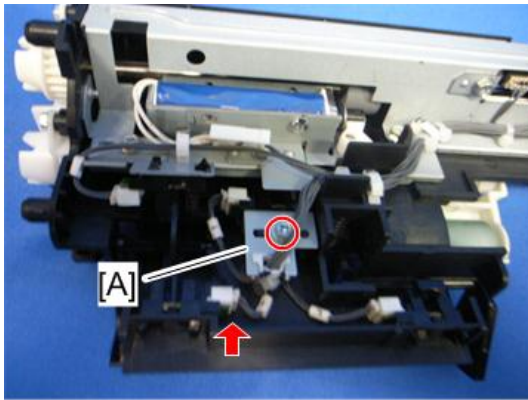
m065r658

3. **Paper lift sensor [A] (🔌 x1, hooks)**
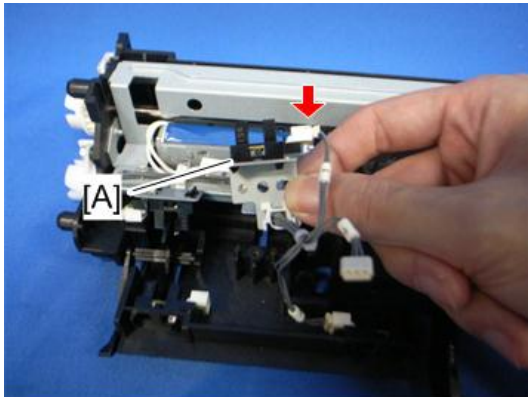
m065r659

Paper End Sensor

1. **Paper feed unit (page 184)**

2. **Actuator [A] (tab x 2)**
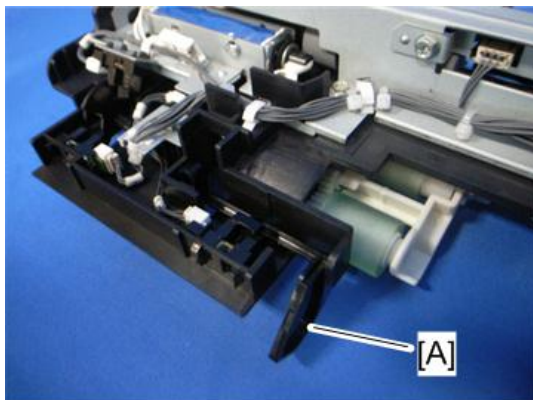
m065r660

3. **Paper end sensor [A] (▧ x1, hooks)**
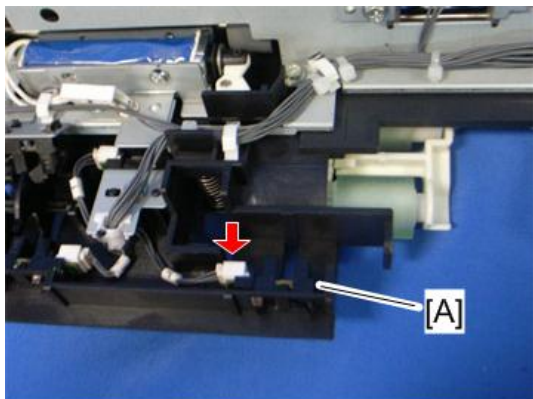
m065r661

Paper Feed Sensor

1. **Paper feed unit (page 184)**

2. Release the harness [A] (⬚ x 1).
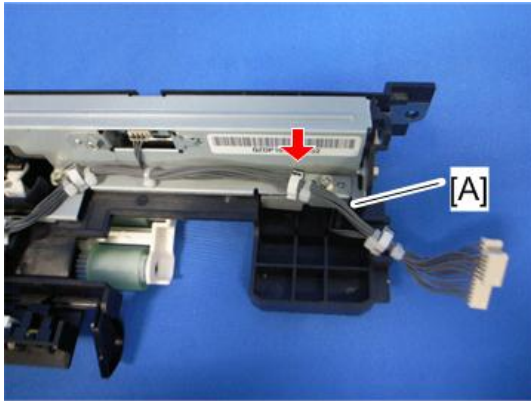
m065r662

3. Paper feed sensor bracket [A] (🔩 x1)
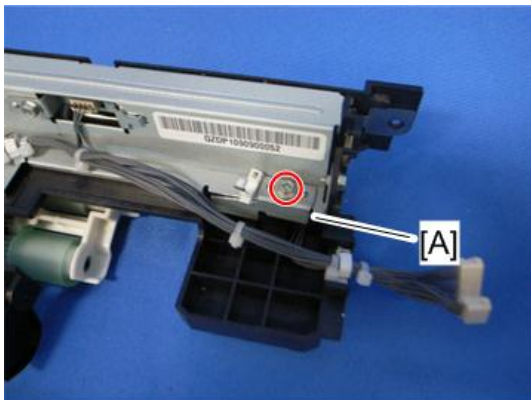
m065r663

4. Paper feed sensor [A] (🔌 x1, hooks)
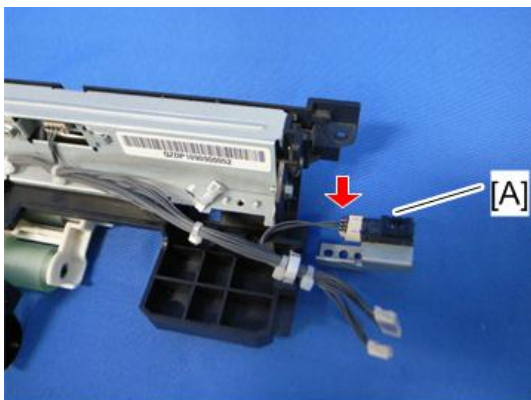
m065r664

Tray Lift Motor

1. **Inner left lower cover (page 96)**
2. **Tray lift motor unit [A] (x 3, x 2, x 1)**
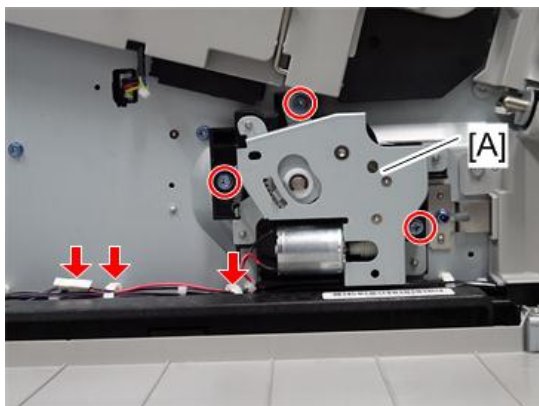
m257z0015

3. **Tray lift motor bracket [A] (x 4, spring x 1)**
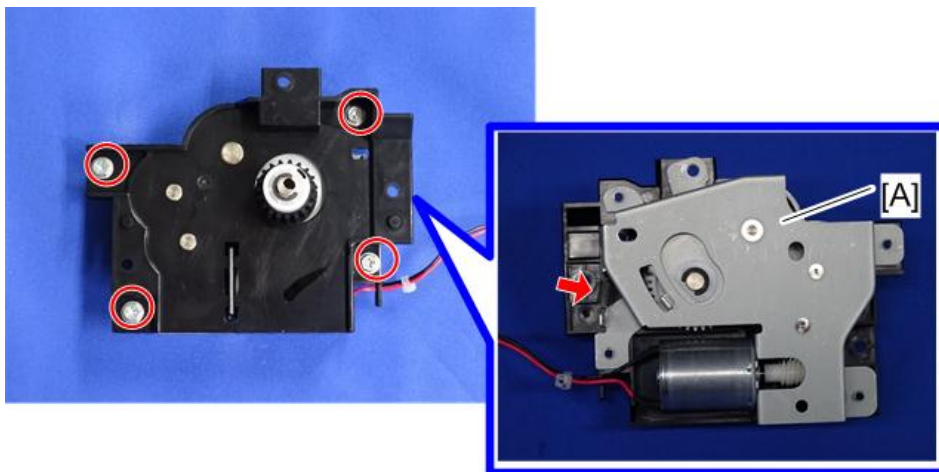
m257z0016

Note

- When reassembling, make sure that the gears [A] are set correctly before installing the tray lift motor bracket.
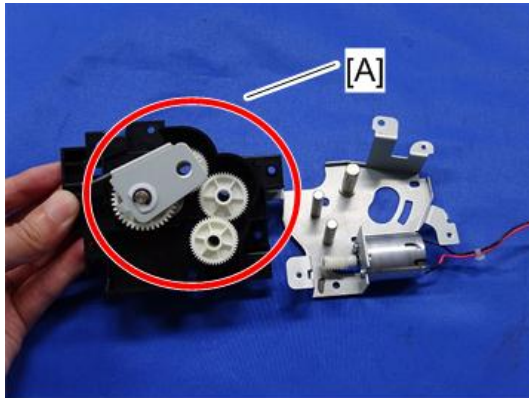
m257z0017

4. Tray lift motor [A] (🔩 x 2)
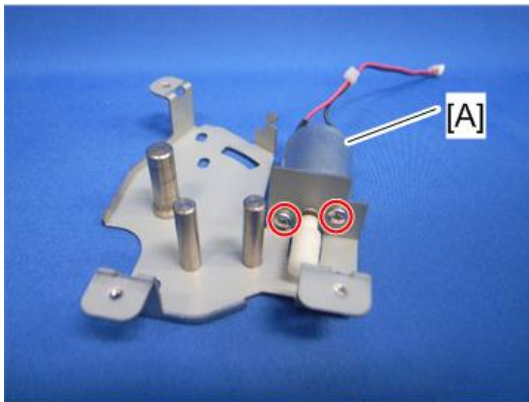
m065r521

Tray 1 Set Sensor

1. Pull out the paper feed tray.

2. Left cover (**page 89**)

3. Inner left rear cover (**page 96**)

4. Inner left lower cover (**page 96**)

5. **Sensor holder [A] (** 🔩 x 3, 🔌 x 1)
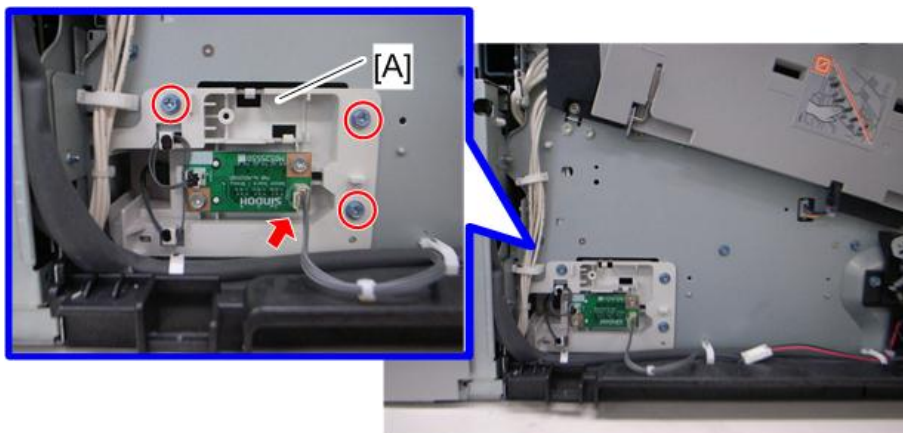
m065r522

6. **Disconnect the connector [A].**
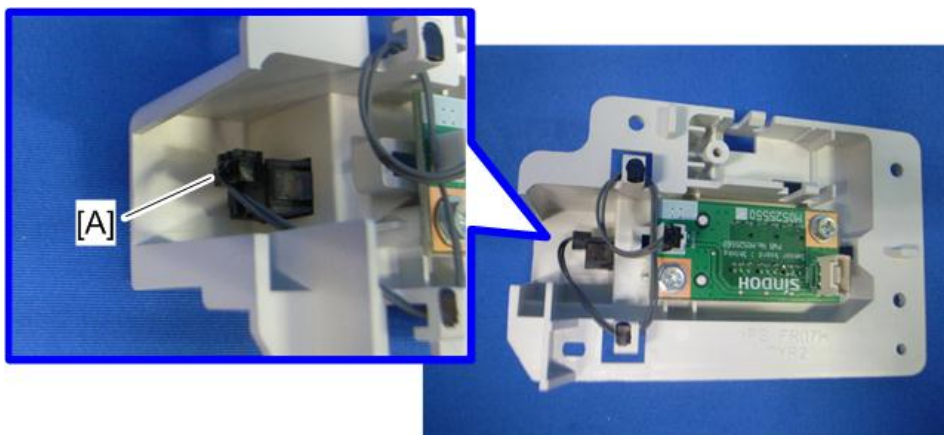
m065r523

7. **Tray 1 set sensor [A] (hooks)**
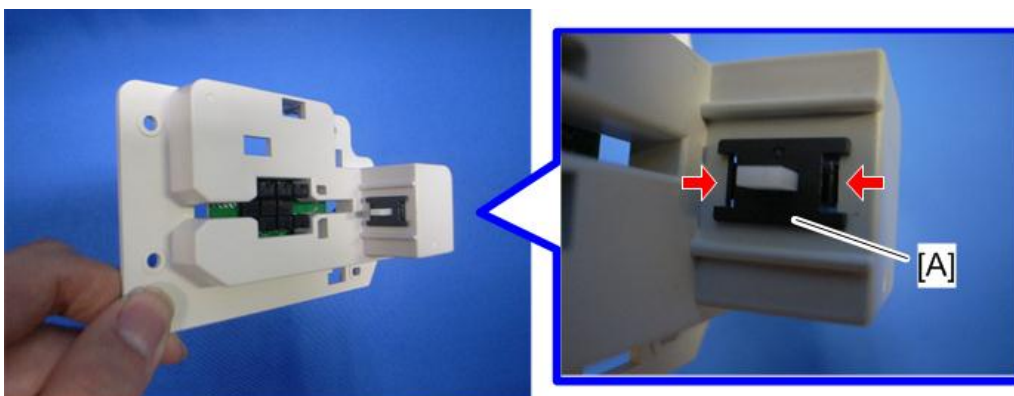
m065r524

Paper Size Sensor Board

1. Inner left lower cover (**page 96**)
2. Paper size sensor board [A] ($\mathscr{P}$ x 2, 🔌 x 2)
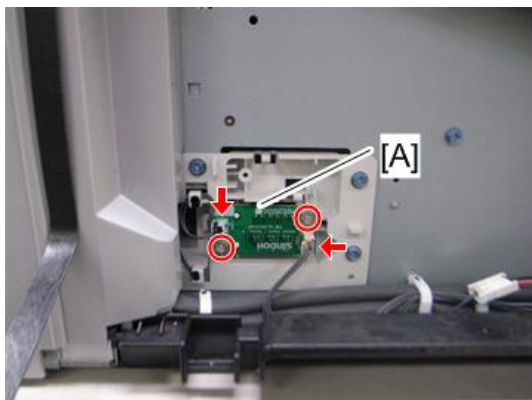
m065r525

Cleaning the Paper Dust Container

1. ITB unit (**page 125**)
2. PCDU (**page 106**)
3. Peel off the tape [A] (service parts) and clean the paper dust container [B] with a vacuum cleaner.

m065r785
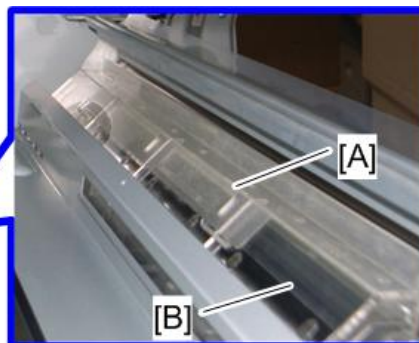
Paper Exit

Paper Exit Unit

1. Top cover (**page 92**)

2. Open the upper cover.

3. Inner upper right cover [A] (🔩 x 2)
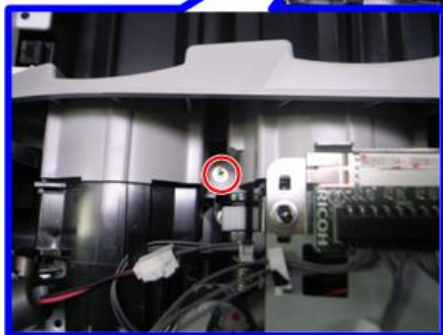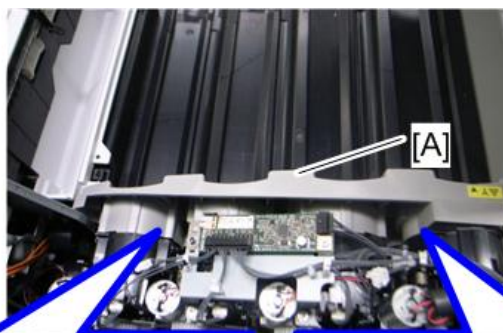
m065r536

4. Inner upper cover [A] (🔩 x 1)

5. **Inner left upper cover (page 94)**
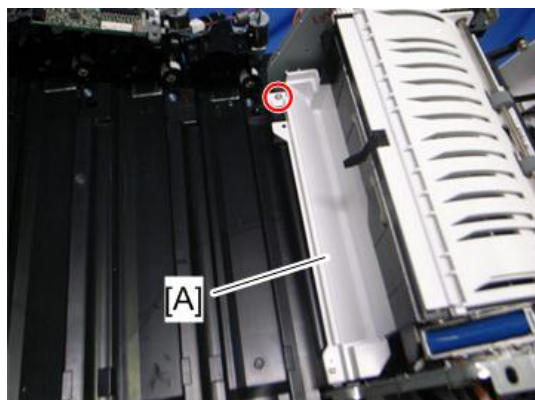
m065r537

6. **Paper exit unit holder [A] (🔩 x 1)**
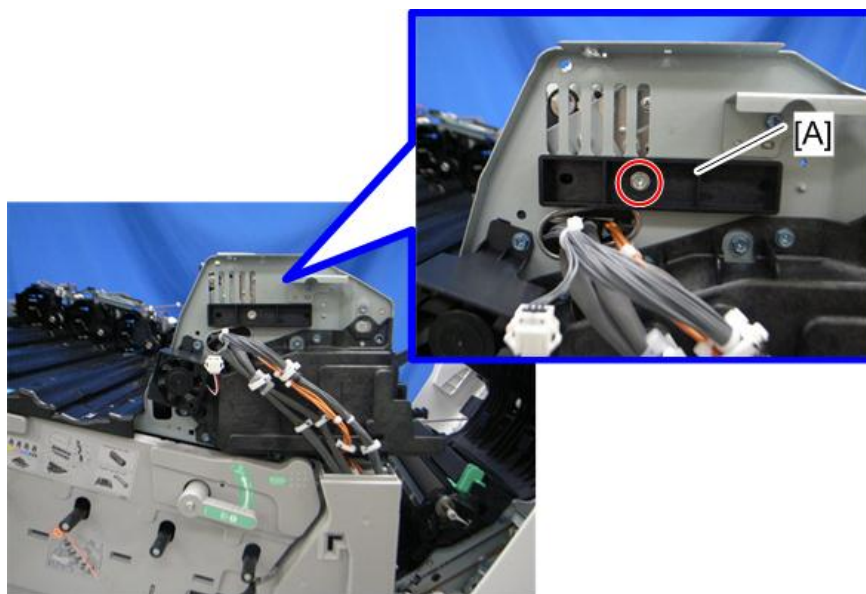
m065r538

7. **Lift the paper exit unit [A].**
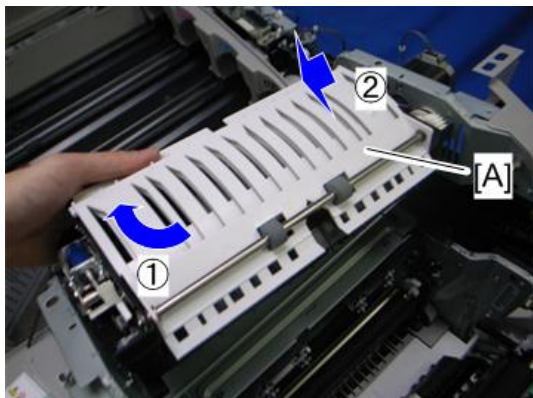
m065r539

8. **Paper exit unit [A] (⬛ x 2)**
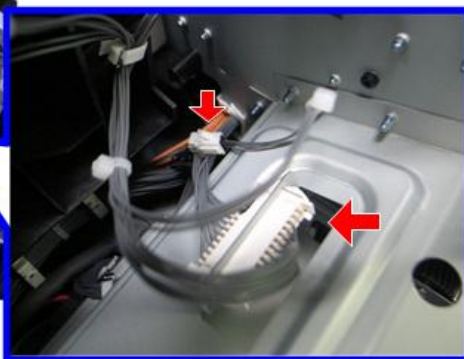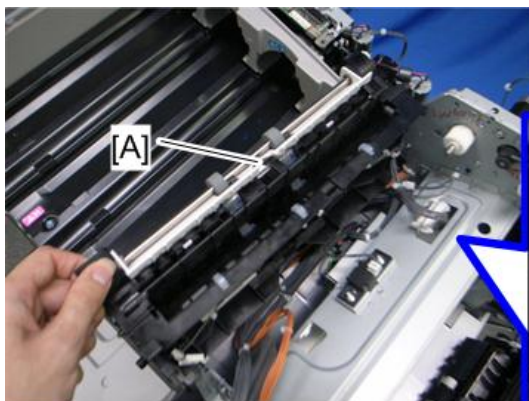
m065r540

Paper Exit Sensor

1. **Paper exit unit (page 198)**

2. **Remove the gear [A] (release the hook shown by the red arrow), and then remove the bushing [B].**

3. Remove the bushing [C] (🗝 x 1).
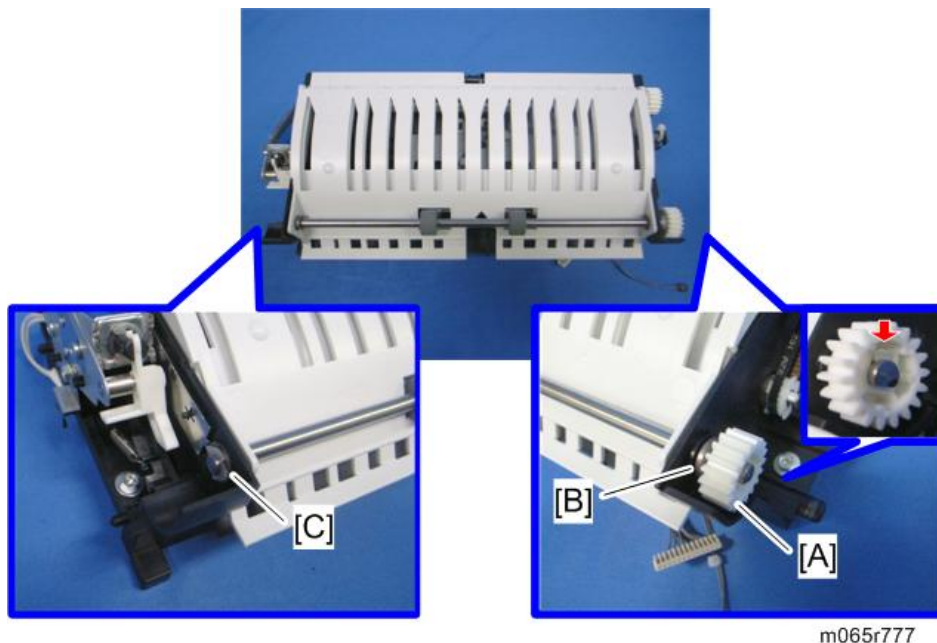
m065r777

4. Remove the shaft [A], and then remove the paper exit upper guide [B].
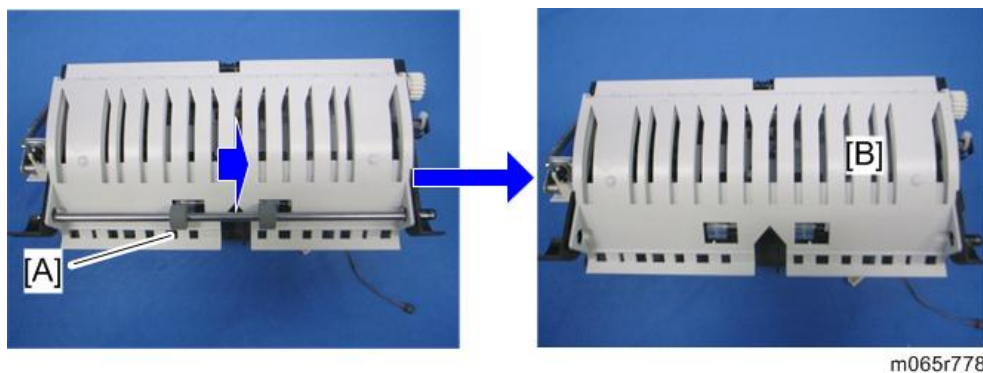
m065r778

5. **Paper exit lower guide [A] (hook x 2)**
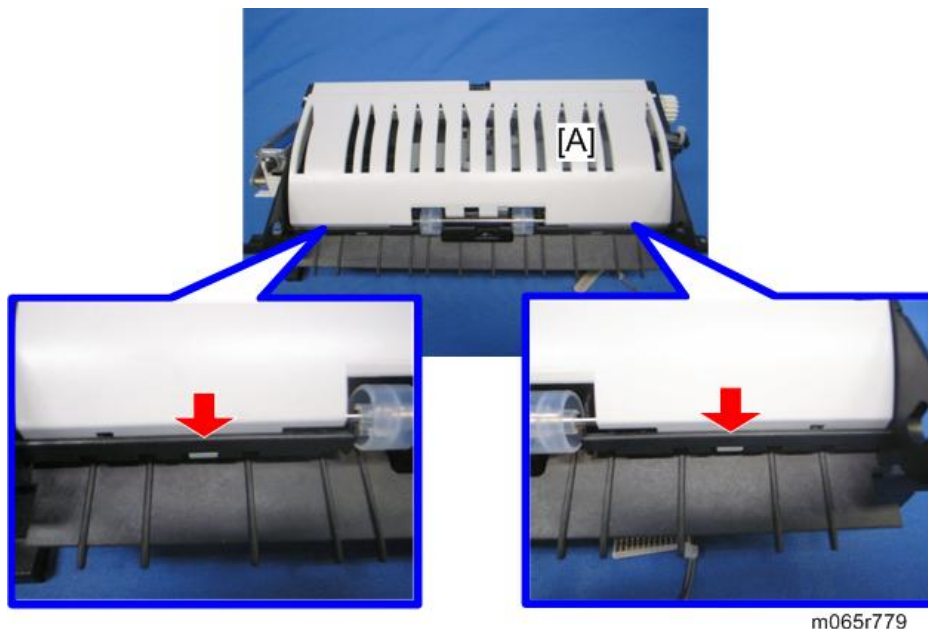
m065r779

6. **Remove the idle roller [A], and release the sensor bracket [B] ($\mathscr{O}$ x 1).**
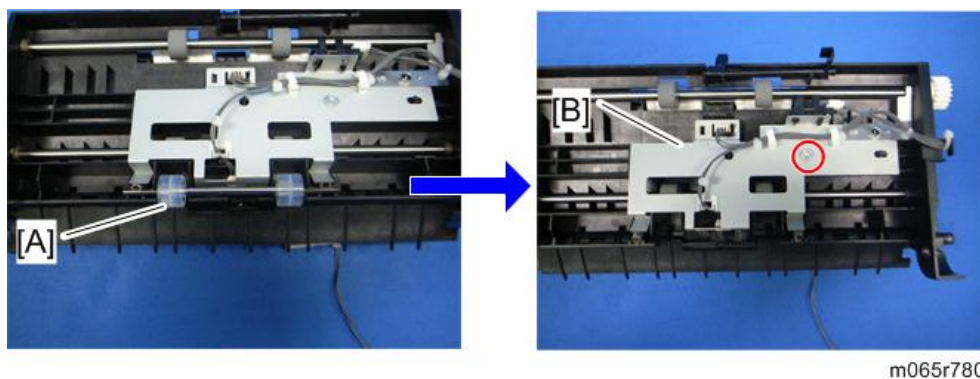
m065r780

7. Paper exit sensor [A] (⬚ x 1, hooks)
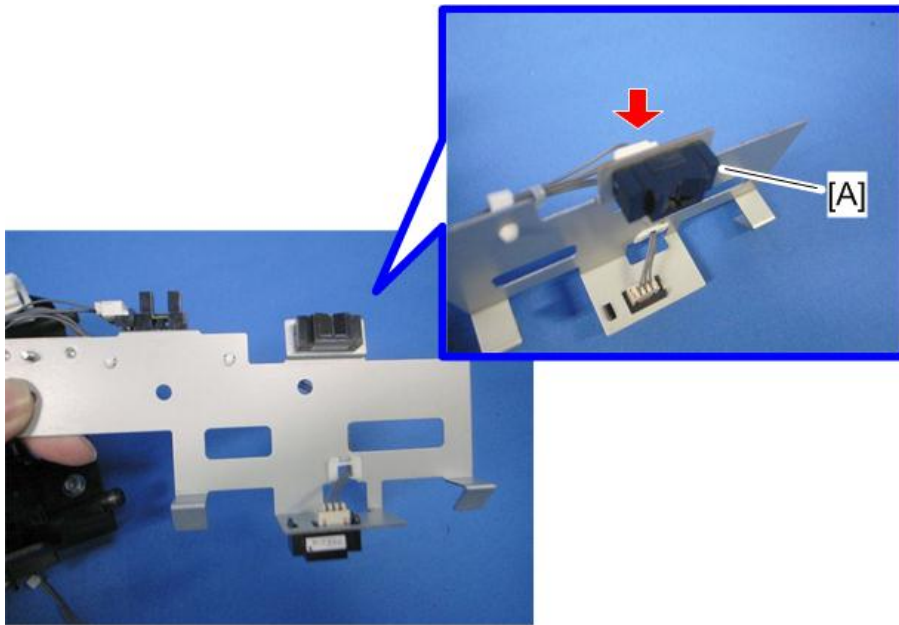
m065r782

Inverter Sensor

1. Paper exit unit (page 198)

2. Release the sensor bracket (page 200 "Paper Exit Sensor").

3. **Inverter sensor [A]** (![icon] x 1, hooks)
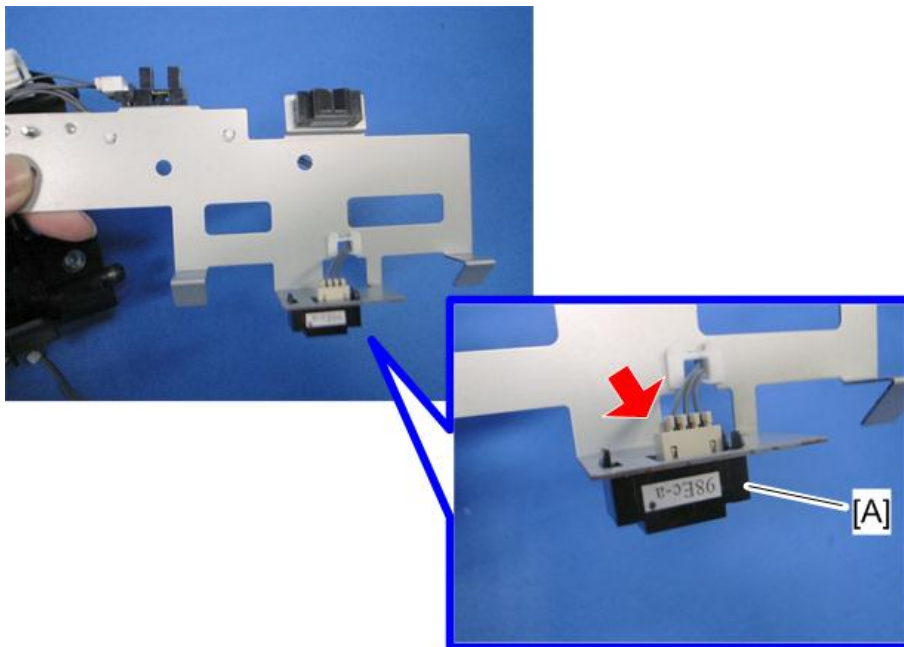
m065r783

Paper Overflow Sensor

1. **Paper exit unit (page 198)**
2. **Release the sensor bracket (page 200 "Paper Exit Sensor").**

3. **Paper overflow sensor [A] (⬚ x 1, hooks)**

m065r781
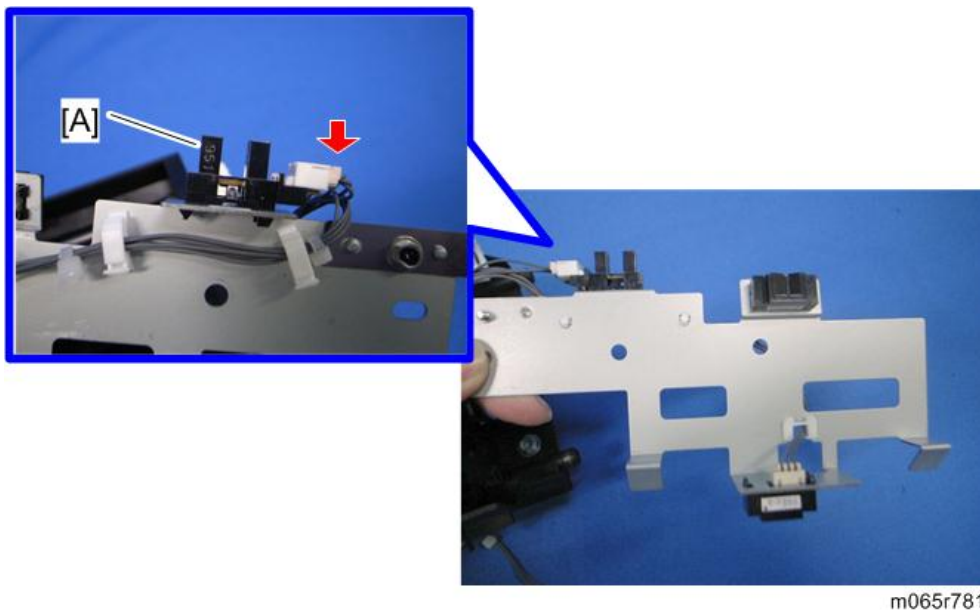
Fusing Exit Sensor

1. **Paper exit unit (page 198)**
2. **Fusing exit sensor [A] (🔩 x 1, ⬚ x 1)**
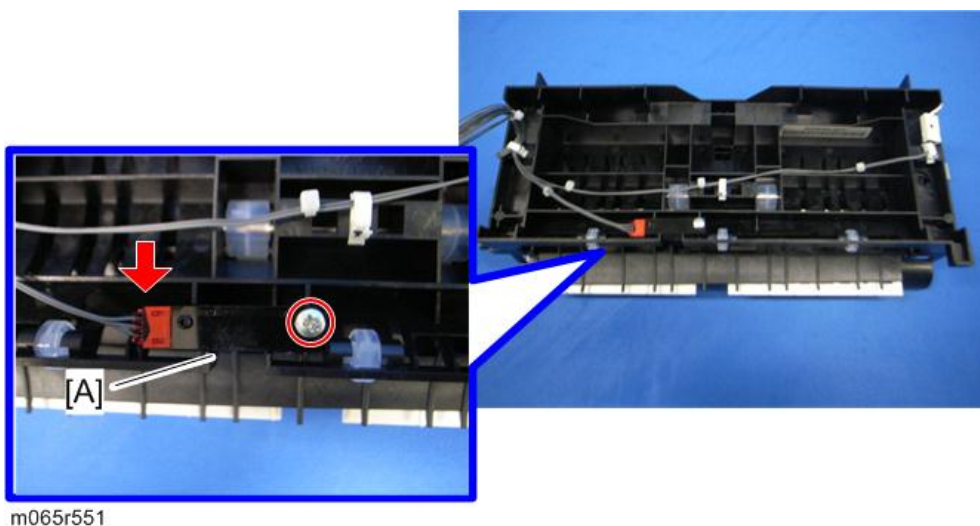
m065r551

Inverter Motor

1. Paper exit unit (**page 198**)

2. Inverter motor [A] ($\mathscr{P}$ x 2, 📇 x 1, timing belt x 1)
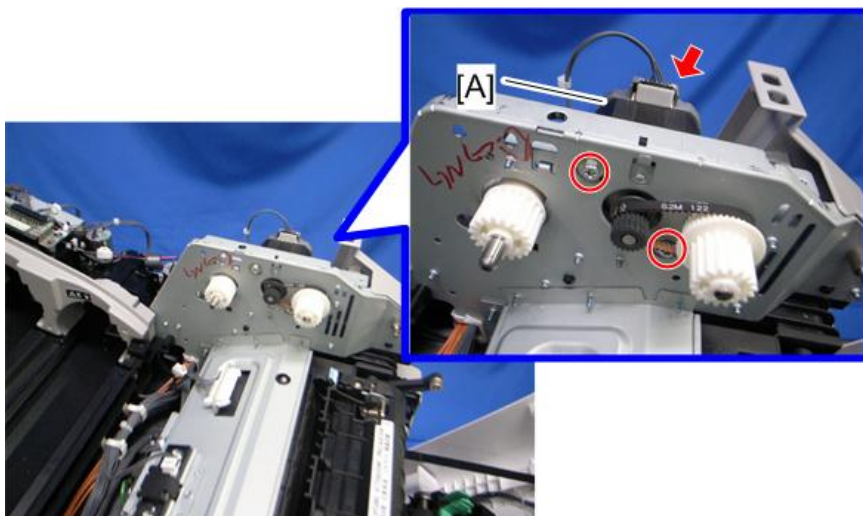
m065r541

Fusing Cooling Fan

1. Inner left upper cover (**page 94**)

2. Fusing cooling fan base [A] ($\mathscr{P}$ x 2, 📇 x 1)
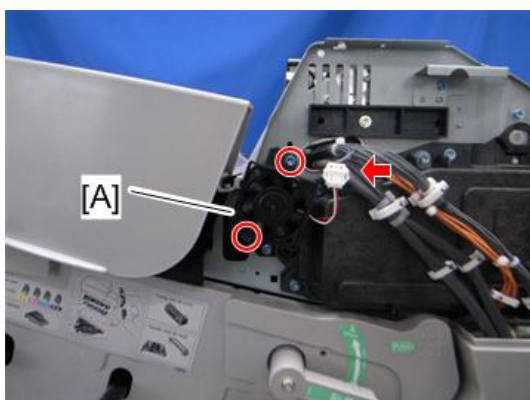
m065r543

3. **Fusing cooling fan [A] (hooks)**
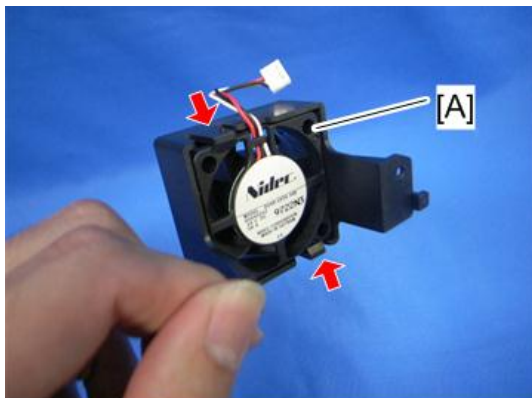
m065r544

When installing the fusing cooling fan

Make sure that the fusing cooling fan is installed with its decal facing to the right of the machine.

Upper Cover Sensor

1. **Paper exit unit (page 198)**
2. **Upper cover sensor [A] (⬚ x 1, hooks)**
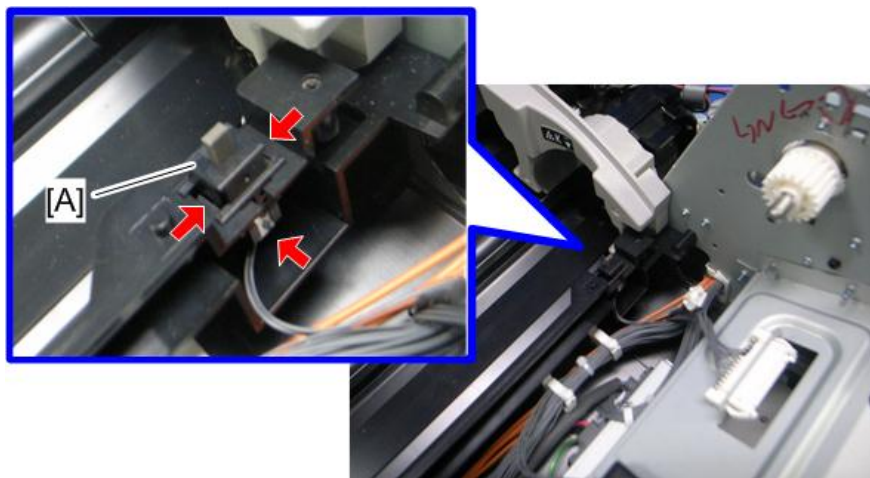
m065r542

Duplex Unit

Duplex Unit

1. **Open the duplex unit.**
2. **Connector cover (page 97 "Inner Right Front Cover")**
3. **Disconnect the six harnesses (page 97 "Inner Right Front Cover").**
4. **Remove the ground screw [A].**
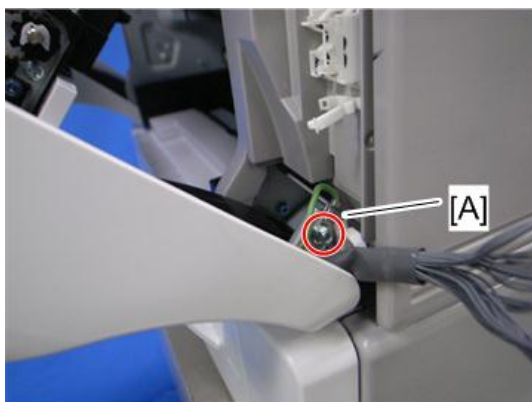
m065r761

5. **Release the right arm [A] (⚹ x 1).**

   ⚠**CAUTION**

   • Work carefully when releasing the right arm. This is because the right arm has strong tension and this may cause injury.
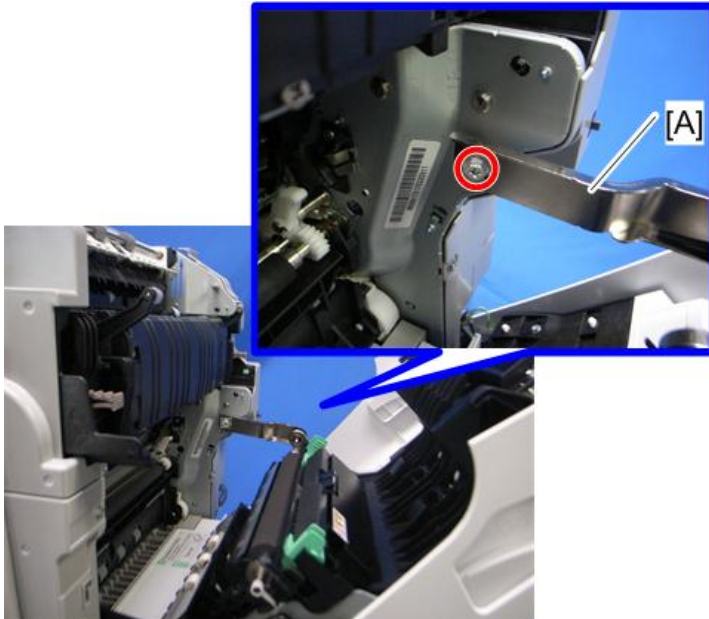
m065r616

6. Release the left arm [A] (🔩 x 1).
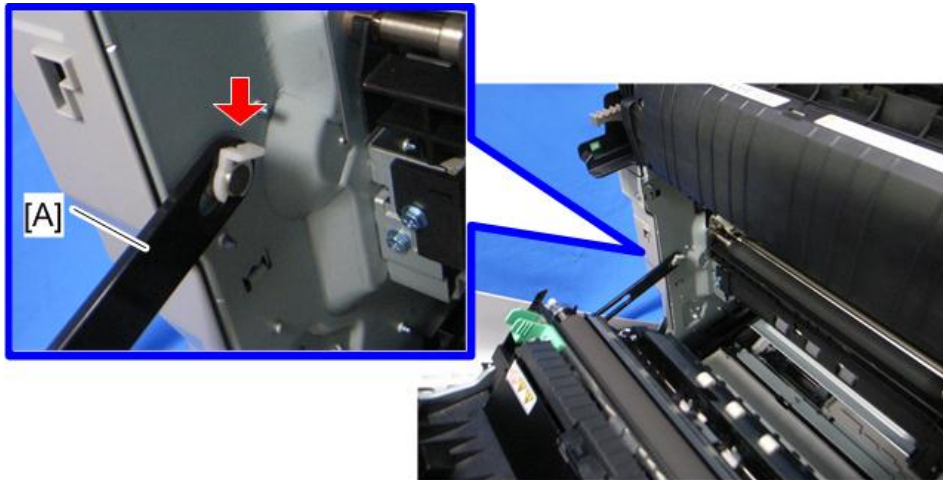
m065r617

7. Open the duplex unit [A] fully, and then remove it.
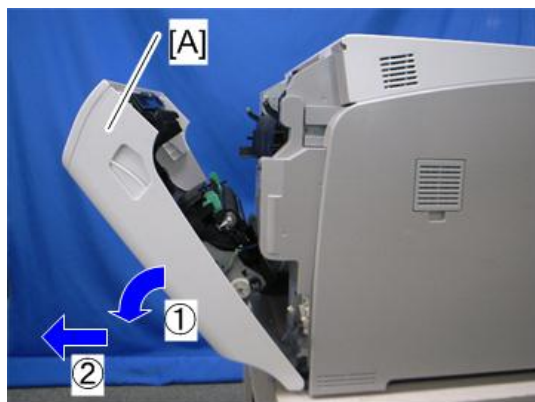
m065r618

By-pass Tray Unit

1. Open the by-pass tray unit.

2. Release the outer small pegs [A] of the cover.

   • Release the left peg first, and then right peg.
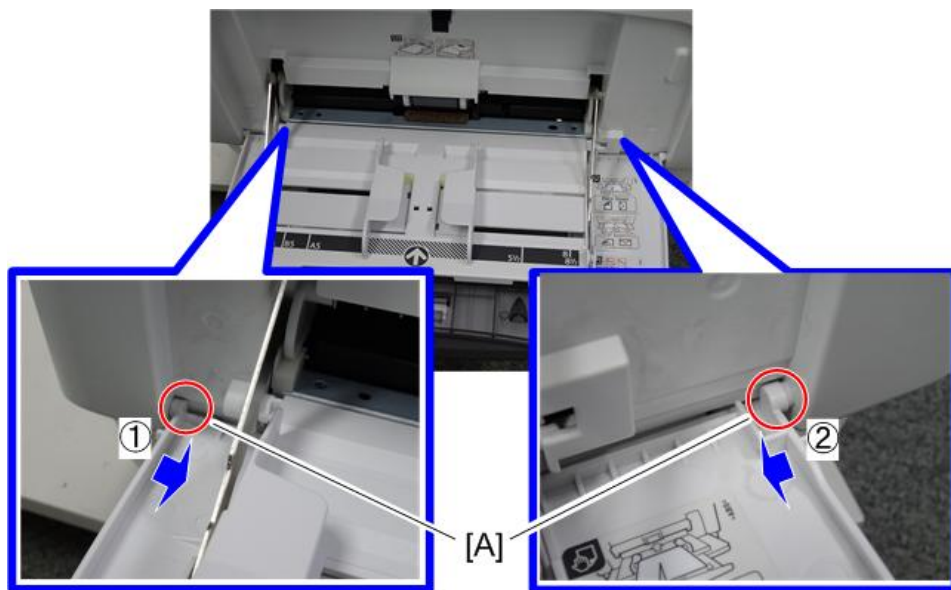
m257z0029

3. **Tilt the by-pass tray as shown below.**

m257z0030

4. **Release the right inner large peg [A] first, and then left inner large peg [B].**
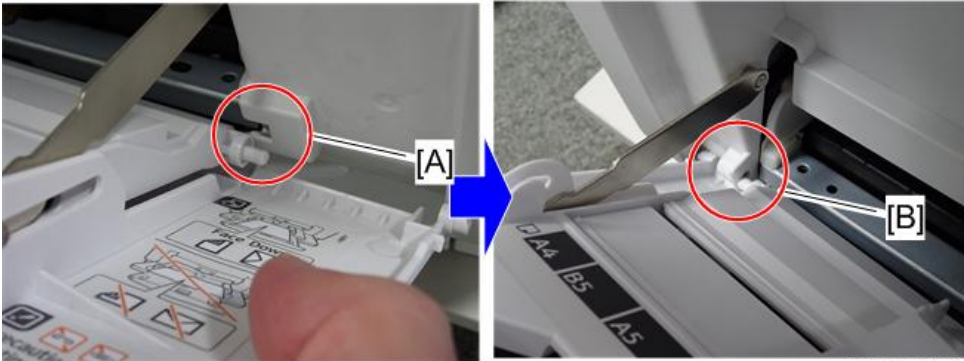
m257z0031

5. **Tilt the by-pass tray [A] as shown below, and then pull the by-pass tray.**

- Tilting the by-pass tray rotates the peg lock arms [B] down so they can be removed from the keyholes.
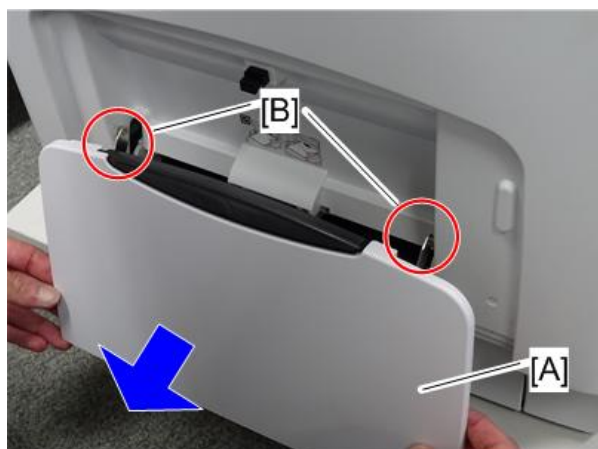
m257z0032

Note

- When re-attaching the by-pass, tilt the by-pass tray as shown above, and then insert the peg lock arms into the keyholes of the machine.

Duplex Entrance Sensor

1. Duplex unit (page 208)
2. Disconnect the connector and remove the ground screw.
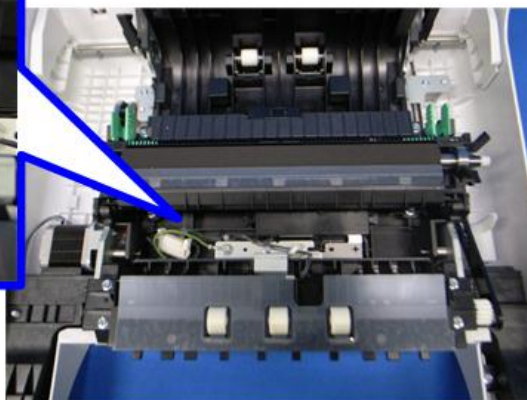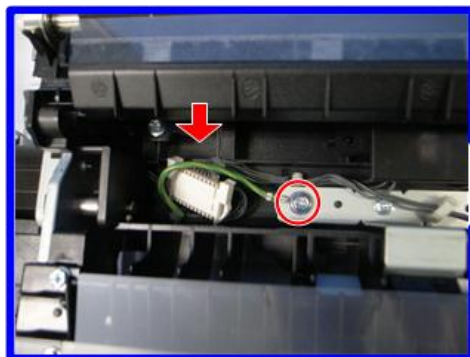
m065r619

3. **Duplex lower guide plate [A]**
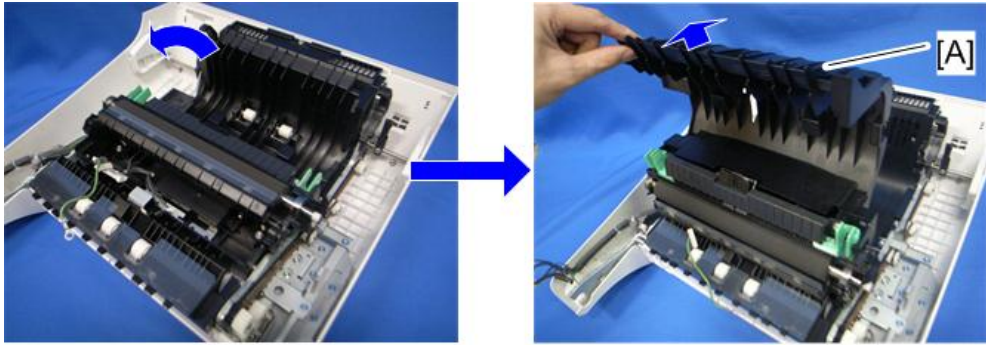
m065r620

4. **Duplex upper guide plate [A] (🔩 x 7)**
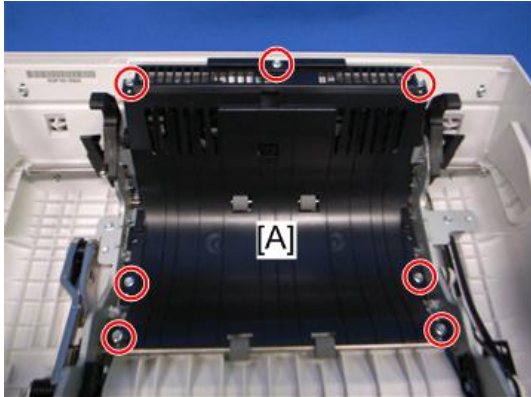
m065r621

5. **Duplex entrance sensor [A] (🔲 x 1, hooks)**
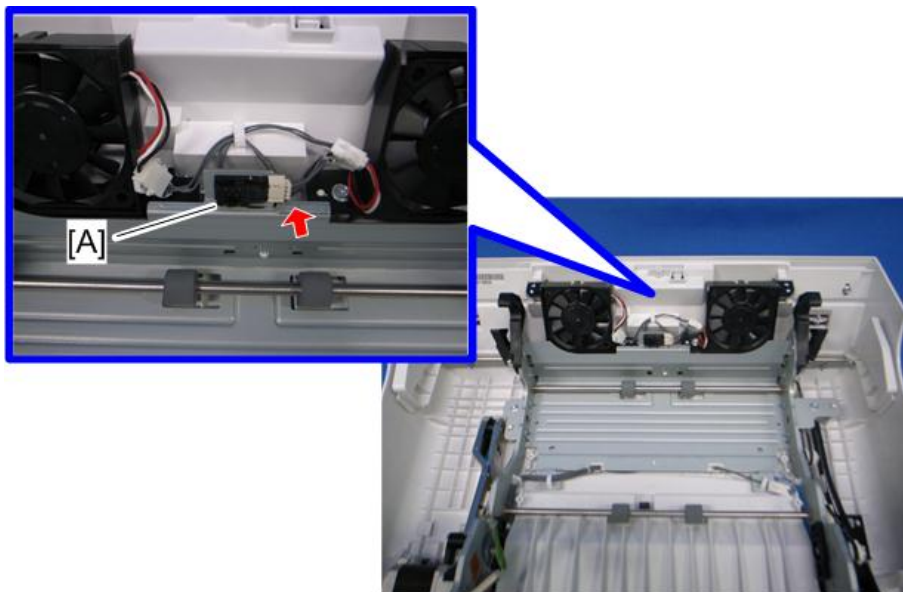
m065r622

Duplex Exit Sensor

1. **Open the duplex unit.**

2. **Fusing unit (page 164)**

3. **Paper transfer roller unit (page 140)**

4. **Release the sensor bracket [A] (🔩 x 1, 🔲 x 1)**
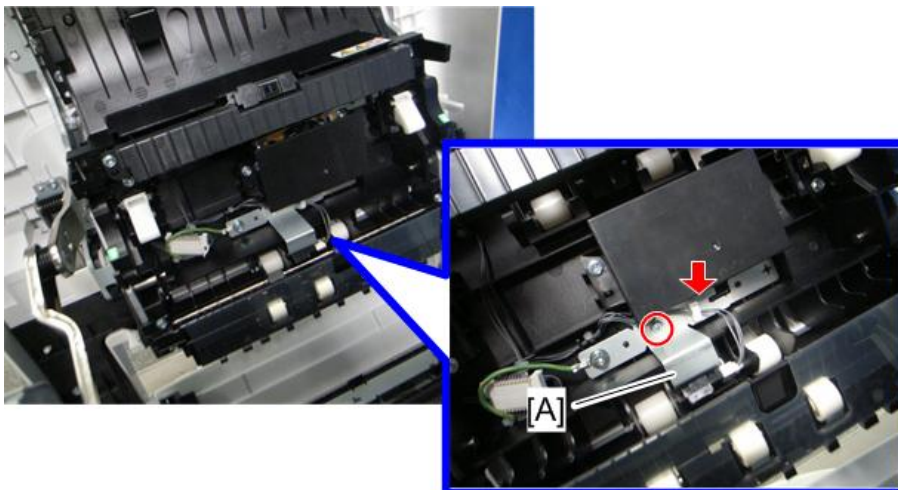
m065r764

5. **Duplex exit sensor [A] (⬚ x 1, hooks)**
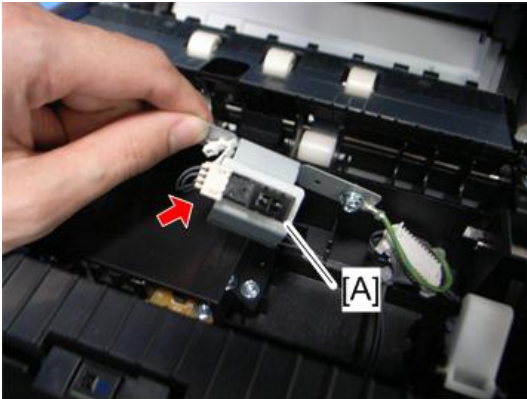
m065r765

Fusing Entrance Sensor

1. **Open the duplex unit.**

2. **Fusing unit (page 164)**

3. **Paper transfer roller unit (page 140)**

4. **Sensor base [A] (⬚ x 2)**
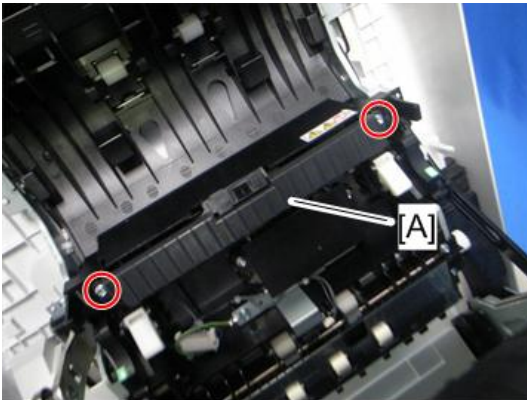
m065r762

5. **Sensor cover [A] (hooks)**

6. **Fusing entrance sensor [B] (⬚ x 1, hooks)**
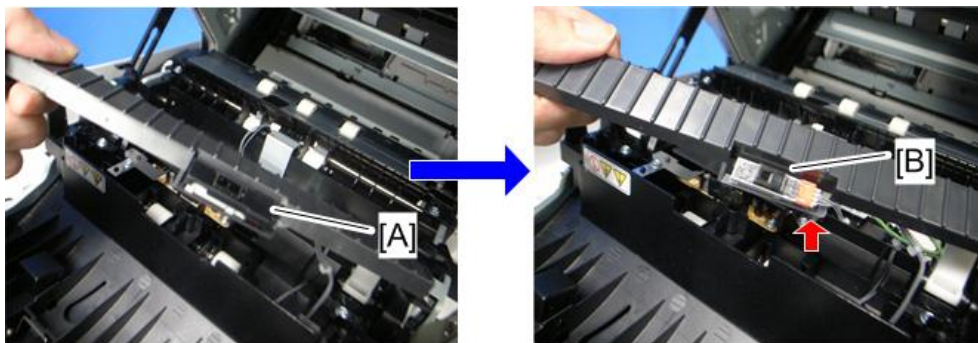
m065r763

Duplex/By-pass Motor

1. Duplex unit (**page 208**)

2. By-pass tray unit (**page 210**)

3. Duplex upper guide plate (**page 212 "Duplex Entrance Sensor"**)

4. Guide plate [A] (tabs)

m065r786

5. **Fusing fans (page 164)**

6. **Operation panel (page 93)**

7. **Duplex/By-pass motor cover [A] (🔩 x 1)**
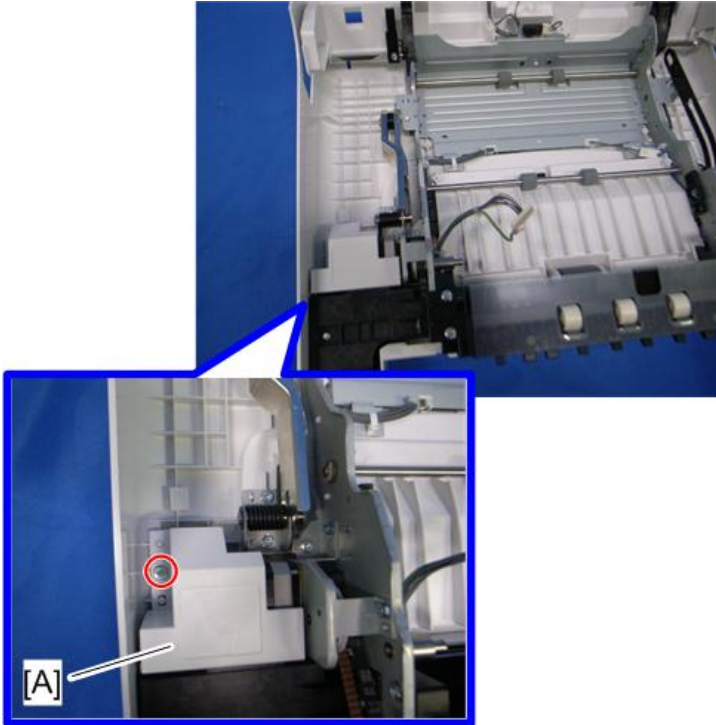
m065r787

8. **Right and left arms [A] (x 2 each)**

[A]
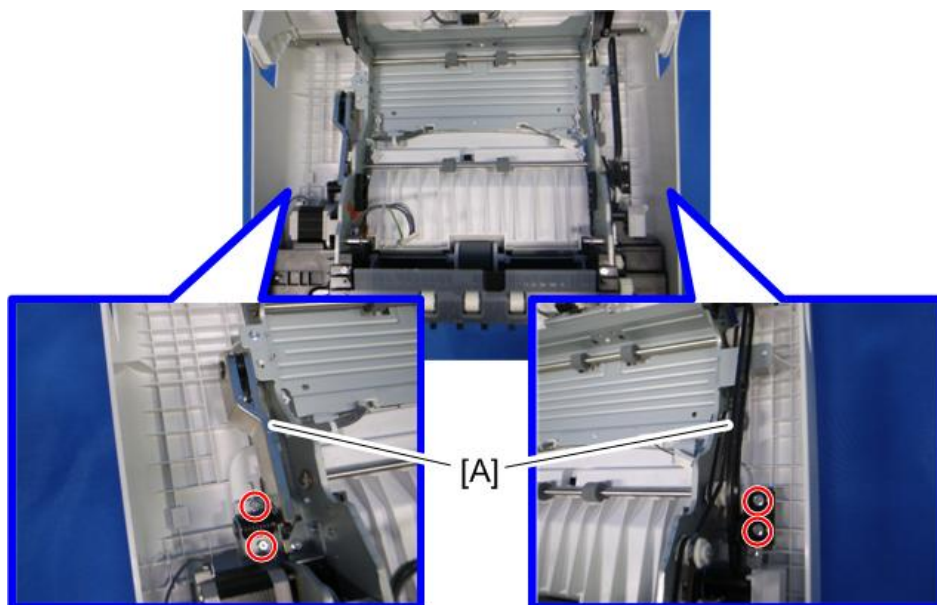
m065r788

9. **Duplex/By-pass motor bracket with the frame [A] (🔩 x 6)**
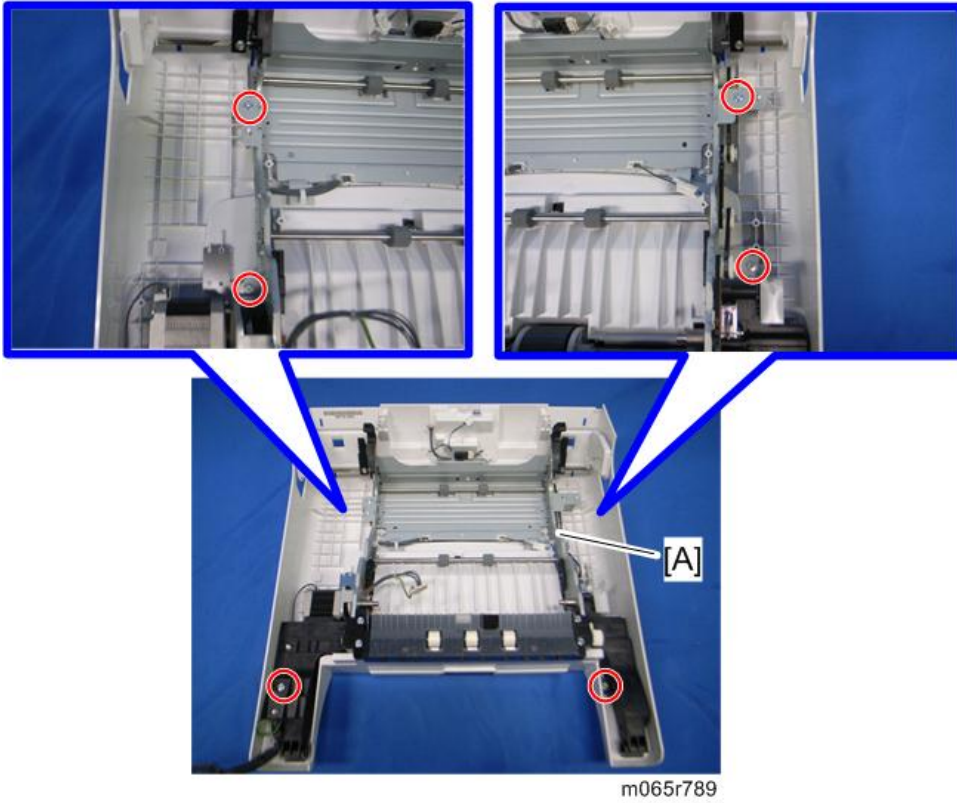
m065r789

10. **Guide plate [A] (🔩 x 4)**

m065r794

4
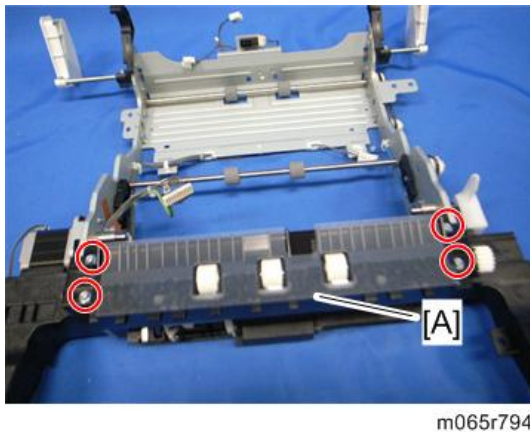
11. **Duplex/By-pass motor bracket [A] (🔩 x 3, 🔌 x 1)**
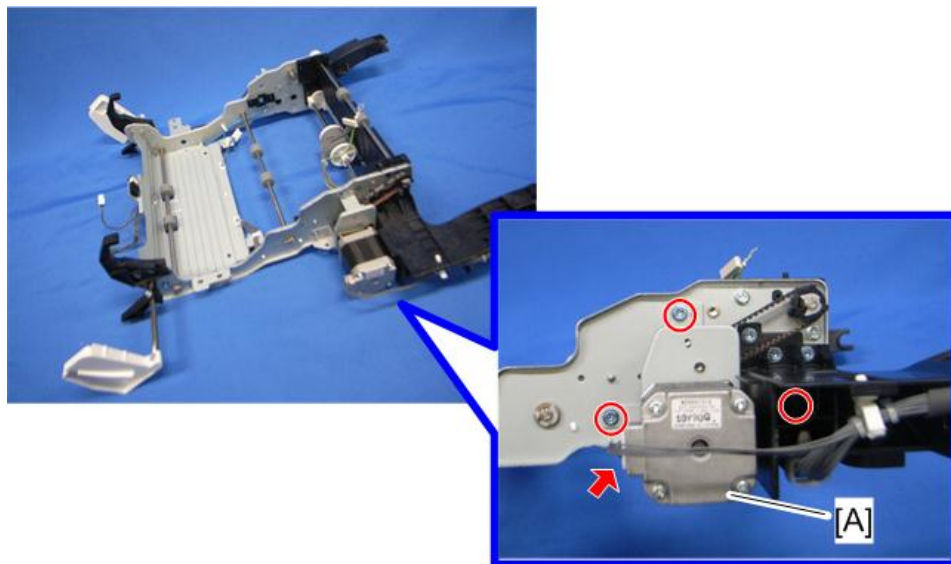
m065r790

12. **Duplex/By-pass motor [A] (🔩 x 2, ⚓ x 1, gear x1, timing belt x1)**
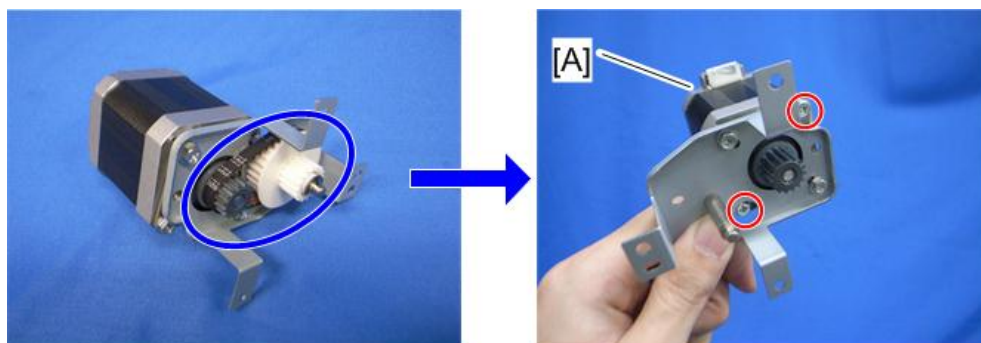
m065r791

By-pass Paper End Sensor

1. **Duplex unit (page 208)**
2. **Duplex/By-pass motor bracket with the frame (page 216 "Duplex/By-pass Motor")**

3. Sensor holder [A] (🔩 x 1)
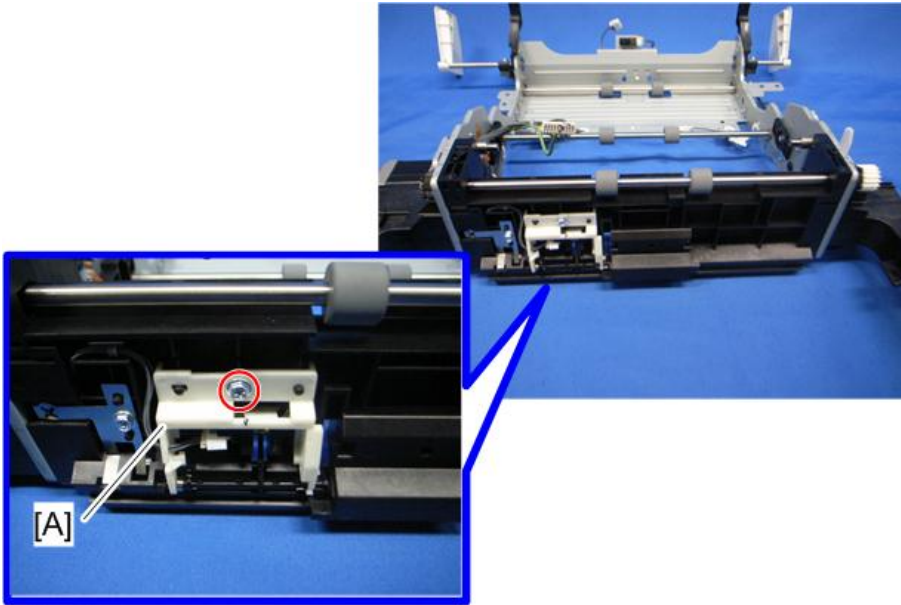
m065r792

4. By-pass paper end sensor [A] (🔌 x 1, hooks)
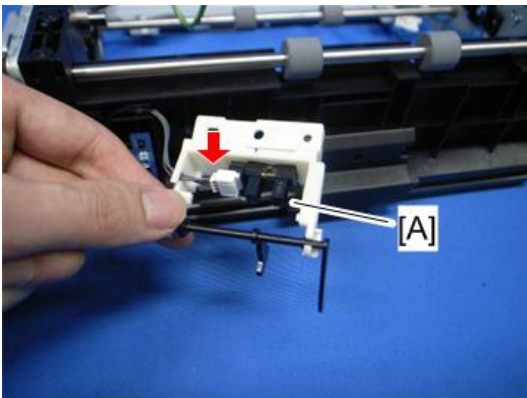
m065r793

By-pass Feed Roller, Friction Pad

1. Duplex unit (**page 208**)

2. Duplex/By-pass motor bracket with the frame (**page 216 "Duplex/By-pass Motor"**)

3. **Guide plate [A] (🔧 x 4)**
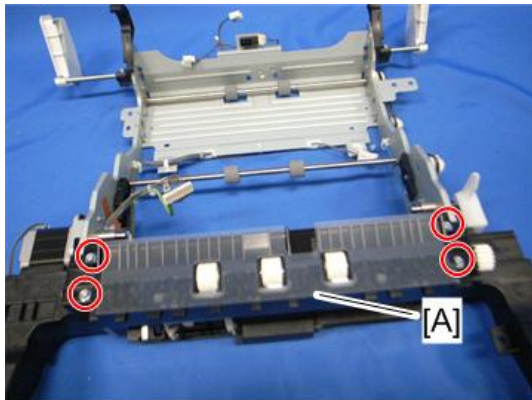
m065r794

4. **Slide the roller holder [A] in the direction of the blue arrow (👐 x 2).**
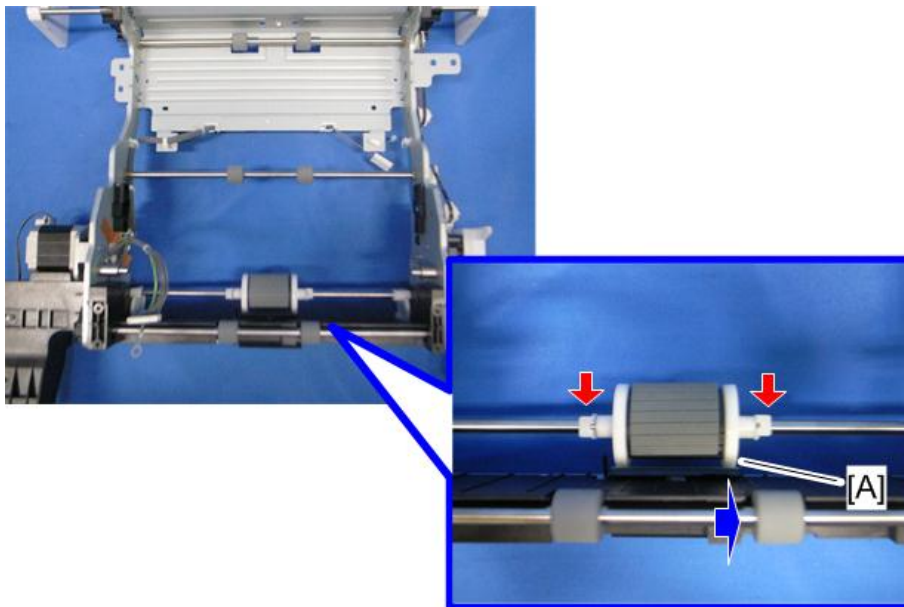
m065r795

5. **By-pass feed roller [A]**
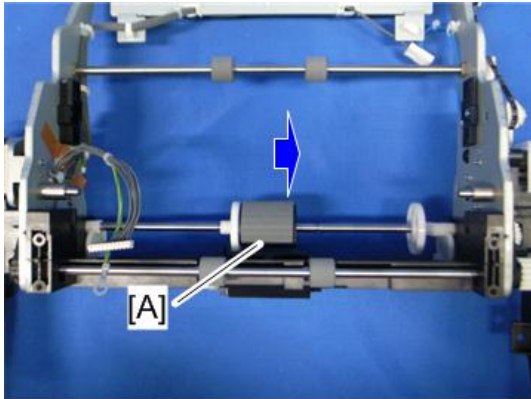
m065r796

6. **Slide the roller holder [A] in the direction of the blue arrow.**
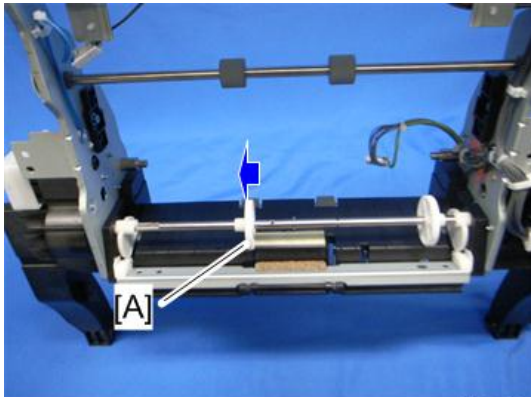
m065r797

7. **Release the tension of the bracket [A] by releasing the lock of the solenoid [B] and turning the timing belt [C].**
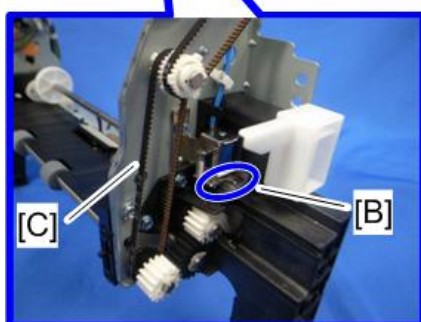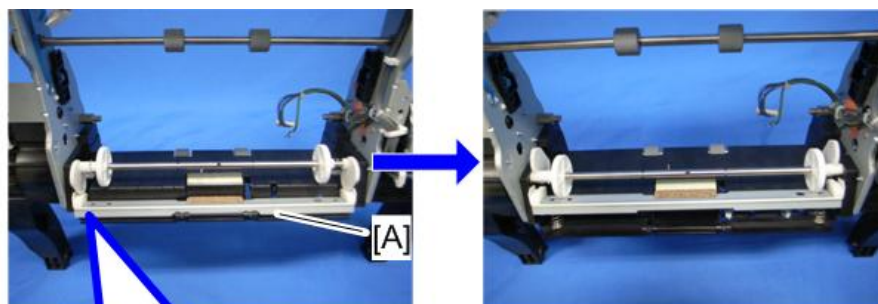
m065r798

8. **Friction pad [A] (hooks)**
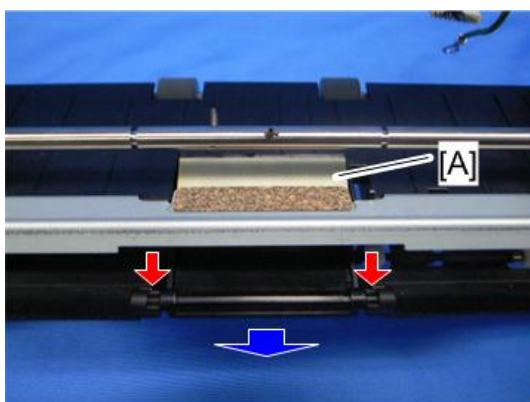
m065r799

HVPS: D

⚠CAUTION

• Turn off the main power switch and unplug the machine before removing the HVPS: D.

1. **Open the duplex unit.**

2. **Fusing unit (page 164)**

3. **Paper transfer roller unit (page 140)**

4. **HVPS: D cover [A] (x 2)**
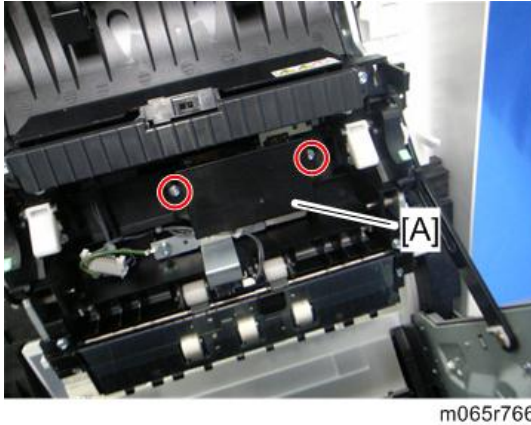
m065r766

5. **HVPS: D [A] (x 3, x 1)**
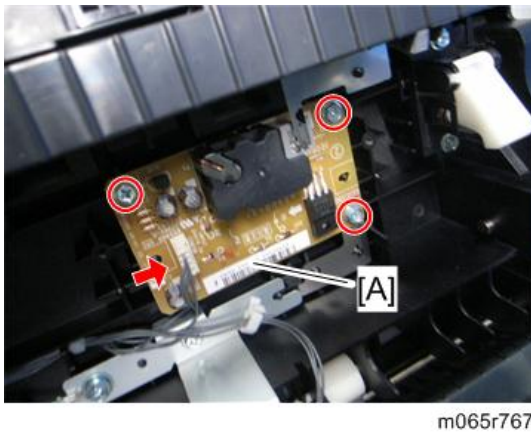
m065r767

Fusing Fan

⚠️CAUTION

- Turn off the main power switch and unplug the machine before removing the fusing fan.

1. **Duplex unit (page 208)**

2. **Duplex upper guide plate (page 212 "Duplex Entrance Sensor")**

3. **Fusing fan bases [A] (🔩 x 1 each, 🔌 x 1 each)**
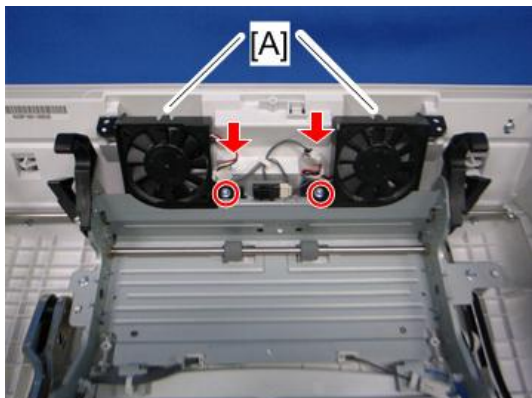
m065r768

4. **Fusing fan [A] (hooks)**
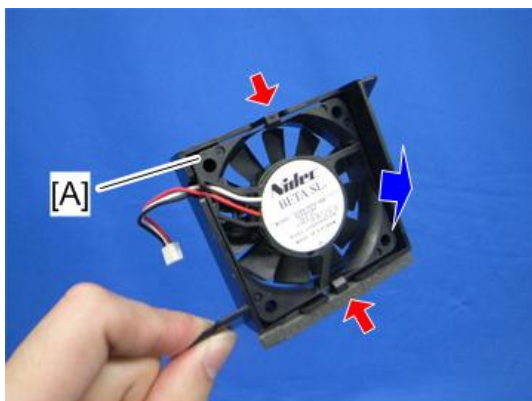
m065r769

When installing the fusing fan

Make sure that the fusing fan is installed with its decal facing to the front of the machine.

Electrical Components

Boards

Rear Cover Open
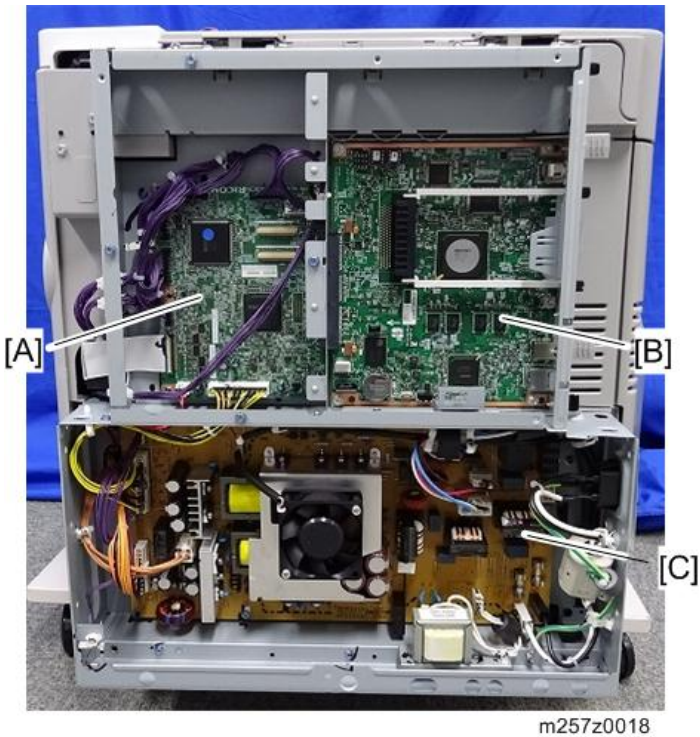
m257z0018

[A]	Bridge Board
[B]	Controller Board
[C]	PSU

Controller Box Removal

m065r744

[E]	HVPS: CB Board

Right Cover Open
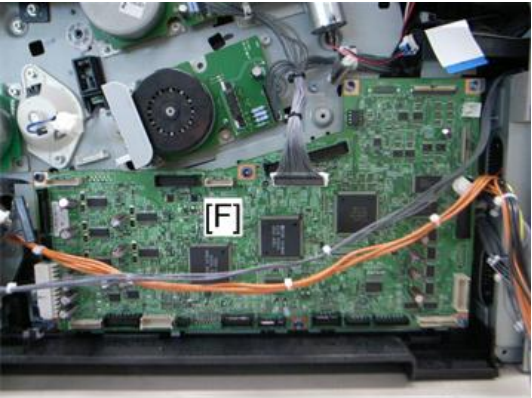
m065r745

[F]	BCU

BCU with bracket Removed

m065r746
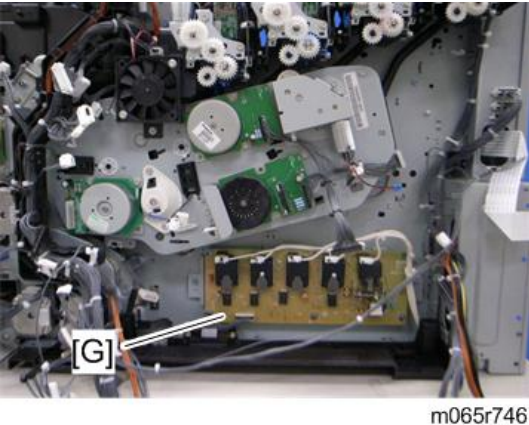
[G]	HVPS: T1T2 Board

HDD (Option)

Note

- Before replacing the HDD, copy the address book data to an SD card with SP5-846-051 if possible.

- If the customer is using the Data Overwrite Security or the Data Encryption feature, these applications must be installed again.

1. **Grasp the handles [A], and then pull out the controller unit [B] (knob screw x 2).**

m065r772
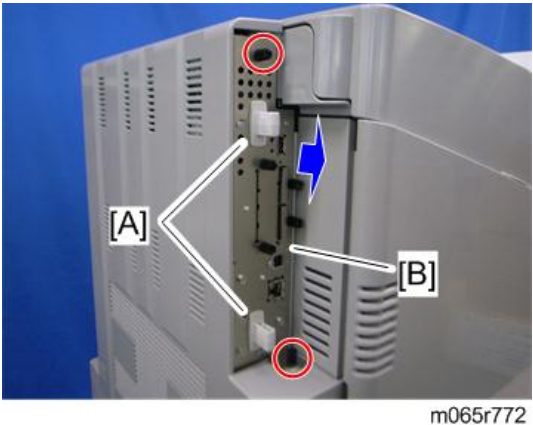
2. **HDD assembly [A] (knob screw x 2, ⬛ x 2)**

m257r0025

3. **HDD [A] (🔩 x 4, ⬛ x 2)**

m257r0026
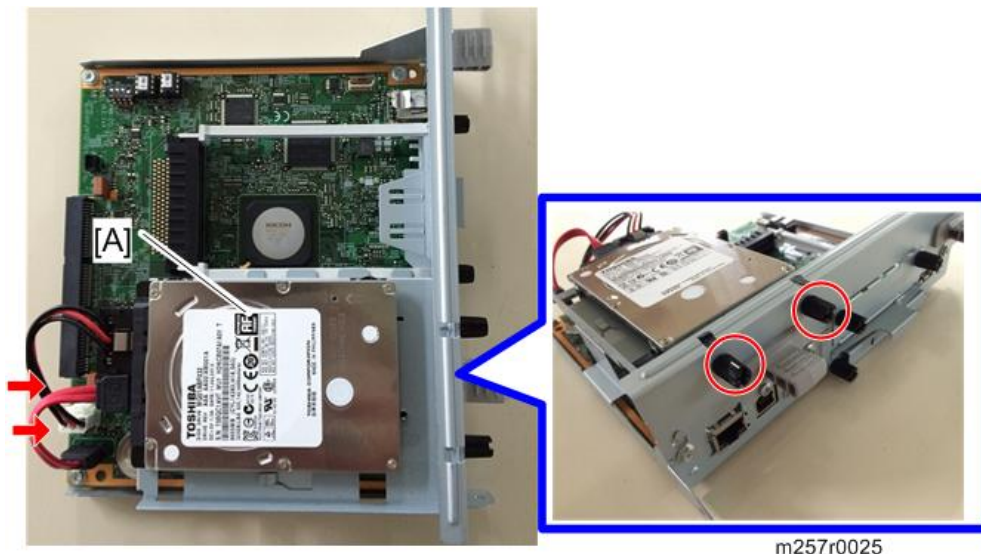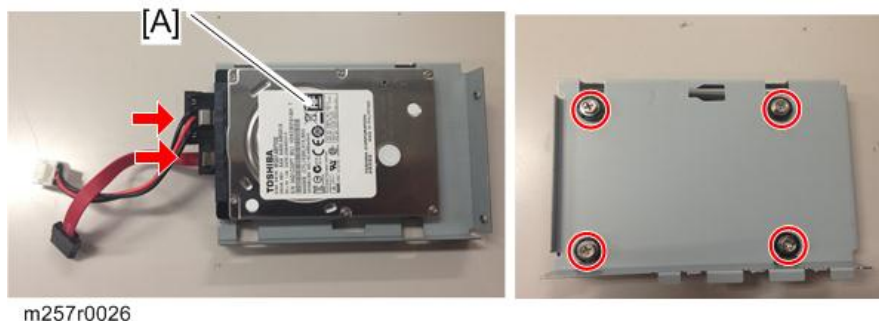
Disposal of HDD Units

- Never remove an HDD unit from the work site without the consent of the client.

- If the customer has any concerns about the security of any information on the HDD, the HDD must remain with the customer for disposal or safe keeping.

- The HDD may contain proprietary or classified (Confidential, Secret) information. Specifically, the HDD contains document server documents and data stored in temporary files created automatically during print job sorting and jam recovery. Such data is stored on the HDD in a special format so it cannot normally be read but can be recovered with illegal methods.

Reinstallation

Explain to the customer that the following information stored on the HDD is lost when the HDD is replaced:

- Address book

The address book and document server documents (if needed) must be input again.

If you previously backed up the address book to an SD card with SP5846 051, you can use SP 5846 052 to copy the data from the SD card to the hard disk.

If the customer is using the following options, each option function must be set up again. For more, see each reference guide.

- Data Overwrite Security Unit: See "Security Guide".

- HDD Encryption Unit: See "Security Guide".

Controller Board

1. **Pull out the controller unit (page 229 "HDD (Option)")**

2. **Remove the HDD assembly if it is installed (page 229 "HDD (Option)").**

3. **Controller board [A] (🔩 x5)**

m257z0019
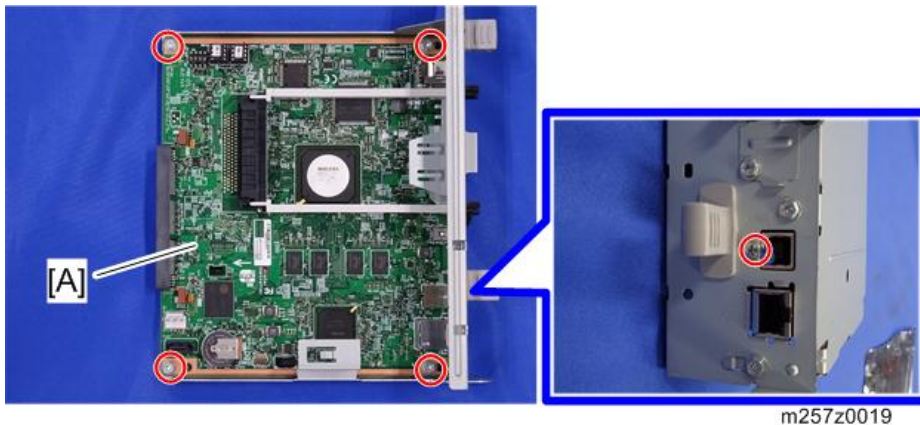
4. **Remove the Interface rails [A] and NVRAMs [B].**

m257z0020
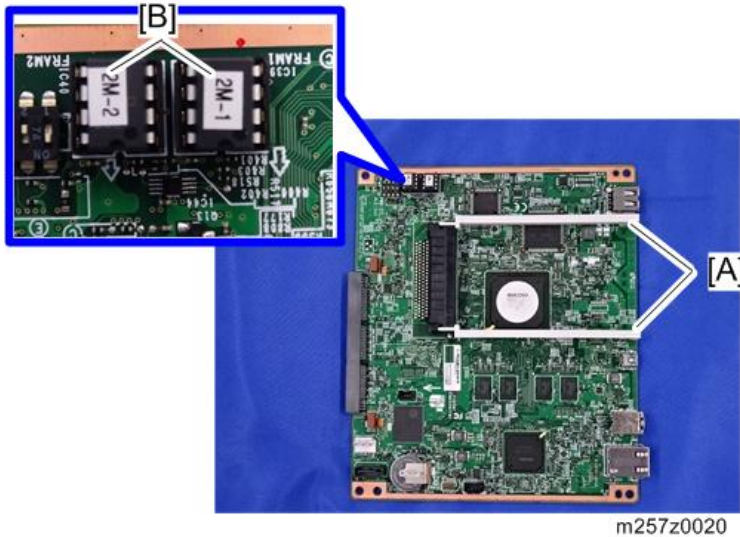
When installing the new controller board

⭐**Important**

- When replacing the controller board, first, check which ESA applications have been installed. After replacing the controller board, re-install the ESA applications by following the installation instructions for each application.

- After reinstalling the ESA applications, print the SMC (SP-5-990-024/025 (SMC: SDK/ Application Info)). Then open the tandem tray [A] and remove the paper cassette decal [B]. Store the SMC sheet [C] and the SD card(s) [D] that was used to install the ESA application(s).

1. **Remove the NVRAMs from the old controller board.**

2. **Install the NVRAMs on the new controller board after you replace the controller board.**

⚠️**CAUTION**

- Make sure that you install the NVRAMs in the correct sockets (see [B] in the diagram above).

⭐**Important**

- These NVRAMs are a set and must always be removed together and installed on a new board at the correction locations. Failure to do this will cause the machine to issue SC195-00.

- Keep NVRAMs away from any objects that can cause static electricity. Static electricity can damage NVRAM data.

- 2M-2 is inserted into the connector labeled FRAM-2.

- 2M-1 is inserted into the connector labeled FRAM-1.

- The semi-circular notch of each NVRAM should be aligned with the white semi-circular notch below it as shown above at the dotted white lines.

⚠CAUTION

- If the NVRAMs are installed incorrectly, this could cause the board and NVRAMs to short out and cause permanent damage.

3. **Reassemble the machine.**

4. **Turn on the main power of the machine**

🔸Note

- Make sure you print out the SMC reports ("SP Mode Data" and "Logging Data") before you replace the NVRAM.

⚠CAUTION

- Keep NVRAMs away from any objects that can cause static electricity. Static electricity can damage NVRAM data.

- Make sure the NVRAM is correctly installed on the controller board.

Bridge Board

1. **Rear cover (page 91)**

2. **Controller cover (page 235 "Controller Box")**

3. **Pull out the controller unit (page 229 "HDD (Option)").**

4. **Bridge board (🔩 x 5, 🔌 x all, 🖇 x 1)**
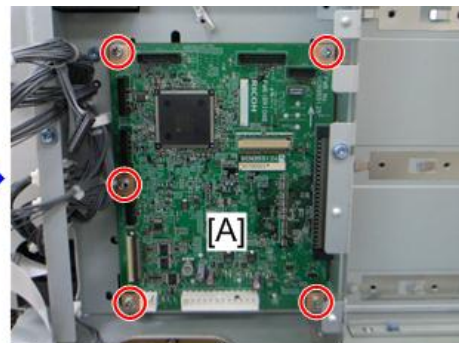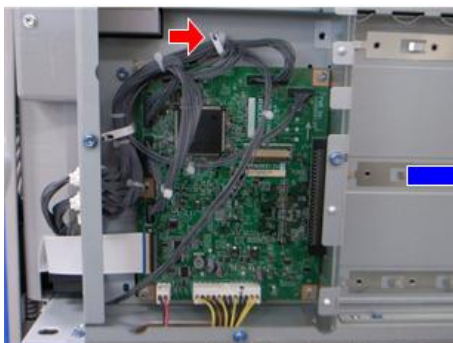
m065r613

PSU

⚠ CAUTION

- The PSU in this machine still has residual electrical charge on its parts and circuit even though the main power is turned off. Make sure that the power plug is unplugged when you maintain or service the PSU.

- Never touch the areas [A] [B] shown below with bare hands when maintaining or servicing.

m257z0024
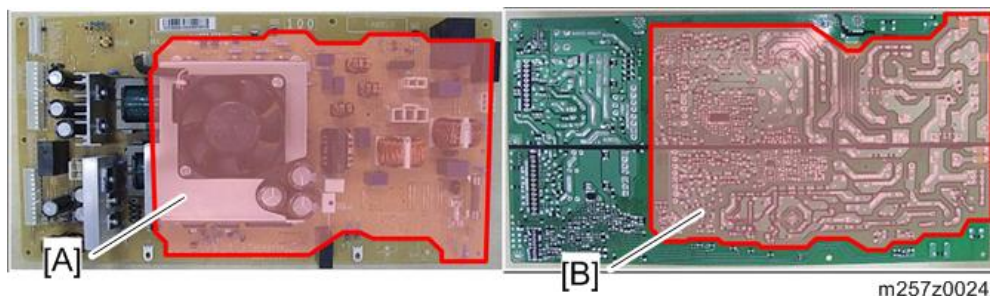
1. **Rear cover (page 91)**
2. **Choke coil [A] (EU Only) (🔩 x 2, 🔌 x 1)**

m257z0021
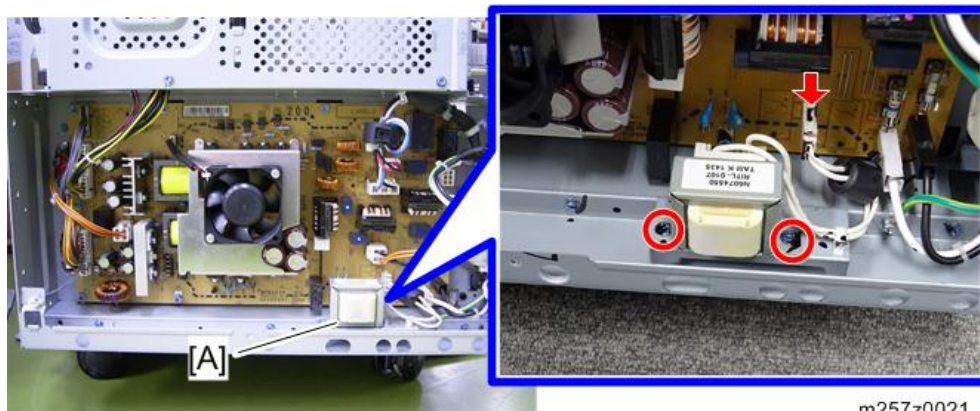
3. **Remove the ground screw.**

4. **Disconnect all the harnesses (🖳 x 1).**

m065r590

5. **PSU [A] (🔩 x 10, 🔌 x all)**

[A]
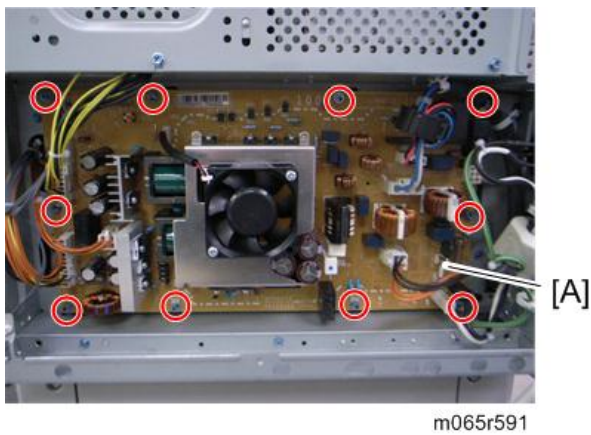
m065r591

Controller Box

1. **Rear cover (page 91)**
2. **Right cover (page 90)**

3. **Inner left rear cover (page 96)**

4. **Controller cover [A] ($\mathscr{P}$ x 6: Remove the screws indicated by the red circles as shown below, and loosen the screws indicated by the blue circles.)**
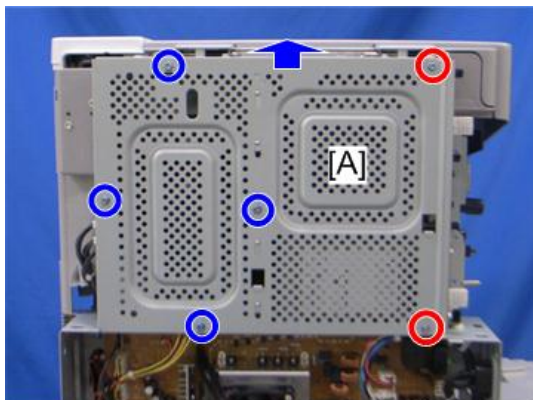
m065r596

5. **Disconnect all the harnesses as shown below.**
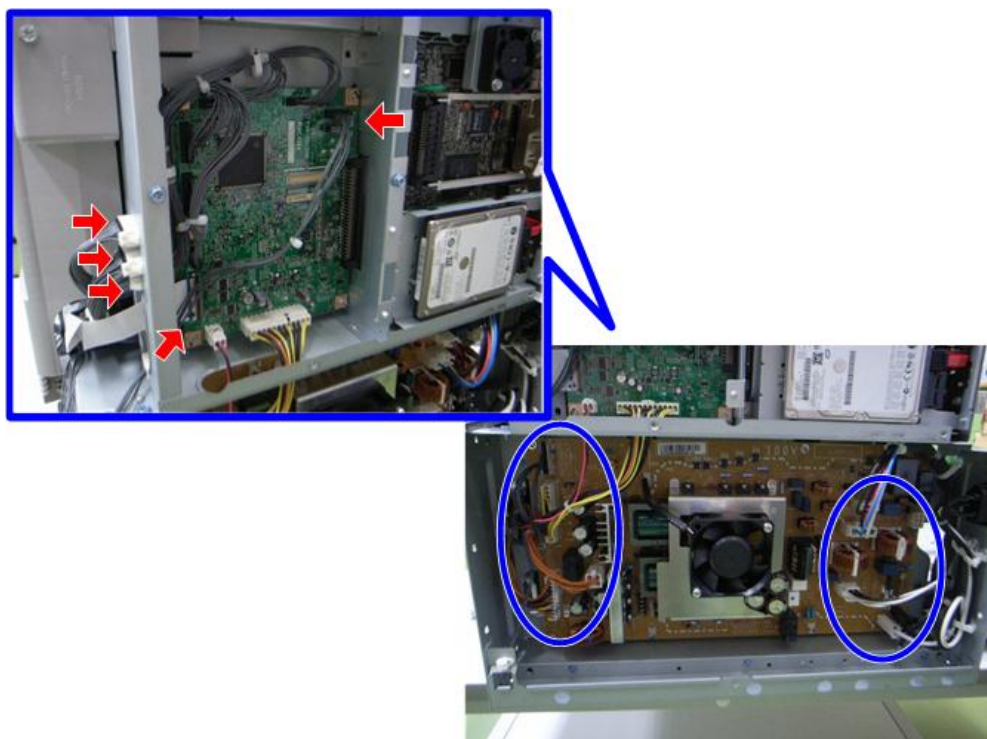
m065r708

6. **Remove the screw and disconnect the connector.**
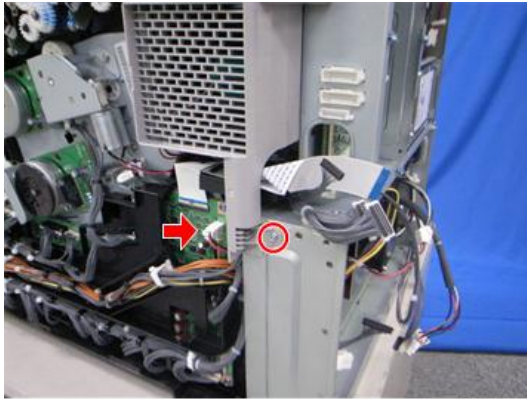
m065r597

7. **Remove the seven screws.**
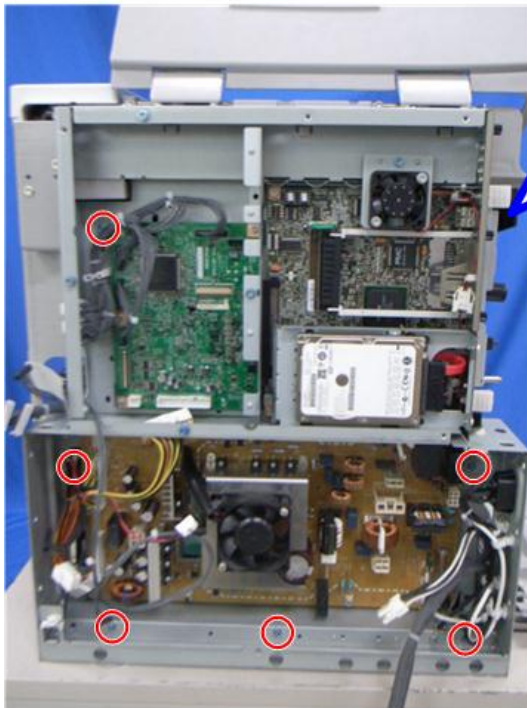
m065r598
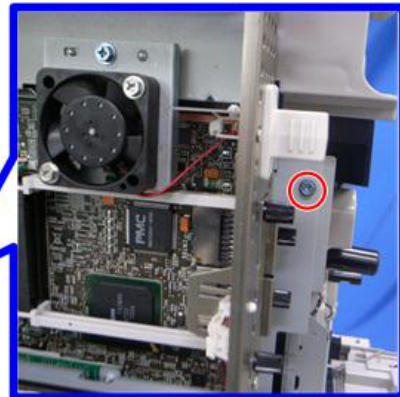
8. **Pull out the controller box [A].**
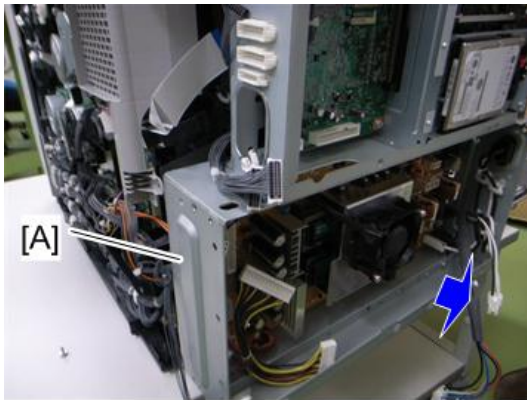
m065r709

BCU

1. **Right cover (page 90)**

2. **Disconnect all the harnesses and the clamps.**
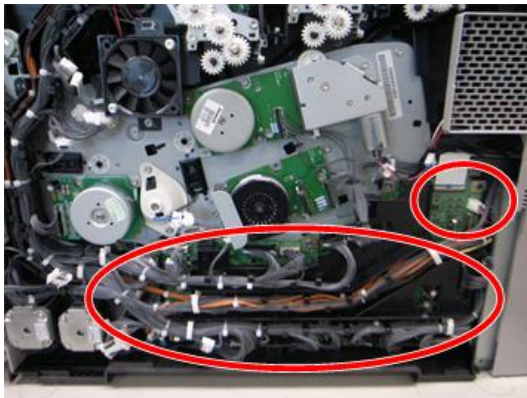
m065r579

3. **Harness guide [A] (🔩 x 1)**
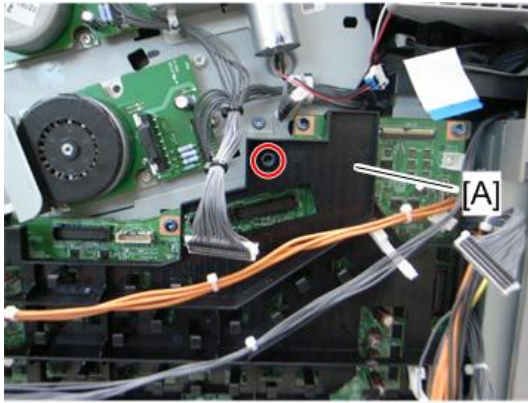
m065r580

4. **BCU [A] (🔩 x 7)**
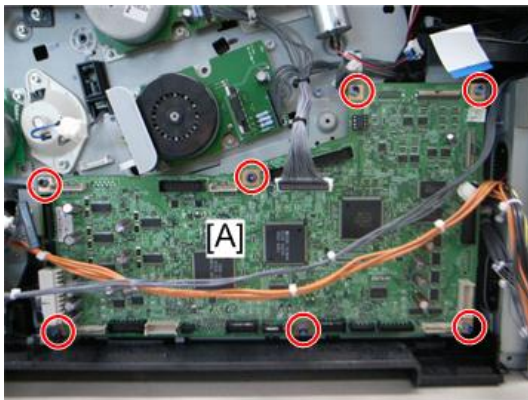
m065r581

When installing the new BCU

Note

- Make sure you print out the SMC reports ("SP Mode Data" and "Logging Data") before you replace the NVRAM.

⚠CAUTION

- Keep NVRAM away from any objects that can cause static electricity. Static electricity can damage NVRAM data.

1. **Remove the NVRAM from the old BCU.**

2. **Install the NVRAM on the new BCU after you replace the BCU.**

   ⬇**Note**

   • Make sure the NVRAM is correctly installed on the BCU. Insert the NVRAM in the NVRAM slot with the "half-moon" pointing [A] to the downward side.

m065r582
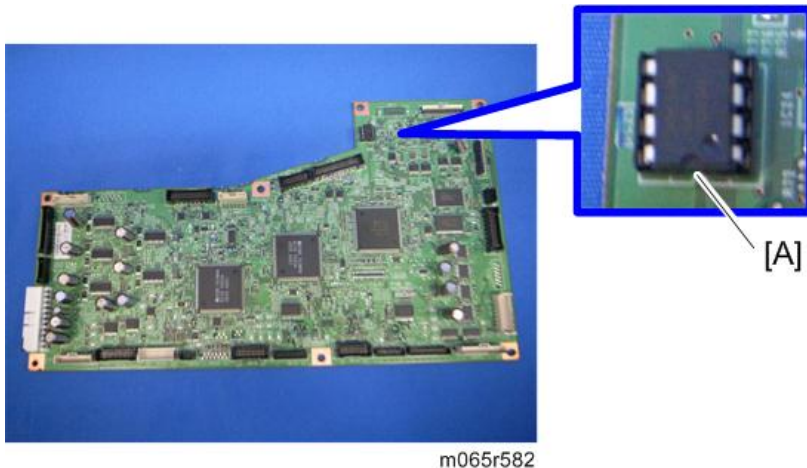
3. **Reassemble the machine.**

4. **Turn on the main power of the machine.**

5. **"SC995-01" occurs.**

6. **Enter the serial number with SP5811-004.**

7. **Turn the main power of the machine off and on.**

Removing the BCU with bracket

1. **Right cover (page 90)**

2. **Drive unit fan base (page 162 "Drive Unit Fan")**

3. Harness cover [A] (⬚ x 1, hooks)
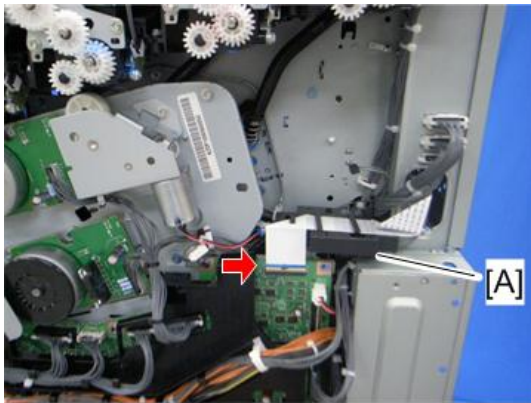
m065r583

4. BCU with bracket [A] (🔩 x 3, ⬚ x all, 🔌 x all)
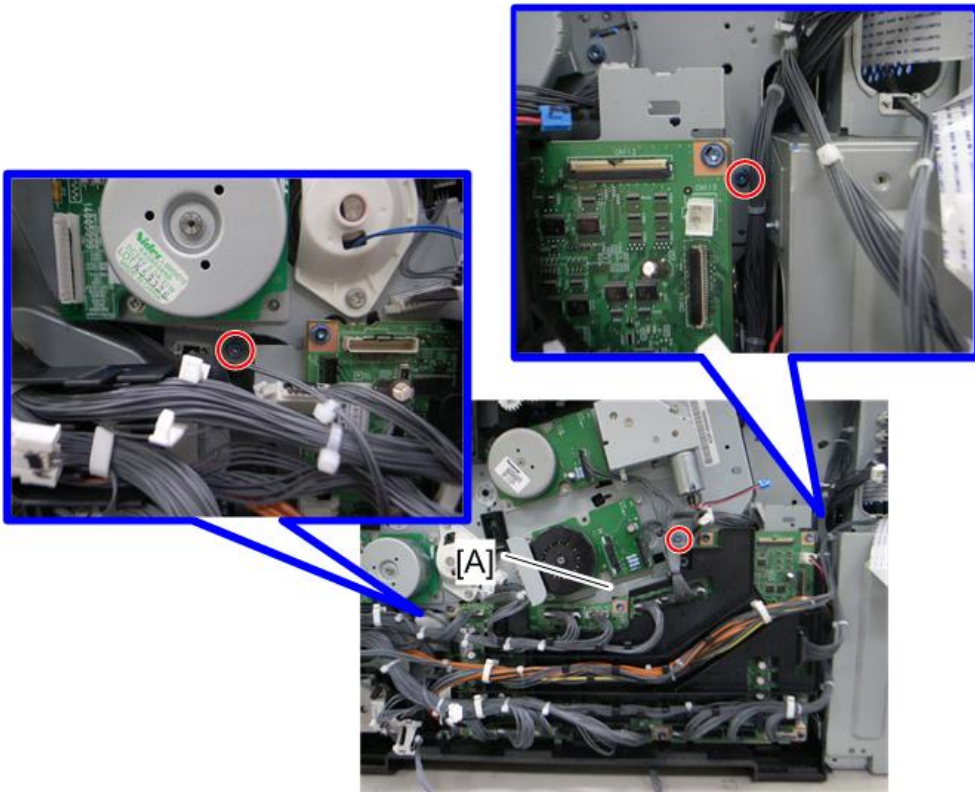
m065r584

HVPS: T1T2 Board

1. Right cover (**page 90**)

2. **BCU with bracket (page 240)**

3. **HVPS: T1T2 board (🔩 x 6, 🔌 x all)**
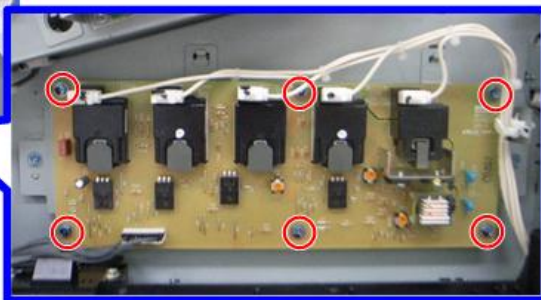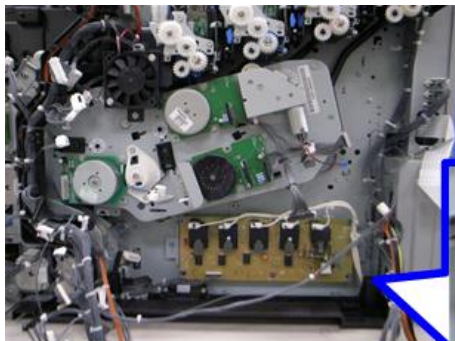
m065r609

HVPS: CB Board

⚠️CAUTION

- If the optional tray heater is installed in the machine, the HVPS: CB bracket may be still hot. Wait until the HVPS: CB bracket cools before doing this procedure.

1. **Rear cover (page 91)**

2. **Right cover (page 90)**

3. **Controller box (page 235)**

4. **Inner left lower cover (page 96)**

5. **Disconnect the connector.**
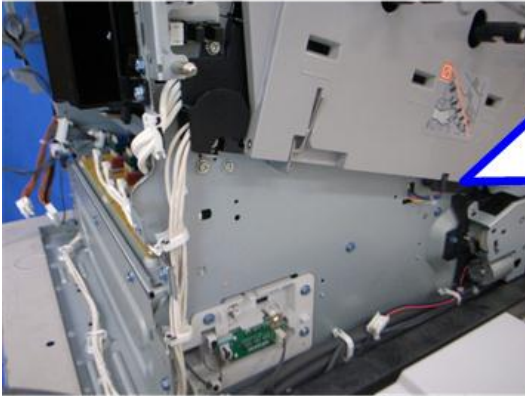
m065r592
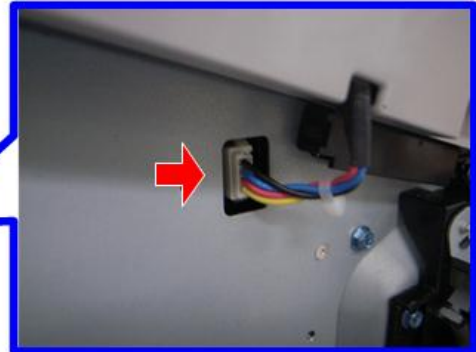
6. **Disconnect the six connectors (🖵 x 1).**
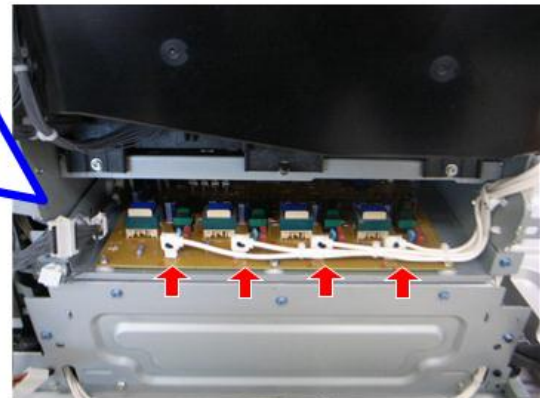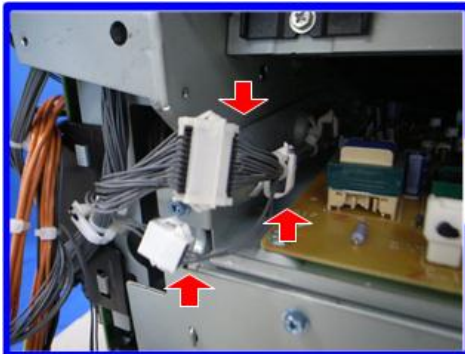
m065r593

7. **Pull out the HVPS: CB bracket [A] (🔩 x 2).**

m065r594
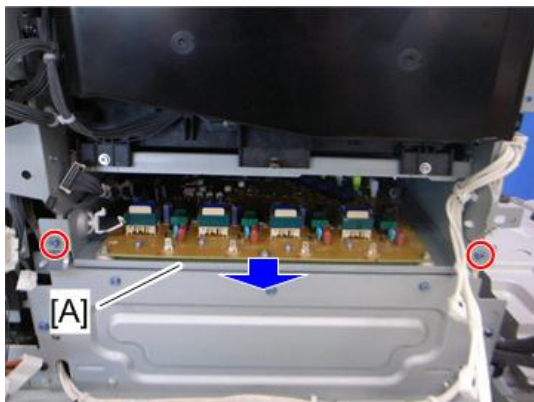
8. **HVPS: CB board [A] (🔩 x 6, 🔌 x all)**

m065r595
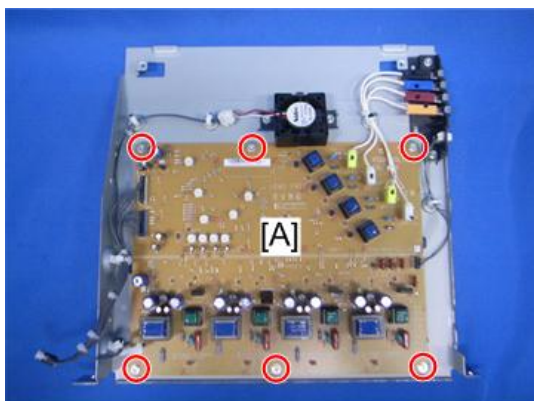
DC Switch Board

1. **Inner left lower cover (page 96)**

2. **DC switch board [A] (🔧 x 1, 🔌 x 1)**

m257z0022
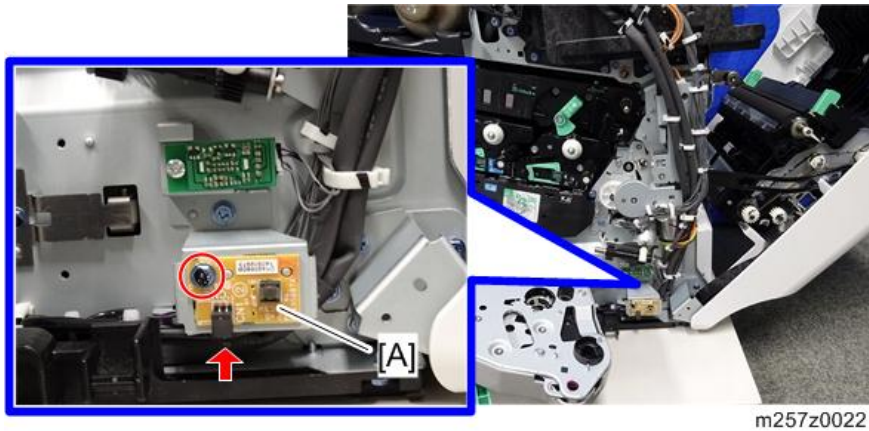
NVRAM Replacement Procedure

There are three NVRAMs. Two are on the controller board, and one is on the BCU.

⭐**Important**

- Always touch a metal surface before handling an NVRAM. Static electricity from your hands can damage an NVRAM.

NVRAM on the BCU

1. Make sure that you have the SMC report (factory settings). This report comes with the machine.
2. Output the SMC data (SP5-990-001) if possible.
3. Turn the main switch off.
4. Install an SD card into SD card slot 2. Then turn the main power on.
5. Copy the NVRAM data to an SD card (SP5-824-001) if possible.
6. Turn off the main switch. Then unplug the power cord.
7. Replace the NVRAM on the BCU and reassemble the machine.
8. Plug in the power cord. Then turn the main switch on.
9. SC195 occurs.
10. Specify the serial number and destination code of the machine.

    ⬇**Note**

    - Contact your supervisor for details on how to enter the serial number and destination code.

11. Turn the main switch off and on.

12. Copy the data from the SD card to the NVRAM (SP5-825-001) if you have successfully copied them to the SD card.

13. Turn the main switch off. Then remove the SD card from SD card slot 2.

14. Turn the main switch on.

15. Specify the SP and UP mode settings.

16. Do the process control self-check.

NVRAM on the Controller

After Replacement of a Defective NVRAM

1. You need the factory settings sheet provided with the machine.

2. Turn the power on, enter the SP mode, and then do the factory settings.

3. Re-install security settings as required.

NVRAM Upload and Download

1. Make sure that you have the SMC report (factory settings). This report comes with the machine.

2. Output the SMC data (SP5-990-001) if possible.

3. Turn the main switch off. Then unplug the power cord.

4. Turn the main switch on.

5. Copy the NVRAM data (SP5-824-001) and the address book data in the HDD (SP5846-051) to an SD card if possible.

   🔽Note

   • An error message appears if local user information cannot be stored in an SD card because the capacity is not enough.

   • You cannot do this procedure if the SD card is write-protected.

6. Enter SP mode. Then print out the SMC reports (SP5-990-001) if possible.

7. Turn off the main switch. Then unplug the power cord.

8. Replace the NVRAM on the controller. Then reassemble the machine.

9. Plug in the power cord. Then turn the main switch on.

10. Check if the serial number appears on the operation panel (SP5-811-002). Input the serial number if it does not appear. (Contact your supervisor about this setting.)

11. **Copy the data from the SD card to the NVRAM (SP5-825-001) and HDD (SP5-846-52) if you have successfully copied them to the SD card.**

    ⬇Note

    - The counter data in the user code information clears even if step 12 is done correctly.

    - An error message appears if the download is incomplete. However, you can still use the part of the address book data that has already been downloaded in step 11.

    - An error message appears when the download data does not exist in the SD card, or, if it is already deleted.

    - You cannot do this procedure if the SD card is write-protected.

12. **Go out of SP mode. Then turn the main switch off. Then remove the SD card from SD card slot 2.**

13. **Turn the main switch on.**

Adjustments

Gamma Adjustment

🡇Note

- Clean and/or replace related parts first to solve color quality problems. Do these procedures if adjustments are necessary.

Summary

To adjust the printer gamma:

- Select the print mode you want to calibrate

- Print a color calibration test sheet

- Make the gradation scales on the printout smooth from the lowest to the highest density. Adjust the CMY gradation scale at the top of the chart by balancing the density of the C, M, and Y gradation scales - the CMY gray scale should change smoothly from minimum to maximum. There should be no coloration.

Examine this color adjustment sheet:

You can adjust 15 points for each color: (example [A]) between 0 (lowest density) [B] and 255 (highest density) [C]. For each point, you can adjust the density within 0 and 255.

m065r913
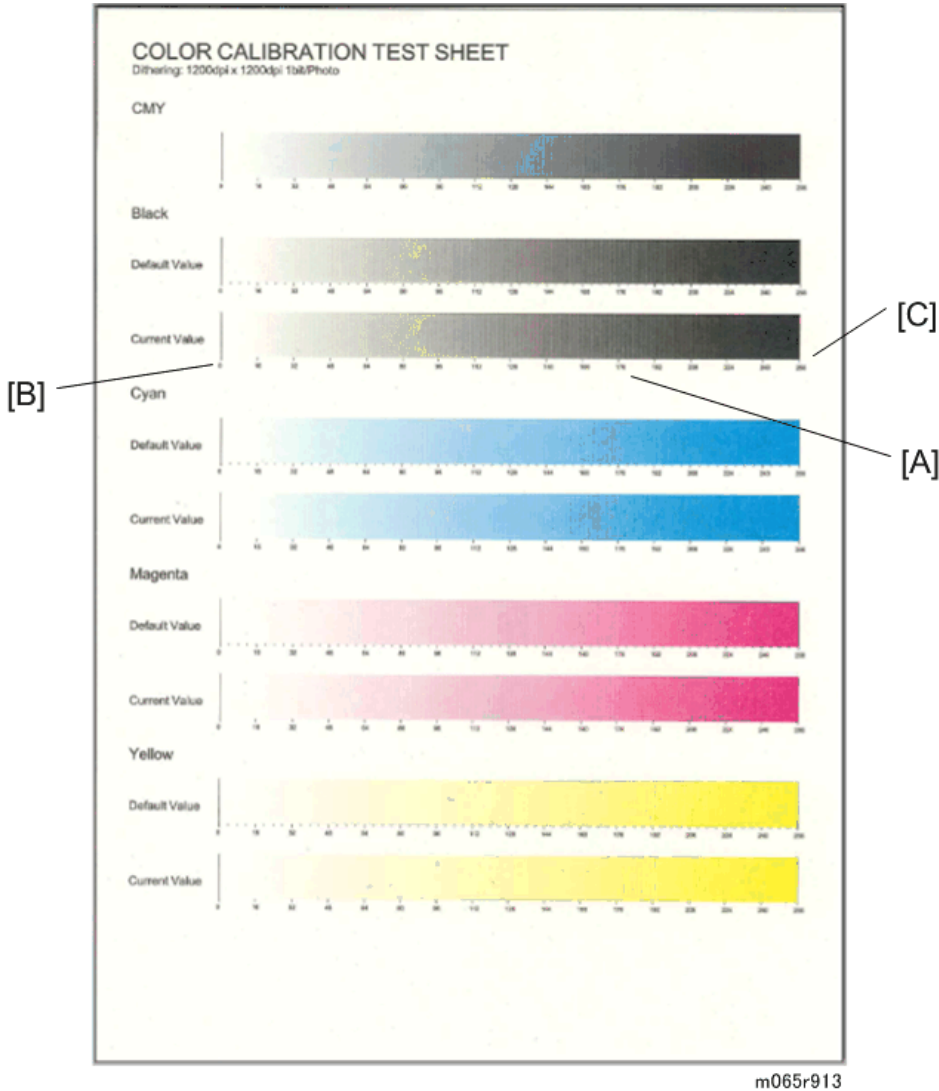
The gradation scales marked "Default" are printed according to the default gamma settings in the flash ROM in the controller. The gamma adjustment changes the densities at the adjustable points in the gradation scale. The gradation scale marked "Current" shows the current settings.

Compare the "Current" gradation scale with the "Default" at the time you do the adjustment procedure. Select the density for each of the 15 adjustable points, excluding points 0 and 255, from the "Default" gradation scale.

The **NVRAM** holds three sets of controller gamma settings:

- Those saved this time: Controller SP1-101-001 ToneCtlSet - Tone (Current)

- Those saved in the previous adjustment: Controller SP1-101-002 ToneCtlSet - Tone (Prev)

- The factory settings: Controller SP1-101-003 ToneCtlSet - Tone (Factory).

Adjustment Procedure

1. Enter the controller service mode.

2. Use the down arrow key to select Controller SP 1102 "ToneCtlSet". Then press the Enter key.

3. Use the up/down key to select the mode you want to calibrate. Then press the Escape key until you get back to the controller service mode menu.

4. Use the down arrow key to select Controller SP 1103 "PrnColorSheet". Then press the Enter key.

5. Use the up/down key to select Controller SP 1103 001 "ToneCtlSheet" (normally this is displayed by default). Then press the Enter key.

6. When "Execute?" shows, press the Enter key to print out the "color calibration test sheet".

7. Press the Escape key 2 times to exit from the menu when "Execute OK" shows. (You return to Controller SP 1103 "PrnColorSheet" in the controller service menu.)

8. Use the down arrow key to select Controller SP 1104 "ToneCtlValue". Then press the enter key.

9. Use the up/down arrow key to select the setting you want to adjust. Then press the enter key. The three digits in the display (example "016") indicate a position on the color calibration test sheet.

Operation Panel Display	Color Calibration Test Sheet
Set Black 1	Default Value 16
Set Black 2	Default Value 32
Set Black 3	Default Value 48
:	:
:	:
Set Black 13	Default Value 208
Set Black 14	Default Value 224
Set Black 15	Default Value 240
Set Cyan 1 to 15	See Set Black 1 to 15
Set Magenta 1 to 15	See Set Black 1 to 15
Set Yellow 1 to 15	See Set Black 1 to 15

Adjust the color density at each of the 15 points for each of the four colors.

Note

- Do these to decide what density value to input:
- Look at the color adjustment sheet.
- Look at the gradation scale entitled "Default" for the color you want to adjust.
- Go along the scale until you reach the density you want to input.
- Read off the value on the scale and store it in the machine:
- Use the up/down key to move the cursor along the three-digit display. Then press the Enter key.
- Use the up/down key to change the digit at the cursor. Then press the Enter key.
- Press the Escape key to exit from the menu.
- Do the same for all 15 points.

10. **When the density setting is complete for all colors, print out a color adjustment sheet again and make sure that the gradation scale for each printed color is smooth and that the CMY gradation scale is gray. Do the adjustment again if there is an anomaly (normally, repeat this procedure 3 to 5 times).**

11. **Do these when the adjustment results are satisfactory:**

- Use Controller SP 1105 "ToneCtlSave" in the controller service menu, to store the new settings in the controller.
- Reset the controller (press the [Reset] key when the machine is off line) to use the new settings.

Note

- You must reset the controller to keep the new settings in the controller NVRAM.

4

5. System Maintenance Reference

Service Program Mode

⚠️CAUTION

- Make sure that the data-in LED is not on before you go into the SP mode. This LED indicates that some data is coming to the machine. When the LED is on, wait for the printer to process the data.

Service Mode Operation

📥Note

- The Service Program Mode is for use by service representatives only so that they can properly maintain product quality. If this mode is used by anyone other than service representatives for any reason, data might be deleted or settings might be changed. In such case, product quality cannot be guaranteed any more.

Accessing the Required Program

Use the "Up/Down arrow" keys to scroll through the menu listing.

1. Service: Controller service modes
2. Engine: Engine service modes
3. End: Exit service mode

To select an item, press the "OK" key. Then the sub-menu shows.

Scroll through the sub menu items using the "◁▷" keys.

To go back to a higher level, press the "Escape" key.

Inputting a Value or Setting for a Service Program

Enter the required program mode as explained above. The setting appearing on the display is the current setting.

Select the required setting using the "◁▷" keys, then press the "OK" key. The previous value remains if the "OK" key is not pressed.

Exiting Service Mode

Select "End" from the service mode main menu, then press the "OK" key.

◆Note

- To make the settings effective, turn the main switch off and on after exiting service mode.

Remarks

Display on the Control Panel Screen

Since the maximum number of characters which can be displayed on the control panel screen is limited (12 or 17 characters), the description of SP modes displayed on the screen needs to be abbreviated. The following are the major abbreviations used for the SP modes for which the full description is over 12 or 17 characters.

1. Paper Type

N: Plain paper 1, N2 or Normal 2: Plain paper 2 (plain & recycled)

TC: Thick paper, Thick 1: Thick paper 1, Thick 2: Thick paper 2

TN: Thin paper

SP: Special paper

2. Color Mode [Color]

[K]: Black in B&W mode

[Y], [M], or [C]: Yellow, Magenta, or Cyan in Full Color mode

[YMC]: Only for Yellow, Magenta, and Cyan

[FC], [Cl]: Full Color mode

[FC, K], [FC, Y], [FC, M], or [FC, C]: Black, Yellow, Magenta, or Cyan in full color mode

3. Process Speed

LS: Low speed xx

RS: Regular speed xxx

HS: High speed xxx

As shown in the following table, the process speed (mm/s) depends on the print mode (B&W or Color), resolution, and/or type of paper selected. Some SP mode settings depend on the process speed.

Mode	Resolution (dpi)	Line speed (mm/s)	Print speed (ppm)
Plain Paper	600 x 600	260	40
	1,200 x 1,200	85	15

Mode	Resolution (dpi)	Line speed (mm/s)	Print speed (ppm)
Middle Thick	600 x 600	260	40
	1,200 x 1,200	85	15
Thick 1	600 x 600	182	28
	1,200 x 1,200	85	15
Thick 2	600 x 600	85	15
	1,200 x 1,200	85	15
Thick 3	600 x 600	85	15
	1,200 x 1,200	85	15
Thick 4	600 x 600	85	15
	1,200 x 1,200	85	15
Thin	600 x 600	260	40
	1,200 x 1,200	85	15
OHP	600 x 600	85	15

4. Count Unit

R: Rotation

S: Prints

5. Environment

LL: Low temperature and Low humidity

ML: Medium temperature and Low humidity

MM: Medium temperature and Medium humidity

MH: Medium temperature and High humidity

HH: High temperature and High humidity

7. Others

The following symbols are used in the SP mode tables.

FA: Factory setting (Data may be adjusted from the default setting at the factory.)

DFU: Design/Factory Use only - Do not touch the SP mode in the field.

"P" in the right hand side of the mode number column means that this SP mode relates to the Printer Controller. If "P" is not in the column, this SP mode relates to the Printer Engine.

A sharp (#) to the right hand side of the mode number column means that the main switch must be turned off and on to effect the setting change.

An asterisk (*) to the right hand side of the mode number column means that this mode is stored in the NVRAM (Engine and Printer Controller). If you do a RAM clear, this SP mode will be reset to the default value. "ENG", "CTL" and "NV" indicate which NVRAM contains the data.

- ENG: NVRAM on the BCU board
- CTL: NVRAM on the controller board
- NV: NVRAM on the NVRAM expansion board (user account enhancement kit)

The settings of each SP mode are explained in the right-hand column of the SP table in the following manner.

[Adjustable range / Default setting / Step] Alphanumeric

↓Note

- If "Alphanumeric" is written to the right of the bracket as shown above, the setting of the SP mode is displayed on the screen using alphanumeric characters instead of only numbers. However, the settings in the bracket in the SP mode table are explained by using only the numbers.

Bit Switch Programming

Do not change the bit switches unless you are told to do this by the manufacturer.

1. **Start the SP mode.**
2. **Select the "Service" menu with "△/▽" keys, and then push the "OK" key.**

```
[SP mode(Service)]
Service
Engine
End
```

3. **Push the "OK" key.**

```
Service(Class1)  0〜9/◀▶/OK
1.Service Mode
```

4. **Push the "OK" key.**

```
Service(Class2)  0〜9/◀▶/OK
1.001 Bit Switch
```
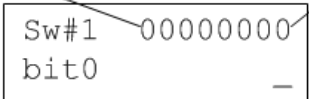
5. **To select a bit switch, push the "◁▷" keys.**

6. **Push the "OK" key.**

```
Service(Class3)  0~9/◄►/OK
1.001.001 Bit Switch 1
     (7)00000000(0) [00]
       (00000000)   [00]
```

7. **Set the value with these keys:**

- [Left] [Right]: Moves the cursor to one of the adjacent bits.

- [Up] [Down]: Changes a bit between "0" and "1".

- [Escape]: Goes out of the program without saving changes.

- [OK]: Goes out of the program and saves changes.

[A]   [B]

```
Sw#1   00000000
bit0           _
```

8. **Push the "Escape" key one or more times until the menu "SP mode (Service)" is shown.**

9. **Select "End" and push the OK key.**

Service SP Mode Tables

SP1-XXX (Service Mode)

1001	Bit Switch			
001	Bit Switch 1		0	1
	bit 0	DFU	-	-
	bit 1	**Responding with the hostname as the sysName**	0: Model name (PnP name)	1: Hostname
		This Bit Switch can change the value of the sysName. 0: (default): Model name (PnP name) 1: Host name		
	bit 2	DFU	-	-
	bit 3	**No I/O Timeout**	0: Disable	1: Enable
		Enable: The machine I/O Timeout setting will have no effect. I/O Timeouts will never occur.		
	bit 4	**SD Card Save Mode**	0: Disable	1: Enable
		Enable: Print jobs will be saved to an SD Card in the GW SD slot.		
	bit 5	**[PS and PDF] Paper size error margin**	0: ±5pt	1: ±10pt
		When a PS job is printed by using a custom paper size, the job might not be printed because of a paper size mismatch caused by a calculation error. By default, the error margin for matching to a paper size is ±5 points. By enabling this Bit Switch, the error margin for matching to a paper size can be extended to ±10 points.		
	bit 6	DFU	-	-
	bit 7	**[RPCS,PCL]: Printable area frame border**	0: Disable	1: Enable
		Prints all RPCS and PCL jobs with a border around the printable area.		

1001	Bit Switch

002	Bit Switch 2		0	1
	bit 0	**Color balance switching**	0: Disable	1: Enable
		This Bit Switch can be used to restore the color balance to match that of previous models. If this Bit Switch is set to "1" (Enabled), the color balance from 09S and earlier models will be used.		
	bit 1	DFU	-	-
	bit 2	**Applying a Collate Type**	0: Shift Collate	1: Normal Collate
		A collate type (shift or normal) will be applied to all jobs that do not explicitly define a collate type. **Note:** If BitSwitch 5-0 is enabled, this BitSwitch has no effect.		
	bit 3	**[PCL5e/c,PS]: PDL Auto Switching**	0: Enable	1: Disable
		Disable: The machine ability to change the PDL processor mid-job. Some host systems submit jobs that contain both PS and PCL5e/c. If Auto PDL switching is disabled, these jobs will not be printed properly.		
	bit 4	DFU	-	-
	bit 5	DFU	-	-
	bit 6	DFU	-	-
	bit 7	DFU	-	-

1001	**Bit Switch**

003	Bit Switch 3		0	1
bit 0	DFU		-	-
bit 1	DFU		-	-
bit 2	**[PCL5e/c]: Legacy HP compatibility**		0: Disable	1: Enable
	Enable: Uses the same left margin as older HP models such as HP4000/HP8000. In other words, the left margin defined in the job (usually "<ESC>*r0A") will be changed to "<ESC>*r1A"			
bit 3	DFU		-	-
bit 4	DFU		-	-
bit 5	DFU		-	-
bit 6	DFU		-	-
bit 7	DFU		-	-

1001	**Bit Switch**			
004	Bit Switch 4		0	1
bit 0	DFU		-	-
bit 1	DFU		-	-
bit 2	DFU		-	-
bit 3	**IPDS print-side reversal**		0: Disable	1: Enable
	If enabled, the simplex pages of IPDS jobs will be printed on the front side because of printing on the back side of the page. This might reduce printing speed.			
bit 4	DFU		-	-
bit 5	DFU		-	-
bit 6	DFU		-	-
bit 7	DFU		-	-

1001	**Bit Switch**			
005	Bit Switch 5		0	1

	bit 0	DFU	-	-
	bit 1	**Multiple copies if a paper size or type mismatch occurs**	0: Disable (Single copy)	1: Enable (Multiple copy)
		If a paper size or type mismatch occurs during the printing of multiple copies, only a single copy is output by default. Using this BitSw, the device can be configured to print all copies even if a paper mismatch occurs.		
	bit 2	**Prevent SDK applications from altering the contents of a job.**	0: Disable	1: Enable
		If this BitSw is enabled, SDK applications will not be able to alter print data. This is achieved by preventing SDK applications from accessing a module called the "GPS Filter". **Note:** The main purpose of this BitSw is for troubleshooting the effects of SDK applications on data.		
	bit 3	**[PS] PS Criteria**	0: Pattern3	1: Pattern1
		Change the number of PS criterion used by the PS interpreter to determine whether a job is PS data or not. Pattern3: includes most PS commands. Pattern1: A small number of PS tags and headers		
	bit 4	**Increase max number of the stored jobs to 1000 jobs.**	0: Disable (100)	1: Enable (1000)
		Enable: Changes the maximum number of jobs that can be stored on the HDD via Job Type settings to 1000. The default is 100.		
	bit 5	DFU	-	-
	bit 6	**Method for determining the image rotation for the edge to bind on.**	0: Disable	1: Enable
		If enabled, the image rotation will be performed as they were in the specifications of older models for the binding of pages of mixed orientation jobs. The old models are below: - PCL: Pre-04A models - PS/PDF/RPCS:Pre-05S models		

5

bit 7	Letterhead mode printing	0: Disable	1: Enable (Duplex)
	Routes all pages through the duplex unit. If this is disabled, simplex pages or the last page of an odd-paged duplex job are not routed through the duplex unit. This could result in problems with letterhead/pre-printed pages. Only affects pages specified as Letterhead paper.		

1001	Bit Switch		
006	Bit Switch 6 DFU	-	-

1001	Bit Switch		
007	Bit Switch 7 DFU	-	-

1001	Bit Switch		
008	Bit Switch 8	0	1
bit 0 to 2	DFU	-	-
bit 3	[PCL,PS]: Allow BW jobs to print without requiring User Code	0: Disable	1: Enable (allow BW jobs to print without a user code)
	BW jobs submitted without a user code will be printed even if user code authentication is enabled. **Note:** Color jobs will not be printed without a valid user code.		
bit 4	DFU	-	-
bit 5	DFU	-	-
bit 6	PCL, RPCS, PS: Forced BW print	0: Enable	1: Disable
	Switches whether to ignore PDL color command.		
bit 7	DFU	-	-

1001	Bit Switch			
009	Bit Switch 9		0	1
	bit 0	PDL Auto Detection timeout of jobs submitted via USB or Parallel Port (IEEE 1284).	0: Disable (Immediately)	1: Enable (10 seconds)
		To be used if PDL auto-detection fails. A failure of PDL auto-detection does not necessarily mean that the job cannot be printed. This bit switch tells the device whether to time-out immediately (default) upon failure or to wait 10 seconds.		
	bit 1	DFU	-	-
	bit 2	**Job Cancel**	0: Disable (Not cancelled)	1: Enable (Cancelled)
		If this bit switch is enabled, all jobs will be cancelled after a jam occurs. **Note:** If this bit switch is enabled, printing under the following conditions might result in problems: - Job submission via USB or Parallel Port - Spool printing (WIM >Configuration > Device Settings > System)		
	bit 3	DFU	-	-
	bit 4	**Timing of the PJL Status ReadBack (JOB END) when printing multiple collated copies.**	0: Disable	1: Enable
		This bitsw determines the timing of the PJL USTATUS JOB END sent when multiple collated copies are being printed. 0 (default): JOB END is sent by the device to the client after the first copy has completed printing. This causes the page counter to be incremented after the first copy and then again at the end of the job. 1: JOB END is sent by the device to the client after the last copy has finished printing. This causes the page counter to be incremented at the end of each job.		
	bit 5 to 7	DFU	-	-

1001	Bit Switch			
010	Bit Switch A DFU		-	-

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1001	Bit Switch			
011	Bit Switch B		0	1
	bit 0	DFU	-	-
	bit 1	**Print job interruption**	0: Does not allow interruption	1: Allow interruption
		0 (default): Print jobs are not interrupted. If a job is promoted to the top of the print queue, it will wait for the currently printing job to finish. 1: If a job is promoted to the top of the queue, it will interrupt the currently printing job and start printing immediately.		
	bit 2	**Switch for enabling or disabling Limitless Paper Feeding for the Bypass Tray**	0: Enable	1: Disable
		When the Bypass Tray is the target of the Auto Tray Select and Any Size/Type is configured for the Tray Setting Priority setting of the Bypass Tray, this Bit Switch can switch the behavior whether or not Limitless Paper Feeding is applied to the Bypass Tray.* The default is Enabled (=0). *Limitless Paper Feeding will try a matching tray of the next highest priority if a job specified to Auto Tray Select as the tray setting is submitted and the tray runs out of paper. Enabled (=0: Default): Limitless Paper Feeding is applied to the Bypass Tray. If a tray other than the Bypass Tray matches the job's paper size and type but has run out of paper, printing will occur from the Bypass Tray. Disabled (=1): Limitless Paper Feeding is not applied to the Bypass Tray. If a tray other than the Bypass Tray matches the job's paper size and type but has run out of paper, printing will stop and an alert will appear on the LCD screen, stating that the tray has run out of paper. This prevents unexpected use of the Bypass Tray. Limitations when this Bit Switch is set to "1": - The "Paper Tray Priority: Printer" setting must be configured to a tray other than the Bypass Tray. - Jobs that contain more than one paper size cannot be printed.		

bit 4	Add "Apply Auto Paper Select" is the condition that decides if the device's paper size or paper type should be overwritten.	0: Disable	1: Enable
	If this Bit Switch is set to "1" (enable), the "Apply Auto Paper Select" setting will decide if the paper size or paper type that is specified in the device settings should be overwritten by the job's commands when "Tray Setting Priority" is set to "Driver/Command" or "Any Type". - Apply Auto Paper Select = OFF: Overwritten (priority is given to the job's commands) - Apply Auto Paper Select = ON: Not overwritten (priority is given to the device settings)		
bit 5	DFU	-	-
bit 6	DFU	-	-
bit 7	DFU	-	-

1001	Bit Switch		
012	Bit Switch C DFU	-	-

1003	[Clear Setting]	
1003 001	Initialize System	Initializes settings in the System menu of the user mode.
1003 003	Delete Program	DFU

1004	[Print Summary]	
1004 001	Service Summary	Prints the service summary sheet (a summary of all the controller settings).

1005	[Display Version]	
1005 002	Printer Version	Displays the version of the controller firmware.

1007	[Supply Display]	
	Enables or disables the display for information on each consumable supply.	

1007 001	Development	[0 or 1 / **1** / 1 /step]
1007 002	PCU	0: OFF, 1: ON
1007 003	Transfer	
1007 004	Int. Transfer	
1007 005	Transfer Roller	
1007 006	Fuser	
1007 007	Fuser Oil	

1101	**[ToneCtlSet]**	
1101 001	Tone (Factory)	Recalls a set of gamma settings. This can be either a) the factory setting, b) the previous setting, or c) the current setting.
1101 002	Tone (Prev.)	
1101 003	Tone (Current)	

1102	**[ToneCtlSet]**
	Sets the printing mode (resolution) for the printer gamma adjustment. The asterisk (*) shows which mode is set. • 00: *1200x1200Photo (1 bit, 4 colors) • 01: 600x600Photo (4 bits, 4 colors) • 02: 600x600Photo (2 bits, 4 colors) • 03: 600x600Photo (1 bit, 4 colors) • 04: 1200x1200Text (1 bit, 4 colors) • 05: 600x600Text (4 bits, 4 colors) • 06: 600x600Text (2 bits, 4 colors) • 07: 600x600Text (1 bit, 4 colors)

1103	**[PrnColorSheet]**	
1103 001	ToneCtlSheet	Prints the test page to check the color balance before and after the gamma adjustment.
1103 002	ColorChart	

1104	[ToneCtlValue]	
	Adjusts the printer gamma for the mode selected in the Mode Selection menu.	
1104 001	Set Black 1	[0 to 255 / **16** / 1/step]
1104 021	Set Cyan 1	
1104 041	Set Magenta 1	
1104 061	Set Yellow 1	
1104 002	Set Black 2	[0 to 255 / **32** / 1/step]
1104 022	Set Cyan 2	
1104 042	Set Magenta 2	
1104 062	Set Yellow 2	
1104 003	Set Black 3	[0 to 255 / **48** / 1/step]
1104 023	Set Cyan 3	
1104 043	Set Magenta 3	
1104 063	Set Yellow 3	
1104 004	Set Black 4	[0 to 255 / **64** / 1/step]
1104 024	Set Cyan 4	
1104 044	Set Magenta 4	
1104 064	Set Yellow 4	
1104 005	Set Black 5	[0 to 255 / **80** / 1/step]
1104 025	Set Cyan 5	
1104 045	Set Magenta 5	
1104 065	Set Yellow 5	
1104 006	Set Black 6	[0 to 255 / **96** / 1/step]
1104 026	Set Cyan 6	
1104 046	Set Magenta 6	
1104 066	Set Yellow 6	

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1104 007	Set Black 7	[0 to 255 / **112** / 1/step]
1104 027	Set Cyan 7	
1104 047	Set Magenta 7	
1104 067	Set Yellow 7	
1104 008	Set Black 8	[0 to 255 / **128** / 1/step]
1104 028	Set Cyan 8	
1104 048	Set Magenta 8	
1104 068	Set Yellow 8	
1104 009	Set Black 9	[0 to 255 / **144** / 1/step]
1104 029	Set Cyan 9	
1104 049	Set Magenta 9	
1104 069	Set Yellow 9	
1104 010	Set Black 10	[0 to 255 / **160** / 1/step]
1104 030	Set Cyan 10	
1104 050	Set Magenta 10	
1104 070	Set Yellow 10	
1104 011	Set Black 11	[0 to 255 / **176** / 1/step]
1104 031	Set Cyan 11	
1104 051	Set Magenta 11	
1104 071	Set Yellow 11	
1104 012	Set Black 12	[0 to 255 / **192** / 1/step]
1104 032	Set Cyan 12	
1104 052	Set Magenta 12	
1104 072	Set Yellow 12	

1104 013	Set Black 13	[0 to 255 / **208** / 1/step]
1104 033	Set Cyan 13	
1104 053	Set Magenta 13	
1104 073	Set Yellow 13	
1104 014	Set Black 14	[0 to 255 / **224** / 1/step]
1104 034	Set Cyan 14	
1104 054	Set Magenta 14	
1104 074	Set Yellow 14	
1104 015	Set Black 15	[0 to 255 / **240** / 1/step]
1104 035	Set Cyan 15	
1104 055	Set Magenta 15	
1104 075	Set Yellow 15	

1105	[ToneCtlSave]	
	Saves the print gamma (adjusted with the Gamma Adj.) as the new Current Setting. Before the machine stores the new "current settingR", it moves the data stored as the "current setting" to the "previous setting" memory-storage location.	

1106	[Toner Limit Value]	
	Adjusts the maximum toner amount for image development.	
1106 001	TonerLimitValue	[100 to 400 / **220** / 1%/step]

1109	[Economy Color]	
	Adjusts the toner density in "Economy Color" mode.	
1109 001	Text	[0 to 999 / **0** / 1/step]
1109 002	Image	
1109 003	Line	
1109 004	Paint	

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1112	[Supply End]	
	Turns on or off the machine operation when the machine detects a supply en.	
1112 001	0:continue 1:stop	[0 or 1 / **0** / 1/step]

Engine SP Mode Tables: SP1000

SP1-XXX (Feed)

1001	**[LEdge Regist]** Leading Edge Registration Adjustment		
	(Tray Location, Paper Type, Color Mode), Paper Type -> Plain, Middle Thick, Thick 1, Thick 2 or Thick3		
	Adjusts the leading edge registration by changing the registration motor operation timing for each mode. Increasing a value: an image is moved to the trailing edge of paper. Decreasing a value: an image is moved to the leading edge of paper.		
1-001-001	Tray:Plain	*ENG	[−9 to 9 / **3.8** / 0.1 mm/step]
1-001-002	Tray:MThick	*ENG	[−9 to 9 / **-0.6** / 0.1 mm/step]
1-001-003	Tray: Thick1	*ENG	[−9 to 9 / **-1.8** / 0.1 mm/step]
1-001-004	Tray: Thick2	*ENG	[−9 to 9 / **-2.7** / 0.1 mm/step]
1-001-005	Tray: Thick3	*ENG	[−9 to 9 / **-2.4** / 0.1 mm/step]
1-001-006	Tray:Plain:1200	*ENG	[−9 to 9 / **1** / 0.1 mm/step]
1-001-007	Tray:MThick:1200	*ENG	[−9 to 9 / **-0.7** / 0.1 mm/step]
1-001-008	Tray:Thick1:1200	*ENG	[−9 to 9 / **-0.1** / 0.1 mm/step]
1-001-009	By-pass: Plain	*ENG	[−9 to 9 / **3.8** / 0.1 mm/step]
1-001-010	By-pass: MThick	*ENG	[−9 to 9 / **0.4** / 0.1 mm/step]
1-001-011	By-pass: Thick 1	*ENG	[−9 to 9 / **-1.3** / 0.1 mm/step]
1-001-012	By-pass: Thick 2	*ENG	[−9 to 9 / **-2.1** / 0.1 mm/step]
1-001-013	By-pass: Thick 3	*ENG	[−9 to 9 / **-1.9** / 0.1 mm/step]
1-001-014	Bypass:Plain:1200	*ENG	[−9 to 9 / **1** / 0.1 mm/step]
1-001-015	Bypass: MThck:1200	*ENG	[−9 to 9 / **0.1** / 0.1 mm/step]
1-001-016	Bypass: Thck1:1200	*ENG	[−9 to 9 / **0.1** / 0.1 mm/step]
1-001-017	Duplex: Plain	*ENG	[−9 to 9 / **3.9** / 0.1 mm/step]

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1-001-018	Duplex: MThick	*ENG	[−9 to 9 / **0.1** / 0.1 mm/step]
1-001-019	Duplex: Thick 1	*ENG	[−9 to 9 / **-1.6** / 0.1 mm/step]
1-001-020	Duplex: Thick 2	*ENG	[−9 to 9 / **-2.4** / 0.1 mm/step]
1-001-021	Duplex:Plain:1200	*ENG	[−9 to 9 / **0.8** / 0.1 mm/step]
1-001-022	Duplex:MThck:1200	*ENG	[−9 to 9 / **0.1** / 0.1 mm/step]
1-001-023	Duplex:Thck1:1200	*ENG	[−9 to 9 / **0.2** / 0.1 mm/step]
1-001-024	Tray Thin	*ENG	[−9 to 9 / **0** / 0.1 mm/step]
1-001-026	By-pass Thin	*ENG	[−9 to 9 / **0** / 0.1 mm/step]

1002	[S-to-S Regist]		
	Adjusts the side-to-side registration by changing the laser main scan start position for each mode and tray. Increasing a value: an image is moved to the rear edge of paper. Decreasing a value: an image is moved to the front edge of paper.		
1-002-001	By-pass Table	*ENG	[−4 to 4 / **0.0** / 0.1 mm/step]
1-002-002	Paper Tray 1	*ENG	
1-002-003	Paper Tray 2	*ENG	
1-002-004	Paper Tray 3	*ENG	
1-002-005	Paper Tray 4	*ENG	
1-002-006	Duplex	*ENG	

1003	[Paper Buckle] Paper Buckle Adjustment (Tray Location, Paper Type), Paper Type: N: Normal, MThick: Middle Thick, TH: Thick		
	Adjusts the amount of paper buckle at the registration roller by changing the paper feed timing.		
1-003-001	Tray1:Plain	*ENG	[−20 to 20 / **-1** / 1 mm/step]
1-003-002	Tray1:MThick	*ENG	[−20 to 20 / **-1** / 1 mm/step]

1-003-003	Tray1:Thick1	*ENG	[–20 to 20 / **-3** / 1 mm/step]
1-003-004	Tray234:Plain	*ENG	[–20 to 20 / **-1** / 1 mm/step]
1-003-005	Tray234:MThick	*ENG	[–20 to 20 / **-1** / 1 mm/step]
1-003-006	Tray234:Thick1	*ENG	[–20 to 20 / **-3** / 1 mm/step]
1-003-007	By-pass:Plain	*ENG	[–20 to 20 / **-3** / 1 mm/step]
1-003-008	By-pass:MThick	*ENG	[–20 to 20 / **-3** / 1 mm/step]
1-003-009	By-pass:Thick1	*ENG	[–20 to 20 / **-4** / 1 mm/step]
1-003-010	Duplex:Plain	*ENG	[–20 to 20 / **-2** / 1 mm/step]
1-003-011	Duplex:MThick	*ENG	[–20 to 20 / **-2** / 1 mm/step]
1-003-012	Duplex:Thick1	*ENG	[–20 to 20 / **-4** / 1 mm/step]
1-003-013	Tray1:Plain:1200	*ENG	[–20 to 20 / **-1** / 1 mm/step]
1-003-014	Tray1:M-Thick:1200	*ENG	[–20 to 20 / **-1** / 1 mm/step]
1-003-015	Tray1:Thick1:1200	*ENG	[–20 to 20 / **-3** / 1 mm/step]
1-003-016	Tray234:Plain:1200	*ENG	[–20 to 20 / **-1** / 1 mm/step]
1-003-017	Tray234:M-Thick:1200	*ENG	[–20 to 20 / **-1** / 1 mm/step]
1-003-018	Tray234:Thick1:1200	*ENG	[–20 to 20 / **-3** / 1 mm/step]
1-003-019	By-pass:Plain:1200	*ENG	[–20 to 20 / **-3** / 1 mm/step]
1-003-020	By-pass:M-Thick:1200	*ENG	[–20 to 20 / **-3** / 1 mm/step]
1-003-021	By-pass:Thick1:1200	*ENG	[–20 to 20 / **-4** / 1 mm/step]
1-003-022	Duplex:Plain:1200	*ENG	[–20 to 20 / **-2** / 1 mm/step]
1-003-023	Duplex:M-Thick:1200	*ENG	[–20 to 20 / **-2** / 1 mm/step]
1-003-024	Duplex:Thick1:1200	*ENG	[–20 to 20 / **-4** / 1 mm/step]

1103	**[Fusing Idling]** Fusing Idling Adjustment		
1-103-016	Ex.Idling Time(L)	*ENG	[0 to 60 / **20** / 1 sec/step] Specifies the idling time in the low temperature condition.

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1-103-017	Ex.Idling Time(H)	*ENG	[0 to 60 / **0** / 1 sec/step] Specifies the idling time in the high temperature condition.
1-103-018	Ex.Idling Time(M)	*ENG	[0 to 60 / **0** / 1 sec/step] Specifies the idling time in the middle temperature condition.
1-103-019	ExIdl Temp:PRoll	*ENG	[0 to 160 / **110** / 1 deg/step] Specifies the threshold temperature of the pressure roller for idling extention mode.

1104	[Fusing Idling BF] MT: Middle Thick, PR: Pressure Roller		
1-104-001	Envir. Thresh	*ENG	[0 to 2 / **2** / 1 /step] Selects the environmental condition. 0: LL condition 1: LL and MM condition 2: All condition
1-104-002	Idl Temp:P-Roll	*ENG	[0 to 160 / **160** / 1 deg /step]
	Specifies the threshold temperature for the pressure roller idling before a job.		
1-104-003	Idling Time:BW	*ENG	Specifies the fusing idling time for each printe mode before a job. [0 to 10 / **2** / 1 sec/step]
1-104-004	Idling Time:FC	*ENG	
1-104-005	Idl Time:MTh:BW	*ENG	
1-104-006	Idl Time:MTh:FC	*ENG	
007-009	Specifies the thereshold temperature of the paper feed before a job.		
1-104-007	P.FeedTemp:P-Roll	*ENG	[0 to 160 / **90** / 1 deg/step]
1-104-008	P.F Temp:MT:PR:BW	*ENG	[0 to 160 / **100** / 1 deg/step]
1-104-009	P.F Temp:MT:PR:FC	*ENG	[0 to 160 / **100** / 1 deg/step]

1-104-010	Upper Limit Temp	*ENG	[0 to 100 / **25** / 1 deg/step]
			Specifies the additional temperature for the upper limit of the heating roller.
1-104-011	Offset:Feed Start	*ENG	[0 to 100 / **20** / 1 deg/step]
			Specifies the subtract temperature for the lower limit of the heating roller.
1-104-012	Offset:FdStart:MT	*ENG	[0 to 100 / **10** / 1 deg/step]
			Specifies the subtract temperature of the middle thick paper for the lower limit of the heating roller.
1-104-013	Offst:FdS600Pl1BW	*ENG	[0 to 100 / **25** / 1 deg/step]
			Specifies the subtract temperature of the plain 1 paper in the 600 dpi BW printing mode for the lower limit of the heating roller.
1-104-014	Offst:FdS600Pl2BW	*ENG	[0 to 100 / **25** / 1 deg/step]
			Specifies the subtract temperature of the plain 2 paper in the 600 dpi BW printing mode for the lower limit of the heating roller.
1-104-030	FdStrt Time	*ENG	[15 to 500 / **60** / 1 sec/step]
			Specifies the waiting time for the paper feeding.
1-104-031	Offst:FdStrt:1200	*ENG	[0 to 100 / 1**5** / 1 deg/step]
			Specifies the additional temperature in the 1200 dpi printing mode for the upper limit of the heating roller.
1-104-033	Offst:FdStrt:Glsy	*ENG	[0 to 100 / **15** / 1 deg/step]
			Specifies the additional temperature in the glossy printing mode for the upper limit of the heating roller.

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1105	**[Fusing Temp.]** Fusing Temperature Adjustment		
	(Printing Mode, Roller Type, [Color], Simplex/Duplex) Roller Type –> Center and Ends: Heating roller, P-Roller or PR –> Pressure roller Paper Type -> Plain, Thin, Thick, OHP, Middle Thick, Special Printing Mode -> S: Simplex, D: Duplex		
1-105-001	Fusing Ready Temp	*ENG	[100 to 180 / **160** / 1 deg/step]
	Specifies the heating roller target temperature for the ready condition.		
1-105-002	Fusing Ready: Offset	*ENG	[5 to 30 / **11** / 1 deg/step] Specifies the subtracted temperature of the heating roller for the fusing reload start.
1-105-003	PR:RdyTrgt Temp.	*ENG	[50 to 160 / **120** / 1 deg/step]
	Specifies the pressure roller target temperature for the ready condition.		
1-105-007	P-Roll Ready Temp	*ENG	[0 to 150 / **20** / 1 deg/step]
	Specifies the subtracted temperature of the pressure roller for the fusing reload start.		
1-105-010	Stand-By: Center	* ENG	[50 to 180 / **160** / 1 deg/step] Specifies the target center temperature of the heating roller (center) for the stand-by mode.
1-105-011	Stand-By: Ends	* ENG	[50 to 180 / **160** / 1 deg/step] Specifies the target temperature of the heating roller (ends) for the stand-by mode.
1-105-012	Stand-By:P-Roller	* ENG	[50 to 160 / **140** / 1 deg/step]
	Specifies the target temperature of the pressure roller for the stand-by mode.		
1-105-013	Panel Off: Center	* ENG	[50 to 180 / **140** / 1 deg /step]
	Specifies the heating roller temperature (center) in the panel off mode.		
1-105-014	Panel Off: Ends	* ENG	[50 to 180 / **140** / 1 deg /step]
	Specifies the heating roller temperature (both ends) in the panel off mode.		

1-105-015	Panel Off: P-Roller	*ENG	[50 to 160 / **120** / 1 deg /step]
	Specifies the presure roller temperature in the panel off mode.		
1-105-016	Low Power: Center	*ENG	Specifies the heating roller temperature (center or ends) in the low power mode.
1-105-017	Low Power: Ends	*ENG	[30 to 180 / **40** / 1 deg /step]
1-105-018	Low Power: P-Roller	*ENG	[30 to 160 / **110** / 1 deg /step]
	Specifies the pressure roller temperature in the low power mode.		
1-105-019	Off Mode: Center	*ENG	Specifies the heating roller temperature (center or ends) in the sleep mode.
1-105-020	Off Mode: Ends	*ENG	[0 to 180 / **0** / 1 deg /step]
1-105-021	Off Mode:P-Roller	*ENG	[0 to 170 / **0** / 1 deg /step]
	Specifies the pressure roller temperature in the sleep mode.		
030 to 239	The target fusing temperature for each paper type and mode can be adjusted by the following SPs.		
1-105-030	Plain:FC:S:Center	*ENG	[100 to 180 / **155** / 1 deg /step]
1-105-031	Plain1:FC:S:Ends	*ENG	
1-105-032	Plain:FC:D:Center	*ENG	
1-105-033	Plain1:FC:D:Ends	*ENG	
1-105-034	Plain:BW:S:Center	*ENG	
1-105-035	Plain1:BW:S:Ends	*ENG	
1-105-036	Plain:BW:D:Center	*ENG	
1-105-037	Plain1:BW:D:Ends	*ENG	

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1-105-038	Thin:FC:S:Center	*ENG	[100 to 180 / **145** / 1 deg /step]
1-105-039	Thin:FC:S:Ends	*ENG	
1-105-040	Thin:FC:D:Center	*ENG	
1-105-041	Thin:FC:D:Ends	*ENG	
1-105-042	Thin:BW:S:Center	*ENG	
1-105-043	Thin:BW:S:Ends	*ENG	
1-105-044	Thin:BW:D:Center	*ENG	
1-105-045	Thin:BW:D:Ends	*ENG	
1-105-046	Thick1:FC:S:Cntr	*ENG	[100 to 180 / **165** / 1 deg /step]
1-105-047	Thick 1:FC:S:Ends	*ENG	
1-105-048	Thick1:FC:D:Cntr	*ENG	
1-105-049	Thick 1:FC:D:Ends	*ENG	
1-105-050	Thick1:BW:S:Cntr	*ENG	
1-105-051	Thick 1:BW:S:Ends	*ENG	
1-105-052	Thick1:BW:D:Cntr	*ENG	
1-105-053	Thick 1:BW:D:Ends	*ENG	
1-105-054	Thick2:FC:S:Cntr	*ENG	[100 to 180 / **140** / 1 deg /step]
1-105-055	Thick2:BW:S:Cntr	*ENG	
1-105-056	OHP:FC	*ENG	[100 to 180 / **160** / 1 deg /step]
1-105-057	OHP:BW	*ENG	[100 to 180 / **160** / 1 deg /step]

1-105-058	SP 1:FC:S:Center	*ENG	[100 to 180 / **170** / 1 deg/step]
1-105-059	SP 1:FC:S:Ends	*ENG	
1-105-060	SP 1:FC:D:Center	*ENG	
1-105-061	SP 1:FC:D:Ends	*ENG	
1-105-062	SP 1:BW:S:Center	*ENG	
1-105-063	SP 1:BW:S:Ends	*ENG	
1-105-064	SP 1:BW:D:Center	*ENG	
1-105-065	SP 1:BW:D:Ends	*ENG	
1-105-066	SP 2:FC:S:Center	*ENG	[100 to 200 / **165** / 1 deg/step]
1-105-067	SP 2:FC:S:Ends	*ENG	
1-105-068	SP 2:FC:D:Center	*ENG	
1-105-069	SP 2:FC:D:Ends	*ENG	
1-105-070	SP 2:BW:S:Center	*ENG	
1-105-071	SP 2:BW:S:Ends	*ENG	
1-105-072	SP 2:BW:D:Center	*ENG	
1-105-073	SP 2:BW:D:Ends	*ENG	
1-105-074	SP 3:FC:S:Center	*ENG	[100 to 200 / **150** / 1 deg/step]
1-105-075	SP 3:FC:S:Ends	*ENG	
1-105-076	SP 3:FC:D:Center	*ENG	
1-105-077	SP 3:FC:D:Ends	*ENG	
1-105-078	SP 3:BW:S:Center	*ENG	
1-105-079	SP 3:BW:S:Ends	*ENG	
1-105-080	SP 3:BW:D:Center	*ENG	
1-105-081	SP 3:BW:D:Ends	*ENG	

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1-105-082	TargetTemp AF Rdy	*ENG	[100 to 180 / **160** / 1 deg/step]
	Specifies the target temperature for the maintain mode after the machine has reached the target temperature in warm-up mode.		
1-105-083	Rcvry Target Temp	*ENG	[100 to 180 / **160** / 1 deg /step]
	Specifies the target temperature for the print mode without printing job after the machine's recovery.		
1-105-087	Thick 2:FC:S:Ends	*ENG	[100 to 180 / **140** / 1 deg/step]
1-105-088	Thick 2:BW:S:Ends	*ENG	
1-105-089	Thick3:FC:S:Cntr	*ENG	[100 to 180 / **160** / 1 deg/step]
1-105-090	Thick 3:FC:S:Ends	*ENG	
1-105-091	Thick3:BW:S:Cntr	*ENG	
1-105-092	Thick 3:BW:S:Ends	*ENG	
1-105-109	MThick:FC:S:Cntr	*ENG	[100 to 180 / **175** / 1 deg/step]
1-105-110	MThick:FC:D:Cntr	*ENG	
1-105-111	MThick:BW:S:Cntr	*ENG	
1-105-112	MThick:BW:D:Cntr	*ENG	
1-105-113	M-Thick:FC:S:Ends	*ENG	
1-105-114	M-Thick:FC:D:Ends	*ENG	
1-105-115	M-Thick:BW:S:Ends	*ENG	
1-105-116	M-Thick:BW:D:Ends	*ENG	

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1-105-120	Plain2:FC:S:Cntr	*ENG	[100 to 180 / **160** / 1 deg/step]
1-105-121	Plain2:FC:S:Ends	*ENG	
1-105-122	Plain2:FC:D:Cntr	*ENG	
1-105-123	Plain2:FC:D:Ends	*ENG	
1-105-124	Plain2:BW:S:Cntr	*ENG	
1-105-125	Plain2:BW:S:Ends	*ENG	
1-105-126	Plain2:BW:D:Cntr	*ENG	
1-105-127	Plain2:BW:D:Ends	*ENG	
1-105-128	F:Pln1:FC:S:Cntr	*ENG	[100 to 180 / **125** / 1 deg/step]
1-105-129	F:Pln1:FC:S:Ends	*ENG	
1-105-130	F:Pln1:BW:S:Cntr	*ENG	
1-105-131	F:Pln1:BW:S:Ends	*ENG	
1-105-132	F:Pln2:FC:S:Cntr	*ENG	[100 to 180 / **130** / 1 deg /step]
1-105-133	F:Pln2:FC:S:Ends	*ENG	
1-105-134	F:Pln2:BW:S:Cntr	*ENG	
1-105-135	F:Pln2:BW:S:Ends	*ENG	
1-105-136	F:MTh:FC:S:Cntr	*ENG	
1-105-137	F:MTh:FC:S:Ends	*ENG	
1-105-138	F:MTh:BW:S:Cntr	*ENG	
1-105-139	F:MTh:BW:S:Ends	*ENG	
1-105-142	Glssy:Plain1:Cntr	*ENG	
1-105-143	Glssy:Plain1:Ends	*ENG	

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1-105-144	Glssy:Plain2:Cntr	*ENG	[100 to 180 / **135** / 1 deg/step]
1-105-145	Glssy:Plain2:Ends	*ENG	
1-105-146	Glssy:MThick:Cntr	*ENG	
1-105-147	Glssy:MThick:Ends	*ENG	
1-105-160	F:Thk1:FC:S:Cntr	*ENG	
1-105-161	F:Thk1:FC:S:Ends	*ENG	
1-105-162	F:Thk1:BW:S:Cntr	*ENG	
1-105-163	F:Thk1:BW:S:Ends	*ENG	
1-105-164	F:SP1:FC:S:Center	*ENG	
1-105-165	F:SP1:FC:S:Ends	*ENG	
1-105-166	F:SP1:BW:S:Center	*ENG	
1-105-167	F:SP1:BW:S:Ends	*ENG	
1-105-168	F:SP2:FC:S:Center	*ENG	[100 to 180 / **140** / 1 deg/step]
1-105-169	F:SP2:FC:S:Ends	*ENG	
1-105-170	F:SP2:BW:S:Center	*ENG	
1-105-171	F:SP2:BW:S:Ends	*ENG	
1-105-201	Plain1:S:Press	*ENG	[50 to 160 / **120** / 1 deg/step]
1-105-202	Thin:S:Press	*ENG	[50 to 160 / **115** / 1 deg/step]
1-105-203	Thick1:S:Press	*ENG	[50 to 160 / **130** / 1 deg/step]
1-105-204	Thick2:S:Press	*ENG	[50 to 160 / **115** / 1 deg/step]
1-105-205	Thick3:S:Press	*ENG	[50 to 160 / **115** / 1 deg/step]
1-105-206	OHP:S:Press	*ENG	[50 to 160 / **80** / 1 deg/step]
1-105-207	SP1:S:Press	*ENG	[50 to 160 / **120** / 1 deg/step]
1-105-208	SP2:S:Press	*ENG	[50 to 160 / **130** / 1 deg/step]
1-105-209	SP3:S:Press	*ENG	[50 to 160 / **115** / 1 deg/step]
1-105-210	M-thick:S:Press	*ENG	[50 to 160 / **130** / 1 deg/step]

1-105-211	Plain2:S:Press	*ENG	[50 to 160 / **125** / 1 deg/step]
1-105-212	F:Plain1:S:Press	*ENG	[50 to 160 / **105** / 1 deg/step]
1-105-213	F:Plain2:S:Press	*ENG	[50 to 160 / **110** / 1 deg/step]
1-105-214	F:M-thick:S:Press	*ENG	[50 to 160 / **115** / 1 deg/step]
1-105-215	Glssy:Pln1:S:Prs	*ENG	[50 to 160 / **105** / 1 deg/step]
1-105-216	Glssy:Pln2:S:Prs	*ENG	[50 to 160 / **110** / 1 deg/step]
1-105-217	Glssy:MThk:S:Prs	*ENG	[50 to 160 / **115** / 1 deg/step]
1-105-220	F:Thick1:S:Press	*ENG	[50 to 160 / **115** / 1 deg/step]
1-105-221	F:SP1:S:Press	*ENG	[50 to 160 / **105** / 1 deg/step]
1-105-222	F:SP2:S:Press	*ENG	[50 to 160 / **115** / 1 deg/step]
1-105-223	Plain1:D:Press	*ENG	[50 to 160 / **90** / 1 deg/step]
1-105-224	Thick1:D:Press	*ENG	
1-105-225	Thick2:D:Press	*ENG	
1-105-226	SP1:D:Press	*ENG	
1-105-227	SP2:D:Press	*ENG	
1-105-228	SP3:D:Press	*ENG	
1-105-229	M-thick:D:Press	*ENG	
1-105-230	Plain2:D:Press	*ENG	
1-105-231	F:Plain1:D:Press	*ENG	
1-105-232	F:Plain2:D:Press	*ENG	

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1-105-233	F:M-thick:D:Press	*ENG	[50 to 160 / **90** / 1 deg/step]
1-105-234	Glssy:Pln1:D:Prs	*ENG	
1-105-235	Glssy:Pln2:D:Prs	*ENG	
1-105-236	Glssy:MThk:D:Prs	*ENG	
1-105-237	F:Thick1:D:Press	*ENG	
1-105-238	F:SP1:D:Press	*ENG	
1-105-239	F:SP2:D:Press	*ENG	

1106	**[FusingTemp Displ]** Fusing Temperature Display (Heating or Pressure)		
	Displays the current temperature of the heating and pressure rollers.		
1-106-001	F-Roller:Center	ENG	[−20 to 250 / **0** / 1 deg/step]
1-106-002	Fusing Roller:End	ENG	[−10 to 250 / **0** / 1 deg/step]
	The heating roller has two lamps. One heats the center of the heating roller and the other heats both ends of the heating roller.		
1-106-003	P-Roller:Center	ENG	[−10 to 250 / **0** / 1 deg/step]
	The pressure roller has a one lamp.		

1108	**[Ready Temp Set]**		
	Japan use only		
1-108-007	Ready Temp Time	*ENG	[22 to 60 / **43** / 0.1 sec/step]

1109	**[Fusing Nip Chck]**		
1-109-001	Execute	ENG	[0 or 1 / **0** / 1]
			Executes the nip band measurement between fusing belt and pressure roller. If the nip band width is not 8 mm, and fusing is not good, replace the pressure roller or install a new fusing unit.

1-109-002	Pre-Idling Time	*ENG	[0 to 120 / **0** / 1 sec/step]
	Specifies the fusing rotation time before executing SP1109-001.		
1-109-003	Stop Time	* ENG	[5 to 30 / **20** / 1 sec/step]
	Specifies the time for measuring the nip.		

1112	[Env.Crrct:Fusing]		
1-112-001	Temp.:Thresh:Low	*ENG	[10 to 23 / **17** / 1 deg/step]
	Specifies the threshold temperature for low temperature condition.		
1-112-002	Temp.:Thresh:High	*ENG	[24 to 40 / **30** / 1 deg/step]
	Specifies the threshold temperature for high temperature condition.		
1-112-003	Low Temp Correct	*ENG	[0 to 15 / **5** / 1 deg/step]
	Specifies the temperature correction for the heating roller. When the low temperature condition (specified with SP1112-001) is detected, the value of this SP is added to the heating roller temperature.		
1-112-004	High Temp Correct	*ENG	[0 to 15 / **3** / 1 deg/step]
	Specifies the temperature correction for the heating roller. When the high temperature condition (specified with SP1112-002) is detected, the value of this SP is subtracted from the heating roller temperature.		
1-112-005	J-Lo Temp. Corr	*ENG	[0 to 15 / **5** / 0.1 deg/step]
	Specifies the temperature correction in the paper feeding for the heating roller.		
1-112-006	J-Hi Temp. Corr	*ENG	[0 to 15 / **3** / 0.1 deg/step]
	Specifies the temperature correction in the paper feeding for the heating roller.		

1113	[Standby Mode Set]		
1-113-001	Wait Time AF Ready	*ENG	[0 to 60 / **30** / 1 sec/step]
	Specifies the time for keeping the target temperature without any jobs after reloading (SP1105-082).		

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1-113-003	WaitTime AF Rcvry	*ENG	[0 to 60 / **10** / 1 sec/step]
	Specifies the time for keeping the target temperature without any jobs after recovery (SP1105-083).		
1-113-004	Wait Time AF Job	*ENG	[0 to 60 / **10** / 1 sec/step]
	Specifies the time for keeping the target temperature without any jobs after a last job.		
1-113-005	PR Thresh AF Rdy	*ENG	[0 to 160 / **120** / 1 deg/step]
	Specifies the threshold temperature of the pressure roller for entering the wait time mode (SP1-113-001).		
1-113-006	PR Thresh AF Job	*ENG	[0 to 160 / **100** / 1 deg/step]
	Specifies the threshold temperature of the pressure roller for entering the wait time mode (SP1-113-004).		
1-113-008	On/Off SW Timer	*ENG	[0 to 999 / **300** / 1 sec/step]
	Specifies the interval for entering the PID control from the On/Off control.		

1115	[Stand-by Idling]		
1-115-001	Interval	*ENG	[0 to 240 / **60** / 1 min/step]
	Specifies the interval between idling during stand-by mode. This idling during the stand-by mode prevents the roller deformation.		
1-115-002	Idling Time	*ENG	[0 to 60 / **2** / 0.1 sec/step]
	Specifies the length of each idling operation during stand-by mode.		
1-115-003	Idling Speed	*ENG	[0 or 1 / **0** / 1 /step] 0: Half SPD, 1: Full SPD Selects the line speed for the stand-by idling.

1116	[Fusing Temp Change] Paper Type –> MThick: Middle Thick

1-116-010	Center Temp. 1	*ENG	[-10 / 10 / **0** / 1 deg/step]
	Specifies the temperature correction for the heating roller (center) when the paper width is 226 mm or more. The start time of this SP can be adjusted with SP1116-018.		
1-116-011	Ends Temp. 1	*ENG	[-10 to 10 / **0** / 1 deg/step]
	Specifies the temperature correction for the heating roller (ends) when the paper width is 226 mm or more. The start time of this SP can be adjusted with SP1116-018.		
1-116-012	Center Temp. 2	*ENG	[-10 to 10 / **0** / 1 deg/step]
	Specifies the temperature correction for the heating roller (center) when the paper width is 226 mm or more. The start time of this SP can be adjusted with SP1116-019.		
1-116-013	Ends Temp. 2	*ENG	[-10 to 10 / **0** / 1 deg/step]
	Specifies the temperature correction for the heating roller (ends) when the paper width is 226 mm or more. The start time of this SP can be adjusted with SP1116-019.		
1-116-018	Control Time 1	*ENG	[0 to 250 / **0** / 1 sec/step]
	Specifies the start time of the temperature correction that is set with SP1116-010 and -011. The temperature correction is added when the time specified with this SP has passed after feeding the paper.		
1-116-019	Control Time 2	*ENG	[0 to 250 / **0** / 1 sec/step]
	Specifies the start time of the temperature correction that is set with SP1116-012 and -013. The temperature correction is added when the time specified with this SP has passed after feeding the paper.		
022 to 033	Specifies the temperature correction for the heating roller (center and ends) when the middle thick or other paper is used.		

1-116-022	C-Temp1:Mthick	*ENG	[-10 to 10 / **0** / 1 deg/step]
1-116-023	EndTemp1:MThick	*ENG	
1-116-024	C-Temp2:Mthick	*ENG	
1-116-025	EndTemp2:MThick	*ENG	
1-116-030	CenterTemp1:Other	*ENG	
1-116-031	EndTemp1:Other	*ENG	
1-116-032	CenterTemp2:Other	*ENG	
1-116-033	EndTemp2:Other	*ENG	

1118	[Curl Correction]		
1-118-001	Execute Pattern	*ENG	[0 to 4 / **0** / 1]
	Selects the curl correction mode.		
	0: No curl correction mode		
	1: Plain in 600 dpi mode		
	2: Plain in 1200 dpi mode		
	3: Curl coefficient correction		
	↓Note		
	• This SP is not effective for all curl situations. Use this SP if you see a sharp back curl after the machine recovered from "OFF mode" in a high temperature and humidity environment.		
1-118-002	Humidity Thresh 1	*ENG	[0 to 100 / **65** / 1 %]
	Specifies the first threshold humidity for executing the curl correction.		
1-118-003	Humidity Thresh 2	*ENG	[0 to 100 / **80** / 1 %]
	Specifies the second threshold humidity for executing the curl correction.		
-004 to -007	Specifies the additional temperature to the target temperature of the heating roller and pressure roller when the curl correction mode 1 or 3 is selected with SP1-118-001.		
1-118-004	Pattern1:MM:HRoll	*ENG	[-30 to 0 / **-3** / 1 deg]
1-118-005	Pattern1:MM:PRoll	*ENG	[0 to 60 / **0** / 1 deg]

1-118-006	Pattern1:HM:HRoll	*ENG	[-30 to 0 / **0** / 1 deg]
1-118-007	Pattern1:HM:PRoll	*ENG	[0 to 60 / **0** / 1 deg]
-008 to -011	Specifies the additional temperature to the target temperature of the heating roller and pressure roller when the curl correction mode 2 or 3 is selected with SP1-118-001.		
1-118-008	Pattern2:MM:HRoll	*ENG	[-30 to 0 / **-5** / 1 deg]
1-118-009	Pattern2:MM:PRoll	*ENG	[0 to 60 / **50** / 1 deg]
1-118-010	Pattern2:HM:HRoll	*ENG	[-30 to 0 / **-5** / 1 deg]
1-118-011	Pattern2:HM:PRoll	*ENG	[0 to 60 / **50** / 1 deg]

1120	[Multi-Print Mode]		
1-120-001	Feed Condition	*ENG	[0 to 2 / **0** / 1]
	Selects the paper feed control mode. 0: Productivity priority, 1: Fusing quality priory (paper size change: small size -> large size), 2: Fusing quality priority (print mode change: duplex -> simplex)		

1121	[Maximum Duty Sw]		
1-121-001	Ctrl Method Sw	*ENG	[0 or 1 / **1** / 1]
	Selects the power control method for the fusing unit. 0: FIX, 1: POWER		

1135	[Inrush Control]		
1-135-001	Inrush Control	*ENG	[0 or 1 / **0** / 1] 0: Off, 1: On Turns on or off the inrush control which is designed for the UPS and breaker input.

1159	[Fusing Jam Detect]

1-159-001	SC Display	*ENG	[0 or 1 / **1** / 1]
	Enables or disables the fusing consecutive jam (three times) SC detection. 0: No detection, 1: Detection		

1201	[CPM Down Setting] DFU		
1-201-001	Low: Down Temp.	*ENG	[-50 to 0 / **-10** / 1 deg/step]
1-201-002	Low: Up Temp.	*ENG	[-50 to 0 / **-7** / 1 deg/step]
1-201-003	Low: 1st CPM	*ENG	[10 to 100 / **80** / 5 %]
1-201-004	Low: 2nd CPM	*ENG	[10 to 100 / **65** / 5 %]
1-201-005	Low: 3rd CPM	*ENG	[10 to 100 / **50** / 5 %]
1-201-006	Unit Low Judge Temp.	*ENG	[0 to 100 / **65** / 1 deg/step]
1-201-007	High: 1st CPM	*ENG	[10 to 100 / **75** / 5 %]
1-201-008	High: 2nd CPM	*ENG	[10 to 100 / **50** / 5 %]
1-201-009	High: 3rd CPM	*ENG	[10 to 100 / **25** / 5 %]
1-201-010	Hi: 1-CPM DwnTemp.	*ENG	[160 to 240 / **210** / 1 deg/step]
1-201-011	Hi: 2-CPM DwnTemp.	*ENG	[160 to 240 / **215** / 1 deg/step]
1-201-012	Hi: 3-CPM DwnTemp.	*ENG	[160 to 240 / **220** / 1 deg/step]
1-201-021	Judging Interval	*ENG	[1 to 250 / **10** / 1 sec/step]

1801	[Motor Spd Adjust] FA		
	Low: 85 mm/s, High: 260 mm/s, Middle: 182 mm/s		
1-801-001	Regist:Plain: Low	*ENG	[-4 to 4 / **0.4** / 0.1%/step]
1-801-002	Regist:Plain: High	*ENG	
1-801-003	Regist:M-Thick: Low	*ENG	
1-801-004	Regist:M-Thick: High	*ENG	
1-801-005	Regist:Thick1:Low	*ENG	[-4 to 4 / **0.7** / 0.1%/step]
1-801-006	Regist:Thick1:Mid	*ENG	

1-801-008	BkOpcDevMot:260	*ENG	[-4 to 4 / **0.15** / 0.1%/step]
1-801-009	BkOpcDevMot:182	*ENG	
1-801-011	BkOpcDevMot:85	*ENG	
1-801-013	ColorOpcMot:260	*ENG	[-11 to 11 / **0** / 1 step]
1-801-014	ColorOpcMot:182	*ENG	[-15 to 15 / **0** / 1 step]
1-801-016	ColorOpcMot:85	*ENG	[-80 to 80 / **0** / 1 step]
1-801-019	FusingMot:260	*ENG	[-4 to 4 / **1.85** / 0.1%/step]
1-801-020	FusingMot:182	*ENG	
1-801-022	FusingMot:85	*ENG	[-4 to 4 / **1.55** / 0.1%/step]
1-801-029	Regist:Thick2: Low	*ENG	[-4 to 4 / **0.7** / 0.1%/step]
1-801-030	Regist:Thick3: Low	*ENG	
1-801-031	Feed:Plain: Low	*ENG	[-2 to 2 / **0.4** / 0.1%/step]
1-801-032	Feed:Plain: High	*ENG	
1-801-033	Feed:M-Thick: Low	*ENG	
1-801-034	Feed:M-Thick: High	*ENG	
1-801-035	Feed:Thick1: Low	*ENG	[-2 to 2 / **0.7** / 0.1%/step]
1-801-036	Feed:Thick1: Middle	*ENG	
1-801-037	Feed:Thick2: Low	*ENG	
1-801-038	Feed:Thick3: Low	*ENG	
1-801-039	VertTr:Plain:Low	*ENG	[-2 to 2 / **0.4** / 0.1%/step]
1-801-040	VertTr:Plain:High	*ENG	
1-801-041	VertTr:M-Thk:Low	*ENG	
1-801-042	VertTr:M-Thk:High	*ENG	

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1-801-043	VertTr:Thick1:Low	*ENG	[-2 to 2 / **0.7** / 0.1%/step]
1-801-044	VertTr:Thick1:Mid	*ENG	
1-801-045	VertTr:Thick2:Low	*ENG	
1-801-046	VertTr:Thick3:Low	*ENG	
1-801-047	By-pass:Plain: Low	*ENG	[-4 to 4 / **0** / 0.1%/step]
1-801-048	By-pass:Plain: High	*ENG	
1-801-049	By-pass:MThk: Low	*ENG	
1-801-050	By-pass:MThk: High	*ENG	
1-801-051	By-pass:Thick1: Low	*ENG	
1-801-052	By-pass:Thick1: Mid	*ENG	
1-801-053	By-pass:Thick2: Low	*ENG	
1-801-054	By-pass:Thick3: Low	*ENG	
1-801-055	Duplex:Plain: Low	*ENG	[-4 to 4 / **0.4** / 0.1%/step]
1-801-056	Duplex:Plain: High	*ENG	
1-801-057	Duplex:M-Thk: Low	*ENG	
1-801-058	Duplex:M-Thk: High	*ENG	
1-801-059	Duplex:Thick1: Low	*ENG	[-4 to 4 / **0.7** / 0.1%/step]
1-801-060	Duplex:Thick1: Mid	*ENG	
1-801-061	Duplex:Thick2: Low	*ENG	

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1-801-062	Rev CW:Plain:Low	*ENG	[-4 to 4 / **0** / 0.1%/step]
1-801-063	Rev CW:Plain:High	*ENG	
1-801-064	Rev CW:M-Thk:Low	*ENG	
1-801-065	RevCW:M-Thk:High	*ENG	
1-801-066	Rev CW:Thick1:Low	*ENG	
1-801-067	Rev CW:Thick1:Mid	*ENG	
1-801-068	Rev CW:Thick2:Low	*ENG	
1-801-069	Rev CCW:Plain:Low	*ENG	
1-801-070	Rev CCW:Plain:Hi	*ENG	
1-801-071	Rev CCW:M-Thk:Low	*ENG	
1-801-072	RevCCW:M-Thk:High	*ENG	
1-801-073	Rev CCW:Thick1:Lo	*ENG	
1-801-074	RevCCW:Thick1:Mid	*ENG	
1-801-075	Rev CCW:Thick2:Lo	*ENG	
1-801-101	Offset: 260: Color	*ENG	[-11 to 11 / **0** / 1/step]
1-801-102	Offset: 182: Color	*ENG	[-15 to 15 / **0** / 1/step]
1-801-103	Offset: 85: Color	*ENG	[-80 to 80 / **0** / 1 step]
1-801-130	OpcMotAdjCtrl	*ENG	[0 to 1 / **1** / 1/step] 0: No correction, 1: Correction Selects the fine adjustment mode for the drum motor.

1902	**[Gain Con]** Gain Control		
1-902-001	Execute	*ENG	Execute drum phase adjustment.

1-902-002	Result	*ENG	[0 to 3 / **0** / 1/step] Displays the result of drum phase adjustment. 0: Successfully done 2: Sampling failure 3: Insufficient detection number
1-902-003	Auto Execute	*ENG	[0 or 1 / **1** / 1/step] Turns the automatic drum phase adjustment on or off. 0: Off, 1: On

1907	[Feed Timing Adj.] DFU		
	Paper Type -> Pln: Plain, Thk: Thick		
	Line Speed -> Low: 85 mm/s, High: 260 mm/s, Middle: 182 mm/s		
	Parts Name -> F-: Feed, J-Gt: Junction Gate, SOL/Sol: Solenoid, CL: Clutch, STM: Stepping Motor, Tr: Tray, F-On: Feed On Timing		
1-907-001	F-Solenoid ON:Pln	*ENG	[-10 to 40 / **0** / 2.5 mm/step]
1-907-002	F-STM OFF: Plain	*ENG	[-10 to 10 / **0** / 1 mm/step]
1-907-003	F-STM ON: Plain	*ENG	
1-907-004	F-Solenoid ON:Thk	*ENG	[-10 to 40 / **0** / 2.5 mm/step]
1-907-005	F-STM OFF: Thick	*ENG	[-10 to 10 / **0** / 1 mm/step]
1-907-006	F-STM ON: Thick	*ENG	
1-907-007	F-START : Low	*ENG	
1-907-014	Bypass Sol ON:Low	*ENG	[-10 to 40 / **0** / 1 mm/step]
1-907-015	Bypass Sol ON:Mid	*ENG	
1-907-016	Bypass Sol ON:Hi	*ENG	

1-907-017	J-GtSOL1:ON:Low	*ENG	[-20 to 20 / **0** / 1 mm/step]
1-907-018	J-GtSOL1:ON:Mid	*ENG	
1-907-019	J-GtSOL1:ON:High	*ENG	
1-907-020	J-GtSOL1:OFF:Low	*ENG	
1-907-021	J-GtSOL1:OFF:Mid	*ENG	
1-907-022	J-GtSOL1:OFF:High	*ENG	
1-907-023	J-GtSOL2:ON:Low	*ENG	[-10 to 10 / **0** / 1 mm/step]
1-907-024	J-GtSOL2:ON:Mid	*ENG	
1-907-025	J-GtSOL2:ON:High	*ENG	
1-907-026	J-GtSOL2:OFF:Low	*ENG	
1-907-027	J-GtSOL2:OFF:Mid	*ENG	
1-907-028	J-GtSOL2:OFF:High	*ENG	
1-907-029	Tr234:F-SOL ON:P	*ENG	[-10 to 25 / **0** / 2.5 mm/step]
1-907-030	Tr234:F-SOL OFF:P	*ENG	[-10 to 10 / **0** / 1 mm/step]
1-907-031	Tr234:F-CL OFF:P	*ENG	
1-907-032	Tr234:F-STM ON:P	*ENG	
1-907-033	Tr234:F-SOL ON:T	*ENG	[-10 to 25 / **0** / 2.5 mm/step]
1-907-034	Tr234:F-SOL OFF:T	*ENG	[-10 to 10 / **0** / 1 mm/step]
1-907-035	Tr234:F-CL OFF:T	*ENG	
1-907-036	Tr234:F-STM ON:T	*ENG	
1-907-037	Tr234:F-ON:H-M	*ENG	[0 to 10 / **0** / 0.5 mm/step]
1-907-038	Tr234:F-On:Low	*ENG	

1950	[Fan Cool Timeset]
	Adjust the rotation time for each fan motor after a job end.

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1-950-001	Development Fan (Development Fan 1)	*ENG	[0 to 600 / **0** / 1 sec/step]
1-950-002	Development Fan2	*ENG	
1-950-003	Imaging Fan (Laser Unit Fan)	*ENG	
1-950-004	Fusing Exit Fan1 (Fusing Fan 1)	*ENG	
1-950-005	Fusing Exit Fan2 (Fusing Fan 2)	*ENG	
1-950-006	PSU Fan	*ENG	
1-950-007	P_Toner_Fan (Toner Supply Fan)	*ENG	
1-950-008	Image Form Fan (Drive Unit Fan)	*ENG	
1-950-009	P_FUSNS (Fusing Cooling Fan)	*ENG	

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Engine SP Mode Tables - SP2000

SP2-XXX (Drum)

2013	[Env. Correct:PCU] Environment Correction: PCU		
2-013-007	CurrentTemp:Displ	*ENG	Displays the current temperature. [0 to 100 / **0** / 1 deg/step]
2-013-008	RHumid:FC:Display	*ENG	Displays the current relative humidity. [0 to 100 / **0** / 1%RH/step]
2-013-009	AHumid:FC:Display	*ENG	Displays the absolute humidity. [0 to 100 / **0** / 0.01 g/m^3/step]
2-013-010	Env.Range:Bk:Dspl	*ENG	Displays the previous environmental condition, which is measured in absolute humidity. [1 to 5 / **–** / 1 /step] 1: LL, 2: ML, 3: MM, 4: MH, 5: HH
2-013-011	Prev.Temp:Bk:Dspl	*ENG	Displays the previous temperature. [0 to 100 / **0** / 1 deg/step]
2-013-012	RHumid:Bk:Display	*ENG	Displays the previous relative humidity. [0 to 100 / **0** / 1%RH/step]
2-013-013	AHumid:Bk:Display	*ENG	Displays the previous absolute humidity. [0 to 100 / **0** / 0.01 g/m^3/step]

2101	[Color Regist Adj.]		
	This value is the one of parameters for the automatic line position adjustment and is adjusted at the factory. However, you must input a value for SP2101-001 after replacing the laser unit. For details, see "Laser Unit" in the "Replacement and Adjustment" section. The value should be provided with the new laser unit.		
2-101-001	Main Dot: Bk	*ENG	[−511 to 511 / **0** / 1 dot/step]

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2102	[Mag. Adjustment] DFU Magnification Adjustment		
	Function Name -> M Mag.: Main Scan Magnification, M B-P: Main Scan Beam Pitch		
	Line Speed -> Low: 85 mm/s, Std: 260 mm/s, Mid: 182 mm/s		
	These values are the parameters for the automatic line position adjustment and are adjusted at the factory. These SPs must be input only when a new laser unit is installed.		
2-102-001	M Mag.: Std Spd K	*ENG	[0 to 408 / **204** / 1 /step]
2-102-002	M Mag.: Mid Spd K	*ENG	
2-102-003	M Mag.: Low Spd K	*ENG	
2-102-013	M B-P Dot: Bk	*ENG	[–20 to 20 / **9** / 1 dot/step]
2-102-014	M B-P Subdot: Bk	*ENG	[–15 to 15 / **-3** / 1 sub-dot/step]
2-102-015	M B-P Dot: C	*ENG	[–20 to 20 / **9** / 1 dot/step]
2-102-016	M B-P Subdot: C	*ENG	[–15 to 15 / **-3** / 1 sub-dot/step]
2-102-017	M B-P Dot: M	*ENG	[–20 to 20 / **9** / 1 dot/step]
2-102-018	M B-P Subdot: M	*ENG	[–15 to 15 / **-4** / 1 sub-dot/step]
2-102-019	M B-P Dot: Y	*ENG	[–20 to 20 / **9** / 1 dot/step]
2-102-020	M B-P Subdot: Y	*ENG	[–15 to 15 / **-4** / 1 sub-dot/step]

2103	[EraseMargin Adj.] (Area, Paper Size)		
	Adjusts the erase margin by deleting image data at the margins.		
2-103-001	Lead Edge Width	*ENG	[0 to 9.9 / **4.2** / 0.1 mm/step]
2-103-002	Trail. Edge Width	*ENG	
2-103-003	Left	*ENG	[0 to 9.9 / **2** / 0.1 mm/step]
2-103-004	Right	*ENG	

2104	[LD IntlPower Adj.] LD Initial Power Adjustment
	Adjusts the LD initial power. These SPs must be input only when a new laser unit is installed.

2-104-001	LD1: K	*ENG	[60 to 140 / **100** / 0.1 %/step]
2-104-002	LD2: K	*ENG	
2-104-003	LD1: C	*ENG	
2-104-004	LD2: C	*ENG	
2-104-005	LD1: M	*ENG	
2-104-006	LD2: M	*ENG	
2-104-007	LD1: Y	*ENG	
2-104-008	LD2: Y	*ENG	

2109	[Test Pattern]		
	Generates the test pattern.		
2-109-003	Pattern Selection	ENG	[0 to 23 / **0** / 1/step]
	0 None		12. Independent Pattern (2dot)
	1: Vertical Line (1dot)		13. Independent Pattern (4dot)
	2: Vertical Line (2dot)		14. Trimming Area
	3: Horizontal (1dot)		15: Hound's Tooth Check (Vertical)
	4: Horizontal (2dot)		16: Hound's Tooth Check (Horizontal)
	5: Grid Vertical Line		17: Band (Vertical)
	6: Grid Horizontal Line		18: Band (Horizontal)
	7: Grid pattern Small		19: Checker Flag Pattern
	8: Grid pattern Large		20: Grayscale Vertical Margin
	9: Argyle Pattern Small		21: Grayscale Horizontal Margin
	10: Argyle Pattern Large		22: Two Beam
	11. Independent Pattern (1dot)		23: Full Dot Pattern
2-109-005	Color Selection	ENG	Specifies the color for the test pattern. [1 to 4 / **1** / 1/step] 1: All colors, 2: Cyan, 3: Magenta, 4: Yellow

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2-109-006	Density: Bk	ENG	Specifies the color density for the test pattern.
2-109-007	Density: C	ENG	[0 to 15 / **15** / 1 /step]
2-109-008	Density: M	ENG	0: Lightest density
2-109-009	Density: Y	ENG	15: Darkest density

2111	[Line Pos. Ajust]		
2-111-001	Mode a	ENG	Executes the fine line position adjustment twice. If this SP is not completed (NG is displayed), do SP2111-003 first and then try this SP again.
2-111-002	Mode b	ENG	Executes the fine line position adjustment once. If this SP is not completed, do SP2111-003 first and then try this SP again.
2-111-003	Mode c	ENG	Executes the rough line position adjustment once. After doing this SP, make sure to execute SP2111-001 or -002. Otherwise, the line position adjustment is not perfectly done.
2-111-004	Mode d	ENG	Executes the rough adjustment and fine adjustment, once each.

2112	[TM/P-Sensor Test] FA		
2-112-001	Execute	ENG	This SP is used to check the ID sensors at the factory. The results of this SP are displayed in SP2140 to SP2145.

2117	[Skew Adjustment] Skew Adjustment Input
	Specifies a skew adjustment value for the skew motor M, C or Y.

2-117-001	Pulse: C	*ENG	[−100 to 100 / **0** / 1 pulse/step]
2-117-002	Pulse: M	*ENG	
2-117-003	Pulse: Y	*ENG	

2118	[Skew Adjustment] Skew Adjustment Execution		
2-118-001	Execute: C	ENG	Changes the current skew adjustment values to the values specified with SP2117.
2-118-002	Execute: M	ENG	
2-118-003	Execute: Y	ENG	

2119	[Skew Adjust Displ]		
	Displays the current skew adjustment value for each skew motor.		
2-119-001	C	*ENG	[−75 to 75 / **0** / 1 pulse/step]
2-119-002	M	*ENG	
2-119-003	Y	*ENG	

2153	[Shade: SP Clear]		
2-153-001	SP clear exe	ENG	Clears "Shading Correct Settings" (SP2152: SSP).

2180	[Line Pos. Adj. Clear] DFU		
2-180-001	Color Regist.	ENG	
2-180-002	Mag Adjust	ENG	
2-180-003	MUSIC Result	ENG	
2-180-004	Area Mag. Correct	ENG	

2193	[MUSIC Condition] DFU		
	Line Position Adjustment: Condition Setting		
2-193-001	Auto Execution	*ENG	[0 or 1 / **1** / 1] 0: OFF, 1: ON
	Enables/disables the automatic line position adjustment.		

2-193-002	Page: Job End: BW+FC	*ENG	[0 to 999 / **500** / 1 page/step]
	Adjusts the threshold of the line position adjustment for BW and color printing mode after job end.		
2-193-003	Page: Job End: FC	*ENG	[0 to 999 / **200** / 1 page/step]
	Adjusts the threshold of the line position adjustment for color printing mode after job end.		
2-193-004	Page: Interrupt: BW+FC	*ENG	[0 to 999 / **200** / 1 page/step]
	Adjusts the threshold of the line position adjustment for BW and color printing mode during job.		
2-193-005	Page: Interrupt: FC	*ENG	[0 to 999 / **200** / 1 page/step]
	Adjusts the threshold of the line position adjustment for color printing mode during jobs.		
2-193-006	Page: Standby: BW	*ENG	[0 to 999 / **100** / 1 page/step]
	Adjusts the threshold of the line position adjustment for BW printing mode in stand-by mode. The line position adjustment is done when the number of outputs in BW printing mode reaches the value specified with this SP and the condition of SP2-193-008 or SP2-193-009 is satisfied.		
2-193-007	Page: Standby: FC	*ENG	[0 to 999 / **100** / 1 page/step]
	Adjusts the threshold of the line position adjustment for BW printing mode in stand-by mode. The line position adjustment is done when the number of outputs in color printing mode reaches the value specified with this SP and the condition of SP2-193-008 or SP2-193-009 is satisfied.		
2-193-008	Temp.	*ENG	[0 to 100 / **5** / 1 deg/step]
	Adjusts the temperature change threshold for the line position adjustment (Mode b: adjustment once). The timing for line position adjustment depends on the combinations of several conditions.		
2-193-009	Time	*ENG	[1 to 1440 / **300** / 1 minute/step]
	Adjusts the time threshold for the line position adjustment (Mode b: adjustment once). The timing for line position adjustment depends on the combinations of several conditions.		

2-193-010	Magnification	*ENG	[0 to 10 / **1** / 0.1 %/step]
	Adjusts the magnification threshold for line position adjustment. If the length of the main scan is changed by this amount since the previous MUSIC, then MUSIC is done again.		
2-193-011	Temp. 2	*ENG	[0 to 100 / **10** / 1 deg/step]
	Adjusts the temperature change threshold for the line position adjustment (Mode a: adjustment twice). The timing for line position adjustment depends on the combinations of several conditions.		
2-193-012	Time 2	*ENG	[1 to 9999 / **600** / 1 minute/step]
	Adjusts the time threshold for the line position adjustment (Mode a: adjustment twice). The timing for line position adjustment depends on the combinations of several conditions.		
2-193-013	Time 3	*ENG	[1 to 1440 / **300** / 1 minute/step]
2-193-014	Pg:FCJbBef:BW+FC	*ENG	[0 to 999 / **200** / 1 page/step]
2-193-015	Pg:FCJobBef:FC	*ENG	[0 to 999 / **200** / 1 page/step]
2-193-016	Pg:PowerON:BW+FC	*ENG	[0 to 999 / **200** / 1 page/step]
	Adjusts the threshold of the line position adjustment for BW and FC printing mode at the power-on. The line position adjustment is done when the number of outputs in monochrome and color printing mode reaches the value specified with this SP and the other conditions such as the temperature change and time elapsing are satisfied.		

2194	[MUSIC Exe Result] Line Position Adjustment: Execution Result		
	Displays the execution result of the line position adjustment.		
2-194-001	Year	*ENG	[0 to 99 / **0** / 1 year/step]
2-194-002	Month	*ENG	[1 to 12 / **1** / 1 month/step]
2-194-003	Day	*ENG	[1 to 31 / **1** / 1 day/step]
2-194-004	Hour	*ENG	[0 to 23 / **0** / 1 hour/step]
2-194-005	Minute	*ENG	[0 to 59 / **0** / 1 minute/step]
2-194-006	Temperature	*ENG	[0 to 100 / **0** / 1 deg/step]

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2-194-007	Execution Result	*ENG	[0 or 1 / **0** / 1 /step]
			0: Completed successfully, 1: Failed
2-194-008	Number of Exe.	*ENG	[0 to 999999 / **0** / 1 times/step]
2-194-009	Number of Failure	*ENG	[0 to 999999 / **0** / 1 times/step]
2-194-010	Error Result: C	*ENG	[0 to 9 / **0** / 1 /step]
2-194-011	Error Result: M	*ENG	0: Not done
2-194-012	Error Result: Y	*ENG	1: Completed successfully
			2: Cannot detect patterns
			3: Fewer lines on the pattern than the target
			4: Out of the adjustment range
			5 to 9: Not used

2220	[Skew Origin Set]		
	Resets the value of the skew adjustment motor for each color.		
	These SPs must be executed when a new laser optics housing unit is installed.		
2-220-001	C:Skew Motor	ENG	[Execute]
2-220-002	M:Skew Motor	ENG	
2-220-003	Y:Skew Motor	ENG	

2241	[Temp/Humid: Disp]		
	Displays the environment temperature and humidity.		
2-241-001	Temperature	ENG	[−1280 to 1270 / **0** / 0.1 deg/step]
2-241-002	Relative Humidity	ENG	[0 to 1000 / **0** / 0.1%RH/step]
2-241-003	Absolute Humidity	ENG	[0 to 100 / **0** / 0.01 g/m^3/step]

| 2302 | [Env.Crrct:Trnsfer] DFU | |
| | Environmental Correction: Image Transfer Belt Unit | |

2-302-002	Forced Setting	*ENG	[0 to 6 / **0** / 1 /step]
	Sets the environment condition manually. 0: Automatic environment control 1: LL (Low temperature/ Low humidity) 2: ML (Middle temperature/ Low humidity) 3: MM (Middle temperature/ Middle humidity) 4: MH (Middle temperature/ High humidity) 5: HH (High temperature/ High humidity) 6: SLL (Super low temperature/ low humidity)		
2-302-003	AHumidity:Thresh 1	*ENG	[0 to 100 / **4** / 0.01 g/m^3/ step]
	Adjusts the threshold value between LL and ML.		
2-302-004	AHumidity:Thresh 2	*ENG	[0 to 100 / **8** / 0.01 g/m^3/ step]
	Adjusts the threshold value between ML and MM.		
2-302-005	AHumidity:Thresh 3	*ENG	[0 to 100 / **16** / 0.01 g/m^3/ step]
	Adjusts the threshold value between MM and MH.		
2-302-006	AHumidity:Thresh 4	*ENG	[0 to 100 / **24** / 0.01 g/m^3/ step]
	Adjusts the threshold value between MH and HH.		
2-302-007	Temp:Threshold	*ENG	[−5 to 30 / **5** / 1 deg/step]
	Adjusts the threshold temperature for SLL. If detected temperature is less than a value specified by this SP, SLL condition is determined regardless of humidity.		

2308	[PaperSize Correct] DFU		
	Adjusts the threshold value for the paper size correction.		
2-308-001	Threshold 1	*ENG	[0 to 250 / **194** / 1 mm/step] Threshold 1 ≤ paper: Paper is detected as "S1" size.

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2-308-002	Threshold 2	*ENG	[0 to 250 / **165** / 1 mm/step] Threshold 2 ≤ paper ≤ Threshold 1: Paper is detected as "S2" size.
2-308-003	Threshold 3	*ENG	[0 to 250 / **139** / 1 mm/step] Threshold 3 ≤ paper ≤ Threshold 2: Paper is detected as "S3" size.

2311	[NoImage Area:Bias] DFU		
2-311-001	Image Transfer	*ENG	Adjusts the bias of the image transfer belt between images. This value is added to the value of the image transfer belt bias. [10 to 250 / **100** / 5 %/step]
2-311-002	Paper Transfer	*ENG	Adjusts the bias of the paper transfer roller between images. [0 to 230 / **0** / 1 -µA/step]

2316	[Power ON:Bias] DFU		
2-316-001	Image Transfer	*ENG	[0 to 80 / **5** / 1 µA /step]
	Adjusts the bias of the image transfer roller at power-on or a closed cover.		

2326	[PTR CL:Bias] DFU Paper Transfer Roller Cleaning: Bias Adjustment		
2-326-001	Positive:before and after JOB	*ENG	[0 to 2100 / **1000** / 10 V /step]
	Adjusts the positive voltage of the paper transfer roller for cleaning the paper transfer roller.		
2-326-002	Negative:before and after JOB	*ENG	[10 to 995 / **100** / 10 %/step]
	Adjusts the negative current of the paper transfer roller for cleaning the paper transfer roller.		

2-326-003	Positive:after JAM	*ENG	[0 to 2100 / **2000** / 10 V/step]
	Adjusts the negative current limit of the paper transfer roller for cleaning the paper transfer roller.		
2-326-004	Negative:after JAM	*ENG	[10 to 995 / **100** / 10 %/step]

2351	[Common: BW: Bias] Parts Name -> ITr: Image Transfer Roller Line Speed -> S-Spd: 260 mm/sec, MiddleSpd: 182 mm/sec, Low Spd: 85 mm/sec		
2-351-001	ITr: S-Spd	*ENG	[0 to 80 / **26** / 1 µA]
	Adjusts the current for the image transfer belt in B/W mode for plain paper.		
2-351-002	ITr: MiddleSpd	*ENG	[0 to 80 / **17** / 1 µA]
	Adjusts the current for the image transfer belt in B/W mode for M-Thick paper.		
2-351-003	ITr: Low Spd	*ENG	[0 to 80 / **7** / 1 µA]
	Adjusts the current for the image transfer belt in B/W mode for thick 1 paper.		

2357	[Common: FC: Bias] DFU Parts Name -> ITr: Image Transfer Roller Line Speed -> S-Spd: 260 mm/sec, MiddleSpd: 182 mm/sec, Low Spd: 85 mm/sec		
2-357-001	ITr:S-Spd:Bk	*ENG	[0 to 80 / **26** / 1 µA]
	Adjusts the current for the image transfer belt for Black in full color mode for plain paper.		
2-357-002	ITr:S-Spd:C	*ENG	[0 to 80 / **22** / 1 µA]
	Adjusts the current for the image transfer belt for Magenta in full color mode for plain paper.		
2-357-003	ITr:S-Spd:M	*ENG	[0 to 80 / **22** / 1 µA]
	Adjusts the current for the image transfer belt for Cyan in full color mode for plain paper.		

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2-357-004	ITr:S-Spd:Y	*ENG	[0 to 80 / 22 / 1 μA]
	Adjusts the current for the image transfer belt for Yellow in full color mode for plain paper.		
2-357-005	ITr:MiddleSpd:Bk	*ENG	[0 to 80 / 17 / 1 μA]
	Adjusts the current for the image transfer belt for Black in full color mode for M-Thick paper.		
2-357-006	ITr:MiddleSpd:C	*ENG	[0 to 80 / 15 / 1 μA]
	Adjusts the current for the image transfer belt for Magenta in full color mode for M-Thick paper.		
2-357-007	ITr:MiddleSpd:M	*ENG	[0 to 80 / 15 / 1 μA]
	Adjusts the current for the image transfer belt for Cyan in full color mode for M-Thick paper.		
2-357-008	ITr:MiddleSpd:Y	*ENG	[0 to 80 / 15 / 1 μA]
	Adjusts the current for the image transfer belt for Yellow in full color mode for M-Thick paper.		
2-357-009	ITr: Low Spd: Bk	*ENG	[0 to 80 / 7 / 1 μA]
	Adjusts the current for the image transfer belt for Black in full color mode for thick 1 paper.		
2-357-010	ITr: Low Spd: C	*ENG	[0 to 80 / 6 / 1 μA]
	Adjusts the current for the image transfer belt for Magenta in full color mode for thick 1 paper.		
2-357-011	ITr: Low Spd: M	*ENG	[0 to 80 / 6 / 1 μA]
	Adjusts the current for the image transfer belt for Cyan in full color mode for thick 1 paper.		
2-357-012	ITr: Low Spd: Y	*ENG	[0 to 80 / 6 / 1 μA]
	Adjusts the current for the image transfer belt for Yellow in full color mode for thick 1 paper.		

2360	[ALL:BW:EnvCor.Tbl] DFU		
	All Paper Type: BW Printing Mode: Environmet Correction Table		
	Parts Name -> ITr: Image Transfer Roller		
	Line Speed -> S-Spd: 260 mm/sec, MiddleSpd: 182 mm/sec, Low Spd: 85 mm/sec		
2-360-001	ITr: S-Spd	*ENG	[1 to 100 / **30** / 1 /step]
2-360-002	ITr: MiddleSpd	*ENG	[1 to 100 / **53** / 1 /step]
2-360-003	ITr: Low Spd	*ENG	[1 to 100 / **56** / 1 /step]
2360	[ALL:FC:EnvCor.Tbl] DFU		
	All Paper Type: FC Printing Mode: Environmet Correction Table		
2-360-004	ITr:S-Spd:Bk	*ENG	[1 to 100 / **30** / 1 /step]
2-360-005	ITr:S-Spd:C	*ENG	[1 to 100 / **51** / 1 /step]
2-360-006	ITr:S-Spd:M	*ENG	[1 to 100 / **51** / 1 /step]
2-360-007	ITr:S-Spd:Y	*ENG	[1 to 100 / **52** / 1 /step]
2-360-008	ITr:MiddleSpd:Bk	*ENG	[1 to 100 / **53** / 1 /step]
2-360-009	ITr:MiddleSpd:C	*ENG	[1 to 100 / **54** / 1 /step]
2-360-010	ITr:MiddleSpd:M	*ENG	[1 to 100 / **54** / 1 /step]
2-360-011	ITr:MiddleSpd:Y	*ENG	[1 to 100 / **55** / 1 /step]
2-360-012	ITr: Low Spd: Bk	*ENG	[1 to 100 / **57** / 1 /step]
2-360-013	ITr: Low Spd: C	*ENG	[1 to 100 / **58** / 1 /step]
2-360-014	ITr: Low Spd: M	*ENG	[1 to 100 / **58** / 1 /step]
2-360-015	ITr: Low Spd: Y	*ENG	[1 to 100 / **58** / 1 /step]

2401	[Plain1: Bias]
	Adjusts the DC voltage of the discharge plate for plain 1 paper.
	S-Spd: 260 mm/sec, L-Spd: 85 mm/sec

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2-401-001	SepaDC:S-Spd:1st	*ENG	[0 to 6000 / **2000** / 10 -V/ step]
2-401-002	SepaDC:S-Spd:2nd	*ENG	
2-401-003	SepaDC:L-Spd:1st	*ENG	
2-401-004	SepaDC:L-Spd:2nd	*ENG	

2403	[Plain1: Bias: BW]		
	Adjusts the current for the paper transfer roller for plain 1 paper in black-and-white mode. Normal: 260 mm/sec, Low: 85 mm/sec		
2-403-001	PTR:Normal:1st	*ENG	[0 to 230 / **21** / 1 −µA /step]
2-403-002	PTR:Normald:2nd	*ENG	[0 to 230 / **23** / 1 −µA /step]
2-403-003	PTR:Low:1st	*ENG	[0 to 230 / **15** / 1 −µA /step]
2-403-004	PTR:Low:2nd	*ENG	

2407	[Plain1: Bias: FC]		
	Adjusts the current for the paper transfer roller for plain 1 paper in full color mode. Normal: 260 mm/sec, Low: 85 mm/sec		
2-407-001	PTR:Normal:1st	*ENG	[0 to 230 / **38** / 1 −µA /step]
2-407-002	PTR:Normal:2nd	*ENG	[0 to 230 / **40** / 1 −µA /step]
2-407-003	PTR:Low:1st	*ENG	[0 to 230 / **21** / 1 −µA /step]
2-407-004	PTR:Low:2nd	*ENG	[0 to 230 / **18** / 1 −µA /step]

2411	[PlainT:SizeCor:BW] DFU	
	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2403 and SP2407 are multiplied by these SP values. Normal: 260 mm/sec, Low: 85 mm/sec	

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2-411-001	PTR:Normal:1st:S1	*ENG	[100 to 995 / **100** / 5%/step] S1 size ≥ 194 mm (Paper width)
2-411-002	PTR:Normal:2nd:S1	*ENG	
2-411-003	PTR:Low:1st:S1	*ENG	
2-411-004	PTR:Low:2nd:S1	*ENG	
2-411-005	PTR:Normal:1st:S2	*ENG	[100 to 995 / **135** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-411-006	PTR:Normal:2nd:S2	*ENG	[100 to 995 / **200** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-411-007	PTR:Low:1st:S2	*ENG	[100 to 995 / **135** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-411-008	PTR:Low:2nd:S2	*ENG	[100 to 995 / **200** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-411-009	PTR:Normal:1st:S3	*ENG	[100 to 995 / **135** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-411-010	PTR:Normal:2nd:S3	*ENG	[100 to 995 / **390** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-411-011	PTR:Low:1st:S3	*ENG	[100 to 995 / **135** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-411-012	PTR:Low:2nd:S3	*ENG	[100 to 995 / **390** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-411-013	PTR:Normal:1st:S4	*ENG	[100 to 995 / **220** / 5%/step] 139 mm > S4 size (Paper width)

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2-411-014	PTR:Normal:2nd:S4	*ENG	[100 to 995 / **330** / 5%/step]
			139 mm > S4 size (Paper width)
2-411-015	PTR:Low:1st:S4	*ENG	[100 to 995 / **220** / 5%/step]
			139 mm > S4 size (Paper width)
2-411-016	PTR:Low:2nd:S4	*ENG	[100 to 995 / **330** / 5%/step]
			139 mm > S4 size (Paper width)

2412	[PlainT:SizeCor:FC] DFU		
	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2403 and SP2407 are multiplied by these SP values. Normal: 260 mm/sec, Low: 85 mm/sec		
2-412-001	PTR:Normal:1st:S1	*ENG	[100 to 995 / **100** / 5%/step]
2-412-002	PTR:Normal:2nd:S1	*ENG	S1 size ≥ 194 mm (Paper width)
2-412-003	PTR:Low:1st:S1	*ENG	
2-412-004	PTR:Low:2nd:S1	*ENG	
2-412-005	PTR:Normal:1st:S2	*ENG	[100 to 995 / **135** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-412-006	PTR:Normal:2nd:S2	*ENG	[100 to 995 / **200** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-412-007	PTR:Low:1st:S2	*ENG	[100 to 995 / **135** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-412-008	PTR:Low:2nd:S2	*ENG	[100 to 995 / **200** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-412-009	PTR:Normal:1st:S3	*ENG	[100 to 995 / **135** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)

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2-412-010	PTR:Normal:2nd:S3	*ENG	[100 to 995 / **325** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-412-011	PTR:Low:1st:S3	*ENG	[100 to 995 / **135** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-412-012	PTR:Low:2nd:S3	*ENG	[100 to 995 / **100** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-412-013	PTR:Normal:1st:S4	*ENG	[100 to 995 / **220** / 5%/step] 139 mm > S4 (Paper width)
2-412-014	PTR:Normal:2nd:S4	*ENG	[100 to 995 / **330** / 5%/step] 139 mm > S4 (Paper width)
2-412-015	PTR:Low:1st:S4	*ENG	[100 to 995 / **220** / 5%/step] 139 mm > S4 (Paper width)
2-412-016	PTR:Low:2nd:S4	*ENG	[100 to 995 / **330** / 5%/step] 139 mm > S4 (Paper width)

2413	[PlnT:SizEnvCor:BW] DFU		
	Adjusts the size correction coefficient table for the paper transfer roller current for each paper size. SP2403 and SP2407 are multiplied by these SP values. Normal: 260 mm/sec, Low: 85 mm/sec		
2-413-001	PTR:Normal:1st:S1	*ENG	[1 to 100 / **19** / 1/step] S1 size ≥ 194 mm (Paper width)
2-413-002	PTR:Normal:2nd:S1	*ENG	[1 to 100 / **14** / 1/step] S1 size ≥ 194 mm (Paper width)
2-413-003	PTR:Low:1st:S1	*ENG	[1 to 100 / **38** / 1/step] S1 size ≥ 194 mm (Paper width)
2-413-004	PTR:Low:2nd:S1	*ENG	[1 to 100 / **11** / 1/step] S1 size ≥ 194 mm (Paper width)

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2-413-005	PTR:Normal:1st:S2	*ENG	[1 to 100 / **19** / 1/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-413-006	PTR:Normal:2nd:S2	*ENG	[1 to 100 / **14** / 1/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-413-007	PTR:Low:1st:S2	*ENG	[1 to 100 / **38** / 1/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-413-008	PTR:Low:2nd:S2	*ENG	[1 to 100 / **11** / 1/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-413-009	PTR:Normal:1st:S3	*ENG	[1 to 100 / **19** / 1/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-413-010	PTR:Normal:2nd:S3	*ENG	[1 to 100 / **6** / 1/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-413-011	PTR:Low:1st:S3	*ENG	[1 to 100 / **38** / 1/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-413-012	PTR:Low:2nd:S3	*ENG	[1 to 100 / **3** / 1/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-413-013	PTR:Normal:1st:S4	*ENG	[1 to 100 / **19** / 1/step] 139 mm > S4 (Paper width)
2-413-014	PTR:Normal:2nd:S4	*ENG	[1 to 100 / **14** / 1/step] 139 mm > S4 (Paper width)
2-413-015	PTR:Low:1st:S4	*ENG	[1 to 100 / **38** / 1/step] 139 mm > S4 (Paper width)

2-413-016	PTR:Low:2nd:S4	*ENG	[1 to 100 / **11** / 1/step] 139 mm > S4 (Paper width)

2414	[PlnT:SizEnvCor:FC] DFU		
	Adjusts the size correction coefficient table for the paper transfer roller current for each paper size. SP2403 and SP2407 are multiplied by these SP values. Normal: 260 mm/sec, Low: 85 mm/sec		
2-414-001	PTR:Normal:1st:S1	*ENG	[1 to 100 / **22** / 1/step] S1 size ≥ 194 mm (Paper width)
2-414-002	PTR:Normal:2nd:S1	*ENG	[1 to 100 / **17** / 1/step] S1 size ≥ 194 mm (Paper width)
2-414-003	PTR:Low:1st:S1	*ENG	[1 to 100 / **35** / 1/step] S1 size ≥ 194 mm (Paper width)
2-414-004	PTR:Low:2nd:S1	*ENG	[1 to 100 / **33** / 1/step] S1 size ≥ 194 mm (Paper width)
2-414-005	PTR:Normal:1st:S2	*ENG	[1 to 100 / **11** / 1/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-414-006	PTR:Normal:2nd:S2	*ENG	[1 to 100 / **16** / 1/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-414-007	PTR:Low:1st:S2	*ENG	[1 to 100 / **35** / 1/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-414-008	PTR:Low:2nd:S2	*ENG	[1 to 100 / **33** / 1/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-414-009	PTR:Normal:1st:S3	*ENG	[1 to 100 / **11** / 1/step] 165 mm > S3 size ≥ 139 mm (Paper width)

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2-414-010	PTR:Normal:2nd:S3	*ENG	[1 to 100 / **4** / 1/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-414-011	PTR:Low:1st:S3	*ENG	[1 to 100 / **36** / 1/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-414-012	PTR:Low:2nd:S3	*ENG	[1 to 100 / **77** / 1/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-414-013	PTR:Normal:1st:S4	*ENG	[1 to 100 / **22** / 1/step] 139 mm > S4 (Paper width)
2-414-014	PTR:Normal:2nd:S4	*ENG	[1 to 100 / **79** / 1/step] 139 mm > S4 (Paper width)
2-414-015	PTR:Low:1st:S4	*ENG	[1 to 100 / **35** / 1/step] 139 mm > S4 (Paper width)
2-414-016	PTR:Low:2nd:S4	*ENG	[1 to 100 / **78** / 1/step] 139 mm > S4 (Paper width)

2421	[Plain:LE Correct] DFU
	Adjusts the correction to the paper transfer roller current or discharge plate DC at the paper leading edge in each mode. SP2403 and SP2407 are multiplied by these SP values. Normal/ Std: 260 mm/sec, Low: 85 mm/sec **↓Note** • The paper leading edge area can be adjusted with SP2422.

2-421-001	PTR:Normal:1st	*ENG	[0 to 995 / **100** / 5%/step]
2-421-002	PTR:Normal:2nd	*ENG	
2-421-003	PTR:Low:1st	*ENG	
2-421-004	PTR:Low:2nd	*ENG	
2-421-005	SepaDC:Std:1st	*ENG	
2-421-006	SepaDC:Std:2nd	*ENG	
2-421-007	SepaDC:Low:1st	*ENG	
2-421-008	SepaDC:Low:2nd	*ENG	

2422	[Plain:SW Tmng:LE] DFU		
	Adjusts the bias/ voltage switch timing of the paper transfer roller/ discharge plate at the paper leading edge between the erase margin area and the image area. Std: 260 mm/sec, Low: 85 mm/sec		
2-422-001	PTr:Std:1st	*ENG	[0 to 50 / **0** / 2 mm/step]
2-422-002	PTr:Std:2nd	*ENG	
2-422-003	PTr: Low : 1st	*ENG	
2-422-004	PTr: Low : 2nd	*ENG	
2-422-005	SepaDC:Std:1st	*ENG	
2-422-006	SepaDC:Std:2nd	*ENG	
2-422-007	SepaDC:Low:1st	*ENG	
2-422-008	SepaDC:Low:2nd	*ENG	

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2423	[Plain:TE Correct] DFU		
	Plain Paper: Trailing Edge Correction		
	Adjusts the correction coefficient to the paper transfer roller current or discharge plate DC for the paper trailing edge in each mode. SP2403 and SP2407 are multiplied by these SP values. Std: 260 mm/sec, Low: 85 mm/sec **Note** • The paper trailing edge area can be adjusted with SP2424.		
2-423-001	PTr:Std:1	*ENG	[0 to 995 / **100** / 5 %/step]
2-423-002	PTr:Std:2	*ENG	
2-423-003	PTr: Low: 1st	*ENG	
2-423-004	PTr: Low: 2nd	*ENG	
2-423-005	SepaDC:Std:1st	*ENG	
2-423-006	SepaDC:Std:2nd	*ENG	
2-423-007	SepaDC:Low:1st	*ENG	
2-423-008	SepaDC:Low:2nd	*ENG	

2424	[Plain:SW Tmng:TE] DFU
	Adjusts the bias/voltage switch timing of the paper transfer roller/discharge plate at the paper trailing edge between the erase margin area and the image area. Parts Name -> PTr: Paper Transfer Roller Function Name -> SepaDC: Separation DC Std: 260 mm/sec, Low: 85 mm/sec

2-424-001	PTr:Std:1st	*ENG	[0 to 50 / **0** / 2 mm/step]
2-424-002	PTr:Std:2nd	*ENG	
2-424-003	PTr: Low : 1st	*ENG	
2-424-004	PTr: Low : 2nd	*ENG	
2-424-005	SepaDC:Std:1st	*ENG	
2-424-006	SepaDC:Std:2nd	*ENG	
2-424-007	SepaDC:Low:1st	*ENG	
2-424-008	SepaDC:Low:2nd	*ENG	

2425	[HH-s: LE Correct]		
	HH Condition Small Size Paper: Leading Edge Correction		
	Adjusts the correction to the paper transfer roller current at the paper leading edge in each mode. SP2403 and SP2407 are multiplied by these SP values. Line Speed -> Std: 260 mm/sec, Low: 85 mm/sec		
2-425-001	PTr:Std&Low:1	*ENG	[0 to 995 / **100** / 5 %/step]
2-425-002	PTr:Std&Low:2	*ENG	

2430	[Plain1: EnvCor] DFU		
	Plain 1: Environment Correction		
2-430-013	TblSepaDC:Std:1st	*ENG	[1 to 100 / **30** / 1 /step] Adjusts the size correction coefficient table for the discharge plate DC for each printing side.
2-430-014	TblSepaDC:Std:2nd	*ENG	
2-430-015	TblSepaDC:Low:1st	*ENG	
2-430-016	TblSepaDC:Low:2nd	*ENG	
2-430-017	EdSepaDC:Std:1st	*ENG	[1 to 100 / **50** / 1 /step] Adjusts the size correction coefficient table for the discharge plate DC (leading and traiing edges) for each printing side.
2-430-018	EdSepaDC:Std:2nd	*ENG	
2-430-019	EdSepaDC:Low:1st	*ENG	
2-430-020	EdSepaDC:Low:2nd	*ENG	

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2439	[Plain2: Bias]		
	Adjusts the DC voltage of the discharge plate for plain2 paper. StdSpd: 260 mm/sec, LowSpd: 85mm/sec		
2-439-001	SepaDC:StdSpd:1st	*ENG	[0 to 6000 / **2000** / 10 -V/step]
2-439-002	SepaDC:StdSpd:2nd	*ENG	
2-439-003	SepaDC:LowSpd:1st	*ENG	
2-439-004	SepaDC:LowSpd:2nd	*ENG	

2440	[Plain2: Bias: BW]		
	Adjusts the current of the plain 2 paper for the paper transfer roller in black-and-white mode. StdSpd: 260 mm/sec, LowSpd: 85mm/sec		
2-440-001	PTr:StdSpd:1st	*ENG	[0 to 230 / **21** / 1 -µA /step]
2-440-002	PTr:StdSpd:2nd	*ENG	[0 to 230 / **23** / 1 -µA /step]
2-440-003	PTr:LowSpd:1st	*ENG	[0 to 230 / **15** / 1 -µA /step]
2-440-004	PTr:LowSpd:2nd	*ENG	

2441	[Plain2: Bias: FC]		
	Adjusts the curren of the plain 2 paper for the paper transfer roller in full color mode. StdSpd: 260 mm/sec, LowSpd: 85mm/sec		
2-441-001	PTr:StdSpd:1st	*ENG	[0 to 230 / **38** / 1 -µA /step]
2-441-002	PTr:StdSpd:2nd	*ENG	[0 to 230 / **40** / 1 -µA /step]
2-441-003	PTr:LowSpd:1st	*ENG	[0 to 230 / **21** / 1 -µA /step]
2-441-004	PTr:LowSpd:2nd	*ENG	[0 to 230 / **18** / 1 -µA /step]

2442	[Plain2: SzCor: BW] DFU		
	Plain 2: Size Correction: BW Printing Mode		
	Adjusts the size correction coefficient of the plain 2 paper for the paper transfer roller current for each paper size. SP2440 and SP2441 are multiplied by these SP values. Std: 260 mm/sec, Low: 85mm/sec		
2-442-001	PTr:Std:1Sid:S1	*ENG	[100 to 995 / **100** / 5 %/step] S1 size ≥ 194 mm (Paper width)
2-442-002	PTr:Std:2Sid: S1	*ENG	
2-442-003	PTr:Low:1:S1	*ENG	
2-442-004	PTr:Low:2:S1	*ENG	
2-442-005	PTr:Std:1Sid:S2	*ENG	[100 to 995 / **135** / 5 %/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-442-006	PTr:Std:2Sid:S2	*ENG	[100 to 995 / **200** / 5 %/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-442-007	PTr:Low:1:S2	*ENG	[100 to 995 / **135** / 5 %/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-442-008	PTr:Low:2:S2	*ENG	[100 to 995 / **200** / 5 %/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-442-009	PTr:Std:1Sid:S3	*ENG	[100 to 995 / **135** / 5 %/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-442-010	PTr:Std:2Sid:S3	*ENG	[100 to 995 / **390** / 5 %/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-442-011	PTr:Low:1:S3	*ENG	[100 to 995 / **135** / 5 %/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-442-012	PTr:Low:2:S3	*ENG	[100 to 995 / **390** / 5 %/step] 165 mm > S3 size ≥ 139 mm (Paper width)

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2-442-013	PTr:Std:1Sid:S4	*ENG	[100 to 995 / **220** / 5 %/step]
			139 mm > S4 (Paper width)
2-442-014	PTr:Std:2Sid:S4	*ENG	[100 to 995 / **330** / 5 %/step]
			139 mm > S4 (Paper width)
2-442-015	PTr:Low:1:S4	*ENG	[100 to 995 / **220** / 5 %/step]
			139 mm > S4 (Paper width)
2-442-016	PTr:Low:2:S4	*ENG	[100 to 995 / **330** / 5 %/step]
			139 mm > S4 (Paper width)

2443	[Plain2: SzCor: FC] DFU		
	Plain 2: Size Correction: FC Printing Mode		
	Adjusts the size correction coefficient of the plain 2 paper for the paper transfer roller current for each paper size. SP2440 and SP2441 are multiplied by these SP values. Std: 260 mm/sec, Low: 85mm/sec		
2-443-001	PTr:Std:1Sid:S1	*ENG	[100 to 995 / **100** / 5 %/step]
2-443-002	PTr:Std:2Sid:S1	*ENG	S1 size ≥ 194 mm (Paper width)
2-443-003	PTr:Low:1:S1	*ENG	
2-443-004	PTr:Low:2:S1	*ENG	
2-443-005	PTr:Std:1Sid:S2	*ENG	[100 to 995 / **135** / 5 %/step]
			194 mm > S2 size ≥ 165 mm
			(Paper width)
2-443-006	PTr:Std:2Sid:S2	*ENG	[100 to 995 / **200** / 5 %/step]
			194 mm > S2 size ≥ 165 mm
			(Paper width)
2-443-007	PTr:Low:1:S2	*ENG	[100 to 995 / **135** / 5 %/step]
			194 mm > S2 size ≥ 165 mm
			(Paper width)
2-443-008	PTr:Low:2:S2	*ENG	[100 to 995 / **200** / 5 %/step]
			194 mm > S2 size ≥ 165 mm
			(Paper width)

2-443-009	PTr:Std:1Sid:S3	*ENG	[100 to 995 / **135** / 5 %/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-443-010	PTr:Std:2Sid:S3	*ENG	[100 to 995 / **325** / 5 %/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-443-011	PTr:Low:1:S3	*ENG	[100 to 995 / **135** / 5 %/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-443-012	PTr:Low:2:S3	*ENG	[100 to 995 / **325** / 5 %/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-443-013	PTr:Std:1Sid:S4	*ENG	[100 to 995 / **220** / 5 %/step] 139 mm > S4 (Paper width)
2-443-014	PTr:Std:2Sid:S4	*ENG	[100 to 995 / **330** / 5 %/step] 139 mm > S4 (Paper width)
2-443-015	PTr:Low:1:S4	*ENG	[100 to 995 / **220** / 5 %/step] 139 mm > S4 (Paper width)
2-443-016	PTr:Low:2:S4	*ENG	[100 to 995 / **330** / 5 %/step] 139 mm > S4 (Paper width)

2444	[Plain2:SzEnvCr:BW] DFU		
	Plain 2: Size Environment Correction: BW Printing Mode		
	Adjusts the size correction coefficient table of the plain 2 paper for the paper transfer roller current for each paper size. SP2440 and SP2441 are multiplied by these SP values. Std: 260 mm/sec, Low: 85mm/sec		
2-444-001	PTr:Std:1Sid:S1	*ENG	[1 to 100 / **19** / 1 /step] S1 size ≥ 194 mm (Paper width)

2-444-002	PTr:Std:2Sid:S1	*ENG	[1 to 100 / **8** / 1 /step]
2-444-003	PTr:Low:1:S1	*ENG	S1 size ≥ 194 mm (Paper width)
2-444-004	PTr:Low:2:S1	*ENG	
2-444-005	PTr:Std:1Sid:S2	*ENG	[1 to 100 / **19** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-444-006	PTr:Std:2Sid:S2	*ENG	[1 to 100 / **8** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-444-007	PTr:Low:1:S2	*ENG	
2-444-008	PTr:Low:2:S2	*ENG	
2-444-009	PTr:Std:1Sid:S3	*ENG	[1 to 100 / **19** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-444-010	PTr:Std:2Sid:S3	*ENG	[1 to 100 / **4** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-444-011	PTr:Low:1:S3	*ENG	[1 to 100 / **8** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-444-012	PTr:Low:2:S3	*ENG	[1 to 100 / **4** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-444-013	PTr:Std:1Sid:S4	*ENG	[1 to 100 / **19** / 1 /step] 139 mm > S4 (Paper width)
2-444-014	PTr:Std:2Sid:S4	*ENG	[1 to 100 / **8** / 1 /step] 139 mm > S4 (Paper width)
2-444-015	PTr:Low:1:S4	*ENG	
2-444-016	PTr:Low:2:S4	*ENG	

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2445	[Plain2:SzEnvCr:FC] DFU		
	Plain 2: Size Environment Correction: FC Printing Mode		
	Adjusts the size correction coefficient table of the plain 2 paper for the paper transfer roller current for each paper size. SP2440 and SP2441 are multiplied by these SP values. Standard: 260 mm/sec, Low: 85mm/sec		
2-445-001	PTr:Std:1Sid:S1	*ENG	[1 to 100 / **32** / 1 /step] S1 size ≥ 194 mm (Paper width)
2-445-002	PTr:Std:2Sid:S1	*ENG	[1 to 100 / **39** / 1 /step] S1 size ≥ 194 mm (Paper width)
2-445-003	PTr:Low:1:S1	*ENG	[1 to 100 / **35** / 1 /step] S1 size ≥ 194 mm (Paper width)
2-445-004	PTr:Low:2:S1	*ENG	[1 to 100 / **31** / 1 /step] S1 size ≥ 194 mm (Paper width)
2-445-005	PTr:Std:1Sid:S2	*ENG	[1 to 100 / **17** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-445-006	PTr:Std:2Sid:S2	*ENG	[1 to 100 / **38** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-445-007	PTr:Low:1:S2	*ENG	[1 to 100 / **35** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-445-008	PTr:Low:2:S2	*ENG	[1 to 100 / **29** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-445-009	PTr:Std:1Sid:S3	*ENG	[1 to 100 / **17** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)

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2-445-010	PTr:Std:2Sid:S3	*ENG	[1 to 100 / **16** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-445-011	PTr:Low:1:S3	*ENG	[1 to 100 / **35** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-445-012	PTr:Low:2:S3	*ENG	[1 to 100 / **28** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-445-013	PTr:Std:1Sid:S4	*ENG	[1 to 100 / **32** / 1 /step] 139 mm > S4 (Paper width)
2-445-014	PTr:Std:2Sid:S4	*ENG	[1 to 100 / **39** / 1 /step] 139 mm > S4 (Paper width)
2-445-015	PTr:Low:1:S4	*ENG	[1 to 100 / **35** / 1 /step] 139 mm > S4 (Paper width)
2-445-016	PTr:Low:2:S4	*ENG	[1 to 100 / **31** / 1 /step] 139 mm > S4 (Paper width)

2446	[Plain2: LE Correct] DFU
	Plain 2: Leading Edge Correction
	Adjusts the correction to the paper transfer roller current or discharge plate DC at the paper leading edge of the plain 2 paper in each mode. SP2440 and SP2441 are multiplied by these SP values. Std: 260 mm/sec, Low: 85mm/sec **↓Note** • The paper leading edge area can be adjusted with SP2447.

2-446-001	PTr:Std:1	*ENG	[0 to 995 / **100** / 5 %/step]
2-446-002	PTr:Std:2	*ENG	
2-446-003	PTr: Low: 1st	*ENG	
2-446-004	PTr: Low: 2nd	*ENG	
2-446-005	SepaDC:Std:1st	*ENG	
2-446-006	SepaDC:Std:2nd	*ENG	
2-446-007	SepaDC:Low:1st	*ENG	
2-446-008	SepaDC:Low:2nd	*ENG	

2447	**[Plain2:SW Tmng:LE] DFU** Plain 2: Switch Timing: Leading Edge		
	Adjusts the bias/ voltage switch timing of the paper transfer roller/ discharge plate at the paper leading edge of the plain 2 paper between the erase margin area and the image area. Std: 260 mm/sec, Low: 85mm/sec		
2-447-001	PTr:Std:1st	*ENG	[0 to 50 / **0** / 2 mm/step]
2-447-002	PTr:Std:2nd	*ENG	
2-447-003	PTr: Low : 1st	*ENG	
2-447-004	PTr: Low : 2nd	*ENG	
2-447-005	SepaDC:Std:1st	*ENG	
2-447-006	SepaDC:Std:2nd	*ENG	
2-447-007	SepaDC:Low:1st	*ENG	
2-447-008	SepaDC:Low:2nd	*ENG	

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2448	[Plain2: TE Correct] DFU		
	Plain2: Trailing Edge Correction		
	Adjusts the correction coefficient to the paper transfer roller current for the paper trailing edge of the plain 2 paper in each mode. SP2440 and SP2441 are multiplied by these SP values. Std: 260 mm/sec, Low: 85mm/sec **⬇Note** • The paper trailing edge area can be adjusted with SP2449.		
2-448-001	PTr:Std:1	*ENG	[0 to 995 / **100** / 5 %/step]
2-448-002	PTr:Std:2	*ENG	
2-448-003	PTr: Low: 1st	*ENG	
2-448-004	PTr: Low: 2nd	*ENG	
2-448-005	SepaDC:Std:1st	*ENG	
2-448-006	SepaDC:Std:2nd	*ENG	
2-448-007	SepaDC:Low:1st	*ENG	
2-448-008	SepaDC:Low:2nd	*ENG	

2449	[Plain2:SW Tmng:TE] DFU
	Adjusts the bias/voltage switch timing of the paper transfer roller/discharge plate at the paper trailing edge of the plain 2 paper between the erase margin area and the image area. Standard: 260 mm/sec, Low: 85mm/sec

2-449-001	PTr:Std:1st	*ENG	[0 to 50 / **0** / 2 mm/step]
2-449-002	PTr:Std:2nd	*ENG	
2-449-003	PTr: Low : 1st	*ENG	
2-449-004	PTr: Low : 2nd	*ENG	
2-449-005	SepaDC:Std:1st	*ENG	
2-449-006	SepaDC:Std:2nd	*ENG	
2-449-007	SepaDC:Low:1st	*ENG	
2-449-008	SepaDC:Low:2nd	*ENG	

2450	[Plain2: EnvCor]		
2-450-013	TblSepaDC:Std:1st	*ENG	[1 to 100 / **30** / 1/step]
2-450-014	TblSepaDC:Std:2nd	*ENG	Adjusts the size correction coefficient table of the plain 2 paper for the discharge plate DC for each printing side.
2-450-015	TblSepaDC:Low:1st	*ENG	
2-450-016	TblSepaDC:Low:2nd	*ENG	
2-450-017	EdSepaDC:Std:1st	*ENG	[1 to 100 / **50** / 1/step]
2-450-018	EdSepaDC:Std:2nd	*ENG	Adjusts the size correction coefficient table of the plain 2 paper for the discharge plate DC (leading and traiing edges) for each printing side.
2-450-019	EdSepaDC:Low:1st	*ENG	
2-450-020	EdSepaDC:Low:2nd	*ENG	

2451	[Thin: Bias]		
	Adjusts the DC voltage of the discharge plate for thin paper. Standard: 260 mm/sec, Low: 85 mm/sec		
2-451-001	SepaDC:StdSpd:1st	*ENG	[0 to 6000 / 2000 / 10 -V/step]
2-451-003	SepaDC:LowSpd:1st	*ENG	

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2453	[Thin: Bias: BW]		
	Adjusts the current of the thin paper for the paper transfer roller in black-and-white mode. Std: 260 mm/sec, Low: 85 mm/sec		
2-453-001	PTr:Std:1Sid	*ENG	[0 to 230 / **23** / 1 −µA/step]
2-453-003	PTr: Low : 1st	*ENG	[0 to 230 / **12** / 1 −µA/step]

2457	[Thin: Bias: FC]		
	Adjusts the current of the thin paper for the paper transfer roller in full color mode. Std: 260 mm/sec, Low: 85 mm/sec		
2-457-001	PTr:Std:1Sid	*ENG	[0 to 230 / **29** / 1 −µA /step]
2-457-003	PTr: Low: 1st	*ENG	[0 to 230 / **18** / 1 −µA /step]

2461	[Thin: SzCor: BW] DFU Thin: Size Correction: BW Printing Mode		
	Adjusts the size correction coefficient of the thin paper for the paper transfer roller current for each paper size. SP2453 and SP2457 are multiplied by these SP values. Std: 260 mm/sec, Low: 85mm/sec		
2-461-001	PTr:Std:1Sid:S1	*ENG	[100 to 995 / **100** / 5% /step] S1 size ≥ 194 mm (Paper width)
2-461-003	PTr:Low:1:S1	*ENG	[100 to 995 / **100** / 5% /step] S1 size ≥ 194 mm (Paper width)
2-461-005	PTr:Std:1Sid:S2	*ENG	[100 to 995 / **135** / 5% /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-461-007	PTr:Low:1:S2	*ENG	[100 to 995 / **135** / 5% /step] 194 mm > S2 size ≥ 165 mm (Paper width)

2-461-009	PTr:Std:1Sid:S3	*ENG	[100 to 600 / **140** / 5% /step]
			165 mm > S3 size ≥ 139 mm (Paper width)
2-461-011	PTr:Low:1:S3	*ENG	[100 to 995 / **135** / 5% /step]
			165 mm > S3 size ≥ 139 mm (Paper width)
2-461-013	PTr:Std:1Sid:S4	*ENG	[100 to 995 / **220** / 5% /step]
			139 mm > S4 (Paper width)
2-461-015	PTr:Low:1:S4	*ENG	[100 to 995 / **220** / 5% /step]
			139 mm > S4 (Paper width)

2462	[Thin: SzCor: FC] DFU
	Thin: Size Correction: FC Printing Mode
	Adjusts the size correction coefficient of the thin paper for the paper transfer roller current for each paper size. SP2453 and SP2457 are multiplied by these SP values.
	Std: 260 mm/sec, Low: 85mm/sec

2-462-001	PTr:Std:1Sid:S1	*ENG	[100 to 995 / **100** / 5% /step]
2-462-003	PTr:Low:1:S1	*ENG	S1 size ≥ 194 mm (Paper width)
2-462-005	PTr:Std:1Sid:S2	*ENG	[100 to 995 / **135** / 5% /step]
2-462-007	PTr:Low:1:S2	*ENG	194 mm > S2 size ≥ 165 mm (Paper width)
2-462-009	PTr:Std:1Sid:S3	*ENG	[100 to 995 / **135** / 5% /step]
2-462-011	PTr:Low:1:S3	*ENG	165 mm > S3 size ≥ 139 mm (Paper width)
2-462-013	PTr:Std:1Sid:S4	*ENG	[100 to 995 / **220** / 5% /step]
2-462-015	PTr:Low:1:S4	*ENG	139 mm > S4 (Paper width)

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2463	[Thin:SzEvCor:BW] DFU		
	Thin: Size Environment Correction: BW Printing Mode		
	Adjusts the size correction coefficient table of the thin paper for the paper transfer roller current for each paper size. SP2453 and SP2457 are multiplied by these SP values. Std: 260 mm/sec, Low: 85mm/sec		
2-463-001	PTr:Std:1Sid:S1	*ENG	[1 to 100 / **16** / 1 /step] S1 size ≥ 194 mm (Paper width)
2-463-003	PTr:Low:1:S1	*ENG	[1 to 100 / **21** / 1 /step] S1 size ≥ 194 mm (Paper width)
2-463-005	PTr:Std:1Sid:S2	*ENG	[1 to 100 / **8** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-463-007	PTr:Low:1:S2	*ENG	[1 to 100 / **21** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-463-009	PTr:Std:1Sid:S3	*ENG	[1 to 100 / **8** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-463-011	PTr:Low:1:S3	*ENG	[1 to 100 / **21** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-463-013	PTr:Std:1Sid:S4	*ENG	[1 to 100 / **16** / 1 /step] 139 mm > S4 (Paper width)
2-463-015	PTr:Low:1:S4	*ENG	[1 to 100 / **21** / 1 /step] 139 mm > S4 (Paper width)

2464	[Thin:SzEvCor:FC] DFU		
	Thin: Size Environment Correction: FC Printing Mode		
	Adjusts the size correction coefficient table of the thin paper for the paper transfer roller current for each paper size. SP2453 and SP2457 are multiplied by these SP values. Std: 260 mm/sec, Low: 85mm/sec		
2-464-001	PTr:Std:1Sid:S1	*ENG	[1 to 100 / **9** / 1 /step] S1 size ≥ 194 mm (Paper width)
2-464-003	PTr:Low:1:S1	*ENG	[1 to 100 / **26** / 1 /step] S1 size ≥ 194 mm (Paper width)
2-464-005	PTr:Std:1Sid:S2	*ENG	[1 to 100 / **9** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-464-007	PTr:Low:1:S2	*ENG	[1 to 100 / **26** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-464-009	PTr:Std:1Sid:S3	*ENG	[1 to 100 / **9** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-464-011	PTr:Low:1:S3	*ENG	[1 to 100 / **26** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-464-013	PTr:Std:1Sid:S4	*ENG	[1 to 100 / **9** / 1 /step] 139 mm > S4 (Paper width)
2-464-015	PTr:Low:1:S4	*ENG	[1 to 100 / **26** / 1 /step] 139 mm > S4 (Paper width)

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2471	[Thin:LE Correct] DFU		
	Thin: Leading Edge Correction		
	Adjusts the correction of the thin paper to the paper transfer roller current or discharge plate DC at the paper leading edge in each mode. SP2453 and SP2457 are multiplied by these SP values. Std: 260 mm/sec, Low: 85 mm/sec ⬇️**Note** • The paper leading edge area can be adjusted with SP2472.		
2-471-001	PTr:Std:1	*ENG	[0 to 995 / **100** / 5%/step]
2-471-003	PTr: Low: 1st	*ENG	
2-471-005	SepaDC:Std:1st	*ENG	[0 to 995 / **200** / 5%/step]
2-471-007	SepaDC:Low:1st	*ENG	

2472	[Thin:SW Tmng:LE] DFU		
	Thin: Switch Timing: Leading Edge		
	Adjusts the bias/ voltage switch timing of the paper transfer roller/ discharge plate at the paper leading edge between the erase margin area and the image area. Std: 260 mm/sec, Low: 85 mm/sec		
2-472-001	PTr:Std:1st	*ENG	[0 to 50 / **0** / 2 mm/step]
2-472-003	PTr: Low : 1st	*ENG	
2-472-005	SepaDC:Std:1st	*ENG	[0 to 50 / **30** / 2 mm/step]
2-472-007	SepaDC:Low:1st	*ENG	

2473	[Thin:TE Correct] DFU
	Thin: Trailing Edge Correction
	Adjusts the correction coefficient to the paper transfer roller current or discharge plate DC at the paper trailing edge in each mode. SP2453 and SP2457 are multiplied by these SP values. Std: 260 mm/sec, Low: 85 mm/sec ⬇️**Note** • The paper trailing edge area can be adjusted with SP2474.

2-473-001	PTr:Std:1	*ENG	[0 to 995 / **100** / 5%/step]
2-473-003	PTr: Low: 1st	*ENG	
2-473-005	SepaDC:Std:1st	*ENG	
2-473-007	SepaDC:Low:1st	*ENG	

2474	[Thin:SW Tmng:TE] DFU		
	Thin: Switch Timing: Trailing Edge		
	Adjusts the bias/voltage switch timing of the paper transfer roller/discharge plate at the paper trailing edge between the erase margin area and the image area. Std: 260 mm/sec, Low: 85 mm/sec		
2-474-001	PTr:Std:1st	*ENG	[0 to 50 / **0** / 2 mm/step]
2-474-003	PTr: Low : 1st	*ENG	
2-474-005	SepaDC:Std:1st	*ENG	
2-474-007	SepaDC:Low:1st	*ENG	

2480	[Thin: EnvCor] DFU		
	Thin: Environment Correction Std: 260 mm/sec, Low: 85 mm/sec		
2-480-013	SepaDC:Std:1st	*ENG	[1 to 100 / **30** / 1 /step]
2-480-015	SepaDC:Low:1st	*ENG	Adjusts the size correction coefficient table of the thin paper for the discharge plate DC for each printing side.
[Thin: EdgeEnvCor]			
2-480-017	SepaDC:Std:1st	*ENG	[1 to 100 / **30** / 1 /step]
2-480-019	SepaDC:Low:1st	*ENG	Adjusts the size correction coefficient table of the thin paper for the discharge plate DC (leading and traiing edges) for each printing side.

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2501	[Thick1: Bias]		
	Adjusts the DC voltage of the discharge plate for thick 1 paper. Middle: 182 mm/sec, Low: 85 mm/sec		
2-501-001	SepaDC:MidSpd:1st	*ENG	[0 to 6000 / **2000** / 10 -V / step]
2-501-002	SepaDC:MidSpd:2nd	*ENG	
2-501-003	SepaDC:LowSpd:1st	*ENG	
2-501-004	SepaDC:LowSpd:2nd	*ENG	

2502	[Thick 1: Bias: BW]		
	Adjusts the current for the paper transfer roller for thick 1 paper in black-and-white mode. Middle: 182 mm/sec, Low: 85 mm/sec		
2-502-001	PTr:MidSpd:1st	*ENG	[0 to 230 / **15** / 1 −μA /step]
2-502-002	PTr:MidSpd:2nd	*ENG	Not used
2-502-003	PTr:LowSpd:1st	*ENG	[0 to 230 / **9** / 1 −μA /step]
2-502-004	PTr:LowSpd:2nd	*ENG	[0 to 230 / **12** / 1 −μA /step]

2507	[Thick 1: Bias: FC]		
	Adjusts the current for the paper transfer roller for thick 1 paper in full color mode. Middle: 182 mm/sec, Low: 85 mm/sec		
2-507-001	PTr:MidSpd:1st	*ENG	[0 to 230 / **24** / 1 −μA /step]
2-507-002	PTr:MidSpd:2nd	*ENG	Not used
2-507-003	PTr:LowSpd:1st	*ENG	[0 to 230 / **12** / 1 −μA /step]
2-507-004	PTr:LowSpd:2nd	*ENG	[0 to 230 / **18** / 1 −μA /step]

2511	[Thick1: SzCor: BW] DFU		
	Thick 1: Size Correction: BW Printing		
	Adjusts the size correction coefficient of the thick 1 paper for the paper transfer roller current for each paper size. SP2502 and SP2507 are multiplied by these SP values. Mid: 182 mm/sec, Low: 85 mm/sec		
2-511-001	PTr:Mid:1Sid:S1	*ENG	[100 to 995 / **100** / 5%/step] S1 size ≥ 194 mm (Paper width)
2-511-002	PTr:Mid:2Sid: S1	*ENG	
2-511-003	PTr:Low:1:S1	*ENG	[100 to 995 / **100** / 5%/step] S1 size ≥ 194 mm (Paper width)
2-511-004	PTr:Low:2:S1	*ENG	
2-511-005	PTr:Mid:1Sid:S2	*ENG	[100 to 995 / **150** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-511-006	PTr:Mid:2Sid:S2	*ENG	[100 to 995 / **160** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-511-007	PTr:Low:1:S2	*ENG	[100 to 995 / **150** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-511-008	PTr:Low:2:S2	*ENG	[100 to 995 / **160** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-511-009	PTr:Mid:1Sid:S3	*ENG	[100 to 995 / **150** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-511-010	PTr:Mid:2Sid:S3	*ENG	[100 to 995 / **270** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-511-011	PTr:Low:1:S3	*ENG	[100 to 995 / **150** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)

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2-511-012	PTr:Low:2:S3	*ENG	[100 to 995 / **270** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-511-013	PTr:Mid:1Sid:S4	*ENG	[100 to 995 / **200** / 5%/step] 139 mm > S4 (Paper width)
2-511-014	PTr:Mid:2Sid:S4	*ENG	[100 to 995 / **435** / 5%/step] 139 mm > S4 (Paper width)
2-511-015	PTr:Low:1:S4	*ENG	[100 to 995 / **200** / 5%/step] 139 mm > S4 (Paper width)
2-511-016	PTr:Low:2:S4	*ENG	[100 to 995 / **435** / 5%/step] 139 mm > S4 (Paper width)

2512	[Thick1: SzCor: FC] DFU		
	Thick 1: Size Correction: FC Printing		
	Adjusts the size correction coefficient of the thick 1 paper for the paper transfer roller current for each paper size. SP2502 and SP2507 are multiplied by these SP values. Middle: 182 mm/sec, Low: 85 mm/sec		
2-512-001	PTr:Mid:1Sid:S1	*ENG	[100 to 995 / **100** / 5%/step] S1 size ≥ 194 mm (Paper width)
2-512-002	PTr:Mid:2Sid:S1	*ENG	
2-512-003	PTr:Low:1:S1	*ENG	
2-512-004	PTr:Low:2:S1	*ENG	
2-512-005	PTr:Mid:1Sid:S2	*ENG	[100 to 995 / **150** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-512-006	PTr:Mid:2Sid:S2	*ENG	[100 to 995 / **160** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-512-007	PTr:Low:1:S2	*ENG	[100 to 995 / **150** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)

2-512-008	PTr:Low:2:S2	*ENG	[100 to 995 / **160** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-512-009	PTr:Mid:1Sid:S3	*ENG	[100 to 995 / **150** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-512-010	PTr:Mid:2Sid:S3	*ENG	[100 to 995 / **270** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-512-011	PTr:Low:1:S3	*ENG	[100 to 995 / **150** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-512-012	PTr:Low:2:S3	*ENG	[100 to 995 / **270** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-512-013	PTr:Mid:1Sid:S4	*ENG	[100 to 995 / **200** / 5%/step] 139 mm > S4 (Paper width)
2-512-014	PTr:Mid:2Sid:S4	*ENG	[100 to 995 / **435** / 5%/step] 139 mm > S4 (Paper width)
2-512-015	PTr:Low:1:S4	*ENG	[100 to 995 / **200** / 5%/step] 139 mm > S4 (Paper width)
2-512-016	PTr:Low:2:S4	*ENG	[100 to 995 / **435** / 5%/step] 139 mm > S4 (Paper width)

2513	[Thick1:SzEvCor:BW] DFU
	Thick 1: Size Environment Correction: BW Printing
	Adjusts the size correction coefficient table of the thick 1 paper for the paper transfer roller current for each paper size. SP2502 and SP2507 are multiplied by these SP values. Middle: 182 mm/sec, Low: 85 mm/sec

2-513-001	PTr:Mid:1Sid:S1	*ENG	[1 to 100 / **20** / 1/step] S1 size ≥ 194 mm (Paper width)
2-513-002	PTr:Mid:2Sid:S1	*ENG	[1 to 100 / **19** / 1/step] S1 size ≥ 194 mm (Paper width)
2-513-003	PTr:Low:1:S1	*ENG	[1 to 100 / **18** / 1/step] S1 size ≥ 194 mm (Paper width)
2-513-004	PTr:Low:2:S1	*ENG	[1 to 100 / **23** / 1/step] S1 size ≥ 194 mm (Paper width)
2-513-005	PTr:Mid:1Sid:S2	*ENG	[1 to 100 / **20** / 1/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-513-006	PTr:Mid:2Sid:S2	*ENG	[1 to 100 / **19** / 1/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-513-007	PTr:Low:1:S2	*ENG	[1 to 100 / **18** / 1/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-513-008	PTr:Low:2:S2	*ENG	[1 to 100 / **23** / 1/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-513-009	PTr:Mid:1Sid:S3	*ENG	[1 to 100 / **20** / 1/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-513-010	PTr:Mid:2Sid:S3	*ENG	[1 to 100 / **19** / 1/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-513-011	PTr:Low:1:S3	*ENG	[1 to 100 / **18** / 1/step] 165 mm > S3 size ≥ 139 mm (Paper width)

2-513-012	PTr:Low:2:S3	*ENG	[1 to 100 / **23** / 1/step]
			165 mm > S3 size ≥ 139 mm (Paper width)
2-513-013	PTr:Mid:1Sid:S4	*ENG	[1 to 100 / **20** / 1/step]
			139 mm > S4 (Paper width)
2-513-014	PTr:Mid:2Sid:S4	*ENG	[1 to 100 / **19** / 1/step]
			139 mm > S4 (Paper width)
2-513-015	PTr:Low:1:S4	*ENG	[1 to 100 / **18** / 1/step]
			139 mm > S4 (Paper width)
2-513-016	PTr:Low:2:S4	*ENG	[1 to 100 / **23** / 1/step]
			139 mm > S4 (Paper width)

2514	[Thick1:SzEvCor:FC] DFU		
	Thick 1: Size Environment Correction: FC Printing		
	Adjusts the size correction coefficient table of the thick 1 paper for the paper transfer roller current for each paper size. SP2502 and SP2507 are multiplied by these SP values.		
	Middle: 182 mm/sec, Low: 85 mm/sec		
2-514-001	PTr:Mid:1Sid:S1	*ENG	[1 to 100 / **2** / 1/step]
			S1 size ≥ 194 mm (Paper width)
2-514-002	PTr:Mid:2Sid:S1	*ENG	[1 to 100 / **31** / 1/step]
			S1 size ≥ 194 mm (Paper width)
2-514-003	PTr:Low:1:S1	*ENG	[1 to 100 / **13** / 1/step]
			S1 size ≥ 194 mm (Paper width)
2-514-004	PTr:Low:2:S1	*ENG	[1 to 100 / **25** / 1/step]
			S1 size ≥ 194 mm (Paper width)
2-514-005	PTr:Mid:1Sid:S2	*ENG	[1 to 100 / **2** / 1/step]
			194 mm > S2 size ≥ 165 mm
			(Paper width)

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2-514-006	PTr:Mid:2Sid:S2	*ENG	[1 to 100 / **31** / 1/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-514-007	PTr:Low:1:S2	*ENG	[1 to 100 / **13** / 1/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-514-008	PTr:Low:2:S2	*ENG	[1 to 100 / **25** / 1/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-514-009	PTr:Mid:1Sid:S3	*ENG	[1 to 100 / **2** / 1/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-514-010	PTr:Mid:2Sid:S3	*ENG	[1 to 100 / **31** / 1/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-514-011	PTr:Low:1:S3	*ENG	[1 to 100 / **13** / 1/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-514-012	PTr:Low:2:S3	*ENG	[1 to 100 / **25** / 1/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-514-013	PTr:Mid:1Sid:S4	*ENG	[1 to 100 / **2** / 1/step] 139 mm > S4 (Paper width)
2-514-014	PTr:Mid:2Sid:S4	*ENG	[1 to 100 / **31** / 1/step] 139 mm > S4 (Paper width)
2-514-015	PTr:Low:1:S4	*ENG	[1 to 100 / **13** / 1/step] 139 mm > S4 (Paper width)
2-514-016	PTr:Low:2:S4	*ENG	[1 to 100 / **25** / 1/step] 139 mm > S4 (Paper width)

2521	[Thick1:LE Correct] DFU		
	Thick 1 Paper: Leading Edge Correction		
	Adjusts the correction of the thick 1 paper to the paper transfer roller current or discharge plate DC at the paper leading edge in each mode. SP2502 and SP2507 are multiplied by these SP values. Middle: 182 mm/sec, Low: 85 mm/sec **◆Note** • The paper leading edge area can be adjusted with SP2522.		
2-521-001	PTr:Mid:1	*ENG	[0 to 995 / **100** / 5%/step]
2-521-002	PTr:Mid:2	*ENG	
2-521-003	PTr: Low: 1st	*ENG	
2-521-004	PTr: Low: 2nd	*ENG	
2-521-005	SepaDC:Mid:1st	*ENG	
2-521-006	SepaDC:Mid:2nd	*ENG	
2-521-007	SepaDC:Low:1st	*ENG	
2-521-008	SepaDC:Low:2nd	*ENG	

2522	[Thick1:SW Tmng:LE] DFU
	Adjusts the bias/ voltage switch timing of the paper transfer roller/ discharge plate at the paper leading edge between the erase margin area and the image area. Middle: 182 mm/sec, Low: 85 mm/sec

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2-522-001	PTr:Mid:1st	*ENG	[0 to 50 / **0** / 2 mm/step]
2-522-002	PTr:Mid:2nd	*ENG	
2-522-003	PTr: Low : 1st	*ENG	
2-522-004	PTr: Low : 2nd	*ENG	
2-522-005	SepaDC:Mid:1st	*ENG	
2-522-006	SepaDC:Mid:2nd	*ENG	
2-522-007	SepaDC:Low:1st	*ENG	
2-522-008	SepaDC:Low:2nd	*ENG	

2523	**[Thick1:TE Correct] DFU**		
	Thick 1 Paper: Trailing Edge Correction		
	Adjusts the correction coefficient to the paper transfer roller current for the paper trailing edge in each mode. SP2502 and SP2507 are multiplied by these SP values. Middle: 182 mm/sec, Low: 85 mm/sec **Note** • The paper trailing edge area can be adjusted with SP2524.		
2-523-001	PTr:Mid:1	*ENG	[0 to 995 / **100** / 5%/step]
2-523-002	PTr:Mid:2	*ENG	
2-523-003	PTr: Low: 1st	*ENG	
2-523-004	PTr: Low: 2nd	*ENG	
2-523-005	SepaDC:Mid:1st	*ENG	
2-523-006	SepaDC:Mid:2nd	*ENG	
2-523-007	SepaDC:Low:1st	*ENG	
2-523-008	SepaDC:Low:2nd	*ENG	

2524	[Thick1:SW Tmng:TE] DFU		
	Adjusts the bias/voltage switch timing of the paper transfer roller/discharge plate at the paper trailing edge between the erase margin area and the image area. Middle: 182 mm/sec, Low: 85 mm/sec		
2-524-001	PTr:Mid:1st	*ENG	[0 to 50 / **0** / 2 mm/step]
2-524-002	PTr:Mid:2nd	*ENG	
2-524-003	PTr: Low : 1st	*ENG	
2-524-004	PTr: Low : 2nd	*ENG	
2-524-005	SepaDC:Mid:1st	*ENG	
2-524-006	SepaDC:Mid:2nd	*ENG	
2-524-007	SepaDC:Low:1st	*ENG	
2-524-008	SepaDC:Low:2nd	*ENG	

2530	[Thick1: EnvCor] DFU		
2-530-013	SepaDC:Mid:1st	*ENG	[1 to 100 / **30** / 1 /step]
2-530-014	SepaDC:Mid:2nd	*ENG	Adjusts the size correction coefficient table of the thick 1 paper for the discharge plate DC for each printing side.
2-530-015	SepaDC:Low:1st	*ENG	
2-530-016	SepaDC:Low:2nd	*ENG	
[Thick1:Ed-Env.Cor] DFU			
2-530-017	SepaDC:Mid:1st	*ENG	[1 to 100 / **30** / 1 /step]
2-530-018	SepaDC:Mid:2nd	*ENG	Adjusts the size correction coefficient table of the thick 1 paper for the discharge plate DC (leading and traiing edges) for each printing side.
2-530-019	SepaDC:Low:1st	*ENG	
2-530-020	SepaDC:Low:2nd	*ENG	

2551	[Thick2: Bias]
	Adjusts the DC voltage of the discharge plate for thick 2 paper.

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2-551-003	SepaDC:1st	*ENG	[0 to 6000 / **2000** / 10 -V/step]
2-551-004	SepaDC:2nd	*ENG	

2553	[Thick 2: Bias: BW] DFU		
	Adjusts the current for the paper transfer roller for thick2 paper in black-and-white mode.		
2-553-001	PTr:1st	*ENG	[0 to 230 / **9** / 1 −μA /step]
2-553-002	PTr:2nd	*ENG	[0 to 230 / **12** / 1 −μA /step]

2558	[Thick 2: Bias: FC] DFU		
	Adjusts the current for the paper transfer roller for thick2 paper in full color mode.		
2-558-001	PTr:1st	*ENG	[0 to 230 / **12** / 1 −μA /step]
2-558-002	PTr:2nd	*ENG	[0 to 230 / **20** / 1 −μA /step]

2561	[Thick2: SzCor: BW]		
	Adjusts the size correction coefficient of the thick 2 paper for the paper transfer roller current for each paper size. SP2553 and SP2558 are multiplied by these SP values.		
2-561-003	PTr:1:S1	*ENG	[100 to 995 / **100** / 5% /step] S1 size ≥ 194 mm (Paper width)
2-561-004	PTr:2:S1	*ENG	[100 to 995 / **100** / 5% /step] S1 size ≥ 194 mm (Paper width)
2-561-007	PTr:1:S2	*ENG	[100 to 995 / **150** / 5% /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-561-008	PTr:2:S2	*ENG	[100 to 995 / **160** / 5% /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-561-011	PTr:1:S3	*ENG	[100 to 995 / **150** / 5% /step] 165 mm > S3 size ≥ 139 mm (Paper width)

2-561-012	PTr:2:S3	*ENG	[100 to 995 / **270** / 5% /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-561-015	PTr:1:S4	*ENG	[100 to 995 / **200** / 5% /step] 139 mm > S4 (Paper width)
2-561-016	PTr:2:S4	*ENG	[100 to 995 / **435** / 5% /step] 139 mm > S4 (Paper width)

2562	[Thick2: SzCor: FC]		
	Adjusts the size correction coefficient of the thick 2 paper for the paper transfer roller current for each paper size. SP2553 and SP2558 are multiplied by these SP values.		
2-562-003	PTr:1:S1	*ENG	[100 to 995 / **100** / 5% /step] S1 size ≥ 194 mm (Paper width)
2-562-004	PTr:2:S1	*ENG	
2-562-007	PTr:1:S2	*ENG	[100 to 995 / **150** / 5% /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-562-008	PTr:2:S2	*ENG	[100 to 995 / **160** / 5% /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-562-011	PTr:1:S3	*ENG	[100 to 995 / **150** / 5% /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-562-012	PTr:2:S3	*ENG	[100 to 995 / **270** / 5% /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-562-015	PTr:1:S4	*ENG	[100 to 995 / **200** / 5% /step] 139 mm > S4 (Paper width)
2-562-016	PTr:2:S4	*ENG	[100 to 995 / **435** / 5% /step] 139 mm > S4 (Paper width)

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2563	[Thick2:SzEvCor:BW] DFU		
	Adjusts the size correction coefficient table of the thick 2 paper for the paper transfer roller current for each paper size. SP2553 and SP2558 are multiplied by these SP values.		
2-563-003	PTr:1:S1	*ENG	[1 to 100 / **18** / 1 /step] S1 size ≥ 194 mm (Paper width)
2-563-004	PTr:2:S1	*ENG	[1 to 100 / **22** / 1 /step] S1 size ≥ 194 mm (Paper width)
2-563-007	PTr:1:S2	*ENG	[1 to 100 / **18** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-563-008	PTr:2:S2	*ENG	[1 to 100 / **22** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-563-011	PTr:1:S3	*ENG	[1 to 100 / **18** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-563-012	PTr:2:S3	*ENG	[1 to 100 / **22** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-563-015	PTr:1:S4	*ENG	[1 to 100 / **18** / 1 /step] 139 mm > S4 (Paper width)
2-563-016	PTr:2:S4	*ENG	[1 to 100 / **22** / 1 /step] 139 mm > S4 (Paper width)

2564	[Thick2:SzEvCor:FC] DFU		
	Adjusts the size correction coefficient table of the thick 2 paper for the paper transfer roller current for each paper size. SP2553 and SP2558 are multiplied by these SP values.		
2-564-003	PTr:1:S1	*ENG	[1 to 100 / **13** / 1 /step] S1 size ≥ 194 mm (Paper width)

2-564-004	PTr:2:S1	*ENG	[1 to 100 / **38** / 1 /step] S1 size ≥ 194 mm (Paper width)
2-564-007	PTr:1:S2	*ENG	[1 to 100 / **13** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-564-008	PTr:2:S2	*ENG	[1 to 100 / **38** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-564-011	PTr:1:S3	*ENG	[1 to 100 / **13** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-564-012	PTr:2:S3	*ENG	[1 to 100 / **38** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-564-015	PTr:1:S4	*ENG	[1 to 100 / **13** / 1 /step] 139 mm > S4 (Paper width)
2-564-016	PTr:2:S4	*ENG	[1 to 100 / **38** / 1 /step] 139 mm > S4 (Paper width)

2571	[Thick2:LE Correct] DFU		
	Thick 2 Paper: Leading Edge Correction		
	Adjusts the correction to the paper transfer roller current or discharge plate DC at the paper leading edge in each mode. SP2553 and SP2558 are multiplied by these SP values. ⬇ Note • The paper leading edge area can be adjusted with SP2572.		
2-571-001	PTr: 1st	*ENG	[0 to 995 / **100** / 5%/step]
2-571-002	PTr: 2nd	*ENG	
2-571-003	SepaDC:1st	*ENG	
2-571-004	SepaDC:2nd	*ENG	

2572	[Thick2:SW Tmng:LE] DFU		
	Adjusts the bias/ voltage switch timing of the paper transfer roller/ discharge plate at the paper leading edge between the erase margin area and the image area.		
2-572-001	PTr : 1st	*ENG	[0 to 50 / **0** / 2mm/step]
2-572-002	PTr : 2nd	*ENG	
2-572-003	SepaDC:1st	*ENG	
2-572-004	SepaDC:2nd	*ENG	

2573	[Thick2:TE Correct] DFU		
	Thick 2 Paper: Trailing Edge Correction		
	Adjusts the correction to the paper transfer roller current or discharge plate DC for the paper trailing edge in each mode. SP2553 and SP2558 are multiplied by these SP values. **Note** • The paper trailing edge area can be adjusted with SP2574.		
2-573-001	PTr: 1st	*ENG	[0 to 995 / **100** / 5%/step]
2-573-002	PTr: 2nd	*ENG	
2-573-003	SepaDC:1st	*ENG	
2-573-004	SepaDC:2nd	*ENG	

2574	[Thick2:SW Tmng:TE] DFU		
	Adjusts the bias/voltage switch timing of the paper transfer roller/discharge plate at the paper trailing edge between the erase margin area and the image area.		
2-574-001	PTr : 1st	*ENG	[0 to 50 / **0** / 2 mm/step]
2-574-002	PTr : 2nd	*ENG	
2-574-003	SepaDC:1st	*ENG	
2-574-004	SepaDC:2nd	*ENG	

2580	[Thick2: EnvCor] DFU

2-580-015	SepaDC:1st	*ENG	[1 to 100 / **30** / 1 /step]
2-580-016	SepaDC:2nd	*ENG	Adjusts the size correction coefficient table of the thick 2 paper for the discharge plate DC for each printing side.

[Thick2:Ed-Env.Cor] DFU			
2-580-019	SepaDC:1st	*ENG	[1 to 100 / **30** / 1 /step]
2-580-020	SepaDC:2nd	*ENG	Adjusts the size correction coefficient table of the thick 2 paper for the discharge plate DC (leading and traiing edges) for each printing side.

2601	[OHP: Bias]		
	Adjusts the DC voltage of the discharge plate for OHP.		
2-601-001	Separation DC	*ENG	[0 to 6000 / **2000** / 10 -V /step]

2603	[OHP: Bias: BW]		
	Adjusts the current for the paper transfer roller for OHP in black-and-white mode.		
2-603-001	Paper Transfer	*ENG	[0 to 230 / **8** / 1 –μA /step]

2608	[OHP: Bias: FC]		
	Adjusts the current for the paper transfer roller for OHP in full color mode.		
2-608-001	Paper Transfer	*ENG	[0 to 230 / **21** / 1 –μA /step]

2611	[OHP: SzCor: BW]		
	OHP: Size Correction: BW Printing		
	Adjusts the size correction coefficient of the OHP paper for the paper transfer roller current for each paper size. SP2603 and SP2608 are multiplied by these SP values.		
2-611-003	Paper Transfer: S1	*ENG	[100 to 995 / **100** / 5% /step] S1 size ≥ 194 mm (Paper width)

2-611-007	Paper Transfer: S2	*ENG	[100 to 995 / **150** / 5% /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-611-011	Paper Transfer: S3	*ENG	[100 to 995 / **150** / 5% /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-611-015	Paper Transfer: S4	*ENG	[100 to 995 / **200** / 5% /step] 139 mm > S4 (Paper width)

2612	[OHP: SzCor: FC] OHP: Size Correction: FC Printing		
	Adjusts the size correction coefficient of the OHP paper for the paper transfer roller current for each paper size. SP2603 and SP2608 are multiplied by these SP values.		
2-612-003	Paper Transfer: S1	*ENG	[100 to 995 / **100** / 5% /step] S1 size ≥ 194 mm (Paper width)
2-612-007	Paper Transfer: S2	*ENG	[100 to 995 / **150** / 5% /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-612-011	Paper Transfer: S3	*ENG	[100 to 995 / **150** / 5% /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-612-015	Paper Transfer: S4	*ENG	[100 to 995 / **200** / 5% /step] 139 mm > S4 (Paper width)

2613	[OHP:Sz-Env.Cor:BW] DFU OHP: Size Environment Correction: BW Printing		
	Adjusts the size correction coefficient of the OHP paper for the paper transfer roller current for each paper size. SP2603 and SP2608 are multiplied by these SP values.		
2-613-003	Paper Transfer: S1	*ENG	[1 to 100 / **15** / 1 /step] S1 size ≥ 194 mm (Paper width)

2-613-007	Paper Transfer: S2	*ENG	[100 to 995 / **15** / 5% /step]
			194 mm > S2 size ≥ 165 mm
			(Paper width)
2-613-011	Paper Transfer: S3	*ENG	[100 to 995 / **15** / 5% /step]
			165 mm > S3 size ≥ 139 mm (Paper width)
2-613-015	Paper Transfer: S4	*ENG	[100 to 995 / **15** / 5% /step]
			139 mm > S4 (Paper width)

2614	[OHP:Sz-Env.Cor:FC] DFU		
	OHP: Size Environment Correction: FC Printing		
	Adjusts the size correction coefficient of the OHP paper for the paper transfer roller current for each paper size. SP2603 and SP2608 are multiplied by these SP values.		
2-614-003	Paper Transfer: S1	*ENG	[1 to 100 / **12** / 1 /step]
			S1 size ≥ 194 mm (Paper width)
2-614-007	Paper Transfer: S2	*ENG	[1 to 100 / **12** / 1 /step]
			194 mm > S2 size ≥ 165 mm
			(Paper width)
2-614-011	Paper Transfer: S3	*ENG	[1 to 100 / **12** / 1 /step]
			165 mm > S3 size ≥ 139 mm (Paper width)
2-614-015	Paper Transfer: S4	*ENG	[1 to 100 / **12** / 1 /step]
			139 mm > S4 (Paper width)

2621	[OHP:LE Correct] DFU		
	OHP: Leading Edge Correction		
	Adjusts the correction to the paper transfer roller current or discharge plate DC at the paper leading edge in each mode. SP2603 and SP2608 are multiplied by these SP values.		

Note

- The paper leading edge area can be adjusted with SP2622.

2-621-001	Paper Transfer	*ENG	[0 to 995 / **100** / 5%/step]
2-621-002	Separation DC	*ENG	

2622	[OHP:SW Tmng:LE] DFU		
	Adjusts the bias/ voltage switch timing of the paper transfer roller/ discharge plate at the paper leading edge between the erase margin area and the image area.		
2-622-001	Paper Transfer	*ENG	[0 to 50 / **0** / 2 mm/step]
2-622-002	Separation DC	*ENG	

2623	[OHP:TE Correct] DFU		
	OHP: Trailing Edge Correction		
	Adjusts the correction to the paper transfer roller current or or discharge plate DC for the paper trailing edge in each mode. SP2603 and SP2608 are multiplied by these SP values. **↓Note** • The paper trailing edge area can be adjusted with SP2624.		
2-623-001	Paper Transfer	*ENG	[0 to 995 / **100** / 5%/step]
2-623-002	Separation DC	*ENG	

2624	[OHP:SW Tmng:TE] DFU		
	Adjusts the bias/voltage switch timing of the paper transfer roller/discharge plate at the paper trailing edge between the erase margin area and the image area.		
2-624-001	Paper Transfer	*ENG	[0 to 50 / **0** / 2 mm/step]
2-624-002	Separation DC	*ENG	

2630	[OHP: EnvCor] DFU		
2-630-015	Separation DC	*ENG	[1 to 100 / **30** / 1 /step] Adjusts the size correction coefficient table of the OHP paper for the discharge plate DC.
[OHP: Edge-EnvCor] DFU			

2-630-019	Separation DC	*ENG	[1 to 100 / **30** / 1 /step] Adjusts the size correction coefficient table of the OHP paper for the discharge plate DC (leading and traiing edges).

2647	[Thick3: Bias]		
	Adjusts the DC voltage of the discharge plate for thick paper 3.		
2-647-001	SepaDC:1st	*ENG	[0 to 6000 / **2000** / 10 -V /step]
2-647-002	SepaDC:2nd	*ENG	

2648	[Thick3: Bias: BW]		
	Adjusts the current for the paper transfer roller for thick paper 3 in black-and-white mode.		
2-648-001	PTr:1st	*ENG	[0 to 230 / **9** / 1 −µA /step]
2-648-002	PTr:2nd	*ENG	[0 to 230 / **12** / 1 −µA /step]

2649	[Thick3: Bias: FC]		
	Adjusts the current for the paper transfer roller for thick paper 3 in full color mode.		
2-649-001	PTr:1st	*ENG	[0 to 230 / **12** / 1 −µA /step]
2-649-002	PTr:2nd	*ENG	[0 to 230 / **18** / 1 −µA /step]

2650	[Thick3: SzCor: BW]		
	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2648 and SP2649 are multiplied by these SP values.		
2-650-001	PTr:1:S1	*ENG	[100 to 995 / **100** / 5%/step] S1 size ≥ 194 mm (Paper width)
2-650-002	PTr:2:S1	*ENG	
2-650-003	PTr:1:S2	*ENG	[100 to 995 / **150** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)

2-650-004	PTr:2:S2	*ENG	[100 to 995 / **160** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-650-005	PTr:1:S3	*ENG	[100 to 995 / **150** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-650-006	PTr:2:S3	*ENG	[100 to 995 / **270** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-650-007	PTr:1:S4	*ENG	[100 to 995 / **200** / 5%/step] 139 mm > S4 (Paper width)
2-650-008	PTr:2:S4	*ENG	[100 to 995 / **435** / 5%/step] 139 mm > S4 (Paper width)

2651	[Thick3: SzCor: FC]		
	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2648 and SP2649 are multiplied by these SP values.		
2-651-001	PTr:1:S1	*ENG	[100 to 995 / **100** / 5%/step] S1 size ≥ 194 mm (Paper width)
2-651-002	PTr:2:S1	*ENG	
2-651-003	PTr:1:S2	*ENG	[100 to 995 / **150** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-651-004	PTr:2:S2	*ENG	[100 to 995 / **160** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-651-005	PTr:1:S3	*ENG	[100 to 995 / **150** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-651-006	PTr:2:S3	*ENG	[100 to 995 / **270** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)

2-651-007	PTr:1:S4	*ENG	[100 to 995 / **200** / 5%/step]
			139 mm > S4 (Paper width)
2-651-008	PTr:2:S4	*ENG	[100 to 995 / **435** / 5%/step]
			139 mm > S4 (Paper width)

2652	[Thick3:SzEvCor:BW] DFU		
	Adjusts the size correction coefficient table for the paper transfer roller current for each paper size. SP2648 and SP2649 are multiplied by these SP values.		
2-652-001	PTr:1:S1	*ENG	[1 to 100 / **24** / 1 /step]
			S1 size ≥ 194 mm (Paper width)
2-652-002	PTr:2:S1	*ENG	[1 to 100 / **22** / 1 /step]
			S1 size ≥ 194 mm (Paper width)
2-652-003	PTr:1:S2	*ENG	[1 to 100 / **24** / 1 /step]
			194 mm > S2 size ≥ 165 mm
			(Paper width)
2-652-004	PTr:2:S2	*ENG	[1 to 100 / **22** / 1 /step]
			194 mm > S2 size ≥ 165 mm
			(Paper width)
2-652-005	PTr:1:S3	*ENG	[1 to 100 / **24** / 1 /step]
			165 mm > S3 size ≥ 139 mm (Paper width)
2-652-006	PTr:2:S3	*ENG	[1 to 100 / **22** / 1 /step]
			165 mm > S3 size ≥ 139 mm (Paper width)
2-652-007	PTr:1:S4	*ENG	[1 to 100 / **24** / 1 /step]
			139 mm > S4 (Paper width)
2-652-008	PTr:2:S4	*ENG	[1 to 100 / **22** / 1 /step]
			139 mm > S4 (Paper width)

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2653	[Thick3:SzEvCor:FC] DFU		
	Adjusts the size correction coefficient table for the paper transfer roller current for each paper size. SP2648 and SP2649 are multiplied by these SP values.		
2-653-001	PTr:1:S1	*ENG	[1 to 100 / **24** / 1 /step] S1 size ≥ 194 mm (Paper width)
2-653-002	PTr:2:S1	*ENG	[1 to 100 / **27** / 1 /step] S1 size ≥ 194 mm (Paper width)
2-653-003	PTr:1:S2	*ENG	[1 to 100 / **24** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-653-004	PTr:2:S2	*ENG	[1 to 100 / **27** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-653-005	PTr:1:S3	*ENG	[1 to 100 / **24** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-653-006	PTr:2:S3	*ENG	[1 to 100 / **27** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-653-007	PTr:1:S4	*ENG	[1 to 100 / **24** / 1 /step] 139 mm > S4 (Paper width)
2-653-008	PTr:2:S4	*ENG	[1 to 100 / **27** / 1 /step] 139 mm > S4 (Paper width)

2654	[Thick3:LE Correct] DFU
	Thick 3 Paper: Leading Edge Correction
	Adjusts the correction to the paper transfer roller current at the paper leading edge in each mode. SP2648 and SP2649 are multiplied by these SP values. ⬇Note • The paper leading edge area can be adjusted with SP2655.

2-654-001	PTr: 1st	*ENG	[0 to 995 / **100** / 5%/step]
2-654-002	PTr: 2nd	*ENG	
2-654-003	SepaDC:1st	*ENG	
2-654-004	SepaDC:2nd	*ENG	

2655	[Thick3:SW Tmng:LE] DFU		
	Adjusts the bias/ voltage switch timing of the paper transfer roller/ discharge plate at the paper leading edge between the erase margin area and the image area.		
2-655-001	PTr : 1st	*ENG	[0 to 50 / **0** / 2 mm/step]
2-655-002	PTr : 2nd	*ENG	
2-655-003	SepaDC:1st	*ENG	
2-655-004	SepaDC:2nd	*ENG	

2656	[Thick3:TE Correct] DFU		
	Thick 3 Paper: Trailing Edge Correction		
	Adjusts the correction to the paper transfer roller current for the paper trailing edge in each mode. SP2648 and SP2649 are multiplied by these SP values. **↓Note** • The paper trailing edge area can be adjusted with SP2657.		
2-656-001	PTr: 1st	*ENG	[0 to 995 / **100** / 5%/step]
2-656-002	PTr: 2nd	*ENG	
2-656-003	SepaDC:1st	*ENG	
2-656-004	SepaDC:2nd	*ENG	

2657	[Thick3:SW Tmng:TE] DFU	
	Adjusts the bias/voltage switch timing of the paper transfer roller/discharge plate at the paper trailing edge between the erase margin area and the image area.	

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2-657-001	PTr : 1st	*ENG	[0 to 50 / **0** / 2 mm/step]
2-657-002	PTr : 2nd	*ENG	
2-657-003	SepaDC:1st	*ENG	
2-657-004	SepaDC:2nd	*ENG	

2660	[Thick3: EnvCor] DFU		
	Thick 3 Paper: MM Environment Coefficient Adjustment		
2-660-015	SepaDC:1st	*ENG	[1 to 100 / **30** / 1 /step]
2-660-016	SepaDC:2nd	*ENG	Adjusts the size correction coefficient table of the thick 3 paper for the discharge plate DC for each printing side.
[TThick3:Ed-Env.Cor] DFU			
2-660-019	SepaDC:1st	*ENG	[1 to 100 / **30** / 1 /step]
2-660-020	SepaDC:2nd	*ENG	Adjusts the size correction coefficient table of the thick 3 paper for the discharge plate DC (leading and traiing edges) for each printing side.

2701	[MThick: Bias]		
	Adjusts the DC voltage of the discharge plate for middle thick paper.		
2-701-001	SepaDC:StdSpd:1st	*ENG	[0 to 6000 / **2000** / 10 -V /step]
2-701-002	SepaDC:StdSpd:2nd	*ENG	
2-701-003	SepaDC:LowSpd:1st	*ENG	
2-701-004	SepaDC:LowSpd:2nd	*ENG	

2703	[MThick:Bias:BW]		
	Standard: 260mm/sec, Low: 85mm/sec		
	Adjusts the current for the paper transfer roller for middle thick in black-and-white mode.		
2-703-001	PTr:StdSpd:1st	*ENG	[0 to 230 / **20** / 1-μA /step]

2-703-002	PTr:StdSpd:2nd	*ENG	[0 to 230 / **18** / 1-μA /step]
2-703-003	PTr:LowSpd:1st	*ENG	[0 to 230 / **10** / 1-μA /step]
2-703-004	PTr:LowSpd:2nd	*ENG	[0 to 230 / **12** / 1-μA /step]

2707	[MThick:Bias:FC]		
	Standard: 260mm/sec, Low: 85mm/sec		
	Adjusts the current for the paper transfer roller for middle thick in full color mode.		
2-707-001	PTr:StdSpd:1st	*ENG	[0 to 230 / **35** / 1-μA /step]
2-707-002	PTr:StdSpd:2nd	*ENG	[0 to 230 / **25** / 1-μA /step]
2-707-003	PTr:LowSpd:1st	*ENG	[0 to 230 / **12**/ 1-μA /step]
2-707-004	PTr:LowSpd:2nd	*ENG	[0 to 230 / **14** / 1-μA /step]

2713	[MThick: SzCor: BW] DFU		
	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2703 and SP2707 are multiplied by these SP values. Standard: 260mm/sec, Low: 85mm/sec		
2-713-001	PTr:Std:1Sid:S1	*ENG	[100 to 995 / **100** / 5%/step] S1 size ≥ 194 mm (Paper width)
2-713-002	PTr:Std:2Sid: S1	*ENG	
2-713-003	PTr:Low:1:S1	*ENG	
2-713-004	PTr:Low:2:S1	*ENG	
2-713-005	PTr:Std:1Sid:S2	*ENG	[100 to 995 / **135** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-713-006	PTr:Std:2Sid:S2	*ENG	[100 to 995 / **200** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-713-007	PTr:Low:1:S2	*ENG	[100 to 995 / **135** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)

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2-713-008	PTr:Low:2:S2	*ENG	[100 to 995 / **200** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-713-009	PTr:Std:1Sid:S3	*ENG	[100 to 995 / **135** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-713-010	PTr:Std:2Sid:S3	*ENG	[100 to 995 / **390** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-713-011	PTr:Low:1:S3	*ENG	[100 to 995 / **135** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-713-012	PTr:Low:2:S3	*ENG	[100 to 995 / **390** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-713-013	PTr:Std:1Sid:S4	*ENG	[100 to 995 / **220** / 5%/step] 139 mm > S4 (Paper width)
2-713-014	PTr:Std:2Sid:S4	*ENG	[100 to 995 / **330** / 5%/step] 139 mm > S4 (Paper width)
2-713-015	PTr:Low:1:S4	*ENG	[100 to 995 / **220** / 5%/step] 139 mm > S4 (Paper width)
2-713-016	PTr:Low:2:S4	*ENG	[100 to 995 / **330** / 5%/step] 139 mm > S4 (Paper width)

2714	[MThick: SzCor: FC] DFU
	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2703 and SP2707 are multiplied by these SP values. Standard: 260mm/sec, Low: 85mm/sec

2-714-001	PTr:Std:1Sid:S1	*ENG	[100 to 995 / **100** / 5%/step]
2-714-002	PTr:Std:2Sid:S1	*ENG	S1 size ≥ 194 mm (Paper width)
2-714-003	PTr:Low:1:S1	*ENG	
2-714-004	PTr:Low:2:S1	*ENG	
2-714-005	PTr:Std:1Sid:S2	*ENG	[100 to 995 / **135** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-714-006	PTr:Std:2Sid:S2	*ENG	[100 to 995 / **200** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-714-007	PTr:Low:1:S2	*ENG	[100 to 995 / **135** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-714-008	PTr:Low:2:S2	*ENG	[100 to 995 / **200** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-714-009	PTr:Std:1Sid:S3	*ENG	[100 to 995 / **135** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-714-010	PTr:Std:2Sid:S3	*ENG	[100 to 995 / **325** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-714-011	PTr:Low:1:S3	*ENG	[100 to 995 / **135** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-714-012	PTr:Low:2:S3	*ENG	[100 to 995 / **325** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-714-013	PTr:Std:1Sid:S4	*ENG	[100 to 995 / **220** / 5%/step] 139 mm > S4 (Paper width)

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2-714-014	PTr:Std:2Sid:S4	*ENG	[100 to 995 / **330** / 5%/step] 139 mm > S4 (Paper width)
2-714-015	PTr:Low:1:S4	*ENG	[100 to 995 / **220** / 5%/step] 139 mm > S4 (Paper width)
2-714-016	PTr:Low:2:S4	*ENG	[100 to 995 / **330** / 5%/step] 139 mm > S4 (Paper width)

2715	[MThick:SzEvCor:BW] DFU		
	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2703 and SP2707 are multiplied by these SP values. Standard: 260mm/sec, Low: 85mm/sec		
2-715-001	PTr:Std:1Sid:S1	*ENG	[1 to 100 / **14** / 1 /step] S1 size ≥ 194 mm (Paper width)
2-715-002	PTr:Std:2Sid:S1	*ENG	[1 to 100 / **13** / 1 /step] S1 size ≥ 194 mm (Paper width)
2-715-003	PTr:Low:1:S1	*ENG	[1 to 100 / **10** / 1 /step] S1 size ≥ 194 mm (Paper width)
2-715-004	PTr:Low:2:S1	*ENG	[1 to 100 / **12** / 1 /step] S1 size ≥ 194 mm (Paper width)
2-715-005	PTr:Std:1Sid:S2	*ENG	[1 to 100 / **14** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-715-006	PTr:Std:2Sid:S2	*ENG	[1 to 100 / **13** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-715-007	PTr:Low:1:S2	*ENG	[1 to 100 / **10** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-715-008	PTr:Low:2:S2	*ENG	[1 to 100 / **12** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)

2-715-009	PTr:Std:1Sid:S3	*ENG	[1 to 100 / **14** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-715-010	PTr:Std:2Sid:S3	*ENG	[1 to 100 / **5** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-715-011	PTr:Low:1:S3	*ENG	[1 to 100 / **10** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-715-012	PTr:Low:2:S3	*ENG	[1 to 100 / **5** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-715-013	PTr:Std:1Sid:S4	*ENG	[1 to 100 / **14** / 1 /step] 139 mm > S4 (Paper width)
2-715-014	PTr:Std:2Sid:S4	*ENG	[1 to 100 / **13** / 1 /step] 139 mm > S4 (Paper width)
2-715-015	PTr:Low:1:S4	*ENG	[1 to 100 / **10** / 1 /step] 139 mm > S4 (Paper width)
2-715-016	PTr:Low:2:S4	*ENG	[1 to 100 / **12** / 1 /step] 139 mm > S4 (Paper width)

2716	[MThick:SzEvCor:FC] DFU		
	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2703 and SP2707 are multiplied by these SP values. Standard: 260mm/sec, Low: 85mm/sec		
2-716-001	PTr:Std:1Sid:S1	*ENG	[1 to 100 / **7** / 1 /step] S1 size ≥ 194 mm (Paper width)
2-716-002	PTr:Std:2Sid:S1	*ENG	[1 to 100 / **43** / 1 /step] S1 size ≥ 194 mm (Paper width)
2-716-003	PTr:Low:1:S1	*ENG	[1 to 100 / **37** / 1 /step] S1 size ≥ 194 mm (Paper width)

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2-716-004	PTr:Low:2:S1	*ENG	[1 to 100 / **41** / 1 /step] S1 size ≥ 194 mm (Paper width)
2-716-005	PTr:Std:1Sid:S2	*ENG	[1 to 100 / **1** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-716-006	PTr:Std:2Sid:S2	*ENG	[1 to 100 / **42** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-716-007	PTr:Low:1:S2	*ENG	[1 to 100 / **10** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-716-008	PTr:Low:2:S2	*ENG	[1 to 100 / **12** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-716-009	PTr:Std:1Sid:S3	*ENG	[1 to 100 / **1** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-716-010	PTr:Std:2Sid:S3	*ENG	[1 to 100 / **23** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-716-011	PTr:Low:1:S3	*ENG	[1 to 100 / **37** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-716-012	PTr:Low:2:S3	*ENG	[1 to 100 / **39** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-716-013	PTr:Std:1Sid:S4	*ENG	[1 to 100 / **7** / 1 /step] 139 mm > S4 (Paper width)
2-716-014	PTr:Std:2Sid:S4	*ENG	[1 to 100 / **43** / 1 /step] 139 mm > S4 (Paper width)

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2-716-015	PTr:Low:1:S4	*ENG	[1 to 100 / **37** / 1 /step]
			139 mm > S4 (Paper width)
2-716-016	PTr:Low:2:S4	*ENG	[1 to 100 / **41** / 1 /step]
			139 mm > S4 (Paper width)

2721	**[MThick:LE Correct] DFU**		
	Standard: 260 mm/sec, Low: 85 mm/sec		
	Adjusts the correction to the paper transfer roller current at the paper leading edge in each mode. SP2703 and SP2707 are multiplied by these SP values.		
	⬇**Note**		
	• The paper leading edge area can be adjusted with SP2722.		
2-721-001	PTr:Std:1	*ENG	[0 to 995 / **100** / 5% /step]
2-721-002	PTr:Std:2	*ENG	
2-721-003	PTr: Low: 1st	*ENG	
2-721-004	PTr: Low: 2nd	*ENG	
2-721-005	SepaDC:Std:1st	*ENG	
2-721-006	SepaDC:Std:2nd	*ENG	
2-721-007	SepaDC:Low:1st	*ENG	
2-721-008	SepaDC:Low:2nd	*ENG	

2722	**[MThick:SW Tmng:LE] DFU**
	Standard: 260 mm/sec, Low: 85 mm/sec
	Adjusts the bias/ voltage switch timing of the paper transfer roller/ discharge plate at the paper leading edge between the erase margin area and the image area.

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2-722-001	PTr:Std:1	*ENG	[0 to 50 / **0** / 2mm /step]
2-722-002	PTr:Std:2	*ENG	
2-722-003	PTr: Low: 1st	*ENG	
2-722-004	PTr: Low: 2nd	*ENG	
2-722-005	SepaDC:Std:1st	*ENG	
2-722-006	SepaDC:Std:2nd	*ENG	
2-722-007	SepaDC:Low:1st	*ENG	
2-722-008	SepaDC:Low:2nd	*ENG	

2723	**[MThick:TE Correct] DFU**
	Standard: 260 mm/sec, Low: 85 mm/sec
	Adjusts the correction to the paper transfer roller current for the paper trailing edge in each mode. SP2703 and SP2707 are multiplied by these SP values. **↓Note** • The paper trailing edge area can be adjusted with SP2724.

2-723-001	PTr:Std:1	*ENG	[0 to 995 / **100** / 5% /step]
2-723-002	PTr:Std:2	*ENG	
2-723-003	PTr: Low: 1st	*ENG	
2-723-004	PTr: Low: 2nd	*ENG	
2-723-005	SepaDC:Std:1st	*ENG	
2-723-006	SepaDC:Std:2nd	*ENG	
2-723-007	SepaDC:Low:1st	*ENG	
2-723-008	SepaDC:Low:2nd	*ENG	

2724	**[MThick:SW Tmng:TE] DFU**
	Standard: 260 mm/sec, Low: 85 mm/sec
	Adjusts the bias/voltage switch timing of the paper transfer roller/discharge plate at the paper trailing edge between the erase margin area and the image area.

2-724-001	PTr:Std:1st	*ENG	[0 to 50 / **0** / 2mm /step]
2-724-002	PTr:Std:2nd	*ENG	
2-724-003	PTr: Low : 1st	*ENG	
2-724-004	PTr: Low : 2nd	*ENG	
2-724-005	SepaDC:Std:1st	*ENG	
2-724-006	SepaDC:Std:2nd	*ENG	
2-724-007	SepaDC:Low:1st	*ENG	
2-724-008	SepaDC:Low:2nd	*ENG	

2730	[MThick: EnvCor] DFU		
	Standard: 260 mm/sec, Low: 85 mm/sec		
2-730-013	SepaDC:Std:1st	*ENG	[1 to 100 / **30** / 1 /step]
2-730-014	SepaDC:Std:2nd	*ENG	Adjusts the size correction coefficient table of the middle thick paper for the discharge plate DC for each printing side.
2-730-015	SepaDC:Low:1st	*ENG	
2-730-016	SepaDC:Low:2nd	*ENG	
[MThick:Ed-Env.Cor] DFU			
2-730-017	SepaDC:Std:1st	*ENG	[1 to 100 / **50** / 1 /step]
2-730-018	SepaDC:Std:2nd	*ENG	Adjusts the size correction coefficient table of the middle thick paper for the discharge plate DC (leading and traiing edges) for each printing side.
2-730-019	SepaDC:Low:1st	*ENG	
2-730-020	SepaDC:Low:2nd	*ENG	

2751	[Special 1: Bias]
	Adjusts the DC voltage of the discharge plate for special paper 1.
	Standard: 260 mm/sec, Low: 85 mm/sec

2-751-001	SepaDC:StdSpd:1st	*ENG	[0 to 6000 / 2000 / 10 -V /step]
2-751-002	SepaDC:StdSpd:2nd	*ENG	
2-751-003	SepaDC:LowSpd:1st	*ENG	
2-751-004	SepaDC:LowSpd:2nd	*ENG	

2753	[SP 1: Bias: BW]		
	Adjusts the current for the paper transfer roller for special paper 1 in black-and-white mode. Standard: 260 mm/sec, Low: 85 mm/sec		
2-753-001	PTr:StdSpd:1st	*ENG	[0 to 230 / **20** / 1 −μA /step]
2-753-002	PTr:StdSpd:2nd	*ENG	[0 to 230 / **18** / 1 −μA /step]
2-753-003	PTr:LowSpd:1st	*ENG	[0 to 230 / **10** / 1 −μA /step]
2-753-004	PTr:LowSpd:2nd	*ENG	[0 to 230 / **12** / 1 −μA /step]

2757	[SP 1: Bias: FC]		
	Adjusts the current for the paper transfer roller for special paper 1 in full color mode. Standard: 260 mm/sec, Low: 85 mm/sec		
2-757-001	PTr:StdSpd:1st	*ENG	[0 to 230 / **35** / 1 −μA /step]
2-757-002	PTr:StdSpd:2nd	*ENG	[0 to 230 / **25** / 1 −μA /step]
2-757-003	PTr:LowSpd:1st	*ENG	[0 to 230 / **12** / 1 −μA /step]
2-757-004	PTr:LowSpd:2nd	*ENG	[0 to 230 / **14** / 1 −μA /step]

2761	[SP 1: SzCor: BW] DFU
	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2753 and SP2757 are multiplied by these SP values. Standard: 260 mm/sec, Low: 85 mm/sec

2-761-001	PTr:Std:1Sid:S1	*ENG	[100 to 995 / **100** / 5%/step]
2-761-002	PTr:Std:2Sid: S1	*ENG	S1 size ≥ 194 mm (Paper width)
2-761-003	PTr:Low:1:S1	*ENG	
2-761-004	PTr:Low:2:S1	*ENG	
2-761-005	PTr:Std:1Sid:S2	*ENG	[100 to 995 / **135** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-761-006	PTr:Std:2Sid:S2	*ENG	[100 to 995 / **200** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-761-007	PTr:Low:1:S2	*ENG	[100 to 995 / **135** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-761-008	PTr:Low:2:S2	*ENG	[100 to 995 / **200** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-761-009	PTr:Std:1Sid:S3	*ENG	[100 to 995 / **135** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-761-010	PTr:Std:2Sid:S3	*ENG	[100 to 995 / **390** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-761-011	PTr:Low:1:S3	*ENG	[100 to 995 / **135** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-761-012	PTr:Low:2:S3	*ENG	[100 to 995 / **390** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-761-013	PTr:Std:1Sid:S4	*ENG	[100 to 995 / **220** / 5%/step] 139 mm > S4 (Paper width)

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2-761-014	PTr:Std:2Sid:S4	*ENG	[100 to 995 / **330** / 5%/step]
			139 mm > S4 (Paper width)
2-761-015	PTr:Low:1:S4	*ENG	[100 to 995 / **220** / 5%/step]
			139 mm > S4 (Paper width)
2-761-016	PTr:Low:2:S4	*ENG	[100 to 995 / **330** / 5%/step]
			139 mm > S4 (Paper width)

2762	[SP 1: SzCor: FC] DFU		
	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2753 and SP2757 are multiplied by these SP values. Standard: 260 mm/sec, Low: 85 mm/sec		
2-762-001	PTr:Std:1Sid:S1	*ENG	[100 to 995 / **100** / 5%/step]
2-762-002	PTr:Std:2Sid:S1	*ENG	S1 size ≥ 194 mm (Paper width)
2-762-003	PTr:Low:1:S1	*ENG	
2-762-004	PTr:Low:2:S1	*ENG	
2-762-005	PTr:Std:1Sid:S2	*ENG	[100 to 995 / **135** / 5%/step]
			194 mm > S2 size ≥ 165 mm
			(Paper width)
2-762-006	PTr:Std:2Sid:S2	*ENG	[100 to 995 / **200** / 5%/step]
			194 mm > S2 size ≥ 165 mm
			(Paper width)
2-762-007	PTr:Low:1:S2	*ENG	[100 to 995 / **135** / 5%/step]
			194 mm > S2 size ≥ 165 mm
			(Paper width)
2-762-008	PTr:Low:2:S2	*ENG	[100 to 995 / **200** / 5%/step]
			194 mm > S2 size ≥ 165 mm
			(Paper width)
2-762-009	PTr:Std:1Sid:S3	*ENG	[100 to 995 / **135** / 5%/step]
			165 mm > S3 size ≥ 139 mm (Paper width)

2-762-010	PTr:Std:2Sid:S3	*ENG	[100 to 995 / **325** / 5%/step]
			165 mm > S3 size ≥ 139 mm (Paper width)
2-762-011	PTr:Low:1:S3	*ENG	[100 to 995 / **135** / 5%/step]
			165 mm > S3 size ≥ 139 mm (Paper width)
2-762-012	PTr:Low:2:S3	*ENG	[100 to 995 / **325** / 5%/step]
			165 mm > S3 size ≥ 139 mm (Paper width)
2-762-013	PTr:Std:1Sid:S4	*ENG	[100 to 995 / **220** / 5%/step]
			139 mm > S4 (Paper width)
2-762-014	PTr:Std:2Sid:S4	*ENG	[100 to 995 / **330** / 5%/step]
			139 mm > S4 (Paper width)
2-762-015	PTr:Low:1:S4	*ENG	[100 to 995 / **220** / 5%/step]
			139 mm > S4 (Paper width)
2-762-016	PTr:Low:2:S4	*ENG	[100 to 995 / **330** / 5%/step]
			139 mm > S4 (Paper width)

2763	[SP 1:SzEvCor:BW] DFU		
	Adjusts the size correction coefficient table for the paper transfer roller current for each paper size. SP2753 and SP2757 are multiplied by these SP values. Standard: 260 mm/sec, Low: 85 mm/sec		
2-763-001	PTr:Std:1Sid:S1	*ENG	[1 to 100 / **14** / 1 /step]
			S1 size ≥ 194 mm (Paper width)
2-763-002	PTr:Std:2Sid:S1	*ENG	[1 to 100 / **13** / 1 /step]
			S1 size ≥ 194 mm (Paper width)
2-763-003	PTr:Low:1:S1	*ENG	[1 to 100 / **10** / 1 /step]
			S1 size ≥ 194 mm (Paper width)
2-763-004	PTr:Low:2:S1	*ENG	[1 to 100 / **12** / 1 /step]
			S1 size ≥ 194 mm (Paper width)

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2-763-005	PTr:Std:1Sid:S2	*ENG	[1 to 100 / **14** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-763-006	PTr:Std:2Sid:S2	*ENG	[1 to 100 / **13** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-763-007	PTr:Low:1:S2	*ENG	[1 to 100 / **10** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-763-008	PTr:Low:2:S2	*ENG	[1 to 100 / **12** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-763-009	PTr:Std:1Sid:S3	*ENG	[1 to 100 / **14** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-763-010	PTr:Std:2Sid:S3	*ENG	[1 to 100 / **5** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-763-011	PTr:Low:1:S3	*ENG	[1 to 100 / **10** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-763-012	PTr:Low:2:S3	*ENG	[1 to 100 / **5** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-763-013	PTr:Std:1Sid:S4	*ENG	[1 to 100 / **14** / 1 /step] 139 mm > S4 (Paper width)
2-763-014	PTr:Std:2Sid:S4	*ENG	[1 to 100 / **13** / 1 /step] 139 mm > S4 (Paper width)
2-763-015	PTr:Low:1:S4	*ENG	[1 to 100 / **10** / 1 /step] 139 mm > S4 (Paper width)

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| 2-763-016 | PTr:Low:2:S4 | *ENG | [1 to 100 / **12** / 1 /step] |
| | | | 139 mm > S4 (Paper width) |

2764	**[SP 1:SzEvCor:FC] DFU**		
	Adjusts the size correction coefficient table for the paper transfer roller current for each paper size. SP2753 and SP2757 are multiplied by these SP values.		
	Standard: 260 mm/sec, Low: 85 mm/sec		
2-764-001	PTr:Std:1Sid:S1	*ENG	[1 to 100 / **7** / 1 /step]
			S1 size ≥ 194 mm (Paper width)
2-764-002	PTr:Std:2Sid:S1	*ENG	[1 to 100 / **43** / 1 /step]
			S1 size ≥ 194 mm (Paper width)
2-764-003	PTr:Low:1:S1	*ENG	[1 to 100 / **37** / 1 /step]
			S1 size ≥ 194 mm (Paper width)
2-764-004	PTr:Low:2:S1	*ENG	[1 to 100 / **41** / 1 /step]
			S1 size ≥ 194 mm (Paper width)
2-764-005	PTr:Std:1Sid:S2	*ENG	[1 to 100 / **1** / 1 /step]
			194 mm > S2 size ≥ 165 mm
			(Paper width)
2-764-006	PTr:Std:2Sid:S2	*ENG	[1 to 100 / **42** / 1 /step]
			194 mm > S2 size ≥ 165 mm
			(Paper width)
2-764-007	PTr:Low:1:S2	*ENG	[1 to 100 / **37** / 1 /step]
			194 mm > S2 size ≥ 165 mm
			(Paper width)
2-764-008	PTr:Low:2:S2	*ENG	[1 to 100 / **40** / 1 /step]
			194 mm > S2 size ≥ 165 mm
			(Paper width)
2-764-009	PTr:Std:1Sid:S3	*ENG	[1 to 100 / **1** / 1 /step]
			165 mm > S3 size ≥ 139 mm (Paper width)

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2-764-010	PTr:Std:2Sid:S3	*ENG	[1 to 100 / **23** / 1 /step]
			165 mm > S3 size ≥ 139 mm (Paper width)
2-764-011	PTr:Low:1:S3	*ENG	[1 to 100 / **37** / 1 /step]
			165 mm > S3 size ≥ 139 mm (Paper width)
2-764-012	PTr:Low:2:S3	*ENG	[1 to 100 / **39** / 1 /step]
			165 mm > S3 size ≥ 139 mm (Paper width)
2-764-013	PTr:Std:1Sid:S4	*ENG	[1 to 100 / **7** / 1 /step]
			139 mm > S4 (Paper width)
2-764-014	PTr:Std:2Sid:S4	*ENG	[1 to 100 / **43** / 1 /step]
			139 mm > S4 (Paper width)
2-764-015	PTr:Low:1:S4	*ENG	[1 to 100 / **37** / 1 /step]
			139 mm > S4 (Paper width)
2-764-016	PTr:Low:2:S4	*ENG	[1 to 100 / **41** / 1 /step]
			139 mm > S4 (Paper width)

2771	[SP 1:LE Correct] DFU
	Special 1 Paper: Leading Edge Correction
	Adjusts the correction to the paper transfer roller current at the paper leading edge in each mode. SP2753 and SP2757 are multiplied by these SP values.
	Standard: 260 mm/sec, Low: 85 mm/sec
	↓Note
	• The paper leading edge area can be adjusted with SP2772.

2-771-001	PTr:Std:1	*ENG	[0 to 995 / **100** / 5%/step]
2-771-002	PTr:Std:2	*ENG	
2-771-003	PTr: Low: 1st	*ENG	
2-771-004	PTr: Low: 2nd	*ENG	
2-771-005	SepaDC:Std:1st	*ENG	
2-771-006	SepaDC:Std:2nd	*ENG	
2-771-007	SepaDC:Low:1st	*ENG	
2-771-008	SepaDC:Low:2nd	*ENG	

2772	[SP 1:SW Tmng:LE] DFU		
	Adjusts the bias/ voltage switch timing of the paper transfer roller/ discharge plate at the paper leading edge between the erase margin area and the image area. Standard: 260 mm/sec, Low: 85 mm/sec		
2-772-001	PTr:Std:1st	*ENG	[0 to 50 / **0** / 2 mm/step]
2-772-002	PTr:Std:2nd	*ENG	
2-772-003	PTr: Low : 1st	*ENG	
2-772-004	PTr: Low : 2nd	*ENG	
2-772-005	SepaDC:Std:1st	*ENG	
2-772-006	SepaDC:Std:2nd	*ENG	
2-772-007	SepaDC:Low:1st	*ENG	
2-772-008	SepaDC:Low:2nd	*ENG	

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2773	[SP 1:TE Correct] DFU		
	Special 1 Paper: Trailing Edge Correction		
	Adjusts the correction to the paper transfer roller current for the paper trailing edge in each mode. SP2753 and SP2757 are multiplied by these SP values. Standard: 260 mm/sec, Low: 85 mm/sec ⬇Note • The paper trailing edge area can be adjusted with SP2774.		
2-773-001	PTr:Std:1	*ENG	[0 to 995 / **100** / 5%/step]
2-773-002	PTr:Std:2	*ENG	
2-773-003	PTr: Low: 1st	*ENG	
2-773-004	PTr: Low: 2nd	*ENG	
2-773-005	SepaDC:Std:1st	*ENG	
2-773-006	SepaDC:Std:2nd	*ENG	
2-773-007	SepaDC:Low:1st	*ENG	
2-773-008	SepaDC:Low:2nd	*ENG	

2774	[SP 1:SW Tmng:TE] DFU		
	Adjusts the bias/voltage switch timing of the paper transfer roller/discharge plate at the paper trailing edge between the erase margin area and the image area. Standard: 260 mm/sec, Low: 85 mm/sec		
2-774-001	PTr:Std:1st	*ENG	[0 to 50 / **0** / 2 mm/step]
2-774-002	PTr:Std:2nd	*ENG	
2-774-003	PTr: Low : 1st	*ENG	
2-774-004	PTr: Low : 2nd	*ENG	
2-774-005	SepaDC:Std:1st	*ENG	
2-774-006	SepaDC:Std:2nd	*ENG	
2-774-007	SepaDC:Low:1st	*ENG	
2-774-008	SepaDC:Low:2nd	*ENG	

2780	[SP 1: EnvCor] DFU		
	Standard: 260 mm/sec, Low: 85 mm/sec		
2-780-013	SepaDC:Std:1st	*ENG	[1 to 100 / **30** / 1 /step]
2-780-014	SepaDC:Std:2nd	*ENG	Adjusts the size correction coefficient table of the special 1 paper for the discharge plate DC for each printing side.
2-780-015	SepaDC:Low:1st	*ENG	
2-780-016	SepaDC:Low:2nd	*ENG	
[SP 1:Ed-Env.Cor] DFU			
2-780-017	SepaDC:Std:1st	*ENG	[1 to 100 / **50** / 1 /step]
2-780-018	SepaDC:Std:2nd	*ENG	Adjusts the size correction coefficient table of the special 1 paper for the discharge plate DC (leading and traiing edges) for each printing side.
2-780-019	SepaDC:Low:1st	*ENG	
2-780-020	SepaDC:Low:2nd	*ENG	

2801	[Special 2: Bias]		
	Adjusts the DC voltage of the discharge plate for special paper 2. Middle: 182 mm/sec, Low: 85 mm/sec		
2-801-001	SepaDC:MidSpd:1st	*ENG	[0 to 6000 / **2000** / 10 -V /step]
2-801-002	SepaDC:MidSpd:2nd	*ENG	
2-801-003	SepaDC:LowSpd:1st	*ENG	
2-801-004	SepaDC:LowSpd:2nd	*ENG	

2803	[SP 2: Bias: BW]		
	Adjusts the current for the paper transfer roller for special paper 2 in black-and-white mode. Middle: 182 mm/sec, Low: 85 mm/sec		
2-803-001	PTr:MidSpd:1st	*ENG	[0 to 230 / **15** / 1 $-\mu$A /step]
2-803-002	PTr:MidSpd:2nd	*ENG	
2-803-003	PTr:LowSpd:1st	*ENG	[0 to 230 / **9** / 1 $-\mu$A /step]
2-803-004	PTr:LowSpd:2nd	*ENG	[0 to 230 / **12** / 1 $-\mu$A /step]

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2807	[SP2: Bias: FC]		
	Adjusts the current for the paper transfer roller for special paper 2 in full color mode. Middle: 182 mm/sec, Low: 85 mm/sec		
2-807-001	PTr:MidSpd:1st	*ENG	[0 to 230 / **24** / 1 −μA /step]
2-807-002	PTr:MidSpd:2nd	*ENG	
2-807-003	PTr:LowSpd:1st	*ENG	[0 to 230 / **12** / 1 −μA /step]
2-807-004	PTr:LowSpd:2nd	*ENG	[0 to 230 / **18** / 1 −μA /step]

2811	[SP 2: SzCor: BW] DFU		
	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2803 and SP2807 are multiplied by these SP values. Middle: 182 mm/sec, Low: 85mm/sec		
2-811-001	PTr:Mid:1Sid:S1	*ENG	[100 to 995 / **100** / 5%/step] S1 size ≥ 194 mm (Paper width)
2-811-002	PTr:Mid:2Sid: S1	*ENG	
2-811-003	PTr:Low:1:S1	*ENG	
2-811-004	PTr:Low:2:S1	*ENG	
2-811-005	PTr:Mid:1Sid:S2	*ENG	[100 to 995 / **150** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-811-006	PTr:Mid:2Sid:S2	*ENG	[100 to 995 / **160** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-811-007	PTr:Low:1:S2	*ENG	[100 to 995 / **150** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-811-008	PTr:Low:2:S2	*ENG	[100 to 995 / **160** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)

2-811-009	PTr:Mid:1Sid:S3	*ENG	[100 to 995 / **150** / 5%/step]
			165 mm > S3 size ≥ 139 mm (Paper width)
2-811-010	PTr:Mid:2Sid:S3	*ENG	[100 to 995 / **270** / 5%/step]
			165 mm > S3 size ≥ 139 mm (Paper width)
2-811-011	PTr:Low:1:S3	*ENG	[100 to 995 / **150** / 5%/step]
			165 mm > S3 size ≥ 139 mm (Paper width)
2-811-012	PTr:Low:2:S3	*ENG	[100 to 995 / **270** / 5%/step]
			165 mm > S3 size ≥ 139 mm (Paper width)
2-811-013	PTr:Mid:1Sid:S4	*ENG	[100 to 995 / **200** / 5%/step]
			139 mm > S4 (Paper width)
2-811-014	PTr:Mid:2Sid:S4	*ENG	[100 to 995 / **435** / 5%/step]
			139 mm > S4 (Paper width)
2-811-015	PTr:Low:1:S4	*ENG	[100 to 995 / **200** / 5%/step]
			139 mm > S4 (Paper width)
2-811-016	PTr:Low:2:S4	*ENG	[100 to 995 / **435** / 5%/step]
			139 mm > S4 (Paper width)

2812	[SP 2: SzCor: FC] DFU		
	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2803 and SP2807 are multiplied by these SP values. Middle: 182 mm/sec, Low: 85mm/sec		
2-812-001	PTr:Mid:1Sid:S1	*ENG	[100 to 995 / **100** / 5%/step]
2-812-002	PTr:Mid:2Sid:S1	*ENG	S1 size ≥ 194 mm (Paper width)
2-812-003	PTr:Low:1:S1	*ENG	
2-812-004	PTr:Low:2:S1	*ENG	

2-812-005	PTr:Mid:1Sid:S2	*ENG	[100 to 995 / **150** / 5%/step]]
			194 mm > S2 size ≥ 165 mm (Paper width)
2-812-006	PTr:Mid:2Sid:S2	*ENG	[100 to 995 / **160** / 5%/step]
			194 mm > S2 size ≥ 165 mm (Paper width)
2-812-007	PTr:Low:1:S2	*ENG	[100 to 995 / **150** / 5%/step]
			194 mm > S2 size ≥ 165 mm (Paper width)
2-812-008	PTr:Low:2:S2	*ENG	[100 to 995 / **160** / 5%/step]
			194 mm > S2 size ≥ 165 mm (Paper width)
2-812-009	PTr:Mid:1Sid:S3	*ENG	[100 to 995 / **150** / 5%/step]
			165 mm > S3 size ≥ 139 mm (Paper width)
2-812-010	PTr:Mid:2Sid:S3	*ENG	[100 to 995 / **270** / 5%/step]
			165 mm > S3 size ≥ 139 mm (Paper width)
2-812-011	PTr:Low:1:S3	*ENG	[100 to 995 / **150** / 5%/step]
			165 mm > S3 size ≥ 139 mm (Paper width)
2-812-012	PTr:Low:2:S3	*ENG	[100 to 995 / **270** / 5%/step]
			165 mm > S3 size ≥ 139 mm (Paper width)
2-812-013	PTr:Mid:1Sid:S4	*ENG	[100 to 995 / **200** / 5%/step]
			139 mm > S4 (Paper width)
2-812-014	PTr:Mid:2Sid:S4	*ENG	[100 to 995 / **435** / 5%/step]
			139 mm > S4 (Paper width)
2-812-015	PTr:Low:1:S4	*ENG	[100 to 995 / **200** / 5%/step]
			139 mm > S4 (Paper width)

| 2-812-016 | PTr:Low:2:S4 | *ENG | [100 to 995 / **435** / 5%/step] |
| | | | 139 mm > S4 (Paper width) |

2813	[SP 2:SzEvCor:BW] DFU		
	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2803 and SP2807 are multiplied by these SP values. Middle: 182 mm/sec, Low: 85mm/sec		
2-813-001	PTr:Mid:1Sid:S1	*ENG	[1 to 100 / **20** / 1 /step]
			S1 size ≥ 194 mm (Paper width)
2-813-002	PTr:Mid:2Sid:S1	*ENG	[1 to 100 / **19** / 1 /step]
			S1 size ≥ 194 mm (Paper width)
2-813-003	PTr:Low:1:S1	*ENG	[1 to 100 / **18** / 1 /step]
			S1 size ≥ 194 mm (Paper width)
2-813-004	PTr:Low:2:S1	*ENG	[1 to 100 / **23** / 1 /step]
			S1 size ≥ 194 mm (Paper width)
2-813-005	PTr:Mid:1Sid:S2	*ENG	[1 to 100 / **20** / 1 /step]
			194 mm > S2 size ≥ 165 mm (Paper width)
2-813-006	PTr:Mid:2Sid:S2	*ENG	[1 to 100 / **19** / 1 /step]
			194 mm > S2 size ≥ 165 mm (Paper width)
2-813-007	PTr:Low:1:S2	*ENG	[1 to 100 / **18** / 1 /step]
			194 mm > S2 size ≥ 165 mm (Paper width)
2-813-008	PTr:Low:2:S2	*ENG	[1 to 100 / **23** / 1 /step]
			194 mm > S2 size ≥ 165 mm (Paper width)
2-813-009	PTr:Mid:1Sid:S3	*ENG	[1 to 100 / **20** / 1 /step]
			165 mm > S3 size ≥ 139 mm (Paper width)

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2-813-010	PTr:Mid:2Sid:S3	*ENG	[1 to 100 / **19** / 1 /step]
			165 mm > S3 size ≥ 139 mm (Paper width)
2-813-011	PTr:Low:1:S3	*ENG	[1 to 100 / **18** / 1 /step]
			165 mm > S3 size ≥ 139 mm (Paper width)
2-813-012	PTr:Low:2:S3	*ENG	[1 to 100 / **23** / 1 /step]
			165 mm > S3 size ≥ 139 mm (Paper width)
2-813-013	PTr:Mid:1Sid:S4	*ENG	[1 to 100 / **20** / 1 /step]
			139 mm > S4 (Paper width)
2-813-014	PTr:Mid:2Sid:S4	*ENG	[1 to 100 / **19** / 1 /step]
			139 mm > S4 (Paper width)
2-813-015	PTr:Low:1:S4	*ENG	[1 to 100 / **18** / 1 /step]
			139 mm > S4 (Paper width)
2-813-016	PTr:Low:2:S4	*ENG	[1 to 100 / **23** / 1 /step]
			139 mm > S4 (Paper width)

2814	[SP 2:SzEvCor:FC] DFU		
	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2803 and SP2807 are multiplied by these SP values. Middle: 182 mm/sec, Low: 85mm/sec		
2-814-001	PTr:Mid:1Sid:S1	*ENG	[1 to 100 / **2** / 1 /step]
			S1 size ≥ 194 mm (Paper width)
2-814-002	PTr:Mid:2Sid:S1	*ENG	[1 to 100 / **31** / 1 /step]
			S1 size ≥ 194 mm (Paper width)
2-814-003	PTr:Low:1:S1	*ENG	[1 to 100 / **13** / 1 /step]
			S1 size ≥ 194 mm (Paper width)
2-814-004	PTr:Low:2:S1	*ENG	[1 to 100 / **25** / 1 /step]
			S1 size ≥ 194 mm (Paper width)

2-814-005	PTr:Mid:1Sid:S2	*ENG	[1 to 100 / **2** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-814-006	PTr:Mid:2Sid:S2	*ENG	[1 to 100 / **31** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-814-007	PTr:Low:1:S2	*ENG	[1 to 100 / **13** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-814-008	PTr:Low:2:S2	*ENG	[1 to 100 / **25** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-814-009	PTr:Mid:1Sid:S3	*ENG	[1 to 100 / **2** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-814-010	PTr:Mid:2Sid:S3	*ENG	[1 to 100 / **31** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-814-011	PTr:Low:1:S3	*ENG	[1 to 100 / **13** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-814-012	PTr:Low:2:S3	*ENG	[1 to 100 / **25** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-814-013	PTr:Mid:1Sid:S4	*ENG	[1 to 100 / **2** / 1 /step] 139 mm > S4 (Paper width)
2-814-014	PTr:Mid:2Sid:S4	*ENG	[1 to 100 / **31** / 1 /step] 139 mm > S4 (Paper width)
2-814-015	PTr:Low:1:S4	*ENG	[1 to 100 / **13** / 1 /step] 139 mm > S4 (Paper width)

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| 2-814-016 | PTr:Low:2:S4 | *ENG | [1 to 100 / **25** / 1 /step] |
| | | | 139 mm > S4 (Paper width) |

2821	[SP 2:LE Correct] DFU		
	Special 2 Paper: Leading Edge Correction		
	Adjusts the correction to the paper transfer roller current at the paper leading edge in each mode. SP2803 and SP2807 are multiplied by these SP values. Middle: 182 mm/sec, Low: 85 mm/sec 🔽**Note** • The paper leading edge area can be adjusted with SP2822.		
2-821-001	PTr:Mid:1	*ENG	[0 to 995 / **100** / 5%/step]
2-821-002	PTr:Mid:2	*ENG	
2-821-003	PTr: Low: 1st	*ENG	
2-821-004	PTr: Low: 2nd	*ENG	
2-821-005	SepaDC:Mid:1st	*ENG	
2-821-006	SepaDC:Mid:2nd	*ENG	
2-821-007	SepaDC:Low:1st	*ENG	
2-821-008	SepaDC:Low:2nd	*ENG	

| 2822 | [SP 2:SW Tmng:LE] DFU |
| | Adjusts the bias/ voltage switch timing of the paper transfer roller/ discharge plate at the paper leading edge between the erase margin area and the image area.
Middle: 182 mm/sec, Low: 85 mm/sec |

2-822-001	PTr:Mid:1st	*ENG	[0 to 50 / **0** / 2 mm/step]
2-822-002	PTr:Mid:2nd	*ENG	
2-822-003	PTr: Low : 1st	*ENG	
2-822-004	PTr: Low : 2nd	*ENG	
2-822-005	SepaDC:Mid:1st	*ENG	
2-822-006	SepaDC:Mid:2nd	*ENG	
2-822-007	SepaDC:Low:1st	*ENG	
2-822-008	SepaDC:Low:2nd	*ENG	

2823	[SP 2:TE Correct] DFU		
	Special 2 Paper: Trailing Edge Correction		
	Adjusts the correction to the paper transfer roller current for the paper trailing edge in each mode. SP2803 and SP2807 are multiplied by these SP values. Middle: 182 mm/sec, Low: 85 mm/sec ⬇ **Note** • The paper trailing edge area can be adjusted with SP2824.		
2-823-001	PTr:Mid:1	*ENG	[0 to 995 / **100** / 5%/step]
2-823-002	PTr:Mid:2	*ENG	
2-823-003	PTr: Low: 1st	*ENG	
2-823-004	PTr: Low: 2nd	*ENG	
2-823-005	SepaDC:Mid:1st	*ENG	
2-823-006	SepaDC:Mid:2nd	*ENG	
2-823-007	SepaDC:Low:1st	*ENG	
2-823-008	SepaDC:Low:2nd	*ENG	

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2824	[SP 2:SW Tmng:TE] DFU		
	Adjusts the bias/voltage switch timing of the paper transfer roller/discharge plate at the paper trailing edge between the erase margin area and the image area. Middle: 182 mm/sec, Low: 85 mm/sec		
2-824-001	PTr:Mid:1st	*ENG	[0 to 50 / **0** / 2 mm/step]
2-824-002	PTr:Mid:2nd	*ENG	
2-824-003	PTr: Low : 1st	*ENG	
2-824-004	PTr: Low : 2nd	*ENG	
2-824-005	SepaDC:Mid:1st	*ENG	
2-824-006	SepaDC:Mid:2nd	*ENG	
2-824-007	SepaDC:Low:1st	*ENG	
2-824-008	SepaDC:Low:2nd	*ENG	

2830	[SP 2: EnvCor] DFU		
	Middle: 182 mm/sec, Low: 85 mm/sec		
2-830-013	SepaDC:Mid:1st	*ENG	[1 to 100 / **30** / 1 /step] Adjusts the size correction coefficient table of the special 2 paper for the discharge plate DC for each printing side.
2-830-014	SepaDC:Mid:2nd	*ENG	
2-830-015	SepaDC:Low:1st	*ENG	
2-830-016	SepaDC:Low:2nd	*ENG	
[SP 2:Ed-Env.Cor] DFU			
2-830-017	SepaDC:Mid:1st	*ENG	[1 to 100 / **30** / 1 /step] Adjusts the size correction coefficient table of the special 2 paper for the discharge plate DC (leading and traiing edges) for each printing side.
2-830-018	SepaDC:Mid:2nd	*ENG	
2-830-019	SepaDC:Low:1st	*ENG	
2-830-020	SepaDC:Low:2nd	*ENG	

2851	[Special 3: Bias]
	Adjusts the DC voltage of the discharge plate for special paper 3. Low: 85 mm/sec

2-851-003	SepaDC:LowSpd:1st	*ENG	[0 to 6000 / 2000 / 10 -V/step]
2-851-004	SepaDC:LowSpd:2nd	*ENG	

2852	[SP3: Bias: BW]		
	Adjusts the current for the paper transfer roller for special paper 3 in black-and-white mode. Low: 85 mm/sec		
2-852-003	PTr:LowSpd:1st	*ENG	[0 to 230 / **9** / 1 −μA /step]
2-852-004	PTr:LowSpd:2nd	*ENG	[0 to 230 / **12** / 1 −μA /step]

2857	[Special 3: Bias: FC]		
	Adjusts the current for the paper transfer roller for special paper 3 in full color mode. Low: 85 mm/sec		
2-857-003	PTr:LowSpd:1st	*ENG	[0 to 230 / **12** / 1 −μA /step]
2-857-004	PTr:LowSpd:2nd	*ENG	[0 to 230 / **18** / 1 −μA /step]

2861	[SP 3: SzCor: BW] DFU		
	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2852 and SP2857 are multiplied by these SP values. Low: 85mm/sec		
2-861-001	PTr:Low:1:S1	*ENG	[100 to 995 / **100** / 5%/step] S1 size ≥ 194 mm (Paper width)
2-861-002	PTr:Low:2:S1	*ENG	
2-861-003	PTr:Low:1:S2	*ENG	[100 to 995 / **150** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-861-004	PTr:Low:2:S2	*ENG	[100 to 995 / **160** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)

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2-861-005	PTr:Low:1:S3	*ENG	[100 to 995 / **150** / 5%/step]
			165 mm > S3 size ≥ 139 mm (Paper width)
2-861-006	PTr:Low:2:S3	*ENG	[100 to 995 / **270** / 5%/step]
			165 mm > S3 size ≥ 139 mm (Paper width)
2-861-007	PTr:Low:1:S4	*ENG	[100 to 995 / **200** / 5%/step]
			139 mm > S4 (Paper width)
2-861-008	PTr:Low:2:S4	*ENG	[100 to 995 / **435** / 5%/step]
			139 mm > S4 (Paper width)

2862	[SP 3: SzCor: FC] DFU		
	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2852 and SP2857 are multiplied by these SP values. Low: 85mm/sec		
2-862-001	PTr:Low:1:S1	*ENG	[100 to 995 / **100** / 5%/step]
2-862-002	PTr:Low:2:S1	*ENG	S1 size ≥ 194 mm (Paper width)
2-862-003	PTr:Low:1:S2	*ENG	[100 to 995 / **150** / 5%/step]
			194 mm > S2 size ≥ 165 mm
			(Paper width)
2-862-004	PTr:Low:2:S2	*ENG	[100 to 995 / **160** / 5%/step]
			194 mm > S2 size ≥ 165 mm
			(Paper width)
2-862-005	PTr:Low:1:S3	*ENG	[100 to 995 / **150** / 5%/step]
			165 mm > S3 size ≥ 139 mm (Paper width)
2-862-006	PTr:Low:2:S3	*ENG	[100 to 995 / **270** / 5%/step]
			165 mm > S3 size ≥ 139 mm (Paper width)
2-862-007	PTr:Low:1:S4	*ENG	[100 to 995 / **200** / 5%/step]
			139 mm > S4 (Paper width)

| 2-862-008 | PTr:Low:2:S4 | *ENG | [100 to 995 / **435** / 5%/step] |
| | | | 139 mm > S4 (Paper width) |

2863	[SP 3:SzEvCor:BW] DFU		
	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2852 and SP2857 are multiplied by these SP values. Low: 85mm/sec		
2-863-001	PTr:Low:1:S1	*ENG	[1 to 100 / **24** / 1 /step] S1 size ≥ 194 mm (Paper width)
2-863-002	PTr:Low:2:S1	*ENG	[1 to 100 / **22** / 1 /step] S1 size ≥ 194 mm (Paper width)
2-863-003	PTr:Low:1:S2	*ENG	[1 to 100 / **24** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-863-004	PTr:Low:2:S2	*ENG	[1 to 100 / **22** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-863-005	PTr:Low:1:S3	*ENG	[1 to 100 / **24** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-863-006	PTr:Low:2:S3	*ENG	[1 to 100 / **22** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-863-007	PTr:Low:1:S4	*ENG	[1 to 100 / **24** / 1 /step] 139 mm > S4 (Paper width)
2-863-008	PTr:Low:2:S4	*ENG	[1 to 100 / **22** / 1 /step] 139 mm > S4 (Paper width)

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2864	[SP 3:SzEvCor:FC] DFU		
	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2852 and SP2857 are multiplied by these SP values. Low: 85mm/sec		
2-864-001	PTr:Low:1:S1	*ENG	[1 to 100 / **24** / 1 /step] S1 size ≥ 194 mm (Paper width)
2-864-002	PTr:Low:2:S1	*ENG	[1 to 100 / **27** / 1 /step] S1 size ≥ 194 mm (Paper width)
2-864-003	PTr:Low:1:S2	*ENG	[1 to 100 / **24** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-864-004	PTr:Low:2:S2	*ENG	[1 to 100 / **27** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
2-864-005	PTr:Low:1:S3	*ENG	[1 to 100 / **24** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-864-006	PTr:Low:2:S3	*ENG	[1 to 100 / **27** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
2-864-007	PTr:Low:1:S4	*ENG	[1 to 100 / **24** / 1 /step] 139 mm > S4 (Paper width)
2-864-008	PTr:Low:2:S4	*ENG	[1 to 100 / **27** / 1 /step] 139 mm > S4 (Paper width)

2871	[SP 3:LE Correct] DFU		
	Special 3 Paper: Leading Edge Correction		
	Adjusts the correction to the paper transfer roller current at the paper leading edge in each mode. SP2852 and SP2857 are multiplied by these SP values. Low: 85 mm/sec ⬇Note • The paper leading edge area can be adjusted with SP2872.		
2-871-003	PTr: Low: 1st	*ENG	[0 to 995 / **100** / 5%/step]
2-871-004	PTr: Low: 2nd	*ENG	
2-871-007	SepaDC:Low:1st	*ENG	
2-871-008	SepaDC:Low:2nd	*ENG	

2872	[SP 3:SW Tmng:LE] DFU		
	Adjusts the bias/ voltage switch timing of the paper transfer roller/ discharge plate at the paper leading edge between the erase margin area and the image area. Low: 85 mm/sec		
2-872-003	PTr: Low : 1st	*ENG	[0 to 50 / **0** / 2 mm/step]
2-872-004	PTr: Low : 2nd	*ENG	
2-872-007	SepaDC:Low:1st	*ENG	
2-872-008	SepaDC:Low:2nd	*ENG	

2873	[SP 3:TE Correct] DFU
	Special 3 Paper: Trailing Edge Correction
	Adjusts the correction to the paper transfer roller current for the paper trailing edge in each mode. SP2852 and SP2857 are multiplied by these SP values. Low: 85 mm/sec ⬇Note • The paper trailing edge area can be adjusted with SP2874.

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2-873-003	PTr: Low: 1st	*ENG	[0 to 995 / **100** / 5%/step]
2-873-004	PTr: Low: 2nd	*ENG	
2-873-007	SepaDC:Low:1st	*ENG	
2-873-008	SepaDC:Low:2nd	*ENG	

2874	[SP 3:SW Tmng:TE] DFU		
	Adjusts the bias/voltage switch timing of the paper transfer roller/discharge plate at the paper trailing edge between the erase margin area and the image area. Low: 85 mm/sec		
2-874-003	PTr: Low : 1st	*ENG	[0 to 50 / **0** / 2 mm/step]
2-874-004	PTr: Low : 2nd	*ENG	
2-874-007	SepaDC:Low:1st	*ENG	
2-874-008	SepaDC:Low:2nd	*ENG	

2880	[SP 3: EnvCor] DFU Low: 85 mm/sec		
2-880-015	SepaDC:Low:1st	*ENG	[1 to 100 / **30** / 1 /step]
2-880-016	SepaDC:Low:2nd	*ENG	Adjusts the size correction coefficient table of the special 3 paper for the discharge plate DC for each printing side.
[SP 3:Ed-Env.Cor] DFU			
2-880-019	SepaDC:Low:1st	*ENG	[1 to 100 / **30** / 1 /step]
2-880-020	SepaDC:Low:2nd	*ENG	Adjusts the size correction coefficient table of the special 3 paper for the discharge plate DC (leading and traiing edges) for each printing side.

2904	[Reverse Time] DFU		
	Adjusts the time for how long the image transfer belt motor reverses after job end.		
2-904-003	Transfer All	*ENG	[0 to 800 / **70** / 10 msec/step]

2906	[Drum] DFU		
2-906-001	Y Phase Angle	*ENG	[0 to 359 / **0** / 1 deg/step]
2-906-002	M Phase Angle	*ENG	
2-906-003	C Phase Angle	*ENG	
2-906-004	K Phase Angle	*ENG	
2-906-005	Color Phase Angle	*ENG	
2-906-006	Y AmpSetting	*ENG	[0 to 100 / **0** / 0.1 μm/step]
2-906-007	M AmpSetting	*ENG	
2-906-008	C AmpSetting	*ENG	
2-906-009	K AmpSetting	*ENG	
2-906-010	Color AmpSetting	*ENG	
2-906-011	K Stop Position	*ENG	[0 to 359 / **0** / 1 deg/step]
2-906-012	Color Stop Posi	*ENG	

2907	[FC: ACS] DFU		
	Adjusts the threshold for moving away the image transfer belt from the color PCUs. This SP moves the image transfer belt away from the color PCUs when the number of B/W image printouts reaches the number of sheets specified with this SP after consecutive full color image printouts in the full color mode. If this SP is set to "0", the image transfer belt does not move away.		
2-907-001	Bk Image Count	*ENG	[0 to 10 / **0** / 1 sheet/step]

2911	[Offset Phase] DFU		
2-911-001	Y Drum	*ENG	[0 to 359 / **0** / 1 deg/step]
2-911-002	M Drum	*ENG	
2-911-003	C Drum	*ENG	
2-911-004	K Drum	*ENG	

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2912	[Offset Gain] DFU		
2-912-001	Y Drum	*ENG	[0 to 100 / **0** / 0.1 µm/step]
2-912-002	M Drum	*ENG	
2-912-003	C Drum	*ENG	
2-912-004	K Drum	*ENG	

2914	[Shutter] DFU		
2-914-008	Open:DelayTime	*ENG	[0 to 500 / **240** / 10 msec/step]
2-914-009	Close:DelayTime	*ENG	[0 to 500 / **370** / 10 msec/step]
2-914-010	Open:AdjDelayTime	*ENG	[0 to 500 / **100** / 10 msec/step]
2-914-011	Cl:AdjDelayTime	*ENG	[0 to 500 / **180** / 10 msec/step]
2-914-014	Open/Close:Skip	*ENG	[0 or 1 / **1** / 1/step]

2960	[Process Interval] DFU		
2-960-001	Additional Time	*ENG	[0 to 10 / **1** / 1 sec/step]

Engine SP Mode Tables - SP3000

SP3-XXX (Process)

3011	[ProCon ManualExe.]		
3-011-001	Normal	ENG	[0 or 1 / **0** / 1 /step] Executes the normal process control manually (potential control). Check the result with SP3-325-001 after executing this SP.
3-011-002	Density Adj	ENG	[0 or 1 / **0** / 1 /step] Executes the toner density adjustment manually. Check the result with SP3-325-001 after executing this SP.
3-011-003	Pre-ACC	ENG	[0 or 1 / **0** / 1 /step] Executes the process control that is normally done before ACC. The type of process control is selected with SP3-041-004.
3-011-004	Full MUSIC	ENG	[0 or 1 / **0** / 1 /step] Executes the process control that is normally done at the same time as MUSIC. This SP does the MUSIC (line position adjustment) twice.
3-011-005	Normal MUSIC	ENG	[0 or 1 / **0** / 1 /step] Executes the process control that is normally done at the same time as MUSIC. This SP does the MUSIC (line position adjustment) once.

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3012	[ProCon Chck Rslt] Process Control Self-check Result		
	Displays the result of the latest process control self-check. All colors are displayed. The results are displayed in the order "Y C M K" e.g., 11 (Y) 99 (C) 11 (M) 11 (K): The self-check for Cyan failed but the others were successful. See the "Error Condition Tables" in the Process Control Error section for details.		
3-012-001	History: Latest	*ENG	[1111 to 99999999 / - / 1/step]
3-012-002	Result: Latest 1	*ENG	
3-012-003	Result: Latest 2	*ENG	
3-012-004	Result: Latest 3	*ENG	
3-012-005	Result: Latest 4	*ENG	
3-012-006	Result: Latest 5	*ENG	
3-012-007	Result: Latest 6	*ENG	
3-012-008	Result: Latest 7	*ENG	
3-012-009	Result: Latest 8	*ENG	
3-012-010	Result: Latest 9	*ENG	

3013	[TD Sn Initial Set] Developer Initialization Setting		
3-013-001	Execution: ALL	ENG	Executes the initialization of the TD sensor for each color.
3-013-002	Execution: COL	ENG	
3-013-003	Execution: Bk	ENG	
3-013-004	Execution: C	ENG	
3-013-005	Execution: M	ENG	
3-013-006	Execution: Y	ENG	

3015	[ForcdTonSuply:Exe] Forced Toner Supply ([Color])

3-015-001	Execution: ALL	ENG	[0 or 1 / **0** / 1 /step]
3-015-002	Execution: COL	ENG	Executes the manual toner supply to the development unit.
3-015-003	Execution: Bk	ENG	
3-015-004	Execution: C	ENG	
3-015-005	Execution: M	ENG	
3-015-006	Execution: Y	ENG	

3016	[ForcdTonSuply:Set] Forced Toner Supply Setting ([Color])		
	Specifies the manual toner supply time for each color.		
3-016-001	Supply Time: Bk	*ENG	[0 to 30 / **4** / 1 sec/step]
3-016-002	Supply Time: C	*ENG	
3-016-003	Supply Time: M	*ENG	
3-016-004	Supply Time: Y	*ENG	

3041	[Pro Con Type]		
3-041-001	Voltage Control	*ENG	[0 or 1 / **1** / 1/step] Alphanumeric 0: FIXED (Use the fixed values for the charge DC bias and development DC bias set with SP2-005 and SP2-229.) 1: CONTROL
	Enables or disables the process control.		
3-041-002	LD Power Control	*ENG	[0 or 1 / **1** / 1/step] Alphanumeric 0: FIXED (at the value in SP2221-xxx) 1: CONTROL (adjusted by process control)
	Selects the LD power control mode.		
3-041-003	AtCtrl PrhbtSet	*ENG	[0 or 1 / **0** / 1/step]
	DFU		

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3-041-004	Pre-ACC Proc Ctrl	*ENG	[0 to 2 / **2** / 1/step]
			0: Not Execute
			1: Process Control
			2: TC Control
	Selects the process control mode that is done before ACC.		
3-041-005	Pat Calc Method	*ENG	[0 to 2 / **0** / 1/step]
			0: FIXED
			1: INITIALIZED
			2: CALCULATED

3043	[TD Adjust Mode]		
3-043-001	Rept Nmbr:PowerON	*ENG	[0 to 9 / **4** / 1 time/step]
	Specifies the maximum number of repeats of the toner density adjustment at power on.		
	0: Disabled, 1 to 3: Repeat number,		
	4: Repeat three times (No consumption mode)		
	5: Repeat three times (Toner is supplied only when the toner density is too low, and toner is consumed only when the toner density is too dark.)		
	6 to 9: Disabled		
3-043-002	Rept Nmbr:Initial	*ENG	[0 to 9 / **3** / 1 time/step]
	Specifies the maximum number of repeats of the toner density adjustment at the developer initialization.		
	0: Disabled, 1 to 3: Repeat number,		
	4: Repeat three times (No consumption mode)		
	5: Repeat three times (Toner is supplied only when the toner density is too low, and toner is consumed only when the toner density is too dark.)		
	6 to 9: Disabled		

3-043-003	Rept Nmbr:Non-use	*ENG	[0 to 9 / **0** / 1 time/step]
	Specifies the maximum number of repeats of the toner density adjustment in stand by mode. 0: Disabled, 1 to 3: Repeat number, 4: Repeat three times (No consumption mode) 5: Repeat three times (Toner is supplied only when the toner density is too low, and toner is consumed only when the toner density is too dark.) 6 to 9: Disabled		
3-043-004	Repeat Number: ACC	*ENG	[0 to 9 / **3** / 1 time/step]
	Specifies the maximum number of repeats of the toner density adjustment at ACC. 0: Disabled, 1 to 3: Repeat number, 4: Repeat three times (No consumption mode) 5: Repeat three times (Toner is supplied only when the toner density is too low, and toner is consumed only when the toner density is too dark.) 6 to 9: Disabled		
3-043-005	Rept Nmbr:Recvry	*ENG	[0 to 9 / **3** / 1 time/step]
	Not used		
3-043-006	Rept Nmbr:Job End	*ENG	[0 to 9 / **4** / 1 time/step]
	Specifies the maximum number of repeats of the toner density adjustment at job end. 0: Disabled, 1 to 3: Repeat number, 4: Repeat three times (No consumption mode) 5: Repeat three times (Toner is supplied only when the toner density is too low, and toner is consumed only when the toner density is too dark.) 6 to 9: Disabled		
3-043-007	Rept Nmbr:Intrrpt	*ENG	[0 to 9 / **0** / 1 time/step]
	Specifies the maximum number of repeats of the toner density adjustment during printing. **DFU**		

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3-043-018	CPttrn:LD:DUTY:Bk		*ENG	[0 to 15 / **15** / 1 /step]
	Adjusts the LD duty for the toner consumption mode at the toner density adjustment. In toner consumption mode, toner is discharged when the detected development gamma values (SP3611-001) exceed the target values (SP3611-005) by more than the specified thresholds (SP3239-009).			
3-043-019	CPttrn:LD:DUTY:C		*ENG	[0 to 15 / **15** / 1 /step]
	Adjusts the LD duty for the toner consumption mode at the toner density adjustment. In toner consumption mode, toner is discharged when the detected development gamma values (SP3611-002) exceed the target values (SP3611-006) by more than the specified thresholds (SP3239-009).			
3-043-020	CPttrn:LD:DUTY:M		*ENG	[0 to 15 / **15** / 1 /step]
	Adjusts the LD duty for the toner consumption mode at the toner density adjustment. In toner consumption mode, toner is discharged when the detected development gamma values (SP3611-003) exceed the target values (SP3611-007) by more than the specified thresholds (SP3239-009).			
3-043-021	CPttrn:LD:DUTY:Y		*ENG	[0 to 15 / **15** / 1 /step]
	Adjusts the LD duty for the toner consumption mode at the toner density adjustment. In toner consumption mode, toner is discharged when the detected development gamma values (SP3611-004) exceed the target values (SP3611-008) by more than the specified thresholds (SP3239-009).			

3044	[Toner Supply Type] Toner Supply Type ([Color])		
	Selects the toner supply method type.		
3-044-001	Bk	*ENG	[0 to 4 / **4** / 1/step] Alphanumeric
3-044-002	C	*ENG	0: FIXED (with the supply rates stored with SP 3401)
3-044-003	M	*ENG	1: PID (Vtref_Fixed)
3-044-004	Y	*ENG	2: PID (Vtref_Control)
			3: MBD (Vtref_Fixed)
			4: MBD (Vtref_Control)

3045	[TnrEnd Detect:Set]		
	Enables/disables the toner alert display on the LCD.		
3-045-001	ON/OFF	*ENG	**DFU** [0 or 1 / **0** / 1/step] 0: Detect, 1: Not Detect

3101	[Toner End/Near End]		
	Displays the amount of each color toner. **DFU**		
3-101-001	Toner Replen.:Bk	*ENG	[1 to 600 / **360** / 1 g/step]
3-101-002	Toner Replen.:C	*ENG	
3-101-003	Toner Replen.:M	*ENG	
3-101-004	Toner Replen.:Y	*ENG	
005-008	Displays the consumed amount of each color toner.		
3-101-005	Toner Consum.:Bk	*ENG	[0 to 3000 / **0** / 0.001 g/step]
3-101-006	Toner Consum.:C	*ENG	
3-101-007	Toner Consum.:M	*ENG	
3-101-008	Toner Consum.:Y	*ENG	
009-012	Displays the remaining amount of each color toner. These are calculated by the operating times of the toner supply pumps.		
3-101-009	Toner Remain.:Bk	*ENG	[−50000 to 600 / **0** / 0.001 g/step]
3-101-010	Toner Remain.:C	*ENG	
3-101-011	Toner Remain.:M	*ENG	
3-101-012	Toner Remain.:Y	*ENG	
013-016	Adjusts the threshold of toner near end for each color. The toner near end message appears on the LCD when the remaining toner amount reaches this threshold. When one of these SPs (SP3-101-009 to 012 or -032 to -035) reaches this threshold, toner near end is detected.		

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3-101-013	Near End Thresh: Bk	*ENG	[0 to 600 / **45** / 1 g/step]
3-101-014	Near End Thresh: C	*ENG	
3-101-015	Near End Thresh: M	*ENG	
3-101-016	Near End Thresh: Y	*ENG	
032-035	Displays the remaining toner amount for each color, using pixel count.		
3-101-032	Pixel:Remain.:Bk	*ENG	[-50000 to 600 / **0** / 0.001 g/step]
3-101-033	Pixel:Remain.:C	*ENG	
3-101-034	Pixel:Remain.:M	*ENG	
3-101-035	Pixel:Remaining:Y	*ENG	

3102	[Ton End/Recvry] Not used		
	Adjusts the number of times toner supply is attempted for each color when the TD sensor continues to detect toner end during toner recovery.		
3-102-001	Repeat: Bk	*ENG	[1 to 20 / **5** / 1 time/step]
3-102-002	Repeat: C	*ENG	
3-102-003	Repeat: M	*ENG	
3-102-004	Repeat: Y	*ENG	

3201	[TD Sn :Vt Disp]		
	Display the current voltage of the TD sensor for each color.		
3-201-001	Current: Bk	*ENG	[0 to 5.5 / **0.01** / 0.01 V/step]
3-201-002	Current: C	*ENG	
3-201-003	Current: M	*ENG	
3-201-004	Current: Y	*ENG	

3221	[Vtcnt: Display/Set]		
	Displays or adjusts the current Vtcnt value for each color.		

3-221-001	260 Current: Bk	*ENG	[2.45 to 5 / **3.7** / 0.01 V/step]
3-221-002	260 Current: C	*ENG	
3-221-003	260 Current: M	*ENG	
3-221-004	260 Current: Y	*ENG	
3-221-009	182 Current: Bk	*ENG	[2.45 to 5 / **3.5** / 0.01 V/step]
3-221-010	182 Current: C	*ENG	
3-221-011	182 Current: M	*ENG	
3-221-012	182 Current: Y	*ENG	

3222	[Vtref:Display/Set]		
	Displays or adjusts the current Vtref value for each color.		
3-222-001	Current: Bk	*ENG	[0 to 5.5 / **3** / 0.01 V/step]
3-222-002	Current: C	*ENG	
3-222-003	Current: M	*ENG	
3-222-004	Current: Y	*ENG	

3239	[Vtref Correct:Set]		
	Adjusts the parameter for Vtref correction at the process control.		
3-239-015	Correct Value Coef	*ENG	[1 to 9.99 / **2.5** / 0.01 /step]

3242	[LD Power Setting]		
	Adjusts the coefficient for LD power control value at the process control.		
3-242-001	StdSpd:Coef: Bk	*ENG	[-1000 to 1000 / **152** / 1 /step]
3-242-002	StdSpd:Coef: C	*ENG	
3-242-003	StdSpd:Coef: M	*ENG	
3-242-004	StdSpd:Coef: Y	*ENG	

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3-242-005	StdSpd:Offset: Bk	*ENG	[-1000 to 1000 / **7** / 1 /step]
3-242-006	StdSpd:Offset: C	*ENG	
3-242-007	StdSpd:Offset: M	*ENG	
3-242-008	StdSpd:Offset: Y	*ENG	
3-242-009	MidSpd:Coef:Bk	*ENG	[-1000 to 1000 / **141** / 1 /step]
3-242-010	MidSpd:Coef:C	*ENG	
3-242-011	MidSpd:Coef:M	*ENG	
3-242-012	MidSpd:Coef:Y	*ENG	
3-242-013	MidSpd:Offset:Bk	*ENG	[-1000 to 1000 / **13** / 1 /step]
3-242-014	MidSpd:Offset:C	*ENG	
3-242-015	MidSpd:Offset:M	*ENG	
3-242-016	MidSpd:Offset:Y	*ENG	
3-242-017	LowSpd:Coef:Bk	*ENG	[-1000 to 1000 / **123** / 1 /step]
3-242-018	LowSpd:Coef:C	*ENG	
3-242-019	LowSpd:Coef:M	*ENG	
3-242-020	LowSpd:Coef:Y	*ENG	
3-242-021	LowSpd:Offset:Bk	*ENG	[-1000 to 1000 / **16** / 1 /step]
3-242-022	LowSpd:Offset:C	*ENG	
3-242-023	LowSpd:Offset:M	*ENG	
3-242-024	LowSpd:Offset:Y	*ENG	

3251	[Coverage]
	These (-001 to -016) are coefficients for SP3-222-009 to -012.

3-251-001	Latest: Pixcel Bk	ENG	Displays the latest coverage for each color.
3-251-002	Latest: Pixcel C	ENG	[0 to 9999 / 0 / 1 cm^2/step]
3-251-003	Latest: Pixcel M	ENG	
3-251-004	Latest: Pixcel Y	ENG	
005-008	Displays the average coverage of each color for the Vtref correction. "Average S" is defined when the number of developed pages does not reach the number specified with SP3251-017.		
3-251-005	Average S: Bk	*ENG	[0 to 100 / 5 / 0.01%/step]
3-251-006	Average S: C	*ENG	
3-251-007	Average S: M	*ENG	
3-251-008	Average S: Y	*ENG	
009-012	Displays the average coverage of each color for the Vtref correction. "Average M" is defined when the number of developed pages does not reach the number specified with SP3251-018.		
3-251-009	Average M: Bk	*ENG	[0 to 100 / 5 / 0.01%/step]
3-251-010	Average M: C	*ENG	
3-251-011	Average M: M	*ENG	
3-251-012	Average M: Y	*ENG	
013-016	Displays the average coverage of each color for the Vtref correction. "Average L" is defined when the number of developed pages does not reach the number specified with SP3-251-019.		
3-251-013	Average L: Bk	*ENG	[0 to 100 / 5 / 0.01%/step]
3-251-014	Average L: C	*ENG	
3-251-015	Average L: M	*ENG	
3-251-016	Average L: Y	*ENG	
017-019	Adjusts the threshold for SP3-251-005 to -016.		
3-251-017	Total Page Set:S	*ENG	[1 to 100 / 50 / 1 sheet/step]

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3-251-018	Total Page Set:M	*ENG	[1 to 500 / **10** / 1 sheet/step]
3-251-019	Total Page Set:L	*ENG	[1 to 999 / **50** / 1 sheet/step]
020-022	Adjusts the threshold for SP3-251-024 to -027.		
3-251-020	Total Page Set:S2	*ENG	[1 to 100 / **20** / 1 sheet/step]
3-251-021	Total Page Set:M2	*ENG	[1 to 500 / **10** / 1 sheet/step]
3-251-022	Total Page Set:L2	*ENG	[1 to 999 / **50** / 1 sheet/step]
024-027	Displays the latest coverage ratio for each color.		
3-251-024	LatestCoverage:Bk	ENG	[0 to 100 / **0** / 0.01%/step]
3-251-025	Latest Coverage:C	ENG	
3-251-026	Latest Coverage:M	ENG	
3-251-027	Latest Coverage:Y	ENG	

3311	[IDSn Detect Value]		
	Displays the ID sensor (regular) offset voltage for Vsg adjustments.		
3-311-001	Voffset reg: Bk	*ENG	[0 to 5 / **0** / 0.01 V/step]
3-311-002	Voffset reg: C	*ENG	[0 to 5.5 / **0** / 0.01 V/step]
3-311-003	Voffset reg: M	*ENG	
3-311-004	Voffset reg: Y	*ENG	
005-007	Displays the ID sensor (diffusion) offset voltage for Vsg adjustments.		
3-311-005	Voffset dif: C	*ENG	[0 to 5.5 / **0** / 0.01 V/step]
3-311-006	Voffset dif: M	*ENG	
3-311-007	Voffset dif: Y	*ENG	
008-010	Displays the ID sensor offset voltage for Vsg adjustments.		
3-311-008	Voffset TM (Front)	*ENG	[0 to 5.5 / **0** / 0.01 V/step]
3-311-009	Voffset TM (Center)	*ENG	
3-311-010	Voffset TM (Rear)	*ENG	

3321	[Vsg Adjust: Exe.]		
3-321-010	P/TM Sensor All	ENG	Execute the ID sensor initialization setting for all sensors

3322	[Vsg Adj. Rslt:Vsg]		
	Displays the result value of the Vsg adjustment for each sensor.		
3-322-001	Vsg reg: Bk	*ENG	[0 to 5.5 / **0** / 0.01 V/step]
3-322-002	Vsg reg: C	*ENG	
3-322-003	Vsg reg: M	*ENG	
3-322-004	Vsg reg: Y	*ENG	
3-322-005	Vsg dif: C	*ENG	
3-322-006	Vsg dif: M	*ENG	
3-322-007	Vsg dif: Y	*ENG	
3-322-008	Vsg TM (Front)	*ENG	
3-322-009	Vsg TM (Center)	*ENG	
3-322-010	Vsg TM (Rear)	*ENG	

3325	[Vsg Adjust Result]
	Displays the result of the Vsg adjustment.
	The displayed numbers mean the result of each sensor (sensor for Front, sensor for Bk, sensor for Cyan, sensor for Center, sensor for Magenta, sensor for Yellow and sensor for Rear).

3-325-001	Latest	*ENG	[111 to 9999 / **9999** / 1 /step]
3-325-002	Latest 1	*ENG	9: Unexpected error
3-325-003	Latest 2	*ENG	3: Offset voltage error
3-325-004	Latest 3	*ENG	2: Vsg adjustment value error
3-325-005	Latest 4	*ENG	1: O.K
3-325-006	Latest 5	*ENG	
3-325-007	Latest 6	*ENG	
3-325-008	Latest 7	*ENG	
3-325-009	Latest 8	*ENG	
3-325-010	Latest 9	*ENG	

3363	[IDPatTimSet] DFU		
3-363-004	MUSIC Delay Time	*ENG	Adjusts the processing timing for the pattern that is used for the line position adjustment. [-2500 to 2500 / **300** / 1 msec/step]

3401	[Fixed Supply Mode]		
	Adjusts the toner supply rate in the fixed toner supply mode.		
3-401-001	Fixed Rate: Bk	*ENG	[0 to 100 / **5** / 1%/step] These SPs are used only when SP3-044 is set to "0".
3-401-002	Fixed Rate: C	*ENG	
3-401-003	Fixed Rate: M	*ENG	
3-401-004	Fixed Rate: Y	*ENG	

3411	[TnrSpplyRate:Dspl]
	Displays the current toner supply rate.

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3-411-001	Latest: Bk	*ENG	[0 to 100 / - / 1 %/step]
3-411-002	Latest: C	*ENG	
3-411-003	Latest: M	*ENG	
3-411-004	Latest: Y	*ENG	

3421	[Toner Supply Range]		
3-421-001	Upper Limit: Bk	*ENG	Adjusts the toner supply rate during printing.
3-421-002	Upper Limit: C	*ENG	[0 to 100 / **100** / 1%/step]
3-421-003	Upper Limit: M	*ENG	
3-421-004	Upper Limit: Y	*ENG	
3-421-005	Min.SupplyTime:Bk	*ENG	Adjusts the minimum toner supply time.
3-421-006	Min.SupplyTime:C	*ENG	[0 to 1000 / **200** / 1 msec/step]
3-421-007	Min.SupplyTime:M	*ENG	
3-421-008	Min.SupplyTime:Y	*ENG	

3453	[Toner Supply:Set]		
	Adjusts the toner supply time.		
3-453-001	MtContMaxDrTime	*ENG	[0 to 10000 / **800** / 1 msec/step]
3-453-002	MtBreakTime	*ENG	[0 to 10000 / **200** / 1 msec/step]

3501	[ProCon Target M/A]		
	Adjusts the target M/A of the full coverage in single color printer mode.		
3-501-001	Maximum M/A: Bk	*ENG	[0 to 1 / **0.482** / 0.001 mg/cm^2/step]
3-501-002	Maximum M/A: C	*ENG	[0 to 1 / **0.5** / 0.001 mg/cm^2/step]
3-501-003	Maximum M/A: M	*ENG	
3-501-004	Maximum M/A: Y	*ENG	

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3510	[ImgAdj.Cuntr:Dspl]		
	Displays the total page counter for each adjustment mode.		
3-510-001	Pro.Control:BW	*ENG	[0 to 2000 / **0** / 1 page/step]
3-510-002	Pro.Control:FC	*ENG	
3-510-003	Power ON: BW	*ENG	
3-510-004	Power ON: FC	*ENG	
3-510-005	MUSIC: BW	*ENG	
3-510-006	MUSIC: FC	*ENG	
3-510-007	Vsg Adj.	*ENG	
3-510-008	Charge AC Control	*ENG	
3-510-009	MUSIC:Power ON:BW	*ENG	
3-510-010	MUSIC:Power ON:FC	*ENG	

3511	[Exe.Interval:Set]		
	Adjusts the threshold for each adjustment mode.		
3-511-001	Job End:ProCon:BW	*ENG	[0 to 2000 / **250** / 1 page/step]
3-511-002	Job End:ProCon:FC	*ENG	[0 to 2000 / **85** / 1 page/step]
3-511-003	Intrrpt:ProCon:BW	*ENG	[0 to 2000 / **500** / 1 page/step]
3-511-004	Intrrpt:ProCon:FC	*ENG	[0 to 2000 / **200** / 1 page/step]
3-511-005	Initial:ProCon:BW	*ENG	[0 to 2000 / **250** / 1 page/step]
3-511-006	Initial:ProCon:FC	*ENG	[0 to 2000 / **100** / 1 page/step]
3-511-007	Vsg Adj. Counter	*ENG	[0 to 2000 / **0** / 1 page/step]
3-511-008	ChrgAC Ctrl Count	*ENG	[0 to 2000 / **500** / 1 page/step]
3-511-019	Env.Crrct:ON/OFF	*ENG	[0 or 1 / **1** / 1 /step]
3-511-020	Gamma Correction	*ENG	0: Not Correct (OFF),
3-511-021	NoUseT Cor:ON/OFF	*ENG	1: Correct (ON)

3-511-022	Cor. Coef.1:JE:BW	*ENG	[0 to 1 / **0.2** / 0.01/step]
3-511-023	Cor. Coef.2:JE:BW	*ENG	[0 to 1 / **1** / 0.01/step]
3-511-024	Cor. Coef.1:JE:FC	*ENG	[0 to 1 / **0.59** / 0.01/step]
3-511-025	Cor. Coef.2:JE:FC	*ENG	[0 to 1 / **1** / 0.01/step]
3-511-026	CorCoef1:Intpt:BW	*ENG	[0 to 1 / **0.1** / 0.01/step]
3-511-027	CorCoef2:Intpt:BW	*ENG	[0 to 1 / **1** / 0.01/step]
3-511-028	CorCoef1:Intpt:FC	*ENG	[0 to 1 / **0.25** / 0.01/step]
3-511-029	CorCoef2:Intpt:FC	*ENG	[0 to 1 / **1** / 0.01/step]
3-511-030	MaxNmbrCor.Thresh	*ENG	[0 to 99 / **5** / 1/step]
3-511-031	MaxNmbrCor. Count	*ENG	[0 to 255 / **0** / 1/step]

3512	[Image Adj.: Interval]		
	Adjusts the timing for execution of process control and line position adjustment during printing.		
3-512-001	During Job	*ENG	[0 to 100 / **10** / 1 page/step]
3-512-002	During Stand-by	*ENG	[0 to 100 / **10** / 1 minute/step]

3513	[PCU M StopTime:Bk]		
	Displays the last time that the PCU motors stopped. These are used for process control execution timing.		
3-513-001	Year	*ENG	[0 to 99 / **0** / 1/step]
3-513-002	Month	*ENG	[1 to 12 / **1** / 1/step]
3-513-003	Day	*ENG	[1 to 31 / **1** / 1/step]
3-513-004	Hour	*ENG	[0 to 23 / **0** / 1/step]
3-513-005	Minute	*ENG	[0 to 59 / **0** / 1/step]

3514	[Env Disp:Job End]		
	Displays the environmental conditions at the last job. These are used for process control execution timing.		
3-514-001	Temperature	*ENG	[-1280 to 1270 / **0** / 0.1°C/step]
3-514-002	Relative Humidity	*ENG	[0 to 1000 / **-** / 0.1%RH/step]
3-514-003	Absolute Humidity	*ENG	[0 to 1000 / **-** / 0.1 g/cm^3/step]

3515	[Exec Intvl:Disp]		
	Displays the current interval for process control execution. When the machine calculates the timing for process control, it uses a number of conditions. These are the results after considering all the conditions.		
3-515-001	Job End:ProCon:BW	*ENG	[0 to 2000 / **500** / 1 page/step]
3-515-002	Job End:ProCon:FC	*ENG	[0 to 2000 / **200** / 1 page/step]
3-515-003	Intrrpt:ProCon:BW	*ENG	[0 to 2000 / **500** / 1 page/step]
3-515-004	Intrrpt:ProCon:FC	*ENG	[0 to 2000 / **200** / 1 page/step]

3516	[Refresh Mode] DFU		
	While making prints with low coverage, the developer is agitated with less toner consumption and the toner carrier attraction tends to increase. This may cause low image density or poor transfer (white dots). To prevent this, the coagulated toner or overcharged toner has to be consumed by performing the refresh mode.		
3-516-001	Dev.MRotatDspl:Bk	*ENG	[0 to 1000 / **0** / 0.1 m/step]
3-516-002	Dev.MRotatDspl:C	*ENG	
3-516-003	Dev.MRotatDspl:M	*ENG	
3-516-004	Dev.MRotatDspl:Y	*ENG	
3-516-005	Rotation Thresh	*ENG	[0 to 1000 / **0.1** / 1 m/step]

3-516-006	Pixel Cvrg Sum:Bk	*ENG	[0 to 65535 / **0** / 1 cm^2/step]
3-516-007	Pixel Cvrg Sum:C	*ENG	
3-516-008	Pixel Cvrg Sum:M	*ENG	
3-516-009	Pixel Cvrg Sum:Y	*ENG	
3-516-010	Required Area: Bk	*ENG	
3-516-011	Required Area: C	*ENG	
3-516-012	Required Area: M	*ENG	
3-516-013	Required Area: Y	*ENG	
3-516-014	Reflesh Thresh:Bk	*ENG	[0 to 255 / **35** / 1 cm^2/m/step]
3-516-015	Reflesh Thresh:C	*ENG	[0 to 255 / **18** / 1 cm^2/m/step]
3-516-016	Reflesh Thresh:M	*ENG	
3-516-017	Reflesh Thresh:Y	*ENG	
3-516-018	Pattern Number:Bk	*ENG	[0 to 255 / **0** / 1 time/step]
3-516-019	Pattern Number:C	*ENG	
3-516-020	Pattern Number:M	*ENG	
3-516-021	Pattern Number:Y	*ENG	
3-516-022	PttrnNmbr:ULimit	*ENG	[0 to 255 / **16** / 1 time/step]
3-516-023	TnrConsumPtrnArea	*ENG	[10 to 2550 / **130** / 10 cm^2/step]
3-516-024	Supply Coeff.	*ENG	[0 to 2.55 / **0.8** / 0.01/step]
3-516-025	JobEnd:Area Coef.	*ENG	[0.1 to 25.5 / **1** / 0.1/step]
3-516-026	JobEnd:Vb Coeff.	*ENG	[0 to 100 / **40** / 1%/step]
3-516-027	Job End Length	*ENG	[0 to 56 / **28** / 1mm/step]
3-516-028	Job End Supply	*ENG	[0 to 1 / **0.45** / 0.001 mg/cm^2/step]
3-516-029	TnCnmp:IntvlThsh	*ENG	[0 to 1000 / **0** / 1 page/step]
3-516-030	TnCnmp:Couter:Bk	*ENG	
3-516-031	TnCnmp:Couter:FC	*ENG	

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3-516-032	TnCnmp:IntvlThsh2	*ENG	[0 to 255 / **4** / 1 page/step]

3518	[ImgAdj. Exe. Flag] DFU		
3-518-008	MUSIC	*ENG	[0 to 2 / **0** / 1 /step]
3-518-009	Drum Phase Adj.	*ENG	[0 or 1 / **0** / 1/step] 0: OFF. 1: ON

3520	[TrunsferIdleTime] DFU		
3-520-001	Temperature:H	*ENG	Specifies the idle rotation times of the ITB after the process control. [0 or 3 / **1.9** / 1 revolution/step]
3-520-002	Temperature:M	*ENG	
3-520-003	Temperature:L	*ENG	
3-520-004	Temperature:L:ON	*ENG	
005 to 006	Adjusts the threshold temperature for entering the ITB idle rotation after the process control.		
3-520-005	TempRangeThrsh:T2	*ENG	[20 or 30 / **25** / 1 deg/step]
3-520-006	TempRangeThrsh:T1	*ENG	[0 or 15 / **15** / 1 deg/step]

3522	[Intl ProCon Set]		
	Adjusts the threshold for the process control at power on. When the current condition has changed by more than the values of these SPs when compared with the conditions at the previous operation, the process control at power on is executed.		
3-522-002	No-Use Time Set	*ENG	[0 to 1440 / **360** / 1 minute/step]
3-522-003	Temperature Range	*ENG	[0 to 99 / **10** / 1 deg/step]
3-522-004	RHumidity Change	*ENG	[0 to 99 / **50** / 1 %RH/step]
3-522-005	AHumidity Change	*ENG	[0 to 99 / **6** / 1 g/m^3/step]

3531	[No-use ProCon Set]		
	Adjusts the threshold for the process control at stand-by. When the current condition has changed by more than the values of these SPs when compared with the conditions at the previous operation, the process control at stand-by is executed.		
3-531-001	No-Use Time Set	*ENG	[0 to 1440 / **360** / 1 minute/step]
3-531-002	Temperature Range	*ENG	[0 to 99 / **10** / 1 deg/step]
3-531-003	RHumidity Change	*ENG	[0 to 99 / **50** / 1 %RH/step]
3-531-004	AHumidity Change	*ENG	[0 to 99 / **6** / 1 g/m^3/step]
3-531-005	Max. Exe. Number	*ENG	Adjusts the maximum execution time for the process control at stand-by. [0 to 99 / **10** / 1 time/step]

3611	[DevGamma:Dspl/Set]		
3-611-001	Bk (Current)	*ENG	Displays the current development gamma for Bk [0 to 5 / **0** / 0.01 mg/cm^2/kV /step]
3-611-002	C (Current)	*ENG	Displays the current development gamma for C/M/Y. [0 to 5 / **0** / 0.01 mg/cm^2/kV /step]
3-611-003	M (Current)	*ENG	
3-611-004	Y (Current)	*ENG	
3-611-005	Bk(TargetDisplay)	*ENG	Displays the target development gamma for Bk. [0 to 5 / **0.85** / 0.01 mg/cm^2/kV /step]
3-611-006	C (TargetDisplay)	*ENG	Displays the target development gamma for C/M/Y. [0 to 5 / **0.85** / 0.01 mg/cm^2/kV /step]
3-611-007	M (TargetDisplay)	*ENG	[0 to 5 / **0.8** / 0.01 mg/cm^2/kV /step]
3-611-008	Y (TargetDisplay)	*ENG	[0 to 5 / **0.77** / 0.01 mg/cm^2/kV /step]

3800	[Toner Collection Bttl Full]		

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3-800-001	Full Detect Date	*ENG	Displays the date of the near full detection for the wate toner bottle.

3902	[Man. New Unit Set]		
	Turns the new unit detection flag for each PM unit on or off.		
3-902-001	Deve. Unit:Bk	*ENG	[0 or 1 / **0** / -]
3-902-002	Deve. Unit:C	*ENG	0: OFF, 1: ON
3-902-003	Deve. Unit:M	*ENG	
3-902-004	Deve. Unit:Y	*ENG	
3-902-009	PCU: Bk	*ENG	[0 or 1 / **0** / -]
3-902-010	PCU: C	*ENG	0: OFF, 1: ON
3-902-011	PCU: M	*ENG	
3-902-012	PCU: Y	*ENG	
3-902-013	ITB Unit	*ENG	[0 or 1 / **0** / -]
3-902-014	Fusing Unit	*ENG	0: OFF, 1: ON
3-902-015	Fusing Roller	*ENG	Do not use 3902-013 if you only change the cleaning unit.
3-902-016	Fusing Belt	*ENG	3902-015: This is for the image transfer belt cleaning unit.
3-902-017	ITB Cleaning Unit	*ENG	
3-902-018	PTR Unit	*ENG	[0 or 1 / **0** / -]
3-902-020	ITB TCollect Bttl	*ENG	0: OFF, 1: ON

Engine SP Mode Tables - SP4000

There are no Group 4 SP modes for this machine.

Engine SP Mode Tables - SP5000

SP5-XXX (Mode)

5001	[All Indecators On]	*CTL	-
	Turns on or off the all indicators on the operation panel.		

5024	[mm/inch Display Selection]		
	Display units (mm or inch) for custom paper sizes.		
5-024-001	0:mm 1:inch	*CTL	0: mm (Europe/Asia) 1: inch (USA)

5045	[Accounting Counter]		
	Selects the counting method. NOTE: The counting method can be changed only once, regardless of whether the counter value is negative or positive.		
5-045-001	Counter Method	*CTL	[0 or 1 / **0** / - /step] 0: Developments 1: Prints

5051	[Toner Refill Detection Display]		
	Enables or disables the toner refill detection display.		
5-051-001	-	*CTL	[0 or 1 / **0** / - /step] Alphanumeric 0: ON 1: OFF

5055	[Display IP Address]		
	Display or does not display the IP address on the operation panel.		
5-055-001	-	*CTL	[0 or 1 / **0** / - /step] 0: No, 1: Yes

5074	[Home Key Customization] Not used		
	Sets applications that appear on the operation panel when the [Home] key is pressed.		
5-074-002	Login Setting	*CTL	[0 to 0xFF / **00000000** / 1/step] Sets login operation mode for panel display.
5-074-050	Show Home Edit	*CTL	[0 to 2 / **0** / 1/step] 0: Function disable 1: SDK application 2: Legacy application (reserved)
5-074-091	Function Setting	*CTL	[0 to 2 / **0** / 1/step] 0: Function disable 1: SDK application 2: Legacy application (reserved)
5-074-092	Product ID	*CTL	[0 to 0xFFFF FFFF/ **0** / 1/step] Sets the application product ID.
5-074-093	Application Screen ID	*CTL	[0 to 255 / **0** / 1/step] Sets the display category of the application that is specified in the SP5075-001 Setting for future function enhancement.

5083	[LED Light Switch]		
	Turns on or off the LED at the toner near end or waste toner near end.		
5-083-001	Toner Near End	*CTL	[0 or 1 / **0** / 1/step] 0: OFF, 1: ON
5-083-002	Waste Toner Near End	*CTL	[0 or 1 / **0** / 1/step] 0: OFF, 1: ON

5131	[PSize/Type Select]

5-131-001	1.NA 2.EU ASIA	*ENG	[0 to 2 / **1: NA, 2: EU/ASIA** / 1/step]
			0: Japan, 1: NA, 2: EU/ASIA
	Selects the paper size type (for originals and paper). After changing the value, turn the main power switch off and on.		

5169	[CE Login]		
	If you will change the printer bit switches, you must 'log in' to service mode with this SP before you go into the printer SP mode.		
5-169-001	-	*CTL	[0 or 1 / **0** / - /step]
			0: Disabled
			1: Enabled

5186	[RK 4]		
	Enables or disables the prevention for RK4 (accounting device) disconnection. If the RK4 is disconnected for 10 seconds when this SP is set to "1 (Enable)", the machine automatically jams a sheet of paper and stops.		
5-186-001	-	*ENG	[0 or 1 / **0** / 1/step]
			0: Disable
			1: Enable

5191	[Power Setting]		
	Shifts to the power save mode or not.		
5-191-001	Power Str	*CTL	[0 or 1 / **1** / 1/step]
			0: OFF, 1: ON

| 5195 | [Limitless SW] DFU | |

5-195-001	-		*CTL	[0 or 1 / **0** / - /step]
				0: Productivity priority
				1: Tray priority
	Selects the paper feed mode.			
	Productivity priority:			
	This changes the feeding tray as soon as the machine detects the priority tray even the paper still remains in the feeding tray.			
	Tray priority:			
	This changes the feeding tray after the paper in the tray where the machine has been feeding paper has been run out of.			
	This SP is activated only when a customer selects the "Auto Paper Selsct".			

5302	[Set Time]			
	Adjusts the RTC (real time clock) time setting for the local time zone.			
	Examples: For Japan (+9 GMT), enter 540 (9 hours x 60 min.)			
	DOM: +540 (Tokyo)			
	NA: -300 (New York)			
	EU: + 60 (Paris)			
	CH: +480 (Peking)			
	TW: +480 (Taipei)			
	AS: +480 (Hong Kong)			
	KO: +540 (Korea)			
5-302-002	Time Difference		*CTL	[-1440 to 1440 / **Area** / 1 min./step]

5305	[Auto Off Set]			
	Turns on or off the limitation for the auto power off function.			
5-305-101	Auto Off Limit Set		*CTL	[0 to 1 / **0** / 1/step]
				0: Limitation off
				1: Limitation on

5307	[Daylight Saving Time]

5-307-001	ON/OFF		CTL	[0 to 1 / **NA, EU, ASIA** / 1 /step]
				0: Disabled
				1: Enabled
				NA and EUR: 1, ASIA: 0

Enables or disables the summer time mode.

◉Note

- Make sure that both SP5-307-3 and -4 are correctly set. Otherwise, this SP is not activated even if this SP is set to "1".

5-307-003	Start		CTL	

Specifies the start setting for the summer time mode.

There are 8 digits in this SP. For months 1 to 9, the "0" cannot be input in the first digit, so the eight-digit setting for -2 or -3 becomes a seven-digit setting.

1st and 2nd digits: The month. [1 to 12]

3rd digit: The week of the month. [1 to 5]

4th digit: The day of the week. [0 to 6 = Sunday to Saturday]

5th and 6th digits: The hour. [00 to 23]

7th digit: The length of the advanced time. [0 to 9 / 1 hour /step]

8th digit: The length of the advanced time. [0 to 5 / 10 minutes /step]

For example: 3500010 (EU default)

The timer is advanced by 1 hour at am 0:00 on the 5th Sunday in March

- The digits are counted from the left.
- Make sure that SP5-307-1 is set to "1".

5-307-004	End		CTL	-

Specifies the end setting for the summer time mode.

There are 8 digits in this SP.

1st and 2nd digits: The month. [1 to 12]

3rd digit: The week of the month. [0 to 5]

4th digit: The day of the week. [0 to 7 = Sunday to Saturday]

5th and 6th digits: The hour. [00 to 23]

The 7th and 8 digits must be set to "00".

- The digits are counted from the left.
- Make sure that SP5-307-1 is set to "1".

5401	[Access Control]		
	When installing the SDK application, SAS (VAS) adjusts the following settings. **DFU**		
5-401-104	Authentication Time	*CTL	[0 to 255 / **0** / 1 second /step]
	Specifies the time for the authentication timeout. 0 = 60 seconds, 1 to 255 = displayed time (seconds)		
5-401-162	Extend Certification Detail	*CTL	Selects the log out type for the extend authentication device. Bit 0: Log-out without an IC card 0: Not allowed (default) 1: Allowed
5-401-200	SDK1 Unique ID	*CTL	"SDK" is the "Software Development Kit". This data can be converted from SAS (VAS) when installed or uninstalled. **(DFU)**
5-401-201	SDK1 Certification Method	*CTL	
5-401-210	SDK2 Unique ID	*CTL	
5-401-211	SDK2 Certification Method	*CTL	
5-401-220	SDK3 Unique ID	*CTL	
5-401-221	SDK3 Certification Method	*CTL	
5-401-230	SDK certification device	*CTL	-
	• Bit 0: SDK authentication 0: Off (Default), 1: On (SDK authentication enabled) Selects the SDK authentication setting. • Bit 2: Administrator log in setting 0: Off (Default), 1: On		

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5-401-240	Detail Option	*CTL	-
	Enalbes or disables the log out confirmation option. • Bit 0: Log out confirmation option 　0: Enable (default), 1: Disable 　Selects the automatic log out time. • Bit 1 and 2: Automatic log out timer reduction 　00: 60 seconds (default), 01: 10 seconds, 　10: 20 seconds, 11: 30 seconds		

5402	[Access Control]		
5-402-101	SDKJ1 Limit Setting	*CTL	[0 to 0xFF / 00000000 / 1/step]
5-402-102	SDKJ2 Limit Setting	*CTL	bit0: SDKJ Authentication
5-402-103	SDKJ3 Limit Setting	*CTL	-0: Panel Type
5-402-104	SDKJ4 Limit Setting	*CTL	-1: Remote Type
5-402-105	SDKJ5 Limit Setting	*CTL	bit1: Using user code setup
5-402-106	SDKJ6 Limit Setting	*CTL	-0: OFF, 1: ON
5-402-107	SDKJ7 Limit Setting	*CTL	bit2: Using key-counter setup
5-402-108	SDKJ8 Limit Setting	*CTL	-0: OFF, 1: ON
5-402-109	SDKJ9 Limit Setting	*CTL	bit3: Using external billing device setup
5-402-110	SDKJ10 Limit Setting	*CTL	-0: OFF, 1: ON
5-402-111	SDKJ11 Limit Setting	*CTL	bit4: Using extended external billing device setup
5-402-112	SDKJ12 Limit Setting	*CTL	-0: OFF, 1: ON
5-402-113	SDKJ13 Limit Setting	*CTL	bit5 to 6: Not used
5-402-114	SDKJ14 Limit Setting	*CTL	bit7: Using extended function J limit users
5-402-115	SDKJ15 Limit Setting	*CTL	-0: OFF, 1: ON
5-402-116	SDKJ16 Limit Setting	*CTL	

5-402-117	SDKJ17 Limit Setting	*CTL	[0 to 0xFF / 00000000 / 1/step]
5-402-118	SDKJ18 Limit Setting	*CTL	bit0: SDKJ Authentication
5-402-119	SDKJ19 Limit Setting	*CTL	-0: Panel Type
			-1: Remote Type
5-402-120	SDKJ20 Limit Setting	*CTL	bit1: Using user code setup
5-402-121	SDKJ21 Limit Setting	*CTL	-0: OFF, 1: ON
5-402-122	SDKJ22 Limit Setting	*CTL	bit2: Using key-counter setup
			-0: OFF, 1: ON
5-402-123	SDKJ23 Limit Setting	*CTL	bit3: Using external billing device setup
5-402-124	SDKJ24 Limit Setting	*CTL	-0: OFF, 1: ON
5-402-125	SDKJ25 Limit Setting	*CTL	bit4: Using extended external billing device setup
5-402-126	SDKJ26 Limit Setting	*CTL	-0: OFF, 1: ON
5-402-127	SDKJ27 Limit Setting	*CTL	bit5 to 6: Not used
5-402-128	SDKJ28 Limit Setting	*CTL	bit7: Using extended function J limit users
5-402-129	SDKJ29 Limit Setting	*CTL	-0: OFF, 1: ON
5-402-130	SDKJ30 Limit Setting	*CTL	
5-402-141	SDKJ1 ProductID	*CTL	[0 to 0xFFFFFFFF / 0 / 1/step]
5-402-142	SDKJ2 ProductID	*CTL	[0 to 0xFFFFFFFF / 0 / 1/step]
5-402-143	SDKJ3 ProductID	*CTL	[0 to 0xFFFFFFFF / 0 / 1/step]
5-402-144	SDKJ4 ProductID	*CTL	[0 to 0xFFFFFFFF / 0 / 1/step]
5-402-145	SDKJ5 ProductID	*CTL	[0 to 0xFFFFFFFF / 0 / 1/step]
5-402-146	SDKJ6 ProductID	*CTL	[0 to 0xFFFFFFFF / 0 / 1/step]
5-402-147	SDKJ7 ProductID	*CTL	[0 to 0xFFFFFFFF / 0 / 1/step]
5-402-148	SDKJ8 ProductID	*CTL	[0 to 0xFFFFFFFF / 0 / 1/step]
5-402-149	SDKJ9 ProductID	*CTL	[0 to 0xFFFFFFFF / 0 / 1/step]
5-402-150	SDKJ10 ProductID	*CTL	[0 to 0xFFFFFFFF / 0 / 1/step]
5-402-151	SDKJ11 ProductID	*CTL	[0 to 0xFFFFFFFF / 0 / 1/step]
5-402-152	SDKJ12 ProductID	*CTL	[0 to 0xFFFFFFFF / 0 / 1/step]

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5-402-153	SDKJ13 ProductID	*CTL	[0 to 0xFFFFFFFF / 0 / 1/step]
5-402-154	SDKJ14 ProductID	*CTL	[0 to 0xFFFFFFFF / 0 / 1/step]
5-402-155	SDKJ15 ProductID	*CTL	[0 to 0xFFFFFFFF / 0 / 1/step]
5-402-156	SDKJ16 ProductID	*CTL	[0 to 0xFFFFFFFF / 0 / 1/step]
5-402-157	SDKJ17 ProductID	*CTL	[0 to 0xFFFFFFFF / 0 / 1/step]
5-402-158	SDKJ18 ProductID	*CTL	[0 to 0xFFFFFFFF / 0 / 1/step]
5-402-159	SDKJ19 ProductID	*CTL	[0 to 0xFFFFFFFF / 0 / 1/step]
5-402-160	SDKJ20 ProductID	*CTL	[0 to 0xFFFFFFFF / 0 / 1/step]
5-402-161	SDKJ21 ProductID	*CTL	[0 to 0xFFFFFFFF / 0 / 1/step]
5-402-162	SDKJ22 ProductID	*CTL	[0 to 0xFFFFFFFF / 0 / 1/step]
5-402-163	SDKJ23 ProductID	*CTL	[0 to 0xFFFFFFFF / 0 / 1/step]
5-402-164	SDKJ24 ProductID	*CTL	[0 to 0xFFFFFFFF / 0 / 1/step]
5-402-165	SDKJ25 ProductID	*CTL	[0 to 0xFFFFFFFF / 0 / 1/step]
5-402-166	SDKJ26 ProductID	*CTL	[0 to 0xFFFFFFFF / 0 / 1/step]
5-402-167	SDKJ27 ProductID	*CTL	[0 to 0xFFFFFFFF / 0 / 1/step]
5-402-168	SDKJ28 ProductID	*CTL	[0 to 0xFFFFFFFF / 0 / 1/step]
5-402-169	SDKJ29 ProductID	*CTL	[0 to 0xFFFFFFFF / 0 / 1/step]
5-402-170	SDKJ30 ProductID	*CTL	[0 to 0xFFFFFFFF / 0 / 1/step]

5404	[User Code Clear]		
5-404-001	-	*CTL	Clears all counters for users.
5-404-101	User Code Counter Clear	*CTL	Turns on or off the user code counter clear mode. [0 to 1 / 0 / 1 /step] 0: Clear, 1: No Clear

5411	[LDAP Certification]	

5-411-004	Simplified Authentication	*CTL	Determines whether easy LDAP certification is done. [0 to 1 / 1 / 1 /step] 1: On, 0: Off
5-411-005	Password Null Not Permit	*CTL	This SP is referenced only when SP5411-4 is set to "1" (On). [0 to 1 / 1 / 1 /step] 0: Password NULL not permitted. 1: Password NULL permitted.
5-411-006	Detail Option	*CTL	bit 0: anonymous atuthentication **0: OFF**, 1: ON bit 1 to 7: Not used

5412	[Krb-Certification]		
	Executes Kerberos certification according to certified encryption strength. Kerberos is a computer network authentication protocol which works on the basis of tickets to allow nodes communicating over a non-secure network to prove their identity to one another in a secure manner. Kerberos also refers to a suite of free software published by Massachusetts Institute of Technology (MIT) that implements the Kerberos protocol.		
5-412-100	Encrypt Mode	*CTL	[- / **11111111** / 1/step] 0x01:AES256-CTS-HMAC-SHA1-96 0x02:AES128-CTS-HMAC-SHA1-96 0x04:DES3-CBC-SHA1 0x08:RC4-HMAC 0x10:DES-CBC-MD5 0xFF(0x1F):ALL

5413	[Lockout Setting]		
5-413-001	Lockout On/Off	*CTL	Switches on/off the lock on the local address book account. [0 to 1 / **0** / 1 /step] 0: Off, 1: On

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5-413-002	Lockout Threshold	*CTL	Sets a limit on the frequency of lockouts for account lockouts. [1 to 10 / **5** / 1 /step]
5-413-003	Cancellation On/Off	*CTL	Determines whether the system waits the prescribed time for input of a correct user ID and password after an account lockout has occurred. [0 to 1 / **0** / 1 /step] 0: Off (no wait time, lockout not cancelled) 1: On (system waits, cancels lockout if correct user ID and password are entered.
5-413-004	Cancellation Time	*CTL	Determines the length of time that the system waits for correct input of the user ID and password after a lockout has occurred. This setting is used only if SP5413-3 is set to "1" (on). [1 to 9999 / **60** / 1 min. /step]

5414	[Access Mitigation]		
5-414-001	Mitigation On/Off	*CTL	Switches on/off masking of continuously used IDs and passwords that are identical. [0 to 1 / **0** /1/step] 0: Off 1: On
5-414-002	Mitigation Time	*CTL	Sets the length of time for excluding continuous access for identical user IDs and passwords. [0 to 60 / **15** / 1 min. /step]

5415	[Password Attack]		
5-415-001	Permissible Number	*CTL	Sets the number of attempts to attack the system with random passwords to gain illegal access to the system. [0 to 100 / **30** / 1 attempt /step]

5-415-002	Detect Time	*CTL	Sets the time limit to stop a password attack once such an attack has been detected. [1 to 10 / **5** / 1 sec. /step]

5416	[Access Information]		
5-416-001	User Max Num	*CTL	Limits the number of users used by the access exclusion and password attack detection functions. [50 to 200 / **200** / 1 users /step]
5-416-002	Password Max Num	*CTL	Limits the number of passwords used by the access exclusion and password attack detection functions. [50 to 200 / **200** / 1 passwords /step]
5-416-003	Monitor Interval	*CTL	Sets the processing time interval for referencing user ID and password information. [1 to 10 / **3** / 1 sec. /step]

5417	[Access Attack]		
5-417-001	Permissible Number	*CTL	Sets a limit on access attempts when an excessive number of attempts are detected for machine features. [0 to 500 / **100** / 1 /step]
5-417-002	Attack Detect Time	*CTL	Sets the length of time for monitoring the frequency of access to machine features. [10 to 30 / **10** / 1 sec. /step]
5-417-003	Cert Wait	*CTL	Sets the wait time to slow down the speed of certification when an excessive number of access attempts have been detected. [0 to 9 / **3** / 1 sec. /step]

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5-417-004	Attack Max Num	*CTL	Sets a limit on the number of requests received for certification in order to slow down the certification speed when an excessive number of access attempts have been detected. [50 to 200 / **200** /1 attempt /step]

5420	[User Authentication]		
	These settings should be done with the System Administrator. **Note**: These functions are enabled only after the user access feature has been enabled.		
5-420-041	Printer	*CTL	Determines whether certification is required before a user can use the printer applications. [0 to 1 / **0** / 1 /step] 0: On, 1: Off
5-420-051	SDK1	*CTL	[0 or 1 / **0** / 1 /step] 0: ON. 1: OFF Determines whether certification is required before a user can use the SDK application.
5-420-061	SDK2		
5-420-071	SDK3		

5481	[Authentication Error Code]		
	These SP codes determine how the authentication failures are displayed.		
5-481-001	System Log Disp	*CTL	Determines whether an error code appears in the system log after a user authentication failure occurs. [0 to 1 / **0** / 1 /step] 0: Off, 1: On

5501	[PM Alarm Interval]		
5-501-001	Printout	*CTL	[0 to 9999 / **0** / 1 / step] 0: Alarm off 1 to 9999: Alarm goes off when **Value (1 to 9999) x 1000 ≥ PM counter**

5504	[Jam Alarm]	*CTL	-
5-504-001	Sets the alarm to sound for the specified jam level (document misfeeds are not included). [0 to 3 / **3** / 1 /step] 0: Zero (Off) 1: Low (2.5K jams) 2: Medium (3K jams) 3: High (6K jams)		

5505	[Error Alarm]		
	Sets the error alarm level. The error alarm counter counts "1" when any SC is detected. However, the error alarm counter decreases by "1" when an SC is not detected during a set number of copied sheets (for example, default 1500 sheets). The error alarm occurs when the SC error alarm counter reaches "5".		
5-505-001	-	*CTL	[0 to 255 / **16** / 100 prints /step]

5507	[Supply/CC Alarm]	*CTL	-
	Enables or disables the notifying a supply call via the @Remote.		
5-507-001	Paper Size	**0**: Off, 1: On
5-507-003	Toner	0: Off, **1**: On
5-507-005	Drum	0: Off, **1**: On
5-507-006	Waste Toner Bottle	0: Off, **1**: On
5-507-007	Transfer Belt	0: Off, **1**: On
5-507-008	Fusing Unit	0: Off, **1**: On
5-507-080	Toner Call Timing	Changes the timing of the "Toner Supply Call" via the @Remote, when the following conditions occur. **0: At replacement** 1: At near end

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5-507-081	Toner Call Tresh	[10 to 90 / **10** / 1%/step]
		Changes the toner remaining threshold for the "Toner Supply Call" via the @Remote.
5-507-128	Interval :Others	[250 to 10000 / **1000** / 1 /step]
5-507-133	Interval :A4	
5-507-134	Interval :A5	
5-507-142	Interval :B5	
5-507-164	Interval :LG	
5-507-166	Interval :LT	
5-507-172	Interval :HLT	

5515	**[SC/Alarm Setting]**	
	With @Remote in use, these SP codes can be set to issue an SC call when an SC error occurs. If this SP is switched off, the SC call is not issued when an SC error occurs.	
5-515-001	SC Call	[0 or 1 / **1** / - /step]
		0: Off, 1: On
5-515-002	Service Parts Near End Call	[0 or 1 / **0** / - /step]
5-515-003	Service Parts End Call	0: Off, 1: On
5-515-004	User Call	[0 or 1 / **1** / - /step]
5-515-006	Communication Test Call	0: Off, 1: On
5-515-007	Machine Information Notice	
5-515-008	Alarm Notice	[0 or 1 / **0** / - /step]
		0: Off, 1: On
5-515-009	Non Genuin Tonner Alarm	[0 or 1 / **1** / - /step]
5-515-010	Supply Automatic Ordering Call	0: Off, 1: On
5-515-011	Supply Manegement Report Call	
5-515-012	Jam/Door Open Call	[0 or 1 / **0** / - /step]
		0: Off, 1: O

5517	[Get Machine Info]		
5-517-031	SMC Inf: Retry Interval	CTL*	[0 to 255 / **10** / 1minute/step] When SMC info collect is interrupt, retries during the time between receiving Request for obtaining SMC info, to value set with this setting.

5731	[Counter Effect]		
	This SP is uesd only for Japan machines.		
5-731-001	MK1 Paper -> Combine	*CTL	[0 or 1 / **0** / 1/step] 0: OFF, 1: ON

5745	[DeemedPowerConsumption]		
5-745-211	Controller Standby	*CTL	[0 to 9999 / **0** / 1/step]
5-745-212	STR	*CTL	[0 to 9999 / **0** / 1/step]
5-745-213	Main Power Off	*CTL	[0 to 9999 / **0** / 1/step]
5-745-214	Scanning and Printing	*CTL	[0 to 9999 / **0** / 1/step]
5-745-215	Printing	*CTL	[0 to 9999 / **0** / 1/step]
5-745-216	Scanning	*CTL	[0 to 9999 / **0** / 1/step]
5-745-217	Engine Standby	*CTL	[0 to 9999 / **0** / 1/step]
5-745-218	Low Power Consumption	*CTL	[0 to 9999 / **0** / 1/step]
5-745-219	Silent Condition	*CTL	[0 to 9999 / **0** / 1/step]
5-745-220	Heater Off	*CTL	[0 to 9999 / **0** / 1/step]

5749	[Import/Export]
	Imports and exports preference information.

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5-749-001	Export	CTL	[- / - / -] Option: Unique Copy config: Encryption, Encryption key (if selected) [Execute]
5-749-101	Import	CTL	[- / - / -] Option: Unique Copy config: Encryption, Encryption key (if selected) [Execute]

5751	[Key Event Encryption Setting]		
	Use the soft keyboard to set encryption key information.		
5-751-001	Password	*CTL	[32 characters / - / 1/step]

Note

- Memory Clear (SP5-801)

- The following tables list the items that are cleared. The serial number information, meter charge setting and meter charge counters are not cleared.

5801	[Memory Clear]	
5-801-001	All Clear	Resets all correction data for process control and all software counters, and returns all modes and adjustments to their default values.
5-801-002	Engine [ENG]	Clears the engine settings.
5-801-003	SCS	Initializes default system settings, SCS (System Control Service) settings, operation display coordinates, and ROM update information.
5-801-004	IMH	Initializes the IMH settings.
5-801-005	MCS	Initializes the Mcs settings.

5-801-008	Printer	The following service settings: • Bit switches • Gamma settings (User & Service) • Toner Limit The following user settings: • Tray Priority • Menu Protect • System Setting except for setting of Energy Saver • I/F Setup (I/O Buffer and I/O Timeout) • PCL Menu
5-801-010	GWWS	Deletes the network file application management files and thumbnails, and initializes the job login ID.
5-801-011	NCS	All setting of Network Setup (User Menu) (NCS: Network Control Service)
5-801-014	Clear DCS Setting	Initializes the DCS (Delivery Control Service) settings.
5-801-015	Clear UCS Setting	Initializes the UCS (User Information Control Service) settings.
5-801-016	MIRS Setting	Initializes the MIRS (Machine Information Report Service) settings.
5-801-017	CCS	Initializes the CCS (Certification and Charge-control Service) settings.
5-801-018	SRM Memory Clr	Initializes the SRM (System Resource Manager) settings.
5-801-019	LCS	Initializes the LCS settings.
5-801-021	ECS	Initializes the ECS settings.
5-801-025	Websys	Initializes the web system settings.
5-801-026	PLN	Initializes the PLN settings.
5-801-027	SAS	Initializes the SAS settings.

5803	[Input Check]	See "page 531 "Input Check Table"" in this section.
5804	[Output Check]	See "page 535 "Output Check Table"" in this section.

5810	[SC Reset]		
	Resets a type A service call condition. ⬇Note • Turn the main switch off and on after resetting the SC code.		
5-810-001	Fusing SC Reset	CTL	-

5811	[Machine Serial] Machine Serial Number Display		
5-811-002	Display	*ENG	Displays the machine serial number.
5811	[Machine Serial Set]		
5-811-004	BCU	*ENG	Inputs the serial number.

5812	[Service Tel. No. Setting]		
5-812-001	Telephone	*CTL	-
	Sets the telephone number for a service representative. This number is printed on the Counter List, which can be printed with the user's "Counter" menu. This can be up to 20 characters (both numbers and alphabetic characters can be input).		
5-812-002	Facsimile	*CTL	-
	Sets the fax or telephone number for a service representative. This number is printed on the Counter List. This can be up to 20 characters (both numbers and alphabetic characters can be input).		

5816	[NRS Function]		
5-816-001	I/F Setting	*CTL	[0 to 2 / **2** / 1/step] 0: Remote service off 1: CSS remote service on 2: NRS remote service on
	Selects the remote service setting.		

5-816-002	CE Call	*CTL	[0 or 1 / **0** / 1/step]
			0: Start of the service
			1: End of the service
	Performs the CE Call at the start or end of the service. ⬇**Note** • This SP is activated only when SP 5816-001 is set to "2".		
5-816-003	Function Flag	*CTL	[0 or 1 / **0** / 1/step]
			0: Disabled, 1: Enabled
	Enables or disables the remote service function.		
5-816-007	SSL Disable	*CTL	[0 or 1 / **0** / 1/step]
			0: No. SSL used.
			1: Yes. SSL not used.
	Controls if RCG (Remote Communication Gate) confirmation is done by SSL during an RCG send for the @Remote over a network interface.		
5-816-008	RCG Connect Timeout	*CTL	[1 to 90 / **30** / 1second/step]
	Sets the length of time (seconds) for the time-out when the RCG (Remote Communication Gate) connects during a call via the @Remote network.		
5-816-009	RCG Write Timeout	*CTL	[0 to 100 / **60** / 1second/step]
	Sets the length of time (seconds) for the time-out when sent data is written to the RCG during a call over the @Remote network.		
5-816-010	RCG Read Timeout	*CTL	[0 to 100 / **60** / 1second/step]
	Sets the length of time (seconds) for the timeout when sent data is written from the RCG during a call over the @Remote network.		
5-816-011	Port 80	*CTL	[0 or 1 / **0** / 1/step]
			0: No. Access denied
			1: Yes. Access granted.
	Controls if permission is given to get access to the SOAP method over Port 80 on the @Remote network.		

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5-816-013	RFU Timing	*CTL	[0 or 1 / **1** / 1/step] 0: Any status of a target machine 1: Sleep or panel off mode only
	Selects the timing for the remote firmware updating.		
5-816-014	RCG Error Cause	CTL	[0 or 1 / **0** / 1/step] 0: Initial state, normal condition 1: Error
	Displays RCG connection error. cause		
5-816-021	Function Flag	*CTL	[0 or 1 / **0** / 1/step] 0: Installation not completed 1: Installation completed
	This SP displays the RCG-N installation end flag.		
5-816-023	Connect Mode (N/M)	*CTL	[0 or 1 / **0** / 1/step] 0: Internet connection 1: Dial-up connection
	This SP displays and selects the RCG-N connection method.		
5-816-061	Noti Time Expire Timing	*CTL	[0 to 0xffffffff / **0** / 1/step]
	Proximity of the expiration of the certification.		
5-816-062	HTTP Proxy Use	*CTL	[0 or 1 / **0** / 1/step] 0: Not use 1: Use
	This SP setting determines if the proxy server is used when the machine communicates with the service center.		

5-816-063	HTTP Proxy Host	*CTL	[up to 127 / - / 1/step]
	This SP sets the address of the proxy server used for communication between the RCG device and the gateway. Use this SP to set up or display the customer proxy server address. The address is necessary to set up the embedded RCG-N. **⬇Note** • The address display is limited to 128 characters. Characters beyond the 128 character are ignored. • This address is customer information and is not printed in the SMC report.		
5-816-064	HTTP Proxy Port	*CTL	[0 to 0xffff / 0 / 1/step]
	This SP sets the port number of the proxy server used for communication between the embedded RCG-N and the gateway. This setting is necessary to set up the embedded RC Gate-N. **⬇Note** • This port number is customer information and is not printed in the SMC report.		
5-816-065	HTTP Proxy Aut User	*CTL	[up to 31 / - / 1/step]
	This SP sets the HTTP proxy certification user name. **⬇Note** • The length of the name is limited to 31 characters. Any character beyond the 31st character is ignored. • This name is customer information and is not printed in the SMC report.		
5-816-066	HTTP Proxy Aut Password	*CTL	[up to 31 / - / 1/step]
	This SP sets the HTTP proxy certification password. **⬇Note** • The length of the password is limited to 31 characters. Any character beyond the 31st character is ignored. • This name is customer information and is not printed in the SMC report.		
5-816-067	Cer Updt Cond	*CTL	[0 to 255 / 0 / 1/step]
	Displays the status of the certification update.		

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	0	The certification used by Embedded RC Gate is set correctly.
	1	The certification request (setAuthKey) for update has been received from the GW URL and certification is presently being updated.
	2	The certification update is completed and the GW URL is being notified of the successful update.
	3	The certification update failed, and the GW URL is being notified of the failed update.
	4	The period of the certification has expired and new request for an update is being sent to the GW URL.
	11	A rescue update for certification has been issued and a rescue certification setting is in progress for the rescue GW connection.
	12	The rescue certification setting is completed and the GW URL is being notified of the certification update request.
	13	The notification of the request for certification update has completed successfully, and the system is waiting for the certification update request from the rescue GW URL.
	14	The notification of the certification request has been received from the rescue GW controller, and the certification is being stored.
	15	The certification has been stored, and the GW URL is being notified of the successful completion of this event.
	16	The storing of the certification has failed, and the GW URL is being notified of the failure of this event.
	17	The certification update request has been received from the GW URL, the GW URL was notified of the results of the update after it was completed, but a certification error has been received, and the rescue certification is being recorded.
	18	The rescue certification of No. 17 has been recorded, and the GW URL is being notified of the failure of the certification update.

5-816-068	Cer Abnml Cause	*CTL	[0 to 255 / 0 / 1/step]
	Displays a number code that describes the reason for the request for update of the certification.		
	0	Normal. There is no request for certification update in progress.	
	1	Request for certification update in progress. The current certification has expired.	
	2	An SSL error notification has been issued. Issued after the certification has expired.	
	3	Notification of shift from a common authentication to an individual certification.	
	4	Notification of a common certification without ID2.	
	5	Notification that no certification was issued.	
	6	Notification that GW URL does not exist.	
5-816-069	Cer Updt Reg ID	*CTL	[- / - / -]
	The ID of the request for certification.		
5-816-083	Firm Updating	*CTL	[0 to 5 / 0 / 1/step]
			0: waiting for receiving firmware update.
			1: waiting for scheduling firmware update start.
			2: waiting for user confirmation
			3: preparing for device firmware update.
			4: processing device firmware update.
			5: termination processing
	Displays the status of the firmware update		
5-816-085	Firm Up User Conf	*CTL	[- / - / -]
	This SP setting determines if the operator can confirm the previous version of the firmware before the firmware update execution. If the option to confirm the previous version is selected, a notification is sent to the system manager and the firmware update is done with the firmware files from the URL.		

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5-816-086	Firmware Size	*CTL	[- / - / -]
	Allows the service technician to confirm the size of the firmware data files during the firmware update execution.		
5-816-087	CERT:Macro Ver.	CTL	[8digits / - / 1digit/step]
	Displays the macro version of the @Remote certification. This SP displays 8-digit characters.		
5-816-088	CERT:PAC Ver.	CTL	[16digits / - / 1digit/step]
	Displays the PAC version of the @Remote certification. This SP displays 16-digit characters.		
5-816-089	CERT:ID2 Code	CTL	[17digits / - / 1digit/step]
	Displays ID2 for the @Remote certification. Spaces are displayed as underscores (_). Asterisks (****) indicate that no @Remote certification exists. This SP displays 17-digit characters.		
5-816-090	CERT:Subject	CTL	[17digits / - / 1digit/step]
	Displays the common name of the @Remote certification subject. CN = the following 17 bytes. Spaces are displayed as underscores (_). Asterisks (****) indicate that no DESS exists.		
5-816-091	CERT:Serial Num	CTL	[16digits / - / 1digit/step]
	Displays serial number for the NRS certification. Asterisks (****) indicate that no DESS exists. This SP displays 16-digit characters		
5-816-092	CERT:Issuer	CTL	[30digits / - / 1digit/step]
	Displays the common name of the issuer of the @Remote certification. CN = the following 30 bytes. Asterisks (****)indicate that no DESS exists.		
5-816-093	CERT:St ExpTime	CTL	[10digits / - / 1digit/step]
	Displays the start time of the period for which the current @Remote certification is enabled. This SP displays 10-digit characters.		
5-816-094	CERT:End ExpTime	CTL	[10digits / - / 1digit/step]
	Displays the end time of the period for which the current @Remote certification is enabled. This SP displays 10-digit characters.		

5-816-102	CERT:Encrypt Level	*CTL	[1 or 2 / **1** / 1/step]
			1: 512 bit
			2: 2048 bit
	Displays cryptic strength of the NRS certification.		
5-816-103	Client Communication Method	*CTL	Displays the method for the client communication in the @Remote.
			[0 to 3 / **0** / 1/step]
			0: Not connected, 1: IPv4,
			2: IPv6, 3: Host name communication
5-816-104	Client Communication Limit	*CTL	Specifies the communiation limitation to the @Remote Gateway.
			[1 to 7 / **7** / 1/step]

				Host name	IPv6	IPv4
			1	No	No	Yes
			2	No	Yes	Yes
			3	No	Yes	Yes
			4	Yes	No	No
			5	Yes	No	Yes
			6	Yes	Yes	No
			7	Yes	Yes	Yes

5-816-115	Network Information Waiting Timer	*CTL	Specifies the waiting time for the network information.
			[5 to 255 / **5** / 1 sec/step]
5-816-200	Polling Manual Execution	CTL	[- / **-** / -]
			[Execute]
	Executes the center polling manually.		

5-816-201	Instl:Condition	CTL	[0 to 4 / **0** / 1/step]
	Displays a number that indicates the status of the @Remote service device. 0: Neither the registered device by the external nor embedded RCG device is set. 1: The embedded RCG device is being set. Only Box registration is completed. In this status, this unit cannot answer a polling request from the external RCG. 2. The embedded RCG device is set. In this status, the external RCG unit cannot answer a polling request. 3. The registered device by the external RCG is being set. In this status the embedded RCG device cannot be set. 4 The registered module by the external RCG has not started.		
5-816-202	Instl:ID#	*CTL	[- / **-** / -]
	Allows entering the number of the request needed for the RCG-N device.		
5-816-203	Instl:Reference	CTL	[- / **-** / -] [Execute]
	Executes the inquiry request to the @Remote GW URL.		
5-816-204	Instl:Ref Rslt	CTL	[0 to 255 / **0** / 1/step]
	Displays a number that indicates the result of the inquiry executed with SP5816 203.		
	3: Proxy error (proxy enabled) 4: Proxy error (proxy disabled) 5: Proxy error (Illegal user name or password) 6: Communication error 8: Other error 9: Inquiry executing 11: Registration number error (already registered number) 12: Registration number error (parameter error)	20: Dial-up failure (modem type only) 21: Answer tone detection failure (modem type only) 22: Carrier detection failure (modem type only) 23: Modem setting parameter error (modem type only) 24: Power supply error (modem type only) 25: Modem line disconnected (modem type only) 26: Busy line (modem type only)		
5-816-205	Instl:Ref Section	CTL	[- / **-** / -]
	Displays the result of the notification sent to the device from the GW URL in answer to the inquiry request. Displayed only when the result is registered at the GW URL.		

5-816-206	Instl:Rgstltn		CTL	[- / - / -]
				[Execute]
	Executes "Embedded RCG Registration".			
5-816-207	Instl:Rgstltn Rst		CTL	[0 to 255 / 0 / 1/step]
	Displays a number that indicates the registration result.			

0: Succeeded	21: Answer tone detection failure (modem type only)
1: Inquiry number error	
2: Registration in progress	22: Carrier detection failure (modem type only)
3: Proxy error (proxy enabled)	
4: Proxy error (proxy disabled)	23: Modem setting parameter error (modem type only)
5: Proxy error (Illegal user name or password)	
	24: Power supply error (modem type only)
8: Other error	25: Modem line disconnected (modem type only)
9: Registration executing	
20: Dial-up failure (modem type only)	26: Busy line (modem type only)

5-816-208	Instl:ErrorCode		CTL	[-2147483647 to 2147483647 / - / -/step]
	Displays a number that describes the error code that was issued when either SP5816-204 or SP5816-207 was executed.			

Cause	Code	Meaning
Illegal Modem Parameter	-11001	Chat parameter error
	-11002	Chat execution error
	-11003	Unexpected error
	-11004	Cutting process occurred during modem communication.
	-11005	NCS reboot occurred during modem communication.

		-12002	Inquiry, registration attempted without acquiring device status.
	Operation Error,Incorrect Setting	-12003	Attempted registration without execution of an inquiry and no previous registration.
		-12004	Attempted setting with illegal entries for certification and ID2.
		-12005	@Remote communication is prohibited. The device has an Embedded RC gate-related problem.
		-12006	A confirmation request was made after the confirmation had been already completed.
		-12007	The request number used at registration was different from the one used at confirmation.
		-12008	Update certification failed because mainframe was in use.
		-12009	D2 mismatch between an individual certification and NVRAM.
		-12010	Certification area is not initialized.

		Error Caused by Response from GW URL	-2385	Attempted dial up overseas without the correct international prefix for the telephone number.
			-2387	Not supported at the Service Center
			-2389	Database out of service
			-2390	Program out of service
			-2391	Two registrations for same device
			-2392	Parameter error
			-2393	Basil not managed
			-2394	Device not managed
			-2395	Box ID for Basil is illegal
			-2396	Device ID for Basil is illegal
			-2397	Incorrect ID2 format
			-2398	Incorrect request number format
5-816-209	Install Clear		CTL	[- / - / -] [Execute]
	Releases the machine from its embedded RCG setup.			
5-816-240	CommError Time		CTL	Displays the date and time of @Remote connection error.
5-816-241	CommError Code 1		CTL	Displays the error code at @Remote connection.
5-816-242	CommError Code 2		CTL	
5-816-243	CommError Code 3		CTL	
5-816-244	CommError State 1		CTL	Displays the error stae at @Remote connection.
5-816-245	CommError State 2		CTL	
5-816-246	CommError State 3		CTL	
5-816-247	SSL Error Count		CTL	Displays the error counter for the SSL connection.

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5-816-248	Other Error Count	CTL	Displays the error counter for the other connection.
5-816-250	Print Com Log	CTL	[- / - / -]
	Prints the communication log. **⬇Note** • This SP is activated only when SP 5816-021 is set to "1".		

5821	**[RCG Setting]**		
5-821-002	RCG IPv4 Address	*CTL	[00000000h to FFFFFFFFh / **00000000h** / 1/step] Sets the IP address of the RCG (Remote Communication Gate) destination for call processing at the remote service center.
5-821-003	RCG Port	*CTL	[0 to 65535 / **443** / 1/step] Sets destination port number of RCG (Remote Communication Gate) at call process against center.
5-821-004	RCG IPv4 Path	*CTL	[- / **/RCG/services/** - / -] Sets the URL path of the destination for processing calls to the @Remote service center. 17 Numeric characters allowed (0 to 17)
5-821-005	RCG IPv6 Address	*CTL	[00000000h to FFFFFFFFh / **00000000h** / 1/step] Sets the IP address of the RCG (Remote Communication Gate) destination for call processing at the remote service center.
5-821-006	RCG IPv6 URL Path	*CTL	[00000000h to FFFFFFFFh / **00000000h** / 1/step] Sets the URL path of the destination for processing calls to the @Remote service center. 17 Numeric characters allowed (0 to 15)
5-821-007	RCG Host Name	*CTL	Sets the host name of the destination for processing calls to the @Remote service center.

5-821-008	RCT Host URL Path	*CTL	Sets the host URL path of the destination for processing calls to the @Remote service center. 255 bites characters allowed (0 to 255)

5824	[NV-RAM Upload]		
	Uploads the UP and SP mode data (except for counters and the serial number) from the NVRAM to an SD card. For details, see the "NVRAM Data Upload/Download" in the "System Maintenance Reference" of the Field Service Manual.		
5-824-001	-	*CTL	-

5825	[NV-RAM Download]		
	Downloads the UP and SP mode data from an SD card to the NVRAM. For details, see the "NVRAM Data Upload/Download" in the "System Maintenance Reference" of the Field Service Manual.		
5-825-001	-	*CTL	-

5828	[Network Setting]	*CTL	-
5-828-050	1284 Compatibility (Centro)	Enables or disables 1284 Compatibility. [0 or 1 / 1 / 1 / step] 0: Disabled, 1: Enabled	
5-828-052	ECP (Centro)	Enables or disables ECP Compatibility. [0 or 1 / 1 / 1 / step] 0: Disabled, 1: Enabled ⬇Note • This SP is activated only when SP5-828-50 is set to "1".	
5-828-065	Job Spooling	Enables/disables Job Spooling. [0 or 1 / **0** / 1 / step] 0: Disabled, 1: Enabled	

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5-828-066	Job Spooling Clear: Start Time	Treatment of the job when a spooled job exists at power on. 0: ON (Data is cleared) **1**: OFF (Automatically printed)
5-828-069	Job Spooling (Protocol)	Validates or invalidates the job spooling function for each protocol. 0: Validates **1**: Invalidates bit0: LPR bit1: FTP bit2: IPP bit3: SMB bit4: BMLinkS bit5: DIPRINT bit6: sftp bit7: (Reserved)
5-828-087	Protocol usage	Shows which protocols have been used with the network. 0: Off (Not used the network with the protocol.) 1: On (Used the network with the protocol once or more.) bit0: IPsec, bit1: IPv6, bit2: IEEE 802. 1X, bit3:Wireless LAN, bit4: Security mode level setting, bit5:Appletalk, bit6: DHCP, bit7: DHCPv6, bit8: telnet, bit9: SSL, bit10: HTTPS, bit11: BMLinkS printing, bit12: diprint printing, bit13: LPR printing, bit14: ftp printing, bit15: rsh printing, bit16: SMB printing, bit17: WSD-Printer, bit18: WSD-Scanner, bit19: Scan to SMB, bit20: Scan to NCP, bit21: Reserve, bit22: Bluetooth, bit23: IEEE 1284, bit24: USB printing, bit25: Dynamic DNS, bit26: Netware printing, bit27: LLTD, bit28: IPP printing, bit29: IPP printing (SSL), bit30: ssh, bit31: sftp
5-828-090	TELNET (0: OFF 1: ON)	Enables or disables the Telnet protocol. [0 or 1 / **1** / – /step] 0: Disable, 1: Enable

5-828-091	Web (0: OFF 1: ON)	Enables or disables the Web operation. [0 or 1 / **1** / − /step] 0: Disable, 1: Enable
5-828-145	Active IPv6 Link Local Address	This is the IPv6 local address link referenced on the Ethernet or wireless LAN (802.11b) in the format: "Link Local Address" + "Prefix Length" The IPv6 address consists of a total 128 bits configured in 8 blocks of 16 bits each.
5-828-147	Active IPv6 Stateless Address 1	These SPs are the IPv6 status addresses (1 to 5) referenced on the Ethernet or wireless LAN in the format:
5-828-149	Active IPv6 Stateless Address 2	"Status Address" + "Prefix Length" The IPv6 address consists of a total 128 bits configured in 8 blocks of 16 bits each.
5-828-151	Active IPv6 Stateless Address 3	
5-828-153	Active IPv6 Stateless Address 4	
5-828-155	Active IPv6 Stateless Address 5	
5-828-156	IPv6 Manual Address	This SP is the IPv6 manually set address referenced on the Ethernet or wireless LAN in the format: "Manual Set Address" + "Prefix Length" The IPv6 address consists of a total 128 bits configured in 8 blocks of 16 bits each.
5-828-158	IPv6 Gateway Address	This SP is the IPv6 gateway address referenced on the Ethernet or wireless LAN. The IPv6 address consists of a total 128 bits configured in 8 blocks of 16 bits each.
5-828-161	IPv6 Stateless Auto Setting	Enables or disables the automatic setting for IPv6 stateless. [0 or 1 / 1 / 1 /step] 0: Disable, 1: Enable

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5-828-236	Web Item visible	Displays or does not display the Web system items.
		[0 x 0000 to 0 x ffff / **0 x ffff** /step] 0: Not displayed, 1: Displayed
		bit0: Net RICOH
		bit1: Consumable Supplier
		bit2-15: Reserved (all)
5-828-237	Web shopping link visible	Displays or does not display the link to Net RICOH on the top page and link page of the web system.
		[0 to 1 / **1** / 1 /step]
		0: Not display, 1:Display
5-828-238	Web supplies Link visible	Displays or does not display the link to Consumable Supplier on the top page and link page of the web system.
		[0 to 1 / **1** / 1 /step]
		0: Not display, 1:Display
5-828-239	Web Link1 Name	This SP confirms or changes the URL1 name on the link page of the web system. The maximum characters for the URL name are 31 characters.
5-828-240	Web Link1 URL	This SP confirms or changes the link to URL1 on the link page of the web system. The maximum characters for the URL are 127 characters.
5-828-241	Web Link1 visible	Displays or does not display the link to URL1 on the top page of the web system.
		[0 to 1 / **1** / 1 /step]
		0: Not display, 1:Display
5-828-242	Web Link2 Name	Same as "-239"
5-828-243	Web Link2 URL	Same as "-240"
5-828-244	Web Link2 visible	Same as "-241"
5-828-249	DHCPv6 DUID	Specifies the IP address for the IPV6 device.

| **5832** | **[HDD]** HDD Initialization | *CTL |
| 5-832-001 | HDD Formatting (ALL) | Initializes the hard disk. Use this SP mode only if there is a hard disk error. |

5840	[IEEE 802.11]		
5-840-006	Channel MAX	*CTL	Sets the maximum number of channels available for data transmission via the wireless LAN. The number of channels available varies according to location. The default settings are set for the maximum end of the range for each area. Adjust the upper 4 bits to set the maximum number of channels. EU: [1 to 13 / **13** / 1/step] NA: [1 to 11 / **11** / 1/step] AS: [1 to 14 / **14** / 1/step]
5-840-007	Channel MIN	*CTL	Sets the minimum number of channels available for data transmission via the wireless LAN. The number of channels available varies according to location. The default settings are set for the minimum end of the range for each area. Adjust the lower 4 bits to set the minimum number of channels. EU: [1 to 13 / **1** / 1/step] NA/ AS: [1 to 11 / **1** / 1/step] AS: [1 to 14 / **14** / 1/step]
5-840-011	WEP Key Select	*CTL	Selects the WEP key. [00 to 11 / **00** / 1 binary /step] 00: Key #1 01: Key #2 (Reserved) 10: Key #3 (Reserved) 11: Key #4 (Reserved)
5-840-045	WPA Debug Lvl	*CTL	Selects the debug level for WPA authentication application. [1 to 3 / **3** / 1 /step] 1: Info, 2: warning, 3: error This SP is displayed only when the IEEE802.11 card is installed.

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5-840-046	11w	*CTL	Selects the operation of the IEEE802.11 option. [0 to 2 / **0** / 1 /step] 0: Disabled, 1: Priority, 2: Necessary
5-840-047	PSK Set Type	*CTL	Selects the type of the PSK. [0 or 1 / **0** / 1 /step] 0: Passphrase, 1: PSK

5842	[GWWS Analysis] DFU		
5-842-001	Setting 1	*CTL	Default: **00000000** – do not change Netfiles: Jobs to be printed from the document server using a PC and the DeskTopBinder software
5-842-002	Setting 2	*CTL	Adjusts the debug program modesetting. Bit7: 5682 mmseg-log setting 0: Date/Hour/Minute/Second 1: Minute/Second/Msec. 0 to 6: Not used

5844	[USB]		
5-844-001	Transfer Rate	*CTL	Adjusts the USB transfer rate. [0001 or 0004 / **0004** / - /step] 0001: Full speed, 0004: Auto Change
5-844-002	Vendor ID	*CTL	Displays the vendor ID.
5-844-003	Product ID	*CTL	Displays the product ID.
5-844-004	Dev Release Num	*CTL	Displays the device release version number.
5-844-005	Fixed USB Port	*CTL	Displays the fixed USB Port.
5-844-006	PnP Model Name	*CTL	Displays the PnP Model Name.
5-844-007	PnP Serial Number	*CTL	Displays the PnP Serial Number.

5-844-008	Mac Supply Level	*CTL	Enables or disable the Mac supply level. [0 or 1 / **1** / - /step] 0: Disable, 1: Enable
5-844-100	Notify Unsupport	*CTL	Displays a message of the unspported USB device for the USB host slot. [0 or 1 / **1** / - /step] 0: Not displayed, 1: Displayed

5845	[Delivery Server Setting]		
	Provides items for delivery server settings.		
5-845-003	Retry Interval	*CTL	[60 to 900 / **300** / 1 sec /step]
	Determines the time interval between retries before the machine returns to standby after an error occurs during an image transfer with the delivery scanner or SMTP server.		
5-845-004	Number of Retries	*CTL	[0 to 99 / **3** / 1 /step]
	Determines the number of retries before the machine returns to standby after an error occurs during an image transfer with the delivery or SMTP server.		
5-845-022	Instant Trans Off	*CTL	[0 to 1 / **1** / - /step]
	Enables or disables the prevention function for the continuous data sending error. 0: Disable, 1: Enable		

5846	[UCS Settings]	*CTL	-
5-846-010	LDAP Search Timeout		[1 to 255 / **60** / 1 /step]
	Sets the length of the timeout for the search of the LDAP server.		

5-846-041	Fill Addr Acl Info.	
	This SP must be executed immediately after installation of an HDD unit in a basic machine that previously had no HDD. The first time the machine is powered on with the new HDD installed, the system automatically takes the address book from the NVRAM and writes it onto the new HDD. However, the new address book on the HDD can be accessed only by the system administrator at this stage. Executing this SP by the service technician immediately after power on grants full address book access to all users. Procedure 1. Turn the machine off. 2. Install a new HDD. 3. Turn the machine on. 4. The address book and its initial data are created on the HDD automatically. 5. However, at this point the address book can be accessed by only the system administrator or key operator. 6. Enter the SP mode and do SP5846-041. After this SP executes successfully, any user can access the address book.	
5-846-043	Addr Book Media	Displays the slot number where an address book data is in. [0 to 30 / - /1 /step] 0: Unconfirmed 1: SD Slot 1 2: SD Slot 2 4: USB Flash ROM 20: HDD 30: Nothing
5-846-047	Initialize Local Addr Book	Clears the local address book information, including the user code.
5-846-049	Initialize LDAP Addr Book	Clears the LDAP address book information, except the user code.
5-846-050	Initialize All Addr Book	Clears all directory information managed by UCS, including all user codes.
5-846-051	Backup All Addr Book	Uploads all directory information to the SD card.

5-846-052	Restore All Addr Book	Downloads all directory information from the SD card.
5-846-053	Clear Backup Info	Deletes the address book data from the SD card in the service slot.
		Deletes only the files that were uploaded from this machine.
		This feature does not work if the card is write-protected.
		🔽 **Note**
		• After you do this SP, go out of the SP mode, and then turn the power off.
		• Do not remove the SD card until the Power LED stops flashing.
5-846-060	Search Option	
	This SP uses bit switches to set up the fuzzy search options for the UCS local address book.	
	Bit: Meaning	
	0: Checks both upper/lower case characters	
	1: Japan Only	
	2: Japan Only	
	3: Japan Only	
	4 to 7: Not Used	
5-846-062	Complexity Option 1	
	Use this SP to set the conditions for password entry to access the local address book. Specifically, this SP limits the password entry to **upper case** and sets the length of the password.	
	[0 to 32 / **0** / 1 /step]	
	🔽 **Note**	
	• This SP does not normally require adjustment.	
	• This SP is enabled only after the system administrator has set up a group password policy to control access to the address book.	
5-846-063	Complexity Option 2 **DFU**	
5-846-064	Complexity Option 3 **DFU**	

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5-846-065	Complexity Option 4 **DFU**		
5-846-094	Encryption Stat	Shows the status of the encryption function for the address book data.	

5848	[Web Service]	*CTL	-
	SP5848-2 sets the 4-bit switch assignment for the access control setting. Setting of 0001 has no effect on access and delivery from Scan Router. 5848 100 sets the maximum size allowed for downloaded images. The default is equal to 1 gigabyte.		
5-848-004	Access Ctrl: user Directory (only Lower 4 bits)	Switches access control on and off. **0000**: No access control 0001: Denies access to DeskTop Binder.	
5-848-009	Access Ctrl: Job Ctrl (Lower 4 bits)		
5-848-011	Access Ctrl: Device management (Lower 4 bits)		
5-848-022	Access Ctrl: uadministration (Lower 4bits)		
5-848-024	ac:Log	Switches the log service on and off. **0000**: Log service available 0001: Log service not available 0010: Log service available (No application off-line EX at operation) 0100: REST API not available	
5-848-025	ac:Rest	Enables or disables the REST web service function. bit 0; **0: Disable**, 1: Enable bit 1 to 3; Not used	
5-848-217	Setting: Timing	**DFU**	

5849	[Installation Date]	*CTL	-
5-849-001	Display	The "Counter Clear Day" has been changed to "Installation Date" or "Inst. Date".	

5-849-002	Print		Determines whether the installation date is printed on the printout for the total counter. [0 or 1 / **1** / - /step] 0: OFF (No Print) 1: ON (Print)
5-849-003	Total Counter		-

5851	[Bluetooth Mode]
	Sets the operation mode for the Bluetooth Unit. Press either key. **[0:Public]** [1: Private]

5856	[Remote ROM Update]		
	Allows the technician to upgrade the firmware using a local port (IEEE1284) when updating the remote ROM.		
5-856-002	Local Port	*CTL	[0 to 1 / **0** / 1/step] 0: Disable 1: Enable

5857	[Save Debug Log]		
5-857-001	On/Off	*CTL	[0 or 1 / **0** / 1/step] 0: OFF 1: ON Switches the debug log feature on and off. The debug log cannot be captured until this feature is switched on.
5-857-002	Target(2:HDD 3:SD)	*CTL	[1 to 3 / **2** / 1/step] 1: IC card 2: HDD 3: SD card Selects the storage device to save debug logs information.

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5-857-101	Start Date	*CTL	[- / **20120101** / 1 /step] Sets start date of the debug log output.
5-857-102	End Date	*CTL	[- / **20371212** / 1 /step] Sets end date of the debug log output.
5-857-103	All Logs	*CTL	[Execute] Obtains all debug logs.
5-857-104	Controller Logs	*CTL	[Execute] Obtains controller debug log only.
5-857-105	Engine Debug Logs	*CTL	[Execute] Obtains engine debug log only.
5-857-107	Opepanel Debug Logs	*CTL	[Execute] Outputs the controller debug log to the media inserted front I/F
5-857-120	Make LogTrace Dir	*CTL	[Execute] Makes a folder for the log trace in the SD card.

5860	**[SMTP/POP3/IMAP4]**	*CTL	-
5-860-002	SMTP Srvr Port no.		Input the SMTP server port number.
5-860-003	SMTP Auth		SMTP authentication enable/disable
5-860-006	SMTP Auth Encryp		Encryption mode for SMTP authentication enable/disable (Only valid if 5860 3 is set to "enable")
5-860-007	POP before SMTP		Enable/disable POP before SMTP. If the SMTP server does not have authentication, you can enable POP before SMTP, them POP authentication is available (SP 5860 13)

5-860-008	POP to SMTP Waiting	When using POP before SMTP, this SP mode determines the maximum wait time between POP authentication and connection with SMTP. Communication stops if this time is exceeded.
5-860-009	Mail Receive Protocol	Selects the protocol for the mail reception. [0 to 3 / **1** / 1 /step] 0: No reception 1: POP3 2: IMAP4 3: SMTP
5-860-013	POP3/IMAP4 Auth.	If POP before SMTP is enabled, then you can use this SP to enable or disable encryption mode for POP authentication [0 to 2 / **0** / 1 /step] 0: Auto 1: Off 2: On
5-860-014	POP Serv Port No.	Input the POP server port number.
5-860-015	IMAP4 Srvr Port	Input the IMAP4 server port number.
5-860-016	SMTP Rx Port No.	Input the SMTP port for the mail reception.
5-860-017	Mail Rx Interval	Specifies the interval for the mail reception.
5-860-019	Mail Keep Setting	Selects the mail saving setting. [0 to 2 / **0** / 1 /step] 0: Not saved in the mail server 1: All saved in the mail server 2: Only error mails saved in the mail server
5-860-020	Partial Mail Receive Timeout	[1 to 168 / **72** / – /step]

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	Sets the amount of time to wait before saving a mail that breaks up during reception. The received mail is discarded if the remaining portion of the mail is not received during this prescribed time.			
5-860-021	MDN Response RFC2298 Compliance		[0 to 1 / **1** / – /step]	
	Determines whether RFC2298 compliance is switched on for MDN reply mail. 0: No **1**: Yes			
5-860-022	SMTP Auth. From Field Replacement		[0 to 1 / **0** / – /step]	
	Determines whether the FROM item of the mail header is switched to the validated account after the SMTP server is validated. **0**: No. "From" item not switched. 1: Yes. "From" item switched.			
5-860-025	SMTP Auth. Direct Setting		[0 or 1 / **0** / – /step]	
	Selects the authentication method for SMPT. **Bit switch:** • Bit 0: LOGIN • Bit 1: PLAIN • Bit 2: CRAM MD5 • Bit 3: DIGEST MD5 • Bit 4 to 7: Not used **Note** • This SP is activated only when SMTP authorization is enabled by UP mode.			
5-860-026	S/MIME: MIME Header Setting	CTL	Selects the MIME header type of an E-mail sent by S/MIME. [0 to 2 / **0** / 1 /step] 0: Microsoft Outlook Express standard 1: Internet Draft standard 2: RFC standard	

5866	**[E-mail Report]** Not Used

5-866-001	Report Validity	*CTL	Enables or disables the e-mail alert. [0 or 1 / **0** / – /step] 0: Enable, 1: Disable
5-866-005	Add Date Field	*CTL	Adds or does not add the date field to the header of the alert mail. [0 or 1 / **0** / – /step] 0: Not added, 1: Added

5869	[RAM Disk Setting]		
5-869-001	Mail Function	*CTL	[0 to 1 / **0** / 1/step] 0: ON, 1: OFF
	Enables or disables the e-mail transfer function. This SP sets the RAM disk size for the e-mail transfer function.		

5870	[Common Key Info Writing]		
5-870-001	Writing	*CTL	Rewrites the common certification used for the @Remote.
5-870-003	Initialize	*CTL	-
	Initializes the set certification. When the GW controller board is replaced with a new one for repair, you must execute the "Initiralize (-003)" and "Writing (-001)" just after the new board replacement. **NOTE:** Turn off and on the main power switch after the "Initiralize (-003)" and "Writing (-001)" have been done.		
5-870-004	Writing: 2048bit	*CTL	-

5873	[SD Card Appli Move]	
5-873-001	Move Exec	This SP copies the application programs from the original SD card in SD card slot 2 to an SD card in SD card slot 1.

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5-873-002	Undo Exec		This SP copies back the application programs from an SD card in SD Card Slot 2 to the original SD card in SD card slot 1. Use this menu when you have mistakenly copied some programs by using "Move Exec" (SP5873-1).

5875	[SC Auto Reboot]		
	This SP determines whether the machine reboots automatically when an SC error occurs. **↓Note** • The reboot does not occur for Type A and C SC codes.		
5-875-001	Reboot Mode	*CTL	[0 or 1 / **0** / 1/step] Enables or disables the automatic reboot function when an SC error occurs. 0: The machine reboots automatically when the machine issues an SC error and logs the SC error code. If the same SC occurs again, the machine does not reboot. 1: The machine does not reboot when an SC error occurs. The reboot is not executed for Type A or C SC codes.
5-875-002	Reboot Method	*CTL	[0 or 1 / **0** / 1/step] This setting determines how the machine reboots after an SC code is issued. 0: Manual reboot 1: Automatic reboot.

5878	[Option Setup]		
5-878-001	Overwrite Security	-	Enables the Data Overwrite Security unit. Press "EXECUTE" on the operation panel. Then turn the machine off and on.
5-878-002	HDD Encryption	-	Installs the HDD Encryption unit.

5884	[Plain 1/2 Setting]		

5-884-001	By-pass Table	*ENG	[0 or 1 / **1** / 1 /step]
5-884-002	Tray 1	*ENG	0: Plain Paper 1
5-884-003	Tray 2	*ENG	1: Plain Paper 2
5-884-004	Tray 3	*ENG	
5-884-005	Tray 4	*ENG	

5887	[SD Get Counter]		
	This SP determines whether the ROM can be updated.		
5-887-001	-	*CTL	This SP sends a text file to an SD card inserted in SD card Slot 2 (lower slot). The operation stores. The file is stored in a folder created in the root directory of the SD card called SD_COUNTER. The file is saved as a text file (*.txt) prefixed with the number of the machine. 1. Insert the SD card in SD card Slot 2 (lower slot). 2. Select SP5887 then touch [EXECUTE]. 3. Touch [Execute] in the message when you are prompted.

5888	[Personal Information Protect]		
5-888-001	-	*CTL	Selects the protection level for logs. [0 to 1 / **0** / 1 /step] 0: No authentication, No protection for logs 1: No authentication, Protected logs (only an administrator can see the logs)

5893	[SDK Application Counter]		
	Displays the counter name of each SDK application.		
5-893-001	SDK-1	*CTL	-
5-893-002	SDK-2	*CTL	-

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5-893-003	SDK-3	*CTL	-
5-893-004	SDK-4	*CTL	-
5-893-005	SDK-5	*CTL	-
5-893-006	SDK-6	*CTL	-
5-893-007	SDK-7	*CTL	-
5-893-008	SDK-8	*CTL	-
5-893-009	SDK-9	*CTL	-
5-893-010	SDK-10	*CTL	-
5-893-011	SDK-11	*CTL	-
5-893-012	SDK-12	*CTL	-

5894	[External Counter Setting]		
	DFU		
5-894-001	Switch Charge Mode	*ENG	[0 to 2 / **0** / 1/step]

5900	[Engine Log Upload]		
	Selects the target module or trigger for the engine log uploading.		
5-900-001	Pattern	*ENG	[0 to 4 / **0** / 1 /step]
5-900-002	Trigger	*ENG	[0 to 3 / **0** / 1 /step]

5907	[Plug & Play Maker/Model Name]
5-907-001	Selects the brand name and the production name for Windows Plug & Play. This information is stored in the NVRAM. If the NVRAM is defective, these names should be registered again. After selecting, press the "Original Type" key and "#" key at the same time. When the setting is completed, the beeper sounds five times.

5930	[MeterClick Ch]

5-930-001	-		*ENG	-
	Switches the meter-click charge mode on and off. [0: OFF], [1: ON] Important: Turn the main switch off/on after changing this setting. OFF: Meter charge mode disabled (default). This setting is for machines were the operator is responsible for replacing the PCDU, the ITB unit, and the fusing unit. Alert messages are displayed on the operation panel when the PCDU, the ITB unit, and the fusing unit reach the limit of their yield. ON: Meter charge mode enabled. This setting is for machines which the service technician has responsibility for servicing. • Alert messages are not displayed when the PCDU, the ITB unit, and the fusing unit reach the limits of their yield. ⬇Note • If the setting of SP5-930-001 is set to "1 (enabled)", the settings of SP5-930-010, -014 and -016 must be adjusted.			
5-930-010	PCDU		*ENG	Displays or does not display the end display for the PCDU. This SP is activated only when the SP5930-001 is set to "1". [0 or 1 / 1 / - /step] 0: OFF, 1: ON
5-930-014	Mid Trans Unit		*ENG	Displays or does not display the end display for the ITB unit. This SP is activated only when the SP5930-001 is set to "1". [0 or 1 / 1 / - /step] 0: OFF, 1: ON
5-930-016	Fusing Unit		*ENG	Displays or does not display the end display for the fusing unit. This SP is activated only when the SP5930-001 is set to "1". [0 or 1 / 1 / - /step] 0: OFF, 1: ON

5987	[Mech. Counter]

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5-987-001	0: OFF / 1: ON	*ENG	This SP detects that a mechanical counter device is removed. If it is detected, SC610 occurs.

5990	[SP Print mode]		
	Prints out the SMC sheets.		
5-990-001	All (Data List)	CTL	-
5-990-002	SP (Mode Data List)	CTL	
5-990-004	Logging Data	CTL	
5-990-005	Diagnostic Report	CTL	
5-990-006	Non-Default	CTL	
5-990-007	NIB Sumary	CTL	
5-990-024	SDK/J Summary	CTL	
5-990-025	SDK/J Appli.Info	CTL	
5-990-026	Printer SP	CTL	

5992	[SP Text mode]		
	Copies the SMC report to a file on an SD card inserted into the SD card slot on the right side of the machine operation panel. 1: front SD slot 2: back SD slot (service slot)		
5-992-001	All (Data List)	CTL	[Execute]
5-992-002	SP (Mode Data List)	CTL	[Execute]
5-992-004	Logging Data	CTL	[Execute]
5-992-005	Diagnostic Report	CTL	[Execute]
5-992-006	Non-Default	CTL	[Execute]
5-992-007	NIB Summary	CTL	[Execute]
5-992-024	SDK/J Summary	CTL	[Execute]

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5-992-025	SDK/J Application Info	CTL	[Execute]
5-992-026	Printer SP mode	CTL	[Execute]

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Engine SP Mode Tables - SP6000

There are no Group 6 SP modes for this machine.

Engine SP Mode Tables - SP7000

SP7-XXX (Data Log)

7401	[Total SC Counter]		
	Displays the number of SC codes detected.		
7-401-001	SC Counter	*CTL	[0 to 65535 / - / 1/step]
7-401-002	Total SC Counter	*CTL	

7403	[SC History]		
	Logs the SC codes detected. The 10 most recently detected SC Codes are not displayed on the screen, but can be seen on the SMC (logging) outputs.		
7-403-001	Latest	*CTL	-
7-403-002	Latest 1		
7-403-003	Latest 2		
7-403-004	Latest 3		
7-403-005	Latest 4		
7-403-006	Latest 5		
7-403-007	Latest 6		
7-403-008	Latest 7		
7-403-009	Latest 8		
7-403-010	Latest 9		

7404	[SC990/SC991 History]
	Logs the SC990 or SC991 detected. The 10 most recently detected SC990 or SC991 are not displayed on the screen, but can be seen on the SMC (logging) outputs.

7-404-001	Latest	*CTL	-
7-404-002	Latest 1		
7-404-003	Latest 2		
7-404-004	Latest 3		
7-404-005	Latest 4		
7-404-006	Latest 5		
7-404-007	Latest 6		
7-404-008	Latest 7		
7-404-009	Latest 8		
7-404-010	Latest 9		

7502	[Total Paper Jam]		
	Displays the total number of jams detected.		
7-502-001	Jam Counter	* CTL	[00000 to 65535 / **0** / 1/step]
7-502-002	Total Jam Counter	* CTL	

7504	[Paper Jam Location] ON: On check, OFF: Off Check
	Displays the number of jams according to the location where a paper jam is detected.

7-504-001	At Power On	*CTL	For details, "page 625 "Jam Detection""
7-504-003	Tray 1: ON	*CTL	
7-504-004	Tray 2: ON	*CTL	
7-504-005	Tray 3: ON	*CTL	
7-504-006	Tray 4: ON	*CTL	
7-504-008	Bypass: ON	*CTL	
7-504-009	Duplex: ON	*CTL	
7-504-011	Vertical Transport 1: ON	*CTL	
7-504-012	Vertical Transport 2: ON	*CTL	
7-504-013	Vertical Transport 3: ON	*CTL	
7-504-014	Vertical Transport 4: ON	*CTL	
7-504-017	Registration: ON	*CTL	
7-504-018	Fusing Entrance: ON	*CTL	
7-504-019	Fusing Exit: ON	*CTL	
7-504-020	Paper Exit: ON	*CTL	
7-504-025	Duplex Exit: ON	*CTL	
7-504-027	Duplex Entrance: ON	*CTL	

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7-504-028	Inverter Sensor: ON	*CTL	For details, "page 625 "Jam Detection""
7-504-047	Paper Feed Sensor 1	*CTL	
7-504-048	Bank Paper Feed Sensor 1	*CTL	
7-504-049	Bank Paper Feed Sensor 2	*CTL	
7-504-050	Bank Paper Feed Sensor 3	*CTL	
7-504-051	SEF Sensor 1	*CTL	
7-504-052	Bank SEF Sensor 1	*CTL	
7-504-053	Bank SEF Sensor 2	*CTL	
7-504-054	Bank SEF Sensor 3	*CTL	
7-504-057	Regist Sensor	*CTL	
7-504-060	Exit Sensor	*CTL	
7-504-065	Duplex Exit Sensor	*CTL	
7-504-067	Duplex Entrance Sensor	*CTL	
7-504-068	Inverter Sensor	*CTL	

7506	[Paper Jam/Size]		
	Displays the number of jams according to the paper size.		
7-506-006	A5 LEF	*CTL	[0 to 9999 / 0 / 1 sheet/step]
7-506-044	HLT LEF		
7-506-133	A4 SEF		
7-506-134	A5 SEF		
7-506-142	B5 SEF		
7-506-164	LG SEF		
7-506-166	LT SEF		
7-506-172	HLT SEF		
7-506-255	Others		

7507	[Dsply-P Jam Hist] Display Plotter Jam History		
	Displays the 10 most recently detected paper jams.		
7-507-001	Latest	*CTL	-
7-507-002	Latest 1		
7-507-003	Latest 2		
7-507-004	Latest 3		
7-507-005	Latest 4		
7-507-006	Latest 5		
7-507-007	Latest 6		
7-507-008	Latest 7		
7-507-009	Latest 8		
7-507-010	Latest 9		

7514	[Paper Jam Location]
	ON: On check, OFF: Off Check
	Displays the total number of jams according to the location where a paper jam is detected.

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7-514-001	At Power On	*CTL	For details, "page 625 "Jam Detection""
7-514-003	Tray 1: ON	*CTL	
7-514-004	Tray 2: ON	*CTL	
7-514-005	Tray 3: ON	*CTL	
7-514-006	Tray 4: ON	*CTL	
7-514-008	Bypass: ON	*CTL	
7-514-009	Duplex: ON	*CTL	
7-514-011	Vertical Transport 1: ON	*CTL	
7-514-012	Vertical Transport 2: ON	*CTL	
7-514-013	Vertical Transport 3: ON	*CTL	
7-514-014	Vertical Transport 4: ON	*CTL	
7-514-017	Registration: ON	*CTL	
7-514-018	Fusing Entrance: ON	*CTL	
7-514-019	Fusing Exit: ON	*CTL	
7-514-020	Paper Exit: ON	*CTL	
7-514-025	Duplex Exit: ON	*CTL	
7-514-027	Duplex Entrance: ON	*CTL	

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7-514-028	Inverter Sensor: ON	*CTL	For details, "page 625 "Jam Detection""
7-514-047	Paper Feed Sensor 1	*CTL	
7-514-048	Bank Paper Feed Sensor 1	*CTL	
7-514-049	Bank Paper Feed Sensor 2	*CTL	
7-514-050	Bank Paper Feed Sensor 3	*CTL	
7-514-051	SEF Sensor 1	*CTL	
7-514-052	Bank SEF Sensor 1	*CTL	
7-514-053	Bank SEF Sensor 2	*CTL	
7-514-054	Bank SEF Sensor 3	*CTL	
7-514-057	Regist Sensor	*CTL	
7-514-060	Exit Sensor	*CTL	
7-514-065	Duplex Exit Sensor	*CTL	
7-514-067	Duplex Entrance Sensor	*CTL	
7-514-068	Inverter Sensor	*CTL	

7516	[Paper Size Jam Cnt]		
	Displays the number of jams according to the paper size.		
7-516-006	A5 LEF	*CTL	[0000 to 9999 / **0** / 1/step]
7-516-044	HLT LEF	*CTL	[0000 to 9999 / **0** / 1/step]
7-516-133	A4 SEF	*CTL	[0000 to 9999 / **0** / 1/step]
7-516-134	A5 SEF	*CTL	[0000 to 9999 / **0** / 1/step]
7-516-142	B5 SEF	*CTL	[0000 to 9999 / **0** / 1/step]
7-516-164	LG SEF	*CTL	[0000 to 9999 / **0** / 1/step]
7-516-166	LT SEF	*CTL	[0000 to 9999 / **0** / 1/step]
7-516-172	HLT SEF	*CTL	[0000 to 9999 / **0** / 1/step]
7-516-255	Others	*CTL	[0000 to 9999 / **0** / 1/step]

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7520	[Update Log]		
	Displays error history of firmware update in the past 10 times. [-001] is the latest error history, and [-010] is the most old error history.		
7-520-001	Record1	*CTL	[1 to 255 / **0** / 1/step]
7-520-002	Record2	*CTL	[1 to 255 / **0** / 1/step]
7-520-003	Record3	*CTL	[1 to 255 / **0** / 1/step]
7-520-004	Record4	*CTL	[1 to 255 / **0** / 1/step]
7-520-005	Record5	*CTL	[1 to 255 / **0** / 1/step]
7-520-006	Record6	*CTL	[1 to 255 / **0** / 1/step]
7-520-007	Record7	*CTL	[1 to 255 / **0** / 1/step]
7-520-008	Record8	*CTL	[1 to 255 / **0** / 1/step]
7-520-009	Record9	*CTL	[1 to 255 / **0** / 1/step]
7-520-010	Record10	*CTL	[1 to 255 / **0** / 1/step]

7801	[ROM No./ Firmware Version]		
	Displays firmware information for main machine and all other connected devices.		
7-801-255	-	CTL	-
	001 System		-
	002 Engine		-
	009 Bank		-
	018 NetworkSupport		-
	019 Bank2		-
	023 HDD Format Option		-
	040 Bank3		-
	132: NetWare		-
	150: RPCS		-
	151: PS		-

	158: PCL	-
	159: PCLXL	-
	162: PDF	-
	164: PictBridge	-
	165: PJL	-
	166: IPDS	-
	168: MediaPrint:TIFF	-
	169: XPS	-
	180: FONT	-
	181: FONT1	-
	182: FONT2	-
	183: FONT3	-
	184: FONT4	-
	185: FONT5	--
	200: Factory	-
	204: Printer	-
	210: MIB	-
	211: Websupport	-
	213: SDK1	-
	214: SDK2	-
	215: SDK3	-

7803	[PM Counter]
	(Page, Unit, [Color])

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-001 to -020	Displays the number of sheets printed for each current maintenance unit.		
	PM counters click up based on the number of A4 (LT) LEF size sheets printed. Therefore, the A3 (DLT) Double Count is activated. The Double Count cannot be deactivated.		
	When a unit is replaced, the machine automatically detects that the new unit is installed. Then, the current PM counter value is automatically moved to the PM Counter - Previous (SP7-906-1 to 21) and is reset to "0".		
	The total number of sheets printed with the last unit replaced can be checked with SP7-906-1 to 19.		
7-803-001	Paper	*CTL	[0 to 9999999 / - / 1 page/step]
7-803-002	Page: PCU: Bk	*ENG	[0 to 9999999 / - / 1 page/step]
7-803-003	Page: PCU: C	*ENG	[0 to 9999999 / - / 1 page/step]
7-803-004	Page: PCU: M	ENG	[0 to 9999999 / - / 1 page/step]
7-803-005	Page: PCU: Y	ENG	[0 to 9999999 / - / 1 page/step]
7-803-006	Page:Dev. Unit:Bk	ENG	[0 to 9999999 / - / 1 page/step]
7-803-007	Page:Dev. Unit:C	ENG	[0 to 9999999 / - / 1 page/step]
7-803-008	Page:Dev. Unit:M	ENG	[0 to 9999999 / - / 1 page/step]
7-803-009	Page:Dev. Unit:Y	ENG	[0 to 9999999 / - / 1 page/step]
7-803-014	Page:ITB Unit	ENG	[0 to 9999999 / - / 1 page/step]
7-803-015	Page:ITB Cln Unit	ENG	[0 to 9999999 / - / 1 page/step]
7-803-016	Page: Fusing Unit	ENG	[0 to 9999999 / - / 1 page/step]
7-803-017	Page:FusingRoller	ENG	[0 to 9999999 / - / 1 page/step]
7-803-018	Page: Fusing Belt	ENG	[0 to 9999999 / - / 1 page/step]
7-803-019	Page PTR Unit	ENG	[0 to 9999999 / - / 1 page/step]
7-803-020	Page:ITB TC Bottl	ENG	[0 to 9999999 / - / 1 page/step]

-031 to -048	Displays the number of revolutions of motors or clutches for each current maintenance unit. When a unit is replaced, the machine automatically detects that the new unit is installed. Then, the current PM counter value is automatically moved to the PM Counter - Previous (SP7-906-31 to 49) and is reset to "0". The total number of revolutions made with the last unit replaced can be checked with SP7-906-31 to 49.		
7-803-031	Rotation: PCU: Bk	ENG	[0 to 999999999 / - / 1 mm/step]
7-803-032	Rotation: PCU: C	ENG	[0 to 999999999 / - / 1 mm/step]
7-803-033	Rotation: PCU: M	ENG	[0 to 999999999 / - / 1 mm/step]
7-803-034	Rotation: PCU: Y	ENG	[0 to 999999999 / - / 1 mm/step]
7-803-035	Rotat:Dev.Unit:Bk	ENG	[0 to 999999999 / - / 1 mm/step]
7-803-036	Rotat:Dev.Unit:C	ENG	[0 to 999999999 / - / 1 mm/step]
7-803-037	Rotat:Dev.Unit:M	ENG	[0 to 999999999 / - / 1 mm/step]
7-803-038	Rotat:Dev.Unit:Y	ENG	[0 to 999999999 / - / 1 mm/step]
7-803-043	Rotation:ITB Unit	ENG	[0 to 999999999 / - / 1 mm/step]
7-803-044	Rotat:ITBCln.Unit	ENG	[0 to 999999999 / - / 1 mm/step]
7-803-045	Rotat:Fusing Unit	ENG	[0 to 999999999 / - / 1 mm/step]
7-803-046	Rotat:Fus.Roller	ENG	[0 to 999999999 / - / 1 mm/step]
7-803-047	Rotat:Fusing Belt	ENG	[0 to 999999999 / - / 1 mg/step]
7-803-048	Rotation PTR Unit	ENG	[0 to 999999999 / - / 1 mm/step]
7-803-049	Msr TC Bottle	ENG	[0 to 999999999 / - / 1 mg/step] Displays the total amount of each waste toner bottle.
-061 to -078	Displays the value given by the following formula: (Current revolution / Target revolution) x 100. This shows how much of the unit's expected lifetime has been used up. The Rotation% counter is based on rotations, not prints. If the number of rotations reaches the limit, the machine enters the end condition for that unit. If the print count lifetime is reached first, the machine also enters the end condition, even though the R% counter is still less than 100%.		

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7-803-061	Rotat.(%):PCU:Bk	ENG	[0 to 255 / - / 1 %/step]
7-803-062	Rotat.(%):PCU:C	ENG	[0 to 255 / - / 1 %/step]
7-803-063	Rotat.(%):PCU:M	ENG	[0 to 255 / - / 1 %/step]
7-803-064	Rotat.(%):PCU:Y	ENG	[0 to 255 / - / 1 %/step]
7-803-065	Rotat(%):Dev.U:Bk	ENG	[0 to 255 / - / 1 %/step]
7-803-066	Rotat(%):Dev.U:C	ENG	[0 to 255 / - / 1 %/step]
7-803-067	Rotat(%):Dev.U:M	ENG	[0 to 255 / - / 1 %/step]
7-803-068	Rotat(%):Dev.U:Y	ENG	[0 to 255 / - / 1 %/step]
7-803-073	Rotat(%):ITB Unit	ENG	[0 to 255 / - / 1 %/step]
7-803-074	Rotat(%):ITB ClnU	ENG	[0 to 255 / - / 1 %/step]
7-803-075	Rotat(%):Fus.Unit	ENG	[0 to 255 / - / 1 %/step]
7-803-076	Rotat(%):Fus.Roll	ENG	[0 to 255 / - / 1 %/step]
7-803-077	Rotat(%):Fus.Belt	ENG	[0 to 255 / - / 1 %/step]
7-803-078	Rotat(%):PTR Unit	ENG	[0 to 255 / - / 1 %/step]
7-803-079	Amt(%):ITB TC Btl	ENG	[0 to 255 / - / 1 %/step] Displays how much of the unit's expected lifetime has been used up.
-091 to -108	Displays the value given by the following formula: (Current printouts / Target printouts) x 100. This shows how much of the unit's expected lifetime has been used up. The Page% counter is based on printouts, not revolutions. If the number of printouts reaches the limit, the machine enters the end condition for that unit. If the revolution count lifetime is reached first, the machine also enters the end condition, even though the Page% counter is still less than 100%.		
7-803-091	Page (%): PCU: Bk	ENG	[0 to 255 / - / 1 %/step]
7-803-092	Page (%): PCU: C	ENG	[0 to 255 / - / 1 %/step]
7-803-093	Page (%): PCU: M	ENG	[0 to 255 / - / 1 %/step]
7-803-094	Page (%): PCU: Y	ENG	[0 to 255 / - / 1 %/step]

7-803-095	Page (%):Dev.U:Bk	ENG	[0 to 255 / - / 1 %/step]
7-803-096	Page (%):Dev.U:C	ENG	[0 to 255 / - / 1 %/step]
7-803-097	Page (%):Dev.U:M	ENG	[0 to 255 / - / 1 %/step]
7-803-098	Page (%):Dev.U:Y	ENG	[0 to 255 / - / 1 %/step]
7-803-103	Page (%):ITB Unit	ENG	[0 to 255 / - / 1 %/step]
7-803-104	Page(%):ITB Cln U	ENG	[0 to 255 / - / 1 %/step]
7-803-105	Page(%):Fus.Unit	ENG	[0 to 255 / - / 1 %/step]
7-803-106	Page(%):Fus.Roll	ENG	[0 to 255 / - / 1 %/step]
7-803-107	Page(%):Fus.Belt	ENG	[0 to 255 / - / 1 %/step]
7-803-108	Page(%):PTR Unit	ENG	[0 to 255 / - / 1 %/step]

7804	[PM Counter Reset]		
	(Unit, [Color])		
	Clears the PM counter. Press the Enter key after the machine asks "Execute?", which will store the PM counter value in SP7-906 (PM Counter - Previous) and reset the value of the current PM counter (SP7-803) to "0".		
7-804-001	Paper	CTL	-
7-804-002	PCU: Bk	ENG	-
7-804-003	PCU: C	ENG	-
7-804-004	PCU: M	ENG	-
7-804-005	PCU: Y	ENG	-
7-804-006	PCU: All	ENG	-
7-804-007	Dev. Unit:Bk	ENG	-
7-804-008	Dev. Unit:C	ENG	-
7-804-009	Dev. Unit:M	ENG	-
7-804-010	Dev. Unit:Y	ENG	-

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7-804-011	Dev. Unit:All	ENG	-
7-804-017	ITB Unit	ENG	-
7-804-018	ITB Cleaning Unit	ENG	-
7-804-019	Fusing Unit	ENG	-
7-804-020	Fusing Roller	ENG	-
7-804-021	Fusing Belt	ENG	-
7-804-022	PTR Unit	ENG	-
7-804-023	TC Bottle	ENG	-
7-804-100	All	ENG	-

7807	[Reset SC/Jam]		
	Clears the counters related to SC codes and paper jams.		
7-807-001	-	*CTL	-

7832	[Display Self-Diagnose]		
	Displays the result of the diagnostics.		
7-832-001	-	*CTL	-

7836	[Resident Memory]		
	Displays the memory capacity of the controller system.		
7-836-001	-	*CTL	-

7853	[Replace Counter]		
	Displays the PM parts replacement number.		
7-853-001	PCU: BK	ENG	
7-853-002	PCU: C	ENG	
7-853-003	PCU: M	ENG	

7-853-004	PCU: Y	ENG	[0 to 255 / - / 1 /step]
7-853-005	Dev.Unit: BK	ENG	[0 to 255 / - / 1 /step]
7-853-006	Dev.Unit: C	ENG	[0 to 255 / - / 1 /step]
7-853-007	Dev.Unit: M	ENG	[0 to 255 / - / 1 /step]
7-853-008	Dev.Unit: Y	ENG	[0 to 255 / - / 1 /step]
7-853-013	Image Transfer	ENG	[0 to 255 / - / 1 /step]
7-853-014	ITB Cleaning Unit	ENG	[0 to 255 / - / 1 /step]
7-853-015	Fusing Unit	ENG	[0 to 255 / - / 1 /step]
7-853-016	Fusing Roller	ENG	[0 to 255 / - / 1 /step]
7-853-017	Fusing Belt	ENG	[0 to 255 / - / 1 /step]
7-853-018	PTR Unit	ENG	[0 to 255 / - / 1 /step]
7-853-019	TC Bottle	ENG	[0 to 255 / - / 1 /step]

7855	**[Coverage Range]**
	Sets the color coverage threshold. Coverage rate = Coverage per page / A4 full coverage (dots) x 100 There are three coverage counters: Color 1, Color 2, and Color 3 • [A] 5% (default) is adjustable with SP7855-001. • [B] 20% (default) is adjustable with SP7855-002. **Note** • The setting value [B] must be set larger than [A]. The total numbers of printouts (BW printing plus color printing) for each coverage range are displayed with the following SPs. • Color1 counter: SP8601-021 • Color2 counter: SP8601-022 • Color3 counter: SP8601-023

7-855-001	Coverage Range 1	*CTL	[1 to 200 / **5** /1%/step]
7-855-002	Coverage Range 2	*CTL	[1 to 200 / **20** /1%/step]

7901	[Assert Info]		
	Records the location where a problem is detected in the program. The data stored in this SP is used for problem analysis. **DFU**		
7-901-001	File Name	*CTL	-
7-901-002	Number of Lines		
7-901-003	Location		

7904	[Near End Setting]		
	Selects the time between near end and end. 0: three days, 1: five days, 2: seven days		
7-904-001	PCU: K	*ENG	[0 to 2 / 1 / 1 /step]
7-904-002	PCU: Col	*ENG	[0 to 2 / 1 / 1 /step]
7-904-004	ITB	*ENG	[0 to 2 / 1 / 1 /step]
7-904-006	Fusing Unit	*ENG	[0 to 2 / 1 / 1 /step]

7906	[Prev.U PM Counter]		
	(Page or Rotations, Unit, [Color]), Dev.: Development Unit		
-001 to -019	Displays the number of sheets printed with the previous maintenance units.		
7-906-001	Page: PCU: Bk	ENG	[0 to 9999999 / **0** / 1 page/step]
7-906-002	Page: PCU: C	ENG	[0 to 9999999 / **0** / 1 page/step]
7-906-003	Page: PCU: M	ENG	[0 to 9999999 / **0** / 1 page/step]
7-906-004	Page: PCU: Y	ENG	[0 to 9999999 / **0** / 1 page/step]
7-906-005	Page:Dev. Unit:Bk	ENG	[0 to 9999999 / **0** / 1 page/step]
7-906-006	Page:Dev. Unit:C	ENG	[0 to 9999999 / **0** / 1 page/step]
7-906-007	Page:Dev. Unit:M	ENG	[0 to 9999999 / **0** / 1 page/step]

7-906-008	Page:Dev. Unit:Y	ENG	[0 to 9999999 / **0** / 1 page/step]
7-906-013	Page:ITB Unit	ENG	[0 to 9999999 / **0** / 1 page/step]
7-906-014	Page:ITB Cln Unit	ENG	[0 to 9999999 / **0** / 1 page/step]
7-906-015	Page: Fusing Unit	ENG	[0 to 9999999 / **0** / 1 page/step]
7-906-016	Page:FusingRoller	ENG	[0 to 9999999 / **0** / 1 page/step]
7-906-017	Page: Fusing Belt	ENG	[0 to 9999999 / **0** / 1 page/step]
7-906-018	Page: PTR Unit	ENG	[0 to 9999999 / **0** / 1 page/step]
7-906-019	Page:TC Bottle	ENG	[0 to 9999999 / **0** / 1 page/step]
-031 to -049	Displays the number of revolutions for motors or clutches in the previous maintenance units.		
7-906-031	Rotation: PCU: Bk	ENG	[0 to 999999999 / 0 / 1 mm/step]
7-906-032	Rotation: PCU: C	ENG	[0 to 999999999 / 0 / 1 mm/step]
7-906-033	Rotation: PCU: M	ENG	[0 to 999999999 / 0 / 1 mm/step]
7-906-034	Rotation: PCU: Y	ENG	[0 to 999999999 / 0 / 1 mm/step]
7-906-035	Rotat:Dev.Unit:Bk	ENG	[0 to 999999999 / 0 / 1 mm/step]
7-906-036	Rotat:Dev.Unit:C	ENG	[0 to 999999999 / 0 / 1 mm/step]
7-906-037	Rotat:Dev.Unit:M	ENG	[0 to 999999999 / 0 / 1 mm/step]
7-906-038	Rotat:Dev.Unit:Y	ENG	[0 to 999999999 / 0 / 1 mm/step]
7-906-043	Rotation:ITB Unit	ENG	[0 to 999999999 / 0 / 1 mm/step]
7-906-044	Rotat:ITBCln.Unit	ENG	[0 to 999999999 / 0 / 1 mm/step]
7-906-045	Rotat:Fusing Unit	ENG	[0 to 999999999 / 0 / 1 mm/step]
7-906-046	Rotat:Fus.Roller	ENG	[0 to 999999999 / 0 / 1 mm/step]
7-906-047	Rotat:Fusing Belt	ENG	[0 to 999999999 / 0 / 1 mg/step]
7-906-048	Rotation:PTR Unit	ENG	[0 to 999999999 / 0 / 1 mm/step]
7-906-049	Amt:ITB TC Bottle	ENG	[0 to 999999999 / 0 / 1 mg/step]

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-061 to -079	Displays the number of sheets printed with the previous maintenance unit or toner cartridge.		
7-906-061	Rotat.(%):PCU:Bk	ENG	[0 to 255 / 0 / 1%/step]
7-906-062	Rotat.(%):PCU:C	ENG	[0 to 255 / 0 / 1%/step]
7-906-063	Rotat.(%):PCU:M	ENG	[0 to 255 / 0 / 1%/step]
7-906-064	Rotat.(%):PCU:Y	ENG	[0 to 255 / 0 / 1%/step]
7-906-065	Rotat(%):Dev.U:Bk	ENG	[0 to 255 / 0 / 1%/step]
7-906-066	Rotat(%):Dev.U:C	ENG	[0 to 255 / 0 / 1%/step]
7-906-067	Rotat(%):Dev.U:M	ENG	[0 to 255 / 0 / 1%/step]
7-906-068	Rotat(%):Dev.U:Y	ENG	[0 to 255 / 0 / 1%/step]
7-906-073	Rotat(%):ITB Unit	ENG	[0 to 255 / 0 / 1%/step]
7-906-074	Rotat(%):ITB ClnU	ENG	[0 to 255 / 0 / 1%/step]
7-906-075	Rotat(%):Fus.Unit	ENG	[0 to 255 / 0 / 1%/step]
7-906-076	Rotat(%):Fus.Roll	ENG	[0 to 255 / 0 / 1%/step]
7-906-077	Rotat(%):Fus.Belt	ENG	[0 to 255 / 0 / 1%/step]
7-906-078	Rotat(%):PTR Unit	ENG	[0 to 255 / 0 / 1%/step]
7-906-079	Amt(%):ITB TC Btl	ENG	[0 to 255 / 0 / 1%/step]
-091 to -108	Displays the value given by the following formula: (Current count / Yield count) x 100, where "Current count" is the current values in the counter for the part, and "Yield count" is the recommended yield.		
7-906-091	Page %: PCU: Bk	ENG	[0 to 255 / 0 / 1%/step]
7-906-092	Page %: PCU: C	ENG	[0 to 255 / 0 / 1%/step]
7-906-093	Page %: PCU: M	ENG	[0 to 255 / 0 / 1%/step]
7-906-094	Page %: PCU: Y	ENG	[0 to 255 / 0 / 1%/step]
7-906-095	Page (%):Dev.U:Bk	ENG	[0 to 255 / 0 / 1%/step]
7-906-096	Page (%):Dev.U:C	ENG	[0 to 255 / 0 / 1%/step]

7-906-097	Page (%):Dev.U:M	ENG	[0 to 255 / 0 / 1%/step]
7-906-098	Page (%):Dev.U:Y	ENG	[0 to 255 / 0 / 1%/step]
7-906-103	Page (%):ITB Unit	ENG	[0 to 255 / 0 / 1%/step]
7-906-104	Page(%):ITB Cln U	ENG	[0 to 255 / 0 / 1%/step]
7-906-105	Page(%):Fus.Unit	ENG	[0 to 255 / 0 / 1%/step]
7-906-106	Page(%):Fus.Roll	ENG	[0 to 255 / 0 / 1%/step]
7-906-107	Page%:Fusing Belt	ENG	[0 to 255 / 0 / 1%/step]
7-906-108	Page%:PTR Unit	ENG	[0 to 255 / 0 / 1%/step]

7931	[Toner Bottle Bk]		
	Displays the toner bottle information for Bk.		
7-931-001	Machine Serial ID	*ENG	[0 to 255 / - / 1/step]
7-931-002	Cartridge Ver	*ENG	[0 to 255 / - / 1/step]
7-931-003	Brand ID	*ENG	[0 to 255 / - / 1/step]
7-931-004	Area ID	*ENG	[0 to 255 / - / 1/step]
7-931-005	Product ID	*ENG	[0 to 255 / - / 1/step]
7-931-006	Color ID	*ENG	[0 to 255 / - / 1/step]
7-931-007	Maintenance ID	*ENG	[0 to 255 / - / 1/step]
7-931-008	New Product Info.	*ENG	[0 to 255 / - / 1/step]
7-931-009	Recycle Counter	*ENG	[0 to 255 / **0** / 1/step]
7-931-010	Date	*ENG	[0 or 1 / - / 1/step]
7-931-011	Serial No.	*ENG	[0 or 1 / - / 1/step]
7-931-012	Toner Remaining	*ENG	[0 to 100 / **100** / 1%/step]
7-931-013	EDP Code	*ENG	[0 to 255 / - / 1/step]
7-931-014	End History	*ENG	[0 to 255 / - / 1/step]
7-931-015	Refill Info.	*ENG	[0 or 1 / - / 1/step]

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7-931-016	Attach:TtlCounter	*ENG	[0 to 99999999 / **0** / 1/step]
7-931-017	Attach:ClrCounter	*ENG	[0 to 99999999 / **0** / 1/step]
7-931-018	End: Total Counter	*ENG	[0 to 99999999 / **0** / 1/step]
7-931-019	End: Color Counter	*ENG	[0 to 99999999 / **0** / 1/step]
7-931-020	Attachment Date	*ENG	[0 or 1 / - / 1/step]
7-931-021	End Date	*ENG	[0 or 1 / - / 1/step]

7932	[Toner Bottle C]		
	Displays the toner bottle information for C.		
7-932-001	Machine Serial ID	*ENG	[0 to 255 / - / 1/step]
7-932-002	Cartridge Ver	*ENG	[0 to 255 / - / 1/step]
7-932-003	Brand ID	*ENG	[0 to 255 / - / 1/step]
7-932-004	Area ID	*ENG	[0 to 255 / - / 1/step]
7-932-005	Product ID	*ENG	[0 to 255 / - / 1/step]
7-932-006	Color ID	*ENG	[0 to 255 / - / 1/step]
7-932-007	Maintenance ID	*ENG	[0 to 255 / - / 1/step]
7-932-008	New Product Info.	*ENG	[0 to 255 / - / 1/step]
7-932-009	Recycle Counter	*ENG	[0 to 255 / **0** / 1/step]
7-932-010	Date	*ENG	[0 or 1 / - / 1/step]
7-932-011	Serial No.	*ENG	[0 or 1 / - / 1/step]
7-932-012	Toner Remaining	*ENG	[0 to 100 / **100** / 1%/step]
7-932-013	EDP Code	*ENG	[0 to 255 / - / 1/step]
7-932-014	End History	*ENG	[0 to 255 / - / 1/step]
7-932-015	Refill Info.	*ENG	[0 or 1 / - / 1/step]
7-932-016	Attach:TtlCounter	*ENG	[0 to 99999999 / **0** / 1/step]
7-932-017	Attach:ClrCounter	*ENG	[0 to 99999999 / **0** / 1/step]

7-932-018	End: Total Counter	*ENG	[0 to 99999999 / 0 / 1/step]
7-932-019	End: Color Counter	*ENG	[0 to 99999999 / 0 / 1/step]
7-932-020	Attachment Date	*ENG	[0 or 1 / - / 1/step]
7-932-021	End Date	*ENG	[0 or 1 / - / 1/step]

7933	[Toner Bottle M]		
	Displays the toner bottle information for M.		
7-933-001	Machine Serial ID	*ENG	[0 to 255 / - / 1/step]
7-933-002	Cartridge Ver	*ENG	[0 to 255 / - / 1/step]
7-933-003	Brand ID	*ENG	[0 to 255 / - / 1/step]
7-933-004	Area ID	*ENG	[0 to 255 / - / 1/step]
7-933-005	Product ID	*ENG	[0 to 255 / - / 1/step]
7-933-006	Color ID	*ENG	[0 to 255 / - / 1/step]
7-933-007	Maintenance ID	*ENG	[0 to 255 / - / 1/step]
7-933-008	New Product Info.	*ENG	[0 to 255 / - / 1/step]
7-933-009	Recycle Counter	*ENG	[0 to 255 / 0 / 1/step]
7-933-010	Date	*ENG	[0 or 1 / - / 1/step]
7-933-011	Serial No.	*ENG	[0 or 1 / - / 1/step]
7-933-012	Toner Remaining	*ENG	[0 to 100 / 100 / 1%/step]
7-933-013	EDP Code	*ENG	[0 to 255 / - / 1/step]
7-933-014	End History	*ENG	[0 to 255 / - / 1/step]
7-933-015	Refill Info.	*ENG	[0 or 1 / - / 1/step]
7-933-016	Attach:TtlCounter	*ENG	[0 to 99999999 / 0 / 1/step]
7-933-017	Attach:ClrCounter	*ENG	[0 to 99999999 / 0 / 1/step]
7-933-018	End: Total Counter	*ENG	[0 to 99999999 / 0 / 1/step]
7-933-019	End: Color Counter	*ENG	[0 to 99999999 / 0 / 1/step]

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| 7-933-020 | Attachment Date | *ENG | [0 or 1 / - / 1/step] |
| 7-933-021 | End Date | *ENG | [0 or 1 / - / 1/step] |

7934	[Toner Bottle Y]		
	Displays the toner bottle information for Y.		
7-934-001	Machine Serial ID	*ENG	[0 to 255 / - / 1/step]
7-934-002	Cartridge Ver	*ENG	[0 to 255 / - / 1/step]
7-934-003	Brand ID	*ENG	[0 to 255 / - / 1/step]
7-934-004	Area ID	*ENG	[0 to 255 / - / 1/step]
7-934-005	Product ID	*ENG	[0 to 255 / - / 1/step]
7-934-006	Color ID	*ENG	[0 to 255 / - / 1/step]
7-934-007	Maintenance ID	*ENG	[0 to 255 / - / 1/step]
7-934-008	New Product Info.	*ENG	[0 to 255 / - / 1/step]
7-934-009	Recycle Counter	*ENG	[0 to 255 / 0 / 1/step]
7-934-010	Date	*ENG	[0 or 1 / - / 1/step]
7-934-011	Serial No.	*ENG	[0 or 1 / - / 1/step]
7-934-012	Toner Remaining	*ENG	[0 to 100 / 100 / 1%/step]
7-934-013	EDP Code	*ENG	[0 to 255 / - / 1/step]
7-934-014	End History	*ENG	[0 to 255 / - / 1/step]
7-934-015	Refill Info.	*ENG	[0 or 1 / - / 1/step]
7-934-016	Attach:TtlCounter	*ENG	[0 to 99999999 / 0 / 1/step]
7-934-017	Attach:ClrCounter	*ENG	[0 to 99999999 / 0 / 1/step]
7-934-018	End: Total Counter	*ENG	[0 to 99999999 / 0 / 1/step]
7-934-019	End: Color Counter	*ENG	[0 to 99999999 / 0 / 1/step]
7-934-020	Attachment Date	*ENG	[0 or 1 / - / 1/step]
7-934-021	End Date	*ENG	[0 or 1 / - / 1/step]

7935		[TonerBttl Log1 to 5:Bk]		
7-935-001	Serial No.	*ENG	Displays the toner bottle information log 1 for Bk.
7-935-002	Attachment Date		
7-935-003	Attach:TtlCounter		
7-935-004	Refill Info.		
7-935-005	Serial No.	*ENG	Displays the toner bottle information log 2 for Bk.
7-935-006	Attachment Date		
7-935-007	Attach:TtlCounter		
7-935-008	Refill Info.		
7-935-009	Serial No.	*ENG	Displays the toner bottle information log 3 for Bk.
7-935-010	Attachment Date		
7-935-011	Attach:TtlCounter		
7-935-012	Refill Info.		
7-935-013	Serial No.	*ENG	Displays the toner bottle information log 4 for Bk.
7-935-014	Attachment Date		
7-935-015	Attach:TtlCounter		
7-935-016	Refill Info.		
7-935-017	Serial No.	*ENG	Displays the toner bottle information log 5 for Bk.
7-935-018	Attachment Date		
7-935-019	Attach:TtlCounter		
7-935-020	Refill Info.		

7936	[TonerBttl Log1 to 5:C]

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7-936-001	Serial No.	*ENG	Displays the toner bottle information log 1 for M.
7-936-002	Attachment Date		
7-936-003	Attach:TtlCounter		
7-936-004	Refill Info.		
7-936-005	Serial No.	*ENG	Displays the toner bottle information log 2 for M.
7-936-006	Attachment Date		
7-936-007	Attach:TtlCounter		
7-936-008	Refill Info.		
7-936-009	Serial No.	*ENG	Displays the toner bottle information log 3 for M.
7-936-010	Attachment Date		
7-936-011	Attach:TtlCounter		
7-936-012	Refill Info.		
7-936-013	Serial No.	*ENG	Displays the toner bottle information log 4 for M.
7-936-014	Attachment Date		
7-936-015	Attach:TtlCounter		
7-936-016	Refill Info.		
7-936-017	Serial No.	*ENG	Displays the toner bottle information log 5 for M.
7-936-018	Attachment Date		
7-936-019	Attach:TtlCounter		
7-936-020	Refill Info.		

7937	[TonerBttl Log1 to 5:M]		
7-937-001	Serial No.	*ENG	Displays the toner bottle information log 1 for C.
7-937-002	Attachment Date		
7-937-003	Attach:TtlCounter		
7-937-004	Refill Info.		

7-937-005	Serial No.	*ENG	Displays the toner bottle information log 2 for C.
7-937-006	Attachment Date		
7-937-007	Attach:TtlCounter		
7-937-008	Refill Info.		
7-937-009	Serial No.	*ENG	Displays the toner bottle information log 3 for C.
7-937-010	Attachment Date		
7-937-011	Attach:TtlCounter		
7-937-012	Refill Info.		
7-937-013	Serial No.	*ENG	Displays the toner bottle information log 4 for C.
7-937-014	Attachment Date		
7-937-015	Attach:TtlCounter		
7-937-016	Refill Info.		
7-937-017	Serial No.	*ENG	Displays the toner bottle information log 5 for C.
7-937-018	Attachment Date		
7-937-019	Attach:TtlCounter		
7-937-020	Refill Info.		

7938	[TonerBttl Log1 to 5:Y]		
7-938-001	Serial No.	*ENG	Displays the toner bottle information log 1 for Y.
7-938-002	Attachment Date		
7-938-003	Attach:TtlCounter		
7-938-004	Refill Info.		
7-938-005	Serial No.	*ENG	Displays the toner bottle information log 2 for Y.
7-938-006	Attachment Date		
7-938-007	Attach:TtlCounter		
7-938-008	Refill Info.		

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7-938-009	Serial No.	*ENG	Displays the toner bottle information log 3 for Y.
7-938-010	Attachment Date		
7-938-011	Attach:TtlCounter		
7-938-012	Refill Info.		
7-938-013	Serial No.	*ENG	Displays the toner bottle information log 4 for Y.
7-938-014	Attachment Date		
7-938-015	Attach:TtlCounter		
7-938-016	Refill Info.		
7-938-017	Serial No.	*ENG	Displays the toner bottle information log 5 for Y.
7-938-018	Attachment Date		
7-938-019	Attach:TtlCounter		
7-938-020	Refill Info.		

7950	[UnitReplace Date]		
	Displays the replacement date of each PM unit.		
7-950-001	ITB Unit	*ENG	[0 to 999999 / 0 / 1/step]
7-950-003	PTR Unit	*ENG	
7-950-004	Fusing Unit	*ENG	
7-950-013	PCU:Bk	*ENG	
7-950-014	PCU:C	*ENG	
7-950-015	PCU:M	*ENG	
7-950-016	PCU:Y	*ENG	

7951	[Remain.DayCounter]
	Displays the remaining unit life of each PM unit.

7-951-001	Page: PCU: Bk	ENG	[0 to 255 / 255 / 1 day/step]
7-951-002	Page: PCU: C	ENG	
7-951-003	Page: PCU: M	ENG	
7-951-004	Page: PCU: Y	ENG	
7-951-005	Page:Dev. Unit:Bk	ENG	
7-951-006	Page:Dev. Unit:C	ENG	
7-951-007	Page:Dev. Unit:M	ENG	
7-951-008	Page:Dev. Unit:Y	ENG	
7-951-013	Page:ITB Unit	ENG	[0 to 255 / 255 / 1 day/step]
7-951-014	Page:ITB ClnUnit	ENG	
7-951-015	Page: Fusing Unit	ENG	
7-951-016	Page:Fusing Roll	ENG	
7-951-017	Page: Fusing Belt	ENG	
7-951-018	Page: PTR Unit	ENG	
7-951-031	Rotation: PCU: Bk	ENG	[0 to 255 / 255 / 1 day/step]
7-951-032	Rotation: PCU: C	ENG	
7-951-033	Rotation: PCU: M	ENG	
7-951-034	Rotation: PCU: Y	ENG	
7-951-035	Rotat:Dev.Unit:Bk	ENG	
7-951-036	Rotat:Dev.Unit:C	ENG	
7-951-037	Rotat:Dev.Unit:M	ENG	
7-951-038	Rotat:Dev.Unit:Y	ENG	
7-951-039	Rotat:Dvloper:Bk	ENG	

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7-951-040	Rotat:Dvloper:C	ENG	[0 to 255 / 255 / 1 day/step]
7-951-041	Rotat:Dvloper:M	ENG	
7-951-042	Rotat:Dvloper:Y	ENG	
7-951-043	Rotat:ITB Unit	ENG	
7-951-044	Rotat:ITB ClnUnit	ENG	
7-951-045	Rotat:Fusing Unit	ENG	
7-951-046	Rotat:Fusing Roll	ENG	
7-951-047	Rotat:Fusing Belt	ENG	
7-951-048	Rotat:PTR Unit	ENG	
7-951-049	Rotat:ITB TC Bttl	ENG	

7952	[PM Yield Setting]		
	Adjusts the unit yield of each PM unit.		
7-952-001	Rotat:ITB Unit	ENG	[0 to 999999999 / **96306000** / 1000 mm/step]
7-952-002	Rotat:ITB Cln Unit		[0 to 999999999 / **149534000**/ 1000 mm/step]
7-952-003	Rotat:Fusing Unit	ENG	[0 to 999999999 / **253408000** / 1000 mm/step]
7-952-004	Rotat:Fusing Roll	ENG	[0 to 999999999 / **188258000**/ 1000 mm/step]
7-952-005	Rotat:Fusing Belt	ENG	[0 to 999999999 / **188258000**/ 1000 mm/step]
7-952-006	Rotat:PTR Unit	ENG	[0 to 999999999 / **149534000**/ 1000 mm/step]
7-952-007	Amt:ITB TC Bottle	ENG	[0 to 999999999 / **300000** / 1000 mg/step]
7-952-011	Page:ITB Unit	ENG	[1 to 999999 / **100000** / 1 sheet/step]
7-952-012	Page:ITB Cln Unit	ENG	[1 to 999999 / **180000**/ 1 sheet/step]

7-952-013	Page: Fusing Unit	ENG	[1 to 999999 / **120000** / 1 sheet/step]
7-952-014	Page: Fusing Roll	ENG	[1 to 999999 / **120000** / 1 sheet/step]
7-952-015	Page: Fusing Belt	ENG	[1 to 999999 / **120000** / 1 sheet/step]
7-952-016	Page: PTR Unit	ENG	[1 to 999999 / **180000**/ 1 sheet/step]
7-952-021	Day Thresh:PCU:Bk	ENG	Adjusts the threshold day of the near end for each PM unit.
7-952-022	Day Thresh:PCU:C	ENG	[1 to 30 / **15** / 1 day/step]
7-952-023	Day Thresh:PCU:M	ENG	These threshold days are used for @Remote alarms.
7-952-024	Day Thresh:PCU:Y	ENG	
7-952-025	DayThrsh:Dev.U:Bk	ENG	
7-952-026	DayThrsh:Dev.U:C	ENG	
7-952-027	DayThrsh:Dev.U:M	ENG	
7-952-028	DayThrsh:Dev.U:Y	ENG	
7-952-033	DayThresh:ITB U	ENG	
7-952-034	DayThresh:ITB Cln	ENG	
7-952-035	DayThresh:Fus.Unt	ENG	
7-952-036	DayThresh:Fus.Rll	ENG	
7-952-037	DayThresh:Fus.Blt	ENG	
7-952-038	Rotation PCU Bk	ENG	[0 to 999999999 / **0** / 1 mm/step]
7-952-039	Rotation PCU C	ENG	
7-952-040	Rotation: PCU: M	ENG	
7-952-041	Rotation: PCU: Y	ENG	
7-952-042	Rotat:Dev.Unit:Bk	ENG	
7-952-043	Rotat:Dev.Unit:C	ENG	
7-952-044	Rotat:Dev.Unit:M	ENG	
7-952-045	Rotat:Dev.Unit:Y	ENG	

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7-952-050	Page: PCU: Bk	ENG	[0 to 999999 / **0** / 1 sheet/step]
7-952-051	Page: PCU: C	ENG	
7-952-052	Page: PCU: M	ENG	
7-952-053	Page: PCU: Y	ENG	
7-952-054	Page:Dev.Unit:Bk	ENG	
7-952-055	Page:Dev.Unit:C	ENG	
7-952-056	Page:Dev.Unit:M	ENG	
7-952-057	Page:Dev.Unit:Y	ENG	

7953	[OP Env.Log:PCU:Bk]		
	Displays the PCU rotation distance in each specified operation environment. T: Temperature (°C), H: Relative Humidity (%)		
7-953-001	T<=0	ENG	[0 to 99999999 / - / 1 mm/step]
7-953-002	0<T<=5:0<=H<30		
7-953-003	0<T<=5:30<=H<70		
7-953-004	T<=5: 70<=H<=100		
7-953-005	5<T<15:0<=H<30		
7-953-006	5<T<15:30<=H<55		
7-953-007	5<T<15:55<=H<80		
7-953-008	5<T<15:80<=H<=100		
7-953-009	15<=T<25:0<=H<30		
7-953-010	15<=T<25:30<=H<55		

7-953-011	15<=T<25:55<=H<80	ENG	[0 to 99999999 / - / 1 mm/step]
7-953-012	15<=T<25:80<=H<=F		
7-953-013	25<=T<30:0<=H<30		
7-953-014	25<=T<30:30<=H<55		
7-953-015	25<=T<30:55<=H<80		
7-953-016	25<=T<30:80<=H<=F		
7-953-017	30<=T:0<=H<30		
7-953-018	30<=T:30<=H<55		
7-953-019	30<=T:55<=H<80		
7-953-020	30<=T:80<=H<=100		

7954	[OP Env. Log Clear]		
	Clears the operation environment log.		
7-954-001	-	ENG	[0 or 1 / - / 1/step]

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Engine SP Mode Tables - SP8000

SP8-xxx: Data Log2

Many of these counters are provided for features that are currently not available, such as sending color faxes, and so on. However, here are some Group 8 codes that when used in combination with others, can provide useful information.

SP Numbers	What They Do
SP8211 to SP8216	The number of pages scanned to the document server.
SP8401 to SP8406	The number of pages printed from the document server
SP8691 to SP8696	The number of pages sent from the document server

Specifically, the following questions can be answered:

- How is the document server actually being used?
- What application is using the document server most frequently?
- What data in the document server is being reused?

Most of the SPs in this group are prefixed with a letter that indicates the mode of operation (the mode of operation is referred to as an "application"). Before reading the Group 8 Service Table, make sure that you understand what these prefixes mean.

Prefixes		What it means
T:	Total: (Grand Total).	Grand total of the items counted for all applications (C, F, P, etc.).
C:	Copy application.	Totals (pages, jobs, etc.) executed for each application when the job was not stored on the document server.
F:	Fax application.	
P:	Print application.	
S:	Scan application.	

| L: | Local storage (document server) | Totals (jobs, pages, etc.) for the document server. The L: counters work differently case by case. Sometimes, they count jobs/pages stored on the document server; this can be in document server mode (from the document server window), or from another mode, such as from a printer driver or by pressing the Store File button in the Copy mode window. Sometimes, they include occasions when the user uses a file that is already on the document server. Each counter will be discussed case by case. |
| O: | Other applications (external network applications, for example) | Refers to network applications such as Web Image Monitor. Utilities developed with the SDK (Software Development Kit) will also be counted with this group in the future. |

The Group 8 SP codes are limited to 17 characters, forced by the necessity of displaying them on the small LCDs of printers and faxes that also use these SPs. Read over the list of abbreviations below and refer to it again if you see the name of an SP that you do not understand.

Key for Abbreviations

Abbreviation	What it means
/	"By", e.g. "T:Jobs/Apl" = Total Jobs "by" Application
>	More (2> "2 or more", 4> "4 or more")
AddBook	Address Book
Apl	Application
B/W	Black & White
Bk	Black
C	Cyan
ColCr	Color Create
ColMode	Color Mode
Comb	Combine
Comp	Compression
Deliv	Delivery

Abbreviation	What it means
DesApl	Designated Application. The application (Copy, Fax, Scan, Print) used to store the job on the document server, for example.
Dev Counter	Development Count, no. of pages developed.
Dup, Duplex	Duplex, printing on both sides
Emul	Emulation
FC	Full Color
FIN	Post-print processing, i.e. finishing (punching, stapling, etc.)
Full Bleed	No Margins
GenCopy	Generation Copy Mode
GPC	Get Print Counter. For jobs 10 pages or less, this counter does not count up. For jobs larger than 10 pages, this counter counts up by the number that is in excess of 10 (e.g., for an 11-page job, the counter counts up 11-10 =1)
IFax	Internet Fax
ImgEdt	Image Edit performed on the original with the copier GUI, e.g. border removal, adding stamps, page numbers, etc.
K	Black (YMCK)
LS	Local Storage. Refers to the document server.
LSize	Large (paper) Size
Mag	Magnification
MC	One color (monochrome)
NRS	New Remote Service, which allows a service center to monitor machines remotely. "NRS" is used overseas, "CSS" is used in Japan.
Palm 2	Print Job Manager/Desk Top Editor: A pair of utilities that allows print jobs to be distributed evenly among the printers on the network, and allows files to moved around, combined, and converted to different formats.
PC	Personal Computer

Abbreviation	What it means
PGS	Pages. A page is the total scanned surface of the original. Duplex pages count as two pages, and A3 simplex count as two pages if the A3/DLT counter SP is switched ON.
PJob	Print Jobs
Ppr	Paper
PrtJam	Printer (plotter) Jam
PrtPGS	Print Pages
R	Red (Toner Remaining). Applies to the wide format model A2 only. This machine is under development and currently not available.
Rez	Resolution
SC	Service Code (Error SC code displayed)
Scn	Scan
Sim, Simplex	Simplex, printing on 1 side.
S-to-Email	Scan-to-E-mail
SMC	SMC report printed with SP5990. All of the Group 8 counters are recorded in the SMC report.
Svr	Server
TonEnd	Toner End
TonSave	Toner Save
TXJob	Send, Transmission
YMC	Yellow, Magenta, Cyan
YMCK	Yellow, Magenta, Cyan, Black

↓Note

- All of the Group 8 SPs are reset with SP5 801 1 Memory All Clear.

8001	T:Total Jobs	*CTL	These SPs count the number of times each application is used to do a job.
8004	P:Total Jobs	*CTL	[0 to 9999999/ **0** / 1 /step]

- These SPs reveal the number of times an application is used, not the number of pages processed.

- When an application is opened for image input or output, this counts as one job.

- Interrupted jobs (paper jams, etc.) are counted, even though they do not finish.

- Only jobs executed by the customer are counted. Jobs executed by the customer engineer using the SP modes are not counted.

- When using secure printing (when a password is required to start the print job), the job is counted at the time when either "Delete Data" or "Specify Output" is specified.

- A job is counted as a fax job when the job is stored for sending.

- When a fax is received to fax memory, the F: counter increments but the L: counter does not (the document server is not used).

- A fax broadcast counts as one job for the F: counter (the fax destinations in the broadcast are not counted separately).

- A fax broadcast is counted only after all the faxes have been sent to their destinations. If one transmission generates an error, then the broadcast will not be counted until the transmission has been completed.

- A printed fax report counts as one job for the F: counter.

- The F: counter does not distinguish between fax sending or receiving.

- When a print job on the document server is printed, SP8022 also increments, and when a print job stored on the document server is printed, SP8024 also increments.

- When an original is both copied and stored on the document server, the C: and L: counters both increment.

- When a print job is stored on the document server, only the L: counter increments.

- When the user presses the Document Server button to store the job on the document server, only the L: counter increments.

- When the user enters document server mode and prints data stored on the document server, only the L: counter increments.

- When an image received from Palm 2 is received and stored, the L: counter increments.

- When the customer prints a report (user code list, for example), the O: counter increments. However, for fax reports and reports executed from the fax application, the F: counter increments.

8061	T:FIN Jobs	*CTL	[0 to 9999999/ **0** / 1 /step]
	Not used		

8064	P:FIN Jobs	*CTL	[0 to 9999999/ **0** / 1 /step]
	Not used		
8067	O:FIN Jobs	*CTL	[0 to 9999999/ **0** / 1 /step]
	Not used		
8-06x-001	Sort	Not used	
8-06x-002	Stack	Not used	
8-06x-003	Staple	Not used	
8-06x-004	Booklet	Not used	
8-06x-005	Z-Fold	Not used	
8-06x-006	Punch	Not used	
8-06x-007	Other	Not used	
8-06x-008	Inside-Fold	Not used	
8-06x-009	Three-IN-Fold	Not used	
8-06x-010	Three-OUT-Fold	Not used	
8-06x-011	Four-Fold	Not used	
8-06x-012	KANNON-Fold	Not used	
8-06x-013	Perfect-Bind	Not used	
8-06x-014	Ring-Bind	Not used	
8-06x-015	3rd Vendor	Not used	

8071	T:Jobs/PGS	*CTL	[0 to 9999999/ **0** / 1 /step]
	These SPs count the number of jobs broken down by the number of pages in the job, regardless of which application was used.		
8074	P:Jobs/PGS	*CTL	[0 to 9999999/ **0** / 1 /step]
	These SPs count and calculate the number of print jobs by size based on the number of pages in the job.		

8077	O:Jobs/PGS		*CTL	[0 to 9999999/ **0** / 1 /step]
	These SPs count and calculate the number of "Other" application jobs (Web Image Monitor, Palm 2, etc.) by size based on the number of pages in the job.			
8-07x-001	1 Page	8-07x-008		21 to 50 Pages
8-07x-002	2 Pages	8-07x-009		51 to 100 Pages
8-07x-003	3 Pages	8-07x-010		101 to 300 Pages
8-07x-004	4 Pages	8-07x-011		301 to 500 Pages
8-07x-005	5 Pages	8-07x-012		501 to 700 Pages
8-07x-006	6 to 10 Pages	8-07x-013		701 to 1000 Pages
8-07x-007	11 to 20 Pages	8-07x-014		1001 to Pages

- For example: When a print job stored on the document server is printed in document server mode, the appropriate L: counter (SP8076 0xx) increments.
- Printing a fax report counts as a job and increments the F: counter (SP 8073).
- Interrupted jobs (paper jam, etc.) are counted, even though they do not finish.
- If a job is paused and re-started, it counts as one job.
- If the finisher runs out of staples during a print and staple job, then the job is counted at the time the error occurs.
- For copy jobs (SP 8072) and scan jobs (SP 8075), the total is calculated by multiplying the number of sets of copies by the number of pages scanned. (One duplex page counts as 2.)
- The first test print and subsequent test prints to adjust settings are added to the number of pages of the print job (SP 8072).
- When printing the first page of a job from within the document server screen, the page is counted.

8381	T:Total PrtPGS	*CTL	These SPs count the number of pages printed by the customer. The counter for the application used for storing the pages increments.
8384	P:Total PrtPGS	*CTL	
8387	O:Total PrtPGS	*CTL	[0 to 9999999/ **0** / 1 /step]

- When several documents are merged for a print job, the number of pages stored are counted for the application that stored them.
- These counters are used primarily to calculate charges on use of the machine, so the following pages are not counted as printed pages:

    - Blank pages in a duplex printing job.

- Blank pages inserted as document covers, chapter title sheets, and slip sheets.

- Reports printed to confirm counts.

- All reports done in the service mode (service summaries, engine maintenance reports, etc.)

- Test prints for machine image adjustment.

- Error notification reports.

- Partially printed pages as the result of a copier jam.

8391	LSize PrtPGS	*CTL	[0 to 9999999/ **0** / 1 /step]
	These SPs count pages printed on paper sizes A3/DLT and larger. **Note**: In addition to being displayed in the SMC Report, these counters are also displayed in the User Tools display on the machine.		
8-391-001	A3/DLT, Larger		
8-391-003	BannaerPaper		

8411	Prints/Duplex	*CTL	This SP counts the amount of paper (front/back counted as 1 page) used for duplex printing. Last pages printed only on one side are not counted. [0 to 9999999/ **0** / 1 /step]

8421	T:PrtPGS/Dup Comb	*CTL	[0 to 9999999/ **0** / 1 /step]
	These SPs count by binding and combine, and n-Up settings the number of pages processed for printing. This is the total for all applications.		
8424	P:PrtPGS/Dup Comb	*CTL	[0 to 9999999/ **0** / 1 /step]
	These SPs count by binding and combine, and n-Up settings the number of pages processed for printing by the printer application.		
8427	O:PrtPGS/Dup Comb	*CTL	[0 to 9999999/ **0** / 1 /step]
	These SPs count by binding and combine, and n-Up settings the number of pages processed for printing by Other applications		
8-42x-001	Simplex> Duplex		
8-42x-004	Simplex Combine		
8-42x-005	Duplex Combine		
8-42x-006	2in1	2 pages on 1 side (2-Up)	

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8-42x-007	4in1	4 pages on 1 side (4-Up)
8-42x-008	6in1	6 pages on 1 side (6-Up)
8-42x-009	8in1	8 pages on 1 side (8-Up)
8-42x-010	9in1	9 pages on 1 side (9-Up)
8-42x-011	16in1	16 pages on 1 side (16-Up)
8-42x-012	Booklet	
8-42x-013	Magazine	
8-42x-014	2in1 + Booklet	
8-42x-015	4in1 + Booklet	
8-42x-016	6in1 + Booklet	
8-42x-017	8in1 + Booklet	
8-42x-018	9in1 + Booklet	
8-42x-019	2in1 + Magazine	
8-42x-020	4in1 + Magazine	
8-42x-021	6in1 + Magazine	
8-42x-022	8in1 + Magazine	
8-42x-023	9in1 + Magazine	
8-42x-024	16in1 + Magazine	

- These counts (SP8 421 to SP8 427) are especially useful for customers who need to improve their compliance with ISO standards for the reduction of paper consumption.
- Pages that are only partially printed with the n-Up functions are counted as 1 page.
- Here is a summary of how the counters work for Booklet and Magazine modes:

Booklet		Magazine	
Original Pages	Count	Original Pages	Count
1	1	1	1
2	2	2	2

3	2	3	2
4	2	4	2
5	3	5	4
6	4	6	4
7	4	7	4
8	4	8	4

8431	T:PrtPGS/ImgEdt	*CTL	[0 to 9999999/ **0** / 1 /step]
	These SPs count the total number of pages output with the three features below, regardless of which application was used.		
8434	P:PrtPGS/ImgEdt	*CTL	[0 to 9999999/ **0** / 1 /step]
	These SPs count the total number of pages output with the three features below with the print application.		
8437	O:PrtPGS/ImgEdt	*CTL	[0 to 9999999/ **0** / 1 /step]
	These SPs count the total number of pages output with the three features below with Other applications.		
8-43x-001	Cover/Slip Sheet	Total number of covers or slip sheets inserted. The count for a cover printed on both sides counts 2.	
8-43x-002	Series/Book	The number of pages printed in series (one side) or printed as a book with booklet right/left pagination.	
8-43x-003	User Stamp	The number of pages printed where stamps were applied, including page numbering and date stamping.	

8441	T:PrtPGS/Ppr Size	*CTL	[0 to 9999999/ **0** / 1 /step]
	These SPs count by print paper size the number of pages printed by all applications.		
8444	P:PrtPGS/Ppr Size	*CTL	[0 to 9999999/ **0** / 1 /step]
	These SPs count by print paper size the number of pages printed by the printer application.		

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8447	O:PrtPGS/Ppr Size		*CTL	[0 to 9999999/ **0** / 1 /step]	
	These SPs count by print paper size the number of pages printed by Other applications.				
8-44x-001	A3				
8-44x-002	A4				
8-44x-003	A5				
8-44x-004	B4				
8-44x-005	B5				
8-44x-006	DLT				
8-44x-007	LG				
8-44x-008	LT				
8-44x-009	HLT				
8-44x-010	Full Bleed				
8-44x-254	Other (Standard)				
8-44x-255	Other (Custom)				

- These counters do not distinguish between LEF and SEF.

8451	PrtPGS/Ppr Tray		*CTL	[0 to 9999999/ **0** / 1 /step]
	These SPs count the number of sheets fed from each paper feed station.			
8-451-001	Bypass	Bypass Tray		
8-451-002	Tray 1	Machine		
8-451-003	Tray 2	Paper Tray Unit (Option)		
8-451-004	Tray 3	Paper Tray Unit (Option)		
8-451-005	Tray 4	Paper Tray Unit (Option)		
8-451-006	Tray 5	Not used		
8-451-007	Tray 6	Not used		

8-451-008	Tray 7	Not used
8-451-009	Tray 8	Not used
8-451-010	Tray 9	Not used
8-451-011	Tray 10	Not used
8-451-012	Tray 11	Not used
8-451-013	Tray 12	Not used
8-451-014	Tray 13	Not used
8-451-015	Tray 14	Not used
8-451-016	Tray 15	Not used

8461	T:PrtPGS/Ppr Type		*CTL	[0 to 9999999/ 0 / 1 /step]
	These SPs count by paper type the number pages printed by all applications. • These counters are not the same as the PM counter. The PM counter is based on feed timing to accurately measure the service life of the feed rollers. However, these counts are based on output timing. • Blank sheets (covers, chapter covers, slip sheets) are also counted. • During duplex printing, pages printed on both sides count as 1, and a page printed on one side counts as 1.			
8464	P:PrtPGS/Ppr Type		*CTL	[0 to 9999999/ 0 / 1 /step]
	These SPs count by paper type the number pages printed by the printer application.			
8-46x-001	Normal			
8-46x-002	Recycled			
8-46x-003	Special			
8-46x-004	Thick			
8-46x-005	Normal (Back)			
8-46x-006	Thick (Back)			
8-46x-007	OHP			
8-46x-008	Other			

8471	PrtPGS/Mag	*CTL	[0 to 9999999/ 0 / 1 /step]
	These SPs count by magnification rate the number of pages printed.		
8-471-001	< 49%		
8-471-002	50% to 99%		
8-471-003	100%		
8-471-004	101% to 200%		
8-471-005	201% <		

- Counts are done for magnification adjusted for pages, not only on the operation panel but performed remotely with an external network application capable of performing magnification adjustment as well.
- Magnification adjustments done with printer drivers with PC applications such as Excel are also counted.
- Magnification adjustments done for adjustments after they have been stored on the document server are not counted.
- Magnification adjustments performed automatically during Auto Reduce/Enlarge printing are counted.
- The magnification rates of blank cover sheets, slip sheets, etc. are automatically assigned a rate of 100%.

8481	T:PrtPGS/TonSave	*CTL	
8484	P:PrtPGS/TonSave	*CTL	
	These SPs count the number of pages printed with the Toner Save feature switched on. Note: These SPs return the same results as this SP is limited to the Print application. [0 to 9999999/ 0 / 1]		

8501	T:PrtPGS/Col Mode	*CTL	These SPs count the number of pages printed in the Color Mode by the print application.
8504	P:PrtPGS/Col Mode	*CTL	
8507	O:PrtPGS/Col Mode	*CTL	
8-50x-001	B/W		
8-50x-002	Mono Color		

8-50x-003	Full Color
8-50x-004	Single Color
8-50x-005	Two Color
8-50x-051	B/W(Banner)
8-50x-052	Full Color(Banner)
8-50x-053	Single Color(Banner)
8-50x-054	Two Color(Banner)

8511	T:PrtPGS/Emul	*CTL	[0 to 9999999/ **0** / 1 /step]
	These SPs count by printer emulation mode the total number of pages printed.		
8514	P:PrtPGS/Emul	*CTL	[0 to 9999999/ **0** / 1 /step]
	These SPs count by printer emulation mode the total number of pages printed.		
8-51x-001	RPCS		
8-51x-002	RPDL		
8-51x-003	PS3		
8-51x-004	R98		
8-51x-005	R16		
8-51x-006	GL/GL2		
8-51x-007	R55		
8-51x-008	RTIFF		
8-51x-009	PDF		
8-51x-010	PCL5e/5c		
8-51x-011	PCL XL		
8-51x-012	IPDL-C		
8-51x-013	BM-Links	Japan Only	

8-51x-014	Other			
8-51x-015	IPDS			
8-51x-016	XPS			

- SP8 511 and SP8 514 return the same results as they are both limited to the Print application.

- Print jobs output to the document server are not counted.

8521	T:PrtPGS/FIN	*CTL	[0 to 9999999 / 0 / 1 /step]
	Not used		
8524	P:PrtPGS/FIN	*CTL	[0 to 9999999 / 0 / 1 /step]
	Not used		
8-52x-001	Sort		
8-52x-002	Stack		
8-52x-003	Staple		
8-52x-004	Booklet		
8-52x-005	Z-Fold		
8-52x-006	Punch		
8-52x-007	Other		
8-52x-008	Inside-Fold		
8-52x-009	Three-IN-Fold		
8-52x-010	Three-OUT-Fold		
8-52x-011	Four-Fold		
8-52x-012	KANNON-Fold		
8-52x-013	Perfect-Bind		
8-52x-014	Ring-Bind		
8-52x-015	3rd Vender		

⤵Note

- If stapling is selected for finishing and the stack is too large for stapling, the unstapled pages are still counted.

- The counts for staple finishing are based on output to the staple tray, so jam recoveries are counted.

8531	Staples	*CTL	Not used
8-531-001	Staples		
8-531-002	Stapless		

8551	T:FIN Books	*CTL	Not used
8-551-001	Perfect-Bind		
8-551-002	Ring-Bind		

8554	T:FIN Books	*CTL	Not used
8-554-001	Perfect-Bind		
8-554-002	Ring-Bind		

8561	T:A Sheet Of Paper	*CTL	[0 to 9999999/ **0** / 1]
8564	P:A Sheet Of Paper	*CTL	[0 to 9999999/ **0** / 1]
8567	O:A Sheet Of Paper	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count the number of pages printed with the Toner Save feature switched on. **Note**: These SPs return the same results as this SP is limited to the Print application.		
8-56x-001	Total: Over A3/DLT		
8-56x-002	Total: Under A3/DLT		
8-56x-003	Duplex: Over A3/DLT		
8-56x-004	Duplex: Under A3/DLT		

8581	T:Counter	*CTL	[0 to 9999999 / **0** / 1 /step]
	These SPs count the total output broken down by color output, regardless of the application used. In addition to being displayed in the SMC Report, these counters are also displayed in the User Tools display on the machine.		
8-581-001	Total		
8-581-002	Total: Full Color		
8-581-003	B&W/Single Color		
8-581-004	Development: CMY		
8-581-005	Development: K		
8-581-008	Print: Color		
8-581-009	Print: B/W		
8-581-010	Total: Color		
8-581-011	Total: B/W		
8-581-012	Full Color: A3		
8-581-013	Full Color: B4 JIS or Smaller		
8-581-014	Full Color Print		
8-581-015	Mono Color Print		
8-581-016	Full Color GPC		
8-581-017	Twin Color Mode Print		
8-581-018	Full Color Print (Twin)		
8-581-019	Mono Color Print (Twin)		
8-581-020	Full Color Total (CV)		
8-581-021	Mono Color Total (CV)		
8-581-022	Full Color Print (CV)		
8-581-023	Eco Color Print (FC)		
8-581-024	Eco Color Print (Bk)		

8-581-025	Total: Color (Eco Bk)
8-581-026	Total: B/W (Eco Bk)
8-581-027	Total: Color (Eco FC)
8-581-028	Development: CMY(A3)
8-581-029	Development: K(A3)
8-581-030	Total: Color(A3)
8-581-031	Total: B/W(A3)

8584	P:Counter		*CTL	[0 to 9999999/ **0** / 1 /step]
	These SPs count the total output of the print application broken down by color output.			
8-584-001	B/W			
8-584-002	Mono Color			
8-584-003	Full Color			
8-584-004	Single Color			
8-584-005	Two Color			

8591	O:Counter		*CTL	[0 to 9999999/ **0** / 1 /step]
	These SPs count the totals for A3/DLT paper use, number of duplex pages printed, and the number of staples used. These totals are for Other (O:) applications only.			
8-591-001	A3/DLT	-		
8-591-002	Duplex			
8-591-005	Banner			

8601	T:Cvg Counter		*CTL	[0 to 9999999/ **0** / 1 /step]
	These SPs count the total coverage for each color and the total printout pages for each printing mode.			

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8-601-001	Cvg: B/W%	-
8-601-002	Cvg : FC%	
8-601-011	Cvg: BW Pages	
8-601-012	Cvg: FC Pages	
8-601-021	Cvg Counter 1	
8-601-022	Cvg Counter 2	
8-601-023	Cvg Counter 3	
8-601-031	CvgCounter 1 (YMC)	
8-601-032	CvgCounter 2 (YMC)	
8-601-033	CvgCounter 3 (YMC)	

8604	P:Cvg Counter	*CTL	[0 to 9999999/ **0** / 1 /step]
	These SPs count the total coverage for each color and the total printout pages for each printing mode.		
8-601-001	Cvg: B/W%	-	
8-601-002	Cvg: Single Color%		
8-601-003	Cvg: Two Color%		
8-601-004	Cvg: Full Color%		

8617	SDK Apli Counter	*CTL	[0 to 9999999/ **0** / 1 /step]
8-617-001	SDK1	These SPs count the total printout pages for each SDK applicaion.	
8-617-002	SDK2		
8-617-003	SDK3		
8-617-004	SDK4		
8-617-005	SDK5		
8-617-006	SDK6		

8-617-007	SDK7	These SPs count the total printout pages for each SDK applicaion.
8-617-008	SDK8	
8-617-009	SDK9	
8-617-010	SDK10	
8-617-011	SDK11	
8-617-012	SDK12	

8621	Func Use Counter	*CTL	-
8-621-001 to 8-621-064	Function-001 to Function-064		

8771	Dev Counter	*CTL	[0 to 9999999/ 0 / 1 /step]
	These SPs count the frequency of use (number of rotations of the development rollers) for black and other color toners.		
8-771-001	Total		
8-771-002	K		
8-771-003	Y		
8-771-004	M		
8-771-005	C		

8781	Toner Bottle Info.	*CTL	[0 to 9999999/ 0 / 1 /step]
	These SPs display the number of already replaced toner bottles. **NOTE:** Currently, the data in SP7-833-011 through 014 and the data in SP8-781-001 through 004 are the same.		
8-781-001	BK	The number of black-toner bottles	
8-781-002	Y	The number of yellow-toner bottles	
8-781-003	M	The number of magenta-toner bottles	
8-781-004	C	The number of cyan-toner bottles	

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8801	Toner Remain	*CTL	[0 to 100/ **0** / 1 /step]
	These SPs display the percent of toner remaining for each color. This SP allows the user to check the toner supply at any time. **Note:** This precise method of measuring remaining toner supply (1% steps) is better than other machines in the market that can only measure in increments of 10 (10% steps).		
8-801-001	K		
8-801-002	Y		
8-801-003	M		
8-801-004	C		

8811	Eco Counter		
	Displays the counter for each mode.		
8-811-001	Eco Total	*CTL	[0 to 99999999 / **0** / 1/step]
8-811-002	Color	*CTL	
8-811-003	Full Color	*CTL	
8-811-004	Duplex	*CTL	
8-811-005	Combine	*CTL	
8-811-006	Color (%)	*CTL	[0 to 100 / **0** / 1%/step]
8-811-007	Full Color (%)	*CTL	
8-811-008	Duplex (%)	*CTL	
8-811-009	Combine (%)	*CTL	
8-811-010	Paper Cut (%)	*CTL	

8-811-051	Sync Eco Total	*CTL	[0 to 99999999 / 0 / 1/step]
8-811-052	Sync Color	*CTL	
8-811-053	Sync Full Color	*CTL	
8-811-054	Sync Duplex	*CTL	
8-811-055	Sync Combine	*CTL	
8-811-056	Sync Color (%)	*CTL	[0 to 100 / 0 / 1%/step]
8-811-057	Sync Full Color (%)	*CTL	
8-811-058	Sync Duplex (%)	*CTL	
8-811-059	Sync Combine (%)	*CTL	
8-811-060	Sync Paper Cut (%)	*CTL	
8-811-101	Eco Totalr:Last	*CTL	[0 to 99999999 / 0 / 1/step]
8-811-102	Color:Last	*CTL	
8-811-103	Full Color:Last	*CTL	
8-811-104	Duplex:Last	*CTL	
8-811-105	Combine:Last	*CTL	
8-811-106	Color (%):Last	*CTL	[0 to 100 / 0 / 1%/step]
8-811-107	Full Color (%):Last	*CTL	
8-811-108	Duplex (%):Last	*CTL	
8-811-109	Combine (%):Last	*CTL	
8-811-110	Paper Cut (%):Last	*CTL	
8-811-151	Sync Eco Ttalr:	*CTL	[0 to 99999999 / 0 / 1/step]
8-811-152	Sync Color:Last	*CTL	
8-811-153	Sync Full Color:Last:	*CTL	
8-811-154	Sync Duplex:Last	*CTL	
8-811-155	Sync Combine:Last	*CTL	

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8-811-156	Sync Color (%):Last	*CTL	[0 to 100 / **0** / 1%/step]
8-811-157	Sync Full Color (%):Last	*CTL	
8-811-158	Sync Duplex (%):Last	*CTL	
8-811-159	Sync Combine (%):Last	*CTL	
8-811-160	Sync Paper Cut (%):Last	*CTL	

8851	Cvr Cnt: 0-10%		*CTL	[0 to 9999999/ **0** / 1 /step]	
	These SPs display the number of scanned sheets on which the coverage of each color is from 0% to 10%.				
8-851-011	0 to 2%: BK		8 851 31	5 to 7%: BK	
8-851-012	0 to 2%: Y		8 851 32	5 to 7%: Y	
8-851-013	0 to 2%: M		8 851 33	5 to 7%: M	
8-851-014	0 to 2%: C		8 851 34	5 to 7%: C	
8-851-021	3 to 4%: BK		8 851 41	8 to 10%: BK	
8-851-022	3 to 4%: Y		8 851 42	8 to 10%: Y	
8-851-023	3 to 4%: M		8 851 43	8 to 10%: M	
8-851-024	3 to 4%: C		8 851 44	8 to 10%: C	

8861	Cvr Cnt: 11-20%		*CTL	[0 to 9999999/ **0** / 1 /step]
	These SPs display the number of scanned sheets on which the coverage of each color is from 11% to 20%.			
8-861-001	BK			
8-861-002	Y			
8-861-003	M			
8-861-004	C			

8871	Cvr Cnt: 21-30%	*CTL	[0 to 9999999/ **0** / 1 /step]
	These SPs display the number of scanned sheets on which the coverage of each color is from 21% to 30%.		
8-871-001	BK		
8-871-002	Y		
8-871-003	M		
8-871-004	C		

8881	Cvr Cnt: 31%-	*CTL	[0 to 9999999/ **0** / 1 /step]
	These SPs display the number of scanned sheets on which the coverage of each color is 31% or higher.		
8-881-001	BK		
8-881-002	Y		
8-881-003	M		
8-881-004	C		

8891	Page/Toner Bottle	*CTL	[0 to 9999999/ **0** / 1 /step]
	These SPs display the amount of the remaining current toner for each color.		
8-891-001	BK		
8-891-002	Y		
8-891-003	M		
8-891-004	C		

8901	Page/Ink – Prev1	*CTL	[0 to 9999999/ **0** / 1 /step]
	These SPs display the amount of the remaining previous toner for each color.		
8-901-001	BK		
8-901-002	Y		
8-901-003	M		

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8-901-004	C		

8911	Page/Ink – Prev2	*CTL	[0 to 9999999/ 0 / 1 /step]
	These SPs display the amount of the remaining 2nd previous toner for each color.		
8-911-001	BK		
8-911-002	Y		
8-911-003	M		
8-911-004	C		

8921	Cvr Cnt: Total	*CTL	[0 to 9999999/ 0 / 1 /step]
	Displays the total coverage and total printout number for each color.		
8-921-001	Coverage (%): BK	-	
8-921-002	Coverage (%): Y		
8-921-003	Coverage (%): M		
8-921-004	Coverage (%): C		
8-921-011	Coverage/P: BK		
8-921-012	Coverage/P: Y		
8-921-013	Coverage/P: M		
8-921-014	Coverage/P: C		
8-921-031	Coverage(%):Eco BK	-	
8-921-032	Coverage(%):Eco Y		
8-921-033	Coverage(%):Eco M		
8-921-034	Coverage(%):Eco C		
8-921-041	Coverage/P:Eco BK		
8-921-042	Coverage/P:Eco Y		
8-921-043	Coverage/P:Eco M		
8-921-044	Coverage/P:Eco C		

8941	Machine Status	*CTL	[0 to 9999999/ **0** / 1 /step]
	These SPs count the amount of time the machine spends in each operation mode. These SPs are useful for customers who need to investigate machine operation for improvement in their compliance with ISO Standards.		
8-941-001	Operation Time		Engine operation time. Does not include time while controller is saving data to HDD (while engine is not operating).
8-941-002	Standby Time		Engine not operating. Includes time while controller saves data to HDD. Does not include time spent in Energy Save, Low Power, or Off modes.
8-941-003	Energy Save Time		Includes time while the machine is performing background printing.
8-941-004	Low Power Time		Includes time in Energy Save mode with Engine on. Includes time while machine is performing background printing.
8-941-005	Off Mode Time		Includes time while machine is performing background printing. Does not include time machine remains powered off with the power switches.
8-941-006	SC		Total time when SC errors have been staying.
8-941-007	PrtJam		Total time when paper jams have been staying during printing.
8-941-008	OrgJam		Total time when original jams have been staying during printing.
8-941-009	Supply PM Unit End		Total time when toner end has been staying

8961	Electricity Status		
8-961-001	Ctrl Standby Time	*CTL	[0 to 99999999 / **0** / 1/step]
8-961-002	STR Time	*CTL	
8-961-003	Main Power Off Time	*CTL	
8-961-004	Reading and Printing Time	*CTL	
8-961-005	Printing Time	*CTL	
8-961-006	Reading Time	*CTL	

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8-961-007	Eng Waiting Time	*CTL	[0 to 99999999 / **0** / 1/step]
8-961-008	Low Power State Time	*CTL	
8-961-009	Silent State Time	*CTL	
8-961-010	Heater Off State Time	*CTL	
8-961-011	LCD on Time	*CTL	
8-961-101	Silent Print	*CTL	

8971	Unit Control		
8-971-001	Engine Off Recovery Count	*CTL	[0 to 99999999 / **0** / 1/step]
8-971-002	Power Off Count	*CTL	
8-971-003	Force Power Off Count	*CTL	

8999	Adomin. Counter List	*CTL	[0 to 9999999/ **0** / 1 /step]
	Displays the total coverage and total printout number for each color.		
8-999-001	Total		
8-999-006	Printer: FC		
8-999-007	Printer:BW		
8-999-008	Printer:OneC		
8-999-009	Printer:TwoC		
8-999-013	Duplex		
8-999-026	Printer:FC%		
8-999-027	Printer:BW%		
8-999-028	Printer:OneC%		
8-999-029	Printer:TwoC%		

Input Check/ Output Check

Input Check Table

When entering the Input Check mode, 8 digits display the result for a section. Each digit corresponds to a different device as shown in the table.

Bit No.	7	6	5	4	3	2	1	0
Result	0 or 1	0 or 1	0 or 1	0 or 1	0 or 1	0 or 1	0 or 1	0 or 1

Printer

5803	Description	Reading	
		0	1
5-803-001	1TRYSIZE (1 Tray Size Sensor)	See table 1 following this table.	
5-803-002	1TRYLIMSNS1 (1 Tray Paper Height Sensor 1)	See table 2 following this table.	
5-803-003	1TRYLIMSNS2 (1 Tray Paper Height Sensor 2)	See table 2 following this table.	
5-803-004	1TRYPESNS (1 Tray Paper End Sensor)	No paper	Paper remaining
5-803-005	1TRYUPSNS (1 Tray Upper Limit Sensor)	Not upper limit	Upper limit
5-803-006	HANDPESNS (Bypass Paper End Sensor)	No paper	Paper remaining
5-803-007	FEEDSNS (Paper Feed Sensor)	Paper detected	Paper not detected
5-803-008	EXTSNS (Paper Exit Sensor)	Paper detected	Paper not detected
5-803-009	EXTFULSNS (Paper Exit Full Sensor)	Paper not full	Paper full
5-803-010	FUOUTSNS (Fusing Exit Sensor)	Paper not detected	Paper detected
5-803-011	FUINSNS (Fusing Entrance Sensor)	Paper detected	Paper not detected

5-803-013	DUPINSNS (Duplex Entrance Sensor)	Paper detected	Paper not detected
5-803-014	DUPOUTSNS (Duplex Exit Sensor)	Paper detected	Paper not detected
5-803-015	REGSNS (Registration Sensor)	Paper detected	Paper not detected
5-803-016	VFEEDSNS (Vertical Transport Sensor)	Paper detected	Paper not detected
5-803-018	TESNS_Y (Toner End Sensor: Y)	Toner end	Toner remaining
5-803-019	TESNS_C (Toner End Sensor: C)	Toner end	Toner remaining
5-803-020	TESNS_M (Toner End Sensor: M)	Toner end	Toner remaining
5-803-021	TESNS_K (Toner End Sensor: K)	Toner end	Toner remaining
5-803-022	DRMSNS_K (Drum Phase Sensor: K)	Actuator not detected	Actuator detected
5-803-023	DRMSNS_FC (Drum Phase Sensor: CMY)	Actuator not detected	Actuator detected
5-803-024	INLOK1 (Interlock SW 1)	Front door open	Front door closed
5-803-025	INLOK2 (Interlock SW 2)	Front door open	Front door closed
5-803-026	FDOOR (Front Door Sensor)	Closed	Open
5-803-031	WRSHSNS (LDU Shutter Sensor)	Closed	Open
5-803-032	WTBSET (Waste Toner Bottle Set Sensor)	Set	Not set
5-803-033	WTFULSNS (Waste Toner Bottle Full Sensor)	Not full	Full
5-803-034	TR1NEW (ITB Unit: New)	Not new	New
5-803-036	FUEXFAN1_LOK (Fusing Fan 1: Lock)	Normal	Lock
5-803-037	FUEXFAN2_LOK (Fusing Fan 2: Lock)	Normal	Lock
5-803-041	IMAGEFORMFAN_LOK (Drive Unit Fan: Lock)	Normal	Lock

5-803-044	DEVFAN2_LOK (Development Fan 2: Lock)	Normal	Lock
5-803-045	DEVFAN_LOK (Development Fan 1: Lock)	Normal	Lock
5-803-046	IMAGINGFAN_LOK (Laser Unit Fan: Lock)	Normal	Lock
5-803-047	FEEDFAN_LOK (Feed Fan: Lock)	Normal	Lock
5-803-048	TR1SNS (Transfer Belt Contact Sensor)	Not contact	Contact
5-803-049	TR2SNS (Paper Transfer Roller Contact Sensor)	Not contact	Contact
5-803-050	DRMT_BK_LOK (Drum Motor: K: Lock)	Normal	Lock
5-803-051	FUMT_LOK (Fusing Motor: Lock)	Normal	Lock
5-803-052	DVMT_FC_LOK (Development Motor:CMY: Lock)	Normal	Lock
5-803-053	DRMT_FC_LOK (Drum Motor:CMY: Lock)	Normal	Lock
5-803-054	PP_D_SC (PP: D: SC)	SC detected	No SC
5-803-055	PP_CB_SC (PP: CB: SC)	SC detected	No SC
5-803-056	PP_T1T2_SC (PP: T1T2: SC)	SC detected	No SC
5-803-057	FUGEN (Fusing: Generation)	Not detected	Detected
5-803-058	FUNEW (Fusing: New)	New	Not new
5-803-059	FU_VER (Fusing: Destination)	[0 to 15 / **0** / 1 /step]	
5-803-060	FUSET (Fusing: Set)	Set	Not set
5-803-061	ZEROX1 (Zero-cross Signal)	Not detected	Detected
5-803-062	FUCOMP (Fusing: Temperature)	Detected	Not detected
5-803-067	UPPER (Upper Cover Sensor)	Closed	Open
5-803-072	BCU_VER (BCU Version)	[0 to 7 / **0** / 1 /step]	

5-803-073	PM24V (Polygon Motor 24V)	Power supplied	Power not supplied
5-803-074	REV_P_SNS (Inverter Sensor)	Inverter gate open	Inverter gate close
5-803-075	P_FUSNSFAN_LOK (Fusing Cooling Fan: Lock)	Normal	Lock
5-803-076	P_TNFAN_LOK (Toner Supply Fan: Lock)	Normal	Lock
5-803-077	BANK_FEEDSNS1 (Bank Feed Sensor 1)	Paper detected	Paper not detected
5-803-078	BANK_FEEDSNS2 (Bank Feed Sensor 2)	Paper detected	Paper not detected
5-803-079	BANK_FEEDSNS3 (Bank Feed Sensor 3)	Paper detected	Paper not detected
5-803-080	BANK_VFEEDSNS1 (Bank Vertical Feed Sensor 1)	Paper detected	Paper not detected
5-803-081	BANK_VFEEDSNS2 (Bank Vertical Feed Sensor 2)	Paper detected	Paper not detected
5-803-082	BANK_VFEEDSNS3 (Bank Vertical Feed Sensor 3)	Paper detected	Paper not detected
5-803-094	GAVD Op/Cl Dtct (LD OFF Check)	-	-

Table 1: Paper Size Switch (Tray 1)

Switch 1 is used for tray set detection.

0: Pushed, 1: Not pushed

Models		Paper size sensor		
North America	Europe/Asia	1	2	3
LG	LG	1	1	0
A4	A4	1	1	1
		0	1	1
LT	LT	1	0	1

Exe	Exe	0	1	0
HLT	A5	0	0	1
A6	A6	0	0	0

*1: The machine detects either 11" x 81/2" LEF or A4 LEF, depending on the setting of SP 5-131-001.

*2: The machine detects either B5 LEF or 10.5" x 7.25" LEF, depending on the setting of SP 5-131-001.

Table 2: Paper Height Sensor

0: Deactivated, 1: Activated (actuator inside sensor)

Remaining paper	Paper height sensor 1	Paper height sensor 2
Full ~ 350	0	0
350 ~ 150	1	0
150 ~ 50	1	1
50 ~ 0	0	1

Output Check Table

Printer

5804	Display	Description
5-804-003	DRMT_BK:260mm/s (Drum Motor: K)	-
5-804-004	DRMT_BK:182mm/s (Drum Motor: K)	-
5-804-005	DRMT_BK:85mm/s (Drum Motor: K)	-
5-804-010	FUMT:260mm/s (Fusing Motor)	-
5-804-011	FUMT:182mm/s (Fusing Motor)	-
5-804-012	FUMT:85mm/s (Fusing Motor)	-

5-804-017	DVMT_FC:260mm/s (Development Motor: CMY)	-
5-804-018	DVMT_FC:182mm/s (Development Motor: CMY)	-
5-804-019	DVMT_FC:85mm/s (Development Motor: CMY)	-
5-804-024	DRMT_FC:260mm/s (Drum Motor: CMY)	-
5-804-025	DRMT_FC:182mm/s (Drum Motor: CMY)	-
5-804-026	DRMT_FC:85mm/s (Drum Motor: CMY)	-
5-804-031	FEEDMT:364mm/s (Feed Motor)	-
5-804-032	FEEDMT:260mm/s (Feed Motor)	-
5-804-033	FEEDMT:182mm/s (Feed Motor)	-
5-804-034	FEEDMT:85mm/s (Feed Motor)	-
5-804-039	REGMT:260mm/s (Registration Motor)	-
5-804-040	REGMT:182mm/s (Registration Motor)	-
5-804-041	REGMT:85mm/s (Registration Motor)	-
5-804-046	REVMT:CW:442mm/s (Inverter Motor)	-
5-804-047	REVMT:CW:260mm/s (Inverter Motor)	-
5-804-048	REVMT:CW:182mm/s (Inverter Motor)	-
5-804-049	REVMT:CW:85mm/s (Inverter Motor)	-
5-804-054	REVMT:CCW:442mm/s (Inverter Motor)	-
5-804-055	REVMT:CCW:260mm/s (Inverter Motor)	-
5-804-056	REVMT:CCW:182mm/s (Inverter Motor)	-
5-804-057	REVMT:CCW:85mm/s (Inverter Motor)	-
5-804-062	HANDMT:CCW:260 (By-pass Motor)	-
5-804-063	HANDMT:CCW:182 (By-pass Motor)	-
5-804-064	HANDMT:CCW:85mm/s (By-pass Motor)	-

5-804-069	DUPMT:CCW:442mm/s (Duplex Motor)	-
5-804-070	DUPMT:CCW:260mm/s (Duplex Motor)	-
5-804-071	DUPMT:CCW:182mm/s (Duplex Motor)	-
5-804-072	DUPMT:CCW:85mm/s (Duplex Motor)	-
5-804-077	VFEEDMT:364mm/s (Vertical Feed Motor)	-
5-804-078	VFEEDMT:260mm/s (Vertical Feed Motor)	-
5-804-079	VFEEDMT182mm/s (Vertical Feed Motor)	-
5-804-080	VFEEDMT:85mm/s (Vertical Feed Motor)	-
5-804-083	TR1SPMT:CW (Transfer Belt Contact Motor)	-
5-804-084	TR1SPMT:CCW (Transfer Belt Contact Motor)	-
5-804-085	TR2SPMT:CW (Paper Transfer Roller Contact Motor)	-
5-804-086	TR2SPMT:CCW (Paper Transfer Roller Contact Motor)	-
5-804-087	WTMT:CW (Toner Collection Motor)	-
5-804-088	WTMT:CCW (Toner Collection Motor)	-
5-804-089	1TRYUPMT:CW (1 Tray Lift Motor)	-
5-804-090	1TRYUPMT:CCW (1 Tray Lift Motor)	-
5-804-091	TNMT_K (Toner Supply Motor: K)	-
5-804-092	TNMT_M (Toner Supply Motor: M)	-
5-804-093	TNMT_C (Toner Supply Motor: C)	-
5-804-094	TNMT_Y (Toner Supply Motor: Y)	-
5-804-095	WRSHMT:CW (LDU Shutter Motor)	-
5-804-096	WRSHMT:CCW (LDU Shutter Motor)	-
5-804-102	FUEXFAN1_H (Fusing Fan 1)	-
5-804-103	FUEXFAN1_L (Fusing Fan 1)	-

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5-804-104	PlgnMot: Std Spd (Polygon Motor)	-
5-804-105	PlgnMot: Mid Spd (Polygon Motor)	-
5-804-106	PlgnMot: Low Spd (Polygon Motor)	-
5-804-107	FUEXFAN2_H (Fusing Fan 2)	-
5-804-108	FUEXFAN2_L (Fusing Fan 2)	-
5-804-112	IMAGEFORMFAN (Drive Unit Fan)	-
5-804-114	DEVFAN2 (Development Fan 2)	-
5-804-115	DEVFAN (Development Fan 1)	-
5-804-116	IMAGINGFAN (Laser Unit Fan)	-
5-804-117	FEEDFAN (Feed Fan)	-
5-804-118	PSUFAN (PSU Fan)	-
5-804-120	DEVCL (Development Clutch)	-
5-804-121	HANDSOL (By-pass Solenoid)	-
5-804-123	1FEEDSOL (1 Tray Feed Solenoid)	-
5-804-124	DIVSOL1 (Junction Gate Solenoid)	-
5-804-126	P_FUSNSFAN_H (Fusing Cooling Fan)	-
5-804-127	P_TNFAN_H (Toner Supply Fan)	-
5-804-130	PP_CDC_Y (PP: Charge DC: Y)	-
5-804-131	PP_CDC_M (PP: Charge DC: M)	-
5-804-132	PP_CDC_C (PP: Charge DC: C)	-
5-804-133	PP_CDC_K (PP: Charge DC: K)	-
5-804-134	PP_B_Y (PP: Development: Y)	-
5-804-135	PP_B_M (PP: Development: M)	-
5-804-136	PP_B_C (PP: Development: C)	-
5-804-137	PP_B_K (PP: Development: K)	-
5-804-138	PP_D (PP: D)	-

5-804-139	PP_T1_Y (PP: T1: Y)	-
5-804-140	PP_T1_M (PP: T1: M)	-
5-804-141	PP_T1_C (PP: T1: C)	-
5-804-142	PP_T1_K (PP: T1: K)	-
5-804-143	PP_T2+ (PP: T2: +)	-
5-804-144	PP_T2- (PP: T2: -)	-
5-804-147	PP_CAC_Y:260mm/s (PP: Charge AC: Y)	-
5-804-148	PP_CAC_Y:182mm/s (PP: Charge AC: Y)	-
5-804-149	PP_CAC_Y:85mm/s (PP: Charge AC: Y)	-
5-804-154	PP_CAC_M:260mm/s (PP: Charge AC: M)	-
5-804-155	PP_CAC_M:182mm/s (PP: Charge AC: M)	-
5-804-156	PP_CAC_M:85mm/s (PP: Charge AC: M)	-
5-804-161	PP_CAC_C:260mm/s (PP: Charge AC: C)	-
5-804-162	PP_CAC_C:182mm/s (PP: Charge AC: C)	-
5-804-163	PP_CAC_C:85mm/s (PP: Charge AC: C)	-
5-804-168	PP_CAC_K:260mm/s (PP: Charge AC: K)	-
5-804-169	PP_CAC_K:182mm/s (PP: Charge AC: K)	-
5-804-170	PP_CAC_K:85mm/s (PP: Charge AC: K)	-
5-804-181	HST_Y (HST Sensor: Y)	-
5-804-182	HST_M (HST Sensor: M)	-
5-804-183	HST_C (HST Sensor: C)	-
5-804-184	HST_K (HST Sensor: K)	-
5-804-185	TM/P_F/Y (TM/P Sensor: Front/Y)	-
5-804-186	P_M (P Sensor: M)	-
5-804-187	TM/P_CE/C (TM/P Sensor: Center/C)	-
5-804-188	TM/P_R/K (TM/P Sensor: Rear/K)	-

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5-804-189	PCL:FC (PCL: FC)	-
5-804-190	PCL:BK (PCL: BK)	-
5-804-191	TE_5V_CTL (Toner End Sensor 5V CTL)	-
5-804-216	LD1: K	-
5-804-217	LD2: K	-
5-804-218	LD1: C	-
5-804-219	LD2: C	-
5-804-220	LD1: M	-
5-804-221	LD2: M	-
5-804-222	LD1: Y	-
5-804-223	LD2: Y	-
5-804-224	BANK_MT1:364mm/s (Bank Motor 1)	-
5-804-225	BANK_MT1:260mm/s (Bank Motor 1)	-
5-804-226	BANK_MT1:182mm/s (Bank Motor 1)	-
5-804-227	BANK_MT1:136mm/s (Bank Motor 1)	-
5-804-228	BANK_MT1:85mm/s (Bank Motor 1)	-
5-804-229	BANK_MT2:364mm/s (Bank Motor 2)	-
5-804-230	BANK_MT2:260mm/s (Bank Motor 2)	-
5-804-231	BANK_MT2:182mm/s (Bank Motor 2)	-
5-804-232	BANK_MT2:136mm/s (Bank Motor 2)	-
5-804-233	BANK_MT2:85mm/s (Bank Motor 2)	-
5-804-234	BANK_MT3:364mm/s (Bank Motor 3)	-
5-804-235	BANK_MT3:260mm/s (Bank Motor 3)	-
5-804-236	BANK_MT3:182mm/s (Bank Motor 3)	-
5-804-237	BANK_MT3:136mm/s (Bank Motor 3)	-
5-804-238	BANK_MT3:85mm/s (Bank Motor 3)	-

5-804-239	BANK_FEEDCL1 (Bank Feed Clutch 1)	-
5-804-240	BANK_FEEDCL2 (Bank Feed Clutch 2)	-
5-804-241	BANK_FEEDCL3 (Bank Feed Clutch 3)	-
5-804-242	BANK_PICKUPSOL1 (Bank Pick-up Solenoid 1)	-
5-804-243	BANK_PICKUPSOL2 (Bank Pick-up Solenoid 2)	-
5-804-244	BANK_PICKUPSOL3 (Bank Pick-up Solenoid 3)	-

5

Test Pattern Printing

Test Pattern Printing

Printing Test pattern: SP2-109

Some of these test patterns are used for copy image adjustments but most are used primarily for design testing.

⬇Note

- Do not operate the machine until the test pattern is printed out completely. Otherwise, an SC occurs.

1. Enter the SP mode and select **SP2-109-003**.

2. Enter the number for the test pattern that you want to print and press [OK].

3. When you want to select the single color of Magenta, Yellow or Cyan for printing a test pattern, select the color with SP2-109-005 (2: Cyan, 3: Magenta, 4: Yellow).

4. When you want to change the density of printing a test pattern, select the density with SP2-109-006 to -009 for each color.

   ⬇Note

   - If you select "0" with SP2-109-006 to -009, the color to be adjusted to "0" does not come up on a test pattern.

5. Exit SP mode.

6. Press the "Menu" key.

7. Select the "List/ Test Print".

8. Select the "Color Demo Page".

9. Press the "OK" key to start the test print.

10. Check the test pattern.

11. Enter SP Mode, and then reset all settings to the default values.

    ⬇Note

    - Turnning off the power can reset all settings to the default values.

12. Exit SP mode.

No.	Pattern	No.	Pattern
0	None	12	Independent Pattern (2dot)
1	Vertical Line (1dot)	13	Independent Pattern (4dot)

2	Vertical Line (2dot)	14	Ttrimming Area
3	Horizontal Line (1dot)	15	Hound's Tooth Check (Vertical)
4	Horizontal Line (2dot)	16	Hound's Tooth Check (Horizontal)
5	Grid Vertical Line	17	Band (Vertical)
6	Grid Horizontal Line	18	Band (Horizontal)
7	Grid Pattern Small	19	Checkered Flag Pattern
8	Grid Pattern Large	20	Grayscale (Vertical Margin)
9	Argyle Patter Small	21	Grayscale (Horizontal Margin)
10	Argyle Patter Large	22	Two Beam
11	Independent Pattern (1dot)	23	Full Dot Pattern

5

Firmware Update

There are two methods for updating the firmware of this machine.

- SD Card Firmware Updating: The target firmware should be downloaded in an SD card before visiting a customer site. The SD Card is inserted into SD Card Slot 2 (lower SD card slot).

- RFU (Remote Firmware Updating): Firmware can be updated through the @remote connection only if the machine is connected to @Remote.

Type of Firmware

Type of firmware	Function	Location of firmware
Engine	Printer engine control	Flash ROM on the EGB
System	Operating system	Flash ROM on the controller board
Network Support	Network interface/ Security control	
Printer	Feature application	
RPCS	Page description language (RPCS for XPS driver data process)	
PCL	Page description language (PCL)	
PS3	Page description language (PostScript3)	
PDF	Page description language	
PowerSaving Sys	Power saving system	
Data Erase Onb	HDD encryption/ Data overwrite	
Web Support	Document sever application	
NetworkDocBox	Feature application	

SD Card Firmware Updating

Before You Begin

An SD card is a precision device. Always observe the following precautions when you handle SD cards:

- Always switch the machine off before you insert an SD card. Never insert the SD card into the slot with the power on.

- Do not remove the SD card from the service slot after the power has been switched on.

- Never switch the machine off while the firmware is downloading from the SD card.

- Keep SD cards in a safe location where they are not exposed to high temperature, high humidity, or exposure to direct sunlight.

- Always handle SD cards with care. Do not bend or scratch them. Do not let the SD card get exposed to shock or vibration.

- Make sure that the write protection of an SD card is unlocked when you download an application to it. If not, downloading fails and a download error (e.g. Error Code 44) occurs during a firmware upgrade.

Keep the following points in mind when you use the firmware update software:

- "Upload" means to send data from the machine to the SD card. "Download" means to send data from the SD card to the machine.

- To select an item on the LCD, press the appropriate key on the operation panel.

- Make sure that the machine is disconnected from the network to prevent a print job for arriving while the firmware update is in progress before you start the firmware update procedure.

File Arrangement

How the Program Works:

The firmware-update program for this machine searches the folder romdata for necessary firmware. When you save the firmware in an SD card, make the folder "romdata". You must not make the folder "romdata" in another folder.

🔽Note

- Do not make another firmware-update program folder in the folder "romdata".

- Otherwise, it may cause a malfunction for the firmware updating. You just keep only one firmware update program folder in the folder "romdata".

The firmware program contains the file information. Before downloading the firmware from an SD card, the firmware-update program reads the file information. The firmware is downloaded only when the file information is correct.

🔽Note

- The file information can identify the firmware, but this information does not guarantee that the data is not corrupted.

Example

m257z1001
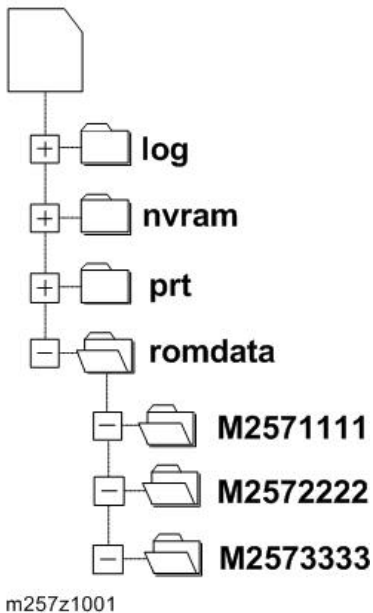
When you save the firmware, we recommend that you arrange folders and files as follows:

- In the folder romdata, make only one folder and use this folder for one model. Use the machine code as the name of this folder.

- When you save some files other than firmware, make a new folder outside romdata. Save the files in this folder. Do not save any file outside the folders. (The diagram shows an example. Three folders, log, nvramdata, and prt, are outside romdata. These folders can store debug logs, NVRAM data, and captured files respectively.)

Update Procedure

1. Turn off the main power switch.
2. Disconnect the printer from the network.
3. Remove the slot cover from slot 2 (🔩 x 1).

   🔻Note

   - Do not use slot 1. Slot 1 is for customer use.
4. Turn the SD card face to the rear side of the printer, and insert it into slot 2.
5. Slowly push the SD card into the slot until it clicks.

6. **Make sure that the SD card is locked in place.**

   ⬇ Note

   - To remove the SD card, push it in until it clicks, and release it slowly. The slot pushes out the SD card.

7. **Turn on the main power switch.**

8. **Wait until a firmware name is shown on the display (about 1 minute).**

   ⬇ Note

   - The firmware name is read from inside the firmware. The firmware name is not changed even if you change the file name on your PC.

9. **If the necessary firmware name is shown on the display, check the firmware version with the left-arrow or right-arrow keys. Pressing the left or right-arrow key shows a firmware name, firmware version and serial number in order.**

10. **To use a different firmware, push the up-arrow key or the down-arrow key to find the necessary firmware.**

11. **To select the firmware, push the OK key. Make sure that the selected firmware is high-lighted.**

12. **If you update more than one firmware program at the same time, find each of them and select each of them. Make sure that the selected firmware is high-lighted.**

    ⬇ Note

    - If the customer has used all of the slots, you have to keep an empty slot for this procedure. Ask the customer to temporarily remove the SD card in slot 2.

13. **To start firmware update, push the "UpDate" key. While each firmware is downloaded, the underscores on the operation panel are replaced by stars.**

14. **Wait until the message "Update done" is shown.**

15. **Turn off the main power switch.**

16. **Remove the SD card from the slot 2.**

17. **Attach the slot cover to the SD card slot 2 (🔩 x 1).**

18. **Connect the printer to the network physically.**

19. **Turn on the main power switch.**

20. **Print the Configuration Page to check that the every firmware is correctly updated: Menu > List/Test Print > Config. Page**

Error Handling

An error code is shown if an error occurs during the download. Error codes have the letter "E" and a number. If an error occurs, the firmware is not correctly downloaded; see the error code table

(page 548 "Handling Firmware Update Errors") and do the necessary steps. After this, download the firmware again.

Power Failure

If firmware update is interrupted by power failure, the firmware is not correctly downloaded. In this condition, machine operation is not guaranteed. You have to download the firmware again.

Handling Firmware Update Errors

An error message shows in the first line if an error occurs during a download. The error code consists of the letter "E" and a number ("E20", for example).

Error Message Table

Code	Meaning	Solution
20	Cannot map logical address	Make sure the SD card is inserted correctly.
21	Cannot access memory	HDD connection incorrect or replace hard disks.
22	Cannot decompress compressed data	Incorrect ROM data on the SD card or data is corrupted.
23	Error occurred when ROM update program started	Controller program abnormal. If the second attempt fails, replace controller board.
24	SD card access error	Make sure SD card inserted correctly, or use another SD card.
31	Data incorrect for continuous download	Insert the SD card with the remaining data required for the download, the re-start the procedure.
32	Data incorrect after download interrupted	Execute the recovery procedure for the intended module download, then repeat the installation procedure.
33	Incorrect SD card version	Incorrect ROM data on the SD card, or data is corrupted.
34	Module mismatch - Correct module is not on the SD card)	SD update data is incorrect. Acquire the correct data (Japan, Overseas, OEM, etc.) then install again.

35	Module mismatch – Module on SD card is not for this machine	SD update data is incorrect. The data on the SD card is for another machine. Acquire correct update data then install again.
36	Cannot write module – Cause other than E34, E35	SD update data is incorrect. The data on the SD card is for another machine. Acquire correct update data then install again.
38	The version of the downloaded program error	The version of the downloaded program has not been authorized for the update. Make sure that the program for updating is the specified version.
40	Engine module download failed	Replace the update data for the module on the SD card and try again, or replace the BCU.
44	Controller module download failed	Replace the update data for the module on the SD card and tray again, or replace controller board.
49	Firmware updating is currently prohibited.	The setting of Update Firmware in the Administrator Tools has been set to [Prohibit] by an administrator. Change the setting to [Do not Prohibit] and try again.
50	Electronic confirmation check failed	SD update data is incorrect. The data on the SD card is for another machine. Acquire correct update data then install again.

5

NVRAM Data Upload/Download

⚠️CAUTION

- Turn off the main power switch before you insert or remove an SD card. Make sure that the controller and the BCU are correctly connected.

Uploading NVRAM Data

Copy the data from the NVRAM to an SD card (referred to as "to upload NVRAM data" in this section) before you replace the NVRAM. If you cannot upload NVRAM data, manually input the necessary settings referring to the factory settings sheet stored inside the front door of the mainframe after replacing the NVRAM.

1. **Prepare a formatted SD card.**
2. **Make sure that the write-protection on the SD card is off.**
3. **Start the SP mode.**
4. **Select SP5990-001 (ALL (Data List)).**
5. **Do the SP.**
6. **See if the SMC Report is correctly output.**

   ⬇Note

   - You may need the SMC Report when the machine did not complete an NVRAM data upload or download (page 551 "Downloading NVRAM Data") correctly.

7. **Go out of the SP mode.**
8. **Turn off the main power switch.**
9. **Insert an SD card into SD card slot 2.**
10. **Turn on the main power switch.**
11. **Start the SP mode.**
12. **Select SP5-824-001(NVRAM Upload).**
13. **Push the "OK" key. The upload starts.**
    - When uploading ends correctly, the following file is made: NVRAM\serial_number.NV where "NVRAM" is the folder name in the SD card and "serial_number.NV" is the file name with the extension ".NV". The serial number of the printer is used as the file name. For example, if the serial number is M2570017, the file name is "M2570017.NV".
14. **Go out of the SP mode.**
15. **Turn off the main power switch.**
16. **Remove the SD card from SD card slot 2.**

17. Install the SD slot cover to SD card slot 2.

18. Mark the SD card with, for example, the machine code. You need this SD card when you download NVRAM data (**page 551 "Downloading NVRAM Data"**).

⬇Note

- One SD card can store the NVRAM data from two or more machines.

Downloading NVRAM Data

Copy the data from the SD card to the NVRAM (referred to as "to download NVRAM data" in this section) after you replace the NVRAM. If you cannot download NVRAM data, manually input the necessary settings referring to the factory settings sheet stored inside the front door of the mainframe.

1. Make sure that the main power switch is off. If it is on, turn it off.

2. Make sure that you have the correct SD card that contains the necessary NVRAM data.

3. Insert the SD card into SD card slot 2.

4. Turn on the main power switch.

5. Start the SP mode.

6. Select SP5-825-001 (NVRAM Download).

7. Push the "OK" key. The download starts.

    ⬇Note

    - The machine cannot do the download if the file name in the SD card is different from the serial number of the printer (page 550 "Uploading NVRAM Data").

8. Go out of the SP mode.

9. Turn off the main power switch.

10. Remove the SD card from SD card slot 2.

11. Install the SD slot cover on SD card slot 2.

12. Turn on the main power switch.

13. Check that the NVRAM data is correctly downloaded.

    ⭐Important

    - This procedure does not download the following data to the NVRAM:
    - Total Count
    - Serial Number

Address Book Upload/Download

Information List

The following information is possible to be uploaded and downloaded.

- Registration No.
- User Code
- Local Authentication/ Authentication Lock-out
- Account ACL
- New Document Initial ACL
- LDAP Authentication
- Group Entry Number
- Group Name
- Account ACL

Download

1. **Prepare a formatted SD card.**
2. **Make sure that the write-protection on the SD card is off.**
3. **Turn off the main power switch of the main machine.**
4. **Remove the SD slot cover from SD card slot 2 at the left rear side of the machine (x 1).**
5. **Install the SD card into SD card slot 2 (for service use).**
6. **Turn on the main power switch.**
7. **Enter the SP mode.**
8. **Do SP5-846-051 (Backup All Addr Book).**
9. **Exit the SP mode, and then turn off the main power switch.**
10. **Remove the SD card from SD card slot 2.**
11. **Install the SD slot cover on SD card slot 2.**

    ⬇Note

    - If the capacity of SD card is not enough to store the local user information, an error message is displayed.
    - Carefully handle the SD card, which contains user information. Do not take it back to your location.

Upload

1. **Turn off the main power switch of the main machine.**

2. **Remove the SD slot cover from SD card slot 2 at the left rear side of the machine (🔩 x 1).**

3. **Install the SD card, which has already been uploaded, into the SD card slot 2.**

4. **Turn on the main power switch.**

5. **Enter the SP mode.**

6. **Do SP5-846-052 (Restore All Addr Book).**

7. **Exit the SP mode, and then turn off the main power switch.**

8. **Remove the SD card from SD card slot 2.**

9. **Install the SD slot cover on SD card slot 2.**

   ⬇️Note

   • The counter in the user code information is initialized after uploading.

   • The information of an administrator and supervisor cannot be downloaded nor uploaded.

   • If there is no data of address book information in the SD card, an error message is displayed.

Capturing the Debug Logs

Overview

With this feature, you can save debug logs that are stored in the machine (HDD or operation panel or 8GB SD Card) on an SD card. This function allows the Customer Engineer to save and retrieve error information for analysis. The Capturing Log feature saves debug logs for:

- Controller
- Engine
- Operation panel

⭐**Important**

- In older models, a technician enabled the logging tool after a problem occurred. After that, when the problem had been reproduced, the technician was able to retrieve the debug log.
- However, this new feature saves the debug logs whenever a problem occurs, and then this log can be saved to an SD card.
- You can retrieve the debug logs with an SD card without a network.
- Analysis of the debug log is effective for problems caused by the software. Analysis of the debug log is not valid for the selection of defective parts or problems caused by hardware.
- For everyday storage of the debug log, make sure to use the 8GB SD card provided as a service part. Note that this SD card cannot be used to retrieve selected portions of the log for problem analysis. It can only be used for long-term storage of the entire debug log.

Types of debug logs that can be saved

Type	Storage Timing	Destination (maximum storage capacity)
Controller debug log (GW debug log)	• Saved at all times	HDD (4 GB). Compressed when written to an SD card from the HDD (from 4 GB to about 300 MB), 8GB SD card
Engine debug log	• When an engine SC occurs • When paper feeding/output stop by jams • When the machine doors are opened during normal operation	HDD (Up to 300 times), 8GB SD card

Type	Storage Timing	Destination (maximum storage capacity)
Operation panel debug log	• When a controller SC occurs • When saving by manual operation with the Number keys and the Reset key (Press "Reset", "0", "1" and "C" (hold for 3 seconds)) • When the operation unit detects an error • When the operation panel detects an error	Operation panel (400 MB /Up to 30 times) When updating the firmware for the operation panel, the debug logs are erased. 8GB SD card

Debug logs are not saved when:

- Memory is being erased
- Data encryption equipment is being installed
- Firmware configuration is being changed
- There is a power outage (power cord disconnected accidentally).
- The machine is shut down normally but data write to the HDD cannot be completed. For example, when shutdown starts immediately after a paper jam, or when the front door is opened and closed, the machine needs about 5 sec. to save the debug log after the machine stops completely.
- Power supply to the HDD is off because of energy saving (engine OFF mode /STR mode)

Operation Log Security

The following operation logs related to security are never saved.

- User ID
- Password
- IP address
- Telephone number
- Encryption key
- Transition to SP mode

The following operation logs are never saved.

- Number keys (0 to 9) on the operation panel
- Soft keyboard on the touch panel display
- External keyboard

Storing the Debug Logs with SD Card

If there is no hard disk installed on the machine, the debug log data can be stored to an SD card.

Required parts: 8GB SD Card (B6455040)

1. Insert the initialized SD Card into SD slot 2 on the side of the controller box.

2. Enter SP mode.

3. Set the setting of SP 5-857-002 to "3(SD)".

4. Execute "SP 5-857-120".

   ⬇Note

   • The folder "LogTraceServiceSlotSd" is generated inside the SD card

5. Turn OFF and ON the main power switch of the machine.

Retrieving Debug Logs

Retrieve debug logs to identify the date of occurrence and details about problems.

   • Analysis of the debug log is effective for problems caused by the software.

   • Analysis of the debug log cannot identify defects in parts or problems caused by hardware.

Procedure for Retrieving the Debug Log

1. Insert the SD card into the SD slot 2 on the side of the controller box.

   ⭐Important

   • It is recommended to use the SD card provided as a service part. This is because the log data can be acquired much faster than when using commercially available SD cards.

2. Enter SP mode.

3. Set the start date of the log with **SP5857-101**.

   • Enter the date in the format yyyymmdd where yyyy is the year, mm the month, and dd the day.

   • For example, for March 28, 2013 you would enter "20130328"

   • Enter a date 72 hours before the problem occurred.

4. Set the end date of the log with **SP5857-102**.

   • Use the same format (yyyymmdd) that you used to enter the start date.

   • For example, for March 31, 2013 you would enter "20130331".

5. Next, do **SP5-857-103** to retrieve the debug log data and store it onto the SD card.

6. When the transfer is finished, the machine will display "Completed" on the operation panel.

⭐ **Important**

- **The length of time needed to transfer the debug log data can be affected by the type and format of the SD card. Formatting the SD card with Panasonic SD Formatter (freeware) is recommended.**

The approximate time required for the transfer of the following debug logs are:

- Controller (GW): 2 to 20 min.

- Engine debut log: 2 min.

- Operation: 2 to 20 minutes

7. Make sure that the SD card access LED is off, then remove the SD card.

   If you see the "Failed" message, remove the SD card, cycle the machine off/on, and then repeat this procedure from Step 2.

Debug logs are saved with the following file names.

Debug Log	Filename Format
Controller(GW)	/LogTrace/machine no./watching/yyyymmdd_hhmmss_unique ID.gz
Engine	/LogTrace/machine number/engine/yyyymmddhhmmss.gz
Operation Panel	/LogTrace/machine no./opepanel/yyyymmdd_hhmmss.tar.gz

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SP Text Mode (Saving SMC List to SD Card)

Overview

SP Text Mode

This function is used to save the SMC list as CSV files to the SD card inserted into service slot 2 or the operation panel card slot.

Procedure

1. **Turn the main power switch OFF.**
2. **Insert the SD card into slot 2 or the operation panel SD card slot. Then turn the power ON.**
3. **Enter the "Engine" in the SP mode(Service).**
4. **Select SP5-992 (SP Text Mode).**
5. **Select a detail SP number shown below to save data on the SD card.**

   SP5-992-xxx (SP Text Mode)

Detail No.	SMC Categories to Save
001	All (Data List)
002	SP (Mode Data List)
004	Logging Data
005	Diagnostic Report
006	Non-Default
007	NIB Summary
024	SDK/J Summary
025	SDK/J Application Info
026	Printer SP

6. **Press [EXECUTE].**

m257z0027
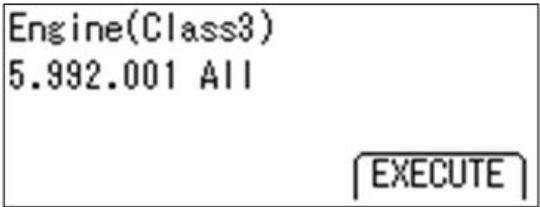
7. **Press [EXECUTE] again to start. Press [CANCEL] to cancel the saving.**

m257z0028

8. **Wait for 2 to 3 minutes until "Completed" is shown.**

🔽**Note**

- The SMC list saving may take from 2 to 3 minutes to complete.

- Press [CANCEL] to abort executing.

9. **Press [End] to exit from SP mode.**

File Names of the Saved SMC Lists

The SMC list data saved on the SD card will be named automatically. The file naming rules are as follows.

Example:

d1822109

A: Machine serial number (fixed for each machine)

B: The first four digits indicate the SP number. The last three digits indicate the branch number.

C: File creation date (YYYY/MM/DD)

D: File creation time (HH/MM/SS)

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Note

- A folder named by the machine serial number will be created on the SD card when this function is executed.

Error Messages

- **Failed:**

  Read-only file system, No space left on device. If an error occurs, pressing "Exit" will cause the device to discard the job and return to the ready state.

DIP Switches

Controller Board

Factory Use Only: Do not change the switch settings.

DIP SW No.	Default
1	ON
2	OFF
3	
4	

6. Troubleshooting

SC Tables

Service Call Conditions

Summary

The "SC Table" section shows the SC codes for controller errors and other errors. The latter (not controller errors) are put into four types. The type is determined by their reset procedures. The table shows the classification of the SC codes.

	Key	Definition	Reset Procedure
Controller errors	CTL	The error has occurred in the controller.	See "Troubleshooting Procedure" in the table.
Other errors	A	The error involves the fusing unit. The machine operation is disabled. The user cannot reset the error.	Turn the main switch off and on. Reset the SC (set SP5-810-1). Turn the main switch off and on.
	B	The error involves one or some specific units. The machine operates as usual, excluding the related units.	Turn the operation switch off and on.
	C	The error is logged. The SC-code history is updated. The machine operates as usual.	The SC will not show. Only the SC history is updated.
	D	The machine operation is disabled. You can reset the machine by turning the operation switch or main switch off and on. If the error occurs again, the same SC code is displayed.	Turn the operation switch or main power switch off and on.

After you turn the main power switch off, wait for one second or more before you turn the main power switch on (SC 672). All SCs are logged. The print log data (SP5-990-004) in SP mode can check the latest 10 SC codes detected and total counters when the SC code is detected.

⬇Note

- If the problem concerns electrical circuit boards, first disconnect then reconnect the connectors before you replace the PCBs.

- If the problem concerns a motor lock, first check the mechanical load before you replace motors or sensors.

SC1xx: Scanning

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
195	D	Serial Number Mismatch
		Serial number stored in the memory does not have the correct code.
		• NVRAM defective • BCU replaced without original NVRAM
		1. Reinstall the original NVRAM in the replaced BCU. 2. Turn off and on the main power switch of the copier if a new NVRAM is installed in the BCU.

SC 2xx: Exposure

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
202	D	Polygon motor error 1: ON timeout
		The polygon mirror motor does not reach the targeted operating speed within the specified time after turning on or changing speed
		• Defective or disconnected harness to polygon motor driver board • Defective polygon motor driver board • Defective polygon motor.
		1. Replace the laser unit. 2. Replace the harness. 3. Replace the controller. 4. Replace the BCU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
203	D	Polygon motor error 2: OFF timeout
		The polygon mirror motor does leave the READY status within 3 seconds after the polygon motor switches off.
		• Disconnected or defective harness to polygon motor driver board • Defective polygon motor driver board • Defective polygon motor
		1. Check or replace the harness. 2. Replace the laser unit. 3. Replace the controller. 4. Replace the BCU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
204	D	Polygon motor error 3: XSCRDY signal error
		The polygon ready (SCRDY_N) signal goes HIGH (inactive) while the laser diode is firing.
		• Disconnected or defective harness to polygon motor driver board • Defective polygon motor • Defective polygon motor driver board
		1. Check or replace the harness. 2. Replace the laser unit. 3. Replace the controller. 4. Replace the BCU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
220 -001	D	Laser synchronizing detection error: start position [K]: LD1
222 -004	D	Laser synchronizing detection error: start position [Y]: LD1

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No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
-	-	The laser synchronizing detection signal for the start position of the LDB [K], [Y], is not output for two seconds after laser unit turns on while the polygon motor is rotating normally.
		• Disconnected cable from the laser synchronizing detection unit or defective connection • Defective laser synchronizing detector • Defective LDB • Defective BCU
		1. Check the connectors. 2. Replace the laser unit. 3. Replace the controller. 4. Replace the BCU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
230 -001	D	FGATE ON error: K
		The PFGATE ON signal does not assert within 5 seconds after processing the image in normal job or MUSIC for start position [K].
		• Defective ASIC • Poor connection between controller and BCU. • Defective BCU
		1. Check the connection between the controller board and the BCU. 2. Replace the BCU. 3. Replace the controller board.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
230 -002	D	FGATE ON error: Y
		The PFGATE ON signal does not assert within 5 seconds after processing the image in normal job or MUSIC (line position adjustment) for start position [Y].
		See SC230-001 for troubleshooting details.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
230 -003	D	FGATE ON error: M
		The PFGATE ON signal does not assert within 5 seconds after processing the image in normal job or MUSIC (line position adjustment) for start position [M].
		See SC230-001for troubleshooting details.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
230 -004	D	FGATE ON error: C
		The PFGATE ON signal does not assert within 5 seconds after processing the image in normal job or MUSIC (line position adjustment) for start position [C].
		See SC230-001 for troubleshooting details.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
231 -001	D	FGATE OFF error: K
		• The PFGATE ON signal still asserts within 5 seconds after processing the image in normal job or MUSIC (line position adjustment) for end position [K]. • The PFGATE ON signal still asserts when the next job starts.
		See SC230-001 for troubleshooting details.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
231 -002	D	FGATE OFF error: Y
		• The PFGATE ON signal still asserts within 5 seconds after processing the image in normal job or MUSIC (line position adjustment) for end position [Y]. • The PFGATE ON signal still asserts when the next job starts.
		See SC230-001 for troubleshooting details.

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No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
231 -003	D	FGATE OFF error: M
		• The PFGATE ON signal still asserts within 5 seconds after processing the image in normal job or MUSIC (line position adjustment) for end position [M]. • The PFGATE ON signal still asserts when the next job starts.
		See SC230-001 for troubleshooting details.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
231 -004	D	FGATE OFF error: C
		• The PFGATE ON signal still asserts within 5 seconds after processing the image in normal job or MUSIC (line position adjustment) for end position [C]. • The PFGATE ON signal still asserts when the next job starts.
		See SC230-001 for troubleshooting details.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
240 -001	C	LD error: K
241 -004	C	LD error: Y
-	-	The bridge board detects LDB error a few times consecutively when LDB unit turns on after LDB initialization.
		• Worn-out LD • Disconnected or broken harness of the LD
		1. Replace the harness of the LD. 2. Replace the laser unit. 3. Replace the bridge board.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting)
270	D	Write ASIC communication error
		• Write/read values were checked twice but failed to match. • Parity error resulted after three attempts.
		• Cycle the machine off/on. • Harness between OPU and BCU loose, broken, defective • Bridge board defective • BCU defective
		1. Replace the harness between the BCU and bridge board. 2. Replace the bridge board. 3. Replace the BCU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
285	D	Line position adjustment (MUSIC) error
		Line position adjustment fails four consecutive times.
		• Pattern sampling error (insufficient image density) • Defective ID sensors for the line position adjustment • Defective image transfer belt unit • Defective PCDU(s) • Defective laser unit
		1. Check and reinstall the image transfer belt unit and PCDU(s). 2. Check if each toner bottle has enough toner. 3. Replace the ID sensor. 4. Replace the image transfer belt unit. 5. Replace the PCDU(s). 6. Replace the laser unit.

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No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
290	D	LDU shutter: Home position error
		The machine does not detect the home position of the LDU shutter.
		• Defective LDU shutter motor • LDU shutter broken • Overload on the LDU shutter motor • Defective LDU shutter sensor • Loose or disconnected harnesses between LDU shutter motor and BCU • Defective BCU
		1. Replace the LDU shutter. 2. Replace the LDU shutter motor. 3. Replace the harnesses between LDU shutter motor and BCU. 4. Replace the BCU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
291	D	LDU shutter: Open position error
		The machine does not detect the correct open position of the LDU shutter.
		• Defective LDU shutter motor • LDU shutter broken • Overload on the LDU shutter motor • Defective LDU shutter sensor • Loose or disconnected harnesses between LDU shutter motor and BCU • Defective BCU
		1. Replace the LDU shutter. 2. Replace the LDU shutter motor. 3. Replace the harnesses between LDU shutter motor and BCU. 4. Replace the BCU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
292	D	LDU shutter: Close position error
		The machine does not detect the correct closed position of the LDU shutter.
		• Defective LDU shutter motor • LDU shutter broken • Overload on the LDU shutter motor • Defective LDU shutter sensor • Loose or disconnected harnesses between LDU shutter motor and BCU • Defective BCU
		1. Replace the LDU shutter. 2. Replace the LDU shutter motor. 3. Replace the harnesses between LDU shutter motor and BCU. 4. Replace the BCU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
293	D	LDU shutter: Time-out error
		The machine does not detect the output signal from the LDU shutter sensor for 1 second after turning on or off the LDU shutter motor.
		• Defective LDU shutter motor • LDU shutter broken
		1. Replace the LDU shutter. 2. Replace the LDU shutter motor. 3. Replace the harnesses between LDU shutter motor and BCU. 4. Replace the BCU.

SC3xx: Image Processing – 1

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
312	D	AC charge output error [K]
313	D	AC charge output error [M]

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
314	D	AC charge output error [C]
315	D	AC charge output error [Y]
-	-	The machine detects the AC charge output for each color 0.3 V or less for 0.2 seconds after the machine has started to detect the AC charge output.
		• Loosen or broken harnesses to the HVPS: C/B • Not set or broken PCDU • Defective HVPS: C/B
		1. Close the drum securing plate firmly. 2. Make sure that the PCDU terminal plate contacts the machine terminal plate closely at the front side. 3. Set correctly or replace the PCDU. 4. Replace the harnesses to the HVPS: C/B. 5. Replace the HVPS: C/B.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
325	D	Color development motor error
		The motor LOCK signal is not detected for more than two seconds while the motor START signal is on.
		• Color development motor slip due to an increase in the torque caused by connected components. • Defective motor.
		1. Adjust the torque properly by replacing or cleaning the PCDU. 2. Replace the PCDU. 3. Replace the development motor: CMY if load torque is normal.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
360	D	TD sensor (Vt high) error 1: K
361	D	TD sensor (Vt high) error 1: M
362	D	TD sensor (Vt high) error 1: C

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
363	D	TD sensor (Vt high) error 1: Y
-	-	• The Vt value of the black, magenta, cyan, or yellow TD sensor exceeds the specified value (default: 4.7V) with SP3020-002 twenty counts. • The [Vt - Vtref] value of the black, magenta, cyan, or yellow TD sensor exceeds the specified value (default: 5.0V) with SP3020-001.
		• Black, magenta, cyan, or yellow TD sensor disconnected • Harness between TD sensor and development unit defective • Defective TD sensor.
		1. Check the black, magenta, cyan, or yellow TD sensor connector and harness between the TD sensor and PCDU for damage. 2. Check the drawer connector of the PCDU. 3. Replace the PCDU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
364	D	TD sensor (Vt low) error 2: K
365	D	TD sensor (Vt low) error 2: M
366	D	TD sensor (Vt low) error 2: C
367	D	TD sensor (Vt low) error 2: Y
-	-	The Vt value of the black, magenta, cyan, or yellow TD sensor is below the specified value with SP3020-004 (default: 0.5V) ten counts.
		• TD sensor harness disconnected, loose, defective • A drawer connector disconnected, loose, defective • TD sensor defective
		1. Check the black, magenta, cyan, or yellow TD sensor connector and harness between the TD sensor and development unit for damage. 2. Check the drawer connector of the PCDU. 3. Replace the PCDU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
372	D	TD sensor adjustment error: K

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No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
373	D	TD sensor adjustment error: M
374	D	TD sensor adjustment error: C
375	D	TD sensor adjustment error: Y
-	-	SC is issued only if one of followings is satisfied. • During TD sensor initialization, the output value of the black, magenta, cyan, or yellow TD sensor is not within the range of the specified value with SP3238-001 to -004 (default: 2.5V) ± 0.2V. • The TD sensor output is 0.7 V or more when the Vcnt is 4.3 v. • The adjusted Vcnt is 4.7 V or less.
		• Heat seal not removed from a new developer pack • TD harness sensor disconnected, loose or defective • TD sensor defective • Harness between TD sensor and drawer disconnected, defective • Different developer density from initial developer density
		1. Remove the heat seal from each PCDU. 2. Replace the PCDU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
380	C	Drum gear position sensor error: K
381	C	Drum gear position sensor error: M, C, Y
-	-	The machine does not detect a change signal (H → L or L → H) for 2.4 seconds at the drum phase adjustment.
		• Dirty or defective drum gear position sensor
		1. Check the harnesses. 2. Clean or replace the drum gear position sensor. 3. Replace the PCDU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
396	D	Drum/Development motor error: K

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
-	-	The machine detects a High signal from the drum/development motor: K for 2 seconds after the drum/development motor: K turned on.
		• Overload on the drum/development motor: K • Defective drum/development motor: K • Defective harness • Shorted 24 V fuse on the PSU • Defective interlock system
		1. Check or replace the harness. 2. Check if torque output value for drum/development motor is proper if not replace the unit. 3. Replace the drum/development motor: K. 4. Replace the 24V fuse on the PSU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
397	D	Drum motor error: CMY
-	-	The machine detects a High signal from the drum motor: CMY for 2 seconds after the drum motor: CMY turned on.
		• Overload on the drum motor: CMY • Defective drum motor: CMY • Defective harness • Shorted 24 V fuse on the PSU • Defective interlock system
		1. Check or replace the harness. 2. Check if torque output value for drum motor is proper if not replace the unit. 3. Replace the drum motor: CMY. 4. Replace the 24V fuse on the PSU.

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SC4xx: Image Processing - 2

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
400	D	ID sensor adjustment error
		When the Vsg error counter reaches "3", the machine detects "SC400". The Vsg error counter counts "1" when the Vsg detected by ID sensor is more than the value (default: 4.5V) specified with SP3324-005 or less than the value (default: 3.5V) specified with SP3324-006.
		• Dirty or defective ID sensor • ID sensor detection surface dirty
		1. Check the harness of the ID sensor. 2. Clean with a damp cloth. 🔽 **Note** • Do not clean with a dry cloth or a cloth containing alcohol. 3. Replace the ID sensor. 🔽 **Note** • After replacing the ID sensor, input the ID sensor correction coefficient with SP3362-013 and -018. For details, refer to "ID sensor board" in the Replacement and Adjustment section. 4. Check the spring at the PTR unit contact lever. 5. Replace the BCU. 6. Replace the ITB unit.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
442	D	ITB contact motor error
		The ITB contact sensor does not detect the movement of actuator at the sensor while the polygon motor rotates.
		• Dirty ITB contact sensor • ITB contact motor overload. • Defective ITB contact motor • Disconnected connector of ITB contact sensor or motor • Shorted 24 V fuse on the PSU. • Disconnected cable
		Check the operation of the ITB unit motor with SP5804-083 or 084. No operation: 1. Check the harness connection of the ITB contact motor. 2. Replace the ITB contact motor. Operation: 1. Check the harness connection of the ITB contact sensor. 2. Replace the ITB contact sensor.

6

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
443	C	ITB unit error
		The machine detects the encoder sensor error.
		• Disconnect or defective harness • Defective ITB rotation sensor • ITB unit installation error • Defective ITB unit motor • ITB unit motor overload
		1. Check the harness connection of the ITB rotation sensor. 2. Check the trash or scratch on the encoder disc surface of the ITB rotation sensor. 3. Check if the ITB unit is correctly set. 4. Replace the ITB unit motor. 5. Replace the ITB unit.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
452	D	PTR (Paper Transfer Roller) contact error
		The PTR contact sensor does not detect the movement of actuator at the sensor while the polygon motor rotates.
		• Defective PTR contact sensor • Defective PTR contact motor • PTR contact motor overload • Broken +24V fuse on PSU • Defective or disconnected harness. • Defective BCU
		Check the operation of the PTR contact motor with SP5804-085 or 086. No operation: 1. Check the harness connection of the PTR contact motor. 2. Replace the PTR contact motor. Operation: 1. Replace the PTR contact sensor.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
460	D	Separation power pack output error
		An interrupt checks the status of the power pack every 20 ms. This SC is issued if the BCU detects a short in the power pack 10 times at D (ac).
		• Damaged insulation on the high-voltage supply cable • Damaged insulation around the high-voltage power supply.
		1. Replace the high-voltage supply cable. 2. Replace the high-voltage power supply unit. 3. Replace the BCU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
491	D	High voltage power: Drum/ development bias output error
		An error signal is detected for 0.2 seconds when charging the drum unit.
		• High voltage leak • Broken harness • Defective drum unit • Defective HVPS-CB board
		1. Check or replace the harness. 2. Replace the PCDU. 3. Replace the HVPS-CB board.

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No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
492	C	High voltage power: Image transfer/ paper transfer bias output error
		An error signal is detected for 0.2 seconds when charging the separation, image transfer belt or paper transfer roller.
		• High voltage leak • Broken harness • Defective image transfer belt unit or paper transfer unit • Defective HVPS: T1T2 board
		1. Input "0V" in the following SP settings: • SP2-326-001 • SP2-326-003 • SP2-407-001 2. Execute the "Process Control" with SP3011-001. 3. Replace the ITB unit if an SC occurs after the Process Control. 4. Replace the PTR unit if an SC does not occur after the Process Control. 5. Replace the HVPS: T1T2 board.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
495	D	Toner collection motor error
		The machine detects that the waste toner bottle is not set for one second when the toner collection motor is turned off.
		• Toner collection motor damaged • Disconnect or defective harness • Defective BCU
		1. Check or replace the harness. 2. Replace the toner collection motor. 3. Replace the BCU 4. Check and retry the connecting procedure.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
498	C	Temperature and humidity sensor error
		• The thermistor output of the temperature sensor was not within the prescribed range (0.2V to 3.5V). • The thermistor output of the humidity sensor was not within the prescribed range (0.01V to 2.4V).
		• Temperature and humidity sensor harness disconnected, loose, defective • Temperature and humidity sensor defective
		1. Check the connector and harness. 2. Replace the temperature/humidity sensor.

SC5xx: Paper Feed and Fusing

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
501	B	1st paper tray lift motor malfunction
502	B	2nd paper tray lift motor malfunction (optional paper feed unit)
503	B	3rd paper tray lift motor malfunction (optional paper feed unit)
504	B	4th paper tray lift motor malfunction (optional paper feed unit)
-	-	The paper lift sensor did not activate within 18 sec. after the tray lift motor switched on.
		• An obstruction (jammed paper, paper scraps, etc.) has blocked the motor drive and caused an overload. • Paper lift sensor connection loose, disconnected, or damaged • Paper lift sensor defective • Tray lift motor connection loose, disconnected, or damaged • Tray lift motor defective
		1. Check or replace the harness. 2. Replace the tray lift motor. 3. Replace the BCU.

6

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
520	B	2nd paper tray cooling fan error (optional paper feed unit)
521	B	3rd paper tray cooling fan error (optional paper feed unit)
522	B	4th paper tray cooling fan error (optional paper feed unit)
-	-	The motor lock signal error from the cooling fan is detected for 10 seconds after turning on the cooling fan.
		• Disconnected harness of the cooling fan • Defective cooling fan • Defective BCU
		1. Check or replace the harness of the cooling fan. 2. Replace the cooling fan. 3. Replace the BCU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
530	D	Development fan 1 error
531	D	Development fan 2 error
		The motor lock signal error is detected for 10 seconds after the motor lock signal was first detected.
		• Defective development fan 1 or development fan 2 • Disconnected or defective harness • Defective BCU
		1. Check or replace the harness. 2. Replace the development fan 1 (SC530) or development fan 2 (SC531). 3. Replace the BCU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
532	D	Laser unit fan error
		The motor lock signal error is detected for 10 seconds after the motor lock signal was first detected.
		• Defective laser unit fan • Disconnected or defective harness • Defective BCU
		1. Check or replace the harness. 2. Replace the laser unit fan. 3. Replace the BCU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
533	D	Fusing fan 2 error
		The motor lock signal error is detected for 10 seconds after the motor lock signal was first detected.
		• Defective fusing fan 2 • Disconnected or defective harness • Defective BCU
		1. Check or replace the harness. 2. Replace the fusing fan 2. 3. Replace the BCU.

6

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
534	D	Fusing fan 1 error
		The motor lock signal error is detected for 10 seconds after the motor lock signal was first detected.
		• Defective fusing fan 1 • Disconnected or defective harness • Defective BCU
		1. Check or replace the harness. 2. Replace the fusing fan 1. 3. Replace the BCU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
535	D	Toner supply fan error
		The motor lock signal error is detected for 10 seconds after the motor lock signal was first detected.
		• Defective toner supply fan • Disconnected or defective harness • Defective BCU
		1. Check or replace the harness. 2. Replace the toner supply fan. 3. Replace the BCU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
536	D	Drive unit fan error
		The motor lock signal error is detected for 10 seconds after the motor lock signal was first detected.
		• Defective drive unit fan • Disconnected or defective harness • Defective BCU
		1. Check or replace the harness. 2. Replace the drive unit fan. 3. Replace the BCU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
537	D	Fusing cooling fan error
		The motor lock signal error from the fusing cooling fan is detected for 10 seconds after turning on the fusing cooling fan.
		• Disconnected harness of the fusing cooling fan • Defective fusing cooling fan • Defective BCU
		1. Check or replace the harness of the fusing cooling fan. 2. Replace the fusing cooling fan. 3. Replace the BCU.

6

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
540	D	Fusing/Paper exit motor error
		The BCU receives the lock signal 2.0 seconds after turning on the fusing/paper exit motor.
		• Motor overload • Defective fusing/paper exit motor • Defective or disconnected connection for the fusing/paper exit motor
		1. Replace the fusing/paper exit motor. 2. Check or replace connector and harness for the fusing/paper exit motor.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
541	A	Heating roller thermopile error
		The temperature measured by the heating roller thermopile does not reach 0°C for 6 seconds.
		• Loose connection of the heating roller thermopile • Defective heating roller thermopile • Defective thermopile
		1. Check if the heating roller thermopile is firmly connected. 2. Replace the heating roller thermopile.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
542	A	Heating roller warm-up error 1
		• After the main switch is turned on or the cover is closed, the increment of the heating roller temperature per 10 seconds is 30°C or less. If this condition is detected five times consecutively, SC 542 is defined. • The heating roller temperature does not reach 100°C for 15 seconds after the heating lamp on. • The heating roller temperature does not reach the ready temperature while 60 seconds after the heating lamp on. • The center temperature of the heating roller does not reach the ready temperature for 30 seconds after the edge temperature of the heating roller has reached the ready temperature.
		• Dirty or defective thermopile • Defective thermopile. • Trash on the surface of the thermopile lens. • Defected thermistor. • Input voltage is over guaranteed value • Defective heating roller lamp
		1. Check if the thermopile is firmly connected. 2. Clean the surface of the thermopile lens. 3. Test the conductance for the thermopile and the heating roller 4. Replace the thermopile. 5. Replace the heating roller lamp.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
543	A	Heating roller fusing lamp overheat 1 (software error)
		The detected fusing temperature stays at 245°C for 1 second.
		• Defective PSU • Defective BCU
		1. Replace the PSU. 2. Replace the BCU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
544	A	Heating roller fusing lamp overheat 1 (hardware error)
		During stand-by mode or a print job, the detected heating roller temperature reaches 250 °C.
		• Defective PSU • Defective BCU • Defective heating roller thermistor (end) • Defective fusing control system
		1. Replace the PSU. 2. Replace the BCU. 3. Replace the heating roller thermistor (end).

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
545	A	Heating roller fusing lamp consecutive full power 1
		When the fusing unit is not running in the ready condition, the heating roller fusing lamp keeps on full power for 30 seconds.
		• Broken heating roller thermostat • Broken heating roller fusing lamp
		1. Replace the heating roller thermostat. 2. Replace the heating roller fusing lamp.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting)
547 -01	D	Zero cross error (Fusing relay short)
		• The zero cross signal is detected three times even though the heater relay is off when turning on the main power. • The zero cross signal is not detected for 3 seconds even though the heater relay is on after turning on the main power or closing the front door. • The detection error occurs twice or more in the 11 zero cross signal detections. This error is defined when the detected zero cross signal is less than 45.
		• Defective fusing lamp relay • Defective fusing lamp relay circuit
		1. Replace the PSU. 2. Replace the BCU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting)
547 -02	D	Zero cross error (Fusing relay open)
		• The zero cross signal is detected three times even though the heater relay is off when turning on the main power. • The zero cross signal is not detected for 2 seconds even though the heater relay is on after turning on the main power or closing the front door. • The detection error occurs twice or more in the 11 zero cross signal detections. This error is defined when the detected zero cross signal is less than 45.
		• Defective fusing lamp relay • Defective fusing lamp relay circuit • Short 24VS fuse
		1. Replace the 24VS fuse (FU3/FU4). 2. Replace the PSU. 3. Replace the BCU.

6

No.	Type	Details (Symptom, Possible Cause, Troubleshooting)
547 -03	D	Zero cross error
		• The zero cross signal is detected three times even though the heater relay is off when turning on the main power. • The zero cross signal is not detected for 2 seconds even though the heater relay is on after turning on the main power or closing the front door. • The detection error occurs twice or more in the 11 zero cross signal detections. This error is defined when the detected zero cross signal is less than 45.
		• Unstable power supply
		• Check the power supply source.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
551	A	Heating roller thermistor (end) error 2
		The temperature measured by the heating roller thermistor (end) does not reach 0°C for 6 seconds.
		• Loose connection of heating roller thermistor (end) • Defective heating roller thermistor (end)
		1. Check that the heating roller thermistor (end) is firmly connected. 2. Replace the heating roller thermistor (end).

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
552	A	Heating roller warm-up error 2
		The heating roller temperature does not reach the ready temperature while 70 seconds after the heating lamp on.
		• Dirty or defective thermistor (end) • Heating roller fusing lamp broken • Defected thermostat • Defective heating roller fusing lamp
		1. Check if the heating roller thermistor (end) is firmly connected. 2. Replace the heating roller thermistor (end). 3. Replace the heating roller fusing lamp.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
553	A	Heating roller fusing lamp overheat 2 (software error)
		The detected pressure roller temperature stays at 230°C or more for 1 second.
		• Defective PSU • Defective BCU
		1. Replace the heating roller thermistor (end). 2. Replace the PSU. 3. Replace the BCU.

6

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
554	A	Heating roller fusing lamp overheat 2 (hardware error)
		The heating roller thermistor (end) detects 250°C or more.
		• Defective heating roller thermistor (end) • Defective PSU • Defective BCU • Defective fusing control system
		1. Replace the heating roller thermistor (end). 2. Replace the PSU. 3. Replace the BCU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
555	A	Heating roller lamp consecutive full power 2
		When the fusing unit is not running in the ready condition, the pressure roller-fusing lamp keeps ON full power for 8 seconds or more.
		• Broken heating roller thermostat • Broken heating roller fusing lamp
		1. Replace the heating roller thermostat. 2. Replace the heating roller fusing lamp.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
557	C	Zero cross frequency error
		When the zero cross signal is 66 or more and it is detected 10 times or more in 11 detections, the machine determines that input 60 Hz and SC557 occurs.
		Noise (High frequency)
		Check the power supply source.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
559	A	Consecutive fusing jam
		The paper jam counter for the fusing unit reaches 3 times. The paper jam counter is cleared if the paper is fed correctly. This SC is activated only when SP1159-001 is set to "1" (default "0").
		Paper jam in the fusing unit.
		Remove the paper that is jammed in the fusing unit. Then make sure that the fusing unit is clean and has no obstacles in the paper feed path.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
561	A	Pressure roller thermister error 3
		The temperature measured by the pressure roller thermistor (center) does not reach 0°C for 20 seconds.
		• Loose connection of pressure roller thermistor (center) • Defective pressure roller thermistor (center)
		1. Check that the pressure roller thermistor (center)is firmly connected. 2. Replace the pressure roller thermistor (center).

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
563	A	Pressure roller overheat 3 (software error)
		The detected fusing roller temperature stays at 230°C or more for 1 second.
		• Defective PSU • Defective BCU
		1. Replace the pressure roller thermistor (center). 2. Replace the PSU. 3. Replace the BCU.

6

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
564	A	Pressure roller overheat 3 (hardware error)
		The pressure roller thermistor (center) detects 250°C or more.
		• Defective PSU • Defective BCU • Defective pressure roller thermistor (center) • Defective fusing control system
		1. Replace the pressure roller thermistor (center). 2. Replace the PSU. 3. Replace the BCU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
565	A	Pressure roller fusing lamp consecutive full power 3
		When the fusing unit is not running in the ready condition, the pressure roller fusing lamp keeps ON full power for 30 seconds or more.
		• Broken pressure roller thermostat • Broken pressure roller fusing lamp
		1. Replace the pressure roller fusing lamp. 2. Replace the pressure roller thermostat. 3. Replace the PSU.

SC6xx: Device Communication

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
622	D	2nd paper bank (option) communication error
		• While the bridge board communicates with an optional unit, an SC code is displayed if one of following conditions occurs. • The bridge board receives the break signal which is generated by the peripherals only just after the main switch is turned on. • When the bridge board does not receive an OK signal from a peripheral 100ms after sending a command to it. The bridge board resends the command. The bridge board does not receive an OK signal after sending the command 3 times.
		• Cable problems • Bridge board problems • BCU problems • PSU problems in the machine • Main board problems in the peripherals
		1. Check if the cables of peripherals are correctly connected. 2. Replace the bridge board or main board of peripherals. 3. Replace the BCU if no power is supplied to peripherals.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
623	D	3rd Paper Bank (option) communication error
		This SC is not issued for this machine. When a communication error signal between the 2nd paper bank and 3rd paper bank is received.
		• Loose or disconnected connector Check the connection between the main machine and paper feed unit.

6

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
624	D	4th Paper Bank (option) communication error
		This SC is not issued for this machine. When a communication error signal between the 3rd paper bank and 4th paper bank is received.
		• Loose or disconnected connector Check the connection between the main machine and paper feed unit.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
669	D	NVRAM error
		Retry of NVRAM communication fails three times after the machine has detected the NVRAM error.
		Caused by noise
		Turn the main power switch off and on.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting
SC681	D	RFID: Communication error • Communication error occurs at communication with the RFID receptor. • Retry of RFID communication failed
		• Defective RFID reader and writer • Disconnected ASAP I/F • No memory chip on the toner cartridge • Noise
		1. Remove and then re-insert each toner bottle. 2. Replace the toner bottle. 3. Confirm that RFID connectors and harnesses are connected correctly. 4. If the connectors and harnesses are damaged, replace the RFID_CPU board and Harness: ANTENNA: Toner Supply. 5. Replace the affected RFID_AFE board (KMCY). (See table below.) 6. Replace the BCU.

Use the table below to determine which color is affected.

Examples:

- SC681-06 > K

- SC681-27 > C

- SC681-24 > Y

RFID_AFE Board (KMCY)

K	C	M	Y
-06	-07	-08	-09
-11	-12	-13	-14
-16	-17	-18	-19
-21	-22	-23	-24
-26	-27	-28	-29
-31	-32	-33	-34
-36	-37	-38	-39
-41	-42	-43	-44
-46	-47	-48	-49
-51	-52	-53	-54
-56	-57	-58	-59

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
682	D	Memory chip at TD sensor: Communication error
		Retry of memory chip communication fails three times after the machine has detected the memory chip communication error.
		- Damaged memory chip data - Disconnected inter face - No memory chip on the development unit - Noise
		Replace the PCDU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
683	C	RFID: Unit check error
		The machine gets RFID communication error even the toner cartridges have not been installed in the machine.
		• Caused by noise
		Turn the main power switch off and on.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
687	D	Memory address command error
		The BCU does not receive a memory address command from the controller for the prescribed time after the paper has reached the registration sensor.
		• Harness disconnection at BCU • Controller board loose or broken • Defective HDD • Defective BCU • Defective controller
		1. Check if the controller is firmly connected to the BCU. 2. Update the firmware of the controller. 3. Replace the HDD. 4. Update the firmware of the BCU. 5. Replace the BCU. 6. Replace the controller.

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No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
690	D	GAVD communication error
		• The I2C bus device ID is not identified during initialization.
		• A device-status error occurs during I2C bus communication.
		• The I2C bus communication is not established due to an error other than a buffer shortage.
		• Loose connection
		• Defective BCU
		• Defective LD controller board
		1. Turn the main switch off and on.
		2. Check the cable connection.
		3. Replace the laser unit.
		4. Replace the BCU.

SC8xx: Overall System

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
816	CTL D	Energy saving I/O sub-system error
		The energy saving I/O sub-system detects an error.
		• Controller board defective
		Replace the controller board.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting)	
840-00	B	EEPROM error 1: EEPROM access	CTL
		• During the I/O processing, a read error occurred. The 3rd reading failure causes this SC code.	
		• During the I/O processing, a write error occurred.	
		• Defective EEPROM	

6

599

No.	Type	Details (Symptom, Possible Cause, Troubleshooting)	
841-00	B	EEPROM error 2: EEPROM read/write error	CTL
		Mirrored data of the EEPROM is different from the original data in EEPROM.	
		• Data in EEPROM was overwritten for some reason.	

No.	Type	Details (Symptom, Possible Cause, Troubleshooting)	
842-00	C	NAND-Flash Update Verify Error Detected.	CTL
		SCS write error (verify error) occurred at the Nand-Flash module when remote ROM or main ROM was updated.	
		Nand-Flash failed	
		• Cycle the machine off/on. • Replace controller board	
842-01	B	Insufficient Nand-Flash blocks (threshold exceeded)	CTL
		At startup, or when machine returned from low power mode, the Nand-Flash status was read and judged that the number of unusable blocks had exceeded threshold, and then SCS generated the SC code.	
		Number of unusable blocks exceeded threshold for Nand-Flash	
		• Replace controller board	
842-02	B	Number of Nand-Flash block deletions exceeded	CTL
		At startup, or when the machined returned from low power mode, the Nand-Flash was read and judged that the number of deleted blocks had exceeded threshold, and then SCS generated this SC code.	
		Number of blocks deleted exceeded threshold for Nand-Flash	
		• Replace controller board	

No.	Type	Details (Symptom, Possible Cause, Troubleshooting)	
855-01	B	Wireless LAN card error 1	CTL
		A problem occurred when the installed Wireless LAN device was installed because is not supported by this machine, or the Wireless LAN device is defective.	
		Wireless LAN device is not connected correctly, or the device is defective.	
		• Make sure that the wireless LAN is supported by this machine (IEEE 802.11 Interface Unit Type O M417). • Make sure that the device is installed correctly.	
855-02		Wireless LAN card error 2	CTL
		A problem occurred when the Wireless LAN device was not initialized at power on.	
		The device is not installed correctly.	
		• Switch the machine off. • Make sure that the device is installed correctly.	

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
857	CTL B	USB interface error
		The USB interface cannot be used due to a driver error.
		• Defective USB driver • Loose connection
		1. Check the connection. 2. Replace the USB board.

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No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)	
858	CTL C	HDD Encryption unit error 1	
		A serious error occurs when data is encrypted to update an encryption key with the HDD encryption unit.	
		[0]	Encryption key acquisition error:
			The controller fails to get a new encryption key.
			• Defective controller board
			1. Replace the controller board.
		[1]	Encryption key setting for HDD error:
			The controller fails to copy a new encryption key to the HDD.
			• Defective SATA chip on the controller board
			1. Replace the controller board.
		[2]	NVRAM data encryption error 1:
			An error occurs while the NVRAM data is encrypted.
			• Defective NVRAM on the controller board
			1. Replace the NVRAM.
		[30]	NVRAM data encryption error 2:
			An error occurs before the NVRAM data is encrypted.
			• Defective controller board
			1. Replace the controller board.
		[31]	Other error:
			A serious error occurs while the data is encrypted.
			• Same as SC991

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)	
859	CTL C	HDD Encryption unit error 2	
		A serious error occurs when the HDD data is encrypted to update an encryption key with the HDD encryption unit.	
		[8]	HDD check error: The HDD is not correctly installed.
			• No HDD installed • Unformatted HDD • The encryption key on the controller is different from the one on the HDD 1. Install the HDD correctly. 2. Initialize the HDD.
		[9]	Power failure during the data encryption: The data encryption (NVRAM and HDD) has not been completed.
			• Power failure during the data encryption 1. Initialize the HDD.
		[10]	Data read/write error: The DMAC error is detected twice or more.
			• Same as SC863

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
860	CTL B	HDD: Initialization error
		The controller detects that the hard disk fails.
		• HDD not initialized • Defective HDD
		1. Reformat the HDD. 2. Replace the HDD.

6

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
863	CTL D	HDD: Read error
		The data stored in the HDD cannot be read correctly.
		• Defective HDD • Defective controller
		1. Replace the HDD. 2. Replace the controller.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
864	CTL D	HDD: CRC error
		While reading data from the HDD or storing data in the HDD, data transmission fails.
		• Defective HDD
		Replace the HDD.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
865	CTL D	HDD: Access error
		An error is detected while operating the HDD.
		• Defective HDD
		Replace the HDD.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
866	CTL B	SD card authentication error
		A correct license is not found in the SD card.
		• SD-card data is corrupted.
		Store correct data in the SD card.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
867	CTL D	SD card error
		The SD card is ejected from the slot.
		1. Install the SD card. 2. Turn the main switch off and on.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
868	CTL D	SD card access error • -13 to -3: File system error • Other number: Device error
		An error report is sent from the SD card reader. • An error is detected in the SD card.
		1. For a file system error, format the SD card on your PC. 2. For a device error, turn the mains switch off and on. 3. Replace the SD card. 4. Replace the controller.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
870	CTL B	Address book error
		An error is detected in the data copied to the address book over a network.
		• Defective software program • Defective HDD • Incorrect path to the server
		1. Back up the address book data and Initialize the address book data and the user information. (Restore the address book data if possible.) 2. Replace the HDD.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
872	CTL B	HDD mail data error
		An error is detected in the HDD at machine initialization.
		• Defective HDD • Power failure during an access to the HDD
		1. Turn the main switch off and on. 2. Initialize the HDD partition. 3. Replace the HDD.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
873	CTL B	HDD mail transfer error
		An error is detected in the HDD at machine initialization.
		• Defective HDD • Power failure during an access to the HDD
		1. Initialize the HDD partition. 2. Replace the HDD.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
874	CTL D	Delete All error 1: HDD
		An error is detected while all of the HDD or NVRAM are formatted physically by the DataOverwriteSecurity Unit.
		• DataOverwriteSecurity Unit (SD card) not installed • Defective HDD
		1. Install the DataOverwriteSecurity Unit. 2. Replace the HDD.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
875	CTL D	Delete All error 2: Data area
		An error is detected while all of the HDD or NVRAM are formatted logically by the DataOverwriteSecurity Unit.
		• The logical format for the HDD fails.
		Turn the main switch off/on and try the operation again

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
876	CTL D	Log Data Error
		An error was detected in the handling of log data at power on or during machine operation. This can be caused by switching the machine off while it is operating.
	-001	Log Data Error 1
		• Damaged log data file in the HDD
		Initialize the HDD.
	-002	Log Data Error 2
		• An encryption module not installed
		1. Disable the log encryption setting with SP9730-004 ("0" is off.) 2. Install the DESS module.
	-003	Log Data Error 3
		• Invalid log encryption key due to defective NVRAM data
		1. Initialize the HDD. 2. Disable the log encryption setting with SP9730-004 ("0" is off.)
	-004	Log Data Error 4
		• Unusual log encryption function due to defective NVRAM data
		Initialize the HDD.

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No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
-005		Log Data Error 5
		• Installed NVRAM or HDD which is used in another machine
		1. Reinstall the previous NVRAM or HDD. 2. Initialize the HDD.
-099		Log Data Error 99
		• Other than the above causes
		Ask your supervisor.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
877	CTL D	HDD Data Overwrite Security SD card error
		The 'all delete' function cannot be executed but the DataOverwriteSecurity Unit is installed and activated.
		• Defective SD card • SD card not installed
		1. Replace the NVRAM and then install the new SD card. 2. Check and reinstall the SD card.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
878	CTL D	TPM system authentication error
		The system firmware is not authenticated by TPM (security chip).
		• Incorrect updating for the system firmware • Defective flash ROM on the controller board
		Replace the controller board.

SC9xx: Miscellaneous

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
900	CTL D	Electric counter error
		Abnormal data in the counters.
		• Defective NVRAM • Defective controller
		1. Check the connection between the NVRAM and controller. 2. Replace the NVRAM. 3. Replace the controller.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
990	CTL D	Software performance error
		The software makes an unexpected operation.
		• Defective software • Defective controller • Software error
		1. Turn the main switch off and on. 2. Reinstall the controller and/or engine main firmware.
		Note • See Note 1 at the end of the SC table.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
991	CTL C	Software continuity error
		The software has attempted to perform an unexpected operation. However, unlike SC 990, the object of the error is continuity of the software.
		• Software program error • Internal parameter incorrect, insufficient working memory.
		This SC is not displayed on the operation panel (logging only).

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
992	CTL D	Undefined error
		Defective software program
		• An error undetectable by any other SC code occurred
		Print the "Logging Data" with SP5990-004 and then check the SP7990. If 498-Engine is found in the SP7990; 1. Check the harness connection of the temperature/humidity sensor. 2. Replace the temperature/humidity sensor.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
997	CTL B	Application function selection error • The application selected by the operation panel key does not start or ends abnormally.
		• Software (including the software configuration) defective • An option required by the application (RAM, DIMM, board) is not installed • Nesting of the fax group addresses is too complicated
		1. Check the devices necessary for the application program. If necessary devices have not been installed, install them. 2. Check that application programs are correctly configured. 3. Take necessary countermeasures specific to the application program. If the logs can be displayed on the operation panel, see the logs.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
998	CTL D	Application start error
		No applications start within 60 seconds after the power is turned on.
		• Loose connection of RAM-DIMM, ROM-DIMM • Defective controller • Software problem
		1. Check if the DIMM memory is correctly connected. 2. Reinstall the controller system firmware. 3. Replace the controller.

Note 1

If a problem always occurs in a specific condition (for example. printer driver setting, image file), the problem may be caused by a software error. In this case, the following data and information needs to be sent back to your product specialist. Please understand that it may take some time to get a reply on how to solve the problem, because in some cases the design staff in Japan must analyze the data.

- Symptom / Possible Causes / Action taken
- Summary sheet (SP mode "Printer SP", SP1-004 [Print Summary])
- SMC - All (SP5-990-001)
- SMC - Logging (SP5-990-004)
- Printer driver settings used when the problem occurs
- All data displayed on the screen (SC code, error code, and program address where the problem is logged.)
- Image file which causes the problem, if possible

6

Process Control Results

Developer Initialization Result

SP-3-014-001 (Developer Initialization Result)

No.	Result	Description	Possible Causes/Action
1	Successfully completed	Developer initialization is successfully completed.	-
2	Forced termination	Developer initialization was forcibly terminated.	• A cover was opened or the main switch was turned off during the initialization. 1. Do the developer initialization again when done in SP mode. Reinstall the engine main firmware if the result is the same. 2. Turn the main switch off and on when done at unit replacement.
6	Vt error	Vt is more than 0.7V when Vcnt is 4.3V.	1. Make sure that the heat seal on the development unit is not removed. 2. Defective TD sensor
7	Vcnt error 1	Vcnt is less than 4.7V when Vcnt is Vt target ±0.2V.	1. Defective TD sensor 2. Vt target settings are not correct. 3. Toner density error
8	Vcnt error 2	Vt is more than 0.7V when Vcnt is 4.3V and Vcnt is less than 4.7V when Vcnt is Vt target ±0.2V.	1. Make sure that the heat seal on the development unit is not removed. 2. Defective TD sensor
9	Vcnt error 3	Vcnt is less than 4.7V.	1. Make sure that the heat seal on the development unit is not removed 2. Defective TD sensor 3. Vt target settings are not correct. 4. Toner density error

↓Note

- The machine starts developer initialization after you set "Enable" in SP3-902-005, 006, 007, or 008. Developer initialization automatically resumes when you open and close the front door or turn the main switch off and on if an error other than Error 8 occurs.

Process Control Self-Check Result

Displayed number shows results of each color sensor check.

00000000 = YYCCMMKK

SP3-012-001 to -010 (Process Control Self-check Result)

No.	Result	Description	Possible Causes/Action
11	Successfully completed	Process control self-check successfully completed.	Check the Vsg adjustment. See the "Vsg Adjustment Result" following this table.
41	Vt error	Vt maximum or minimum error is detected.	• Defective development unit Vt maximum error and an image is faint: 1. Replace the toner supply pump unit. Vt maximum error and an image is O.K: 1. Replace the development unit. 2. Replace the IOB board. Vt minimum error: 1. Replace the development unit. 2. Replace the IOB board.
53	ID sensor coefficient (K5) detection error	Not enough data can be sampled.	• Solid image is not sufficient density: 1. Retry the process control. 2. Replace the ID sensors. 3. Replace the IOB board. • Solid image is O.K. 1. Replace the ID sensors. 2. Replace the IOB board. • ID sensor is dirty: 1. Clean the ID sensors. 2. Retry the process control.

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No.	Result	Description	Possible Causes/Action
54	ID sensor coefficient (K5) maximum/ minimum error	When the K5 is more than the value of SP3-362-003 or less than the value of SP3-362-004, the error 54 is displayed.	• ID sensor pattern density is too high or low. • ID sensor or shutter is defective. Same as 53
55	Gamma error: Maximum	Gamma is out of range. 5.0 < Gamma	• ID sensor pattern density is too high. • Hardware defective. Same as 53
56	Gamma error: Minimum	Gamma is out of range. Gamma < 0.15	• ID sensor pattern density is too low. • Hardware defective. 1. Same as 53 2. Replace the toner supply pump unit.
57	Vk error: Maximum	Vk is out of range. 150 < Vk	• ID sensor pattern density is too low. • Hardware defective. Same as 53
58	Vk error: Minimum	Vk is out of range. Vk < −150	• ID sensor pattern density is too high. • Background dirty • Hardware defective Same as 53
59	Sampling data error during gamma correction	Not enough data can be sampled during the gamma correction.	• ID sensor pattern density is too high or low. • Hardware defective Same as 53
99	Unexpected error	Process control fails.	• Power Failure Check the power source.

Vsg Adjustment Result

SP3-325-001 to -010 (Vsg Adjustment Result)

No.	Result	Description	Possible Causes/Action
1	O.K	Vsg adjustment is correctly done.	-
2	ID sensor adjustment error	Vsg cannot be adjusted within 4.0 ±0.5V.	• Dirty ID sensor (toner, dust, or foreign material) • Dirty transfer belt • Scratched image transfer belt • Defective ID sensor • Poor connection • Defective IOB 1. Clean the ID sensor. 2. Check the belt cleaning. Clean or replace the transfer belt. 3. Replace the image transfer belt. 4. Replace the ID sensor. 5. Check the connection. 6. Replace the IOB board.
3	ID sensor output error	ID sensor output is more than "Voffset Threshold" (SP3-324-004)	• Defective ID sensor • Poor connection • Defective IOB 1. Replace the ID sensor. 2. Check the connection. 3. Replace the IOB board.
9	Vsg Adjustment error	Vsg adjustment has not been completed.	• Other cases Retry SP3-321-010.

Line Position Adjustment Result

SP2-194-010 to -012 (Line Position Adjustment Result: M, C, Y)

This SP shows the number as a line position adjustment result on the LCD. It shows which color has an error (M, Y or C).

No.	Result	Description	Note
0	Not done	Line position adjustment has not been done.	-
1	Completed successfully	Line position adjustment has correctly been done,	-
2	Cannot detect patterns	ID sensors have not detected the patterns for line position adjustment.	See Note
3	Fewer lines on the pattern than the target	The patterns, which ID sensors have detected, are not enough for line position adjustment.	See Note
4	More lines on the pattern than the target	Not used in this machine.	-
5	Out of the adjustment range	ID sensors have correctly detected the patterns for line position adjustment, but a shift of patterns is out of adjustable range.	See Note
6-9	Not used	-	-

Troubleshooting Guide

⬇ Note

- Remove the NVRAM from the original engine control board and install it on the new one when you replace the engine control board.

Blank Print

Symptom	Possible cause	Necessary actions
No image is printed.	Defective laser unit	Replace the laser unit.
	Defective PCDU	Replace the PCDU.
	Defective image transfer belt unit	Replace the image transfer belt unit.
	Incorrect action of paper transfer roller	Check the guide and the paper transfer roller.
	Defective HVPS	Replace HVPS.
	Defective BCU	Replace the BCU.

All-black Print

Symptom	Possible cause	Necessary actions
All the paper is black.	Incorrectly installed PCDU	Install the PCDU correctly.
	Defective PCDU	Replace the PCDU.
	Defective HVPS	Replace HVPS.
	Defective laser unit	Replace the laser unit.
	Defective BCU	Replace the BCU.
	Defective main board	Replace the main board.

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Missing CMY Color

Symptom	Possible cause	Necessary actions
C, M, or Y is missing.	Defective PCDU	Replace the PCDU.
	Loose connection between printer cartridge and BCU	Replace the drum positioning cover.
	Image transfer belt not contacting PCDU	Check the belt tension unit.
	Defective the drum motor: CMY	Replace the drum motor: CMY.
	Defective BCU	Replace the BCU.

Light Print

Symptom	Possible cause	Necessary actions
Printed images are too weak.	Loose connection between paper transfer roller and HVPS	Check the connection between the paper transfer roller and the HVPS.
	Dust in the laser beam path	Clean the laser beam path.
	Image transfer belt not contacting PCDU	Check the image transfer belt unit.
	Defective PCDU	Replace the PCDU.
	Defective paper transfer roller	Repair the paper transfer roller.
	Defective fusing unit	Replace the fusing unit.
	Defective BCU	Replace the BCU.

Repeated Spots or Lines on Prints

Image problems may appear at regular intervals that depend on the circumference of certain components.

The following diagram shows the possible symptoms (black or white dots at regular intervals).

m065t502
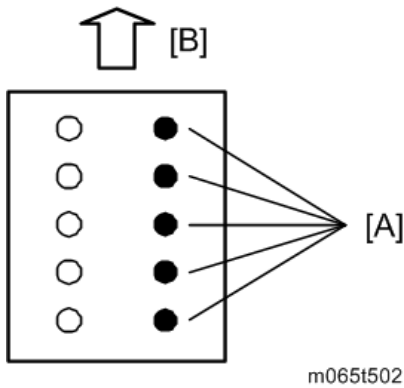
[A]: Problems at regular intervals

[B]: Paper feed

The same spots or lines appear at regular intervals.

Interval	Possible cause	Necessary actions
At intervals of 35 mm (1.38 inches)	Defective charge roller	Replace the PCDU.
At intervals of 33 mm (1.3 inches)	Defective development roller	Replace the PCDU.
At intervals of 83 mm (3.27 inches)	Defective paper transfer roller	Replace the paper transfer roller unit.
At intervals of 94 mm (3.7 inches)	Defective OPC drum	Replace the PCDU.
At intervals of 126 mm (4.96 inches)	Defective fusing roller	Replace the fusing roller or fusing unit.
At intervals of 141 mm (5.55 inches)	Defective pressure roller	Replace the pressure roller or fusing unit.
At intervals of 204 mm (8.03 inches)	Defective fusing belt	Replace the fusing unit.
At intervals of 795 mm (31.3 inches)	Defective image transfer belt	Replace the image transfer belt or image transfer belt unit.
At intervals of 41 mm (1.61 inches)	Defective image transfer roller	Replace the image transfer roller.

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Interval	Possible cause	Necessary actions
At intervals of 82 mm (3.23 inches)	Defective image transfer belt drive roller or image transfer belt idling roller	Replace the image transfer belt drive roller or image transfer belt idling roller.

Dark Vertical Line on Prints

Symptom	Possible cause	Necessary actions
A dark line appears. The line is parallel to the paper feed direction of one CMY color.	Defective PCDU	Replace the PCDU.
A dark line appears. The line is parallel to the paper feed direction of any color (not C, M, or Y).	Dust in the laser beam path	Clean the laser beam path.
	Defective image transfer belt unit	Replace the image transfer belt unit.
	Defective fusing unit	Replace the fusing unit.

White Horizontal Lines or Bands

Symptom	Possible cause	Necessary actions
White lines or bands appear in images of all toner colors.	Defective PCDU	Replace the PCDU.
	Defective image transfer belt unit	Replace the image transfer belt unit.
	Defective paper transfer roller	Replace the paper transfer roller.

Missing Parts of Images

Symptom	Possible cause	Necessary actions
Some parts of images are missing.	Defective PCDU	Replace the PCDU.
	Defective image transfer belt unit	Replace the image transfer belt unit.
	Defective paper transfer roller	Replace the paper transfer roller.
	Defective fusing unit	Replace the fusing unit.

Dirty Background

Symptom	Possible cause	Necessary actions
Backgrounds of one CMYK color are too dense.	Defective PCDU	Replace the PCDU.
Backgrounds of more than one CMYK are too dense.color	Defective HVPS	Replace the HVPS.

Partial CMY Color Dots

Symptom	Possible cause	Necessary actions
Unexpected dots of the same color appear at irregular intervals.	Defective PCDU	Replace the PCDU.
	Defective image transfer belt unit	Replace the image transfer belt unit.
	Defective fusing unit	Replace the fusing unit.

Dark Irregular Streaks on Prints

Symptom	Possible cause	Necessary actions
Unexpected streaks appear at irregular intervals.	Defective image transfer belt	Replace the image transfer belt unit.

CMY Color Irregular Streaks

Symptom	Possible cause	Necessary actions
Unexpected streaks of the same color appear at irregular intervals.	Defective PCDU	Replace the PCDU.
	Defective image transfer belt unit	Replace the image transfer belt unit.

Ghosting

Symptom	Possible cause	Necessary actions
The same or similar image appears two or more times. They get weaker and weaker.	Defective PCDU	Replace the PCDU.
	Defective transfer unit	Replace the transfer unit.

Unfused or Partially Fused Prints

Symptom	Possible cause	Necessary actions
Some parts of images are not fused very well.	Non-standard paper in use	Use recommended paper.
	Incorrect media type mode	Select an appropriate media mode.
	Defective fusing unit	Replace the fusing unit.

Image Skew

Symptom	Possible cause	Necessary actions
Images are skewed	Incorrect installation of paper	Install the paper correctly.
	Incorrect paper guide position	Adjust the paper guide correctly. ⬇Note • When adjusting the paper width, use the right side guide only, with the green clip. Do not hold • the left side guide at this time, or skew will occur.
	Defective registration roller	Repair the paper feed unit.
	Incorrect action of paper transfer roller	Check the paper transfer roller.
	Defective BCU	Replace the BCU.
	Incorrect installation of paper tray	Uninstall the paper tray units and re-install them.

Background Stain

Symptom	Possible cause	Necessary actions
The reverse side of the paper is not clean.	Unclean paper transfer roller	Clean the paper transfer roller.
	Unclean paper path	Clean the paper path.
	Unclean registration roller	Clean the registration roller.
	Defective fusing unit	Replace the fusing unit.

No Printing on Paper Edge

Symptom	Possible cause	Necessary actions
Images are not printed in the areas around the paper edges.	Defective PCDU	Replace the PCDU.
	Defective toner cartridge	Replace the toner cartridge.
	Defective image transfer belt unit	Replace the image transfer belt unit.
	Image transfer belt not contacting PCDU	Check the image transfer belt unit.

Image not centered when it should be

Symptom	Possible cause	Necessary actions
Images do not come to the center.	Incorrect installation of paper	Install the paper correctly.
	Incorrect paper guide position	Adjust the paper guide correctly.
	Incorrect margin setting	Adjust the margin setting.
	Defective BCU	Replace the BCU.
	Incorrect installation of paper tray	Uninstall the paper tray units and re-install them.

Jam Detection

Paper Jam Display

SP7-507 shows the paper jam history.

```
CODE :008      SIZE   :85h
TOTAL:00000009
DATE  :Feb 21 04:11:30 2010
```

m065t503

CODE: indicates the jam code.

SIZE: indicates the paper size code.

Total: Indicates the total counter (SP7-502-001).

DATE: indicates the date when the jam occurred.

Jam Codes and Display Codes

SP 7504 shows how many jams occurred at each location.

Jam Code SP	Display	Description	LCD Display
7504 1	At Power On	Paper has already stayed in the paper path at power on.	-
7504 3	Tray 1: ON	Paper is not fed from tray 1.	A
7504 4	Tray 2: ON	Paper is not fed from tray 2.	Y
7504 5	Tray 3: ON	Paper is not fed from tray 3 (LCT).	Y
7504 6	Tray 4: ON	Paper is not fed from tray 4.	Y
7504 8	Bypass: ON	Paper is not fed from the by-pass tray.	A
7504 9	Duplex: ON	Paper is jammed at the duplex unit.	Z
7504 11	V-Transport 1: ON	Vertical transport sensor 1 does not detect paper from tray 1.	A

Jam Code SP	Display	Description	LCD Display
7504 12	V-Transport 2: ON	Vertical transport sensor 2 does not detect paper from tray 2.	Y
7504 13	V-Transport 3: ON	Vertical transport sensor 3 does not detect paper from tray 3.	Y
7504 14	V-Transport 4: ON	Vertical transport sensor 4 does not detect paper from tray 4.	Y
7504 17	Regist Sensor: ON	Registration sensor does not detect paper.	A
7504 18	Fusing Ent: ON	Fusing entrance sensor does not detect paper.	B
7504 19	Fusing Exit: ON	Fusing exit sensor does not detect paper.	C
7504 20	Paper Exit: ON	Paper exit sensor does not detect paper.	C
7504 25	Duplex Exit: ON	Duplex exit sensor does not detect paper.	Z
7504 27	Duplex Ent: ON	Duplex entrance sensor does not detect paper.	Z
7504 28	Inverter Sn: ON	Inverter sensor does not detect paper.	C
7504 47	P-Feed 1: OFF	Paper feed sensor 1 does not turn off.	A
7504 48	P-Feed 2: OFF	Paper feed sensor 2 does not turn off.	Y
7504 49	P-Feed 3: OFF	Paper feed sensor 3 does not turn off.	Y
7504 50	P-Feed 4: OFF	Paper feed sensor 4 does not turn off.	Y
7504 51	V-Transport 1: OFF	Vertical transport sensor 1 does not turn off.	A
7504 52	V-Transport 2: OFF	Vertical transport sensor 2 does not turn off.	Y
7504 53	V-Transport 3: OFF	Vertical transport sensor 3 does not turn off.	Y
7504 54	V-Transport 4: OFF	Vertical transport sensor 4 does not turn off.	Y
7504 57	Regist Sensor: OFF	Registration sensor does not turn off.	B
7504 60	Paper Exit: OFF	Paper exit sensor does not turn off.	C
7504 65	Duplex Exit: OFF	Duplex exit sensor does not turn off.	Z
7504 67	Duplex Ent: OFF	Duplex entrance sensor does not turn off.	Z

Jam Code SP	Display	Description	LCD Display
7504 68	Inverter Sn: OFF	Inverter sensor does not turn off.	C

Paper Size Code

Size Code	Paper Size	Size Code	Paper Size
05 (05H)	A4 LEF	141	B4 SEF (8DH)
06 (06H)	A5 LEF	142	B5 SEF (8EH)
14 (0EH)	B5 LEF	160	DLT SEF (A0H)
38 (26H)	LT LEF	164	LG SEF (A4H)
44 (2CH)	HLT LEF	166	LT SEF (A6H)
133 (85H)	A4 SEF	172	HLT SEF (ACH)
134 (86H)	A5 SEF	255	Others (FFH)

6

Electrical Component Defects

Sensors

No.	Sensor Name/ Sensor Board Name	Active	CN No./ Pin No.	Condition	Symptom
1	Drum Phase Sensor (CMY)	H	CN108/2	Open	SC381
				Shorted	
2	Drum Phase Sensor (K)	H	CN107/2	Open	SC380
				Shorted	
3	Toner End Sensor (K) Toner End Sensor (M) Toner End Sensor (C) Toner End Sensor (Y)	L	CN115/18 CN115/21 CN115/24 CN115/27	Open	Toner end cannot be detected.
				Shorted	Toner end is detected.
4	Transfer Belt Contact Sensor	L	CN128/21	Open	SC442
				Shorted	
5	Paper Transfer Roller Contact Sensor	L	CN128/8	Open	SC452
				Shorted	
6	TD Sensor (K) TD Sensor (M) TD Sensor (C) TD Sensor (Y)	A	CN108/19 CN109/17 CN108/8 CN109/25	Open	SC372 (K) SC373 (M) SC374 (C) SC375 (Y)
				Shorted	
7	ITB Rotation Sensor	A	CN128/18	Open	• Automatic line position adjustment error: Transfer belt unit speed cannot be detected, causing image skew. • SC285
				Shorted	

No.	Sensor Name/ Sensor Board Name	Active	CN No./ Pin No.	Condition	Symptom
8	Front Door Sensor	L	CN104/1	Open	"Cover Open" is displayed.
				Shorted	Front cover open cannot be detected.
9	Waste Toner Bottle Full Sensor	H	CN118/19	Open	Waste Toner near full is indicated.
				Shorted	Waste toner full cannot be detected.
10	Waste Toner Bottle Set Sensor	L	CN118/16	Open	"Check the Left Cover is closed and the Waste Toner Bottle is set correctly" is displayed.
				Shorted	• Left cover open cannot be detected. • Waste toner bottle set cannot be detected.
11	Temperature/ Humidity Sensor	A	CN127/1, 3	Open	• Printed image is wrong, such as rough image, dirty background or weak image. • SC498
				Shorted	
12	Paper Size Sensor	A	CN116/ A11, A12, A13	Open	Paper size error
				Shorted	
13	Tray1 Set Sensor	L	CN116/A15	Open	Tray 1 is not detected.
				Shorted	Tray 1 is detected.

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No.	Sensor Name/ Sensor Board Name	Active	CN No./ Pin No.	Condition	Symptom
14	Paper Overflow Sensor	H	CN104/9	Open	Paper overflow is detected.
				Shorted	Paper overflow is not detected.
15	Paper Exit Sensor	L	CN104/6	Open	• Paper is not detected. • Jam C
				Shorted	• Paper is detected. • Jam C
16	ID Sensor	A	CN110/2, 5, 8, 11	Open	SC400
				Shorted	
17	Thermistor	A	CN125/5, 7	Open	SC554, SC544
				Shorted	
18	Pressure Roller Thermistor	A	CN125/9	Open	SC564
				Shorted	
19	Upper Cover Sensor	L	CN104/3	Open	"Cover Open" is displayed.
				Shorted	Top cover open cannot be detected.
20	LSU Shutter Sensor	L	CN128/11	Open	SC290, SC291, SC292, SC293
				Shorted	
21	Registration Sensor	L	CN129/16	Open	• Paper is not detected. • Jam A
				Shorted	• Paper is detected. • Jam B

No.	Sensor Name/ Sensor Board Name	Active	CN No./ Pin No.	Condition	Symptom
22	Paper Height Sensor 1/2	A	CN116/A6, A9	Open	Remaining paper volume is wrong.
				Shorted	
23	Paper Feed Sensor	L	CN129/4	Open	Paper is not detected.
				Shorted	• Paper is detected. • Jam A
24	Vertical Transport Sensor	L	CN129/7	Open	• Paper is not detected. • Jam A
				Shorted	• Paper is detected. • Jam A
25	Paper Lift Sensor	H	CN129/13	Open	SC501
				Shorted	SC501
26	Paper End Sensor	L	CN129/10	Open	• Paper end is not detected. • Jam A
				Shorted	• Paper end is detected.
27	Fusing Entrance Sensor	L	CN126/A14	Open	Paper jam is not detected.
				Shorted	• Paper jam is detected. • Jam B
28	Duplex Entrance Sensor	L	CN126/A8	Open	• Paper is not detected. • Jam Z
				Shorted	• Paper is detected. • Jam Z

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No.	Sensor Name/ Sensor Board Name	Active	CN No./ Pin No.	Condition	Symptom
29	Duplex Exit Sensor	L	CN126/A11	Open	• Paper is not detected. • Jam Z
				Short	• Paper is detected. • Jam Z
30	By-pass Paper End Sensor	L	CN126/B8	Open	• Paper end is not detected. • Jam A
				Shorted	• Paper end is detected.
31	Inverter Sensor	L	CN126/A2	Open	• Paper is not detected. • Jam Z
				Shorted	• Paper is detected. • Jam Z
32	Fusing Exit Sensor	H	CN104/12	Open	Jam C
				Shorted	

Optional Paper Feed Unit

No.	Sensor Name/ Sensor Board Name	Active	CN No./ Pin No.	Condition	Symptom
1	Paper Size Sensor	A	CN103/1, 2, 3	Open	Paper size error
				Shorted	
2	Tray Set Sensor	L	CN103/7	Open	Tray is not detected.
				Shorted	Tray is detected.
3	Paper Height Sensor 1/2	A	CN101/10, 13	Open	Remaining paper volume is wrong.
				Shorted	

No.	Sensor Name/ Sensor Board Name	Active	CN No./ Pin No.	Condition	Symptom
4	Paper Feed Sensor	L	CN101/16	Open	Paper is not detected.
				Shorted	• Paper is detected. • Jam Y1, Y2, Y3
5	Vertical Transport Sensor	L	CN101/19	Open	Paper is not detected.
				Shorted	• Paper is detected. • Jam Y1, Y2, Y3
6	Paper Lift Sensor	H	CN101/7	Open	Paper is not detected.
				Shorted	• Paper is detected. • Jam Y1, Y2, Y3
7	Paper End Sensor	H	CN101/4	Open	Paper end is detected.
				Shorted	• Paper end is not detected. • Jam Y1, Y2, Y3

Blown Fuse Conditions

Power Supply Unit

Fuse	Rating		Symptom when turning on the main switch
	120V-127V	220V-240V	
FU1	8A/125V	8A/125V	• 24V power to the BCU and bridge board not supplied. • 24VS2 power to the BCU not supplied.
FU2	8A/125V	8A/125V	• 24VS1 power to the BCU not supplied. • 5VS power to the bridge board not supplied.

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Fuse	Rating		Symptom when turning on the main switch
	120V-127V	220V-240V	
FU3	5A/250V	5A/250V	• 5V power to the BCU and bridge board not supplied. • 5VS power to the bridge board not supplied.
FU101	15A/250V	8A/250V	Fusing SC occurs.
FU102	10A/250V	6.3A/250V	No response
FU103	2A/250V	2A/250V	Power to all the anti-condensation heaters not supplied.

LEDs

No LEDs are used for this model (except for the Network Interface).

Model Z-P2
Machine Codes: M257

Appendices

February, 2015

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1. Appendix: Specifications

Specifications

General Specifications

Configuration:	Desktop
Print Process:	Laser beam scanning and electro-photographic printing 4 drums tandem method
Printer Languages:	Standard: PCL5c, PCL6, PostScript 3, PDF Option: IPDS, XPS, PictBridge
Resolution:	PCL5c: 600 x 600 dpi (1 bit), 600 x 600 dpi (2 bit) PCL6: 1200 x 1200 dpi, 600 x 600 dpi (1 bit), 600 x 600 dpi (2 bit) Adobe PS 3/ PDF: 1200 x 1200 dpi, 600 x 600 dpi (1 bit), 600 x 600 dpi (2 bit) IPDS: 600 x 600dpi (1bit) XPS: 600 x 600 dpi (1 bit), 600 x 600 dpi (2 bit) PictBridge: 600 x 600 dpi (2bit), 1200 x 1200 dpi
Gradation:	256 gradations
Printing Speed	42 ppm LT, 40 ppm A4

Resident Fonts:	PCL5c/ 6:		
	45 fonts		
	13 International fonts		
	PS3/PDF:		
	136 fonts		
	IPDS (Option):		
	108 fonts		
Host Interfaces:	Gigabit Ethernet (10BASE-T/100BASE-Tx/1000BASE-T): Standard		
	USB2.0 (Type A/ B): Standard		
	IEEE802.11a/b/g/n (Wireless LAN): Optional		
	Parallel (IEEE1284): Optional		
	NIC2 Port: Optional		
Network Protocols:	TCP/IP (IPv4, IPv6), IPX/SPX, AppleTalk		
First Print Speed:	Color:		
	15 seconds or less (A4/ LT SEF)		
	Black and White:		
	10 seconds or less (A4/ LT SEF)		
Warm-up Time	50 seconds or less		
Print Paper Capacity: (80 g/m^2, 20lb)	Standard tray: 550 sheets		
	By-pass tray: 100 sheets		
	Optional paper feed tray: 550 sheets		
Print Paper Size:	Refer to page 6 "Supported Paper Sizes".		
	-	Minimum	Maximum
	Standard Tray	98 x 148 mm (3.9" x 5.9")	216 x 355.6 mm (8.5" x 14.0")
	By-pass	70 x 127 mm (2.8" x 5.0")	216 x 1260 mm (8.5" x 49.6 ")
	Optional Tray	98 x 148 mm (3.9" x 5.9")	216 x 355.6 mm (8.5" x 14.0")

Printing Paper Weight:	Standard tray: 52-220 g/m^2 (14-59 lb)
	By-pass tray: 52-256 g/m^2 (14-69 lb)
	Optional paper feed tray: 52-220 g/m^2 (14-59 lb)
	Duplex: 60-163 g/m^2 (16-44 lb)
Output Paper Capacity:	Up to 500 sheets (A4/ LT/ 80 g/m^2 / 20 lb)
	Up to 250 sheets (LG)
Memory:	Standard: 1 GB
Power Source:	120V -127 V, 60 Hz: More than 12 A (for North America)
	220 V - 240 V, 50/60 Hz: More than 8 A (for Europe/Asia)
Power Consumption:	120 V: 1,552 W or less
	220-240 V: 1,565 W or less
	Energy Saver: 1 W or less
Noise Emission: (Sound Power Level)	Color: 70.0 dB (A)
	Black and White: 70.0 dB (A)
Dimensions (W x D x H):	444 x 658 x 490 mm (17.48" x 25.91" x 19.29")
Weight:	57 kg (126 lb)
	Includes standard paper tray and PCDU.

Supported Paper Sizes

Paper	Size (W x L)	Main Tray		PFU		By-pass Tray		Duplex
		NA	E/A	NA	E/A	NA	E/A	
A4 SEF	210 x 297 mm	Y	Y	Y	Y	Y#	Y#	Y
A5 SEF	148 x 210 mm	Y#	Y	Y#	Y	Y#	Y#	Y
A6 SEF	105 x 148 mm	Y#	Y	Y#	Y	Y#	Y#	Y
B5 SEF	182 x 257 mm	Y#	Y#	Y#	Y#	Y#	Y#	Y
B6 SEF	128 x 182 mm	Y#	Y#	Y#	Y#	Y#	Y#	Y
Letter SEF	8.5" x 11"	Y	Y	Y	Y	Y#	Y#	Y
Legal SEF	8.5" x 14"	Y	Y	Y	Y	Y#	Y#	Y
Half Letter SEF	5.5" x 8.5"	Y	Y#	Y	Y#	Y#	Y#	Y
Executive SEF	7.25" x 10.5"	Y	Y	Y	Y	Y#	Y#	Y
F/GL SEF	8" x 13"	Y#	Y#	Y#	Y#	Y#	Y#	Y
Foolscap SEF	8.5" x 13"	Y#	Y#	Y#	Y#	Y#	Y#	Y
Folio SEF	8.25" x 13"	Y#	Y#	Y#	Y#	Y#	Y#	Y
16K SEF	7.25" x 10.5"	Y#	Y#	Y#	Y#	Y#	Y#	Y
Custom (Width)	mm	98 x 216				70 x 216		102 x 216
	inch	3.94" x 8.5"				2.76" x 8.5"		4.02" x 8.5"
Custom (Length)	mm	148 x 355.6				127 x 1260		148 x 355.6
	inch	5.83" x 14"				5.00" x 49.61"		5.83" x 14"
Com10 Env.	4.13" x 9.5"	Y#	Y#	Y#	Y#	Y#	Y#	N
Monarch Env.	3.88" x 7.5"	Y#	Y#	Y#	Y#	Y#	Y#	N
C6 Env.	114 x 162 mm	Y#	Y#	Y#	Y#	Y#	Y#	N

Paper	Size (W x L)	Main Tray		PFU		By-pass Tray		Duplex
		NA	E/A	NA	E/A	NA	E/A	
C5 Env.	162 x 229 mm	Y#	Y#	Y#	Y#	Y#	Y#	N
DL Env.	110 x 220 mm	Y#	Y#	Y#	Y#	Y#	Y#	N
Oficio SEF	8.5" x 13.4"	Y#	Y#	Y#	Y#	Y#	Y#	Y#

Y: Supported: the sensor detects the paper size.

Y#: Supported: the user specifies the paper size.

N: Not supported

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Software Accessories

The printer drivers and utility software are provided on one CD-ROM. An auto-run installer allows you to select which components to install.

Printer Drivers

Printer Language	Windows Vista	Windows 7/ 8/ 8.1	Windows Server 2003/ 2003R2	Windows server 2008/ 2008 R2	Windows server 2012/ 2012 R2	Mac OS X: v. 10.7 - 10.10
PCL 5c/6	Yes	Yes	Yes	Yes	Yes	No
PS3	Yes	Yes	Yes	Yes	Yes	Yes
XPS	Yes	Yes	No	Yes	Yes	No

⬇ Note

- The PS3 drivers are all genuine AdobePS drivers, which uses Microsoft PS. A PPD file for each operating system is provided with the driver.

- The PS3 driver for Macintosh supports Mac OS X: v.10.7 to 10.10.

Utility Software

Software	Description
Smart Device Monitor for Admin	A printer management utility for administrator.
Remote Communication Gate S Pro	Used to control devices connected to the same network.

Optional Equipment

Paper Feed Unit (M384)

Paper Feed System:	FRR
Paper Height Detection:	5 steps (100%, 70%, 30%, 10% (Near end), and Empty)
Capacity:	550 sheets (3 units installable)
Paper Weight:	52 to 220 g/m^2 (14 to 59 lb.)
Paper Size:	A4, A5, A6, B5, B6, Legal, Foolscap, Letter, Folio, F/GL, Executive, Half Letter, Com10, Monarch, C5, C6, DL Env, 16K, Custom
Power Source:	DC 24V, 5V (from the main frame)
Power Consumption:	Less than 52 W (Printing)
Dimensions (W x D x H):	444 mm x 590 mm x 140 mm (17.5" x 23.2" x 5.6")
Weight:	12 kg (26.5 lb.)

2. Appendix: Preventive Maintenance Tables

Maintenance Tables

Preventive Maintenance Items

User Maintenance

Symbol keys: C: Clean, R: Replace, L: Lubricant, I: Inspect

Item	50K	100K	120K	-	EM	Remarks
PCDU						
PCDU – KCMY	R					
ITB and PTR unit						
Image Transfer Belt Unit			R			
Paper Transfer Roller Unit			R			
Fusing						
Fusing Unit		R				
Miscellaneous						
Waste Toner Bottle	R					
Dust Filter		R				

Chart: A4 (LT) / 5%

Mode: 2 prints / job

Color Ratio 50%

Environment: Normal temperature and humidity

Yield may change depending on circumstances and print conditions.

Service Maintenance

Symbol keys: C: Clean, R: Replace, L: Lubricant, I: Inspect

Item	50K	60K	120K	180K	EM	Remarks
PCDU						
PCDU – KCMY		R				
ITB and PTR unit						
Image Transfer Belt Unit				R		
Paper Transfer Roller Unit				R		
Fusing						
Fusing Unit			R			
Paper Path						
Sensors (except ID sensors)					C	Dry cloth
ID Sensors					C	Damp cloth
Rollers					C	Damp cloth
Paper Dust Container					C	Clean with vacuum cleaner
Miscellaneous						
Waste Toner Bottle	R					
Dust Filter			R			

Chart: A4 (LT)/5%

Mode: 2 copies / original (prints/job)

Ratio 25%

Environment: Normal temperature and humidity

Yield may change depending on circumstances and print conditions.

Optional Units

C: Clean

Paper Feed Unit

This table shows the service maintenance items for the following options.

- Paper Feed Unit PB1020 (M384)

Item	EM	Remarks
Feed Roller	C	Dry cloth
Separation Roller	C	Dry cloth
Pick-up Roller	C	Dry cloth
Paper Feed Sensor	C	Dry cloth
Vertical Transport Sensor	C	Dry cloth
Relay Roller	C	Damp cloth
Bottom Plate Pad	C	Damp cloth

MEMO

MEMO

MEMO