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M065/M066
SERVICE MANUAL

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Ricoh Americas Corporation

LEGEND

PRODUCT CODE	COMPANY			
	GESTETNER	**LANIER**	**RICOH**	**SAVIN**
M065	SP C430DN	LP137CN	Aficio SP C430DN	CLP37DN
M066	SP C431DN	LP142CN LP142CNHW* LP142CNHT*	Aficio SP C431DN Aficio SP C431DNHW* Aficio SP C431DNHT*	CLP42DN CLP42DNHW* CLP42DNHT*

*HC (Healthcare models)

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M065/M066

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PAPER FEED UNIT PB 1020 (M384)

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Read This First

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

- 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

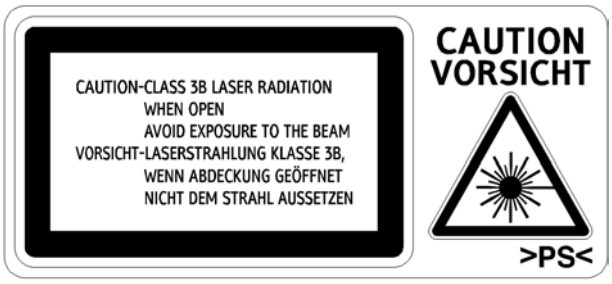
The Center for Devices and Radiological Health (CDRH) prohibits the repair of laser-based optical units in the field. The optical housing unit can only be repaired in a factory or at a location with the requisite equipment. The laser subsystem is replaceable in the field by a qualified Customer Engineer. 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:**

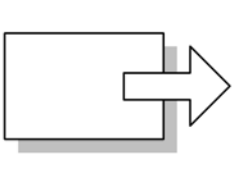


m065i500

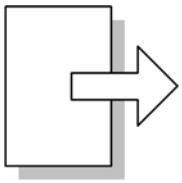
Symbols, Abbreviations and Trademarks

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
	E-ring
SEF	Short Edge Feed
LEF	Long Edge Feed



Short Edge Feed (SEF)



Long Edge Feed (LEF)

m065v701

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PRODUCT INFORMATION

REVISION HISTORY		
Page	**Date**	**Added/Updated/New**
		None

1. PRODUCT INFORMATION

1.1 SPECIFICATIONS

See "Appendices" for the following information:

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

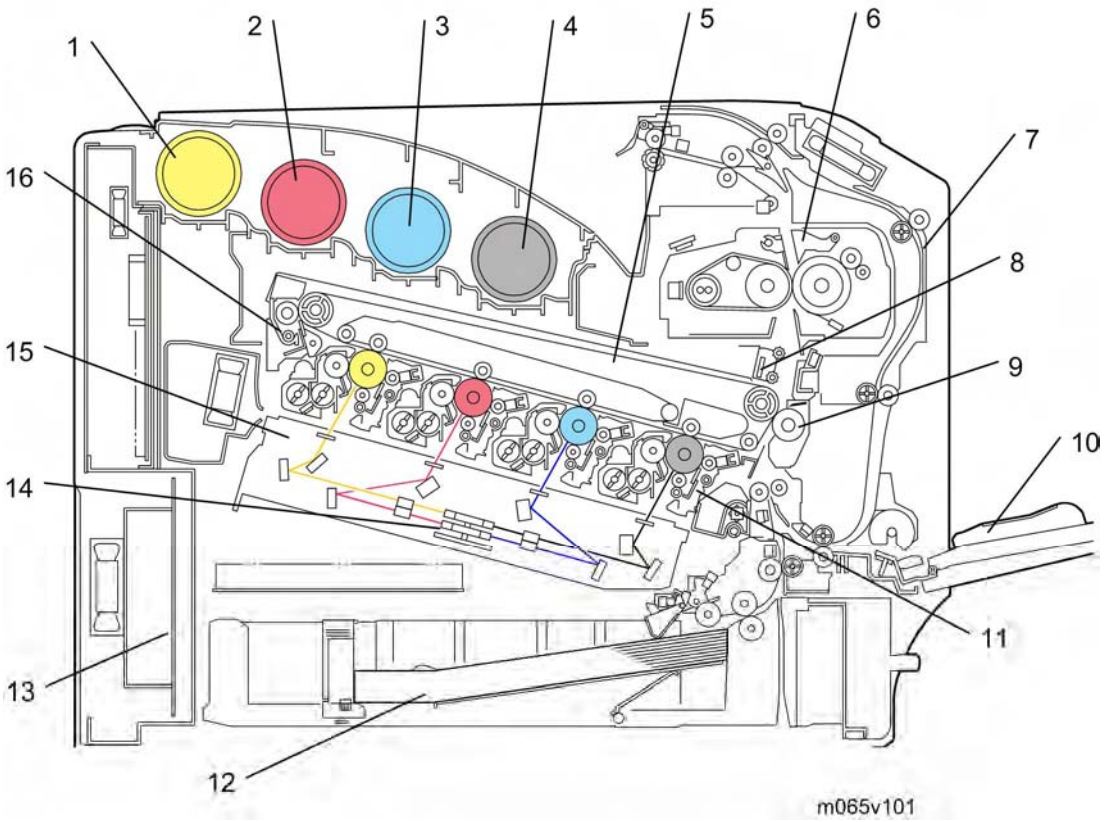
1.2 MACHINE CONFIGURATION

1.2.1 MACHINE CONFIGURATION

Item	Machine Code	Remarks
Main Unit	M065/ M066	M065 & M066
Paper Feed Unit	M384	Up to three tray units can be installed.
Caster Table	M393	
256 MB DIMM Memory	D362-21	
512 MB DIMM Memory	D435-01	
IEEE1284 I/F Board	B679-17	
IEEE802.11a/g Board	NA: M344-01 EU/ASIA: M344-02	
HDD Encryption Unit	M354-17	
VM Card	NA: M385-03 EU: M385-04 ASIA: M385-05	
Gigabit Ethernet	G874-01	
HDD	D362-01	
Data Overwrite Security Unit	M344-06	
PictBridge	M385-01	
NetWare	M385-06	

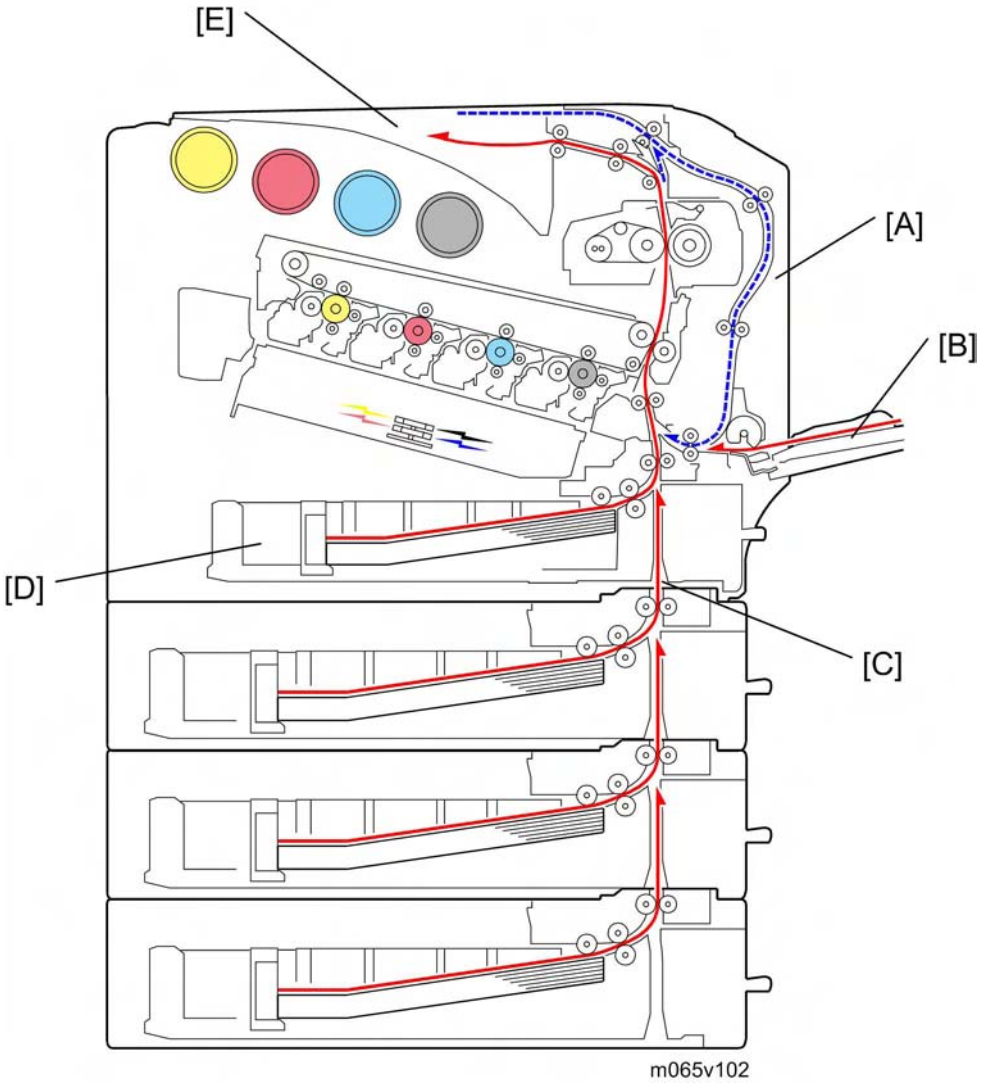
1.3 OVERVIEW

1.3.1 MECHANICAL COMPONENT LAYOUT



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)	

1.3.2 PAPER PATH



[A]: Duplex Unit

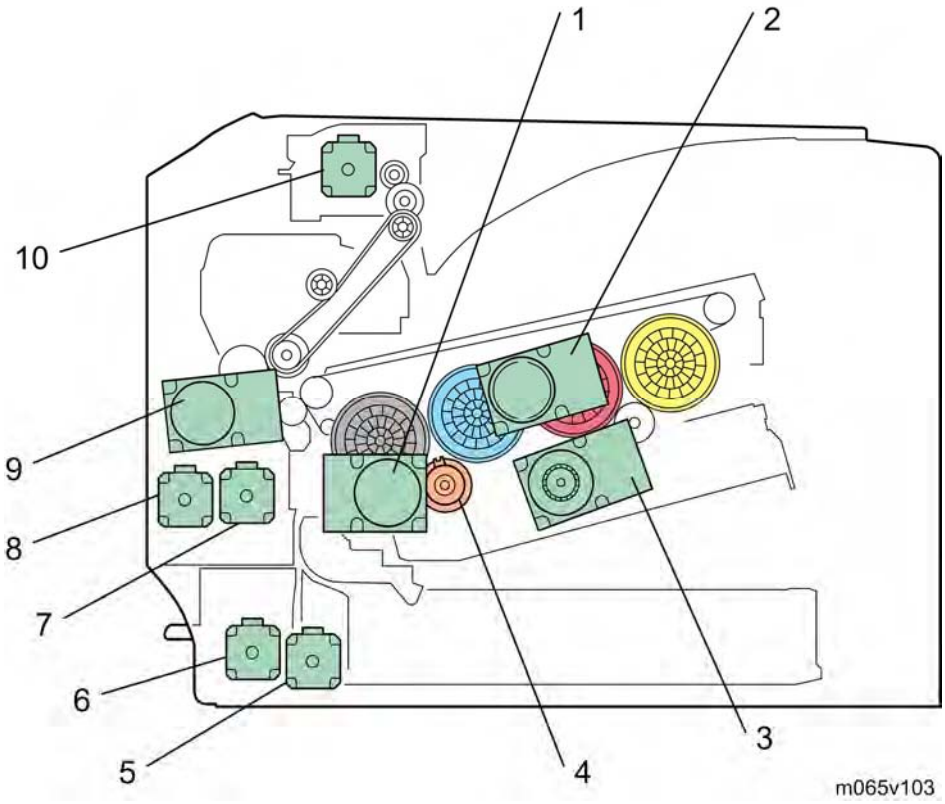
[B]: By-pass Tray

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

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

[E]: Standard Paper Exit Tray

1.3.3 DRIVE LAYOUT



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.

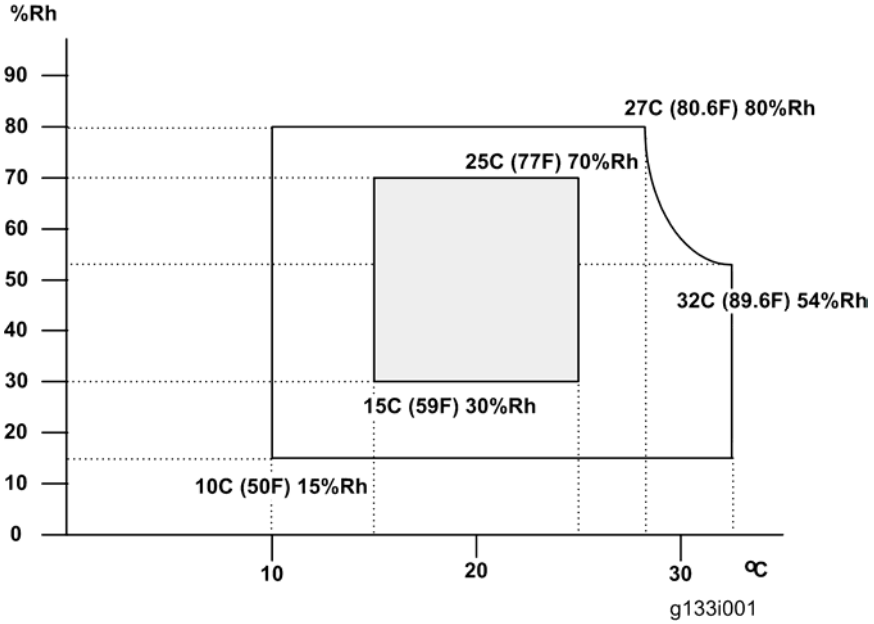
INSTALLATION

REVISION HISTORY		
Page	**Date**	**Added/Updated/New**
31	05/17/2011	Removed NOTE; for setting heater.
41	07/12/2011	Added "***Operating Instructions***" to manual references.

2. INSTALLATION

2.1 INSTALLATION REQUIREMENTS

2.1.1 ENVIRONMENT



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.

2.1.2 MACHINE LEVEL

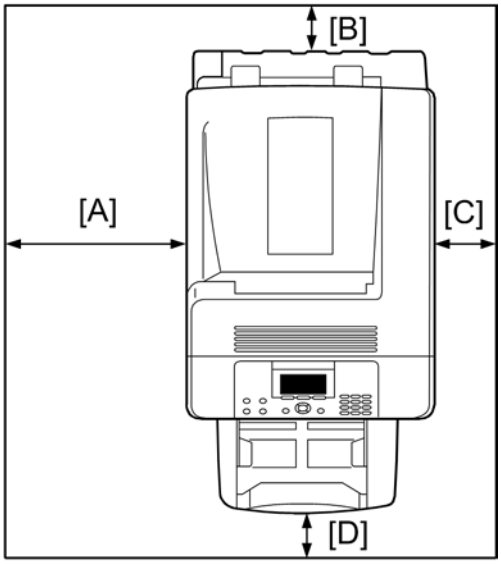
Front to back: Within 5 mm (0.2")

Right to left: Within 5 mm (0.2")

2.1.3 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.



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.

2.1.4 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.

2.2 OPTIONAL UNIT COMBINATIONS

2.2.1 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.

2.2.2 CONTROLLER OPTIONS

U: User installation, C: CE installation

No.	Options	Remarks	
1	Hard Disk Drive Option Type 5000 (D362-01)	U	M065: Optional M066: Standard
2	Memory Unit Type G (D362-21)	U	
3	Memory Unit Type I (D435-01)	U	
4	IEEE1284 Interface Board Type A (B679-17)	U	I/F slot
5	IEEE802.11a/g Interface Unit Type L (M344-01) -or- IEEE802.11a/g Interface Unit Type M (M344-02)	U	
6	Gigabit Ethernet Board Type A (M874-01)	U	
7	Camera Direct Print Card Type H (M385-01)	U	SD slot 1
8	Data Overwrite Security Unit Type K (M344-06)	U	
9	SD Card for NetWare Printing Type D (M385-06)	U	
10	HDD Encryption Unit Type D (M354-17)	U	SD slot 2
11	VM Card Type O (M385-03, -04, -05)	U	SD slot 2 M065: Optional M066: Standard

2.3 PRINTER INSTALLATION

2.3.1 INSTALLATION PROCEDURE

Note

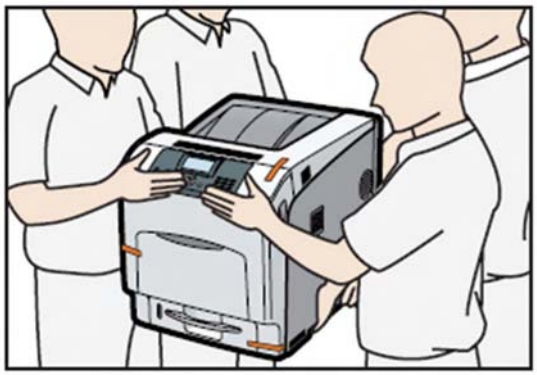
- Keep the shipping retainers after you install the machine. You may need them in the future if you transport the machine to another location.

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.



m065i501

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

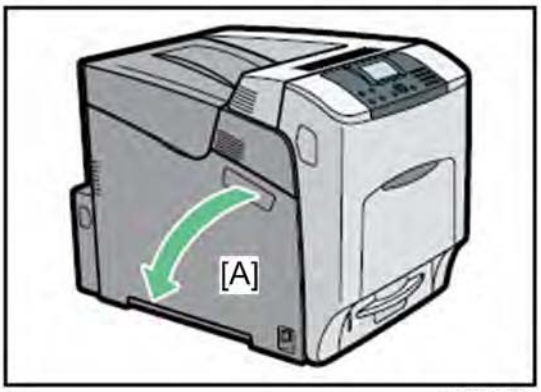
CAUTION

- 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.

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.



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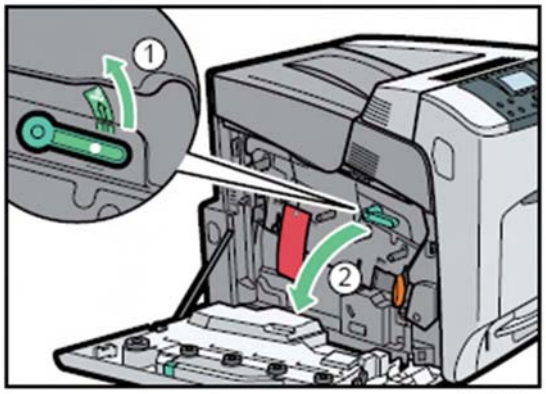
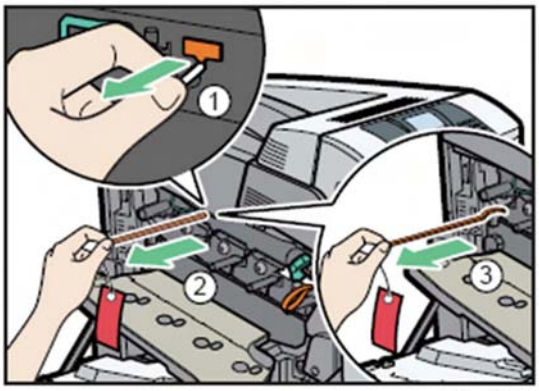
4. Open the left cover [A].



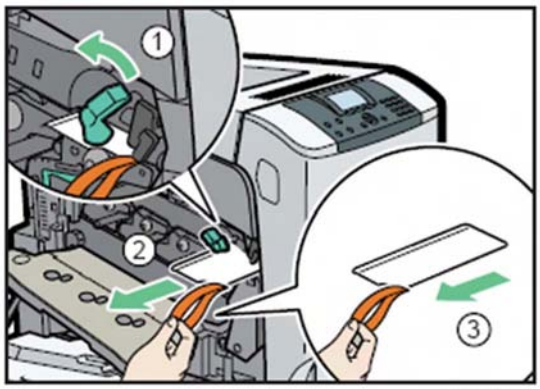
m065i503

5. Turn the green lever counterclockwise (①), and then slowly open the inner cover (②).



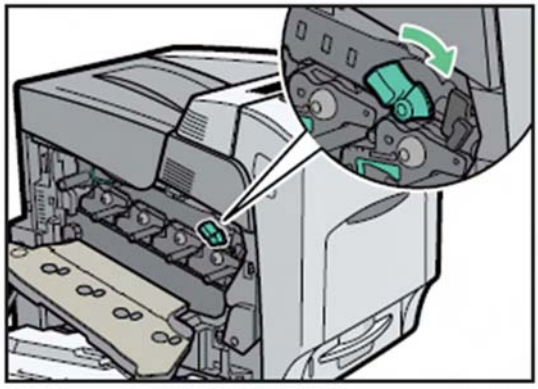
m065i504

6. Remove the securing pin, as shown, from the transfer unit. Pinch it (①), and then pull it out (②-③).



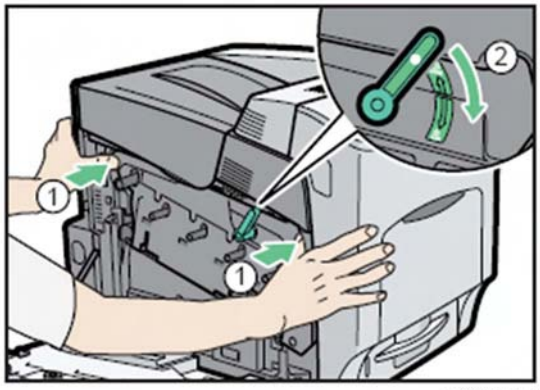
m065i505

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).



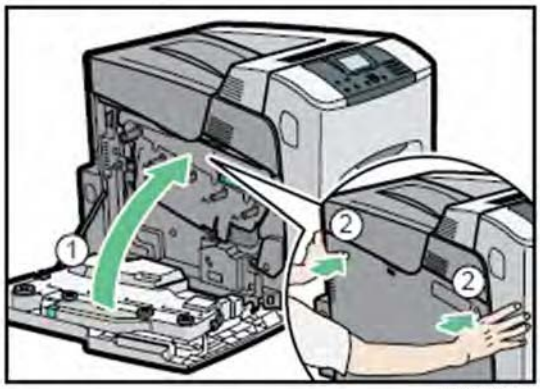
m065i506

8. Turn the green lever clockwise to lock the unit.



m065i507

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

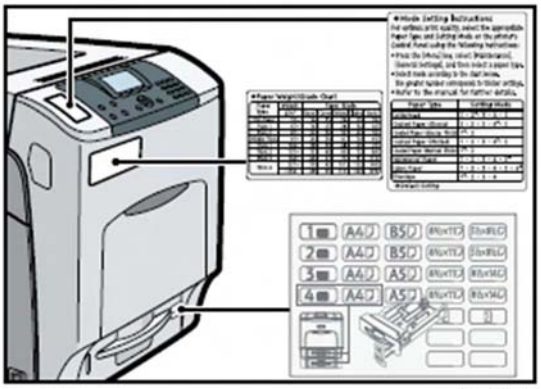


m065i508

11. Close the left cover.

Note

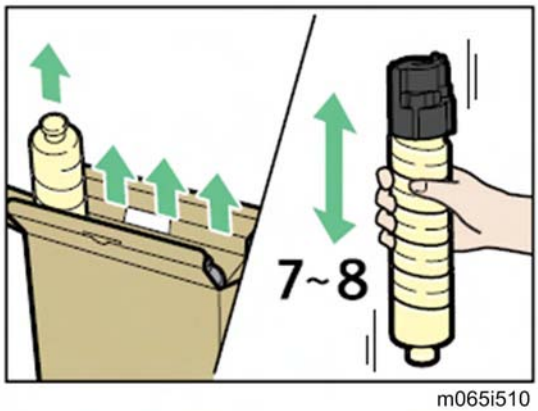
- Using both hands, push the left cover firmly, until it clicks into place.


m065i509

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

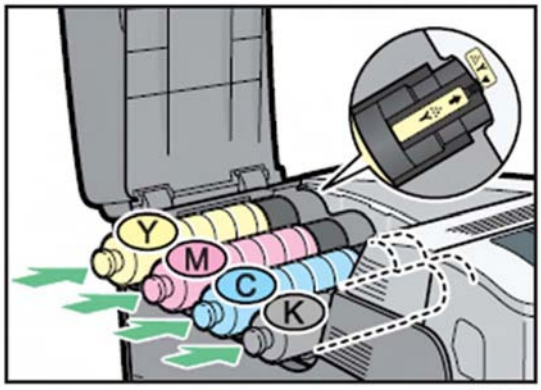
Installing the toner

1. Open the upper cover.



m065i510

2. Shake the toner bottles up and down seven or eight times.



m065i511

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.

m065i512

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.

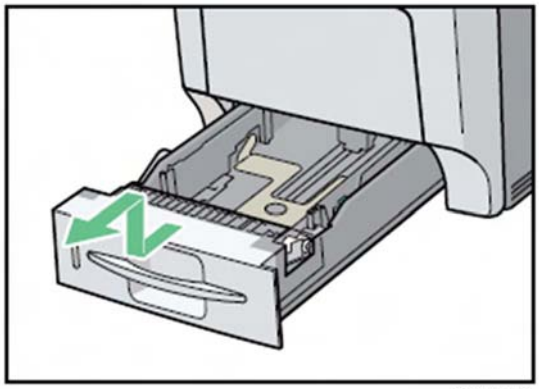
4. Push in the toner bottle until you hear a clicking sound.

Note

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

5. Close the upper cover.

Loading Paper



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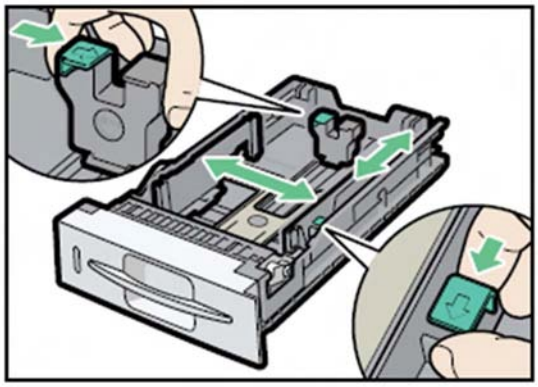
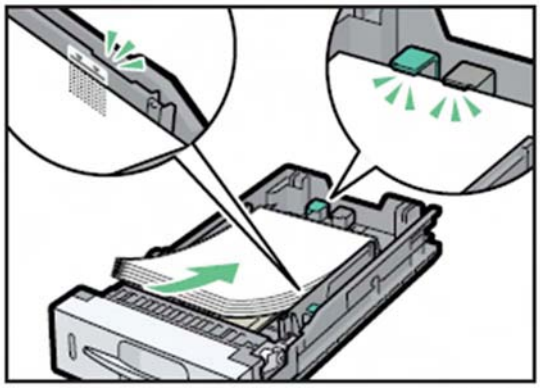
1. Pull out the paper tray until it stops.
2. Lift it slightly, and then pull it out.



m065i514

3. Pinch the green clips on the side guide and the end guide, and then adjust the guides to the paper size being loaded.



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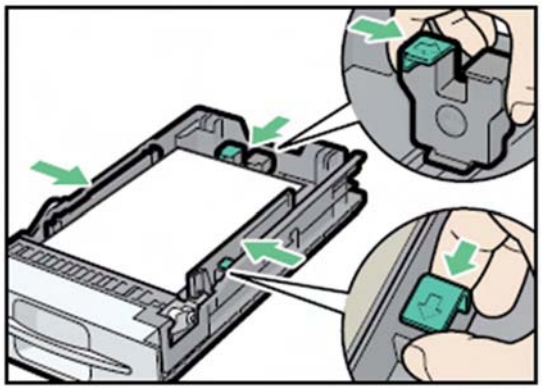
4. Load the new paper stack print side up, making sure the paper is flush against the paper guides.

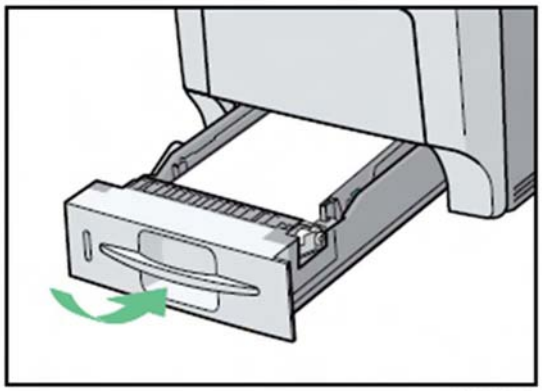


m065i516

5. Adjust the paper guides to close any gaps.

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.



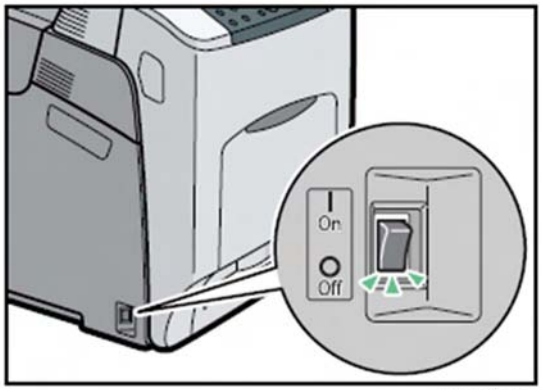
m065i517

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.

Turning Power On

CAUTION

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



m065i518

1. Make sure that the power switch is set to "Off".
2. Plug in the machine.
3. Turn on the power switch.

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.

2.3.2 METER CLICK CHARGE

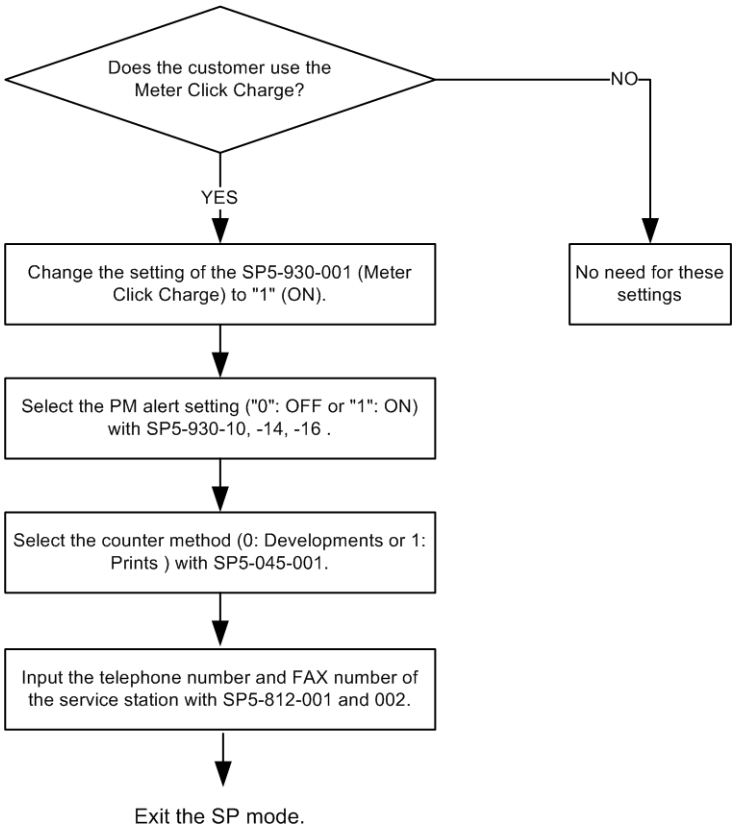
Basically, there are two ways to set up this function.

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 (☛ 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

Item	SP No.	Function	Default
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
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.	-

2.3.3 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.

2.3.4 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

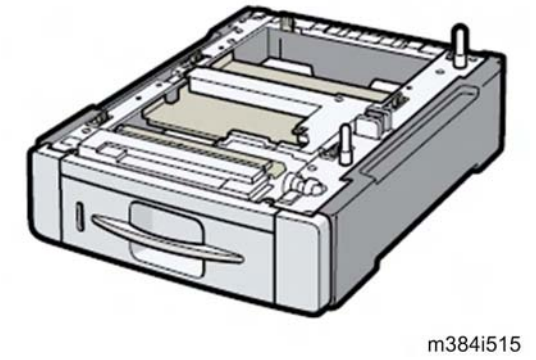
- After you move the machine, make sure you do the "Auto Color Registration" as follows. This optimizes color registration.
- 1) Do the "Forced Line Position Adj. Mode c" (SP2-111-3).
- 2) Then do the "Forced Line Position Adj. Mode a" (SP2-111-1).
- To check if SP 2-111-1 was successful, watch the screen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

2.4 PAPER FEED UNIT (M384)

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

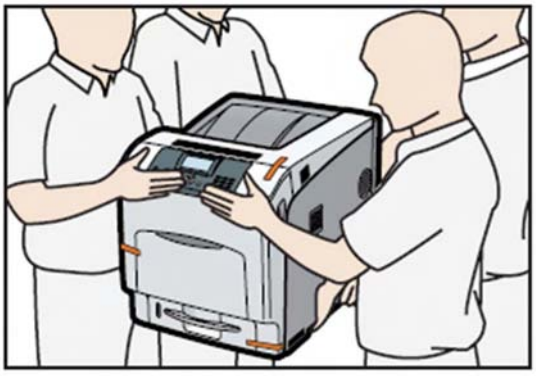
Note

- Install the caster table and securing bracket if the machine is installed on the floor (p.2-19 "Caster Table (M393)").



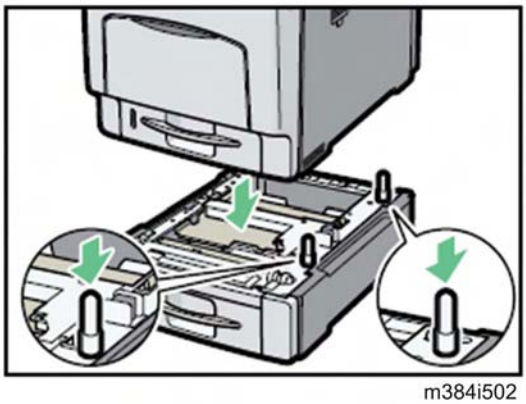
m384i515

1. Remove the tape from the paper feed unit.



m065i501

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



m384i502

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

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.

2.5 CASTER TABLE (M393)

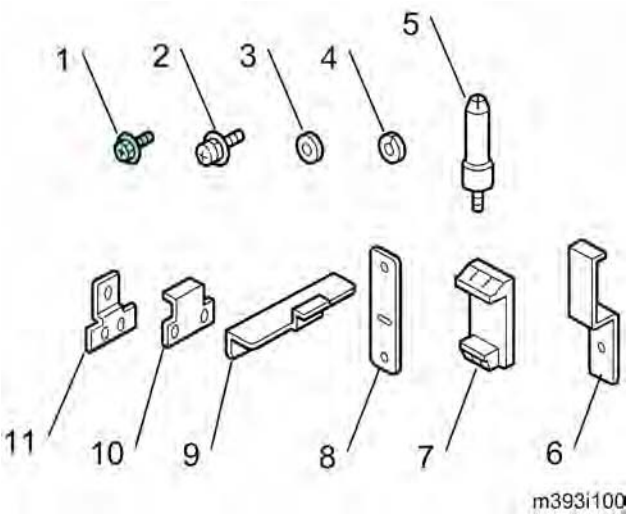
2.5.1 ACCESSORY CHECK

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.



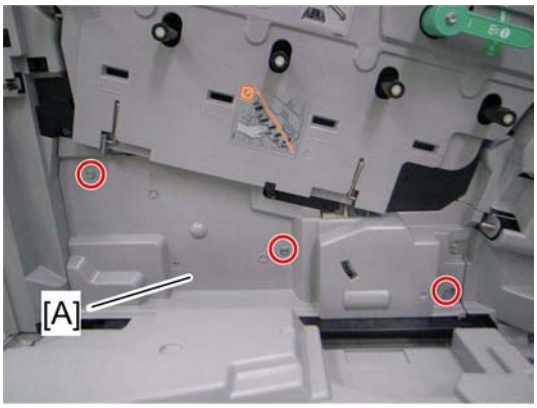
2.5.2 INSTALLATION PROCEDURE

⚠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.

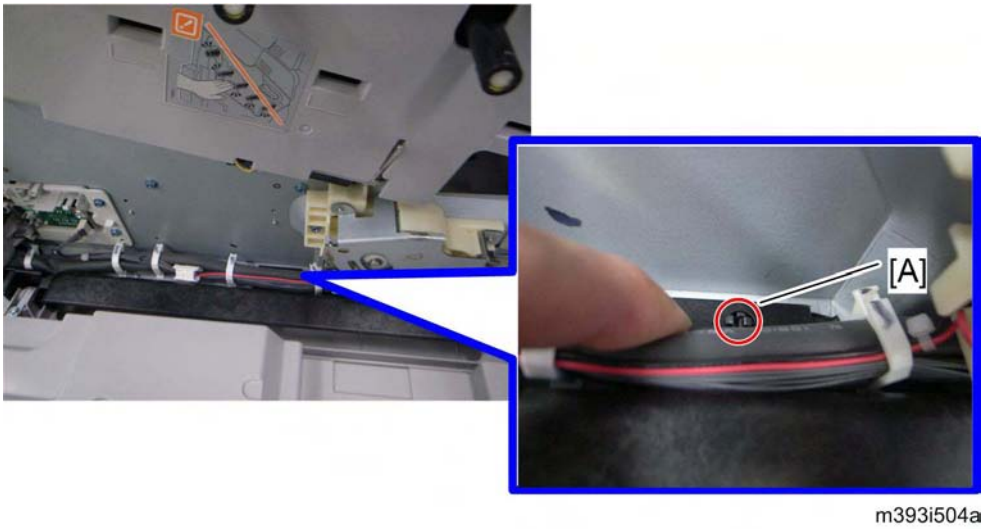
For Installing the Caster Table (M393) Only

1. Open the left cover.



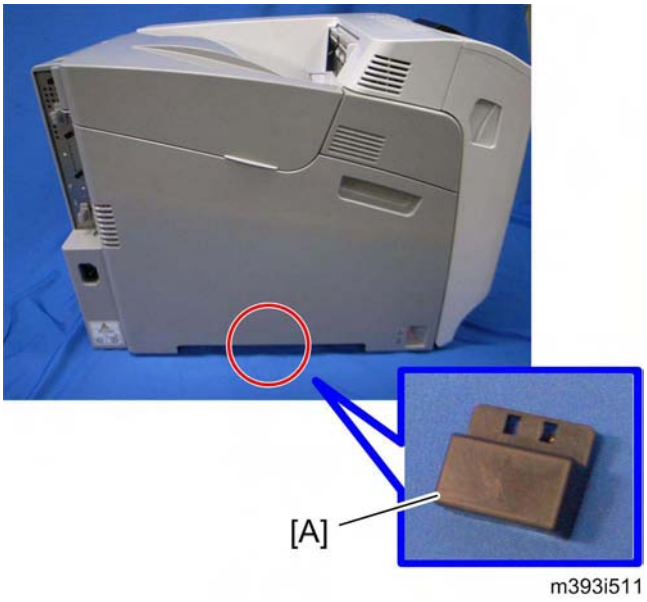
m065r724

2. Inner left lower cover (x 3)



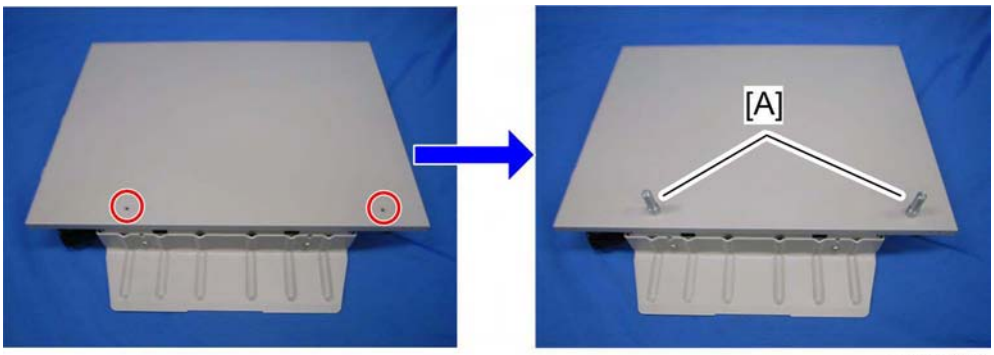
m393i504a

3. Push the holder [A] down.



m393i511

4. Remove the holder [A].
5. Reinstall the inner left lower cover (x 3).
6. Close the left cover.



m393i501

7. Install the two pins [A] in the screw holes.
8. Lift the machine and install it on the caster table.

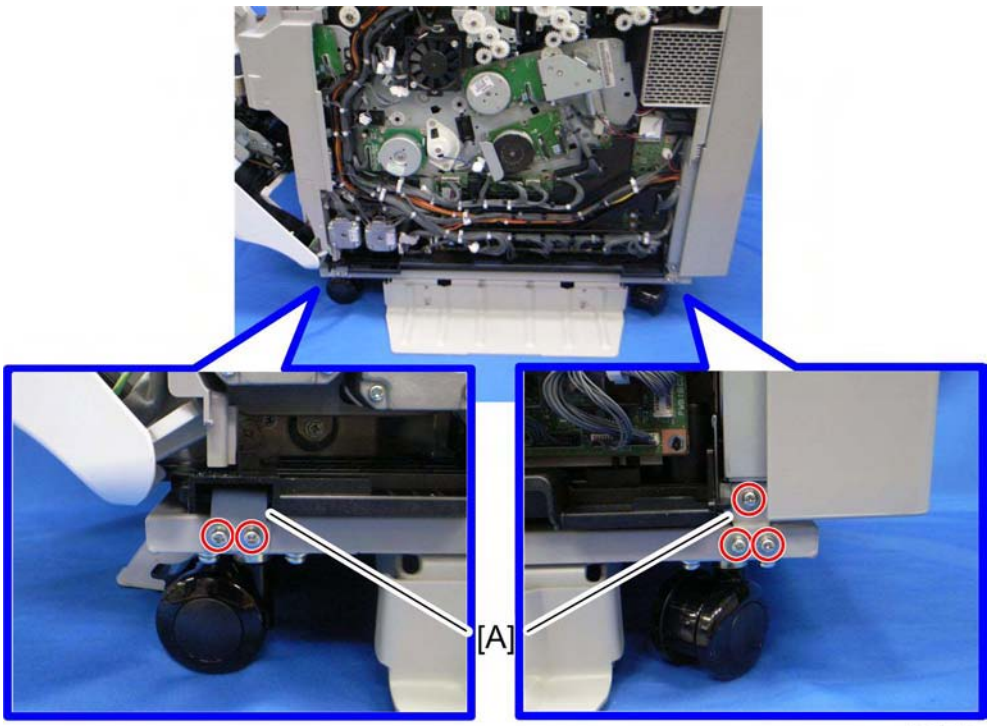
Note

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

9. Open the duplex unit.

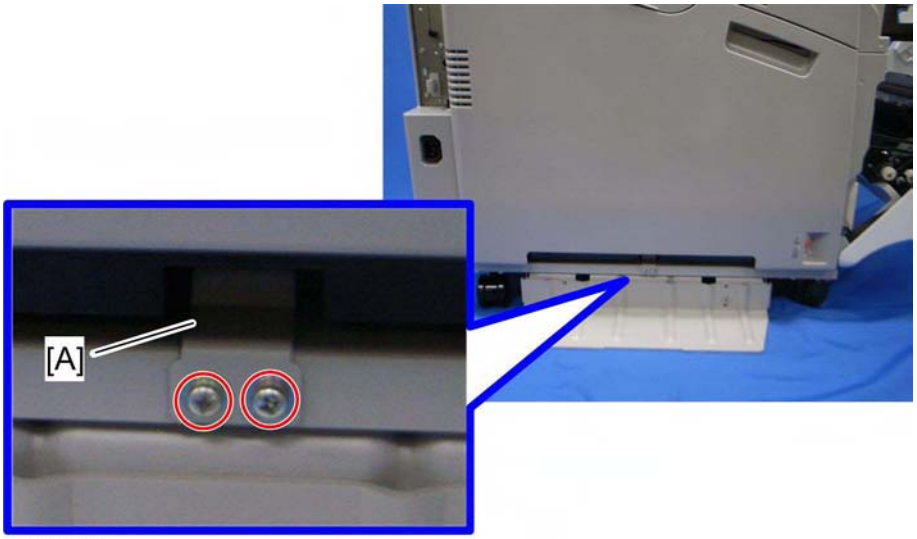
m393i503

10. Right cover [A] (x 1)



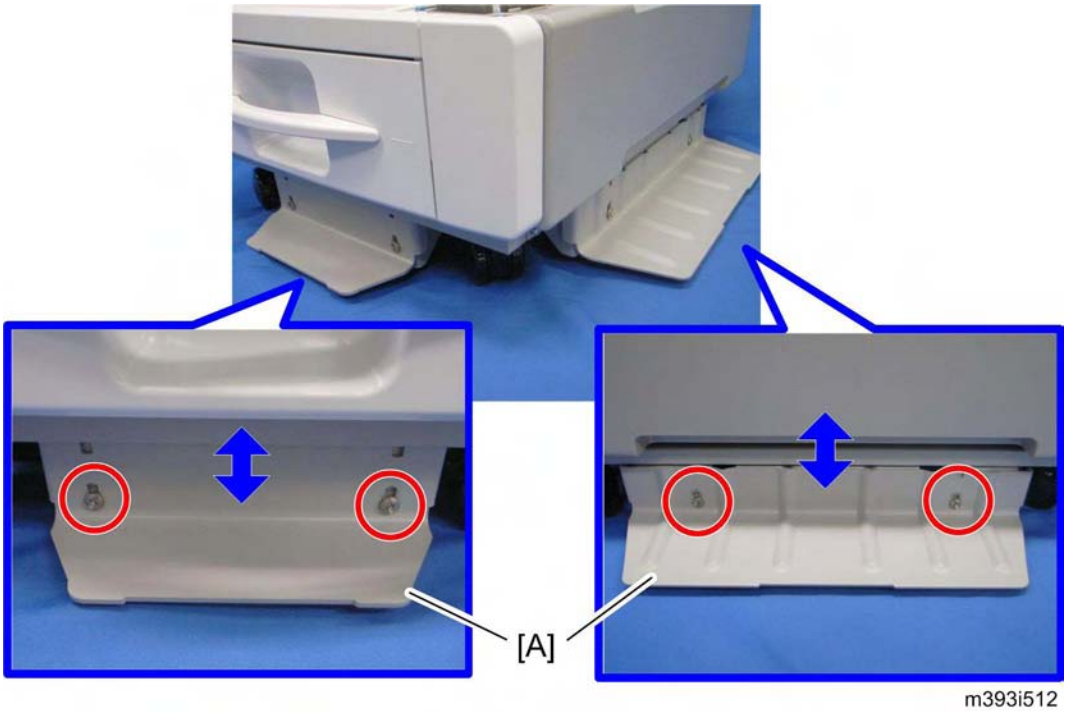
m393i502

11. Install the two table joint brackets [A] at the right side (x 5).
12. Reinstall the right cover (x 1).



m393i505

13. Install the table joint bracket [A] at the left side (x 2).
14. Close the front door.



m393i512

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

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.

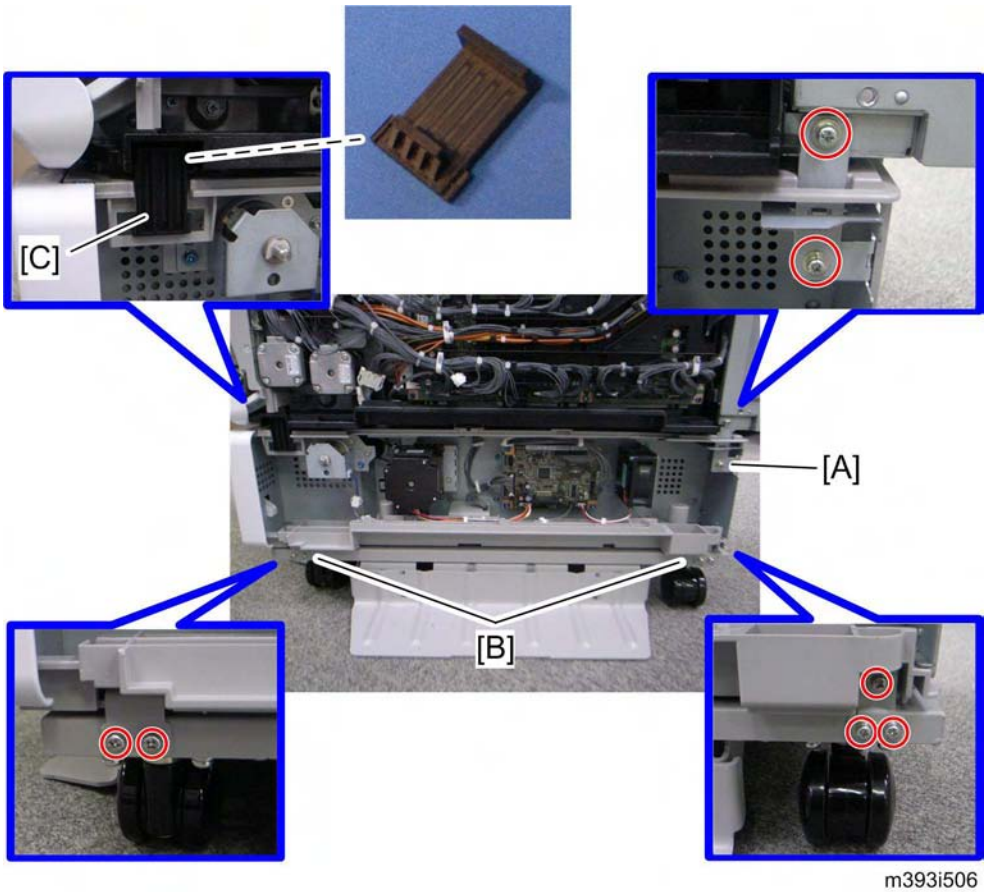
Note

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

4. Open the front door.
5. Right cover (☛ p.2-20 "For Installing the Caster Table (M393) Only")

m393i507

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

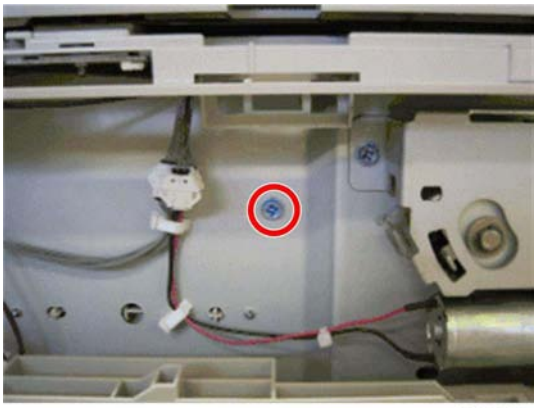


m393i506

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 above to secure them (x 2).
8. Install the joint table brackets [B] (x 5).
9. Install the securing holder [C].
10. Reinstall the right cover and the right cover of the paper feed unit (x 2).

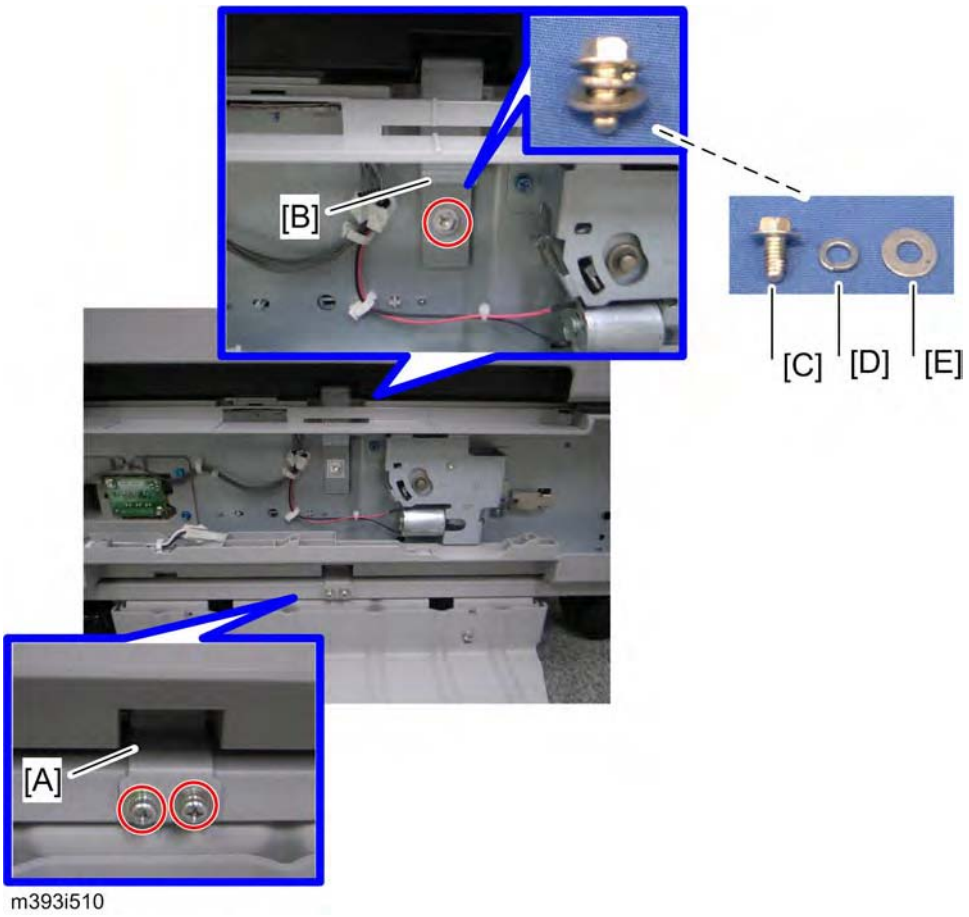
m393i508

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



m393i509

12. Remove the screw shown above.



m393i510

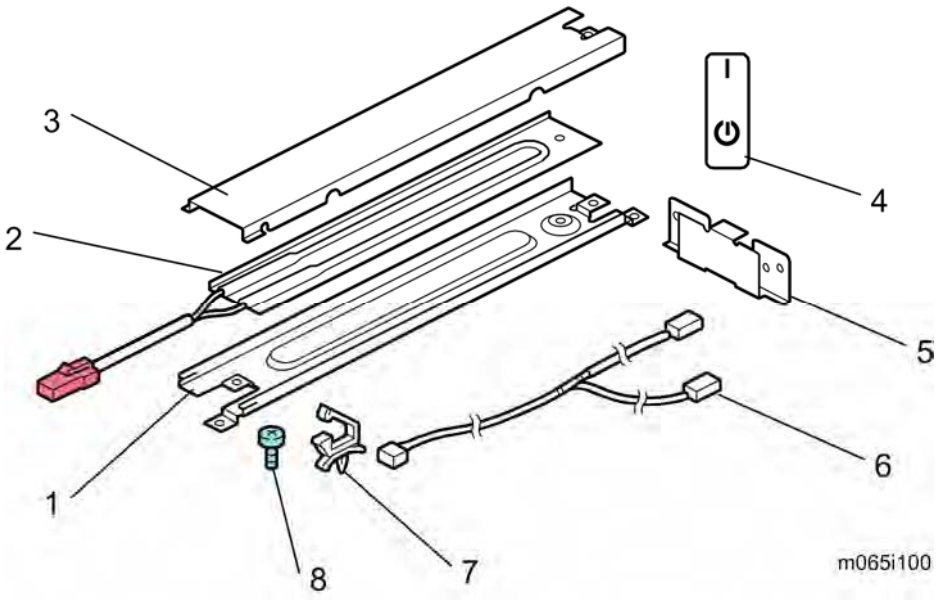
13. Install the table joint bracket [A] (x 2).
14. Install the securing bracket [B] (x 1 (M3x8) [C], spring washer x 1 [D], washer x 1 [E]).
    - If two or three optional paper feed units are to be installed, install the securing bracket [B] at the left side of the optional paper feed units in a similar location to that shown above to secure them (x 1 (M3x8) [C], spring washer x 1 [D], washer x 1 [E]).
15. Reinstall the right cover of the paper feed unit (x 2).
16. Close the front door.
17. Adjust the plate until it is level by rotating each screw (☛ p.2-20 "For Installing the Caster Table (M393) Only").

2.6 TRAY HEATER

2.6.1 COMPONENT CHECK

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

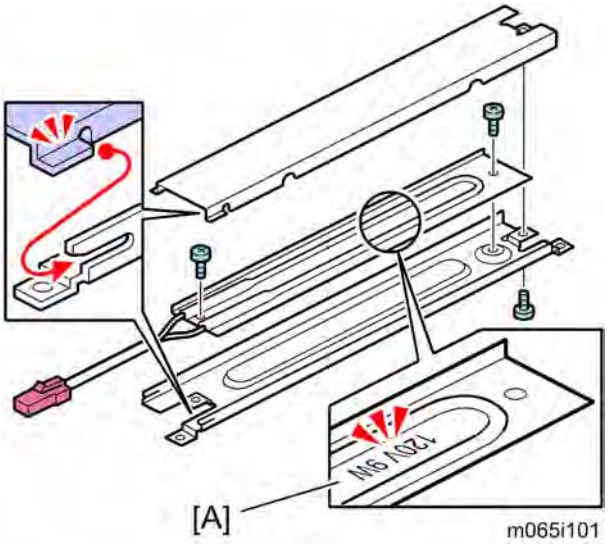
No.	Description	Q'ty
1	Heater cover	1
2	Tray heater	1
3	Heater bracket	1
4	On-standby decal	1
5	Harness bracket	1
6	Harness	1
7	Clamp	2
8	Screw (M3 x 6)	7



2.6.2 TRAY HEATER (MAINFRAME)

Important

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

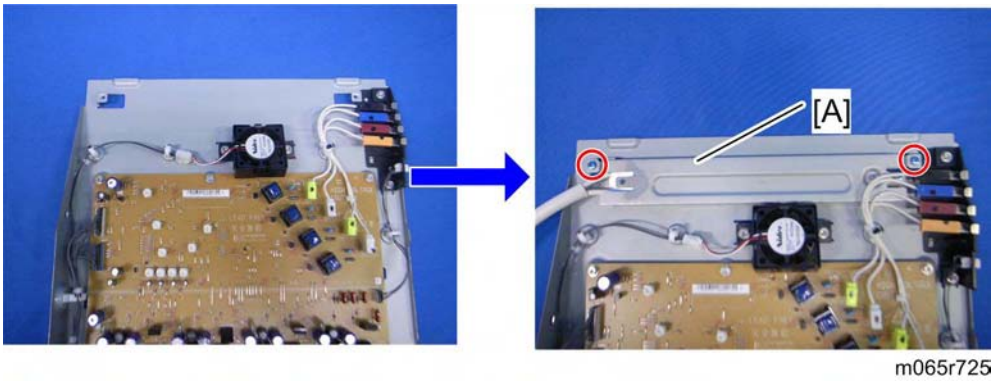


1. Assemble the tray heater (x 3).

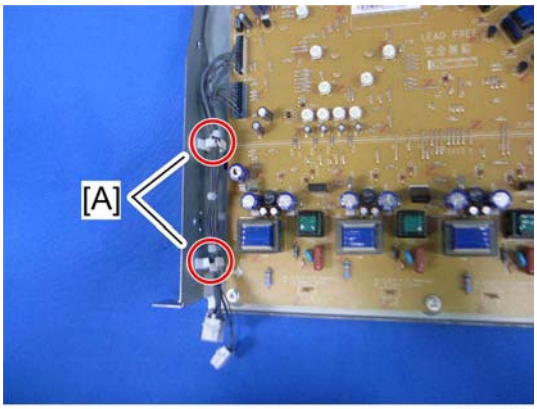
Note

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

2. Rear cover (☛ p.4-5)
3. Right cover (☛ p.4-4)
4. Controller box (☛ p.4-143)
5. Inner left lower cover (☛ p.4-11)
6. HVPS: CB bracket (☛ p.4-148 "HVPS: CB Board")

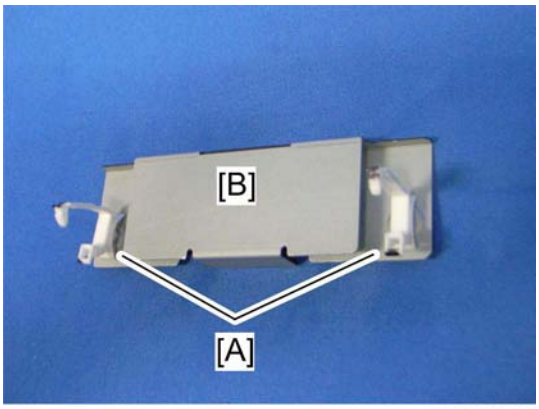


7. Install the heater [A] on the bracket (x 2).



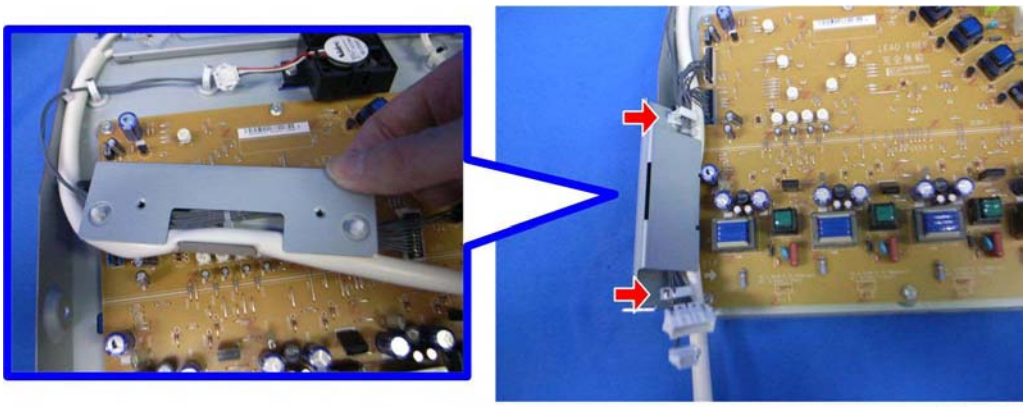
m065r726

8. Remove the two clamps [A].



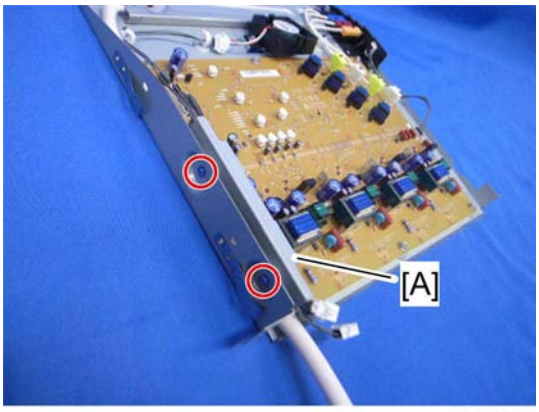
m065r727

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



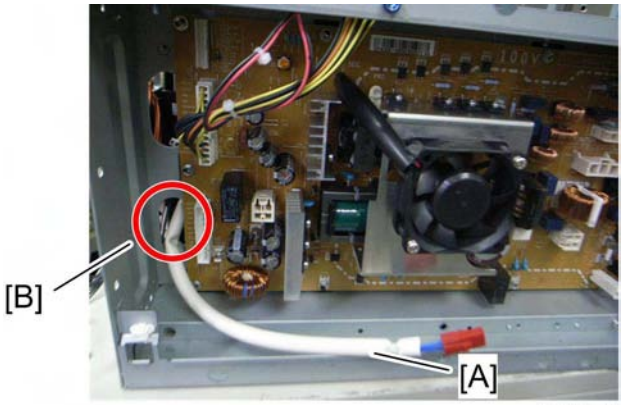
m065r728

10. Route the harnesses as shown above (x 2).



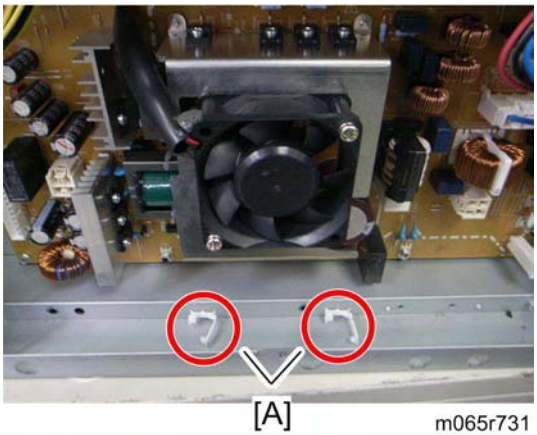
m065r729

11. Install the bracket [A] (x 2).
12. Reinstall the HVPS: CB bracket.



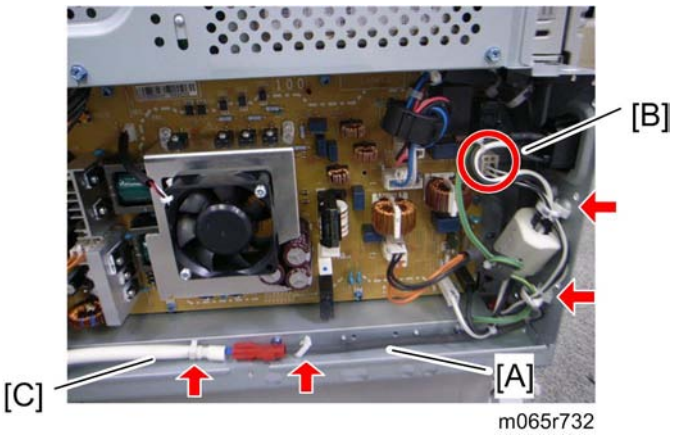
m065r730

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

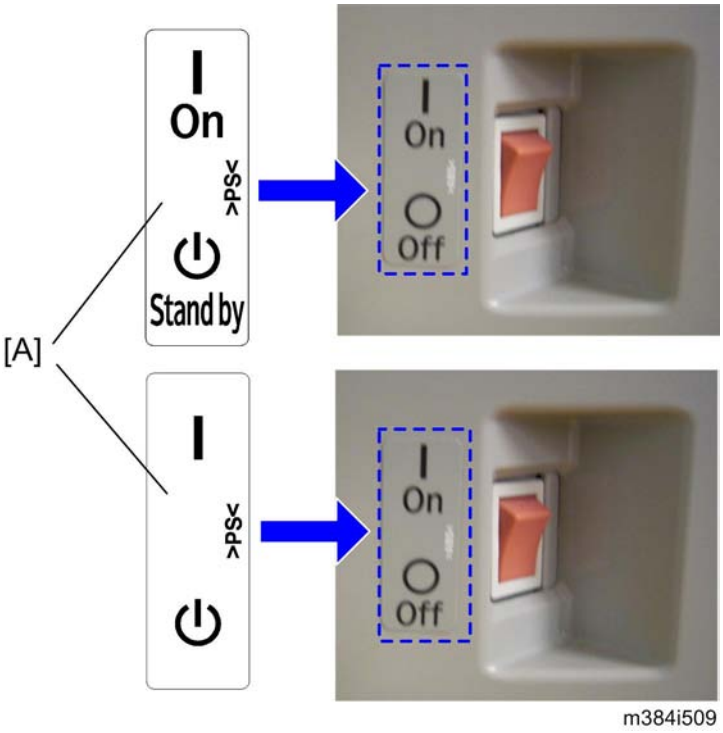


m065r731

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



16. Connect the relay harness [A] to CN906 [B] (x 2).
17. Connect the relay harness [A] to the heater harness [C] (x 2).
18. Reassemble the machine.



19. Attach the on/standby decal [A] to the left-hand side of the main power switch.

⇒

2.6.3 TRAY HEATER (OPTIONAL UNIT)

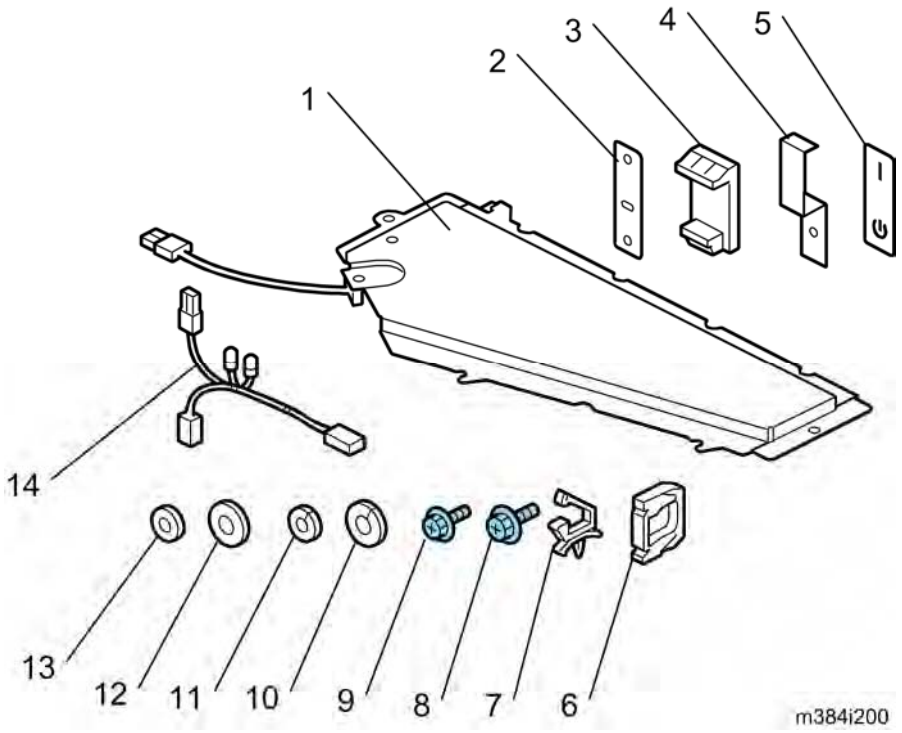
⚠CAUTION

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.

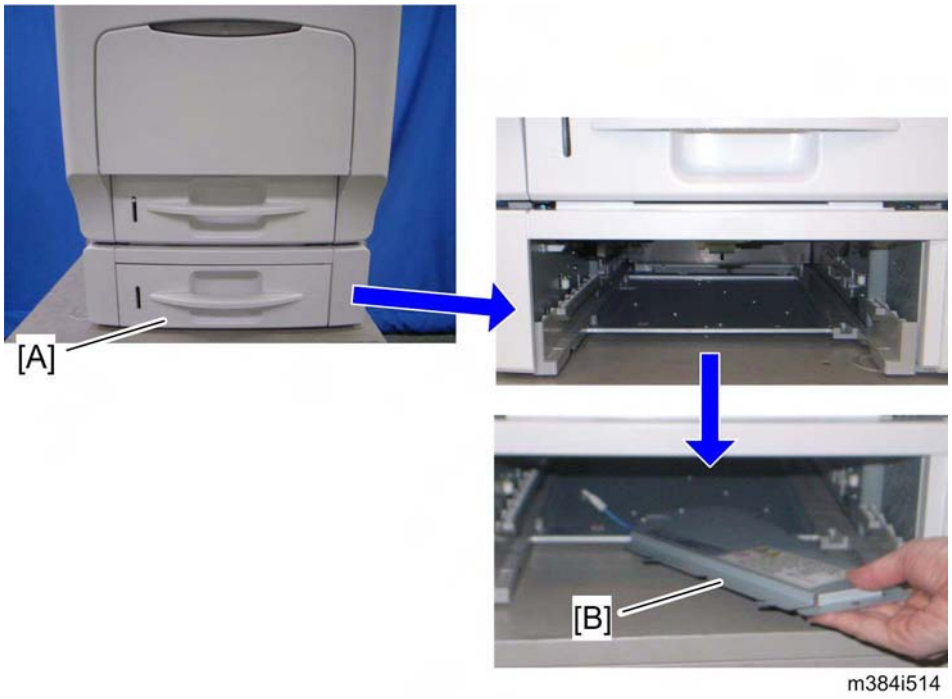
Component Check

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

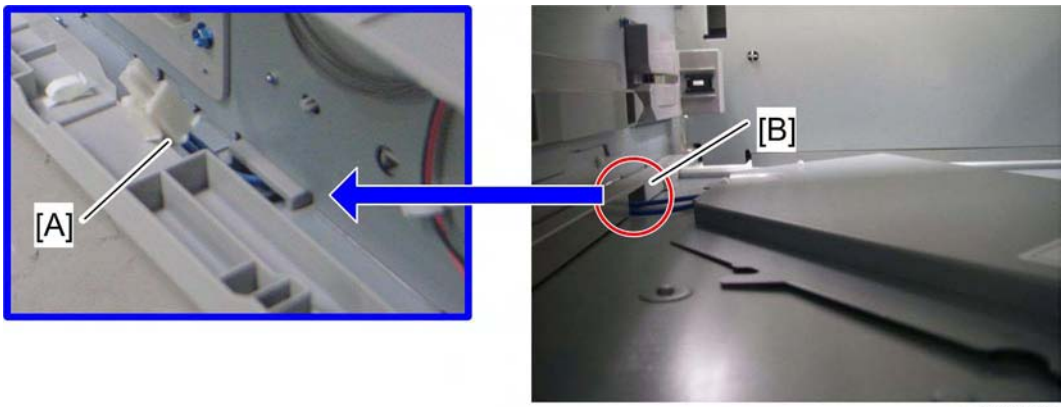
No.	Description	Q'ty
1	Tray heater	1
2	Securing bracket (right rear)	1
3	Securing holder	1
4	Securing bracket (left)	1
5	On-standby decal	1
6	Edge clamp	1
7	Clamp	6
8	Screw (M4 x 8)	3
9	Screw (M3 x 8)	2
10	Spring washer (ϕ4)	3
11	Spring washer (ϕ3)	2
12	Washer (ϕ4)	3
13	Washer (ϕ3)	2
14	Harness	1



For Installing the Tray Heater in M384

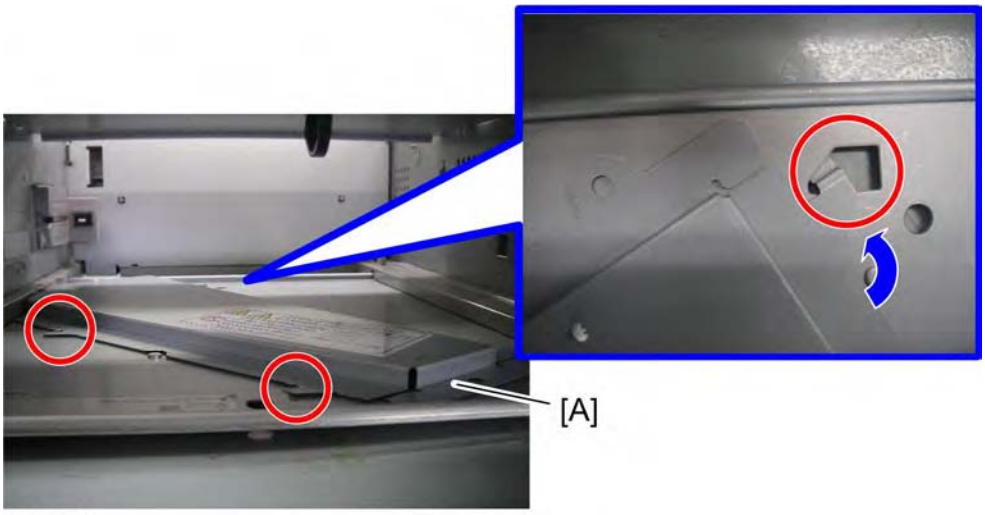


1. Pull out the tray [A] from the optional paper tray.
2. Put the tray heater [B] into the optional paper feed unit.



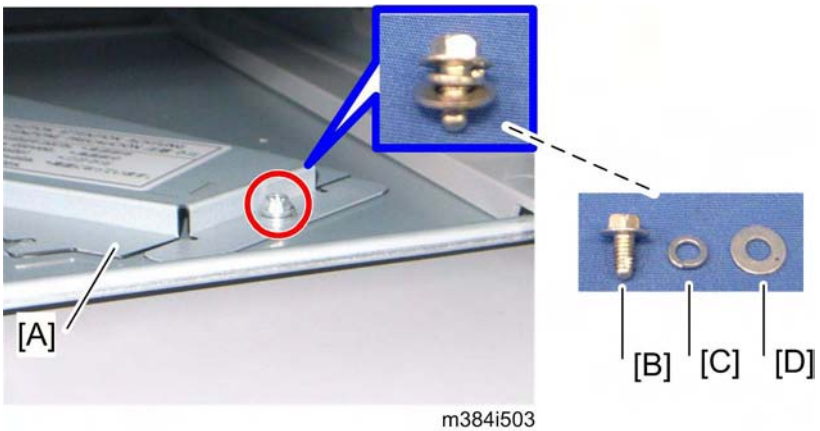
m384i505

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



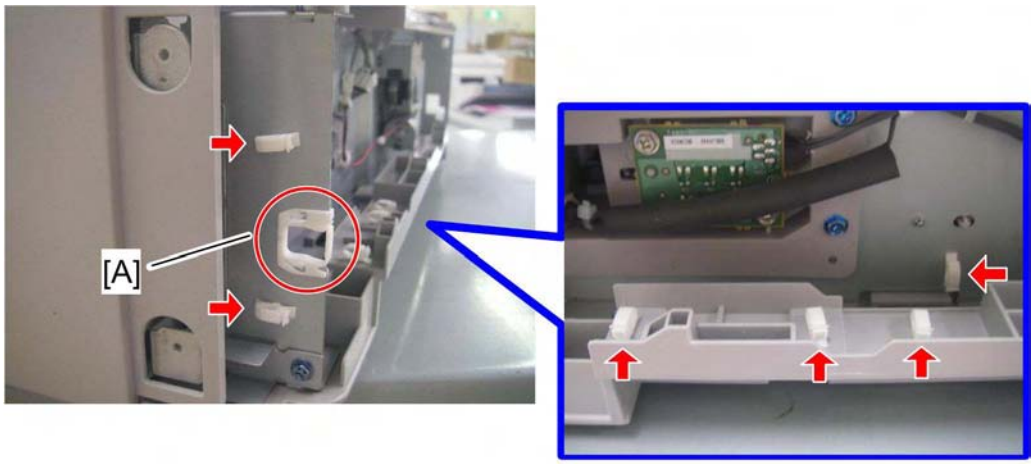
m384i513

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



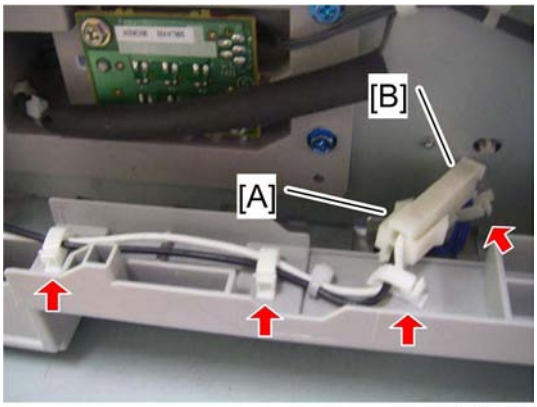
m384i503

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



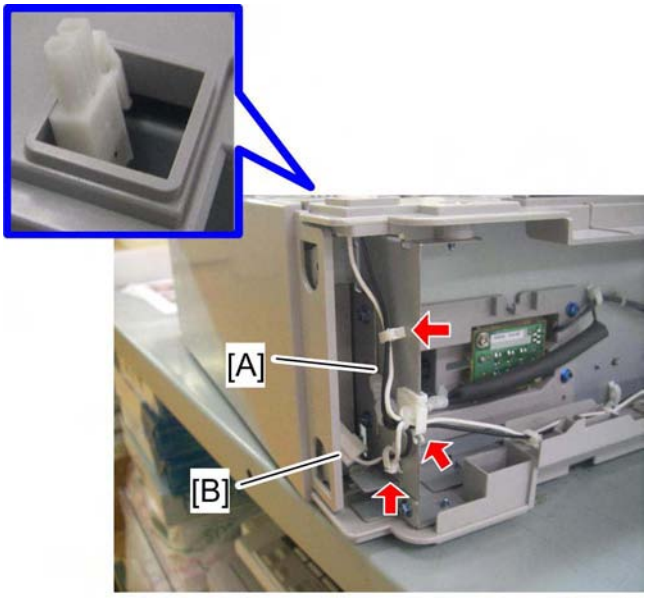
m384i504

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



m384i506

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

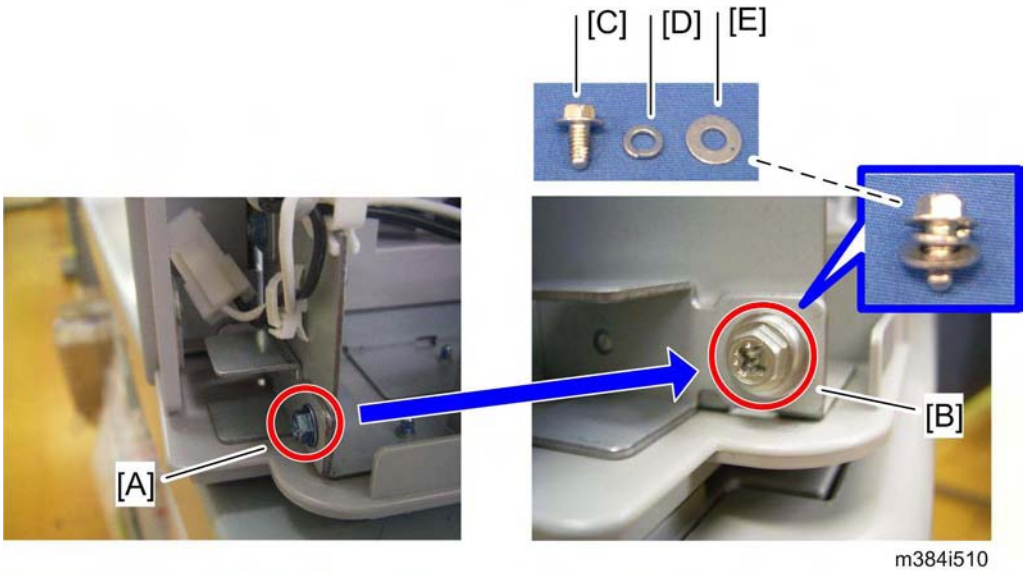


m384i507

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

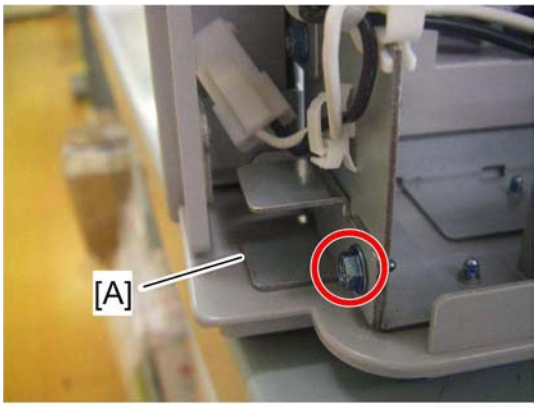
Note

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



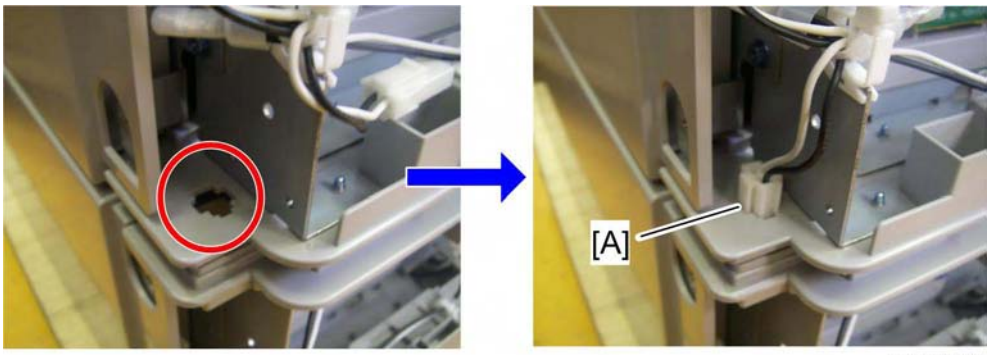
m384i510

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



m384i511

10. Bracket [A] (x 1)



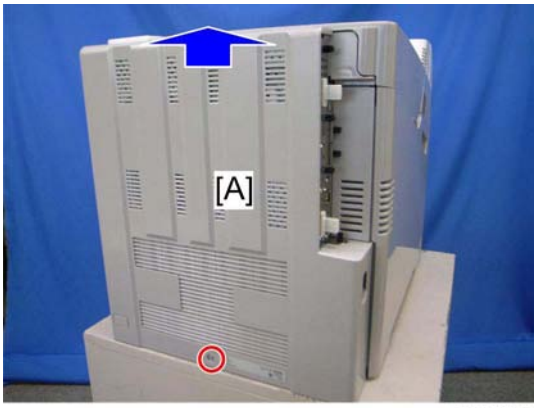
m384i512

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

Note

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

installed.

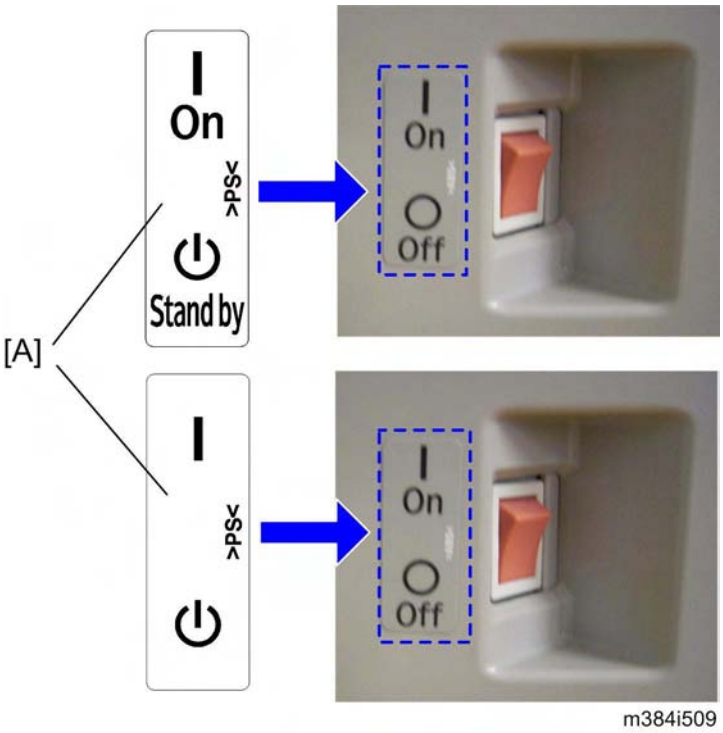


m065r589

12. Rear cover [A] (x 1).

m384i508

13. Bracket [A] (x 1).
14. Connect the relay harness to the relay harness of the mainframe.
15. Reassemble the machine.



16. Attach the on/standby decal [A] to the left-hand side of the main power switch.

Note

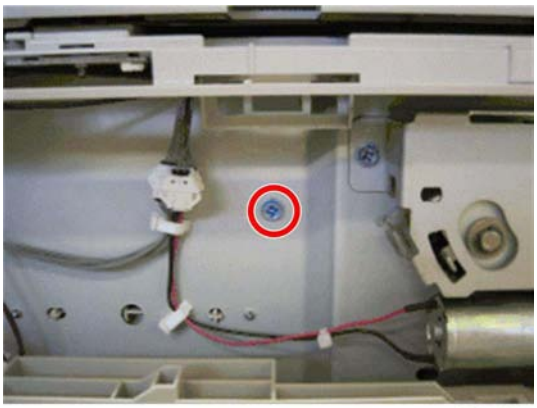
- You can adjust the tray heater switch setting with SP5805-001 as shown below.
- 0: Default setting. The heater is on when the main switch is off or when the machine is in energy saver mode.
- 1: The heater is always on.

For Installing the Securing Bracket

CAUTION

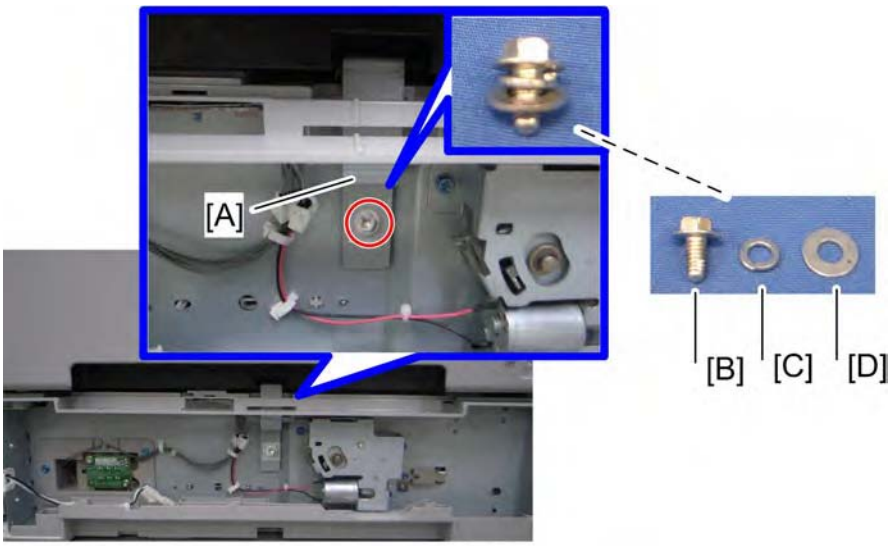
- The securing bracket must be installed when the tray heater is installed in the machine with the paper feed unit (M384).

1. Remove the holder (☛ p.2-19 "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 (☛ p.2-19 "Caster Table (M393)").



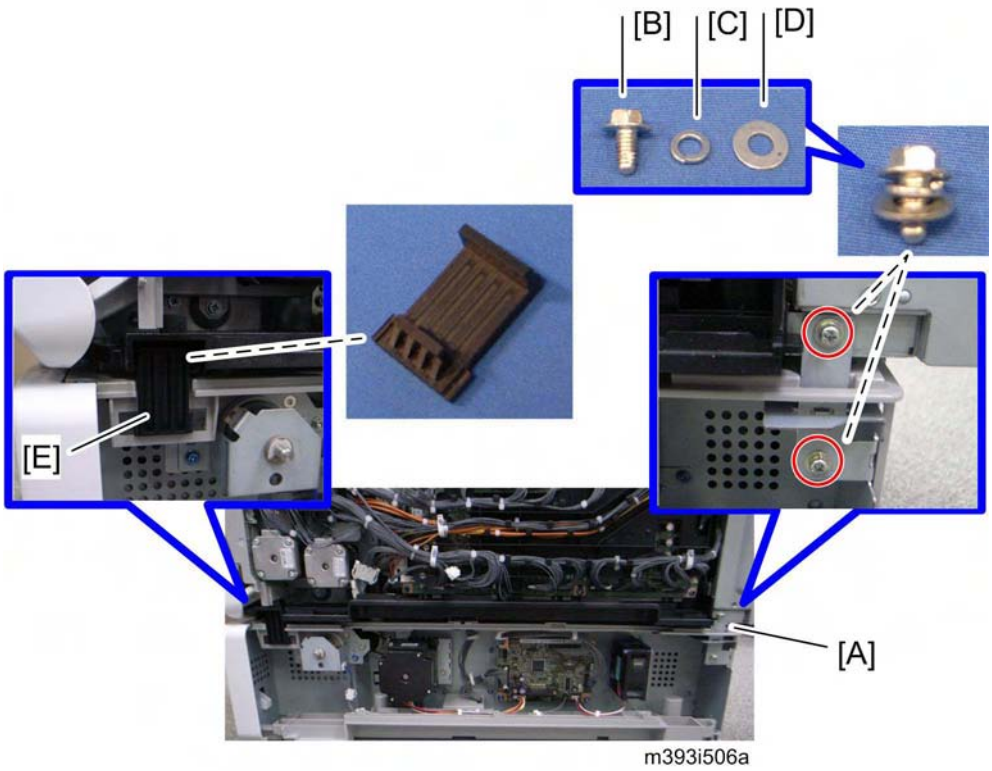
m393i509

5. Remove the screw.



m393i510a

6. Install the securing bracket [A] (x 1 (M3x8) [B], spring washer x 1 (ϕ3) [C], washer x 1 (ϕ3) [D]).
7. Remove the right cover of the paper feed unit (p.2-19 "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].
10. Reassemble the machine.

2.7 CONTROLLER OPTIONS

⇒ The following options are available for this machine; refer to the "***Operating Instructions: Hardware Guide***".

- Hard Disk Drive
- IEEE1284
- IEEE802.11a/g
- Gigabit Ethernet
- Memory Unit
- Camera Direct Print Card

⇒ - VM Card (Standard in M066)

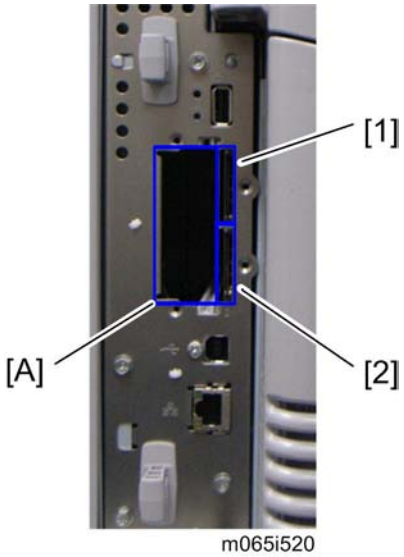
- SD card for NetWare printing

⇒ The following options are available for this machine; refer to the ***"Operating Instructions: Security Guide"***.

- Data Overwrite Security Unit
- HDD Encryption Unit

2.7.1 OVERVIEW

This machine has I/F card slots for optional I/F connections and SD card slots applications. After you install an option, check that the machine can recognize it.



I/F Card Slots

- Slot [A] is used for one of the optional I/F connections (only one can be installed): IEEE1284, IEEE802.11a/g, Gigabit Ethernet,

SD Card Slots

- Slot 1 [1] is used for PictBridge, Data Overwrite Security Unit, SD card for NetWare printing.
- Slot 2 [2] is used for installing the VM card or HDD Encryption Unit or one of the optional applications for service only (for example, updating the firmware).

2.7.2 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.

Do not try to copy the VM card or the HDD encryption unit 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. Refer to the following table for the memory size of each SD card.

Important

- Due to limitations, the VM Card (M385) can be neither merged nor moved to another SD card. This card must be installed in Slot 2.

Outline of SD Card Appli Move

1. Choose a SD card with enough space.

   Note

   - Do not use an SD card if it has been used on a computer. 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

   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.

m065i519

4. Pull out the paper feed tray.
5. Keep the SD card in the location [A] after you have copied the application program from one card to another card. 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.

PREVENTIVE MAINTENANCE

REVISION HISTORY		
Page	**Date**	**Added/Updated/New**
		None

3. PREVENTIVE MAINTENANCE

3.1 MAINTENANCE TABLES

See "Appendices" for the following information:

- "User Maintenance Items"

REPLACEMENT AND ADJUSTMENT

REVISION HISTORY		
Page	**Date**	**Added/Updated/New**
21	01/14/2011	Added step 5 and 6 to *Installing the PCDU*.
21 ~ 22	08/10/2011	Added step 7 to *Installing the PCDU*.

4. REPLACEMENT AND ADJUSTMENT

4.1 BEFORE YOU START

⚠CAUTION

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

4.2 SPECIAL TOOLS

4.2.1 TOOLS

Item	Part Number	Description	Q'ty
1	B6455010	SD Card	1
2	B6456705	PCMCIA Card Adapter	1
3	B6456820	USB Reader/ Writer	1
4	VSSM9000	Digital Multimeter - FLUKE87	1
5	G0219350	Loop Back Connector - Parallel	1
6	C4019503	20X Magnification Scope	1
7	A2579300	Grease Barrierta – S552R	1
8	52039502	Silicon Grease G-501	1
9	B6795100	Plug - IEEE1284 Type C	1
10	D0159500	G104 Yellow Toner	1

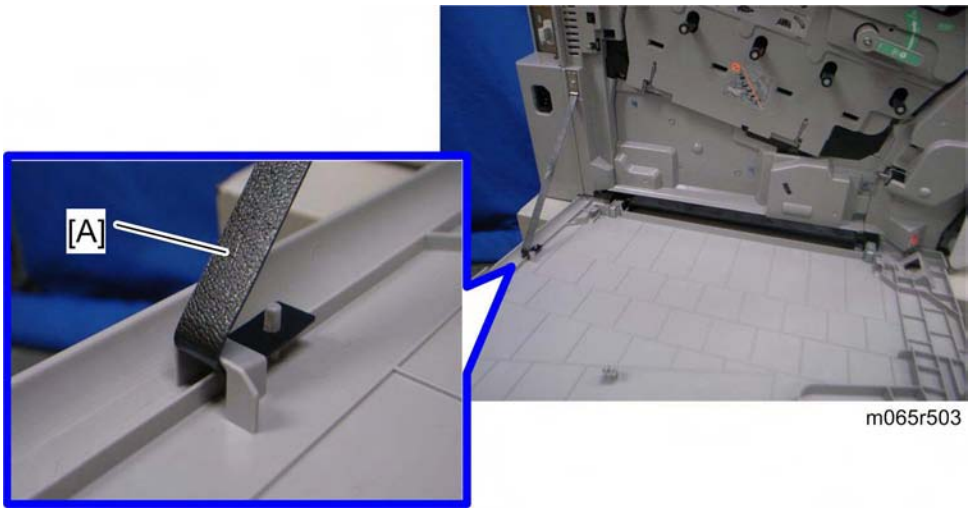
Note

- Loop back connector - parallel (item 5) requires plug - IEEE1284 type C (item 9).

4.3 EXTERIOR COVERS

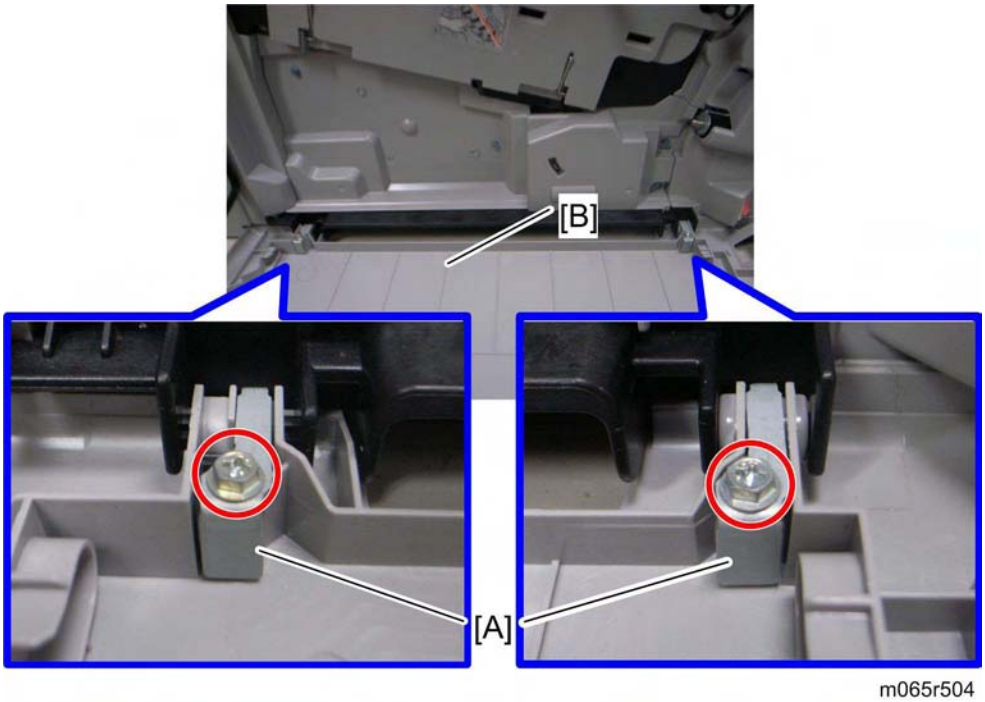
4.3.1 LEFT COVER

1. Open the left cover.
2. Remove the waste toner bottle.



m065r503

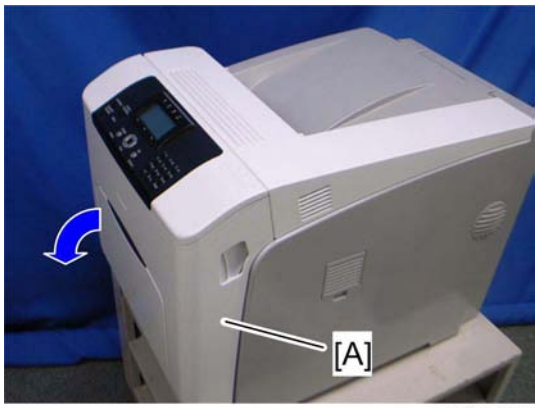
3. Release the belt [A].



m065r504

4. Remove the two brackets [A] (x 2)
5. Left cover [B]

4.3.2 RIGHT COVER



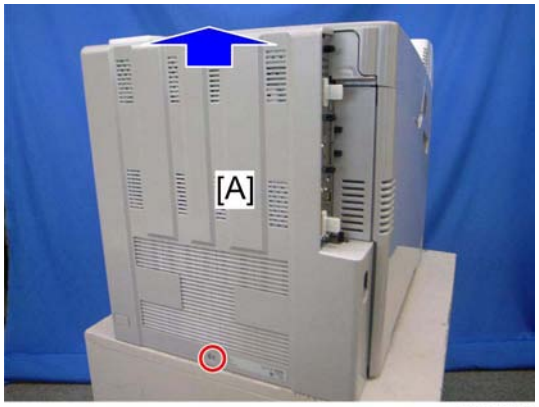
m065r505

1. Open the duplex unit [A].

m065r508

2. Right cover [A] (x 1)

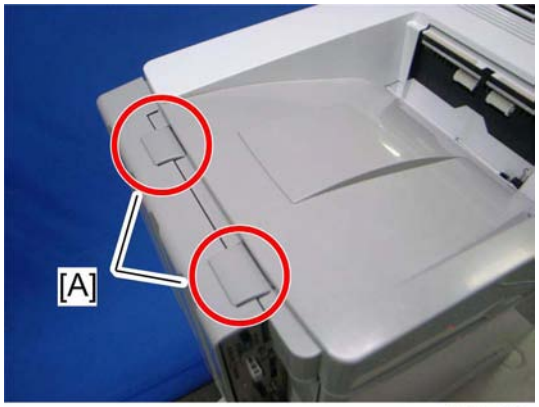
4.3.3 REAR COVER



m065r589

1. Rear cover [A] (x 1)

When Reinstalling the Rear Cover



m065r819

Note

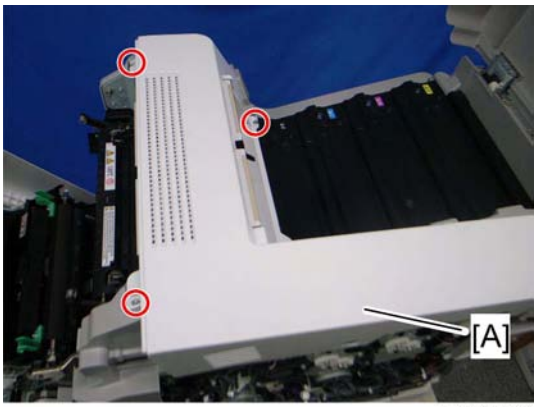
- Make sure that these hinge covers [A] can be moved smoothly (up and down) after installing the rear cover. If these hinge covers do not move smoothly, try installing the rear cover again.

4.3.4 TOP COVER

1. Right cover (☛ p.4-4)
2. Rear cover (☛ p.4-5)

m065r758

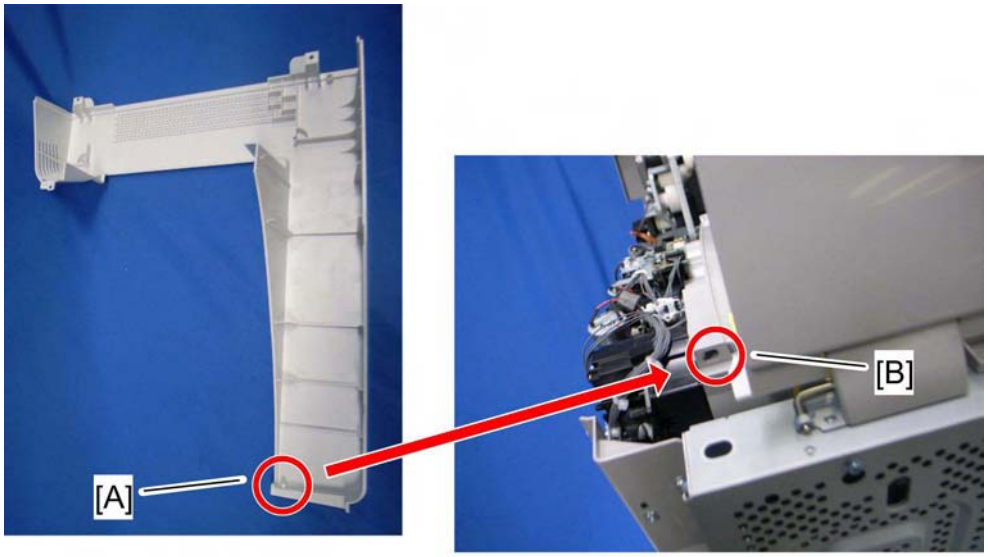
3. Open the upper cover [A].



m065r510

4. Top cover [A] (x 3)

When Reinstalling the Top Cover



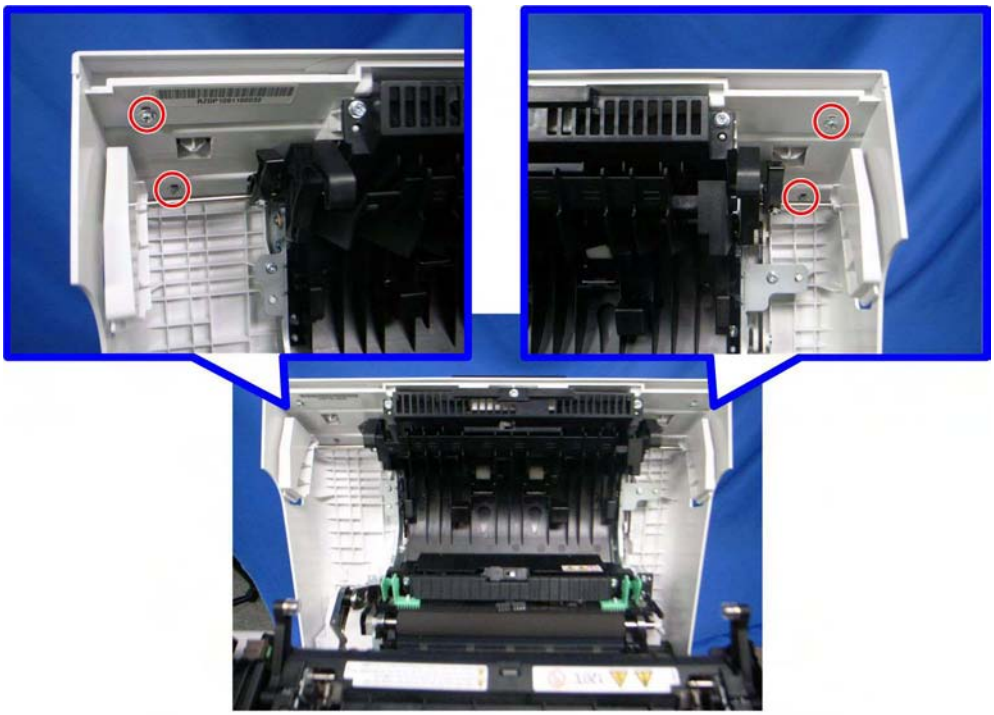
m065r821

Note

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

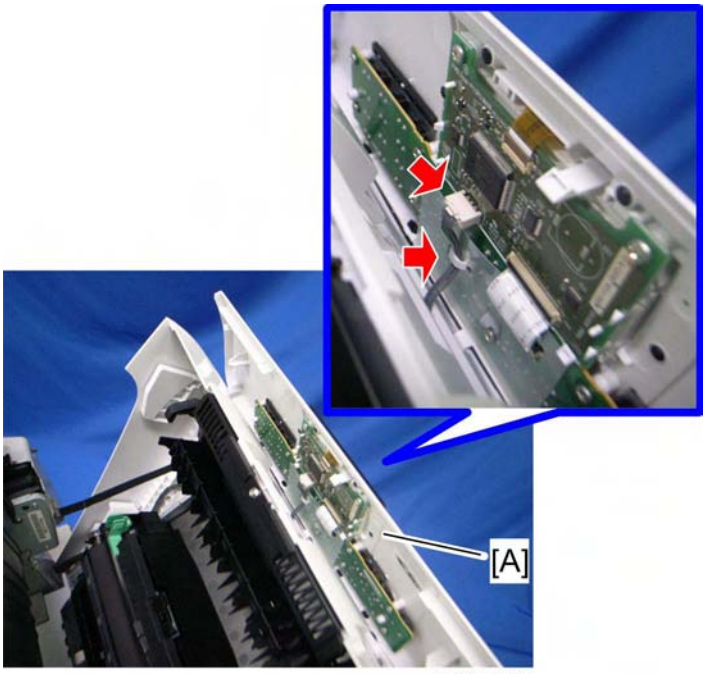
4.3.5 OPERATION PANEL

1. Open the duplex unit (☛ p.4-4 "Right Cover").



m065r506

2. Remove the four screws.



m065r507

3. Operation panel [A] (x 1, x 1)

4.3.6 INNER LEFT UPPER COVER

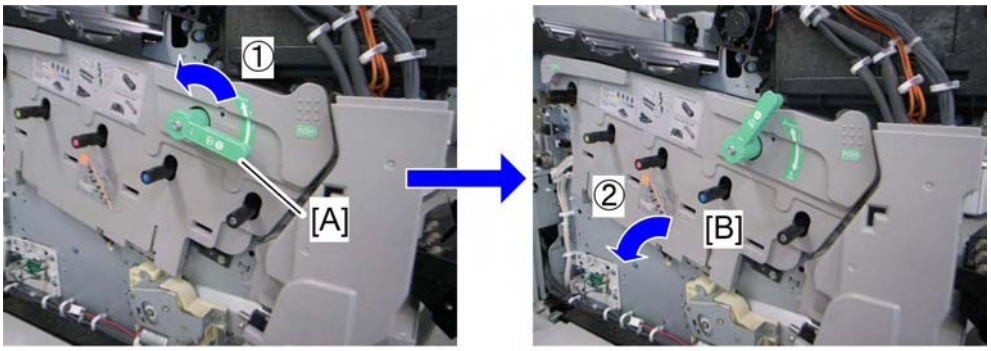
1. Right cover (☛ p.4-4)
2. Top cover (☛ p.4-6)
3. Open the left cover.

m065r516

4. Inner left upper cover [A] (🔩 x 2)

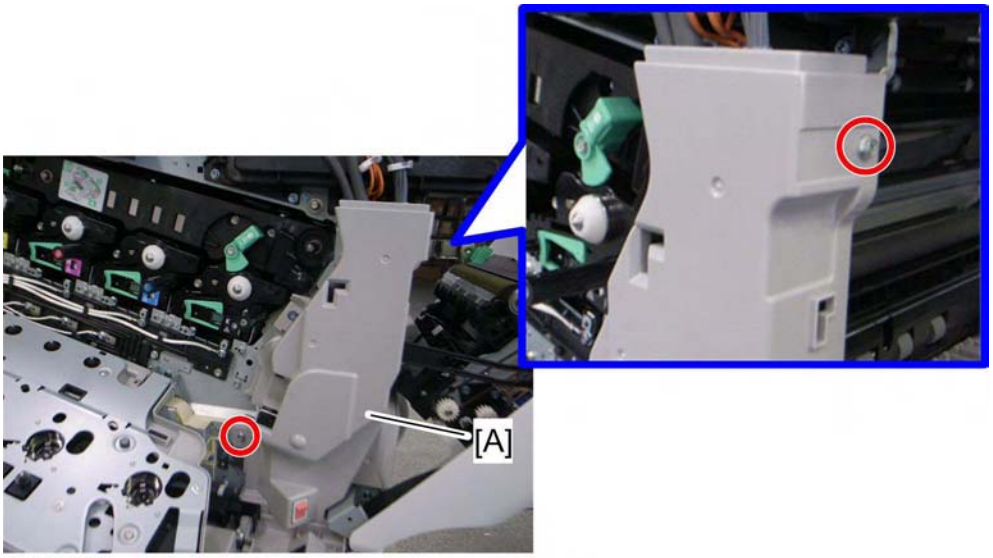
4.3.7 INNER LEFT FRONT COVER

1. Left cover (☛ p.4-3)
2. Inner left upper cover (☛ p.4-9)
3. Inner left lower cover (☛ p.4-11)



m065r809

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

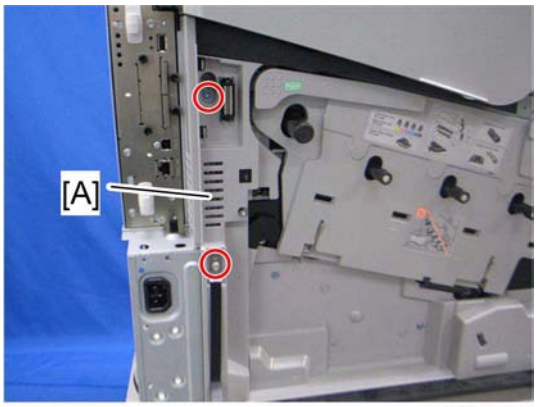


m065r810

5. Inner left front cover [A] (🔩 x 2)

4.3.8 INNER LEFT REAR COVER

1. Left cover (☛ p.4-3)
2. Rear cover (☛ p.4-5)

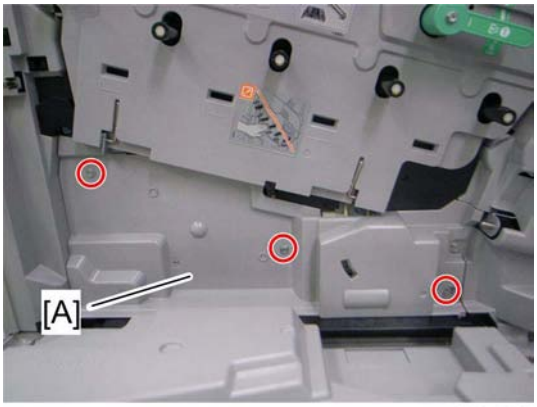


m065r517

3. Inner left rear cover [A] (🔩 x 2)

4.3.9 INNER LEFT LOWER COVER

1. Open the left cover.

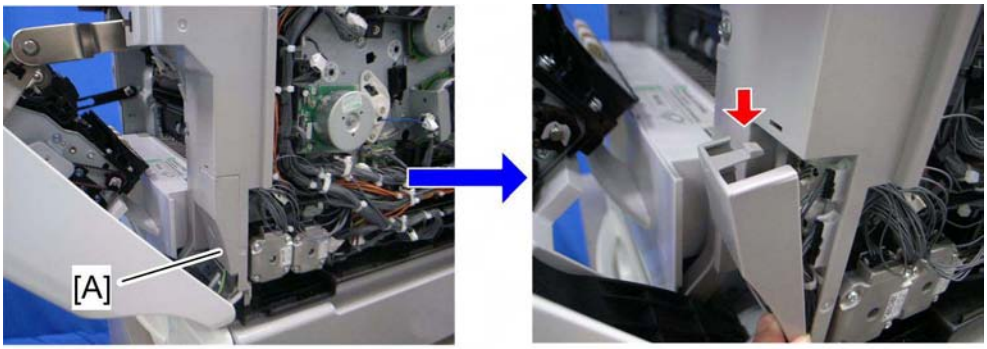


m065r724

2. Inner left lower cover [A] (🔩 x 3)

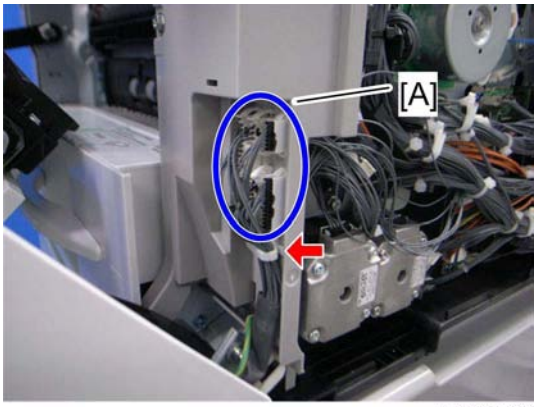
4.3.10 INNER RIGHT FRONT COVER

1. Right cover (☛ p.4-4)
2. Top cover (☛ p.4-6)



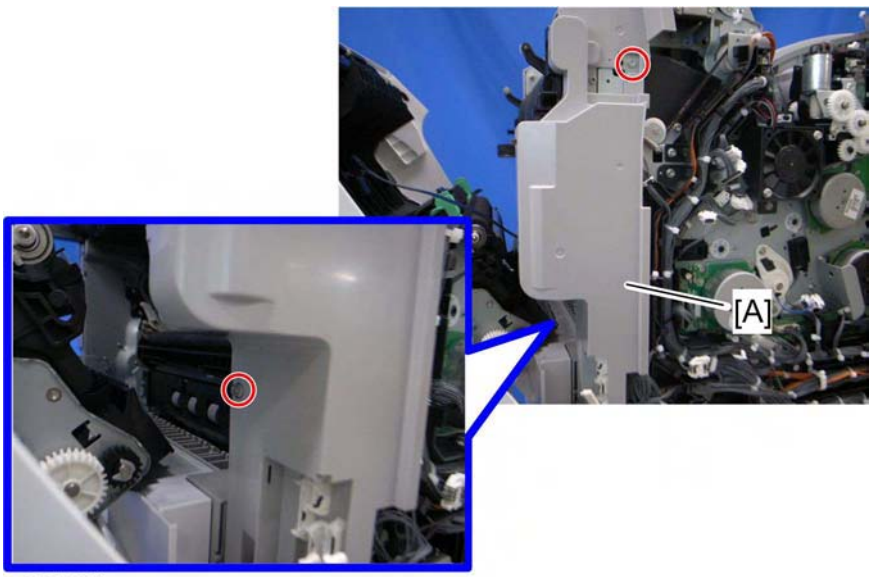
m065r759

3. Connector cover [A] (hook)



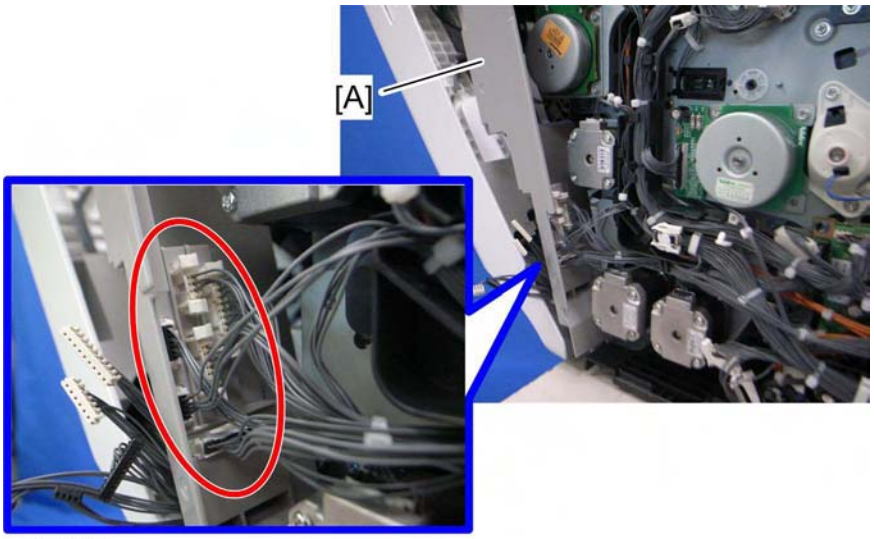
m065r760

4. Disconnect the six harnesses [A] (🖃 x 1).



m065r564

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

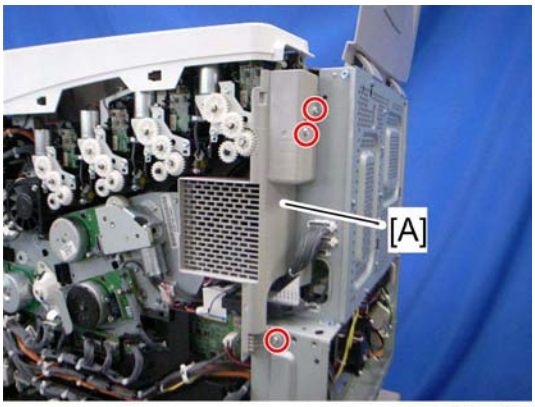


m065r565

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

4.3.11 INNER RIGHT REAR COVER

1. Rear cover (☛ p.4-5)
2. Right cover (☛ p.4-4)



m065r714

3. Inner right rear cover [A] (x 3)

4.4 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.

4.4.1 CAUTION DECAL LOCATIONS

Caution decals are attached as shown below

m065r700

⚠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.

4.4.2 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.

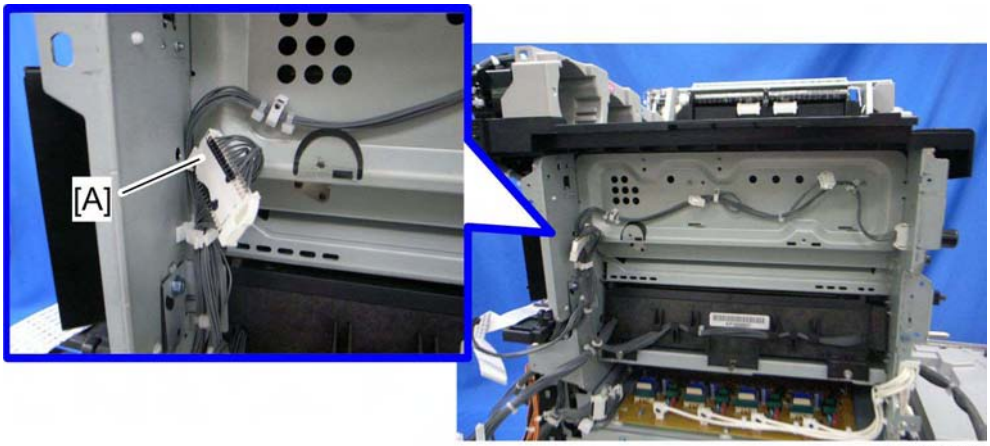
1. Plug in and turn on the main power switch of the machine.
2. Enter the SP mode.

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 copier.
2. Controller box (☛ p.4-143).



m065r807

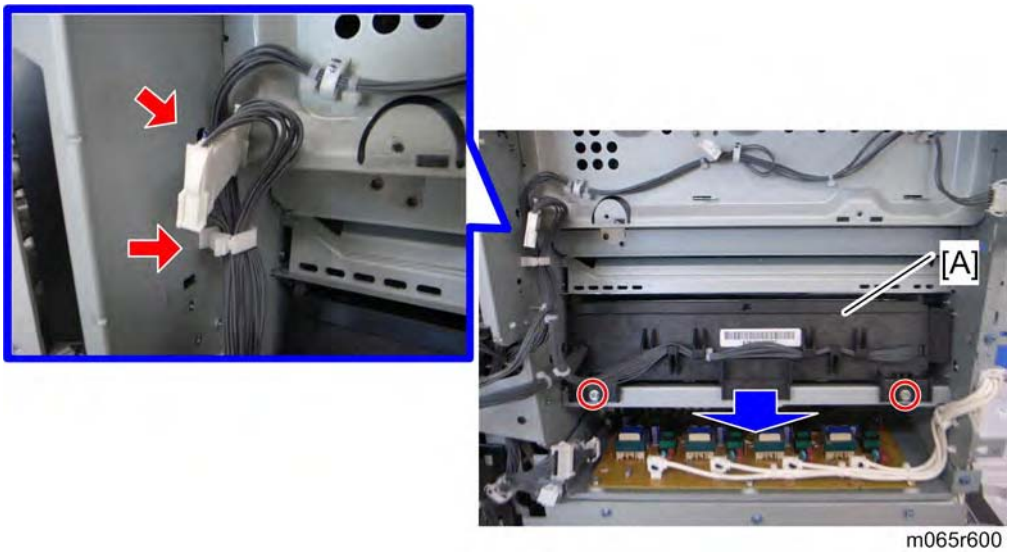
3. Disconnect the harness [A] of the skew correction motor.
4. Do steps 1 to 9 of "Before removing the old laser unit".
5. Connect the harness [A] and reinstall the controller box.
6. Plug in and turn on the main power switch.

Removing the laser unit

1. Rear cover (☛ p.4-5)
2. Right cover (☛ p.4-4)
3. Controller box (☛ p.4-143)
4. Development fan duct (☛ p.4-36 "Development Fan")

m065r599

5. Bracket [A] (x 1)



m065r600

6. Pull out the laser unit [A] (x 2, x 1, x 1).

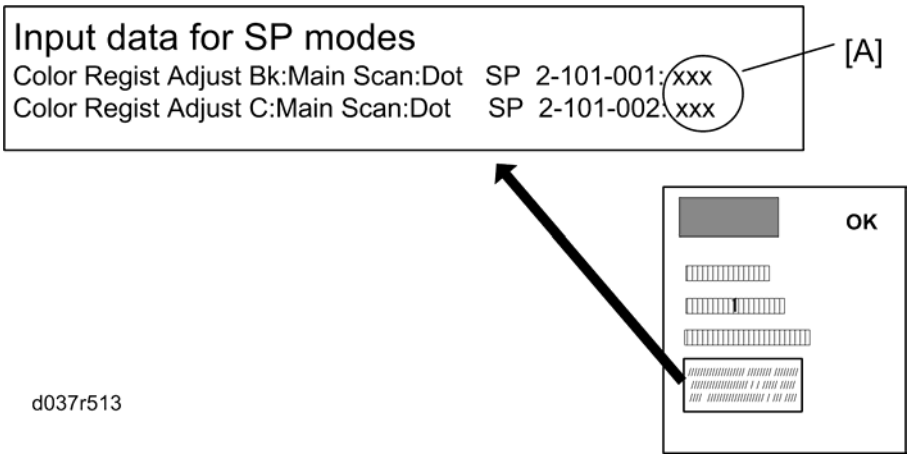
After installing a new laser unit

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.

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.

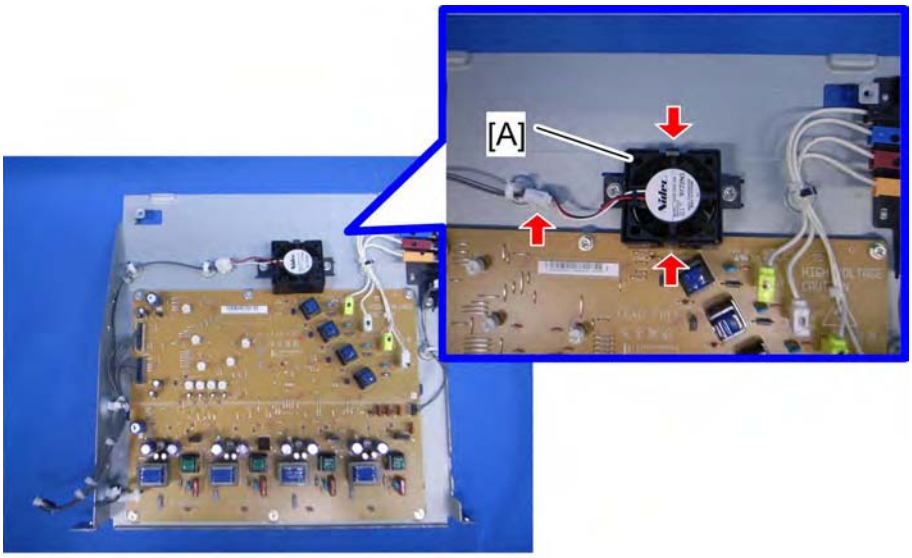
8. Exit the SP mode.

4.4.3 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 (☛ p.4-5)
2. Right cover (☛ p.4-4)
3. Controller box (☛ p.4-143)
4. HVPS: CB bracket (☛ p.4-148 "HVPS: CB Board")



m065r605

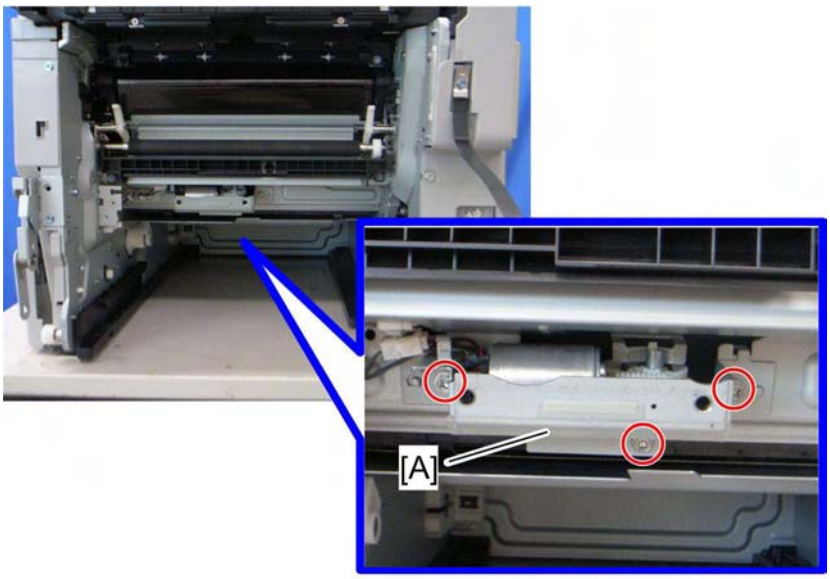
5. Laser unit fan [A] (☛ x 1, hooks)

When installing the laser unit fan

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

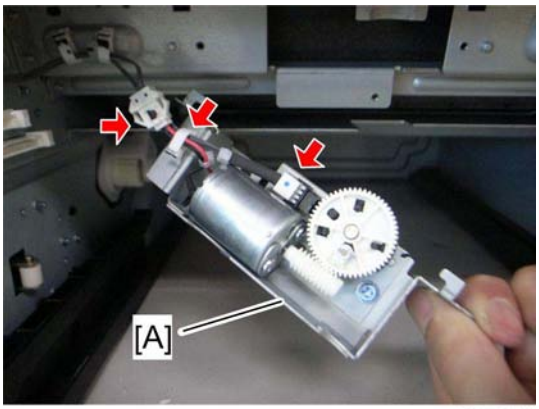
4.4.4 LDU SHUTTER MOTOR

1. Duplex unit (☛ p.4-116)
2. Paper feed unit (☛ p.4-94)



m065r733

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



m065r734

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

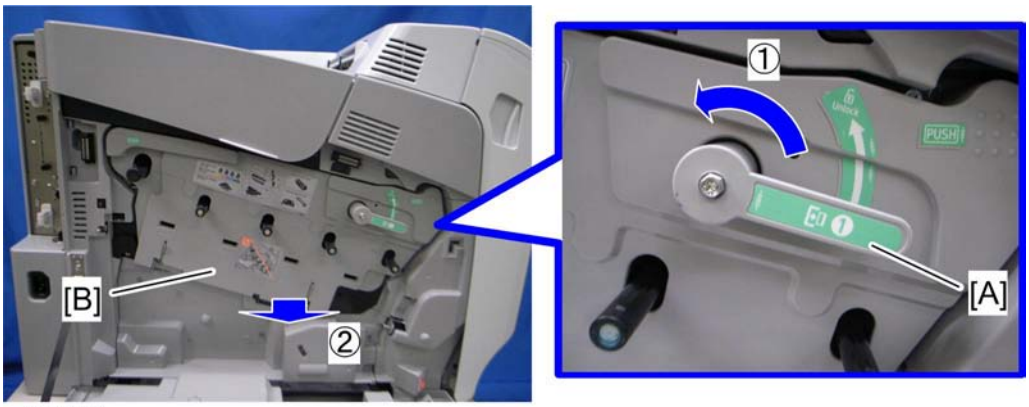
4.5 IMAGE CREATION

4.5.1 PCDU (PHOTO CONDUCTOR AND DEVELOPMENT UNIT)

Note

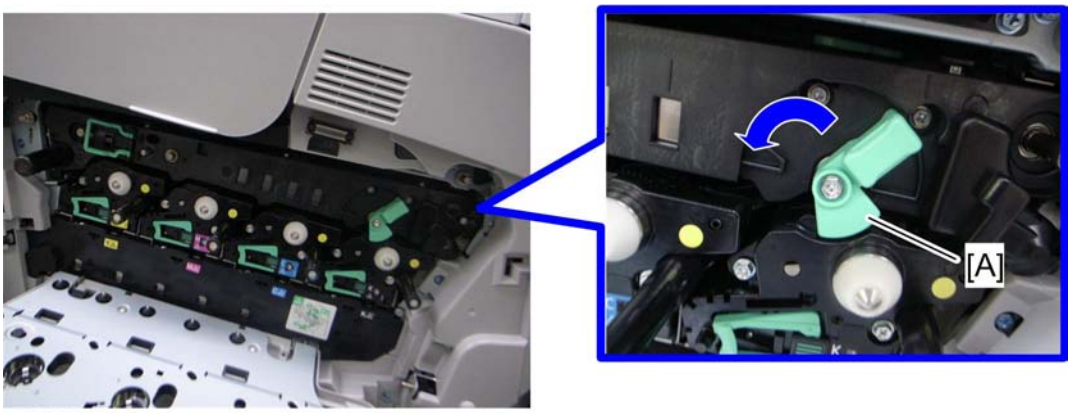
- Do not touch the OPC drum. Do not let metal objects touch the development sleeve.

1. Open the left cover.



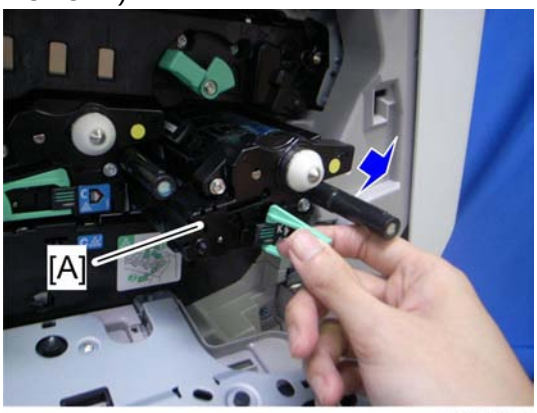
m065r532

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



m065r533

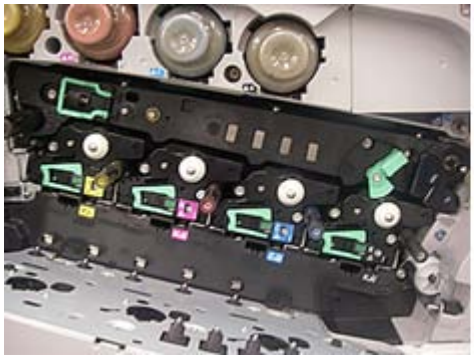
3. Turn the ITB lock lever [A] counterclockwise (this step is only needed if you remove the PCDU: K).



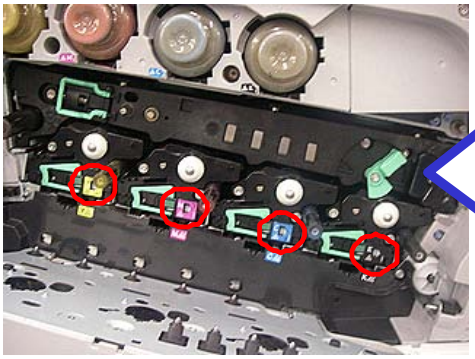
m065r534

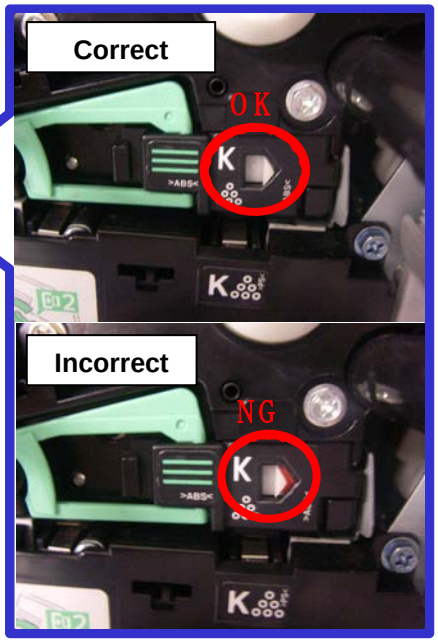
4. PCDU [A]

5. Push the green PCDU lever with your finger, **as far as it will go** (at least until you hear a click).

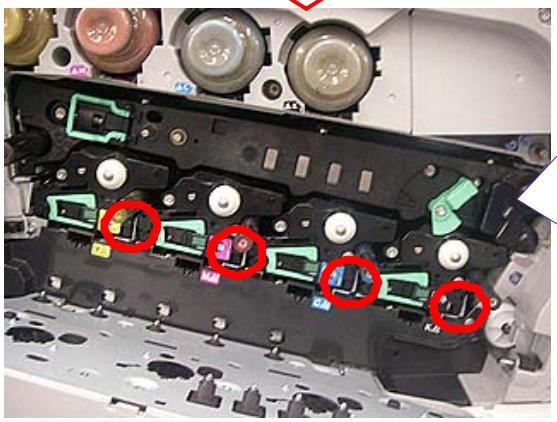


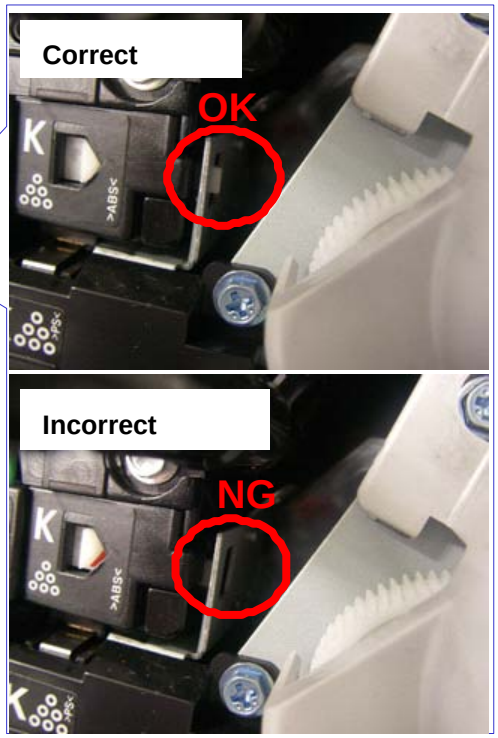
6. Check the pentagon-shaped window for all four colors. If you can see a red area, as shown in the "Incorrect" photo below, this means the unit was not *installed* correctly.





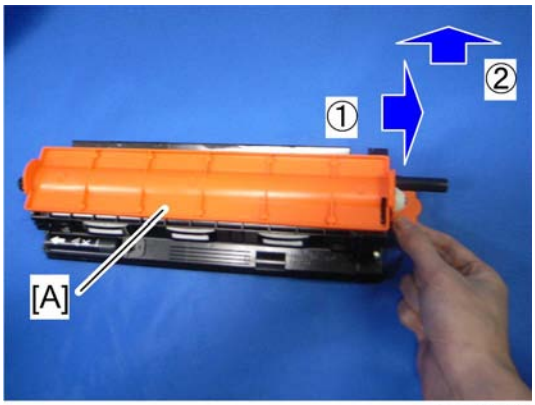
⇒ 7. Make sure that the white locking tab on the PDCU (circled in red below) is inside the hole of the bracket. Do this for all four PDCU's.





NOTE: If the white locking tab is not locked into the slot on the bracket, reseat the PDCU until it properly locks into place.

When installing a new PCDU



m065r805

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

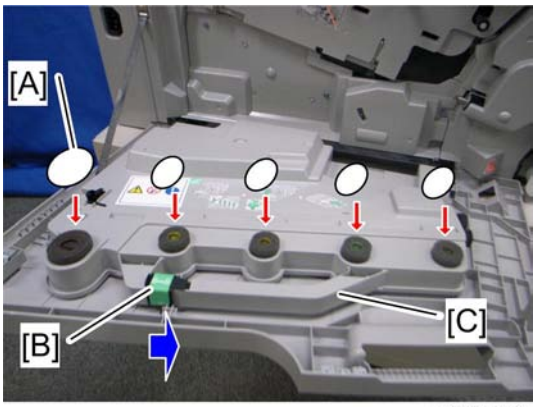
4.5.2 WASTE TONER BOTTLE

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 SP 3902 020 to 1 before you start to work on the machine.

1. Open the left cover [A].

m065r501

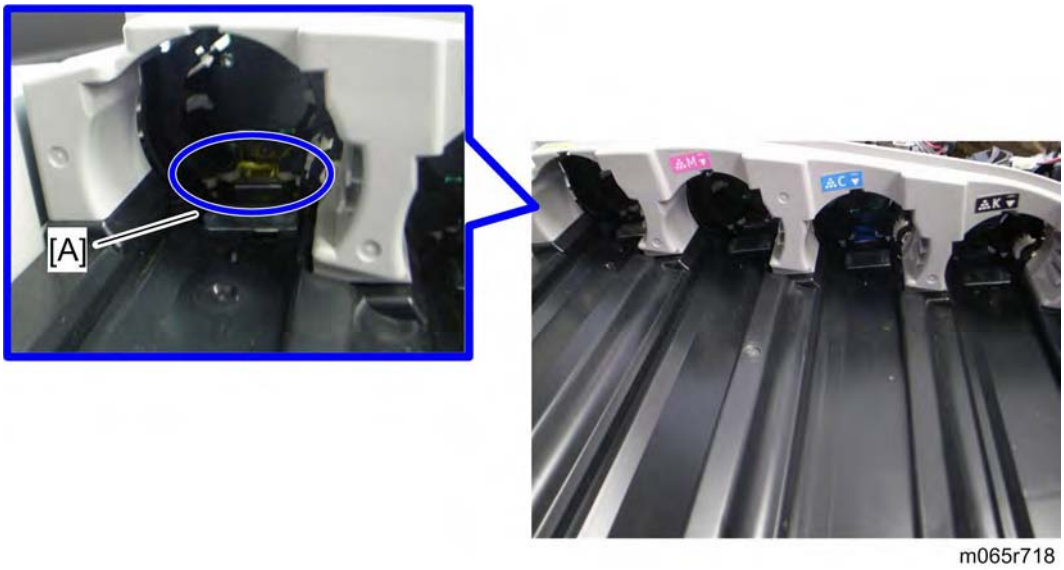
2. Attach the seals (provided with the new waste toner bottle) [A] to the five sponge pads. This closes the waste toner bottle.
3. Release the lock [B].
4. Remove the waste toner bottle [C].
5. Put the waste toner bottle [C] into the supplied plastic bag to prevent toner from leaking out of the bottle, and then seal the bag.



m065r502

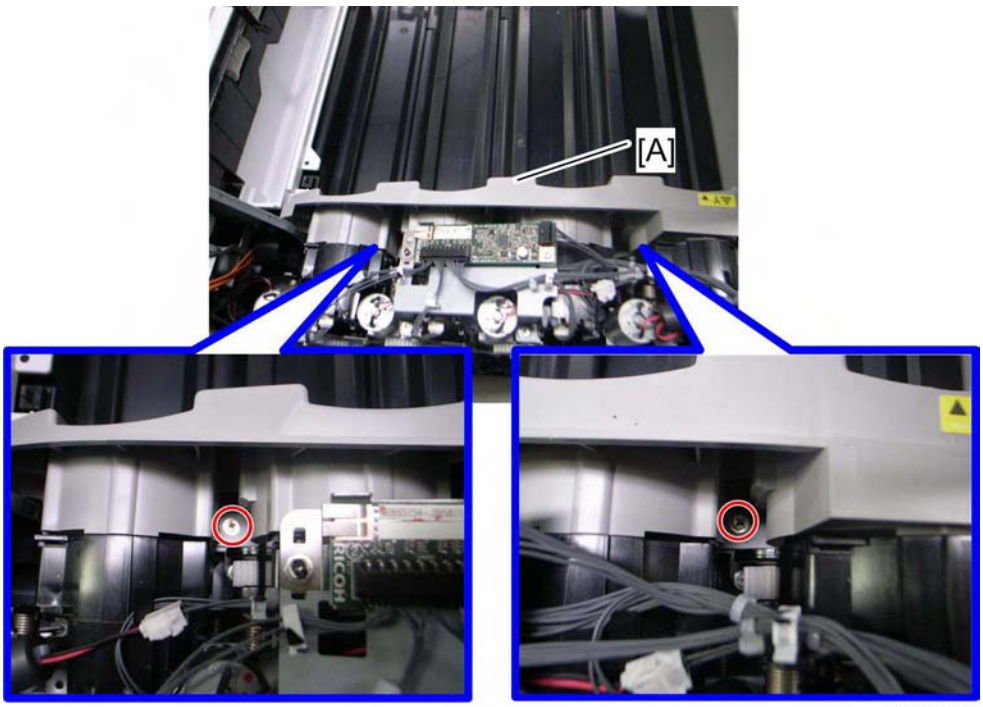
4.5.3 TONER SUPPLY TUBE

1. Remove the toner bottles.
2. Open the upper cover.



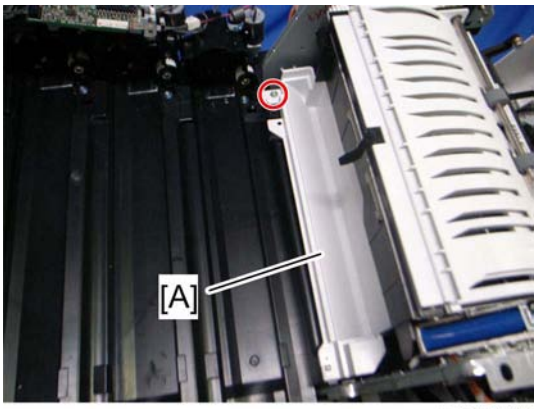
m065r718

3. Clean each toner hopper entrance [A] with a vacuum cleaner.
4. PCDUs (☛ p.4-20)
5. Right cover (☛ p.4-4)
6. Rear cover (☛ p.4-5)
7. Top cover (☛ p.4-6)
8. Inner left upper cover (☛ p.4-9)
9. Inner right rear cover (☛ p.4-13)
10. Drive unit fan base (☛ p.4-73 "Drive Unit Fan")



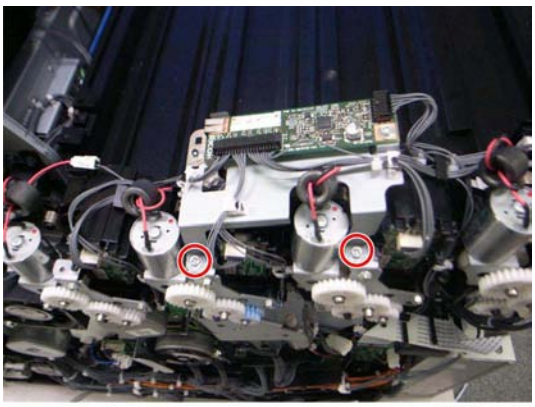
m065r536

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



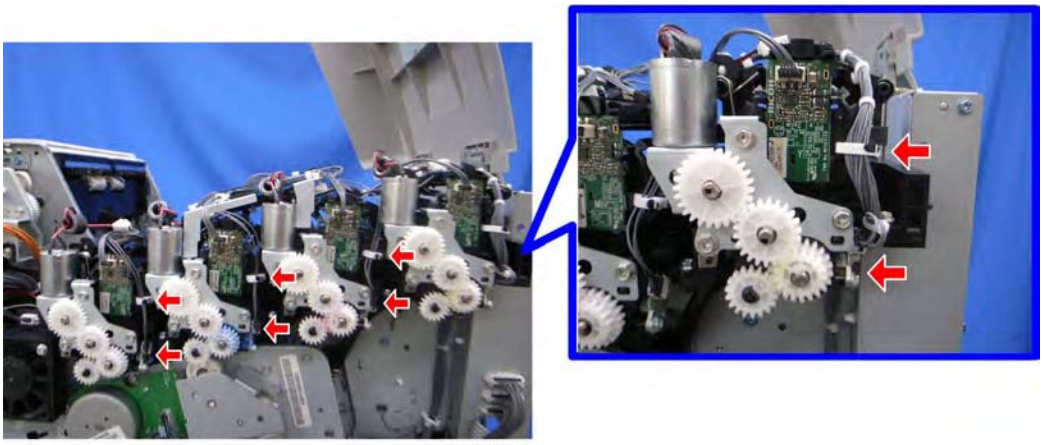
m065r537

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



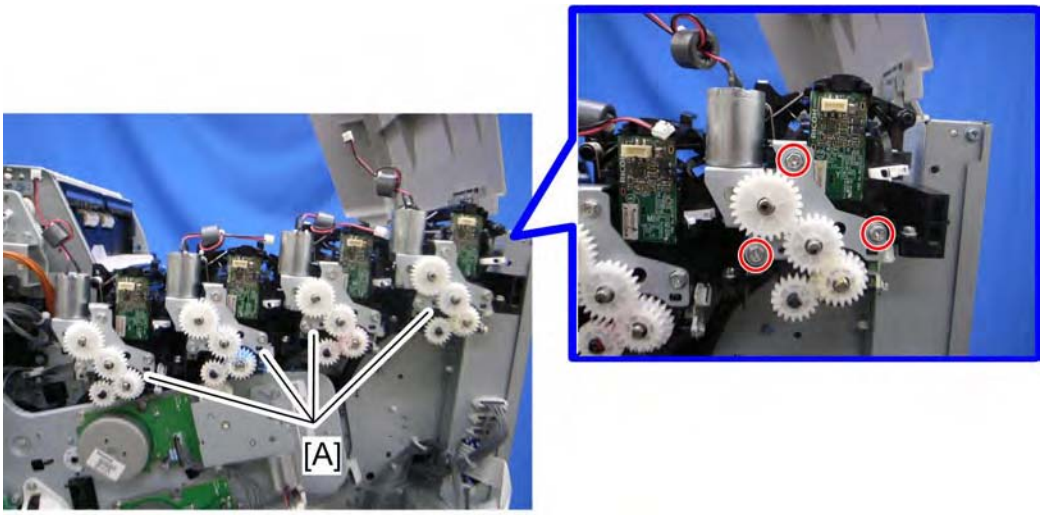
m065r716

13. Remove the two screws.



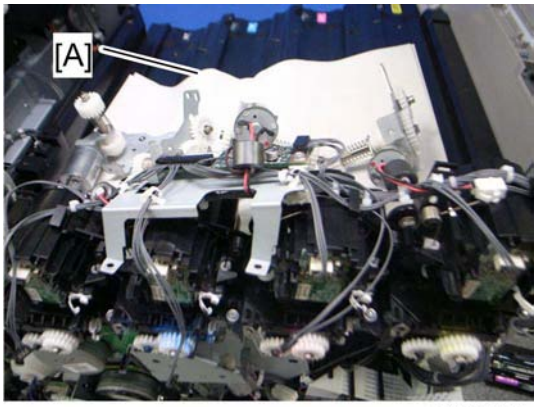
m065r717

14. Release each clamp and disconnect each connector.



m065r641

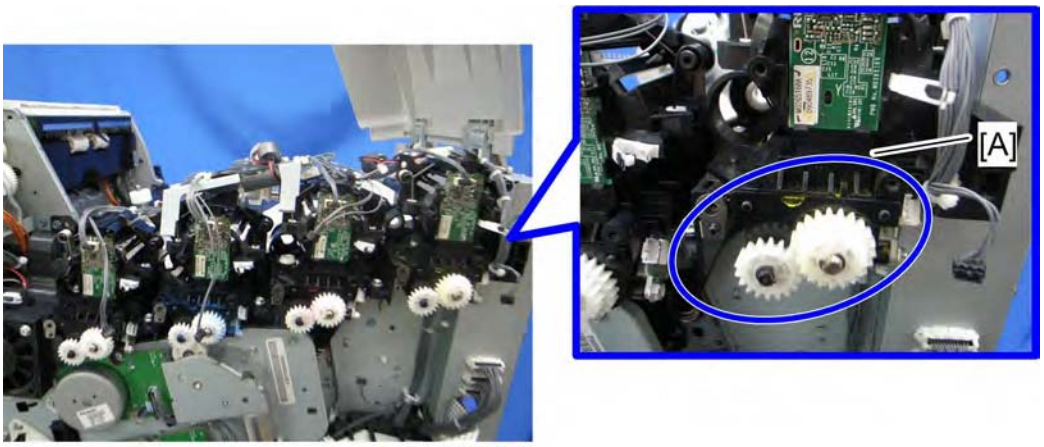
15. Release the toner supply motor brackets [A] (x 3 each)



m065r719

Note

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

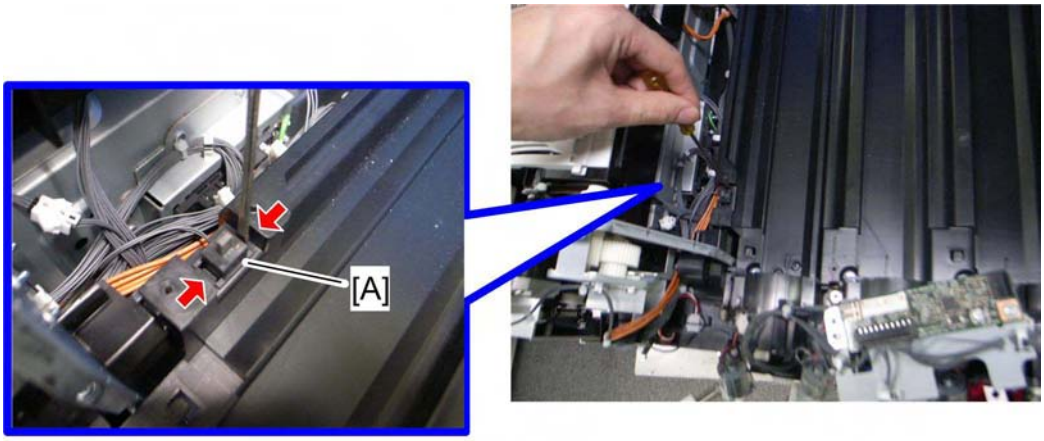


m065r720

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

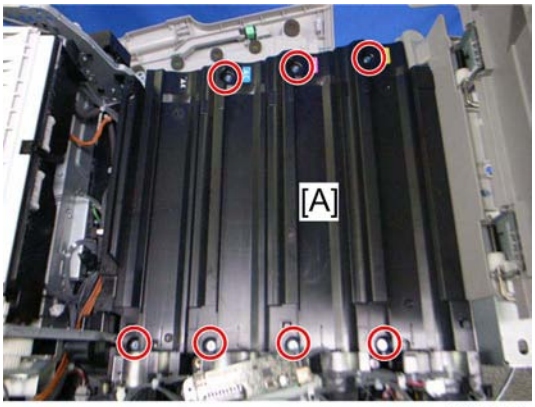
Note

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



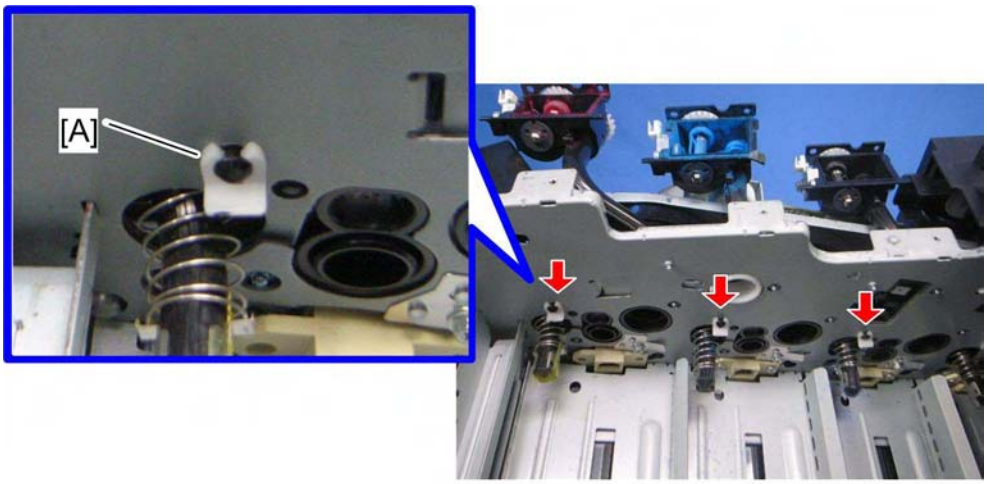
m065r721

17. Release the upper cover sensor [A] (hooks).



m065r722

18. Release the toner plate [A] (x 7).

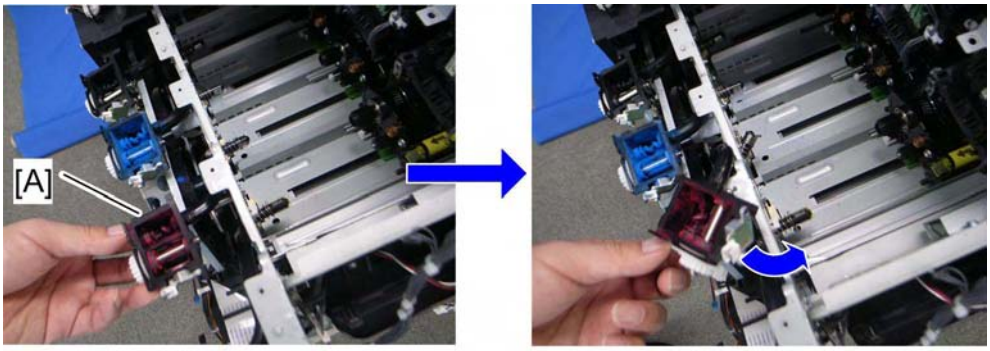


m065r813

19. Remove each clip [A].

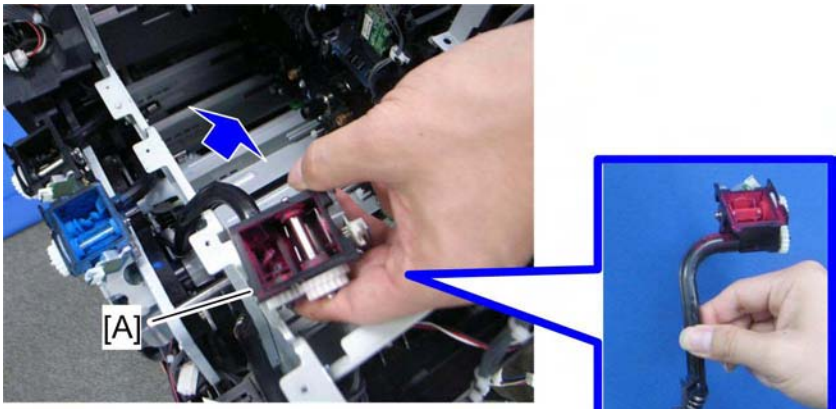
Note

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



m065r814

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

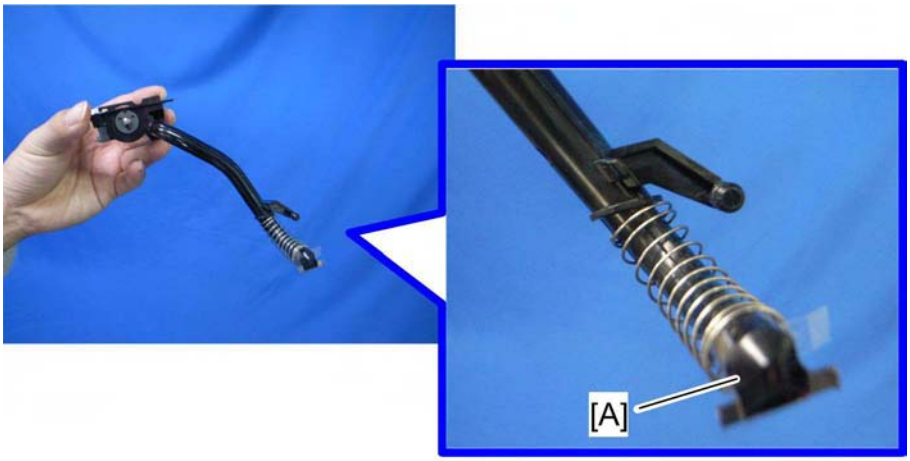


m065r815

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

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.



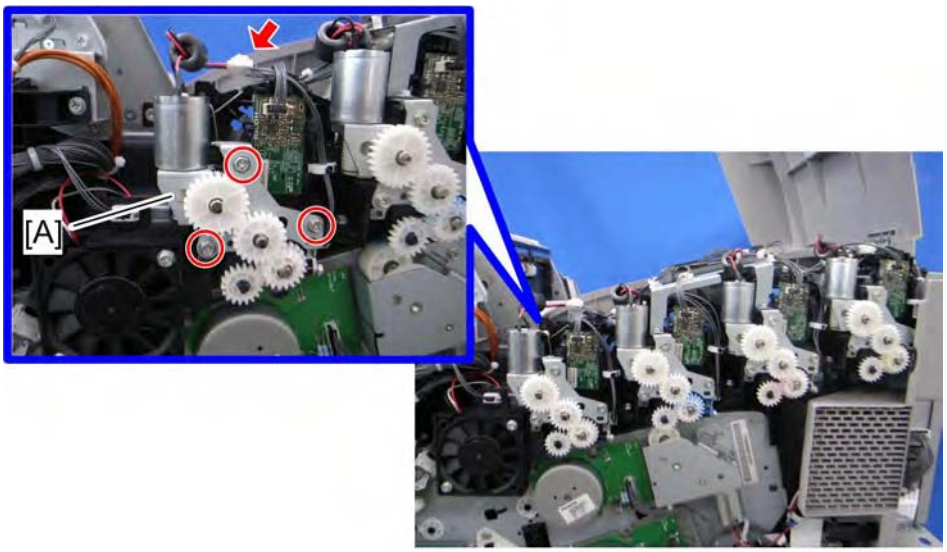
m065r816

Note

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

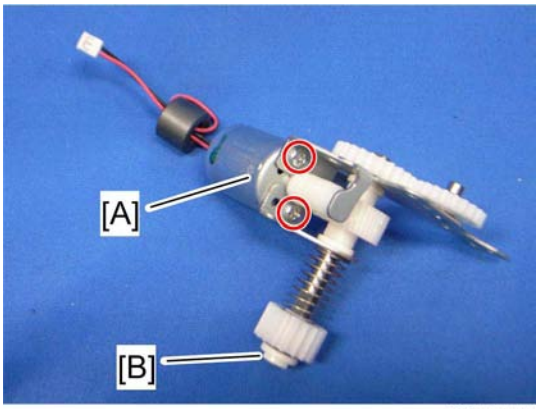
4.5.4 TONER SUPPLY MOTOR

1. Right cover (☛ p.4-4)
2. Rear cover (☛ p.4-5)
3. Top cover (☛ p.4-6)



m065r774

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

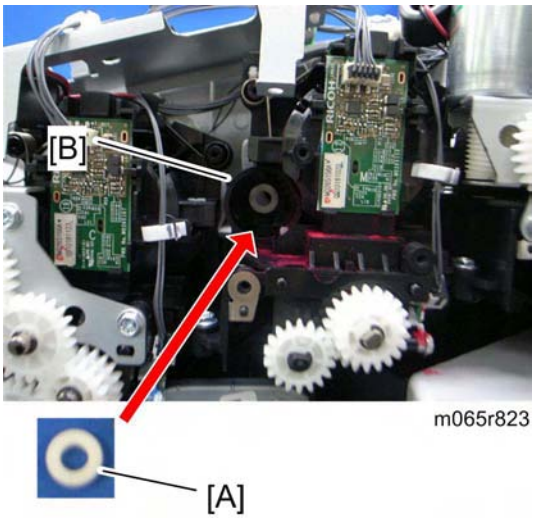


m065r775

5. Toner supply motor [A] (x 2)

Note

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

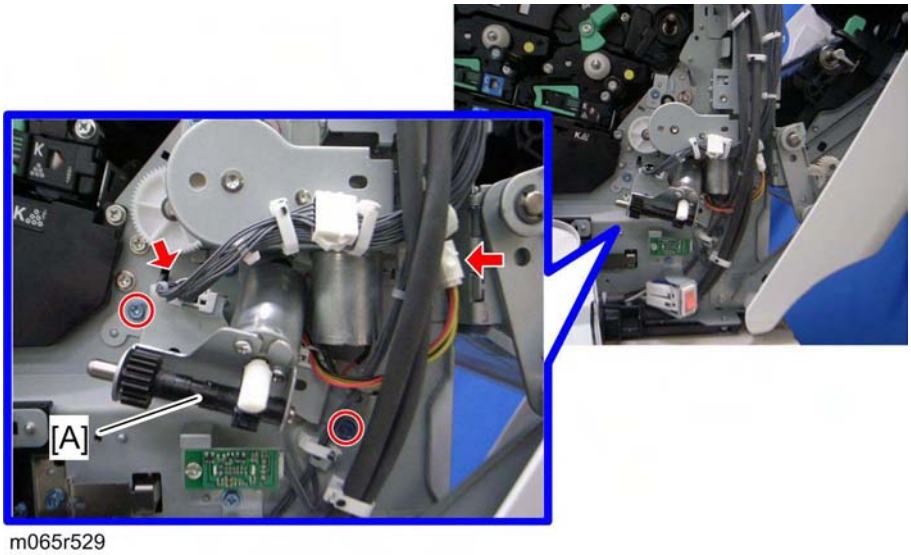


Note

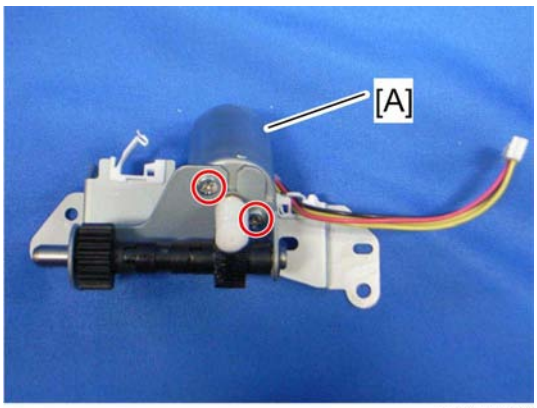
- Make sure that the bushing (white) [A] is installed in the toner hopper frame [B].

4.5.5 TONER COLLECTION MOTOR

1. Inner left lower cover (☛ p.4-11)
2. Inner left front cover (☛ p.4-10)

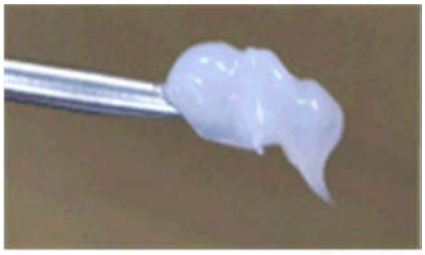


3. Motor bracket [A] (x 2, x 1, x 1)



m065r530

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



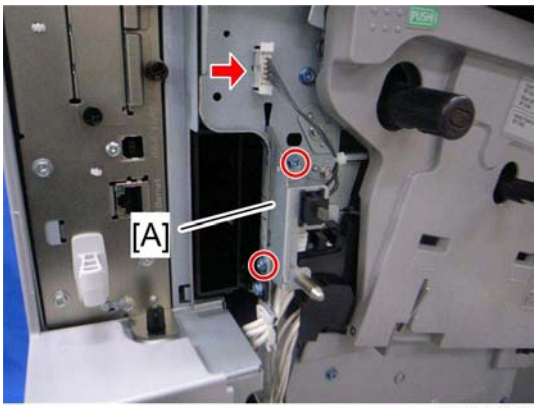
d037r561

Note

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

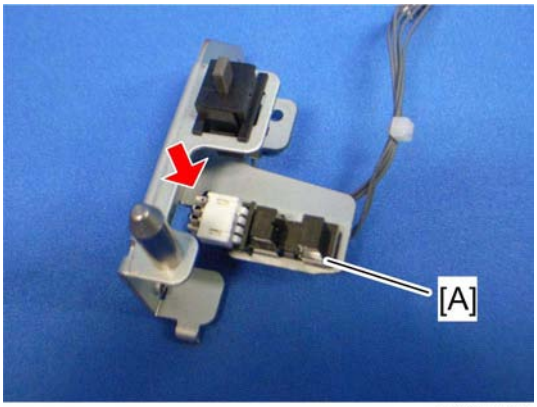
4.5.6 WASTE TONER BOTTLE FULL SENSOR

1. Inner left rear cover (☛ p.4-11)



m065r526

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

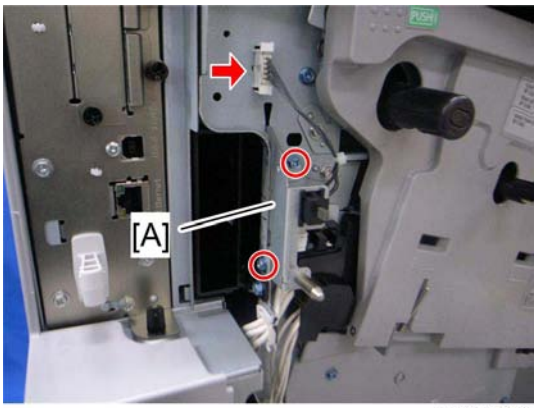


m065r527

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

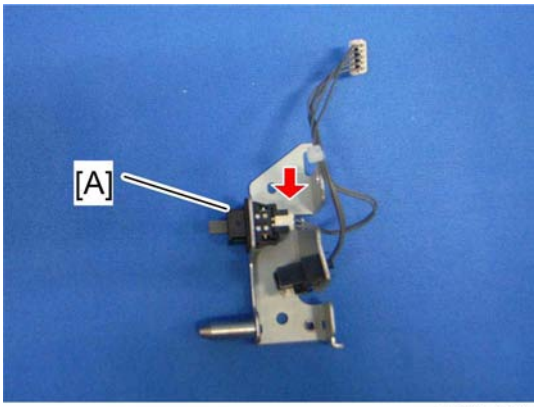
4.5.7 WASTE TONER BOTTLE SET SENSOR

1. Inner left rear cover (☛ p.4-11)



m065r526

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

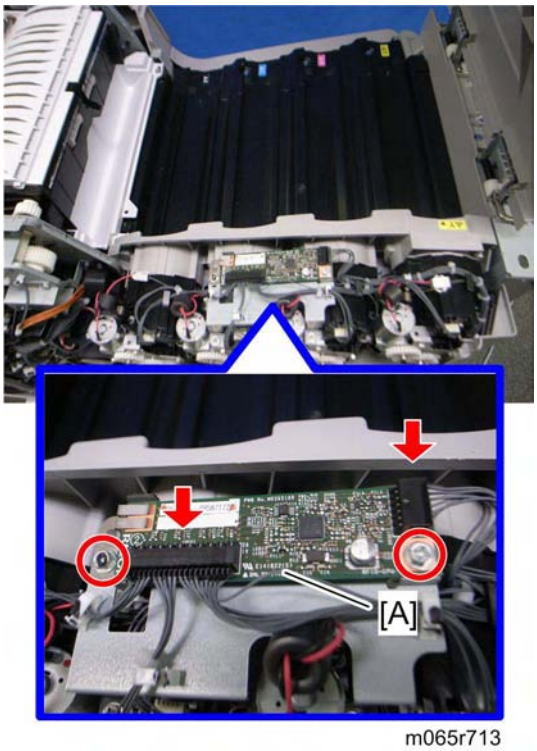


m065r528

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

4.5.8 RFID CPU BOARD

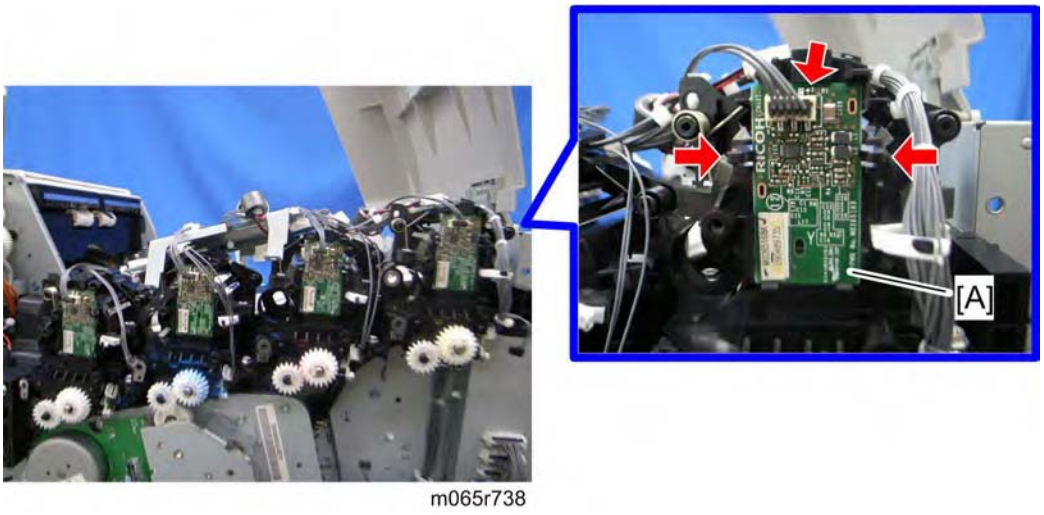
1. Right cover (☛ p.4-4)
2. Rear cover (☛ p.4-5)
3. Top cover (☛ p.4-6)



4. RFID CPU Board [A] (x 2, x 2)

4.5.9 RFID BOARD

1. Right cover (☛ p.4-4)
2. Rear cover (☛ p.4-5)
3. Top cover (☛ p.4-6)

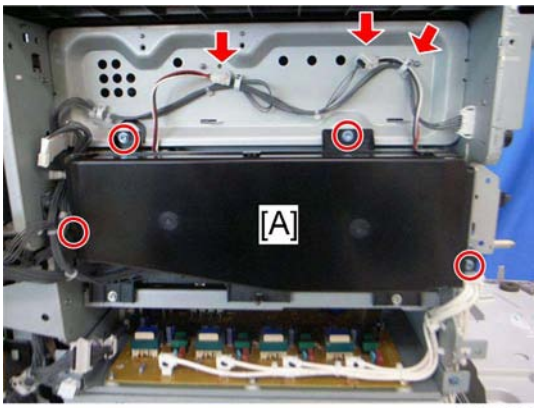


m065r738

4. RFID board [A] (☞ x 1, hooks)

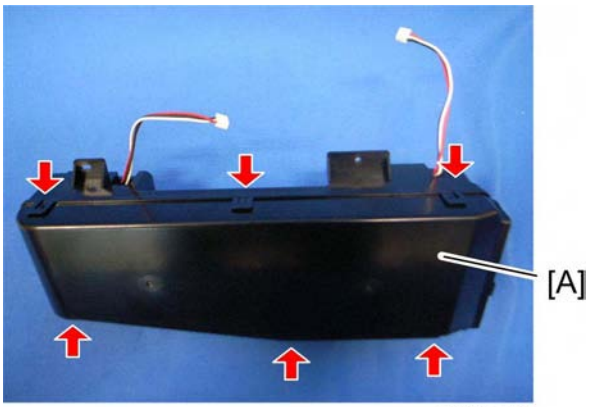
4.5.10 DEVELOPMENT FAN

1. Rear cover (☛ p.4-5)
2. Right cover (☛ p.4-4)
3. Controller box (☛ p.4-143)



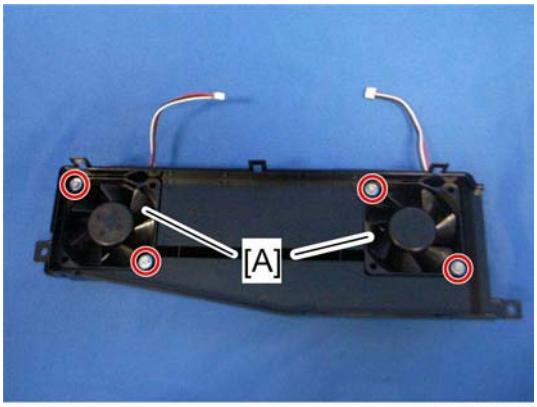
m065r606

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



m065r607

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



m065r608

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

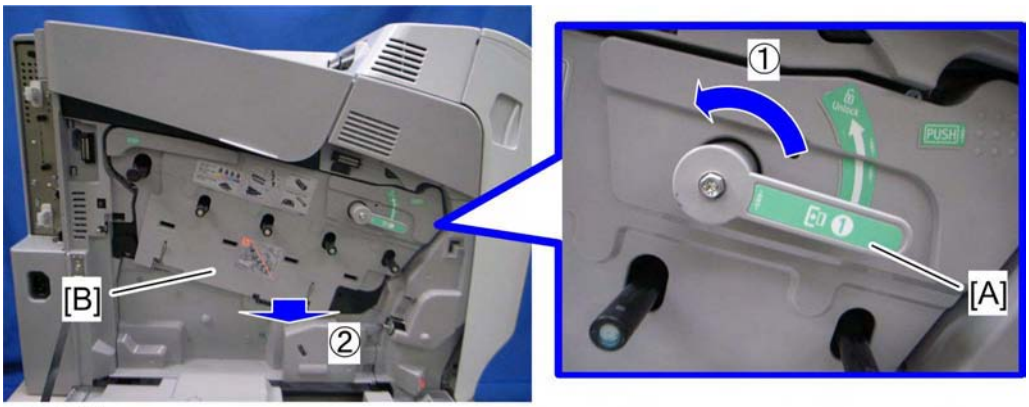
When installing the development fan

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

4.6 IMAGE TRANSFER

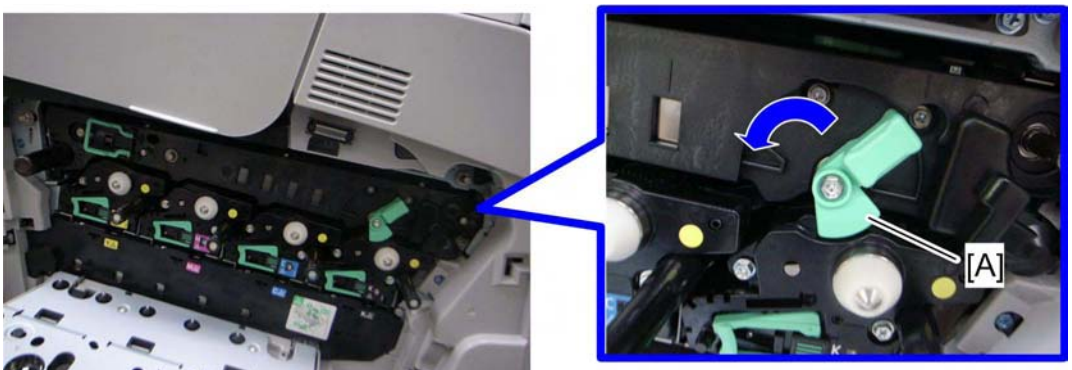
4.6.1 ITB (IMAGE TRANSFER BELT) UNIT

1. Open the left cover.



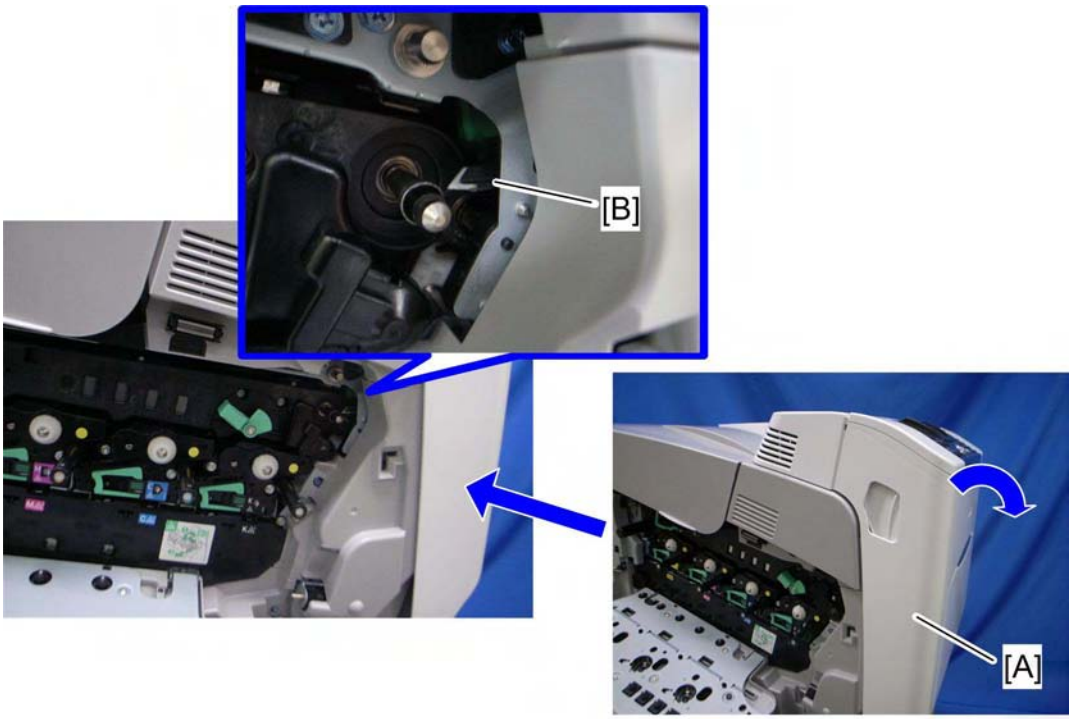
m065r532

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



m065r533

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

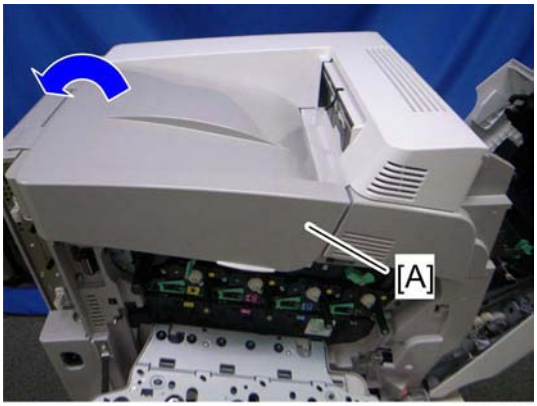


m065r554

4. Open the front door [A].

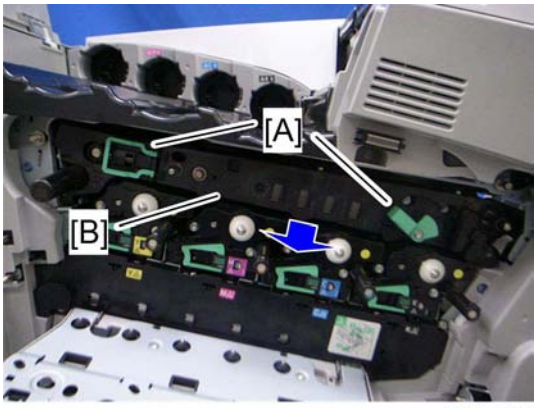
Note

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



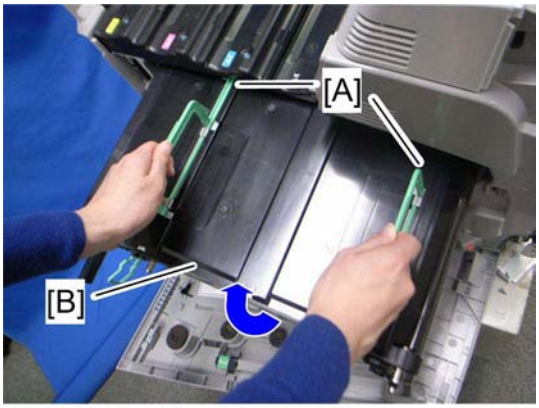
m065r555

5. Open the upper cover [A].



m065r556

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



m065r557

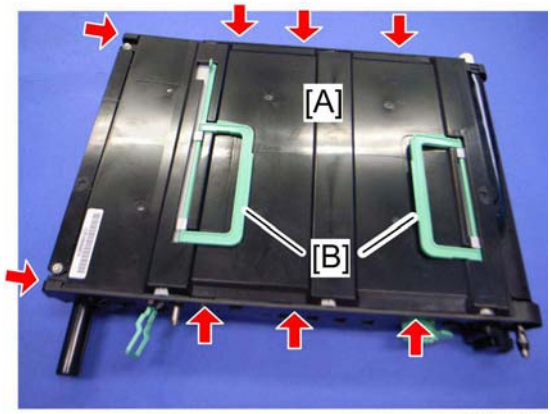
7. Grasp the handles [A], and then lift the ITB unit [B].

4.6.2 IMAGE TRANSFER BELT

Note

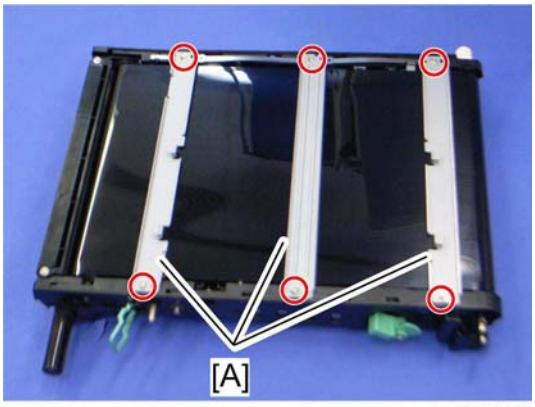
- Do not touch or damage the surface of the image transfer belt during servicing.

1. ITB unit (p.4-38)



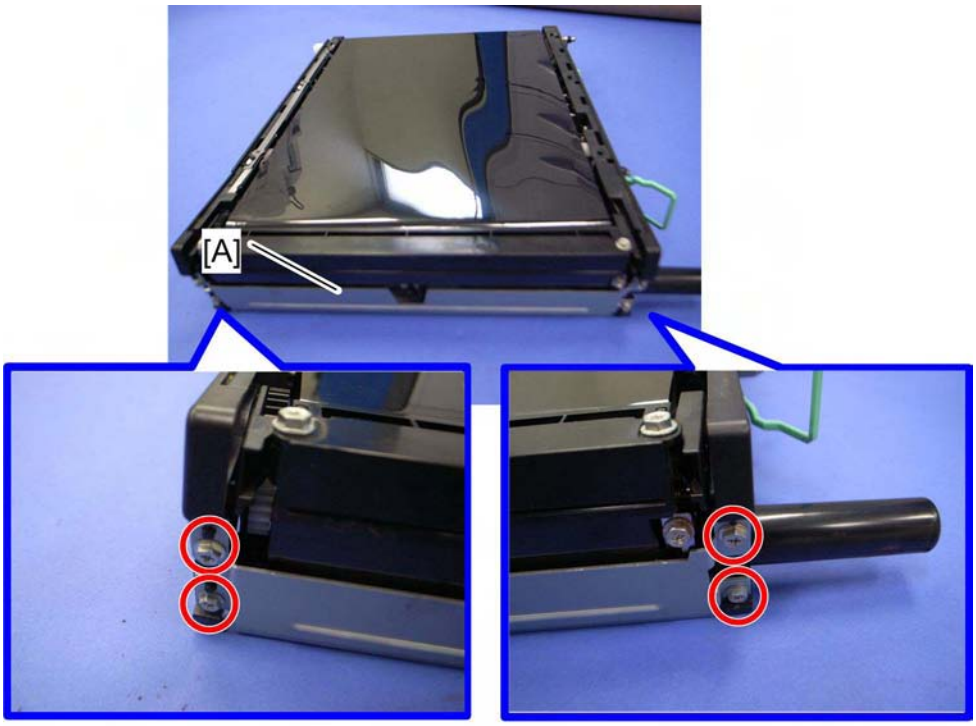
m022r569

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



m022r568

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

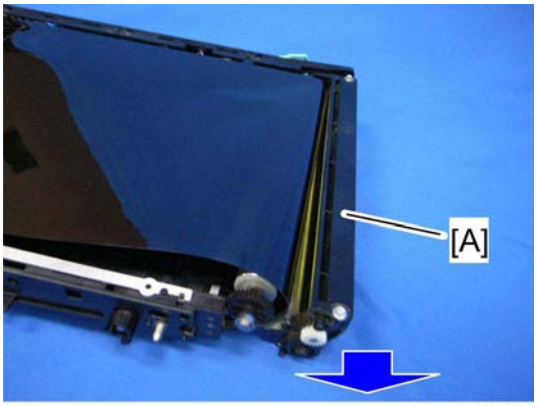


m022r570

4. The left stay [A] (x 4)

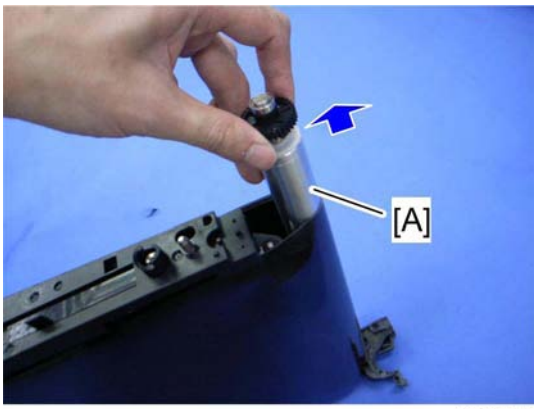
m022r572

5. Rear holder bracket [A] (x 2)



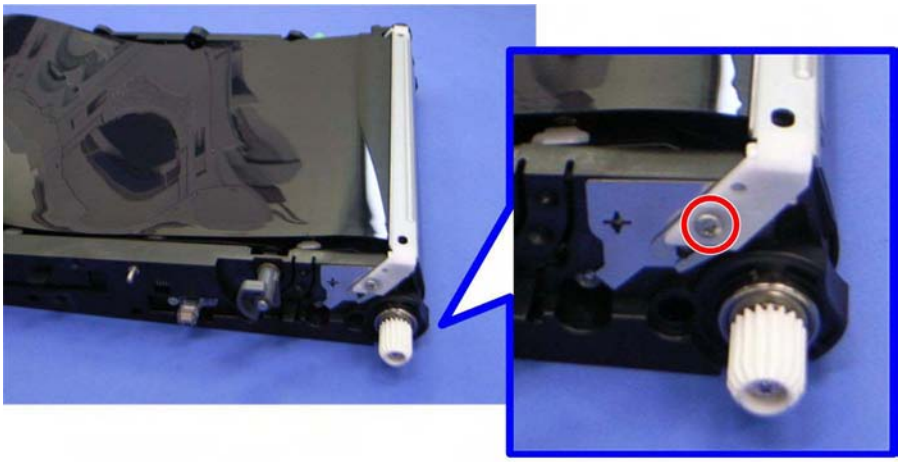
m022r571

6. ITB cleaning unit [A]



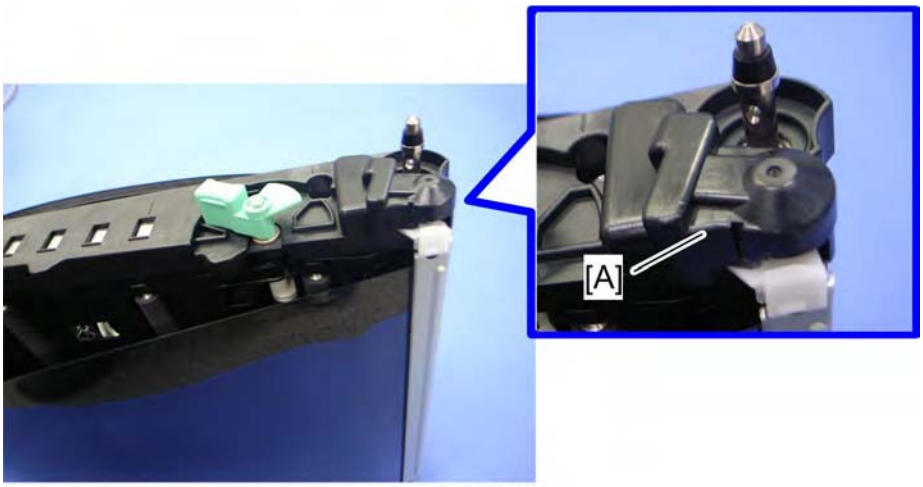
m022r574

7. Pull the tension roller [A] as shown above.



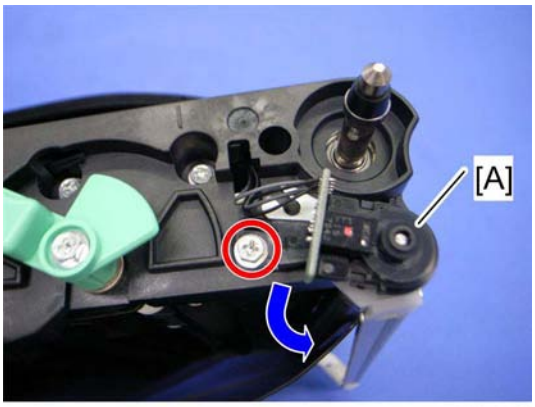
m022r575

8. Remove a screw.



m022r576

9. Front holder bracket [A]

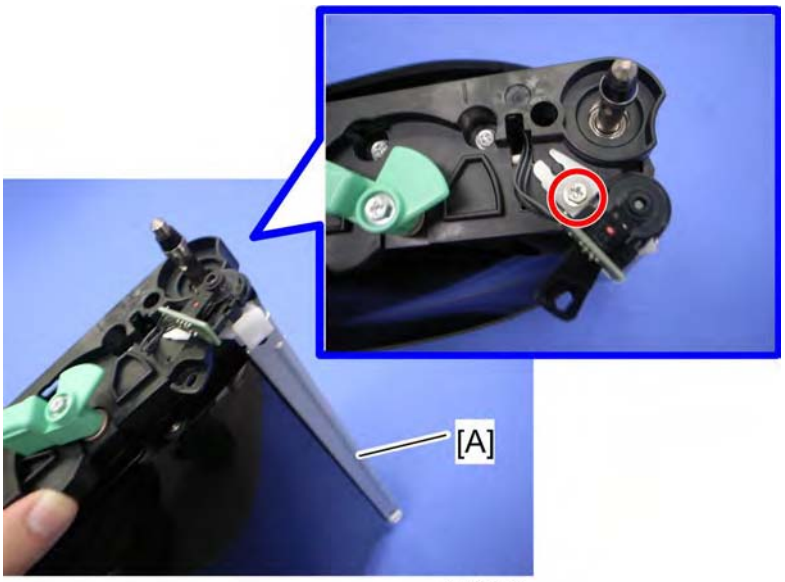


m022r577

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

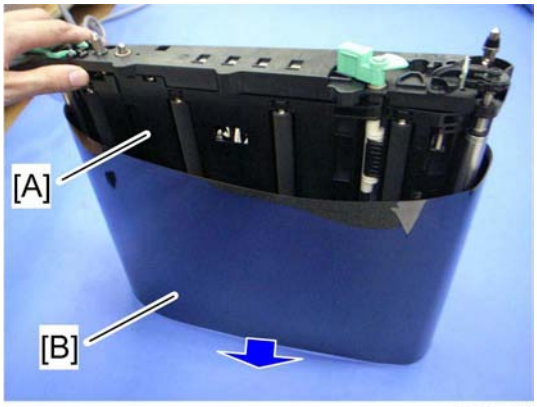
Note

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



m022r578

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



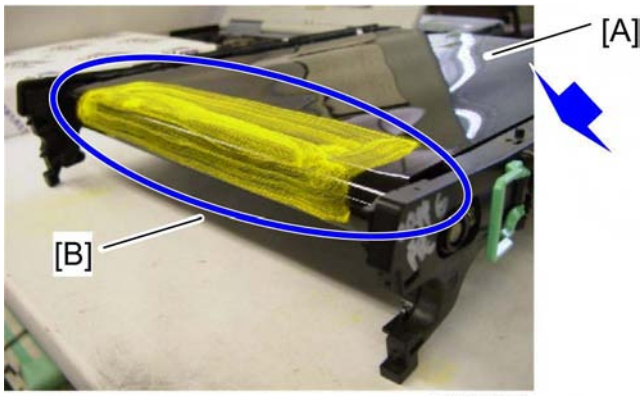
m022r579

12. Stand the ITB unit [A] as shown above.
13. Image transfer belt [B]

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.

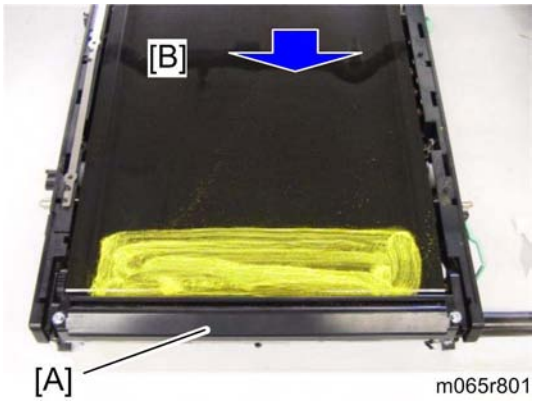


m065r800

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.

   Note

   - Be sure to use yellow toner from the M065/M066; do not use lubricant powder, developer, or waste toner.

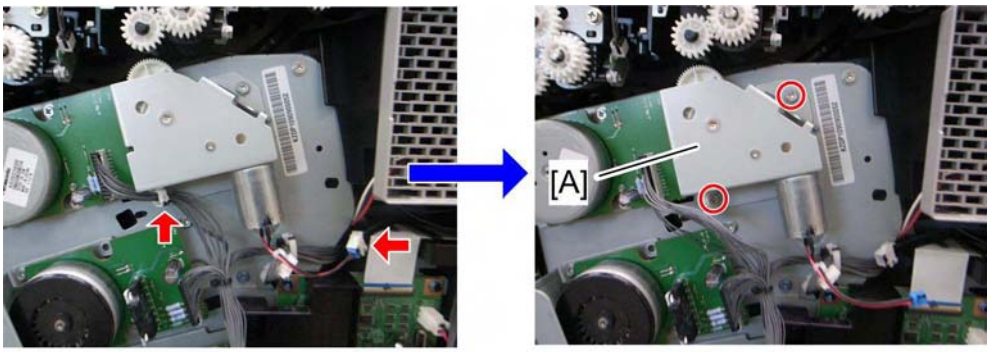


m065r801

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

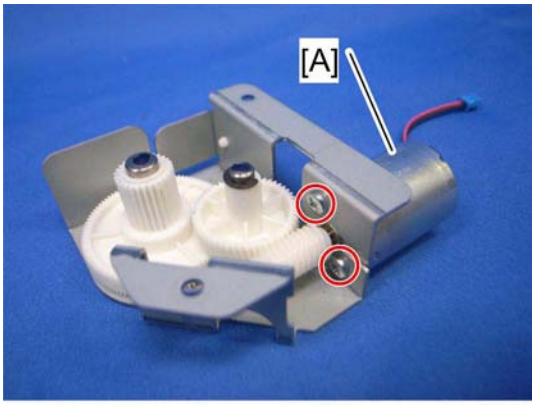
4.6.3 ITB CONTACT MOTOR

1. Right cover (☛ p.4-4)



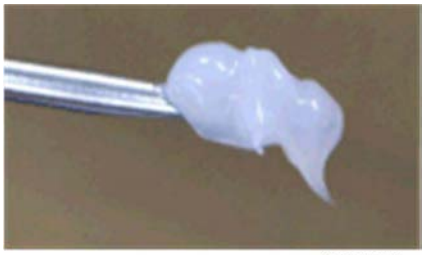
m065r558

2. ITB contact motor unit [A] (x 2, x 1, x 1)



m065r773

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



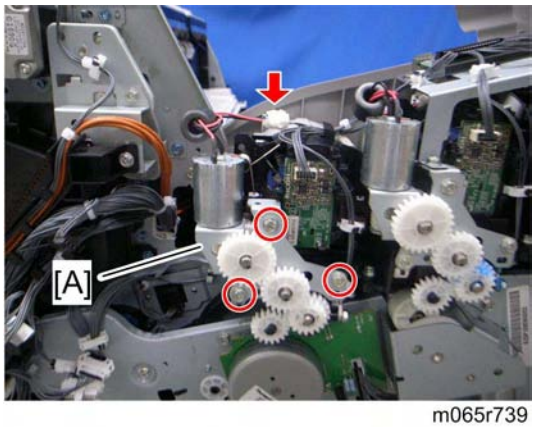
d037r561

Note

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

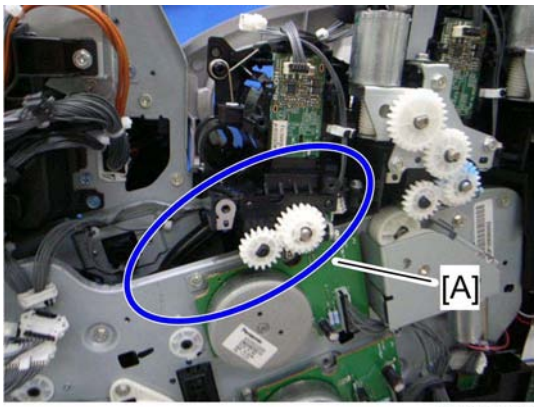
4.6.4 ITB CONTACT SENSOR

1. PCDU: K (☛ p.4-20)
2. Right cover (☛ p.4-4)
3. Toner supply fan (☛ p.4-62)



m065r739

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

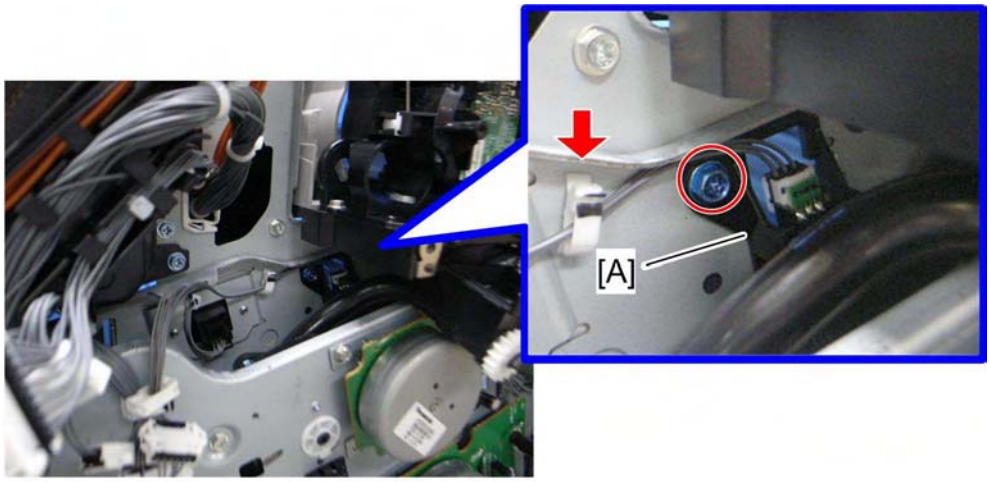


m065r740

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

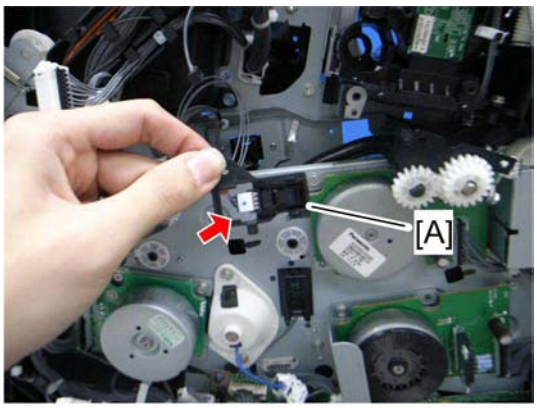
Note

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



m065r741

6. Sensor holder [A] (x 1, x 1)

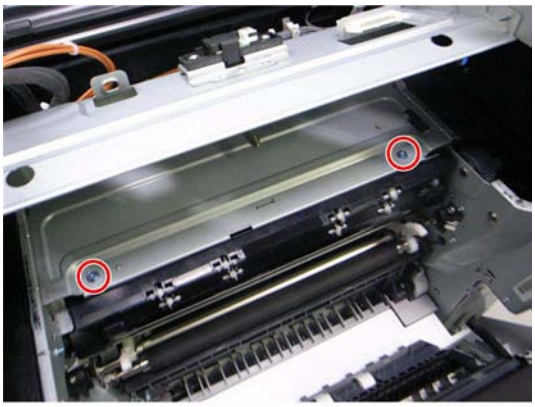


m065r742

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

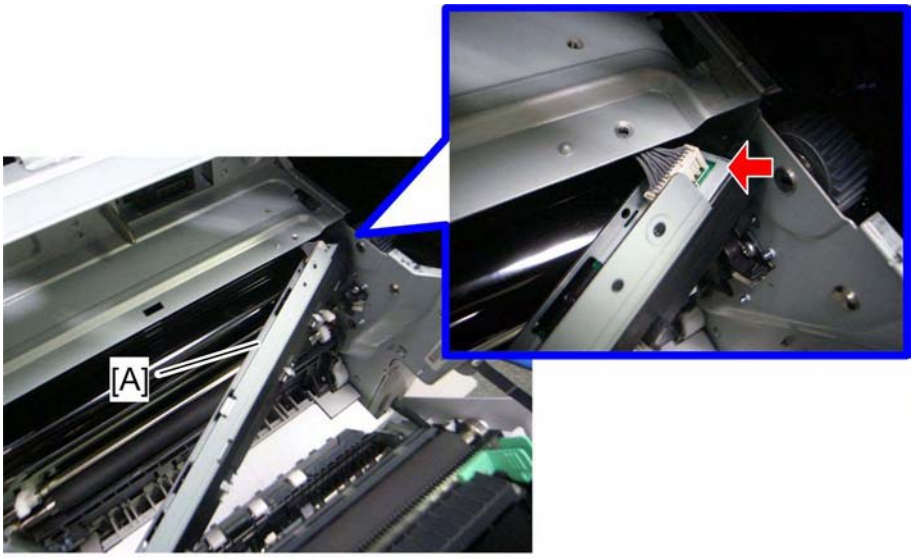
4.6.5 ID SENSOR BOARD

1. Fusing unit (☛ p.4-74)
2. Paper exit unit (☛ p.4-107)



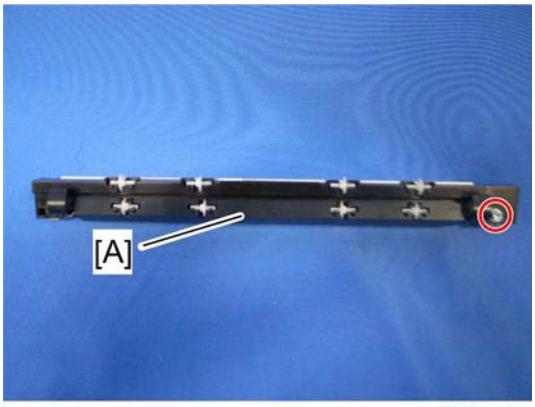
m065r545

3. Remove the two screws.



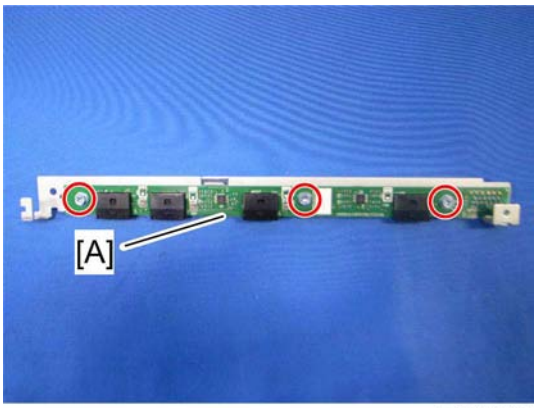
m065r546

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



m065r547

5. ID sensor board cover [A] (☛ x 1)



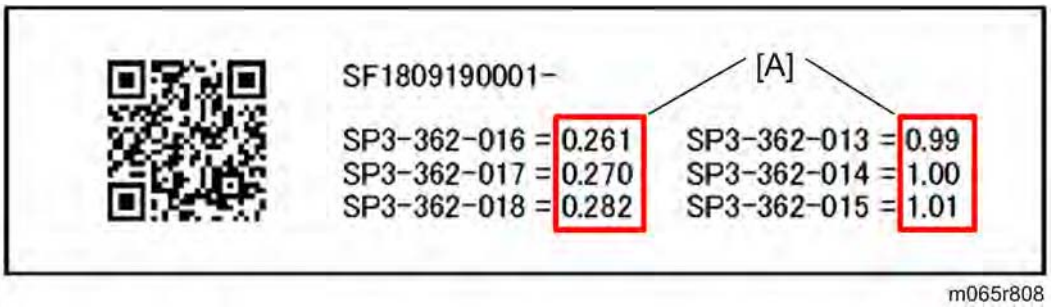
m065r548

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

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.



m065r808

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

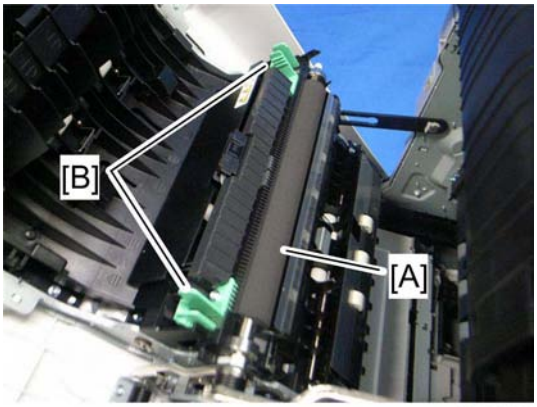
- For example, input "**0.99**" with SP3-362-013.

4. Exit the SP mode.

4.7 PAPER TRANSFER

4.7.1 PTR (PAPER TRANSFER ROLLER) UNIT

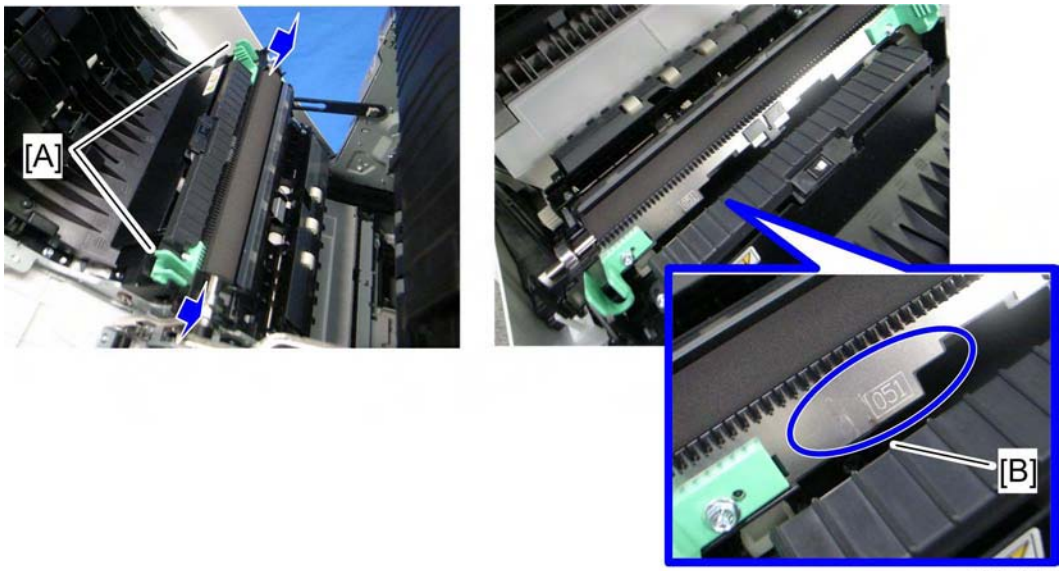
1. Open the duplex unit.



m065r573

2. Remove the PTR unit [A], releasing the two locks [B].

When Installing the PTR Unit



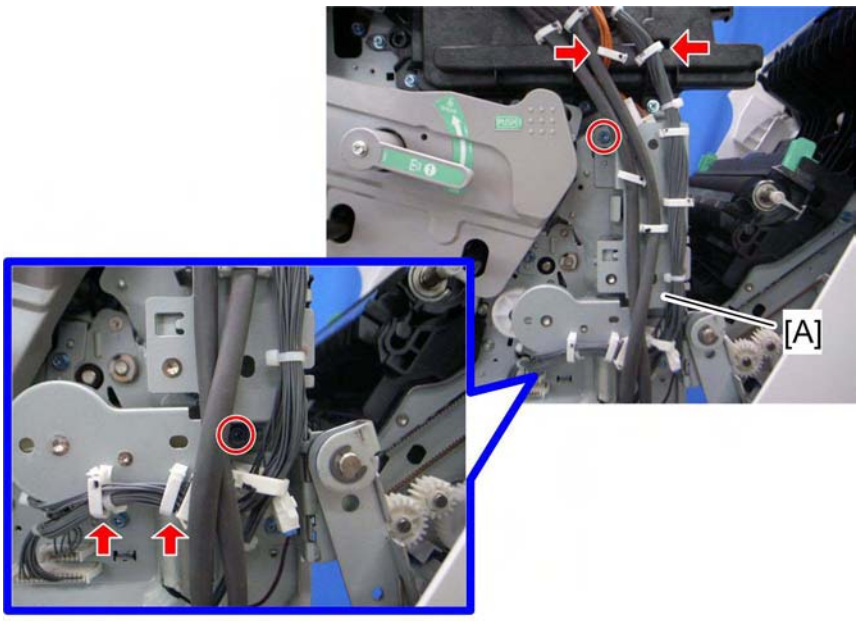
m065r802

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.

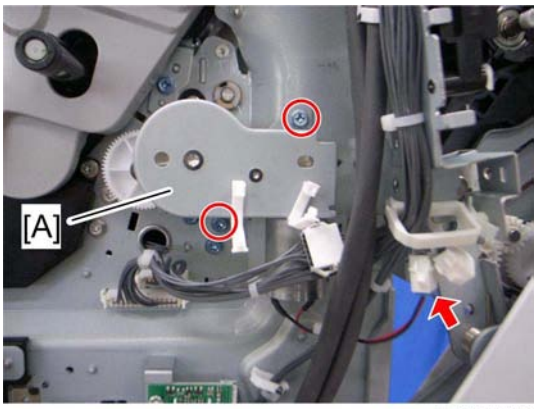
4.7.2 PTR CONTACT MOTOR

1. Toner collection motor (☛ p.4-30)



m065r551

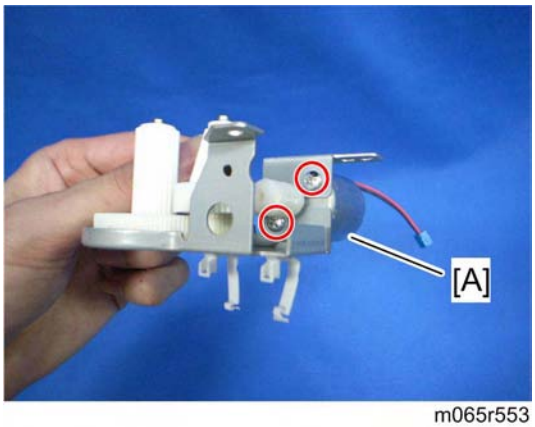
2. Interlock switch bracket [A] (x 2, x 4)



m065r552

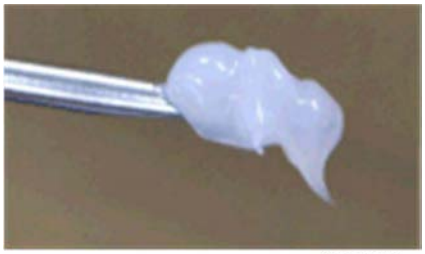
3. Motor bracket [A] (x 2, x 1)

4.



m065r553

5. PTR contact motor [A] (x 2)



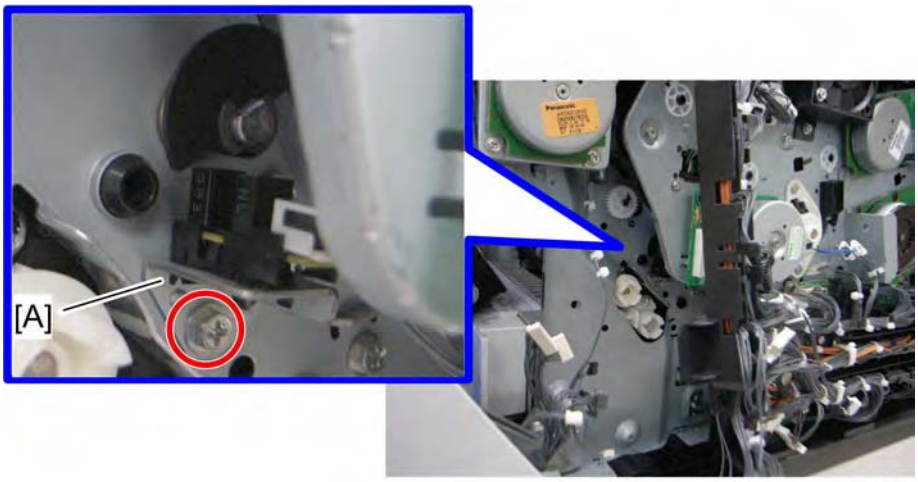
d037r561

Note

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

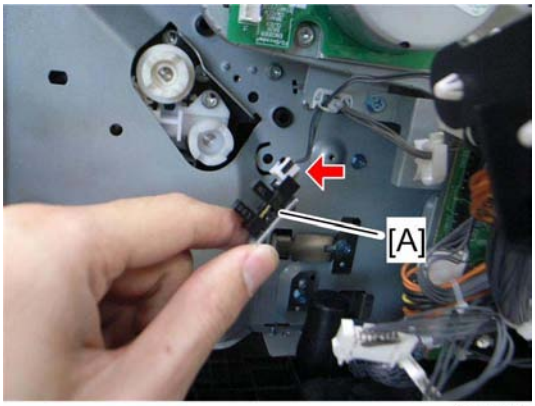
4.7.3 PTR CONTACT SENSOR

1. Right cover (☛ p.4-4)
2. Top cover (☛ p.4-6)
3. Inner right front cover (☛ p.4-12)
4. Motors with bracket (☛ p.4-68)



m065r574

5. Sensor bracket [A] (🔩 x 1)

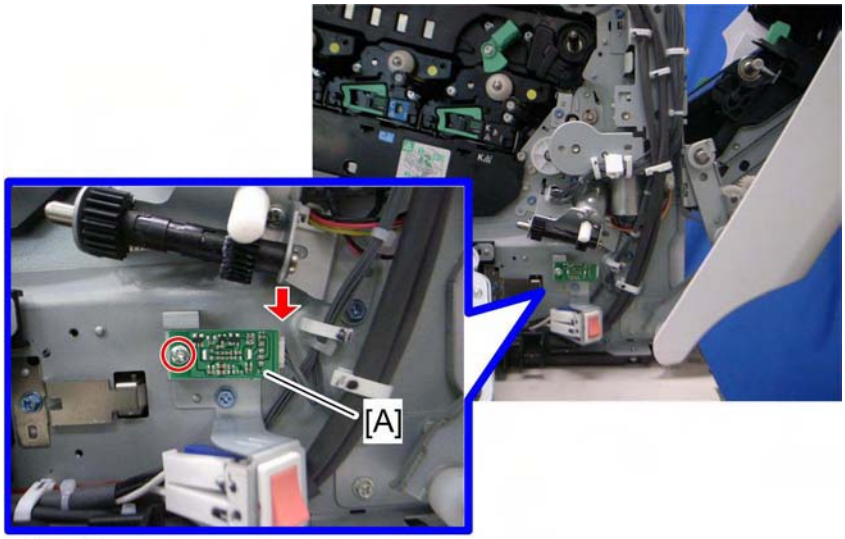


m065r575

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

4.7.4 TEMPERATURE/HUMIDITY SENSOR

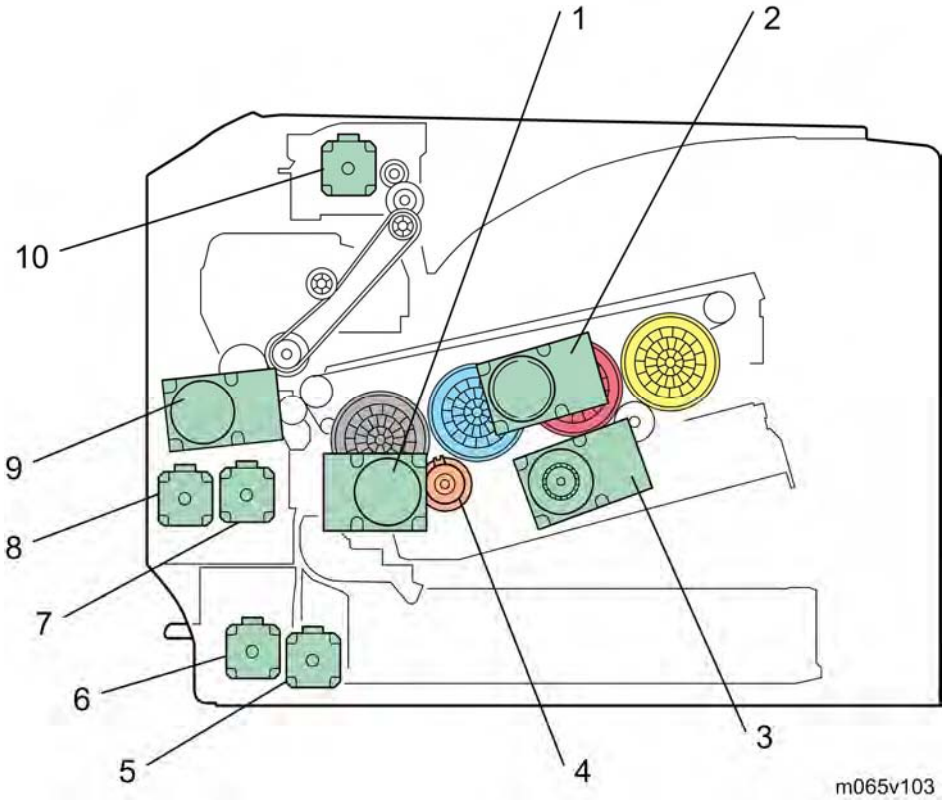
1. Inner left lower cover (☛ p.4-11)



m065r531

2. Temperature/Humidity sensor [A] (x 1, x 1)

4.8 DRIVE UNIT



The drawing above shows the drive layout.

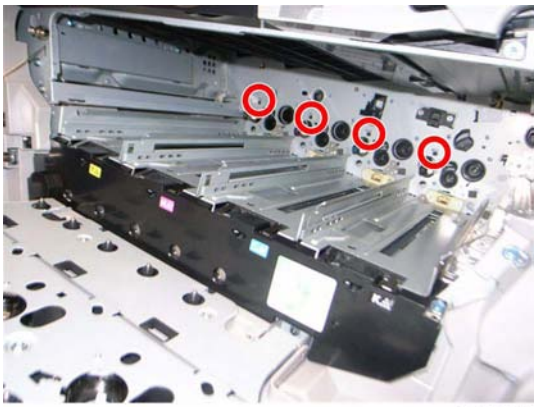
1. ITB unit /drum-K/ development-K motor	6. Vertical transport motor
2. Drum motor: CMY	7. Registration motor
3. Development motor: CMY	8. Duplex/ by-pass motor
4. Development clutch: K	9. Fusing/ paper exit motor
5. Paper feed motor	10.Inverter motor

4.8.1 GEAR UNIT

1. Remove the toner bottles.
2. Open the upper cover.

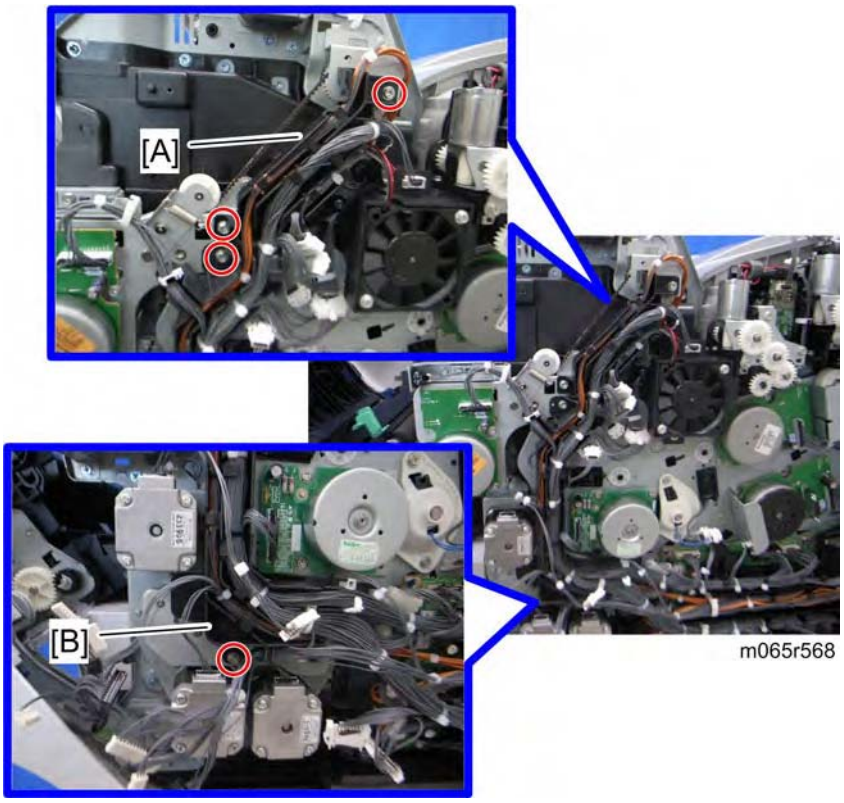
m065r718

3. Clean each toner hopper entrance [A] with a vacuum cleaner.
4. ITB unit (☛ p.4-38)
5. PCDUs (☛ p.4-20)



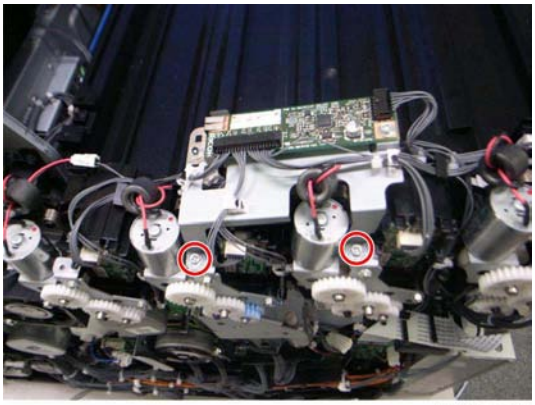
m065r818

6. Remove the four clips.
7. Right cover (☛ p.4-4)
8. Rear cover (☛ p.4-5)
9. Top cover (☛ p.4-6)
10. Inner right rear cover (☛ p.4-13)
11. Inner right front cover (☛ p.4-12)

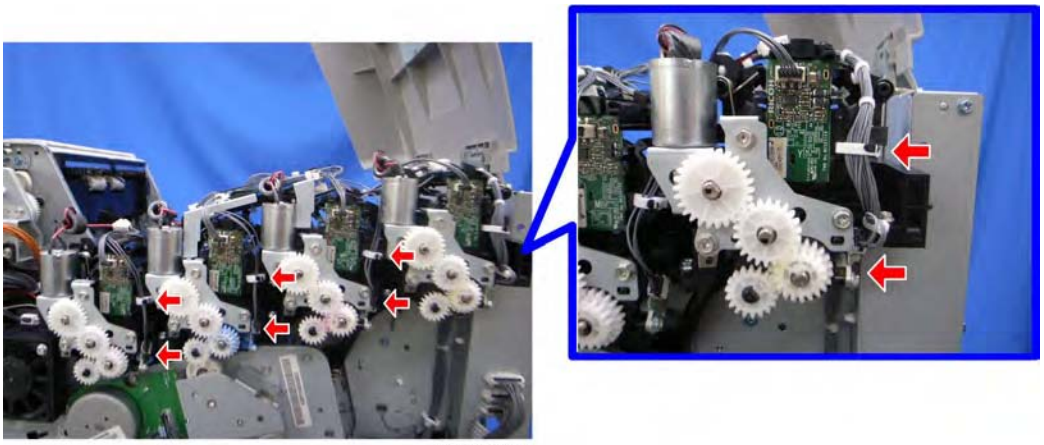


m065r568

12. Release the upper harness guide [A] and the lower harness guide [B] (x 4, x all, x all)
13. BCU with bracket (p.4-145 "BCU")

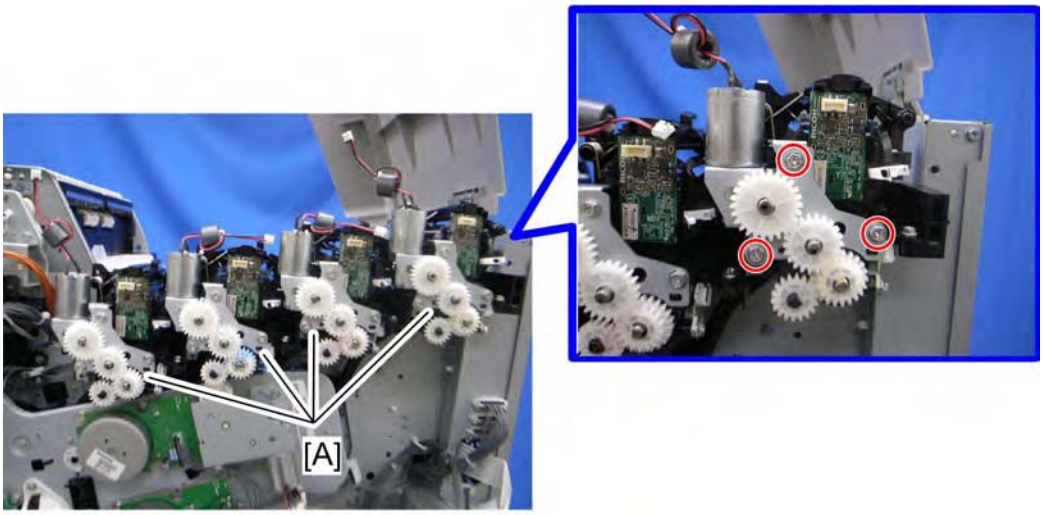

m065r716

14. Remove the two screws.



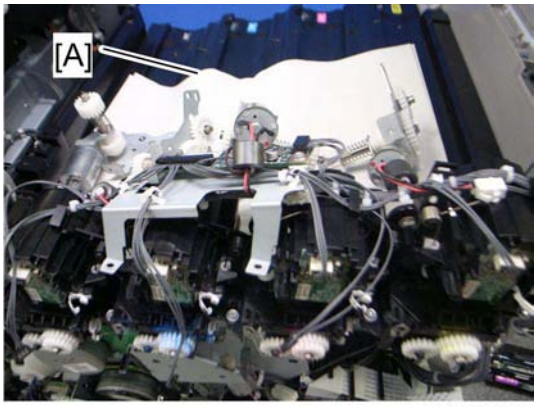
m065r717

15. Release each clamp and disconnect each connector.



m065r641

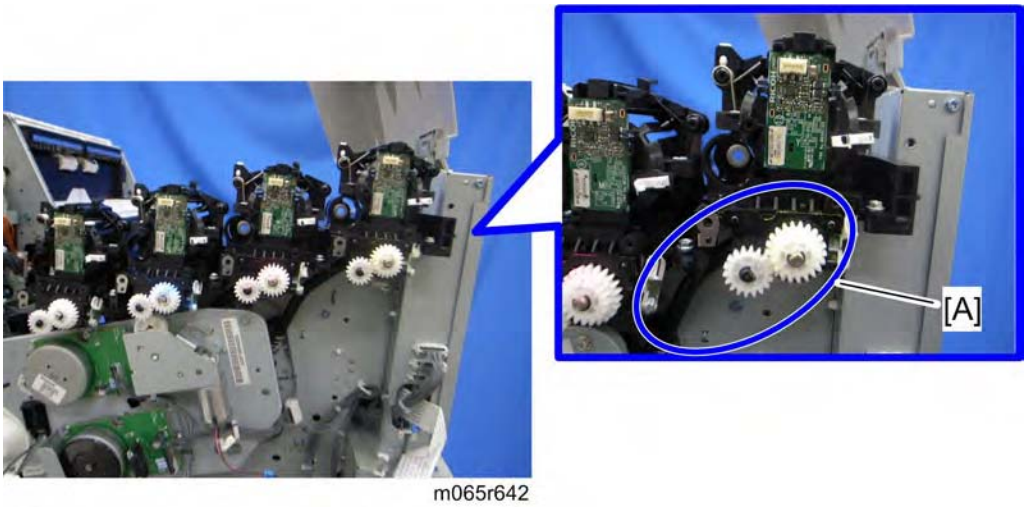
16. Release the toner supply motor brackets [A] (x 3 each)



m065r719

Note

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

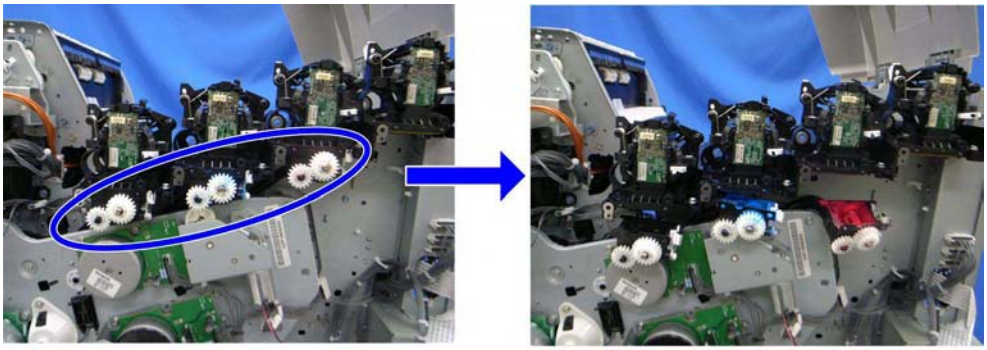


m065r642

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.

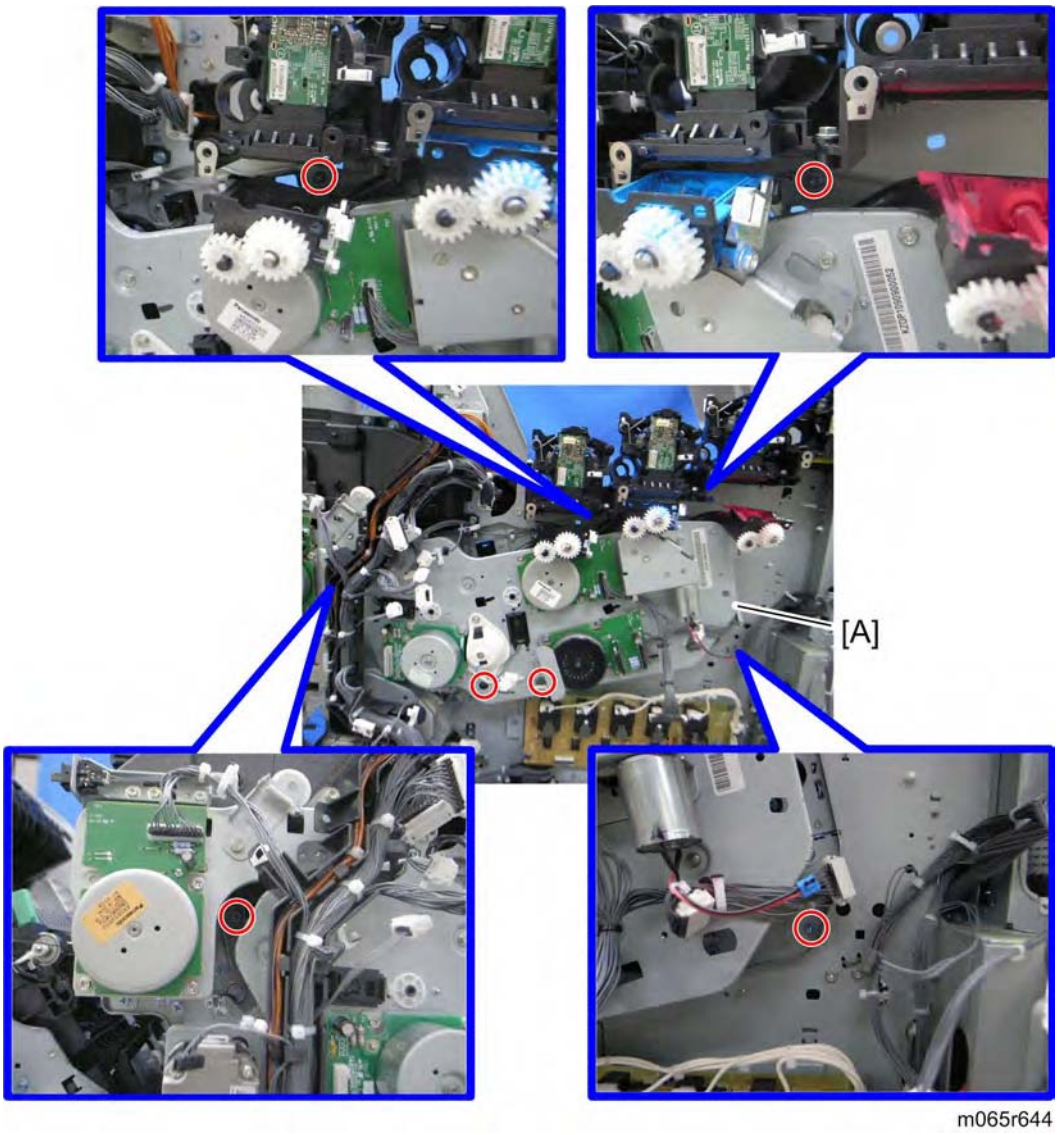


m065r643

18. Release the toner supply tubes for M, C and K.

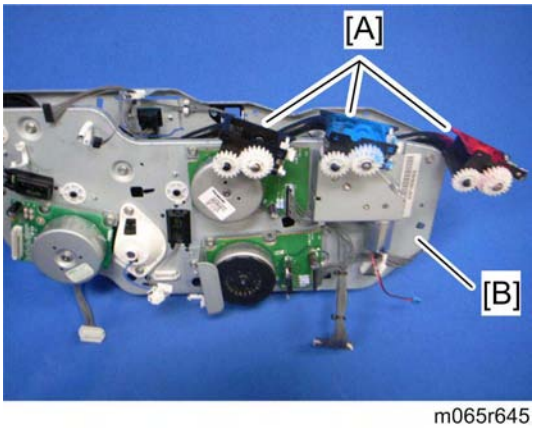
Note

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



m065r644

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



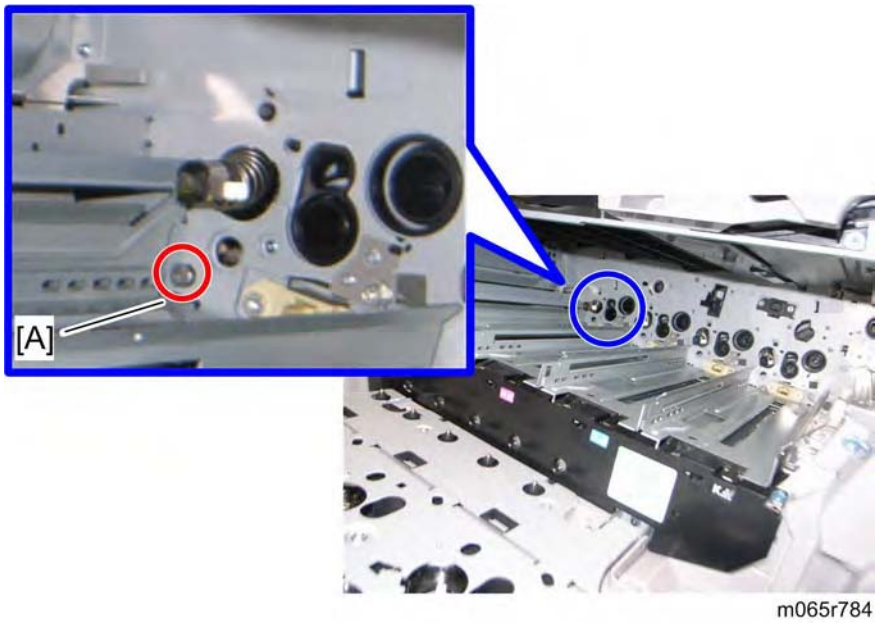
m065r645

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.

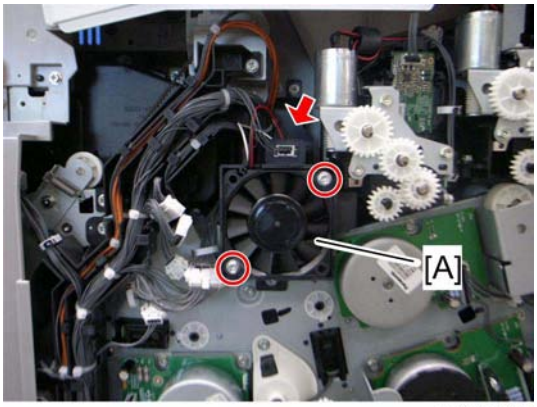
When installing the gear unit



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

4.8.2 TONER SUPPLY FAN

1. Right cover (☛ p.4-4)



m065r509

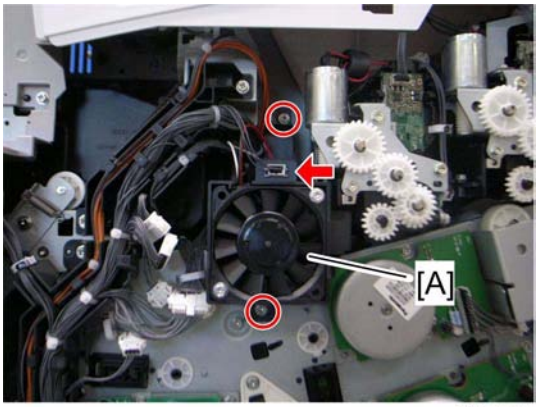
2. Toner supply fan [A] (x 2, x1)

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 (☛ p.4-4)

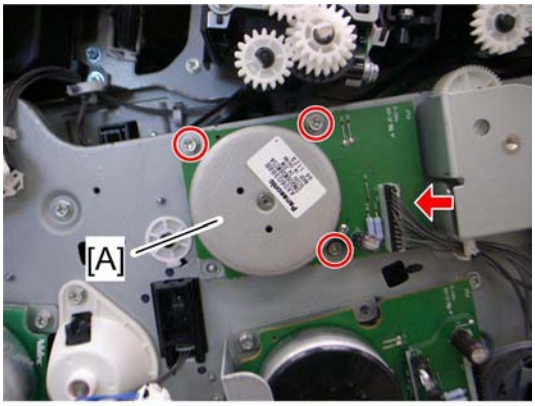


m065r511

2. Toner supply fan base [A] (x 2, x1)

4.8.3 DRUM MOTOR: CMY

1. Right cover (☛ p.4-4)
2. Toner supply fan base (☛ p.4-62 "Toner Supply Fan")

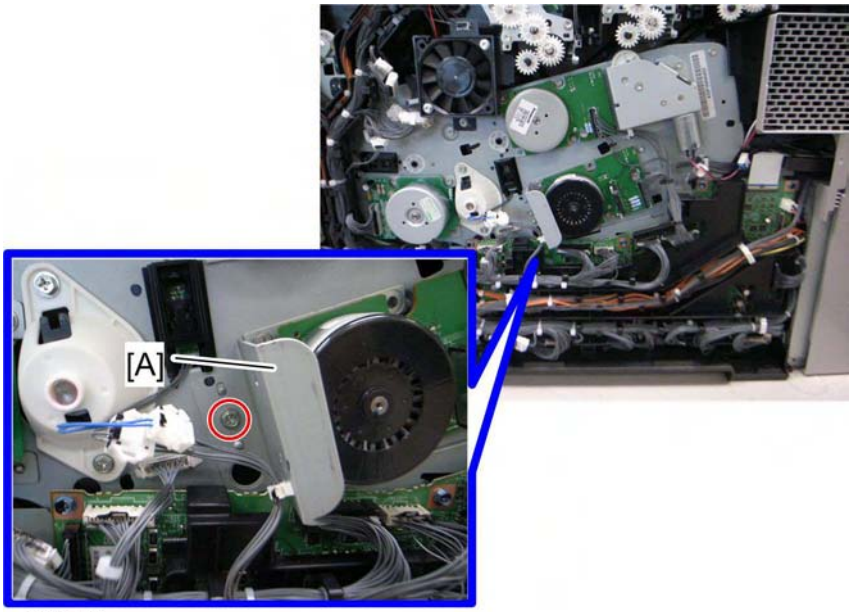


m065r512

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

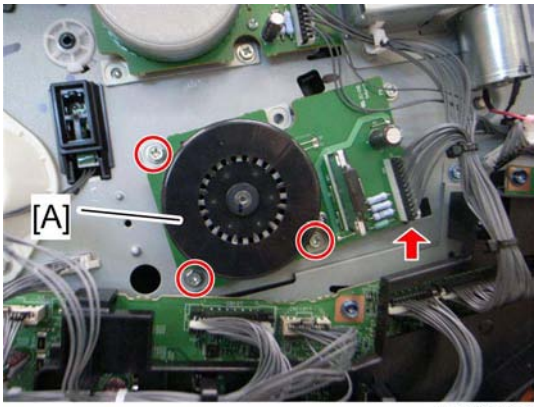
4.8.4 DEVELOPMENT MOTOR: CMY

1. Right cover (☛ p.4-4)



m065r513

2. Bracket [A] (🔩 x 1)

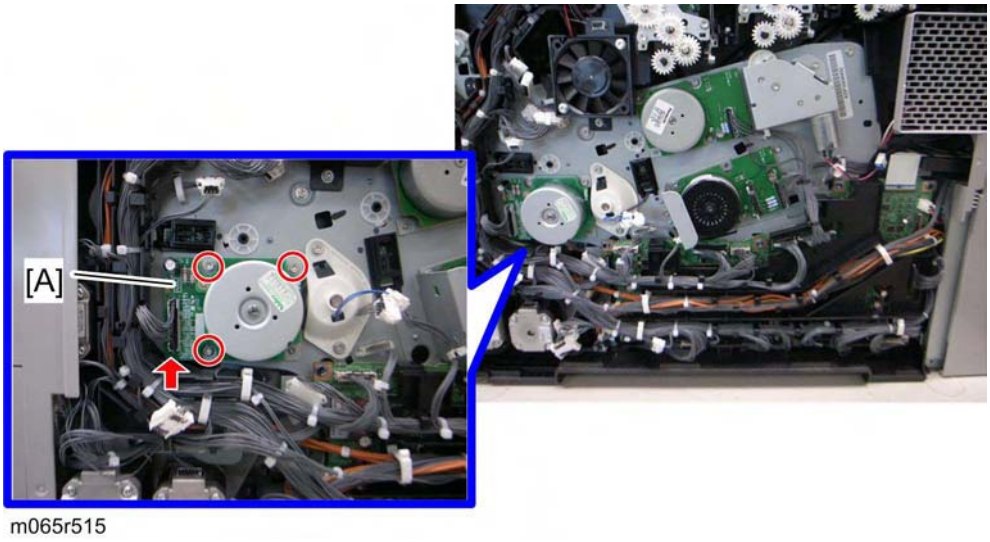


m065r514

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

4.8.5 ITB UNIT/ DRUM-K/ DEVELOPMENT-K MOTOR

1. Right cover (☛ p.4-4)

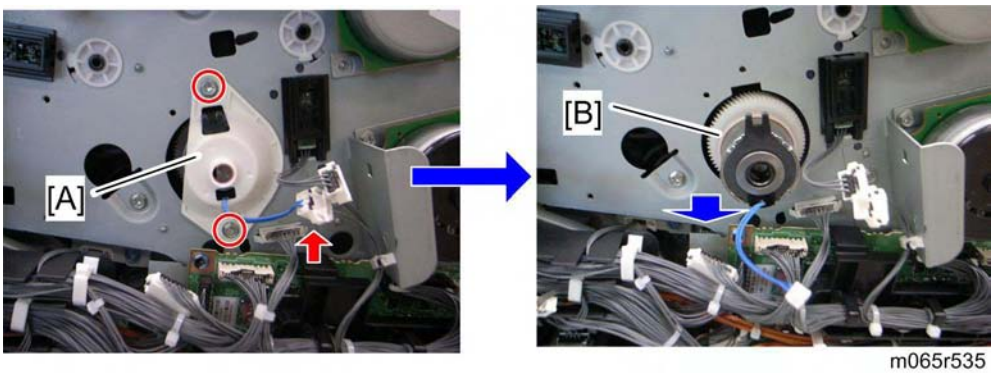


m065r515

2. ITB unit/ Drum-K/ Development-K motor [A] (x 3, x 1)

4.8.6 DEVELOPMENT CLUTCH: K

1. Right cover (☛ p.4-4)
2. ITB unit/ Drum-K/ Development-K motor (☛ p.4-65)

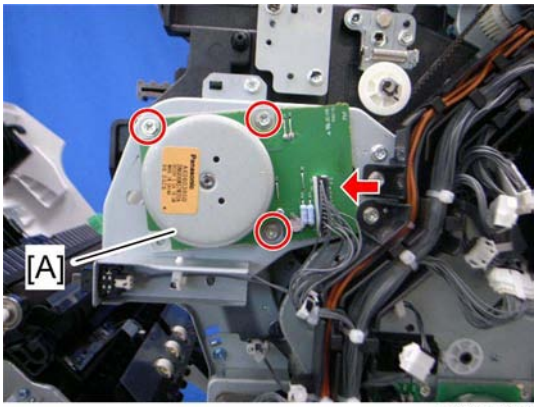


m065r535

3. Development clutch: K cover [A] (x 2, x 1)
4. Development clutch: K [B]

4.8.7 FUSING/PAPER EXIT MOTOR

1. Right cover (☛ p.4-4)
2. Top cover (☛ p.4-6)
3. Inner right front cover (☛ p.4-12)

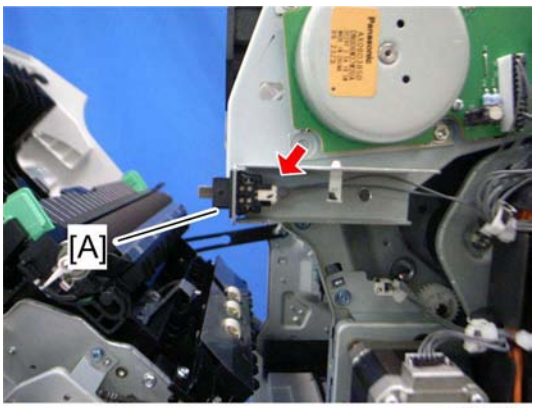


m065r566

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

4.8.8 FRONT DOOR SENSOR

1. Right cover (☛ p.4-4)
2. Top cover (☛ p.4-6)
3. Inner right front cover (☛ p.4-12)

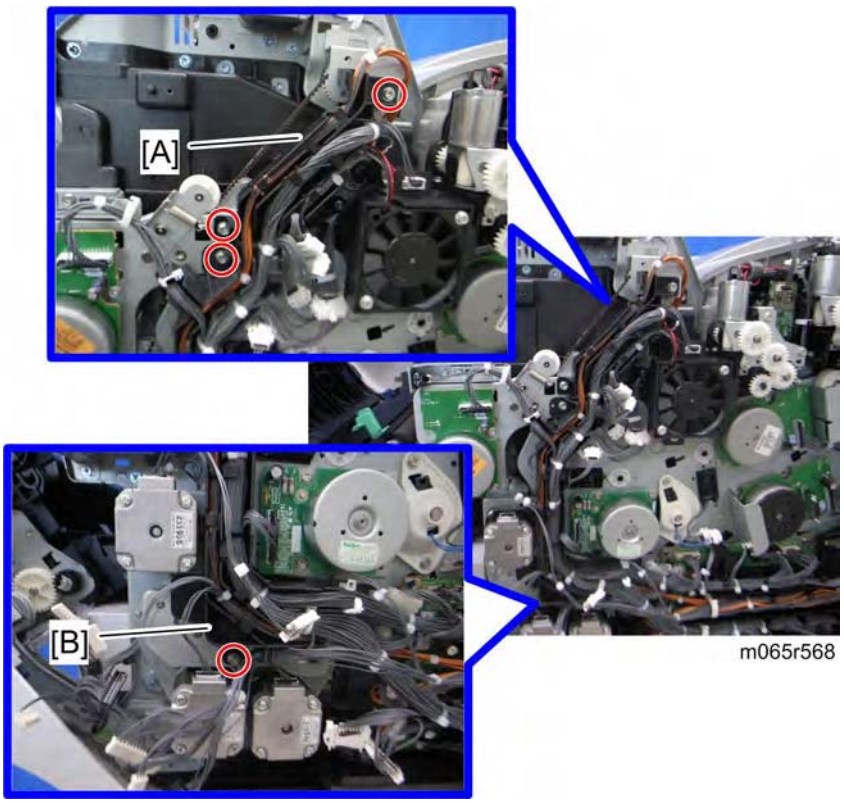


m065r567

4. Front door sensor [A] (☞ x 1, hooks)

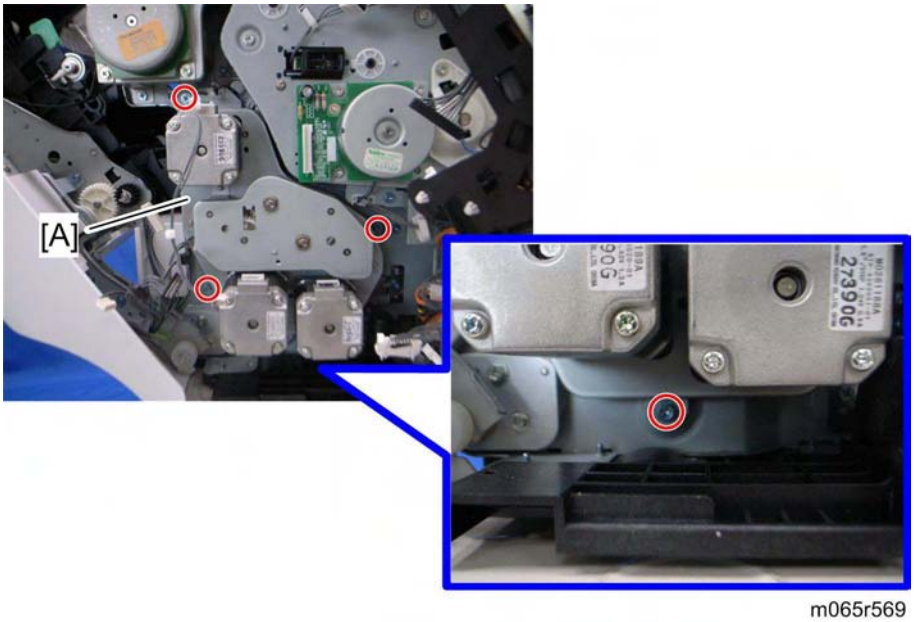
4.8.9 MOTORS WITH BRACKET

1. Right cover (☛ p.4-4)
2. Top cover (☛ p.4-6)
3. Inner right front cover (☛ p.4-12)



m065r568

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

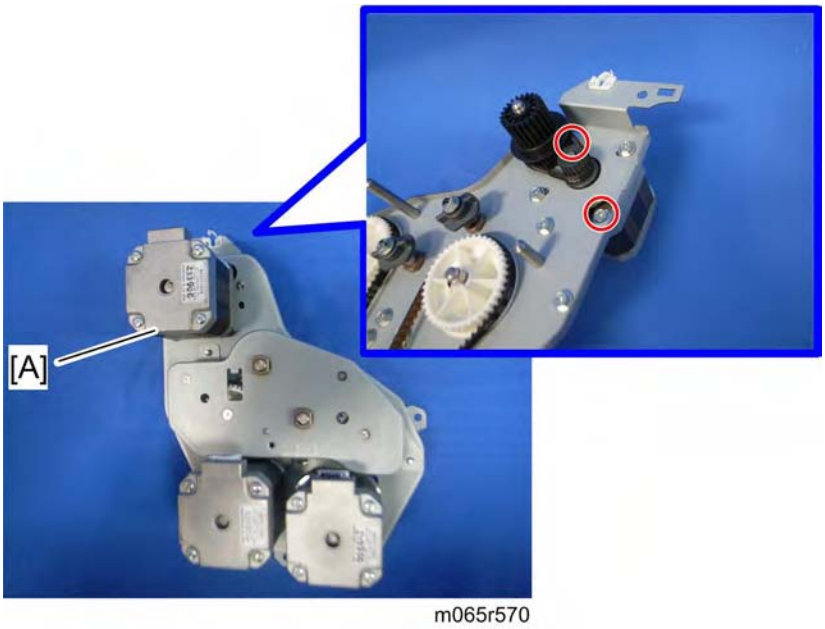


m065r569

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

4.8.10 REGISTRATION MOTOR

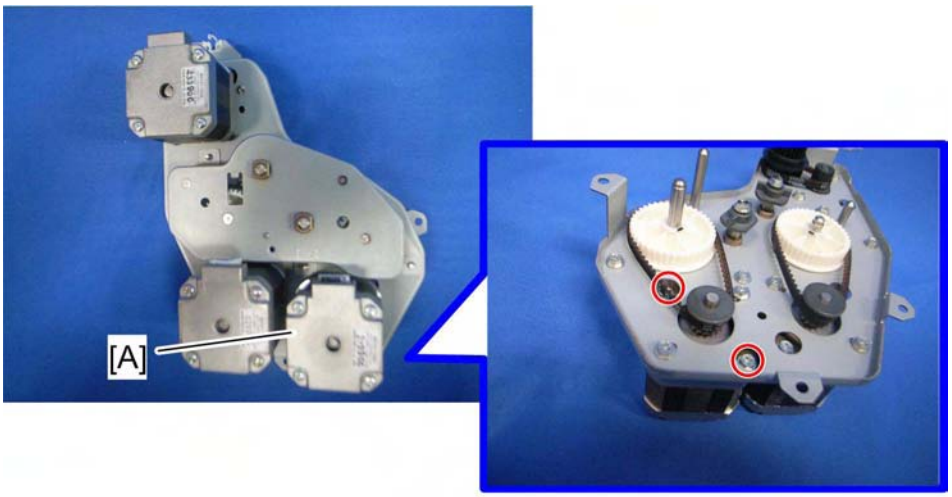
1. Right cover (☛ p.4-4)
2. Top cover (☛ p.4-6)
3. Inner right front cover (☛ p.4-12)
4. Motors with bracket (☛ p.4-68)



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

4.8.11 PAPER FEED MOTOR

1. Right cover (☛ p.4-4)
2. Top cover (☛ p.4-6)
3. Inner right front cover (☛ p.4-12)
4. Motors with bracket (☛ p.4-68)

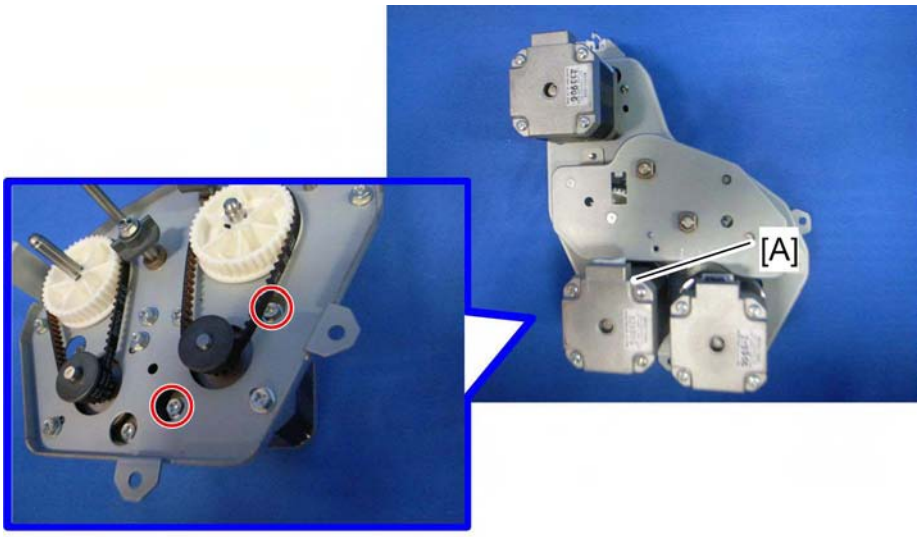


m065r571

5. Paper feed motor [A] (🔩 x 2, timing belt x 1)

4.8.12 VERTICAL TRANSPORT MOTOR

1. Right cover (☛ p.4-4)
2. Top cover (☛ p.4-6)
3. Inner right front cover (☛ p.4-12)
4. Motors with bracket (☛ p.4-68)

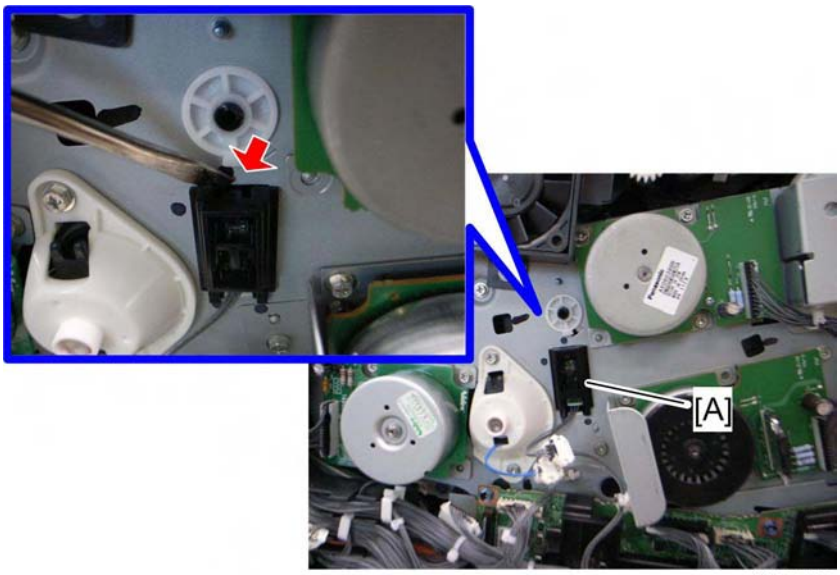


m065r572

5. Vertical transport motor [A] (🔩 x 2, timing belt x 1)

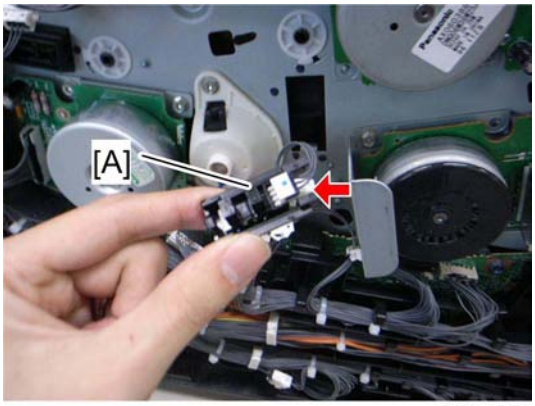
4.8.13 DRUM PHASE SENSOR: CMY

1. Right cover (☛ p.4-4)



m065r559

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

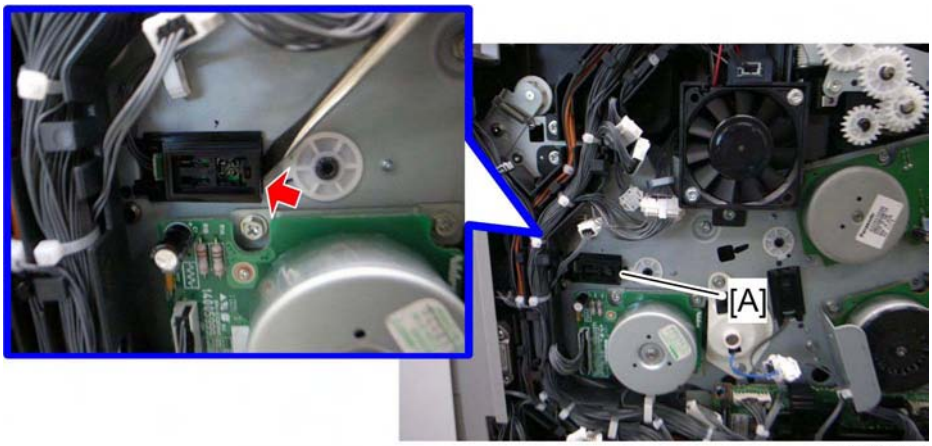


m065r560

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

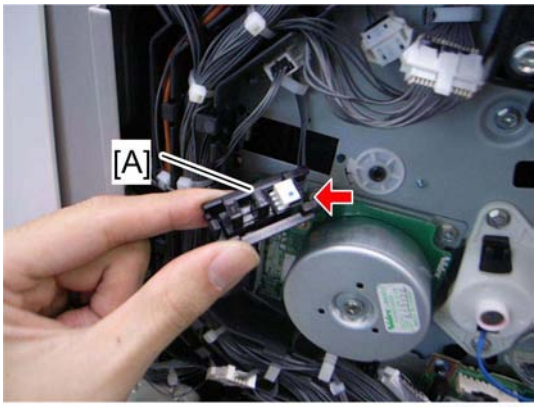
4.8.14 DRUM PHASE SENSOR: K

1. Right cover (☛ p.4-4)



m065r561

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

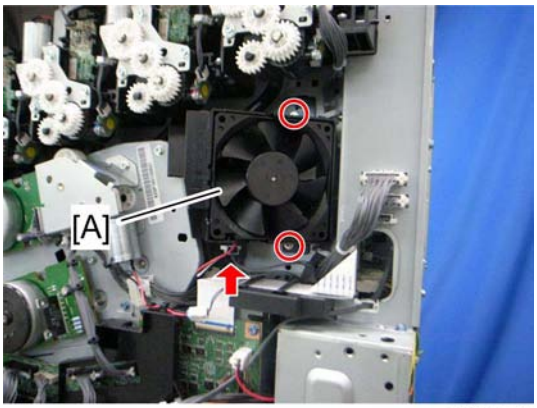


m065r562

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

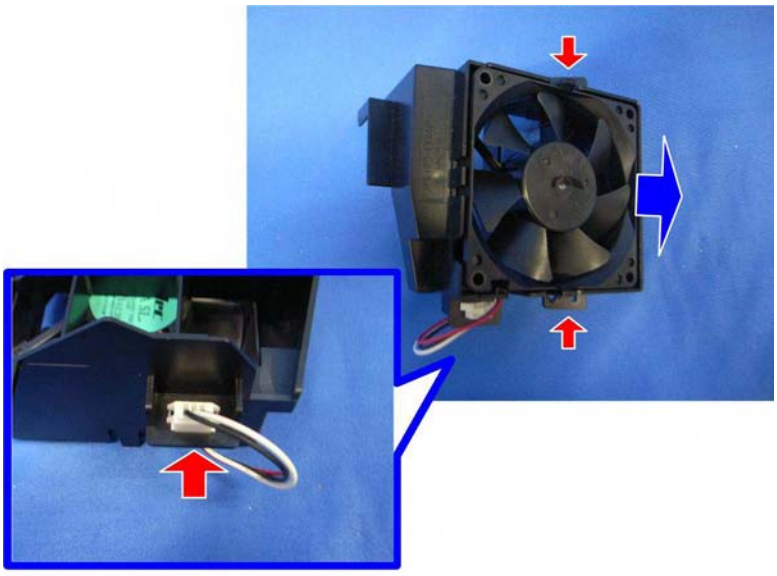
4.8.15 DRIVE UNIT FAN

1. Rear cover (☛ p.4-5)
2. Right cover (☛ p.4-4)
3. Inner right rear cover (☛ p.4-13)



m065r577

4. Drive unit fan base [A] (x 2, x 1)



m065r578

5. Drive unit fan (x 1, hooks)

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.

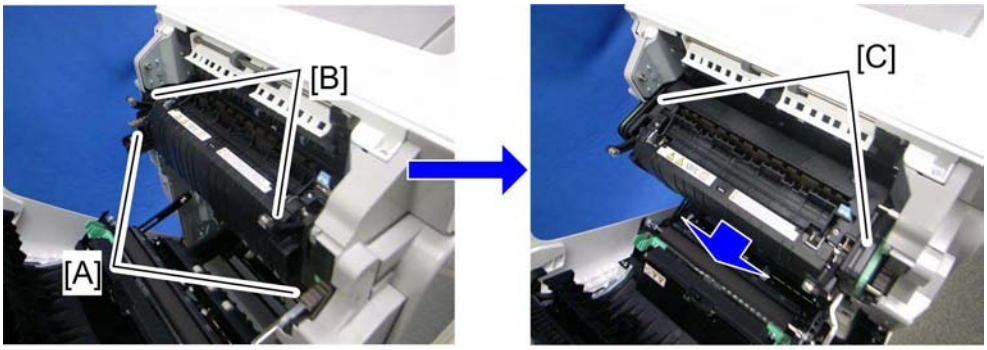
4.9 FUSING

4.9.1 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.



m065r770

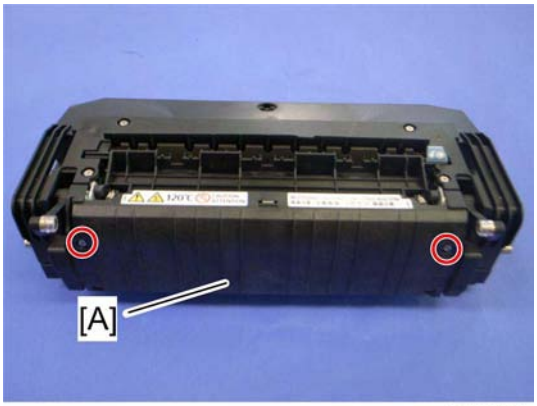
2. Release the lock levers [A].
3. Pull out the pressure levers [B] a short distance.
4. Hold the fusing unit handles [C], and then pull out the fusing unit.

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.

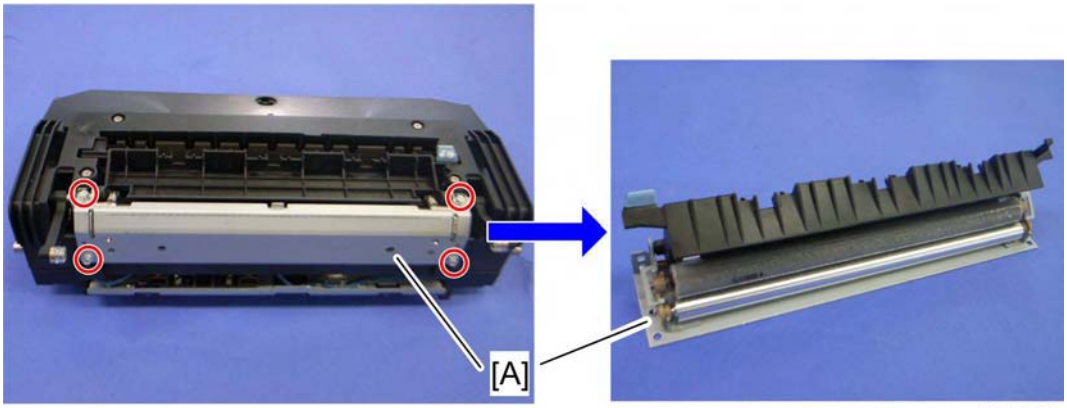
4.9.2 CLEANING UNIT

1. Fusing unit (☛ p.4-74)



m065r667

2. Fusing front cover [A] (🔩 x 2)

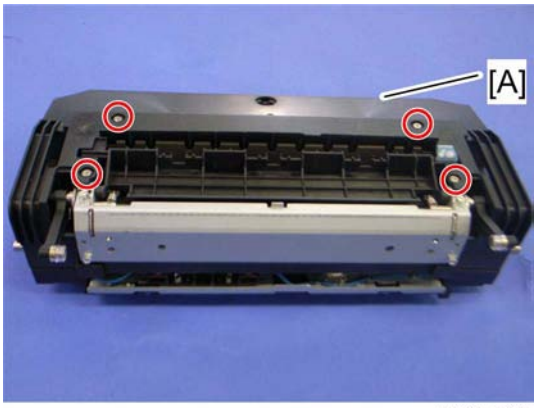


m065r671

3. Cleaning unit [A] (x 4)

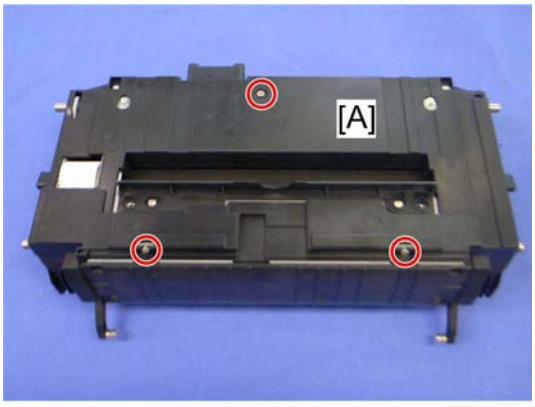
4.9.3 PRESSURE ROLLER FUSING LAMP

1. Fusing front cover (p.4-74 "Cleaning Unit")



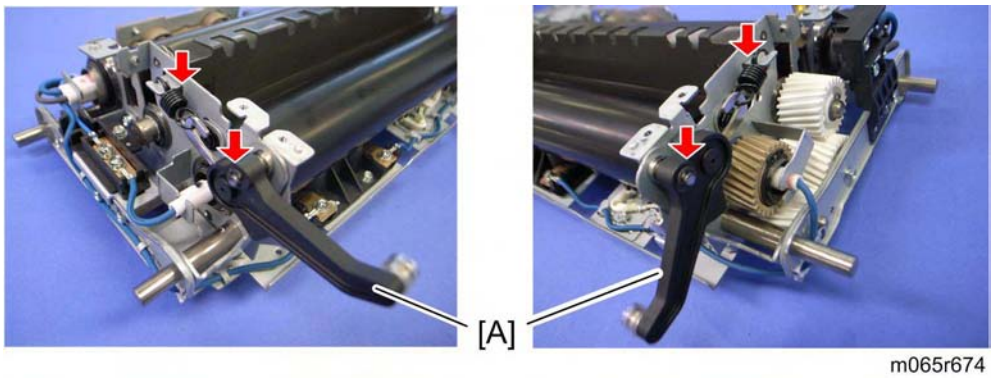
m065r668

2. Fusing upper cover [A] (x 4)



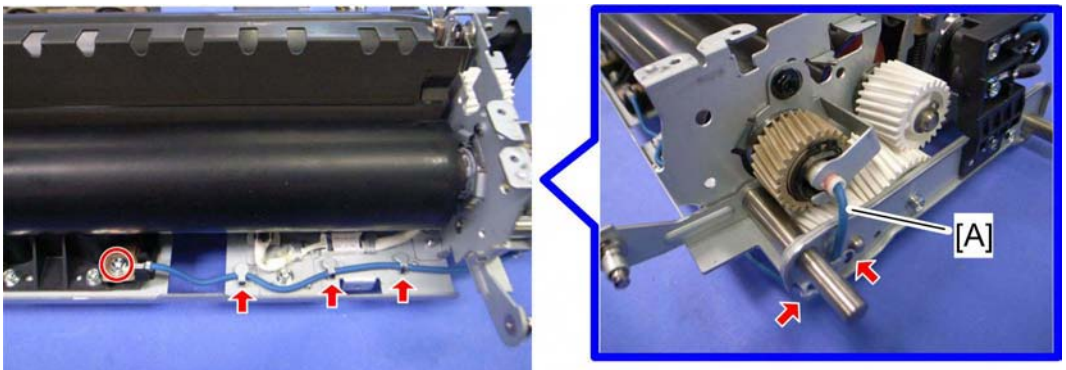
m065r665

3. Fusing lower cover [A] (x 3)
4. Cleaning unit (p.4-74)



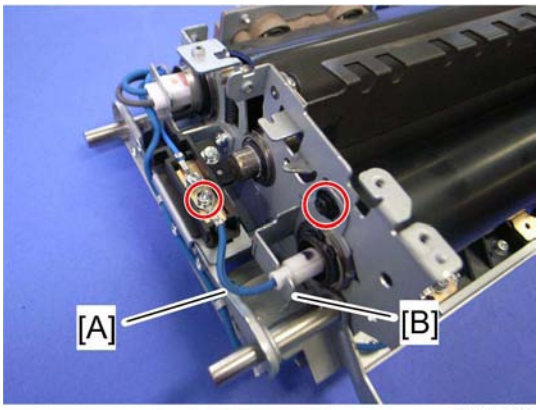
m065r674

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



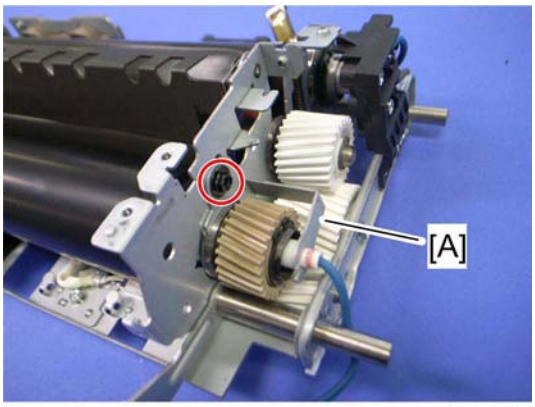
m065r675

6. Release the fusing lamp harness [A] at the right side (x 1, x 5)



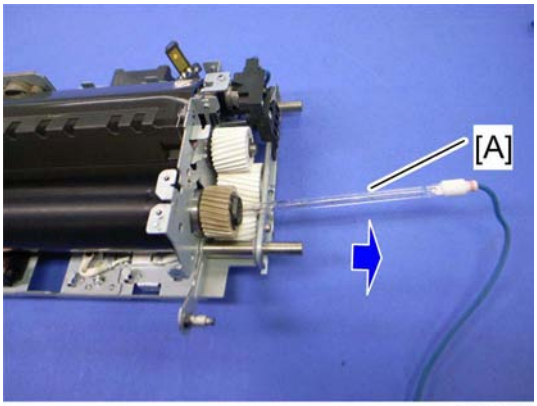
m065r677

7. Release the fusing lamp harness [A] at the left side (x 1)
8. Lamp holder [B] (x 1)



m065r676

9. Remove the fusing lamp holder [A] at the right side (x 1)

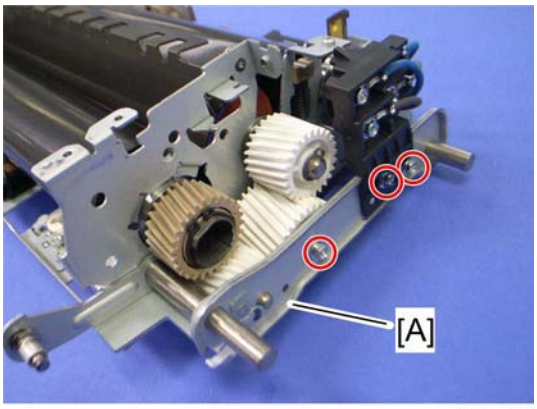


m065r678

10. Pressure roller fusing lamp [A]

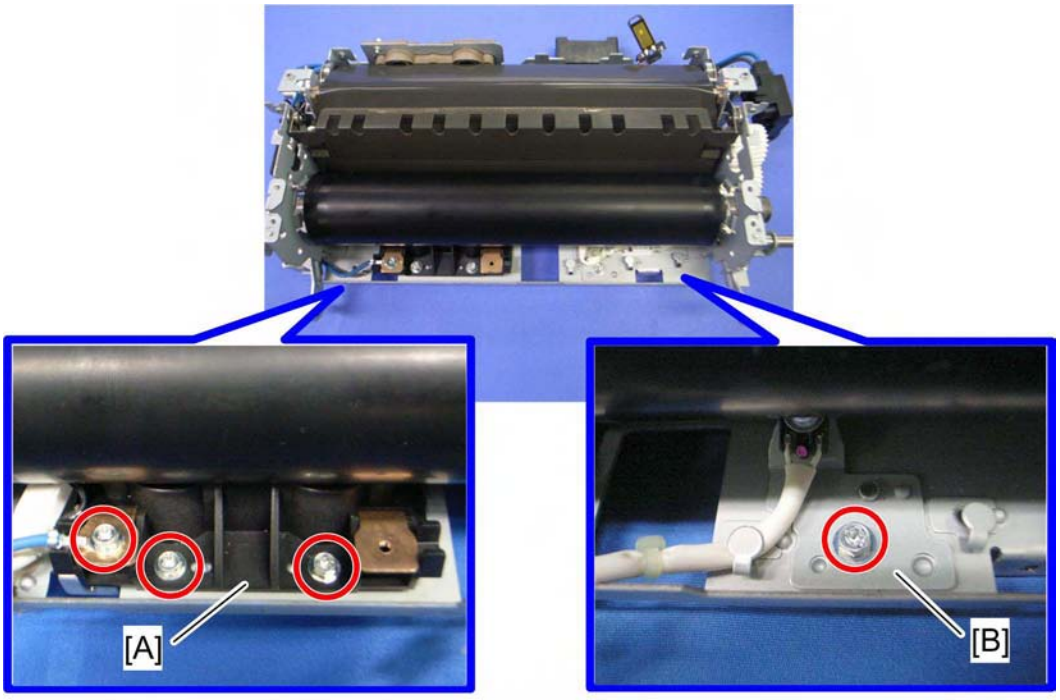
4.9.4 PRESSURE ROLLER

1. Pressure roller fusing lamp (☛ p.4-75)



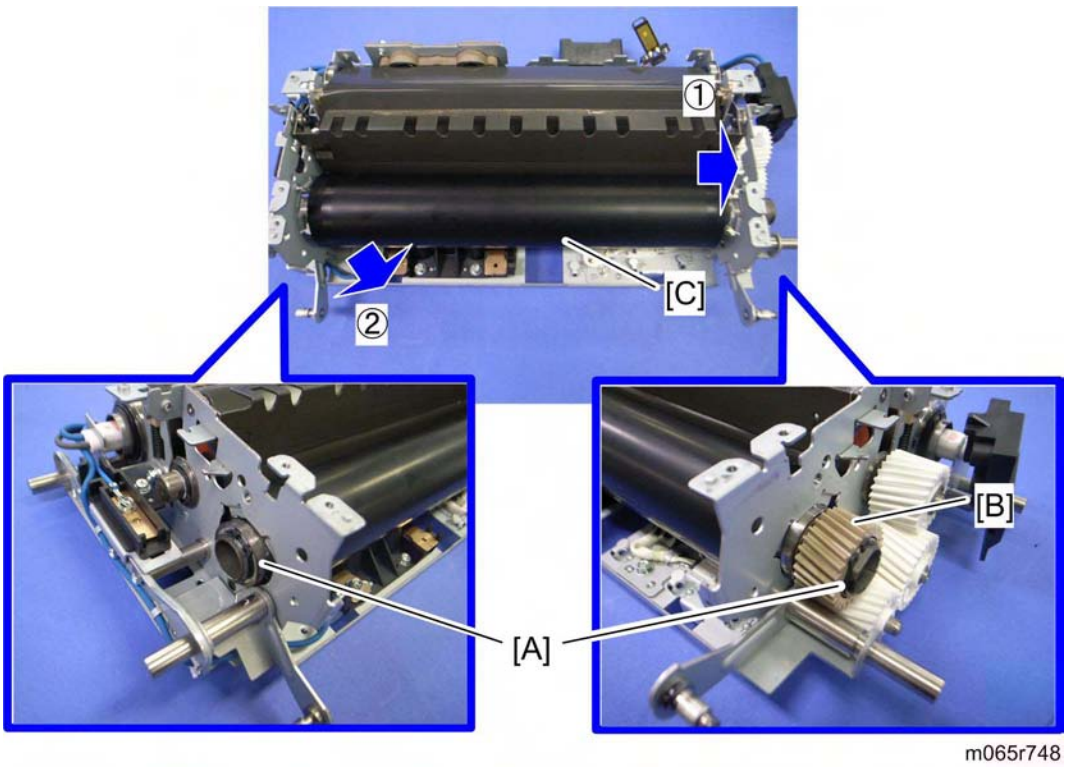
m065r747

2. Right stay [A] (🔩 x 3)



m065r820

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

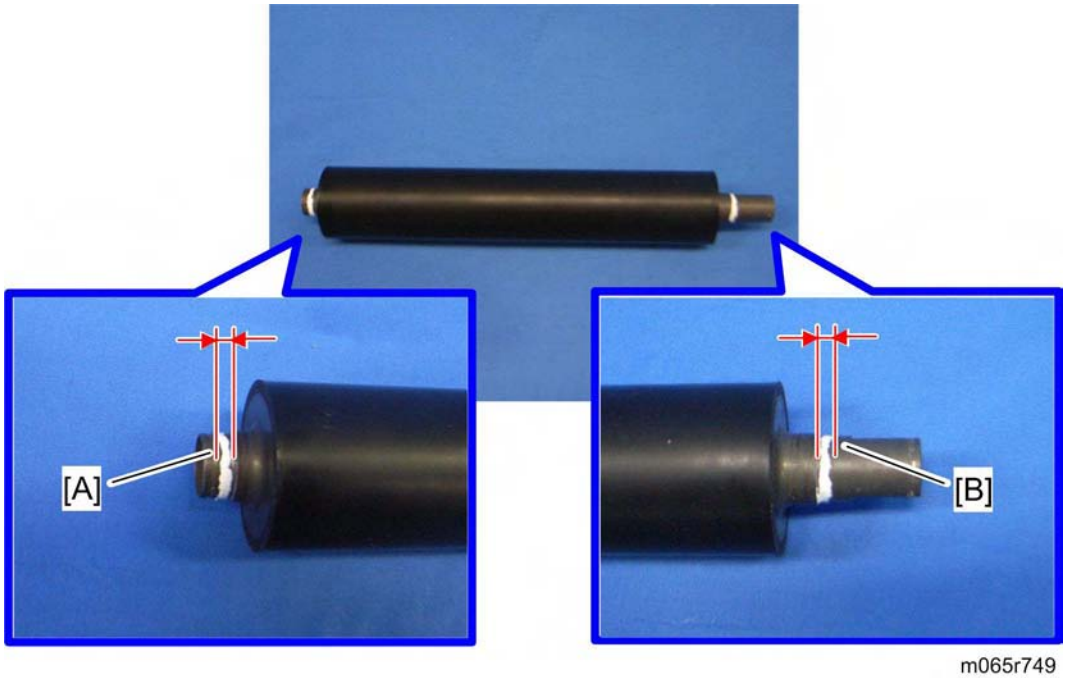


m065r748

4. Remove the C-rings, bearings [A], and gear [B].
5. Pressure roller [C]

When Reinstalling the Pressure Roller

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

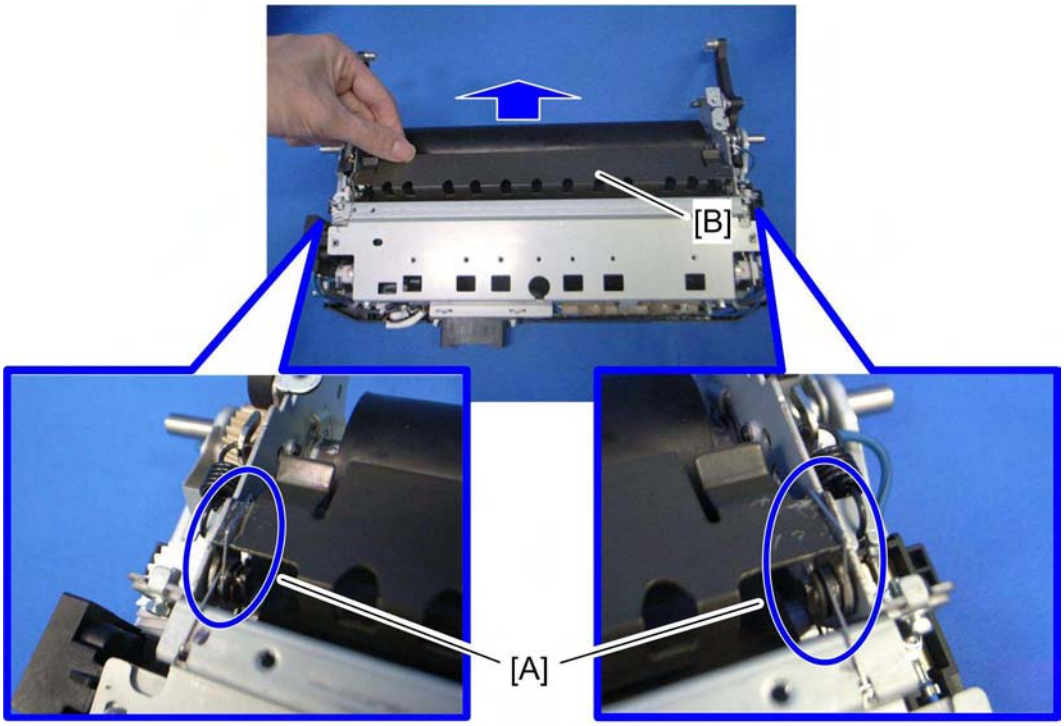


m065r749

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

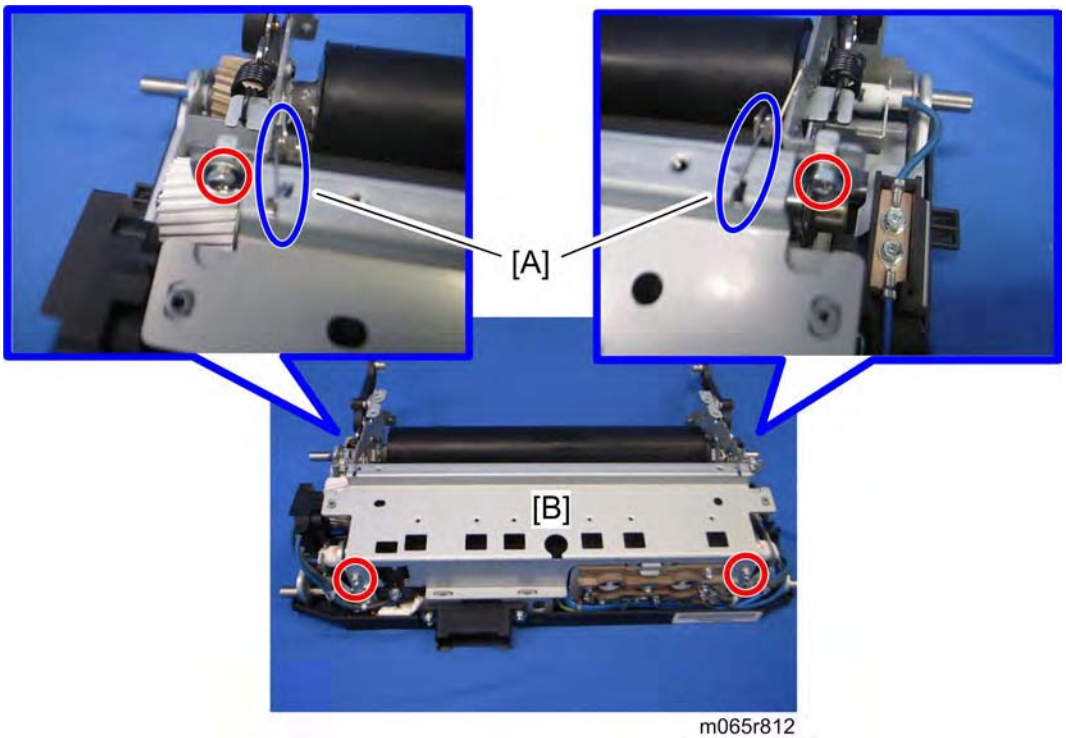
4.9.5 HEATING ROLLER FUSING LAMP

1. Fusing unit (☛ p.4-74)
2. Fusing lower cover (☛ p.4-75 "Pressure Roller Fusing Lamp")
3. Cleaning unit (☛ p.4-74)
4. Fusing upper cover (☛ p.4-75 "Pressure Roller Fusing Lamp")



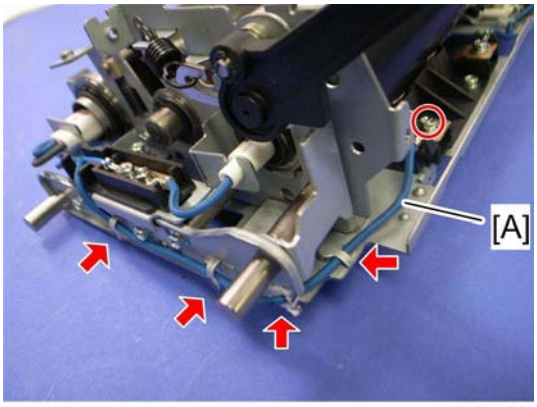
m065r811

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



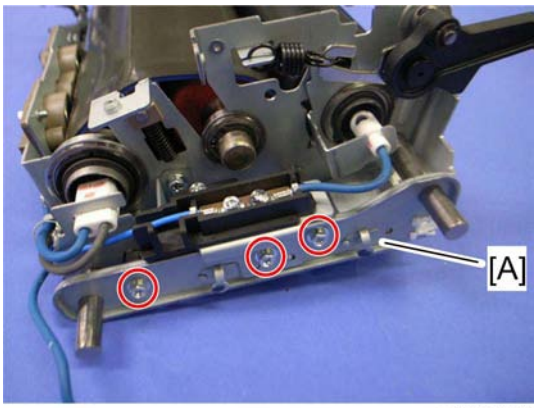
m065r812

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



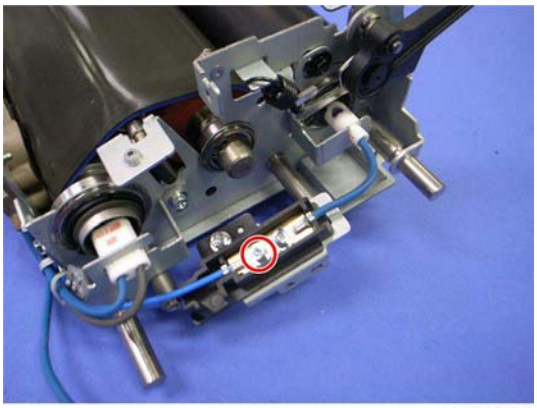
m065r681

7. Release the fusing lamp harness [A] at the left side (x 1, x 4).



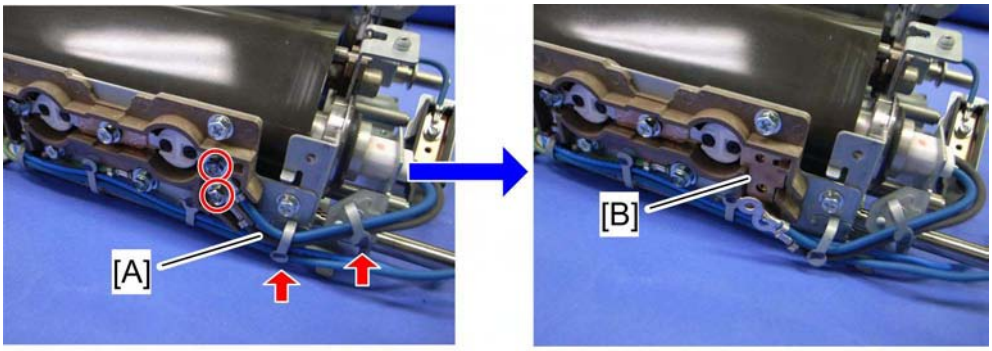
m065r682

8. Left stay [A] (x 3)



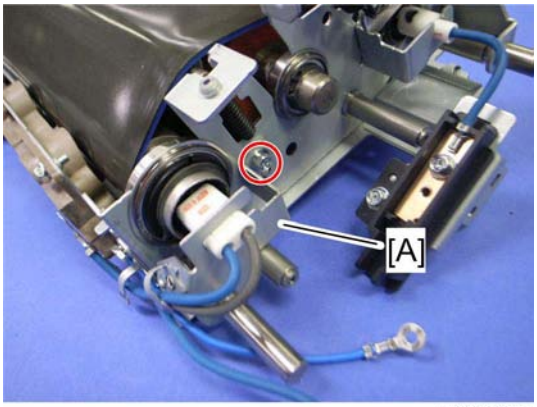
m065r683

9. Remove the screw.



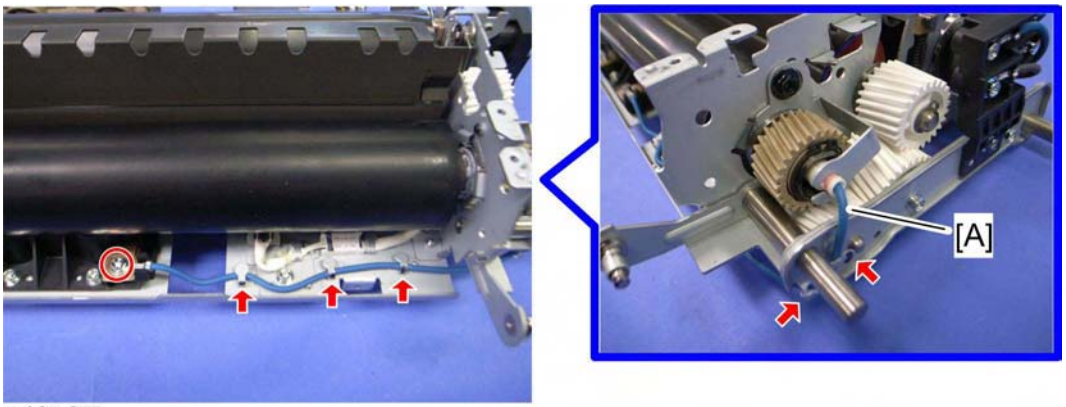
m065r684

10. Release the fusing lamp harnesses [A], and then remove the plate [B] (x 2, x 2).



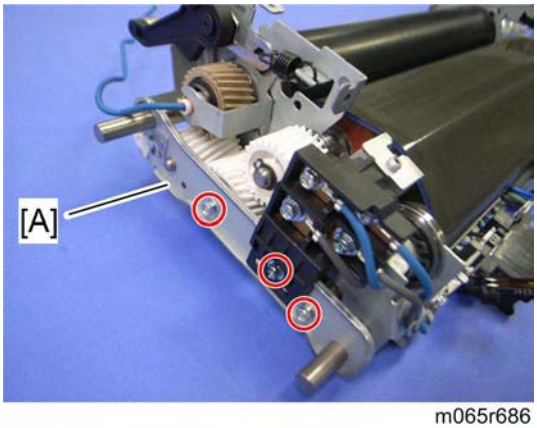
m065r685

11. Remove the fusing lamp holder [A] (x 1).



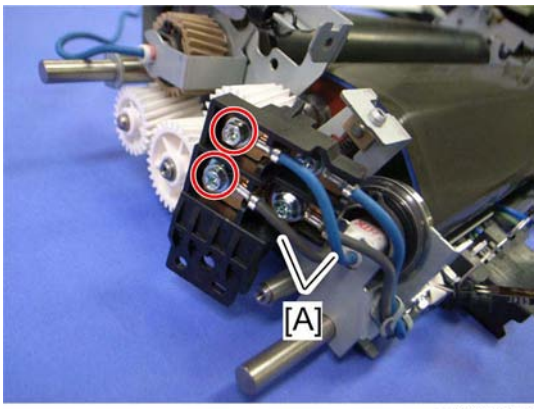
m065r675

12. Release the fusing lamp harness [A] at the right side (x 1, x 5)



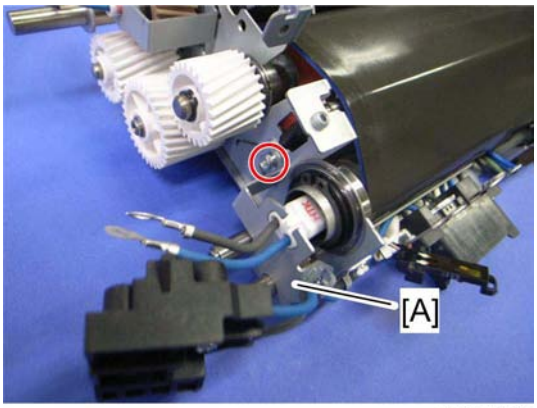
m065r686

13. Right stay [A] (x 3)



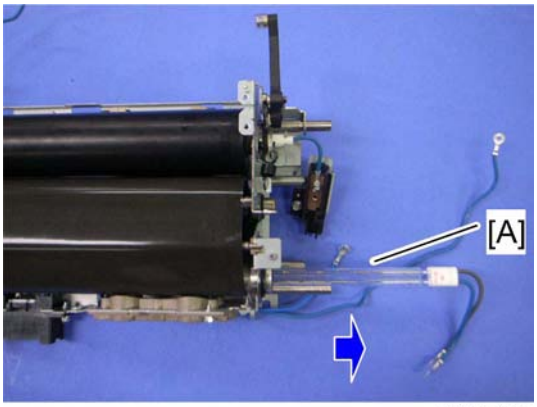
m065r687

14. Release the fusing lamp harnesses [A] (x 2).



m065r688

15. Lamp holder [A] (x 1)

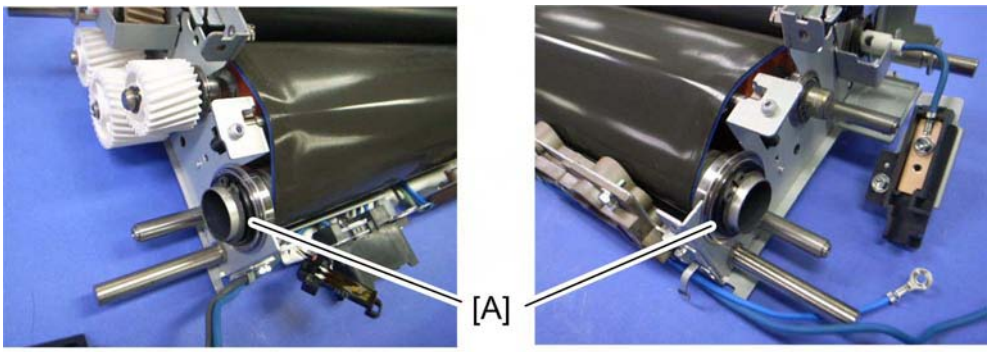


m065r689

16. Heating roller fusing lamp [A]

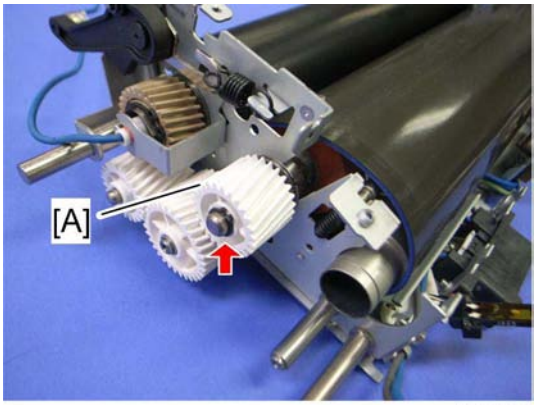
4.9.6 FUSING BELT

1. Heating roller fusing lamp (☛ p.4-80)



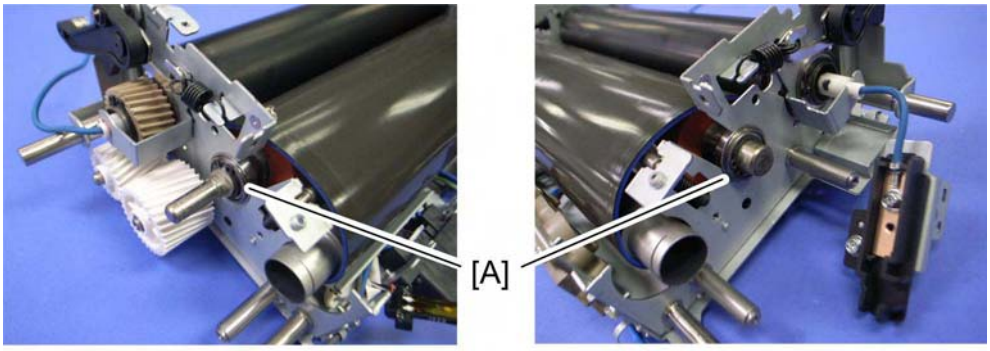
m065r750

2. C-rings and bearings [A]



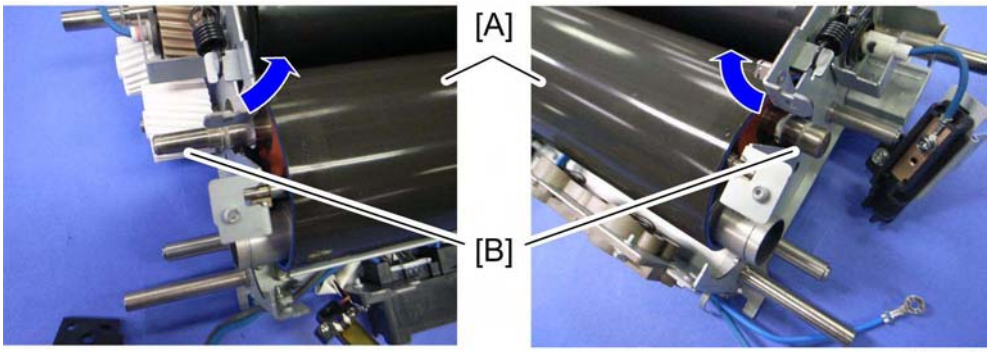
m065r751

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



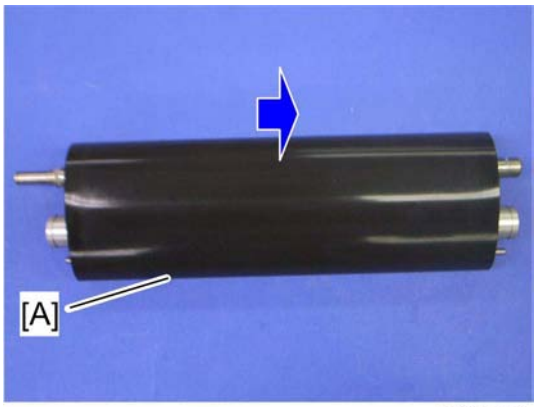
m065r752

4. C-rings and bearings [A]



m065r753

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

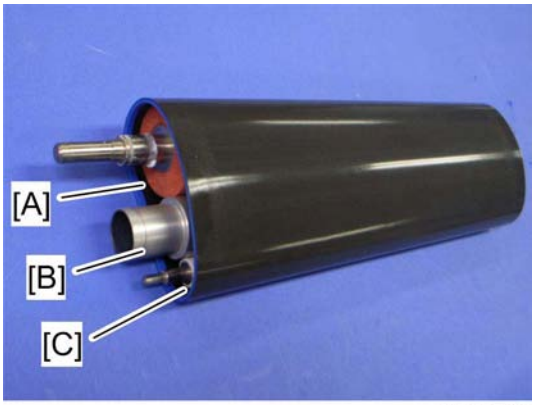


m065r754

6. Fusing belt [A]

4.9.7 FUSING, HEATING AND TENSION ROLLER

1. Fusing belt with rollers (☛ p.4-84 "Fusing Belt")

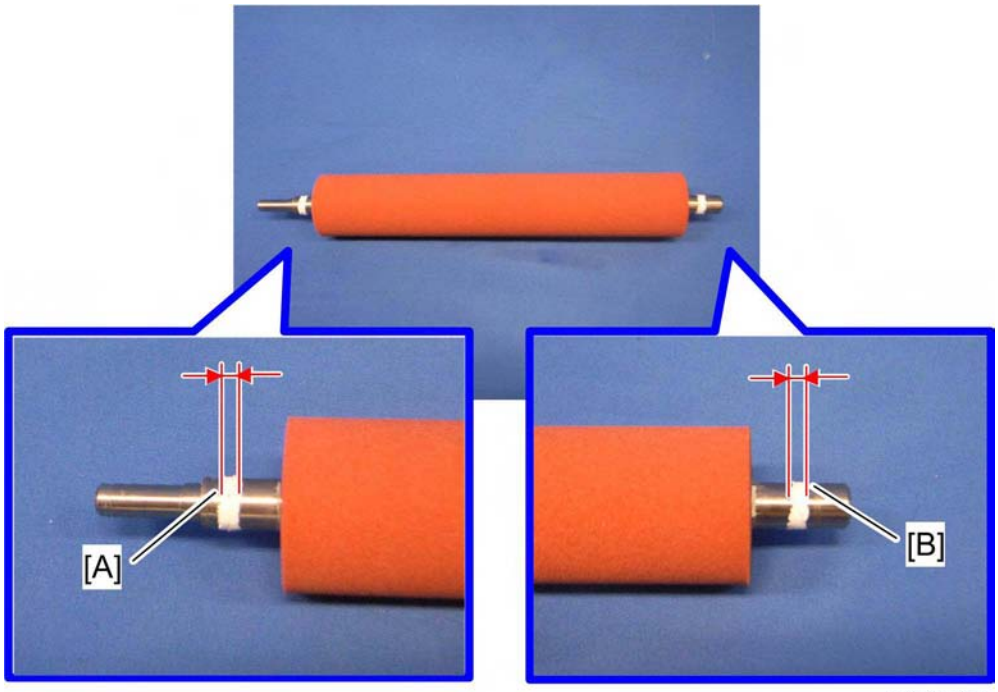


m065r756

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

When Reinstalling the Fusing Roller

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

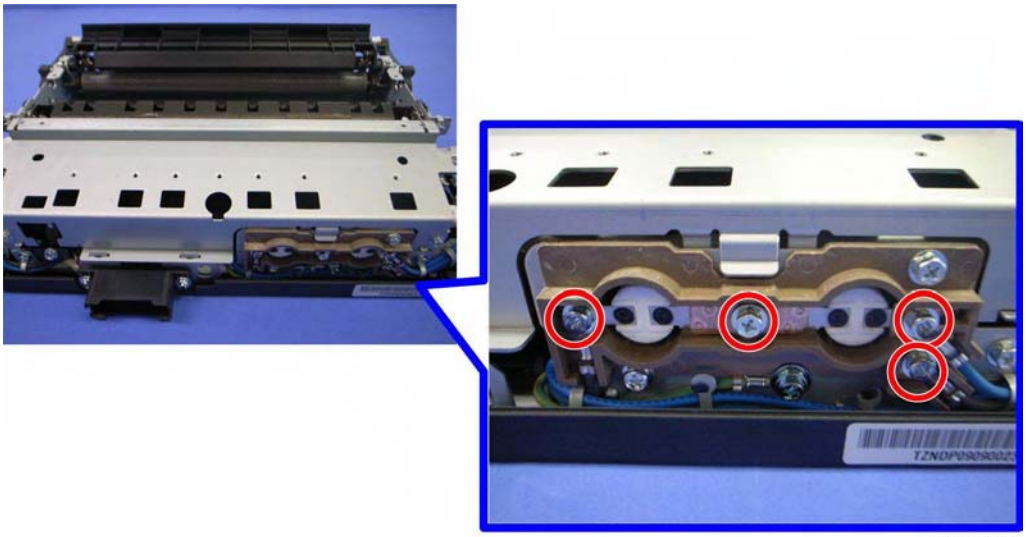


m065r757

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

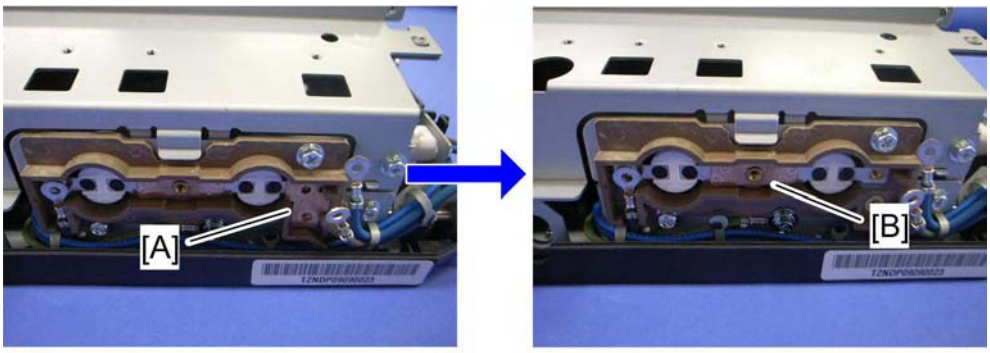
4.9.8 HEATING ROLLER THERMOSTAT

1. Fusing front cover (☛ p.4-74 "Cleaning Unit")
2. Fusing upper cover (☛ p.4-75 "Pressure Roller Fusing Lamp")



m065r669

3. Remove the four screws.



m065r670

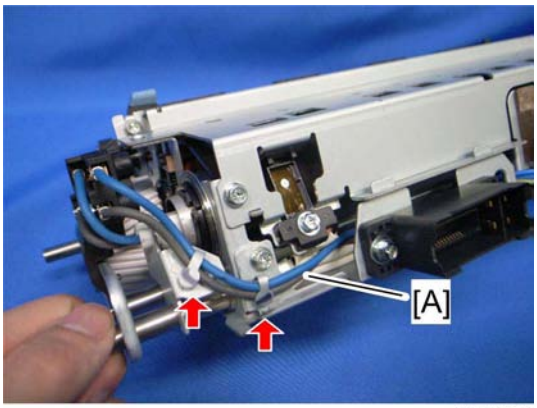
4. Remove the plate [A], and then remove the heating roller thermostats [B].

⚠CAUTION

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

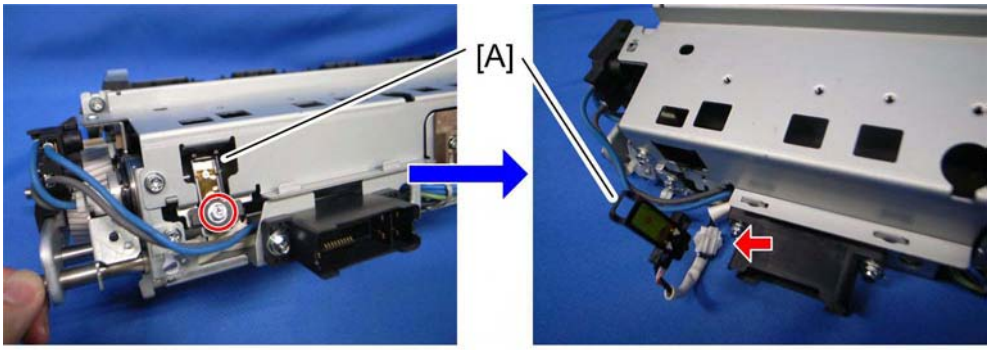
4.9.9 HEATING ROLLER THERMISTOR

1. Fusing front cover (☛ p.4-74 "Cleaning Unit")
2. Fusing upper cover (☛ p.4-75 "Pressure Roller Fusing Lamp")
3. Fusing lower cover (☛ p.4-75 "Pressure Roller Fusing Lamp")



m065r803

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

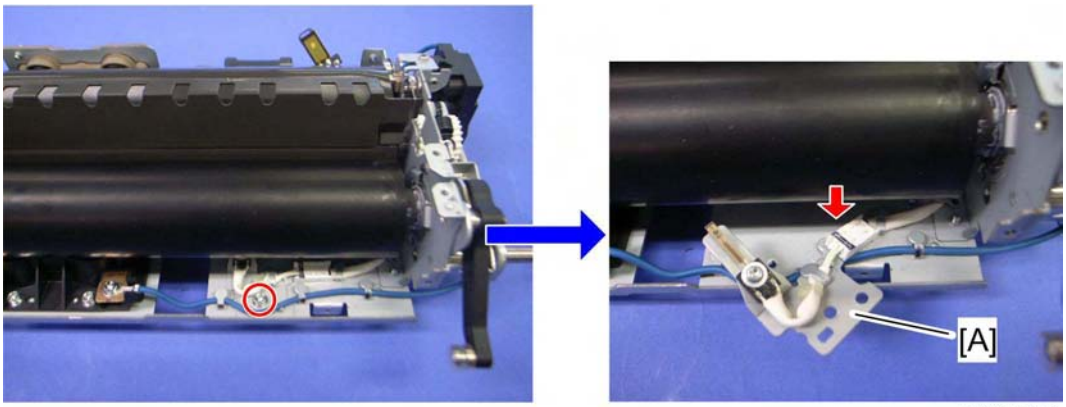


m065r804

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

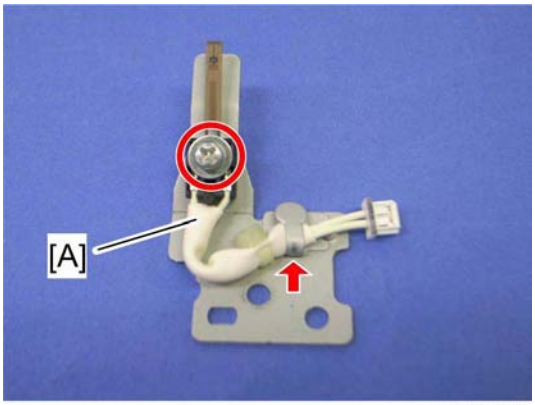
4.9.10 PRESSURE ROLLER THERMISTOR

1. Cleaning unit (☛ p.4-74)



m065r672

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

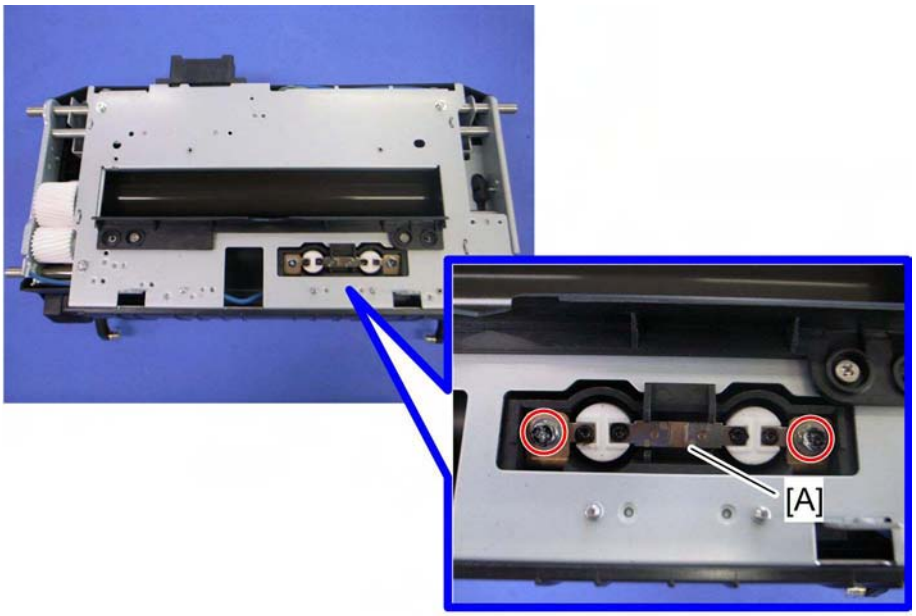


m065r673

3. Pressure roller thermistor [A] (x 1, x 1)

4.9.11 PRESSURE ROLLER THERMOSTAT

1. Fusing lower cover (☛ p.4-75 "Pressure Roller Fusing Lamp")

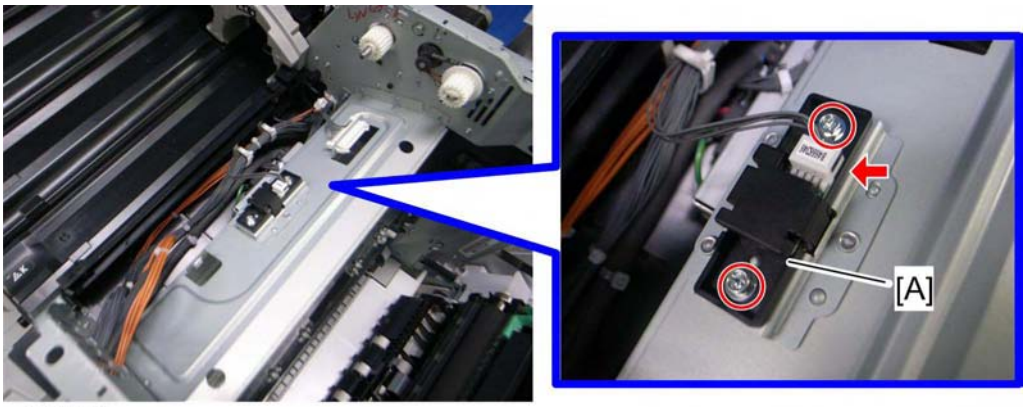


m065r666

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

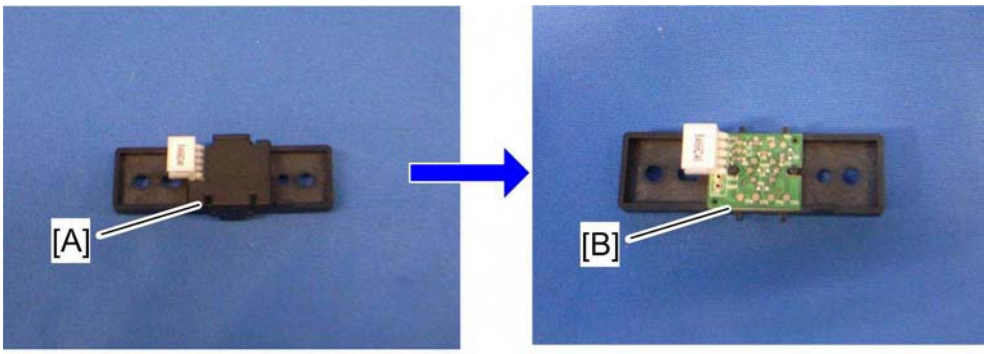
4.9.12 THERMOPILE

1. Paper exit unit (☛ p.4-107)



m065r549

2. Thermopile base [A] (x 2, x 1)



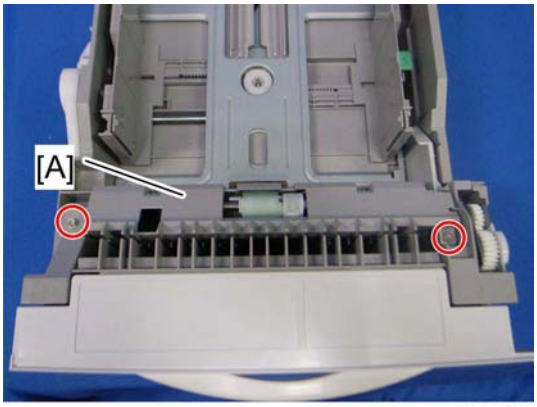
m065r550

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

4.10 PAPER FEED

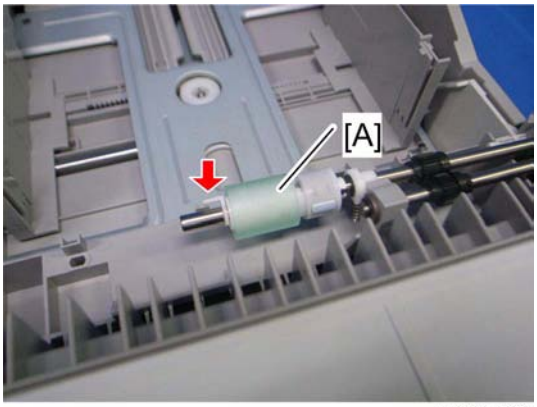
4.10.1 SEPARATION ROLLER

1. Pull out the paper tray.



m384r500

2. Cover [A] (x 2)



m384r501

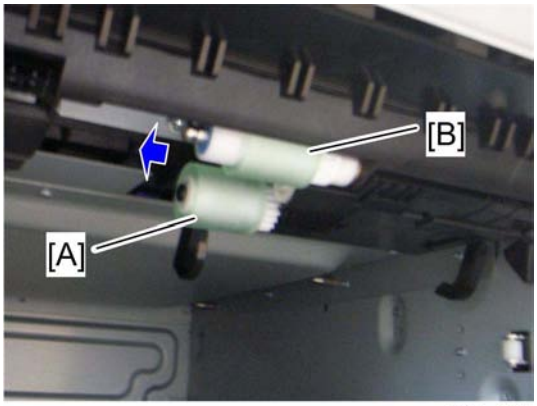
3. Separation roller [A] (x 1)

4.10.2 PICK-UP AND PAPER FEED ROLLERS

1. Pull out the paper tray.

m065r614

2. Roller holder [A] (x 1)

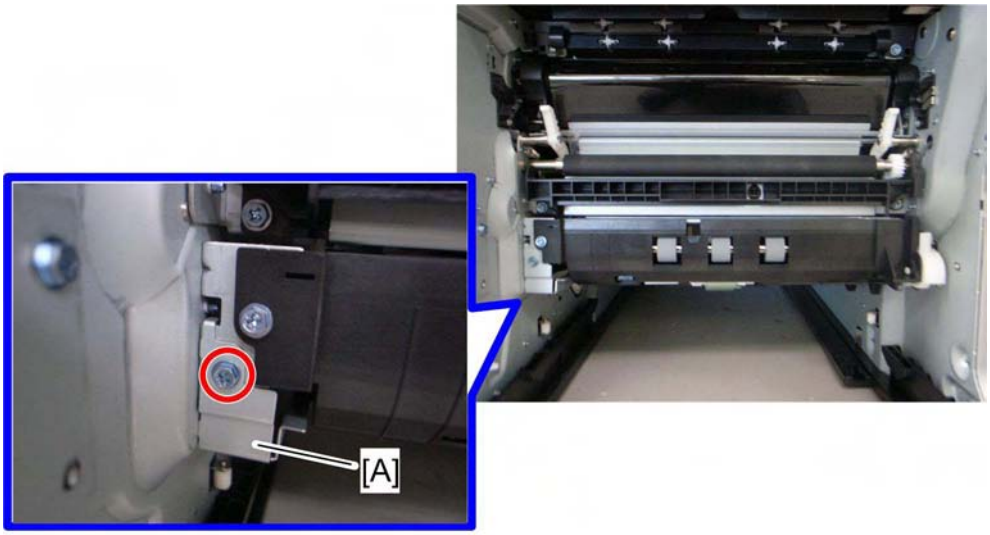


m065r615

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

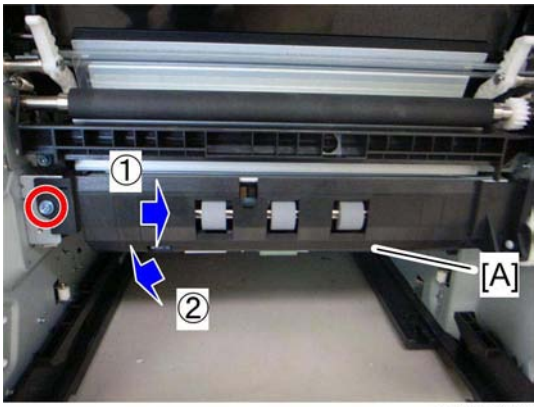
4.10.3 PAPER FEED UNIT

1. Pull out the paper tray.
2. Duplex unit (☛ p.4-116)



m065r649

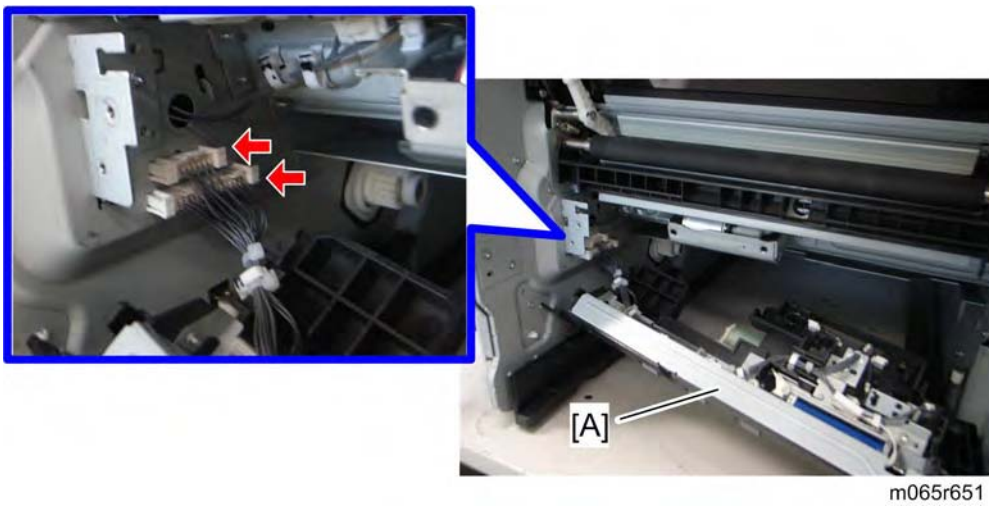
3. Bracket [A] (🔩 x 1)



m065r650

4. Release the paper feed unit [A] (🔩 x 1)

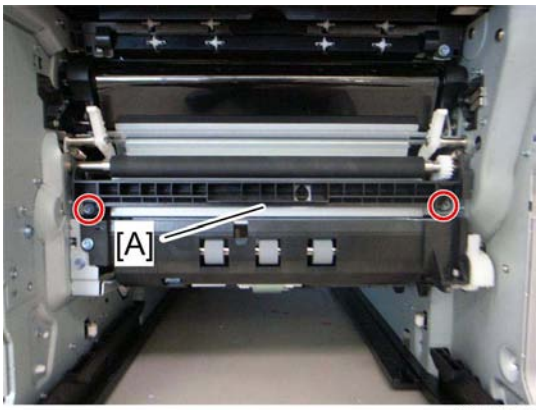
5.



6. Paper feed unit [A] (x 2)

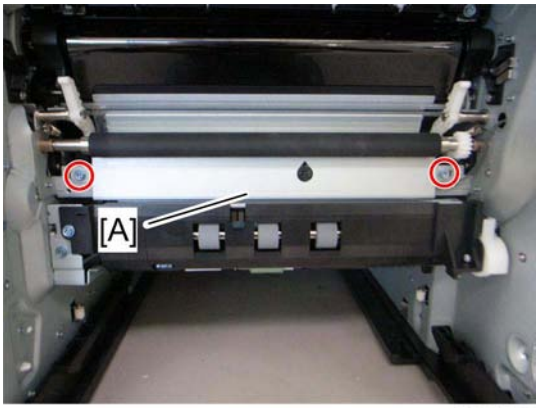
4.10.4 REGISTRATION SENSOR

1. Duplex unit (☛ p.4-116)



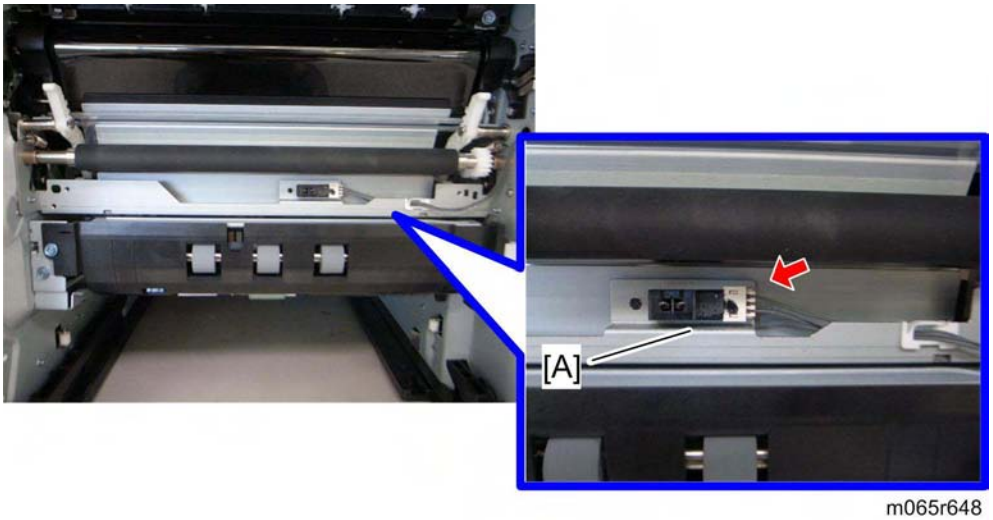
m065r646

2. Registration roller guide [A] (🔩 x 2)



m065r647

3. Bracket [A] (🔩 x 2)

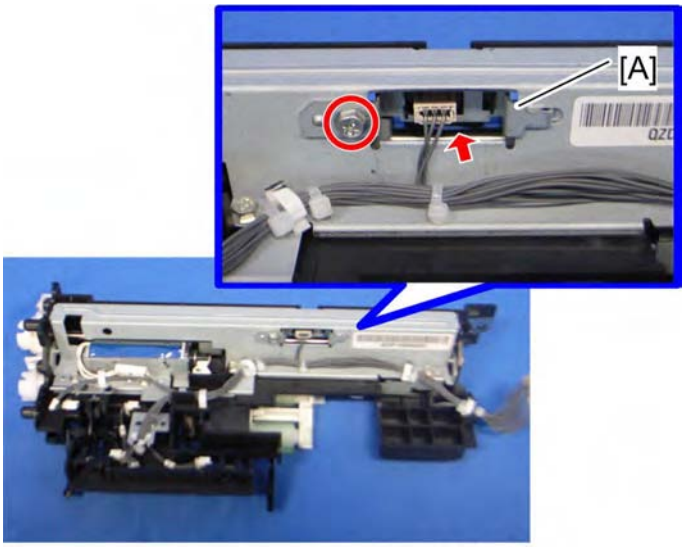


m065r648

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

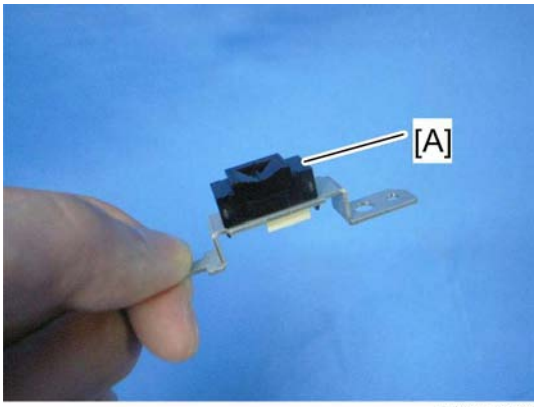
4.10.5 VERTICAL TRANSPORT SENSOR

1. Paper feed unit (☛ p.4-94)



m065r652

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

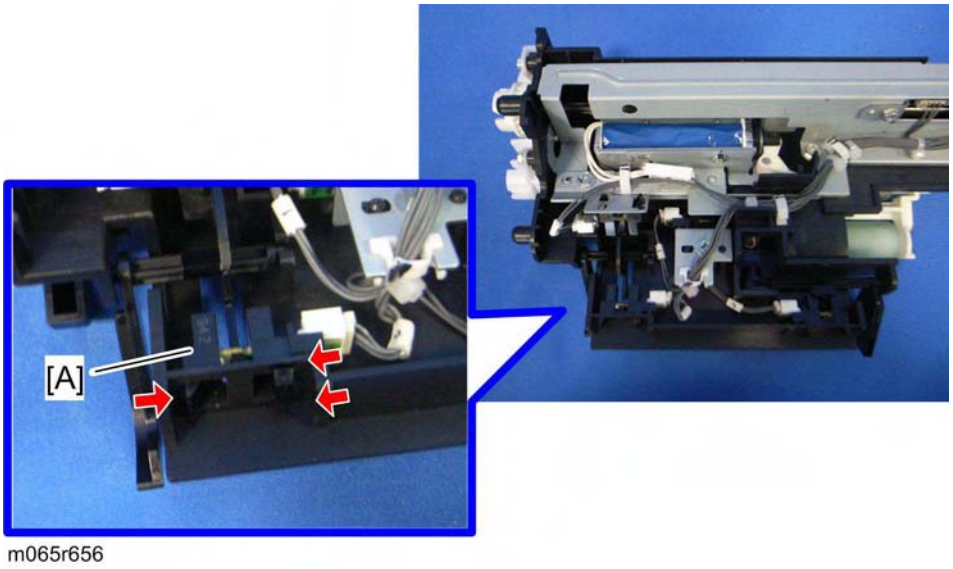


m065r653

3. Vertical transport sensor [A] (hooks)

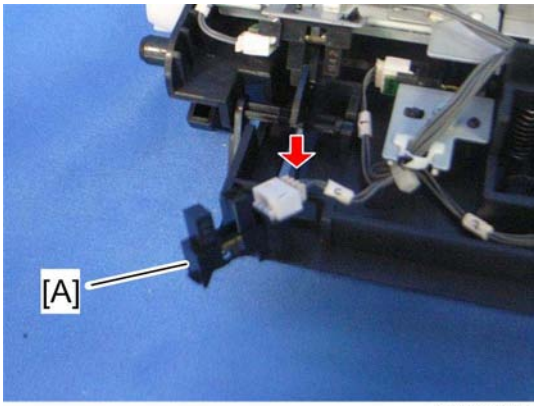
4.10.6 PAPER HEIGHT SENSOR 1

1. Paper feed unit (☛ p.4-94)



m065r656

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

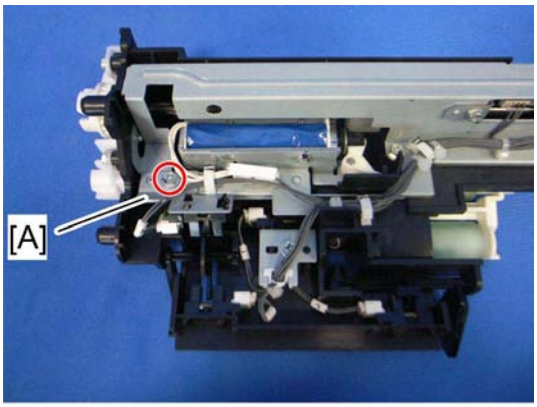


m065r657

3. Paper height sensor 1 [A] (🔧 x1)

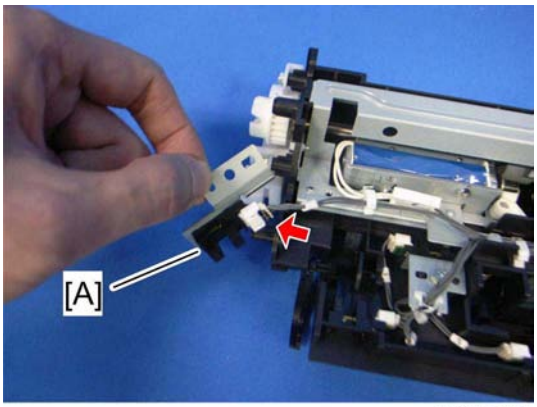
4.10.7 PAPER HEIGHT SENSOR 2

1. Paper feed unit (☛ p.4-94)



m065r654

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

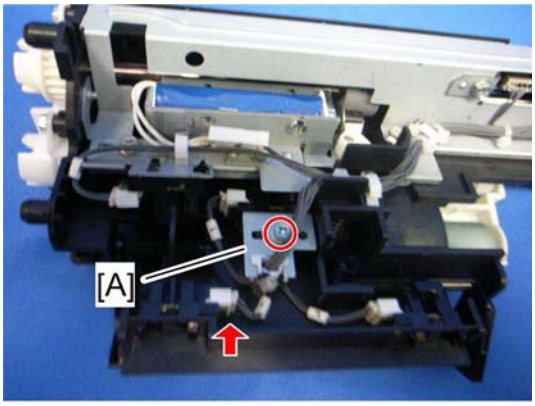


m065r655

3. Paper height sensor 2 [A] (🔩 x1, hooks)

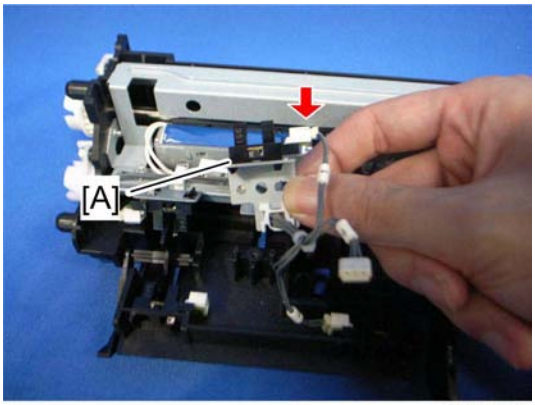
4.10.8 PAPER LIFT SENSOR

1. Paper feed unit (☛ p.4-94)



m065r658

2. Paper lift sensor bracket [A] (x1, x1)

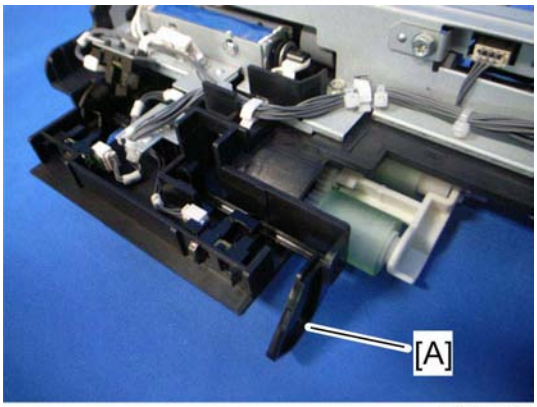


m065r659

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

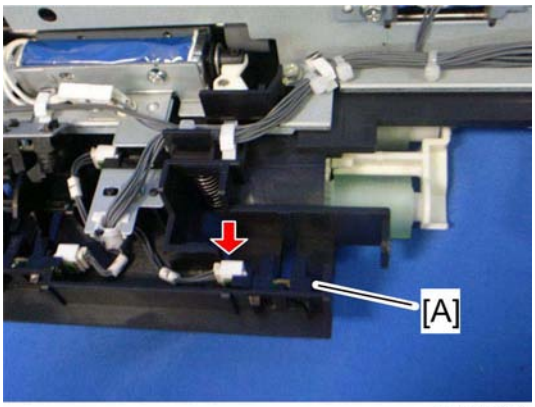
4.10.9 PAPER END SENSOR

1. Paper feed unit (☛ p.4-94)



m065r660

2. Actuator [A] (tab x 2)

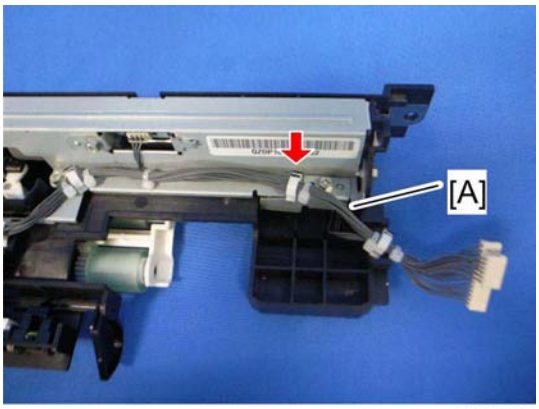


m065r661

3. Paper end sensor [A] (☞ x1, hooks)

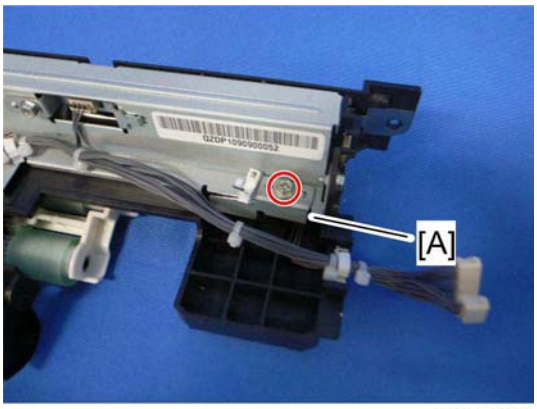
4.10.10 PAPER FEED SENSOR

1. Paper feed unit (☛ p.4-94)



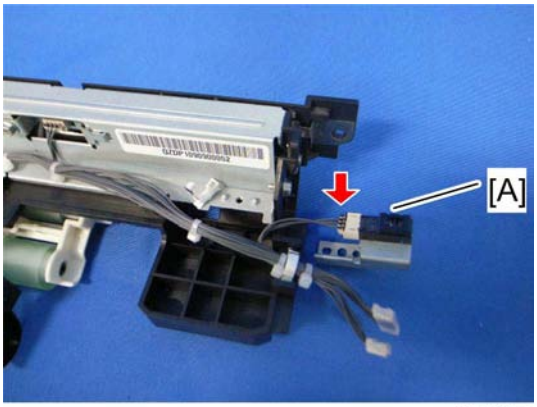
m065r662

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



m065r663

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

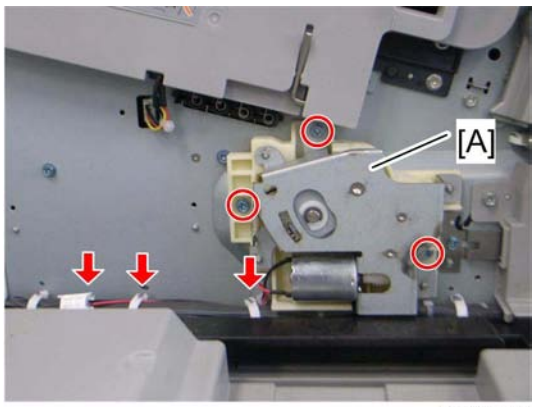


m065r664

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

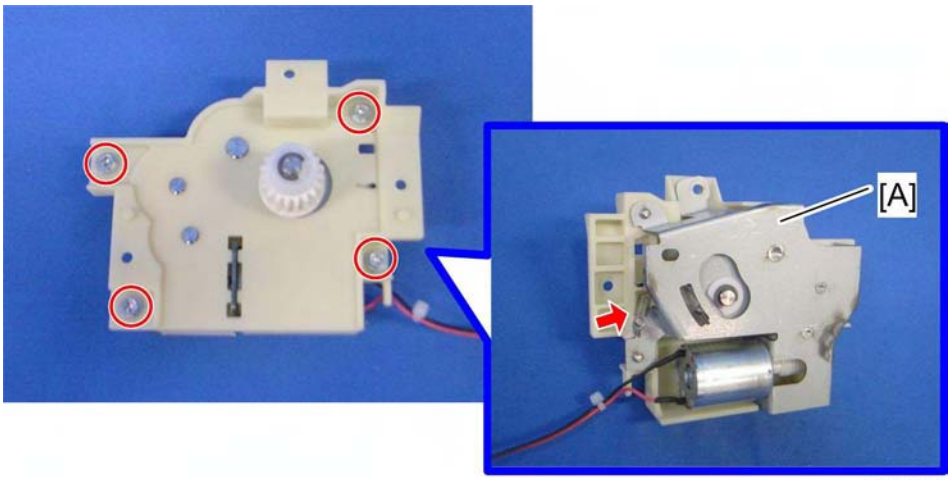
4.10.11 TRAY LIFT MOTOR

1. Inner left lower cover (☛ p.4-11)



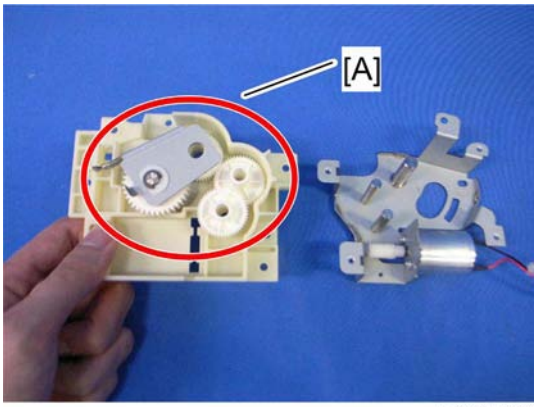
m065r518

2. Tray lift motor unit [A] (x 3, x 2, x 1)



m065r519

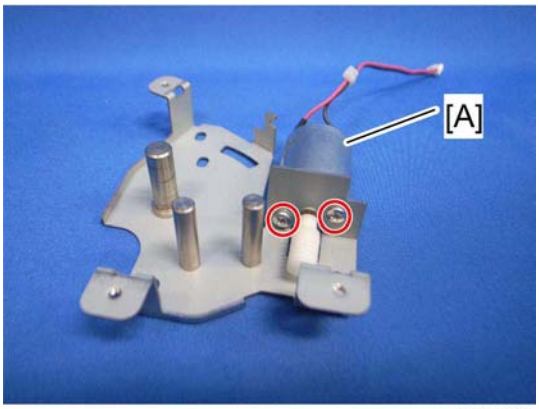
3. Tray lift motor bracket [A] (x 4, spring x 1)



m065r520

Note

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

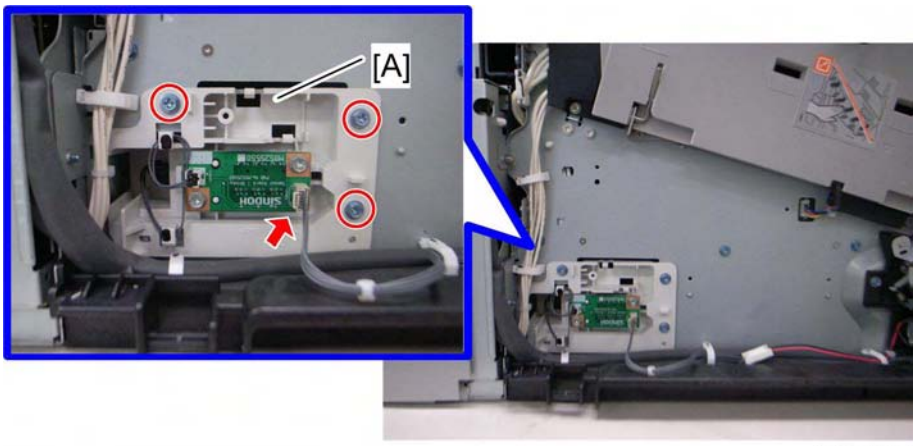


m065r521

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

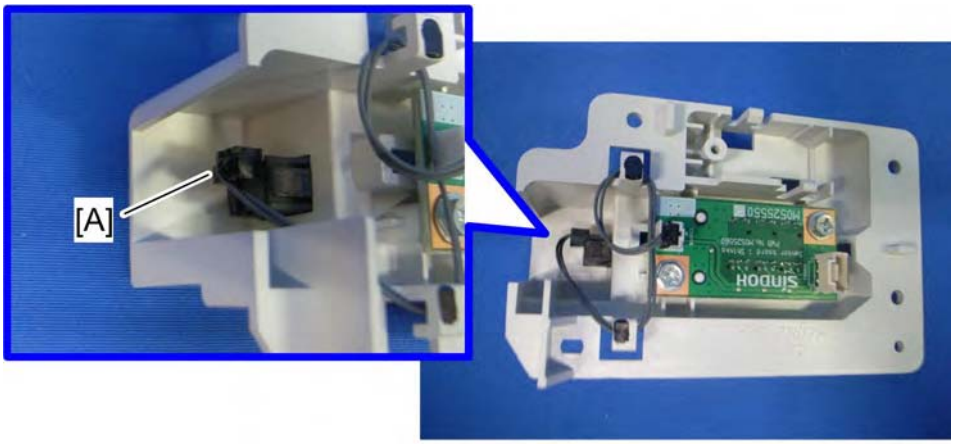
4.10.12 TRAY 1 SET SENSOR

1. Pull out the paper feed tray.
2. Left cover (☛ p.4-3)
3. Inner left rear cover (☛ p.4-11)
4. Inner left lower cover (☛ p.4-11)



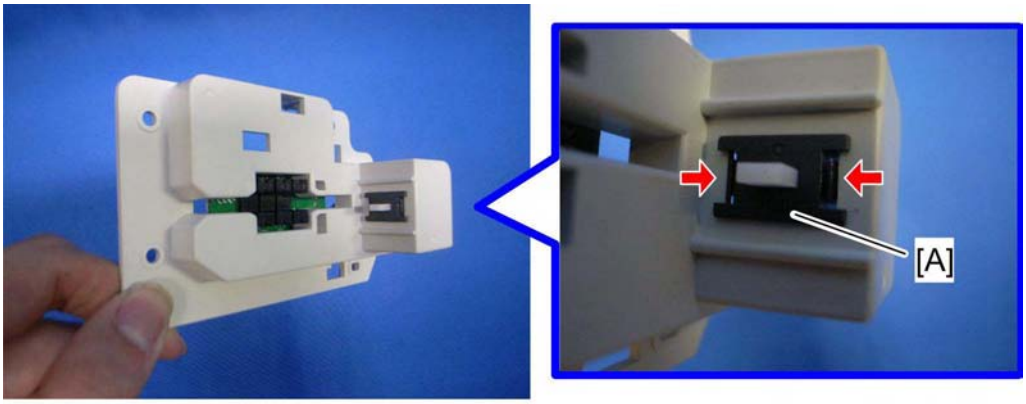
m065r522

5. Sensor holder [A] (x 3, x 1)



m065r523

6. Disconnect the connector [A].

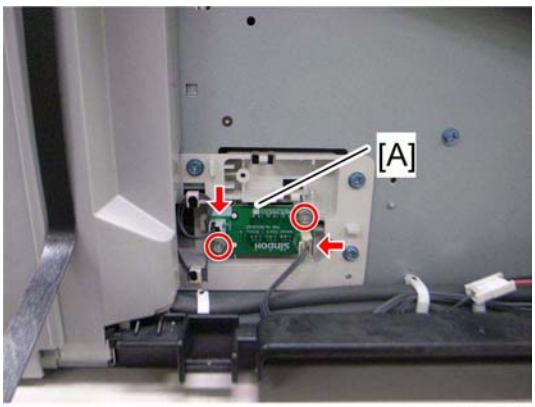


m065r524

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

4.10.13 PAPER SIZE SENSOR BOARD

1. Inner left lower cover (☛ p.4-11)

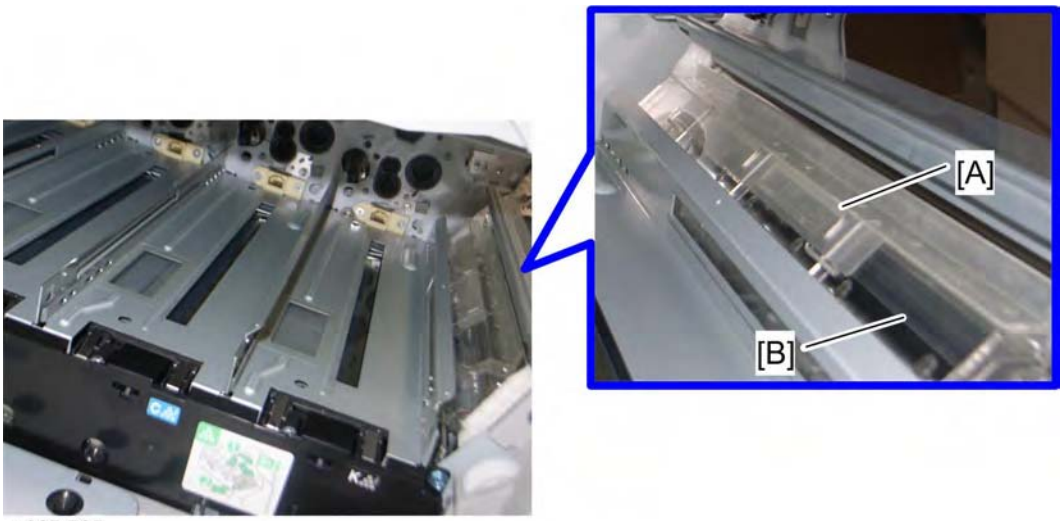


m065r525

2. Paper size sensor board [A] (x 2, x 2)

4.10.14 CLEANING THE PAPER DUST CONTAINER

1. ITB unit (☛ p.4-38)
2. PCDU (☛ p.4-20)



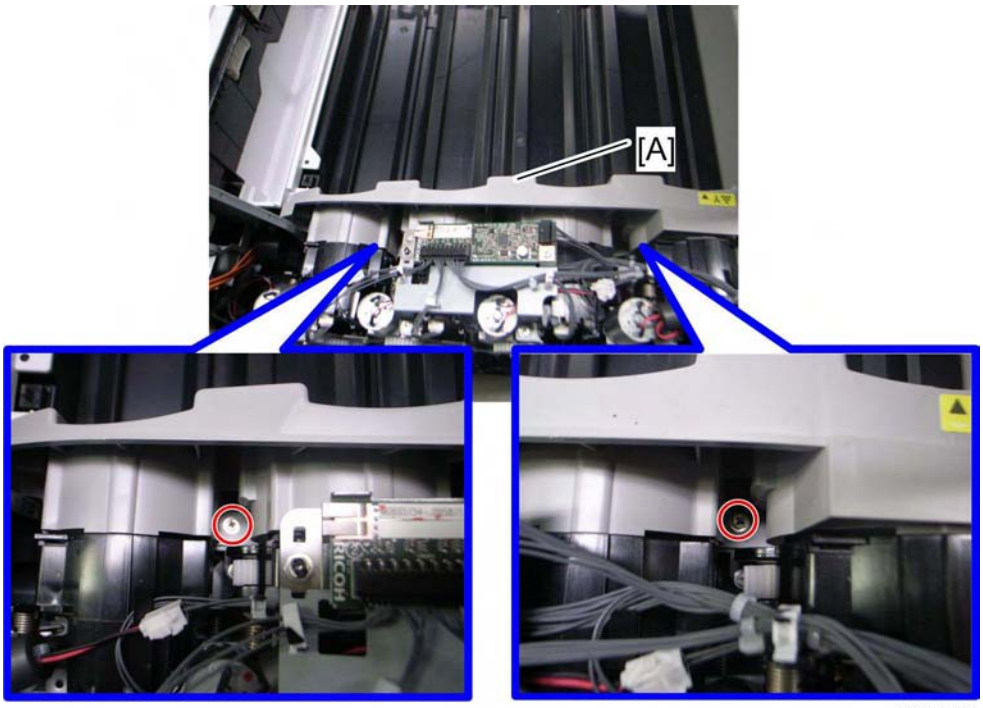
m065r785

3. Peel off the tape [A] (service parts) and clean the paper dust container [B] with a vacuum cleaner.

4.11 PAPER EXIT

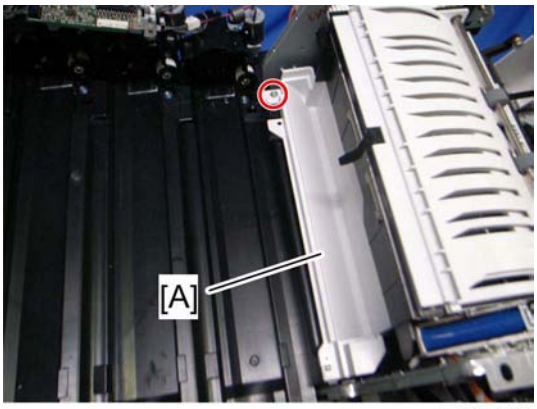
4.11.1 PAPER EXIT UNIT

1. Top cover (☛ p.4-6)
2. Open the upper cover.



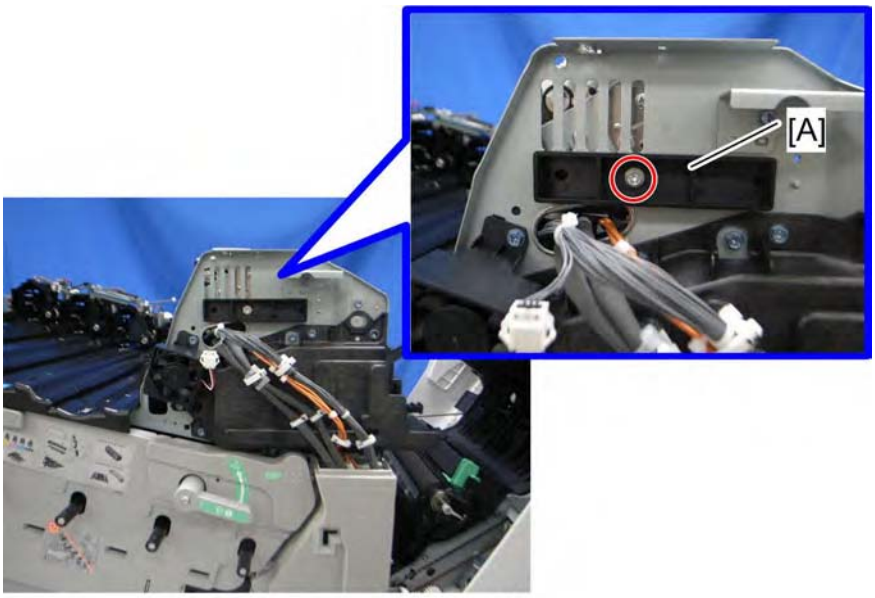
m065r536

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



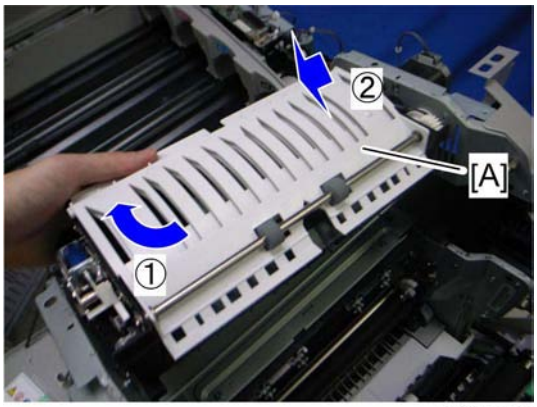
m065r537

4. Inner upper cover [A] (x 1)
5. Inner left upper cover (☛ p.4-9)



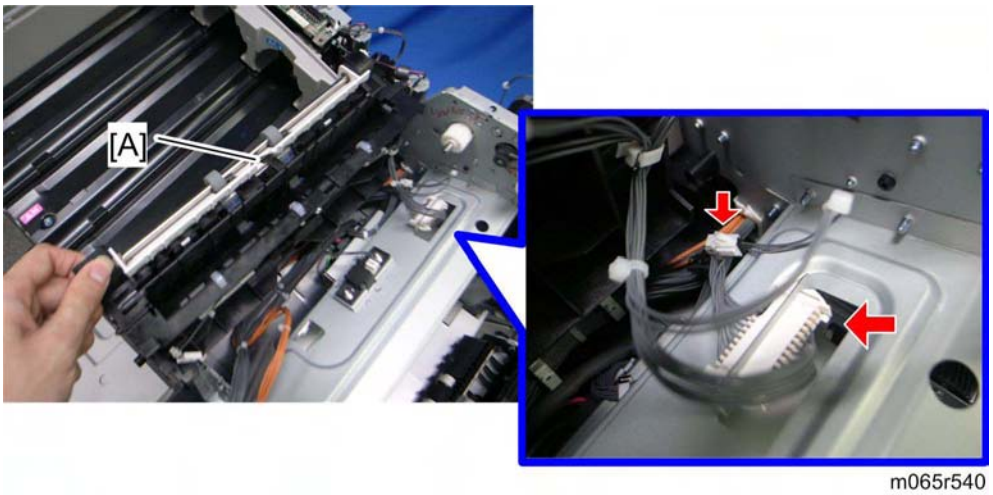
m065r538

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



m065r539

7. Lift the paper exit unit [A].

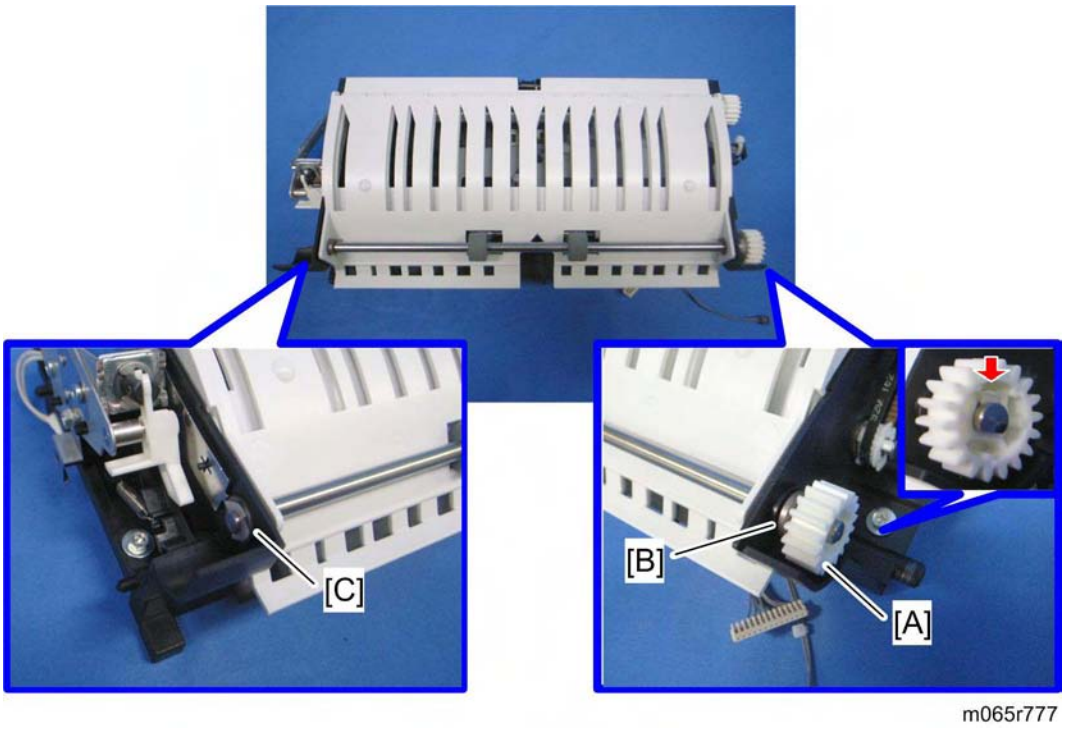


m065r540

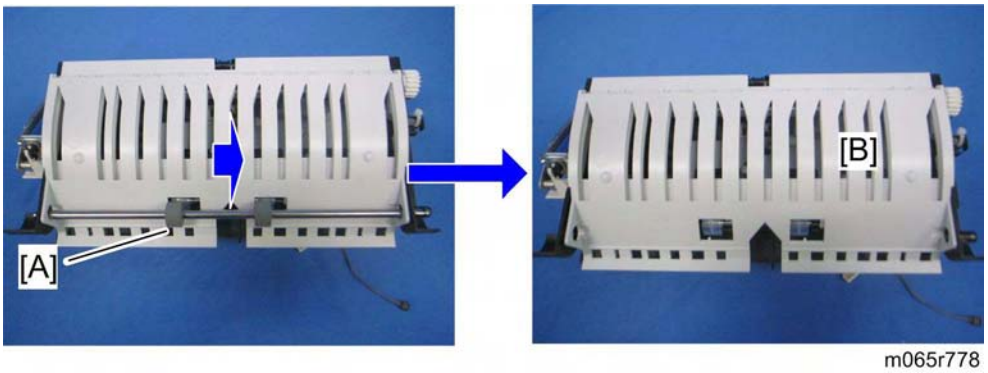
8. Paper exit unit [A] (x 2)

4.11.2 PAPER EXIT SENSOR

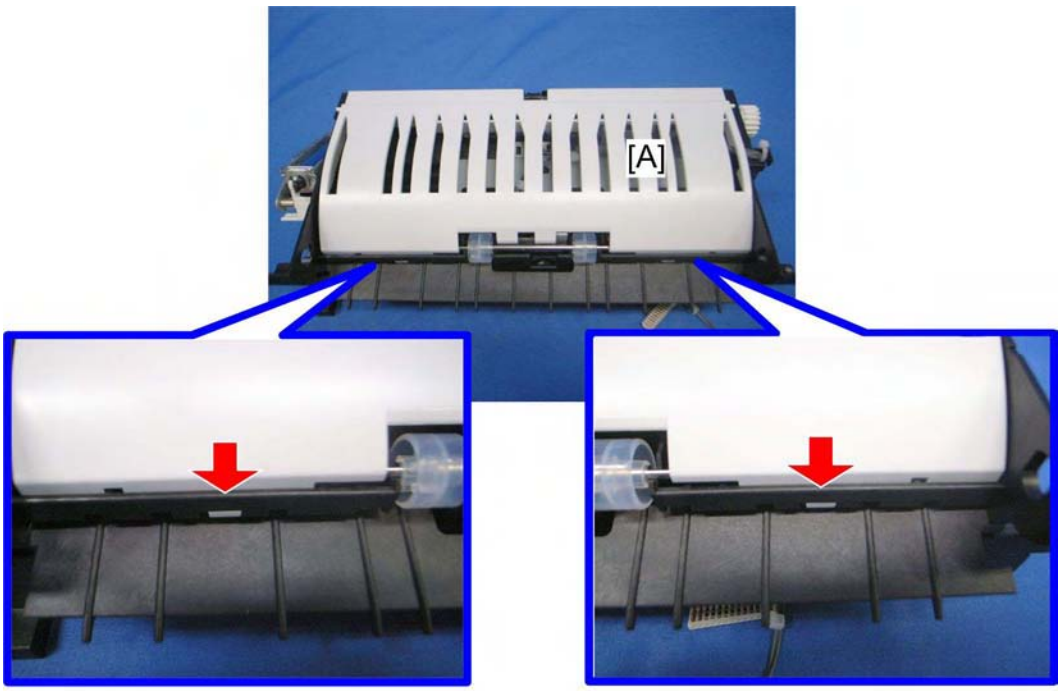
1. Paper exit unit (☛ p.4-107)



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).

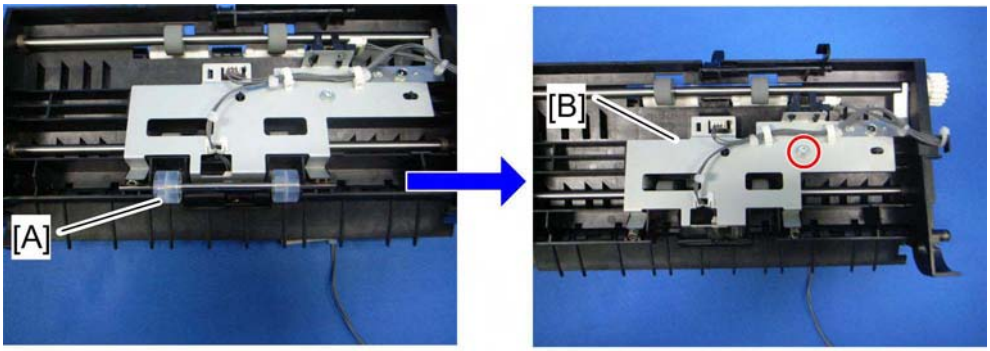


4. Remove the shaft [A], and then remove the paper exit upper guide [B].



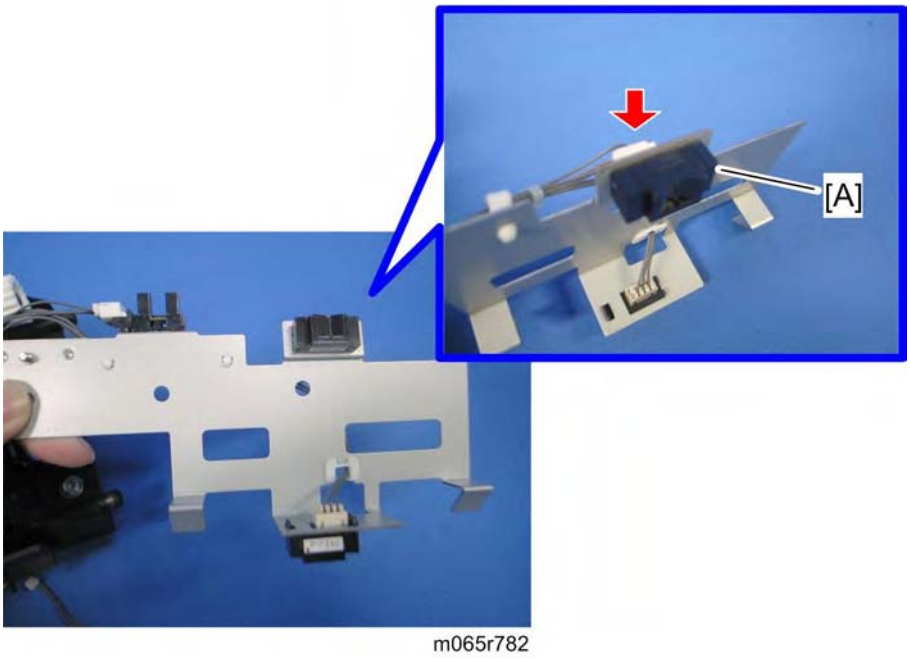
m065r779

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



m065r780

6. Remove the idle roller [A], and release the sensor bracket [B] (x 1).

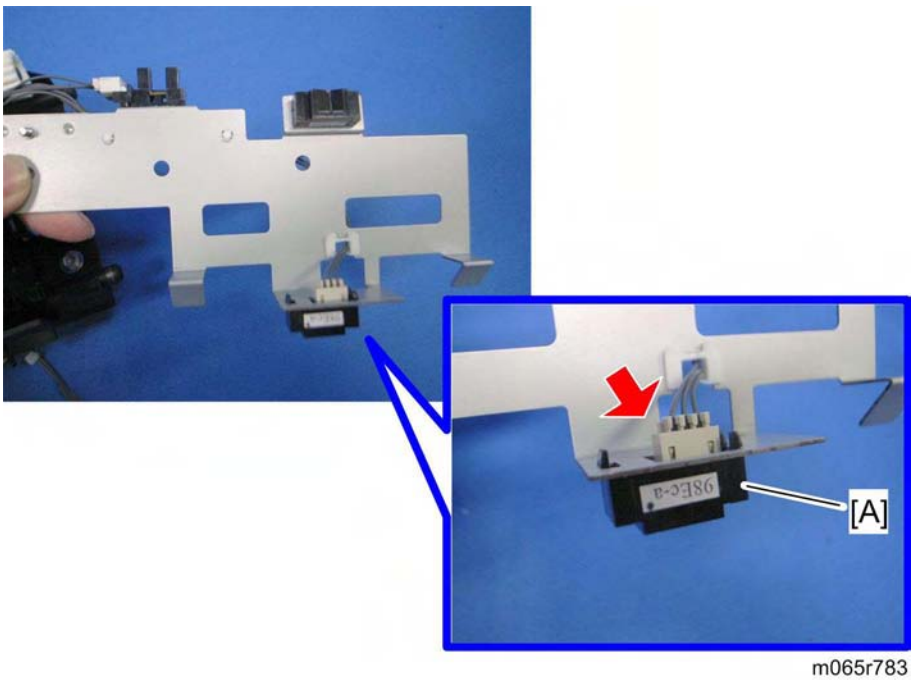


m065r782

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

4.11.3 INVERTER SENSOR

1. Paper exit unit (☛ p.4-107)
2. Release the sensor bracket (☛ p.4-109 "Paper Exit Sensor").

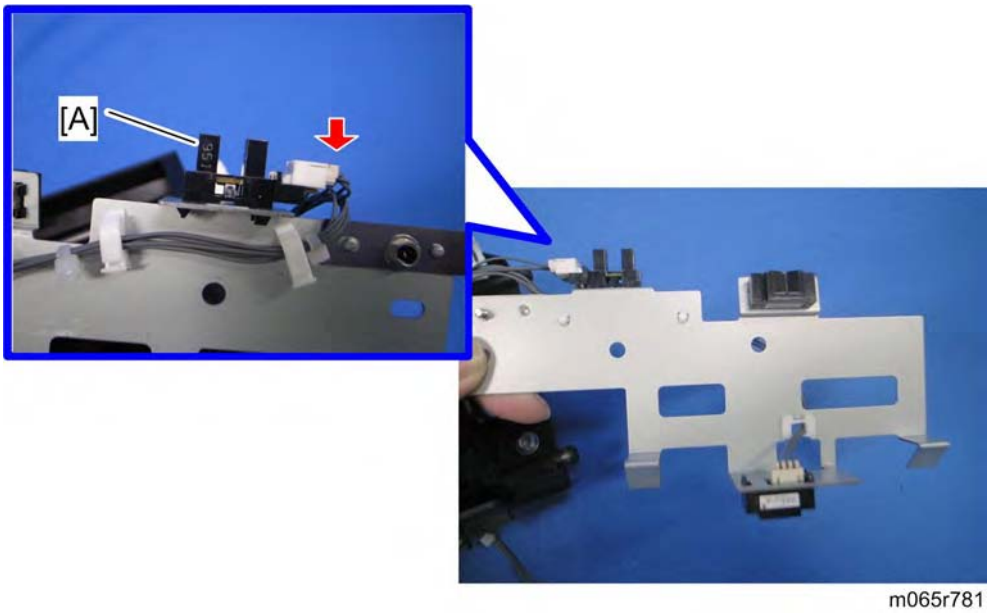


m065r783

3. Inverter sensor [A] (x 1, hooks)

4.11.4 PAPER OVERFLOW SENSOR

1. Paper exit unit (☛ p.4-107)
2. Release the sensor bracket (☛ p.4-109 "Paper Exit Sensor").

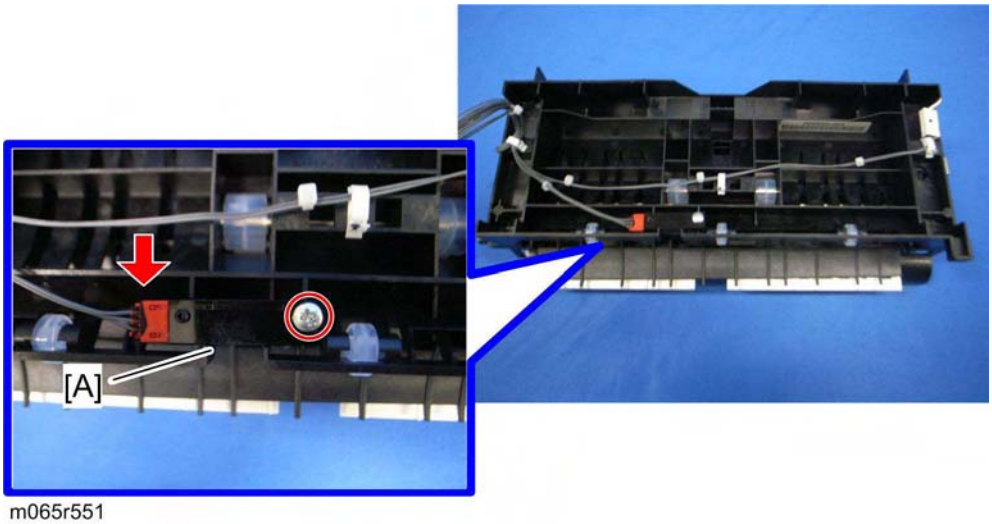


m065r781

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

4.11.5 FUSING EXIT SENSOR

1. Paper exit unit (☛ p.4-107)

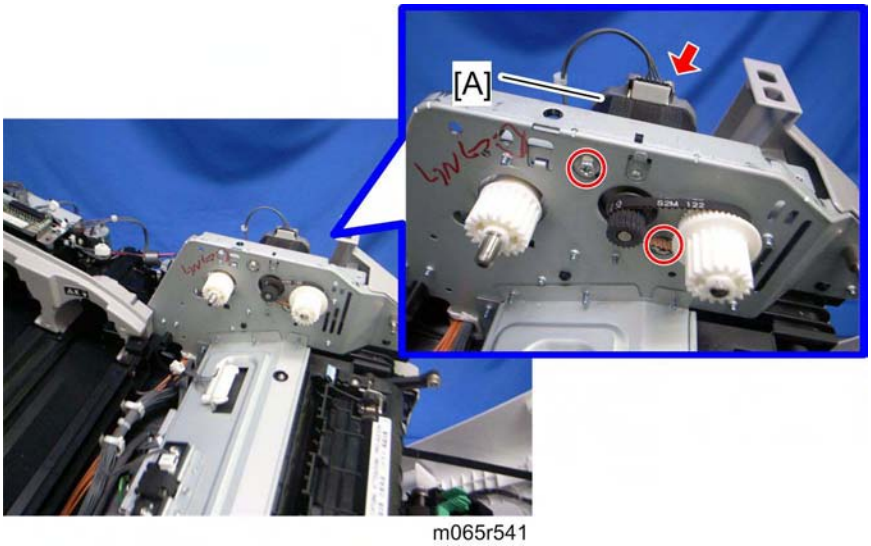


m065r551

2. Fusing exit sensor [A] (x 1, x 1)

4.11.6 INVERTER MOTOR

1. Paper exit unit (☛ p.4-107)

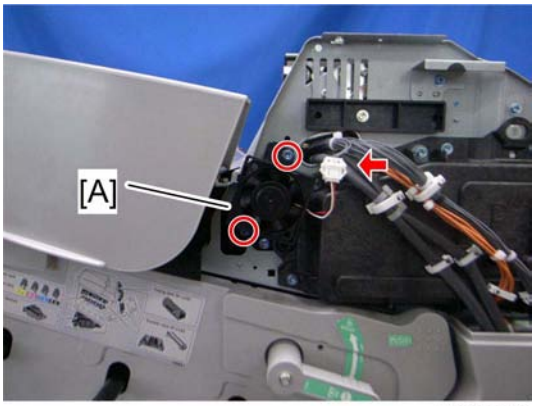


m065r541

2. Inverter motor [A] (x 2, x 1, timing belt x 1)

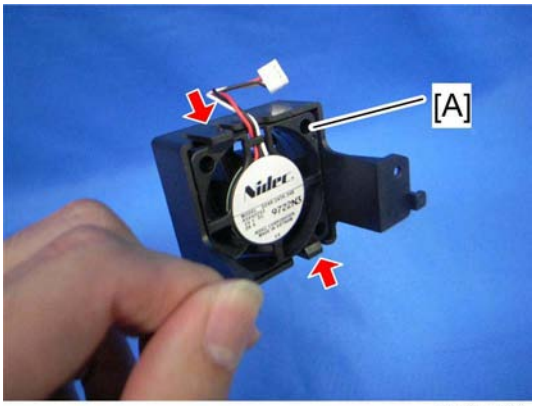
4.11.7 FUSING COOLING FAN

1. Inner left upper cover (☛ p.4-9)



m065r543

2. Fusing cooling fan base [A] (x 2, x 1)



m065r544

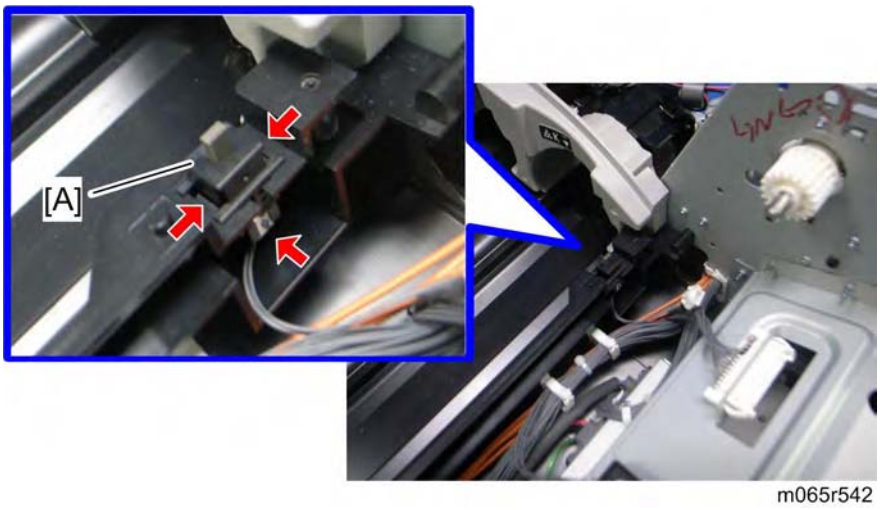
3. Fusing cooling fan [A] (hooks)

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.

4.11.8 UPPER COVER SENSOR

1. Paper exit unit (☛ p.4-107)

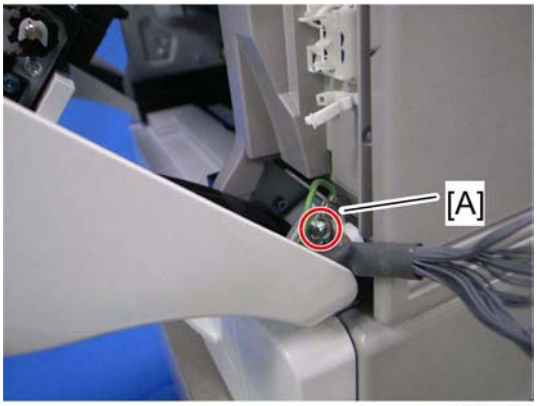


2. Upper cover sensor [A] (☞ x 1, hooks)

4.12 DUPLEX UNIT

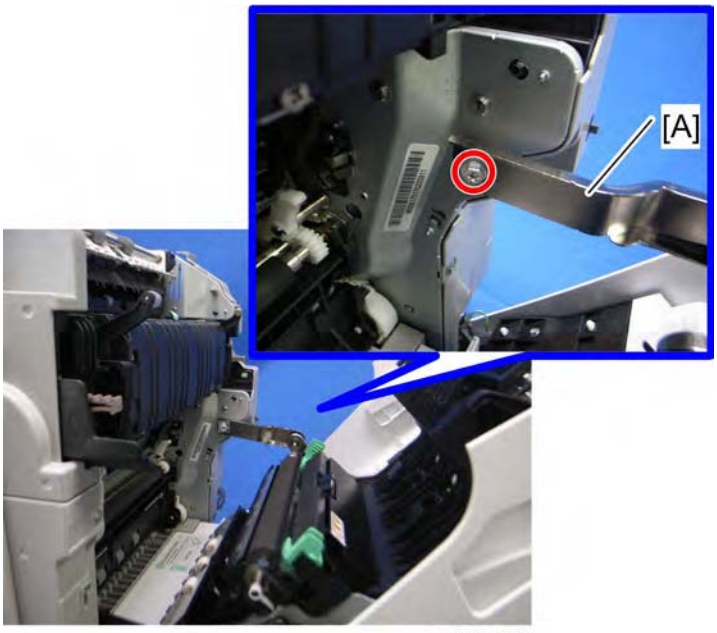
4.12.1 DUPLEX UNIT

1. Open the duplex unit.
2. Connector cover (☛ p.4-12 "Inner Right Front Cover")
3. Disconnect the six harnesses (☛ p.4-12 "Inner Right Front Cover").



m065r761

4. Remove the ground screw [A].

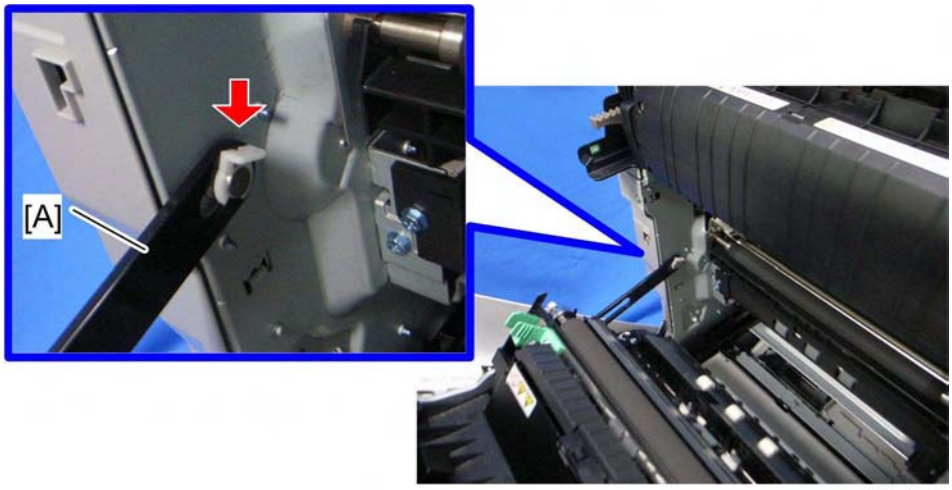


m065r616

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

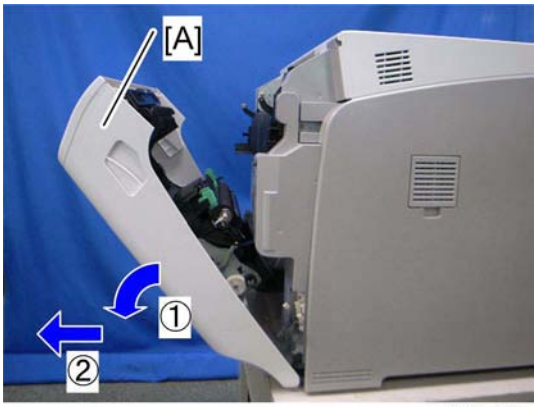
⚠CAUTION

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



m065r617

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

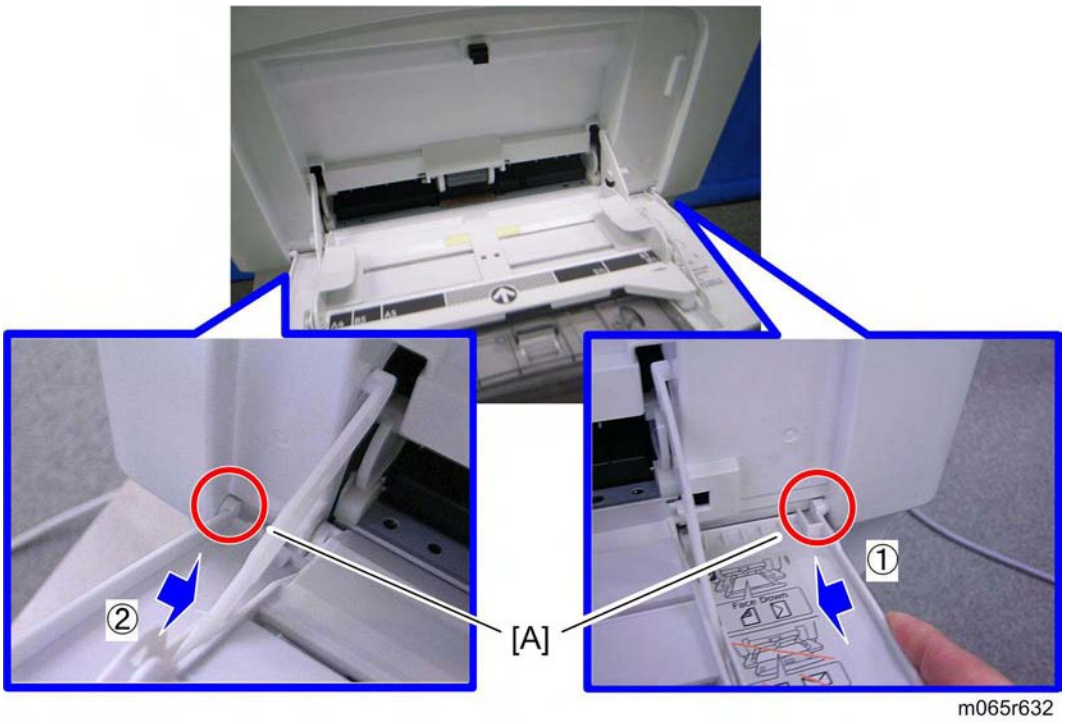


m065r618

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

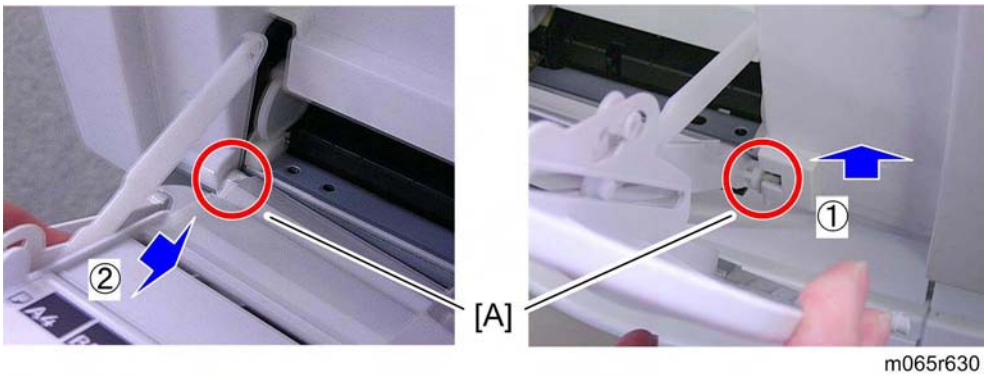
4.12.2 BY-PASS TRAY UNIT

1. Open the by-pass tray unit.



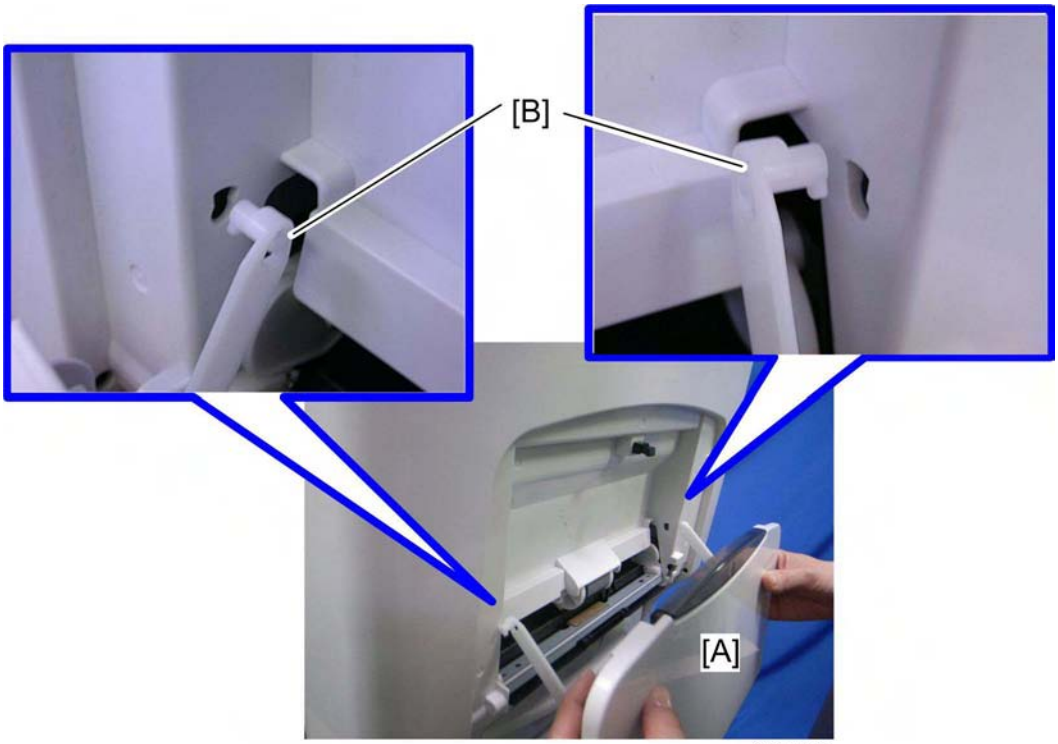
m065r632

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



m065r630

3. Release the inner large pegs [A] of the tray.



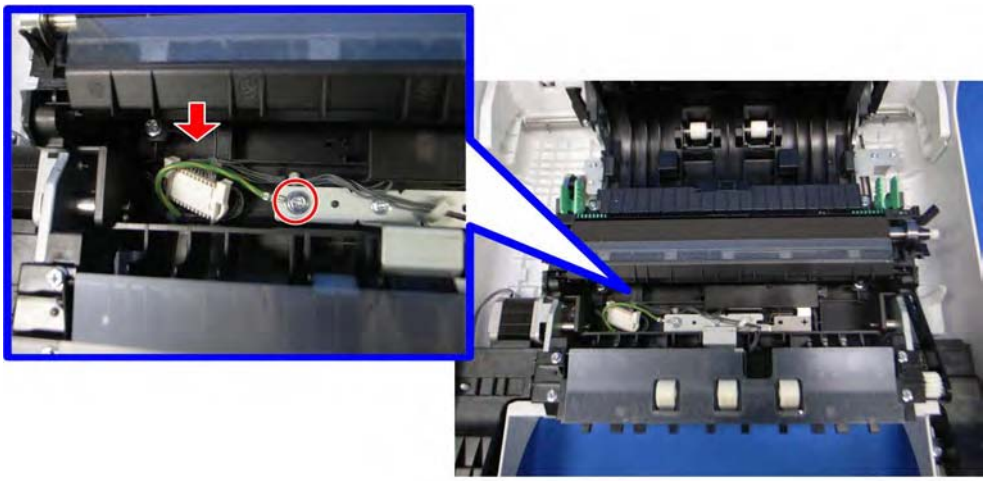
4. Lower the tray [A] against the side of the machine. This rotates the peg lock arms down so they can be removed from the keyholes.
5. Pull the tabs [B] out and remove the tray.

Note

- When you re-attach the tray, be sure to align the tray as shown at [A] so the peg arms can be inserted into the keyholes.

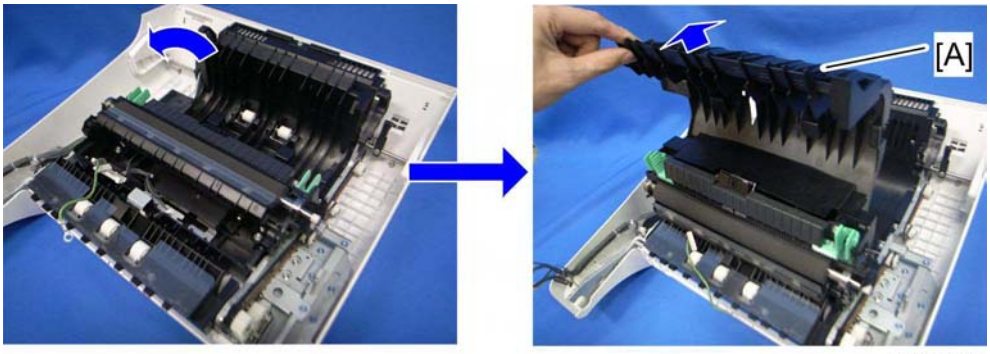
4.12.3 DUPLEX ENTRANCE SENSOR

1. Duplex unit (☛ p.4-116)



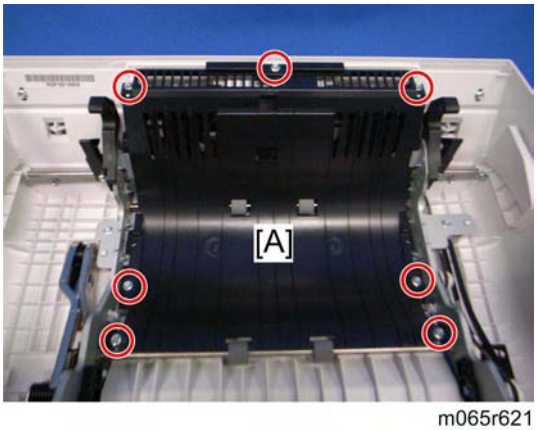
m065r619

2. Disconnect the connector and remove the ground screw.



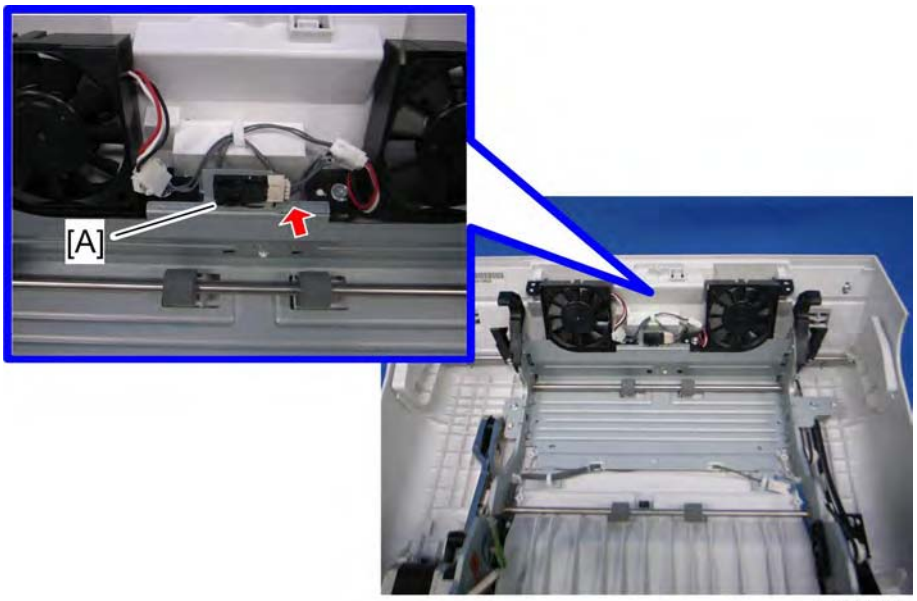
m065r620

3. Duplex lower guide plate [A]



m065r621

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

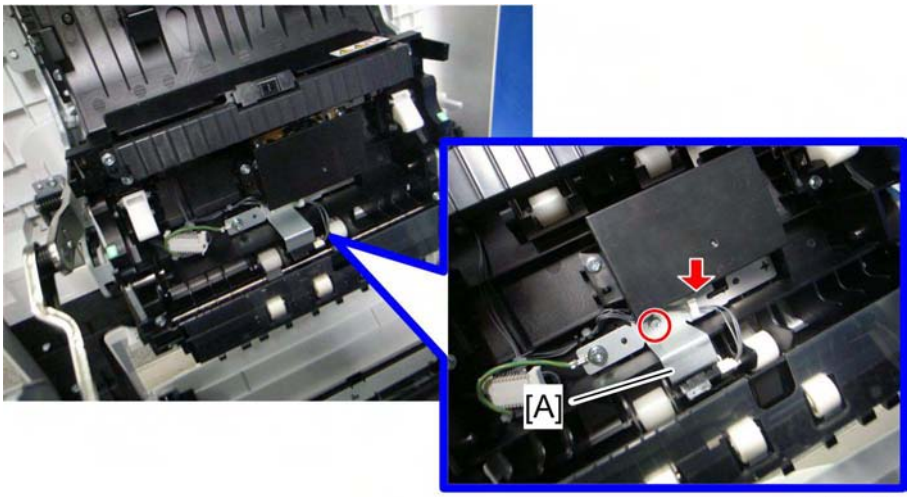


m065r622

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

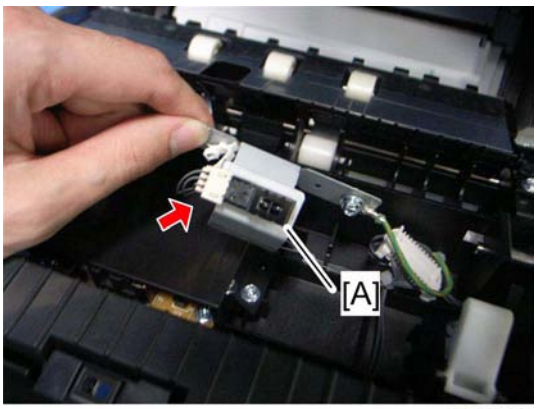
4.12.4 DUPLEX EXIT SENSOR

1. Open the duplex unit.
2. Fusing unit (☛ p.4-74)
3. Paper transfer roller unit (☛ p.4-50)



m065r764

4. Release the sensor bracket [A] (x 1, x 1)

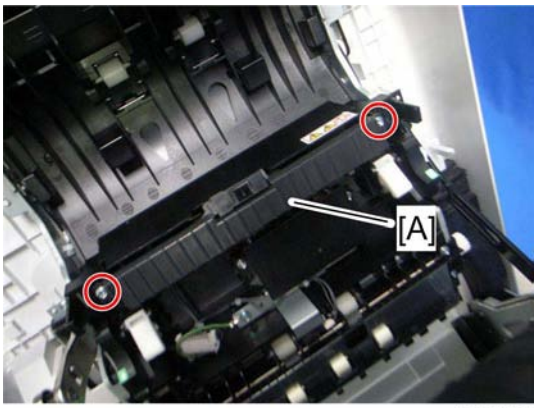


m065r765

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

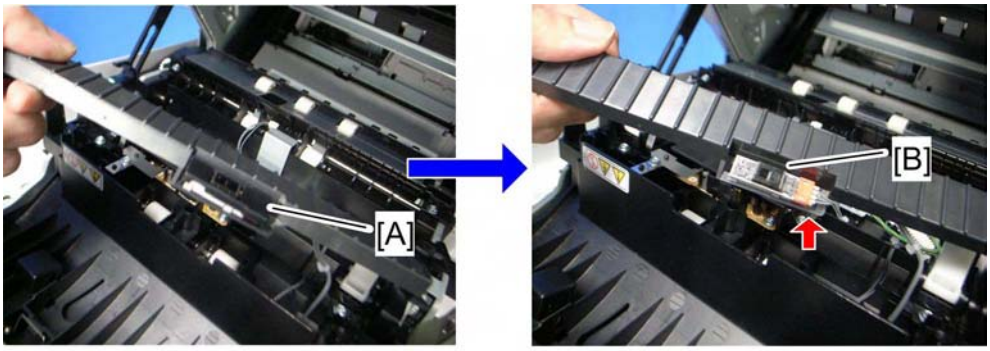
4.12.5 FUSING ENTRANCE SENSOR

1. Open the duplex unit.
2. Fusing unit (☛ p.4-74)
3. Paper transfer roller unit (☛ p.4-50)



m065r762

4. Sensor base [A] (x 2)



m065r763

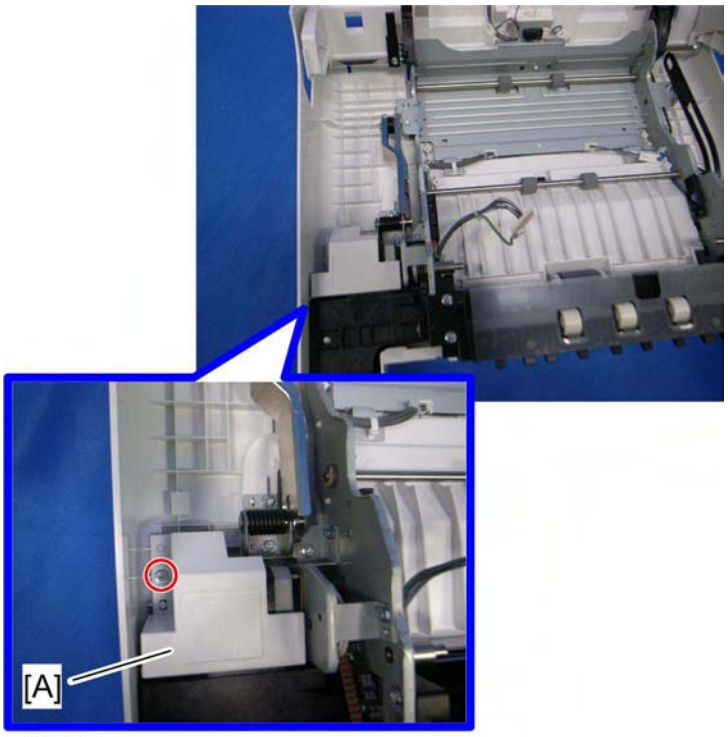
5. Sensor cover [A] (hooks)
6. Fusing entrance sensor [B] (x 1, hooks)

4.12.6 DUPLEX/BY-PASS MOTOR

1. Duplex unit (☛ p.4-116)
2. By-pass tray unit (☛ p.4-118)
3. Duplex upper guide plate (☛ p.4-120 "Duplex Entrance Sensor")

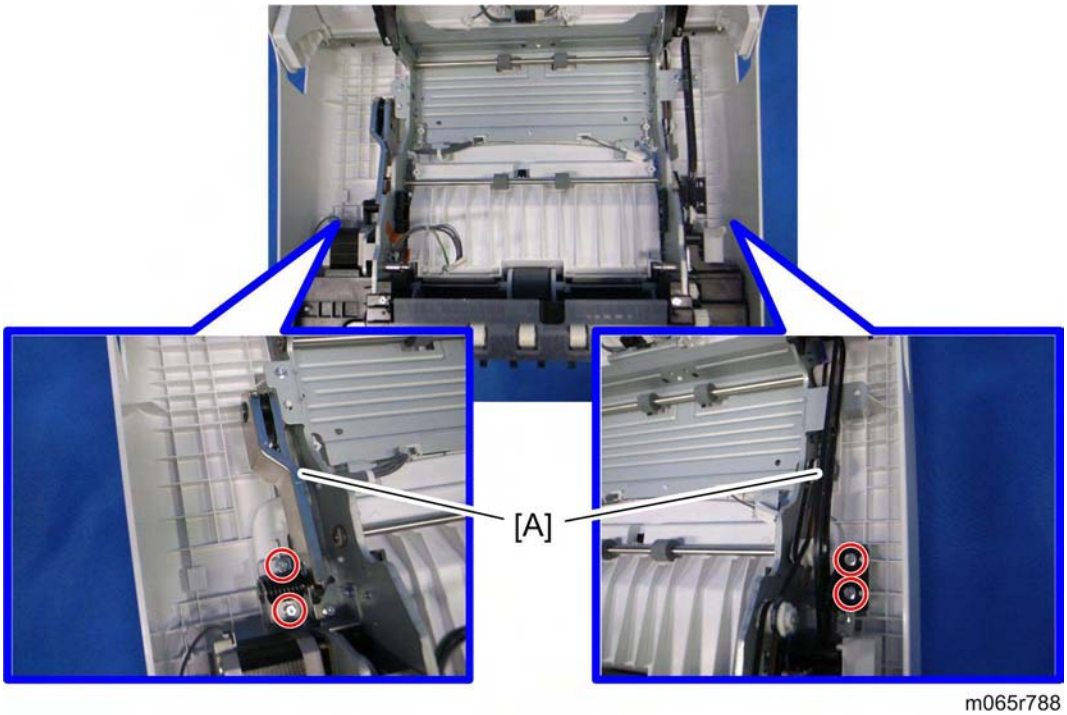
m065r786

4. Guide plate [A] (tabs)
5. Fusing fans (☛ p.4-133)
6. Operation panel (☛ p.4-8)



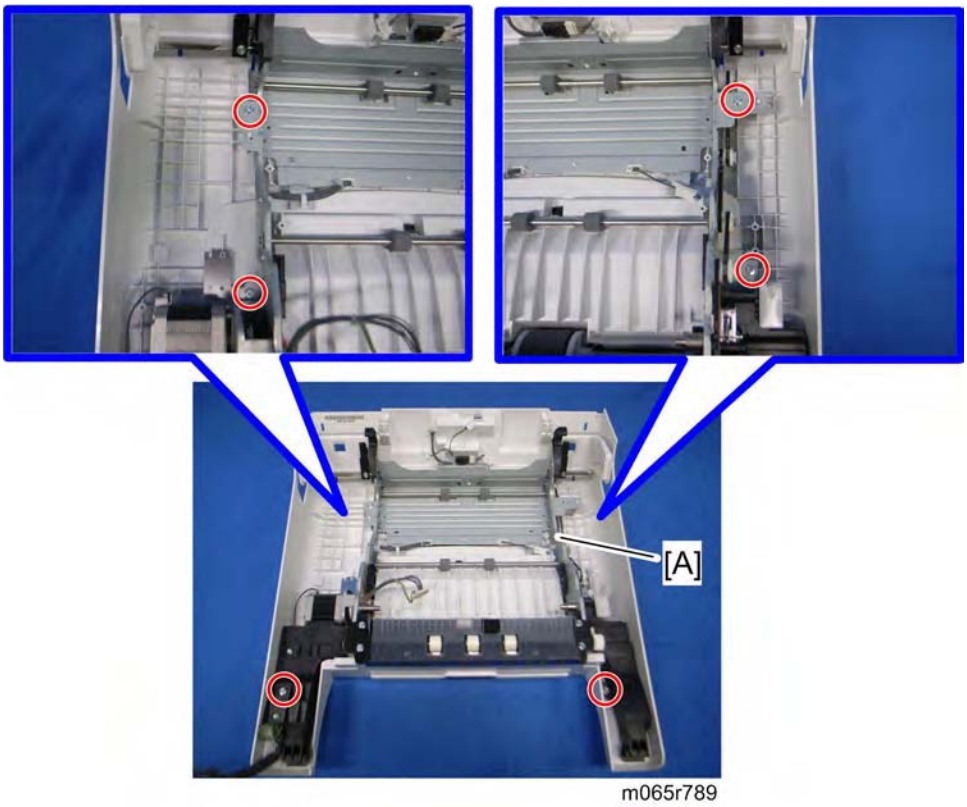
m065r787

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



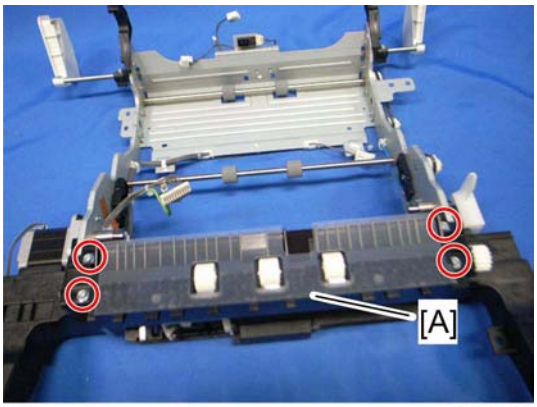
m065r788

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



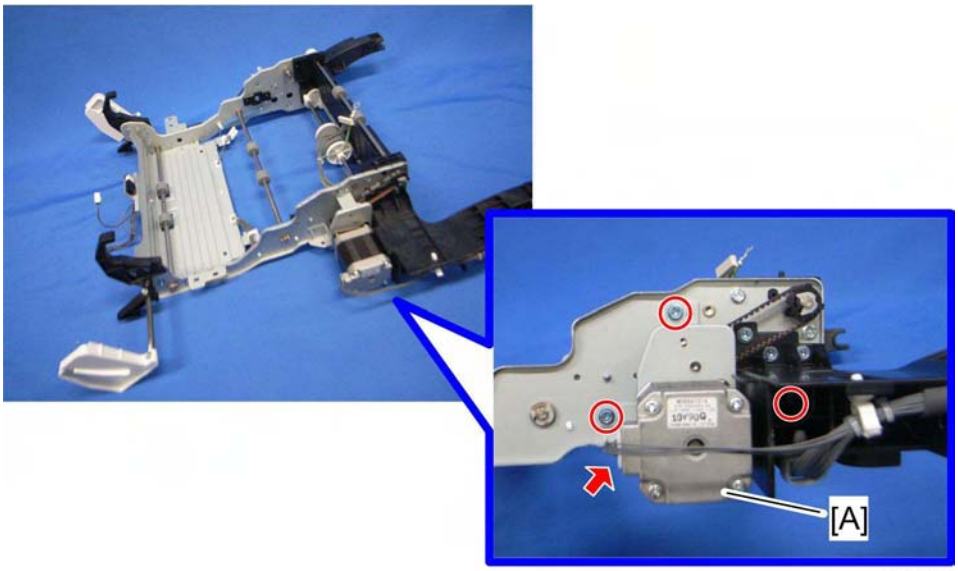
m065r789

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



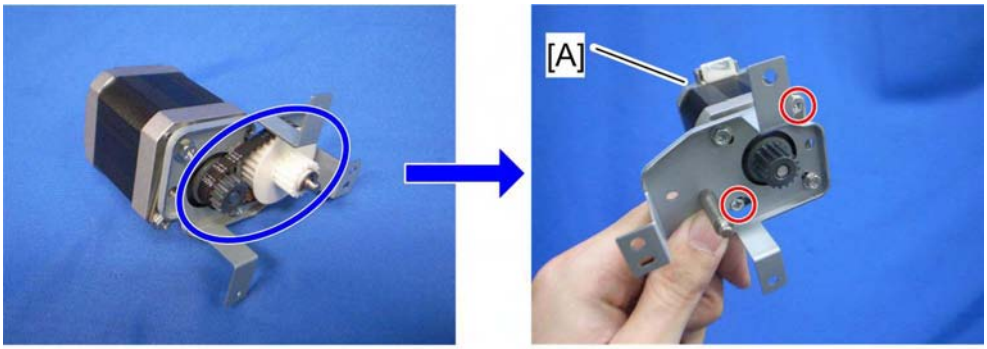
m065r794

10. Guide plate [A] (x 4)



m065r790

11. Duplex/By-pass motor bracket [A] (x 3, x 1)

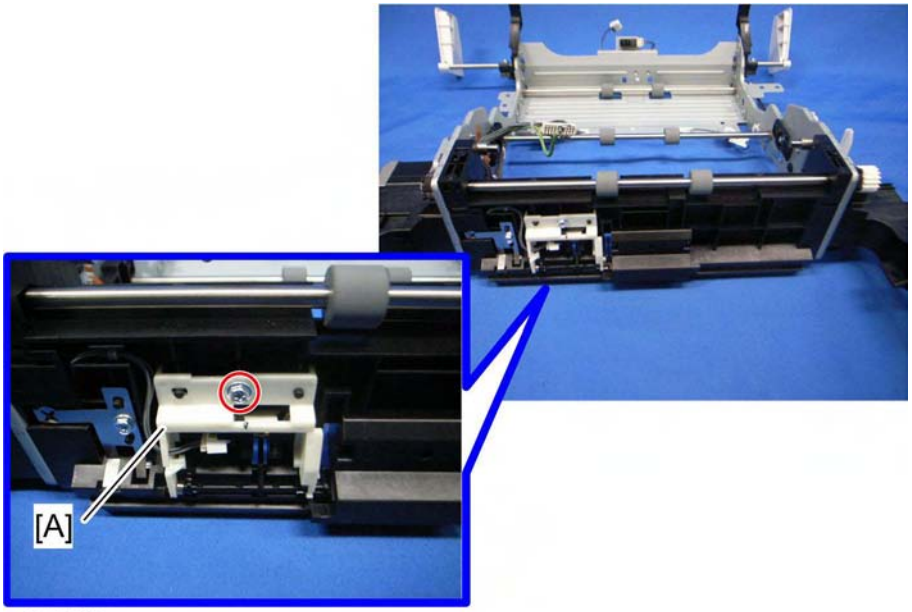


m065r791

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

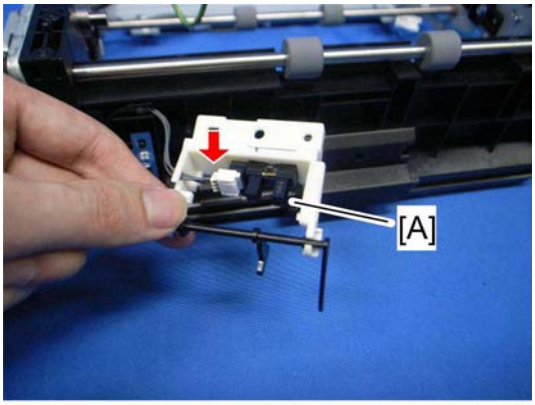
4.12.7 BY-PASS PAPER END SENSOR

1. Duplex unit (☛ p.4-116)
2. Duplex/By-pass motor bracket with the frame (☛ p.4-124 "Duplex/By-pass Motor")



m065r792

3. Sensor holder [A] (🔩 x 1)

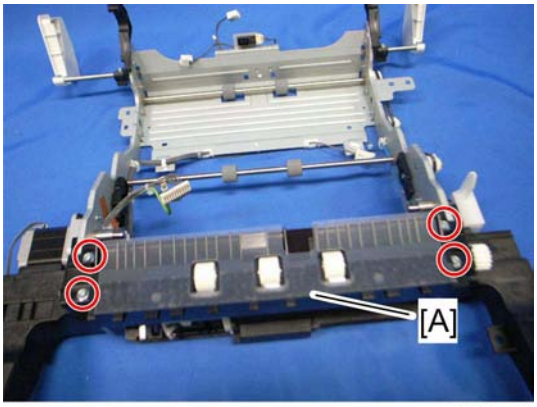


m065r793

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

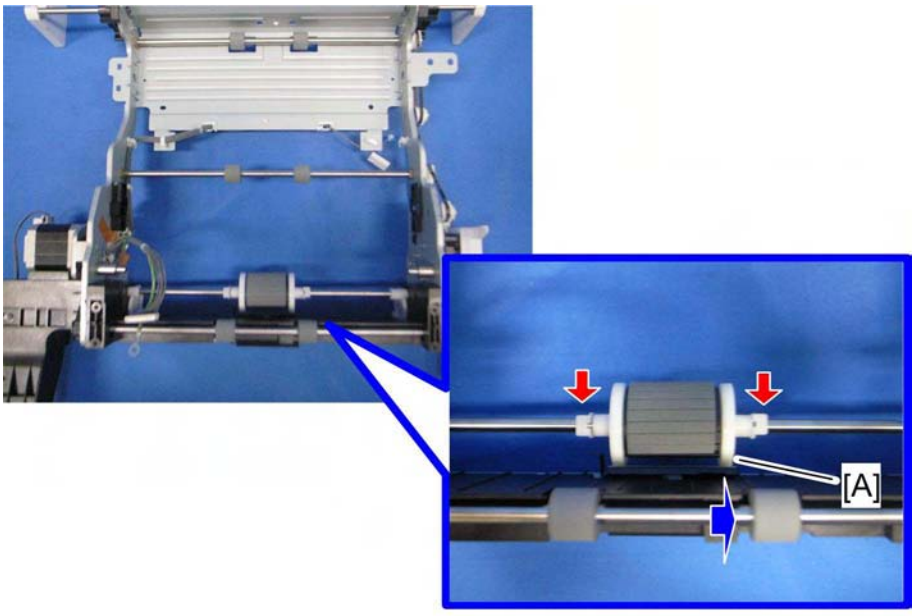
4.12.8 BY-PASS FEED ROLLER, FRICTION PAD

1. Duplex unit (☛ p.4-116)
2. Duplex/By-pass motor bracket with the frame (☛ p.4-124 "Duplex/By-pass Motor")



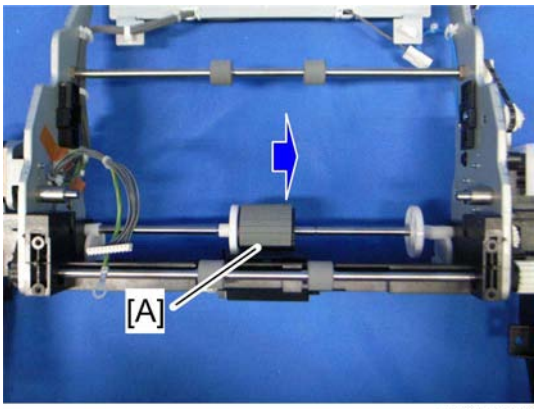
m065r794

3. Guide plate (🔩 x 4)



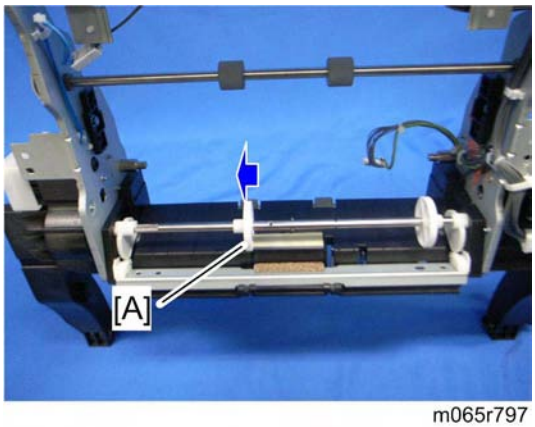
m065r795

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



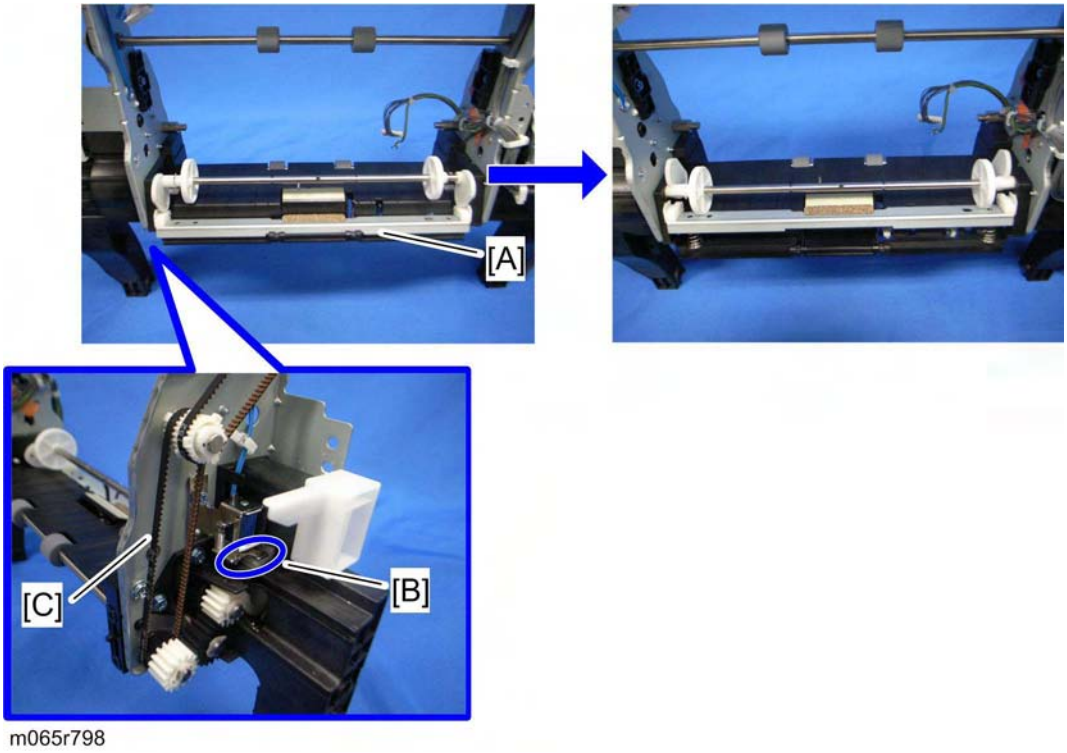
m065r796

5. By-pass feed roller [A]



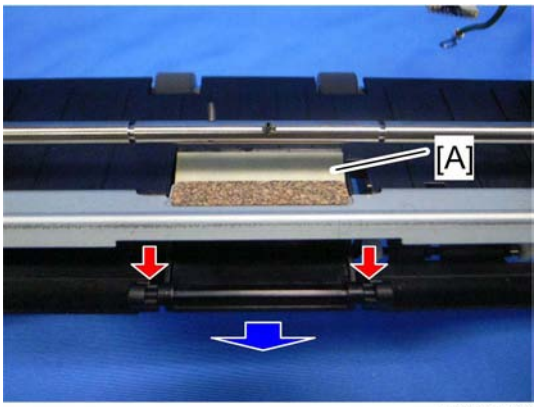
m065r797

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



m065r798

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



m065r799

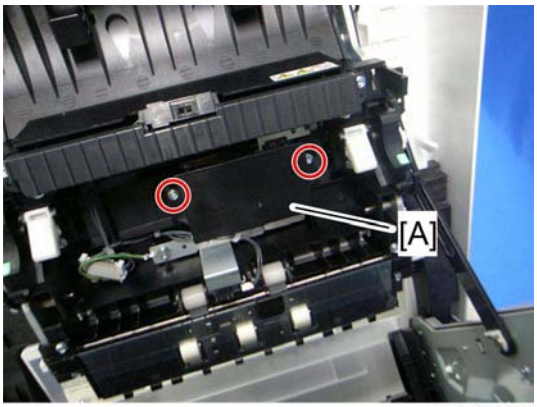
8. Friction pad [A] (hooks)

4.12.9 HVPS: D

CAUTION

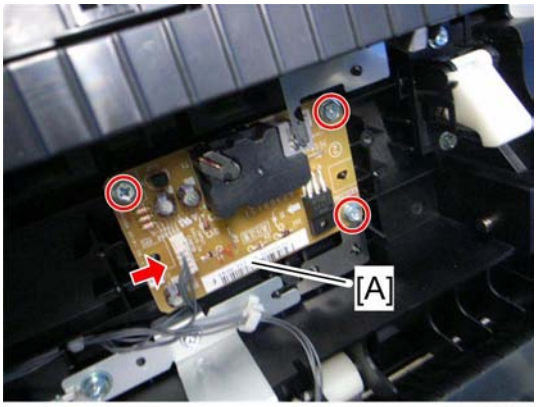
- Turn off the main power switch and unplug the machine before removing the HVPS: D.

1. Open the duplex unit.
2. Fusing unit (☛ p.4-74)
3. Paper transfer roller unit (☛ p.4-50)



m065r766

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



m065r767

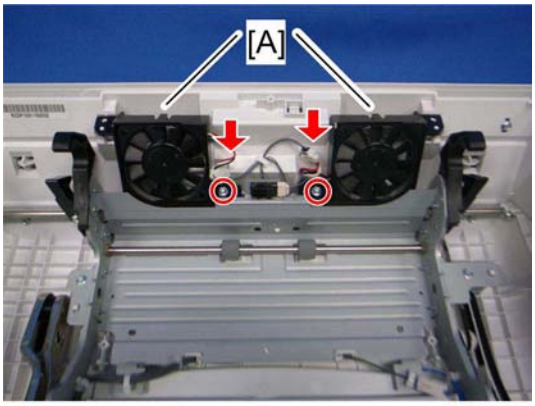
5. HVPS: D [A] (x 3, x 1)

4.12.10 FUSING FAN

CAUTION

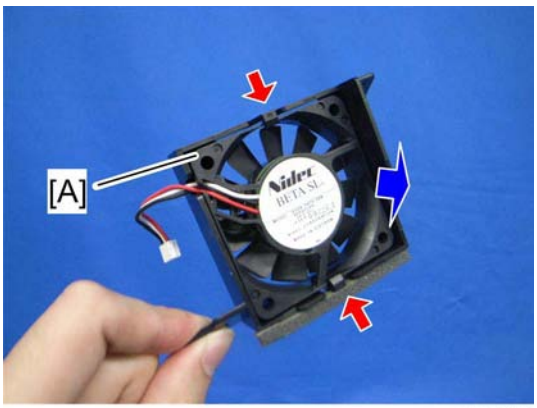
- Turn off the main power switch and unplug the machine before removing the fusing fan.

1. Duplex unit (☛ p.4-116)
2. Duplex upper guide plate (☛ p.4-120 "Duplex Entrance Sensor")



m065r768

3. Fusing fan bases [A] (x 1 each, x 1 each)



m065r769

4. Fusing fan [A] (hooks)

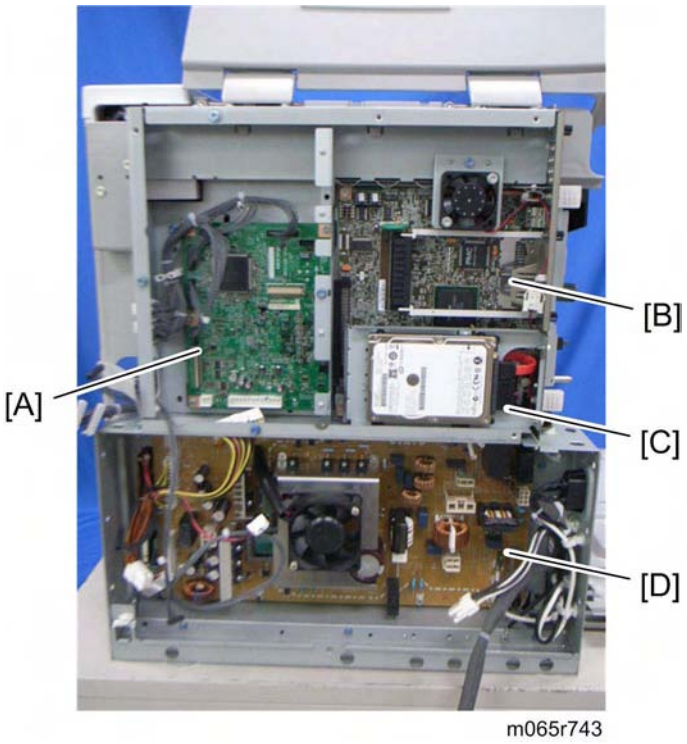
When installing the fusing fan

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

4.13 ELECTRICAL COMPONENTS

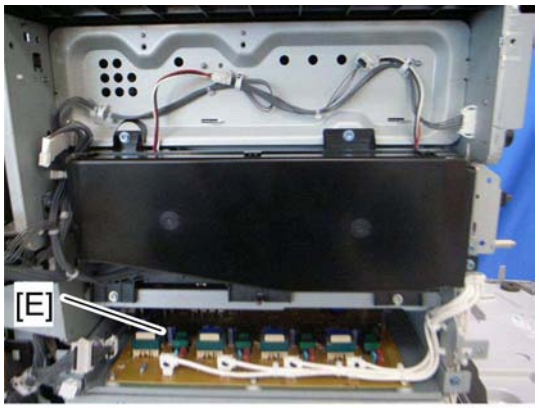
4.13.1 BOARDS

Rear Cover Open



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

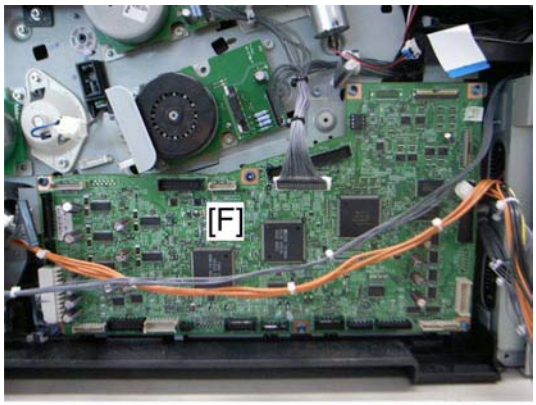
Controller Box Removal



m065r744

[E]	HVPS: CB Board

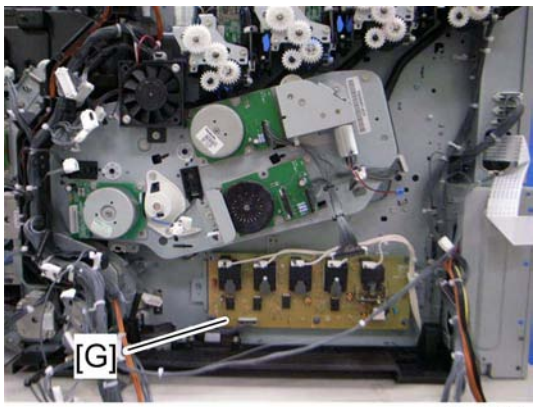
Right Cover Open



m065r745

[F]	BCU

BCU with bracket Removed

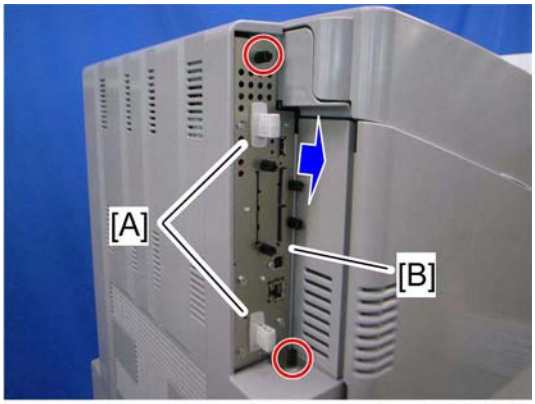


m065r746

[G]	HVPS: T1T2 Board

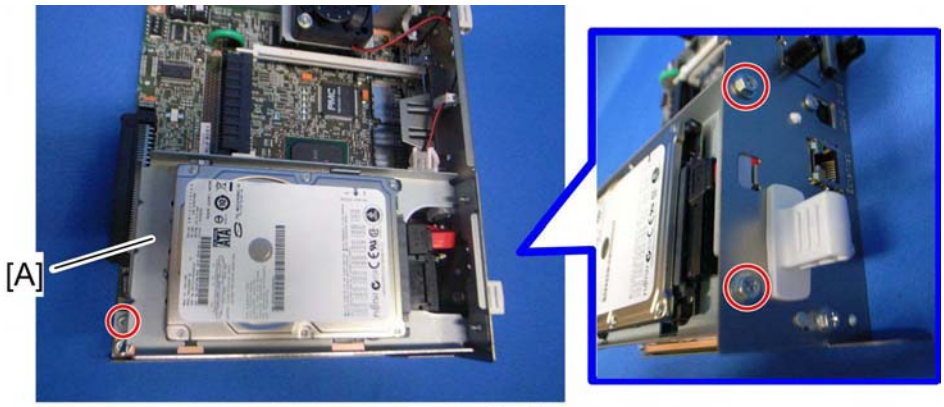
4.13.2 HDD

M065: Optional, M066: Standard



m065r772

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

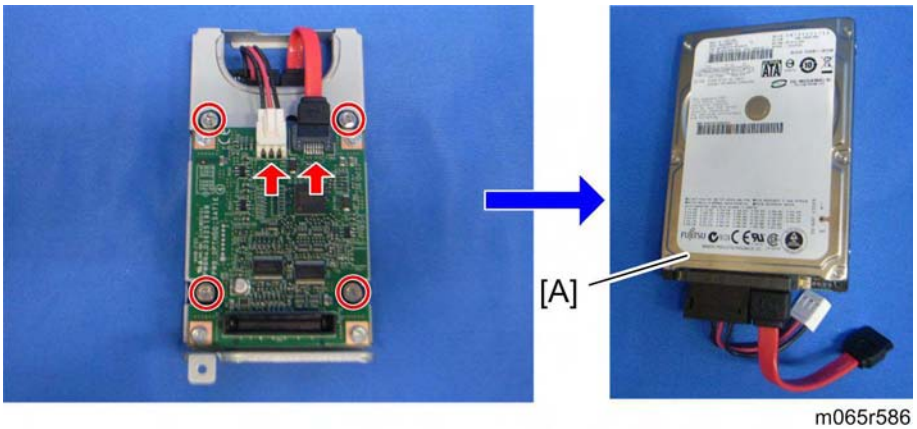


m065r585

2. HDD assembly [A] (x 3).

Note

- The screws shown above are used for the M066 (HDD is standard). The screws for the M065 (HDD is optional) are knob screws.



m065r586

3. HDD [A] (x 4, x 2).

Note

- Reconnect the harnesses to the controller board.

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 copy 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.

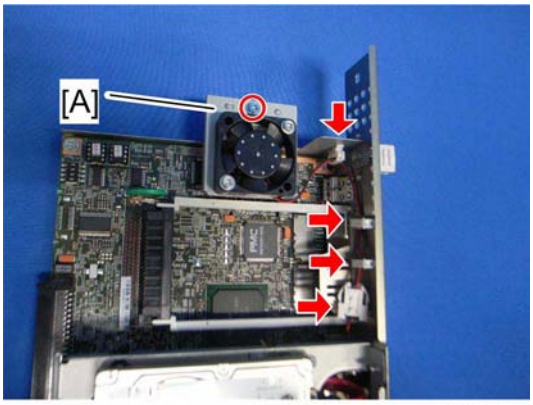
If you previously backed up the address book to an SD card with SP5846 051, you can use SP 5846 052 to copy the data from the SD card to the hard disk.

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".
- ELP NX: see "Enhanced Locked Print NX Administrator's Guide".

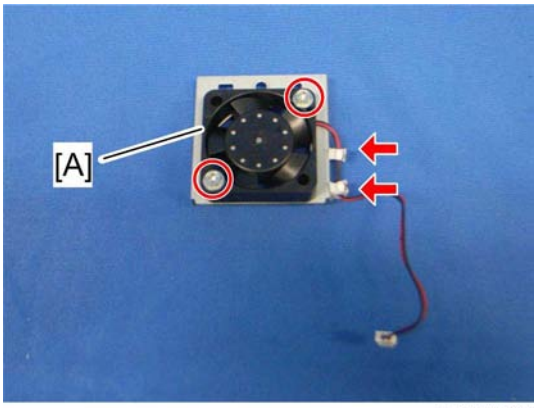
4.13.3 CONTROLLER FAN

1. Pull out the controller unit (☛ p.4-136 "HDD")



m065r587

2. Controller fan base [A] (x 1, x 3, x 1)



m065r588

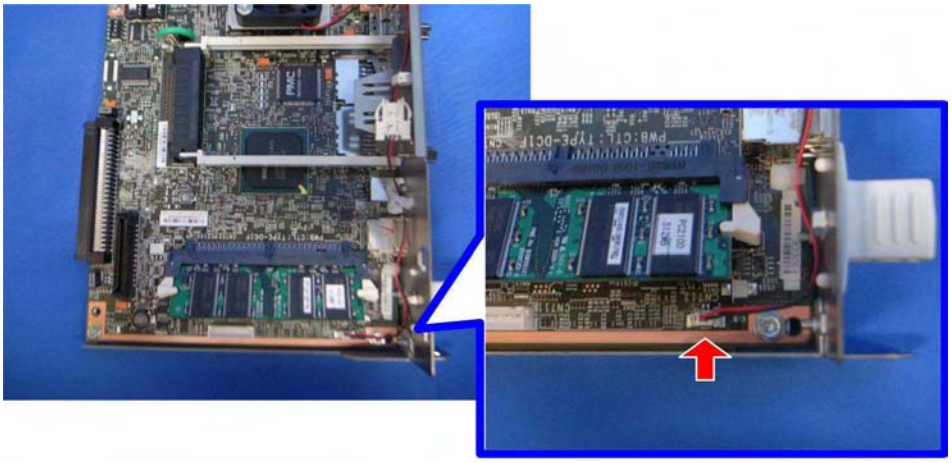
3. Controller fan [A] (x 2, x 2)

When installing the controller fan

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

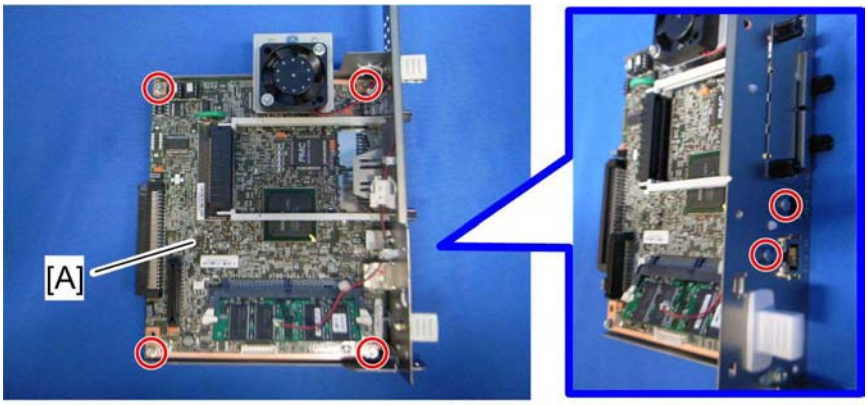
4.13.4 CONTROLLER BOARD

1. Pull out the controller unit (☛ p.4-136 "HDD")
2. HDD assembly (☛ p.4-136 "HDD")



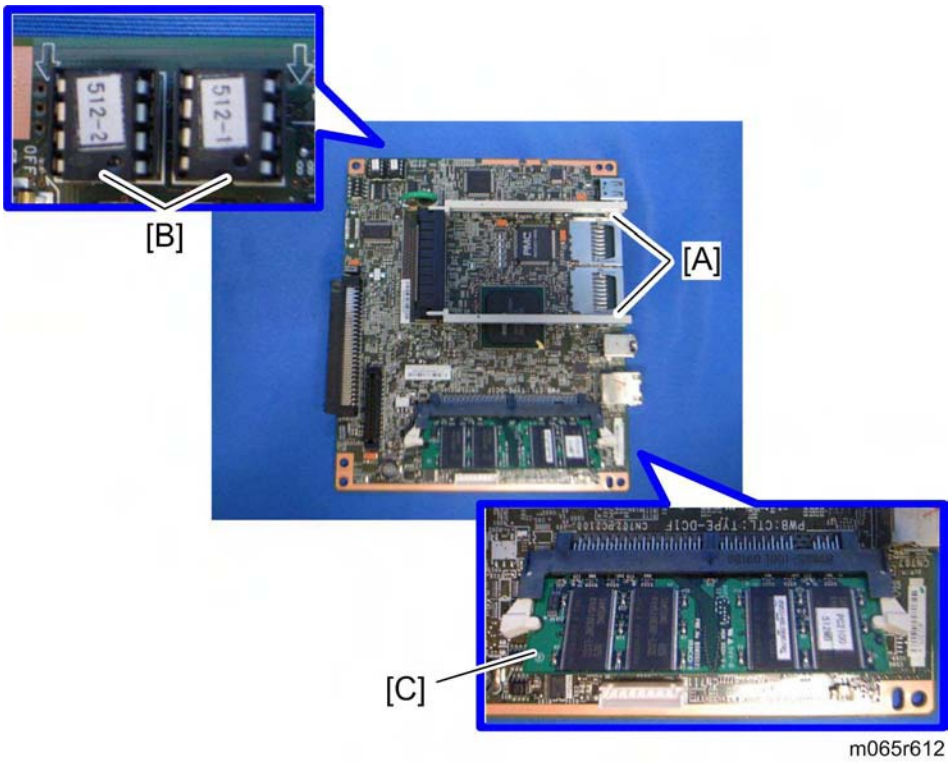
m065r610

3. Disconnect the connector.



m065r611

4. Controller board [A] (🔩 x 6)



5. Remove the Interface rails [A], NVRAMs [B] and DIMM Memory [C].

When installing the new controller board

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).

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

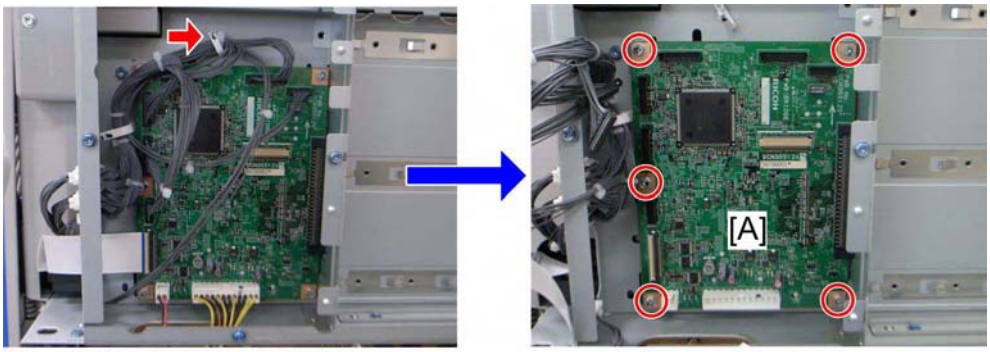
- Keep NVRAMs away from any objects that can cause static electricity. Static electricity can damage NVRAM data.
- Make sure the NVRAM is correctly installed on the controller board.

When installing a new HDD unit

1. Turn the main power switch on. The disk is automatically formatted.
2. Install the stamp data using "SP5853".
3. Switch the machine off and on to enable the fixed stamps for use.

4.13.5 BRIDGE BOARD

1. Rear cover (☛ p.4-5)
2. Controller cover (☛ p.4-143 "Controller Box")
3. Pull out the controller unit (☛ p.4-136 "HDD")

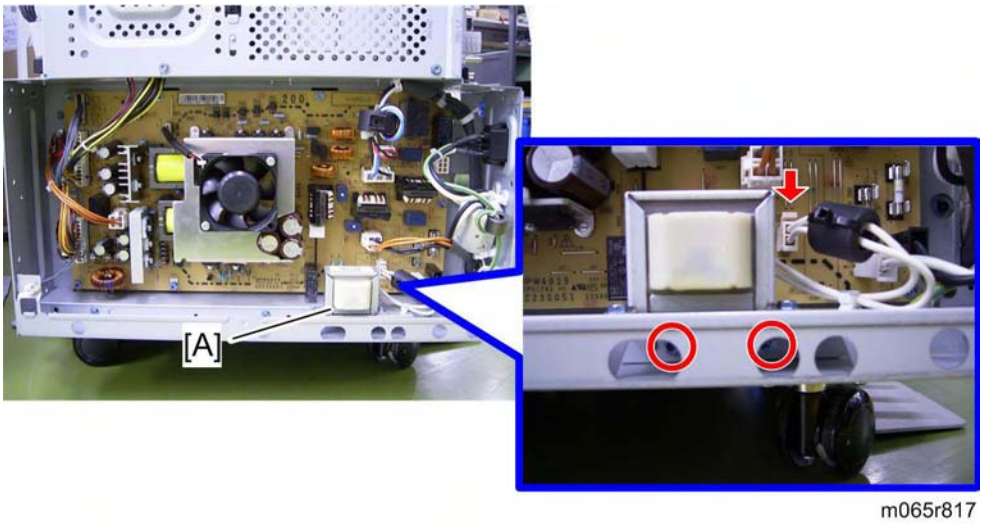


m065r613

4. Bridge board (x 5, x all, x 1)

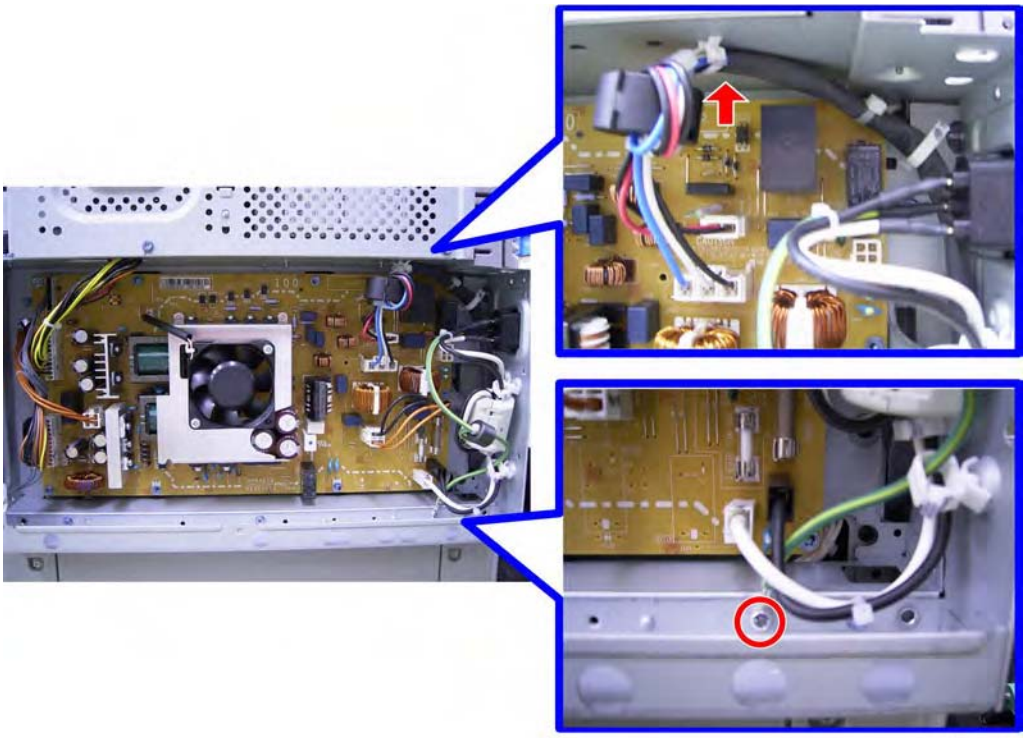
4.13.6 PSU

1. Rear cover (☛ p.4-5)



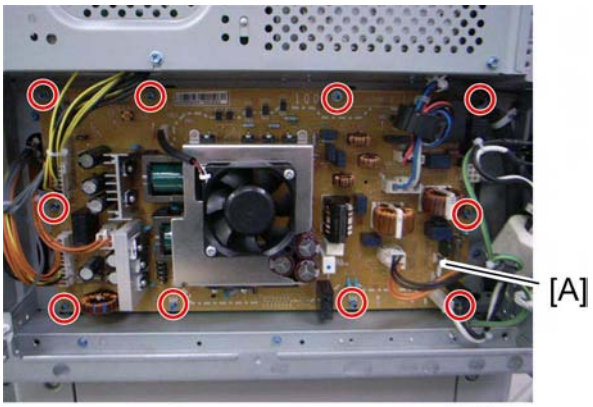
m065r817

2. Choke coil [A] (EU Only) (x 2, x 1)



m065r590

3. Remove the ground screw.
4. Disconnect all the harnesses (x 1).

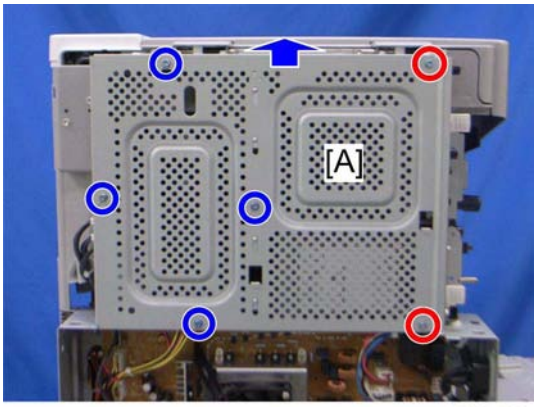


m065r591

5. PSU [A] (x 10)

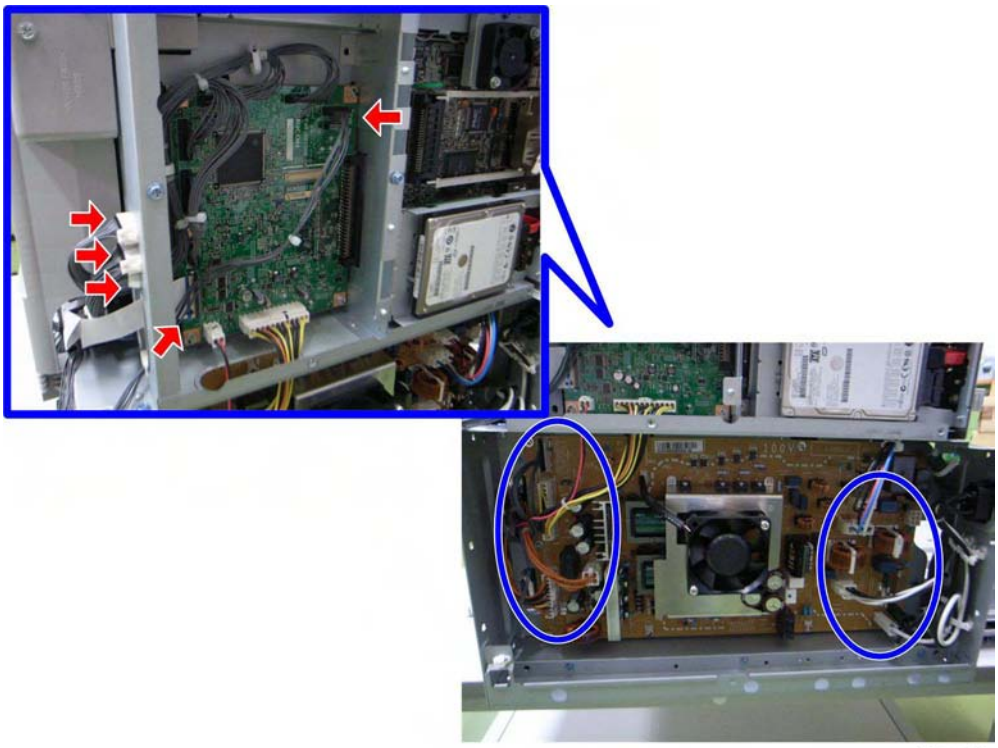
4.13.7 CONTROLLER BOX

1. Rear cover (☛ p.4-5)
2. Right cover (☛ p.4-4)
3. Inner left rear cover (☛ p.4-11)



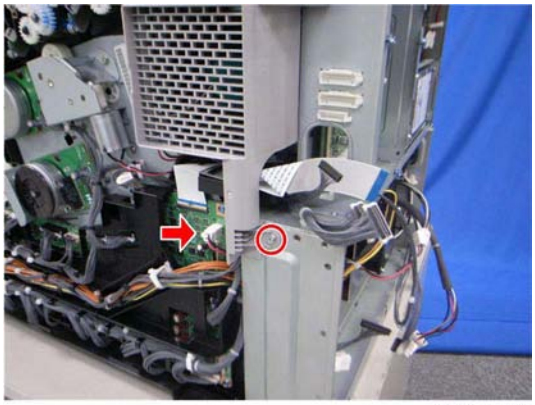
m065r596

4. Controller cover [A] (🔩 x 6: Remove the screws indicated by the red circles as shown above, and loosen the screws indicated by the blue circles.)



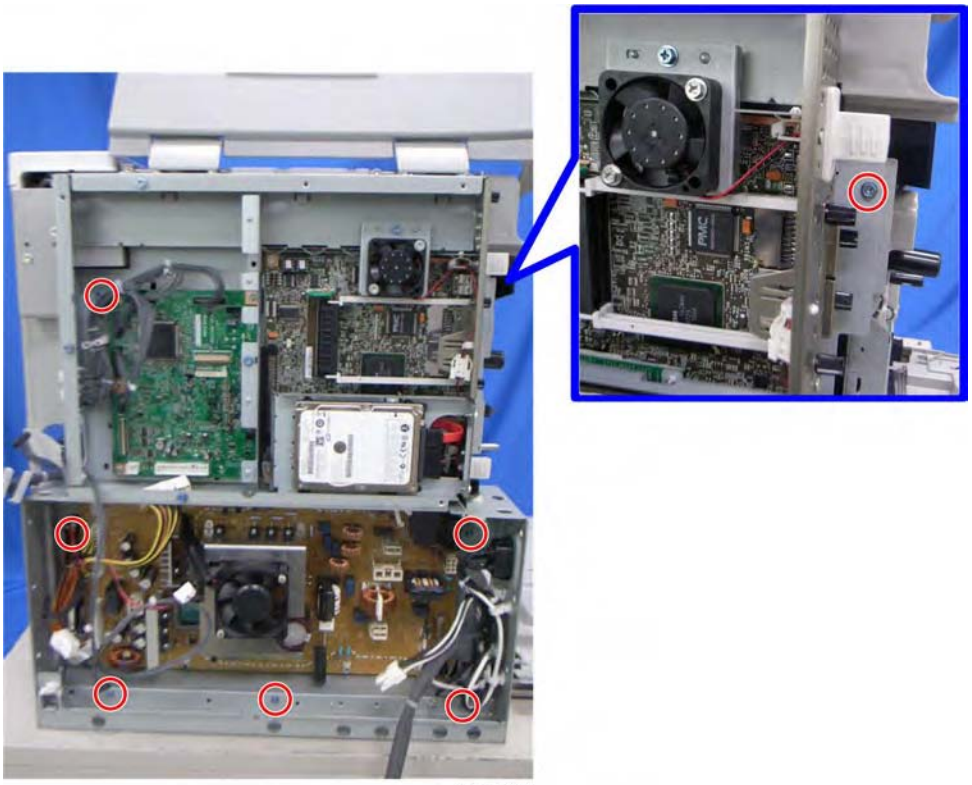
m065r708

5. Disconnect all the harnesses as shown above.



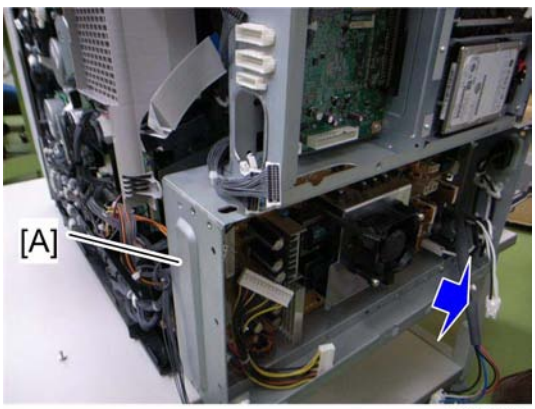
m065r597

6. Remove the screw and disconnect the connector.



m065r598

7. Remove the seven screws.

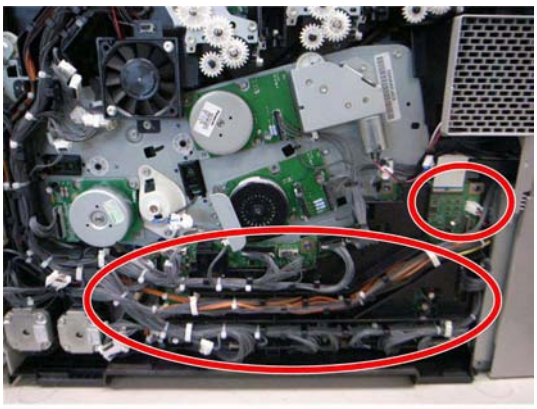


m065r709

8. Pull out the controller box [A].

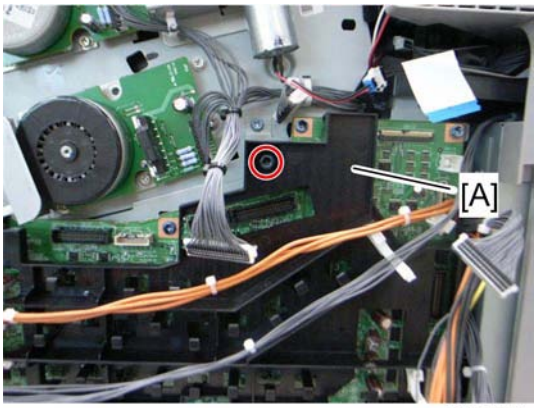
4.13.8 BCU

1. Right cover (☛ p.4-4)



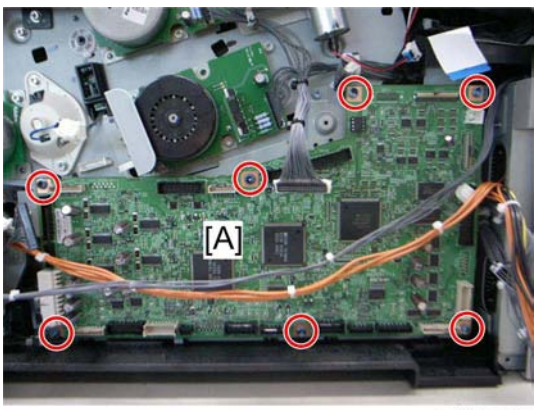
m065r579

2. Disconnect all the harnesses and the clamps.



m065r580

3. Harness guide [A] (🔩 x 1)



m065r581

4. BCU [A] (🔩 x 7)

When installing the new BCU

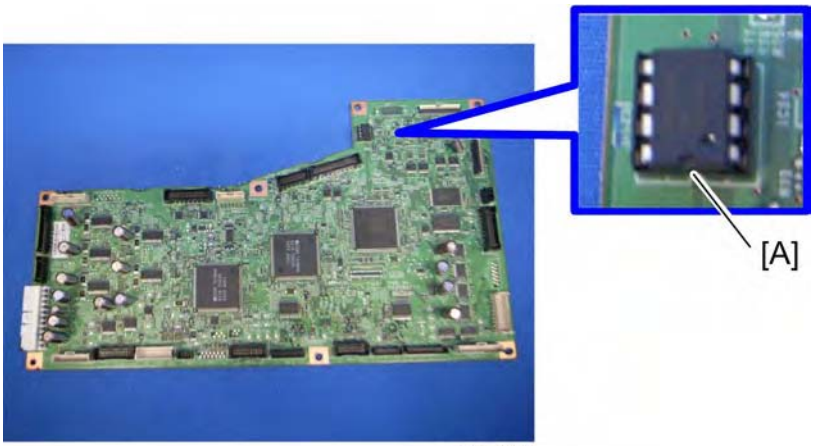
Note

- 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.



m065r582

2. Install the NVRAM on the new BCU after you replace the BCU.

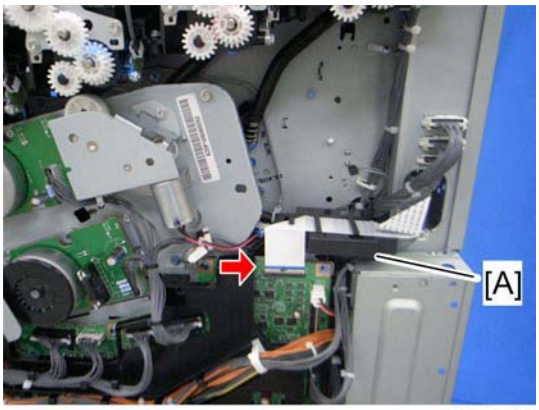
Note

- 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.

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.

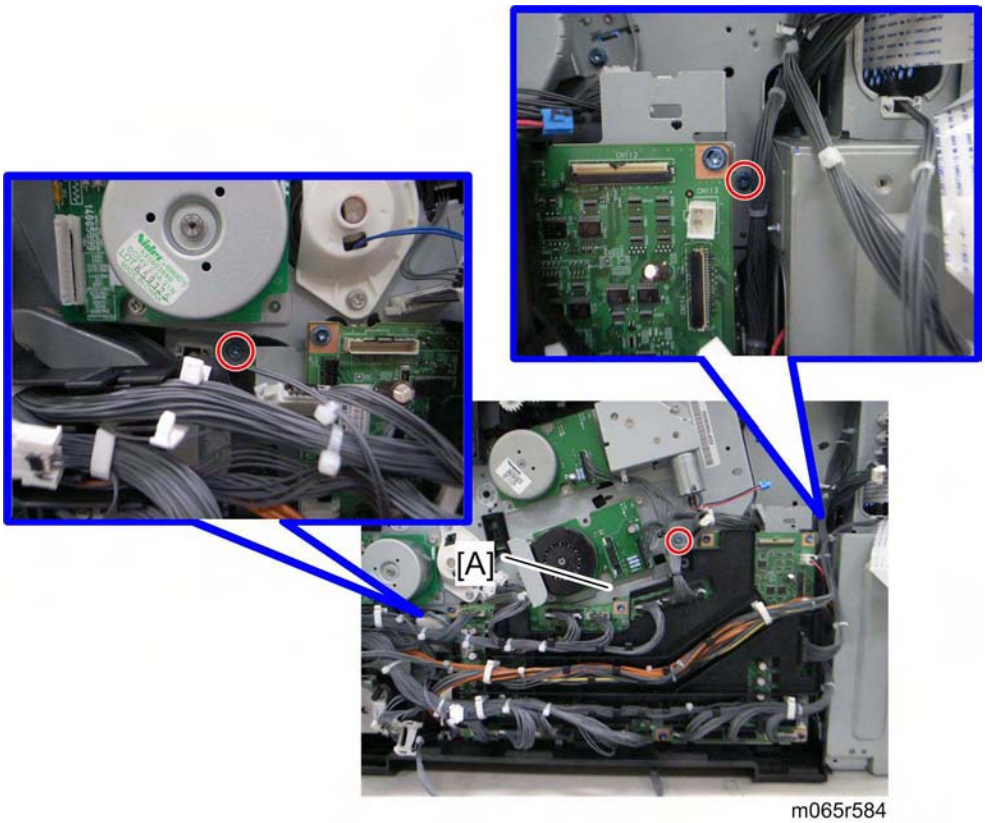
Removing the BCU with bracket

1. Right cover (☛ p.4-4)
2. Drive unit fan base (☛ p.4-73 "Drive Unit Fan")



m065r583

3. Harness cover [A] (x 1, hooks)

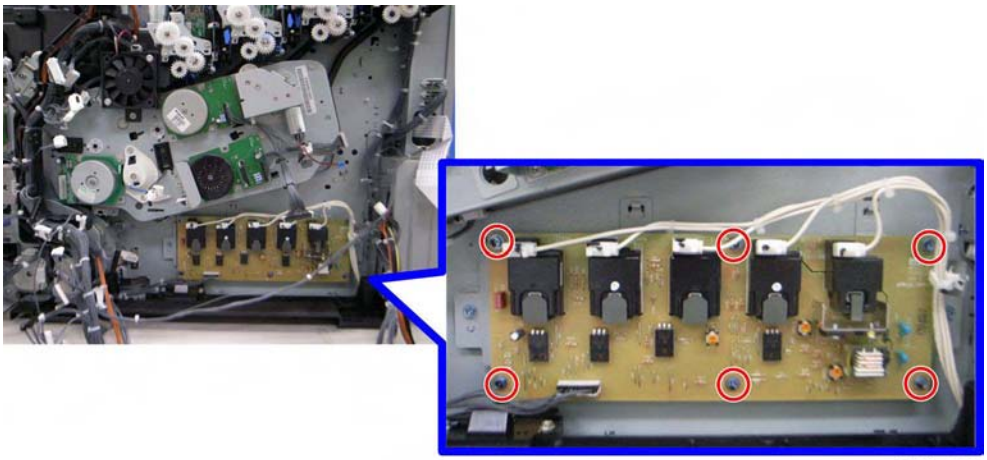


m065r584

4. BCU with bracket [A] (x 3, x all, x all)

4.13.9 HVPS: T1T2 BOARD

1. Right cover (☛ p.4-4)
2. BCU with bracket (☛ p.4-145 "BCU")



m065r609

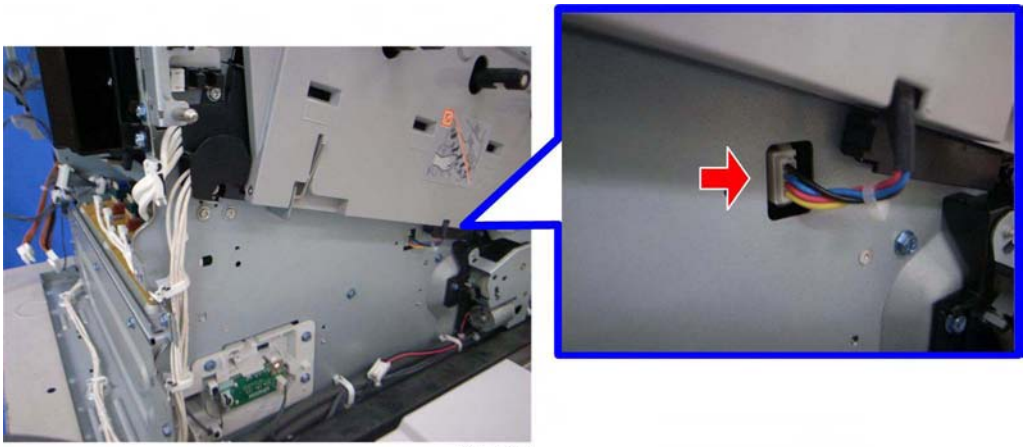
3. HVPS: T1T2 board (x 6, x all)

4.13.10 HVPS: CB BOARD

⚠CAUTION

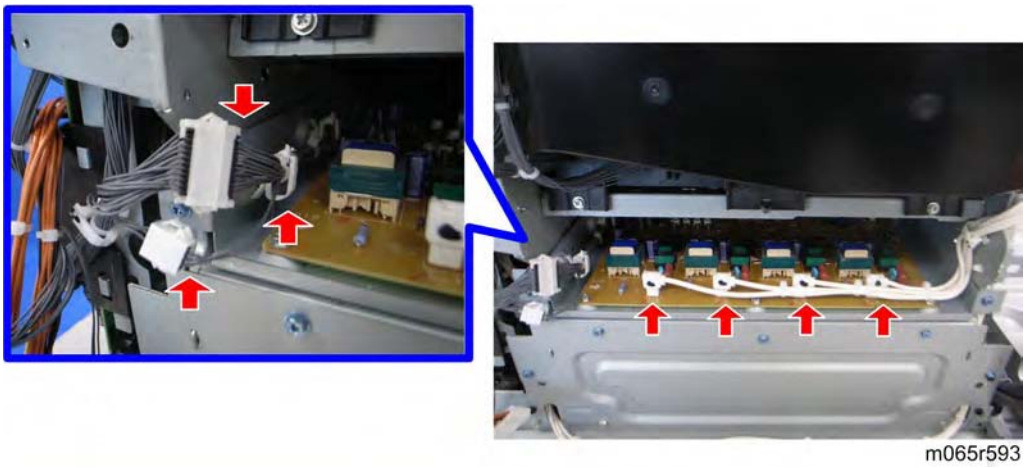
- If the optional tray heater is installed in the machine, the HVPS: CB bracket may be still hot. Wait until the HVPS: CB bracket cools before doing this procedure.

1. Rear cover (☛ p.4-5)
2. Right cover (☛ p.4-4)
3. Controller box (☛ p.4-143)
4. Inner left lower cover (☛ p.4-11)

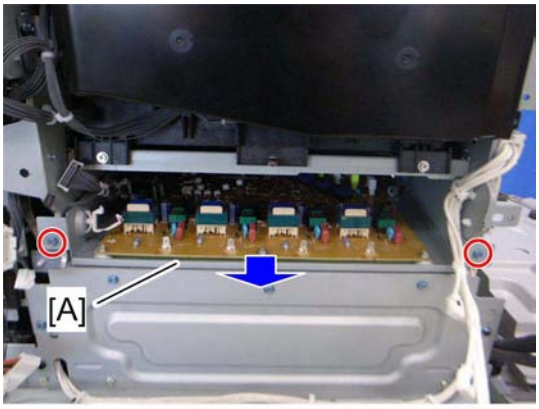


m065r592

5. Disconnect the connector.

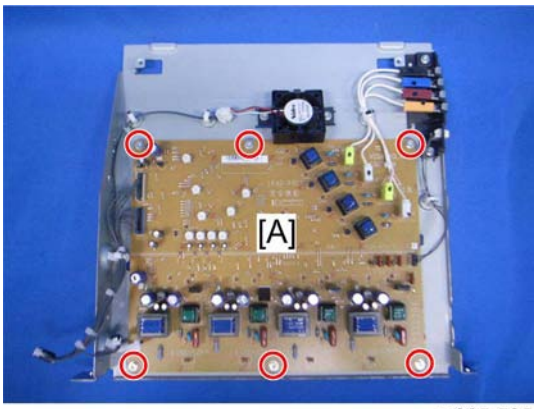

m065r593

6. Disconnect the six connectors (x 1).



m065r594

7. Pull out the HVPS: CB bracket [A] (x 2)



m065r595

8. HVPS: CB board [A] (x 6, x all)

4.13.11 NVRAM REPLACEMENT PROCEDURE

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

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. 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.)
10. Plug in the power cord. Then turn the main switch on.
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 11 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.

4.14 ADJUSTMENTS

4.14.1 GAMMA ADJUSTMENT

Note

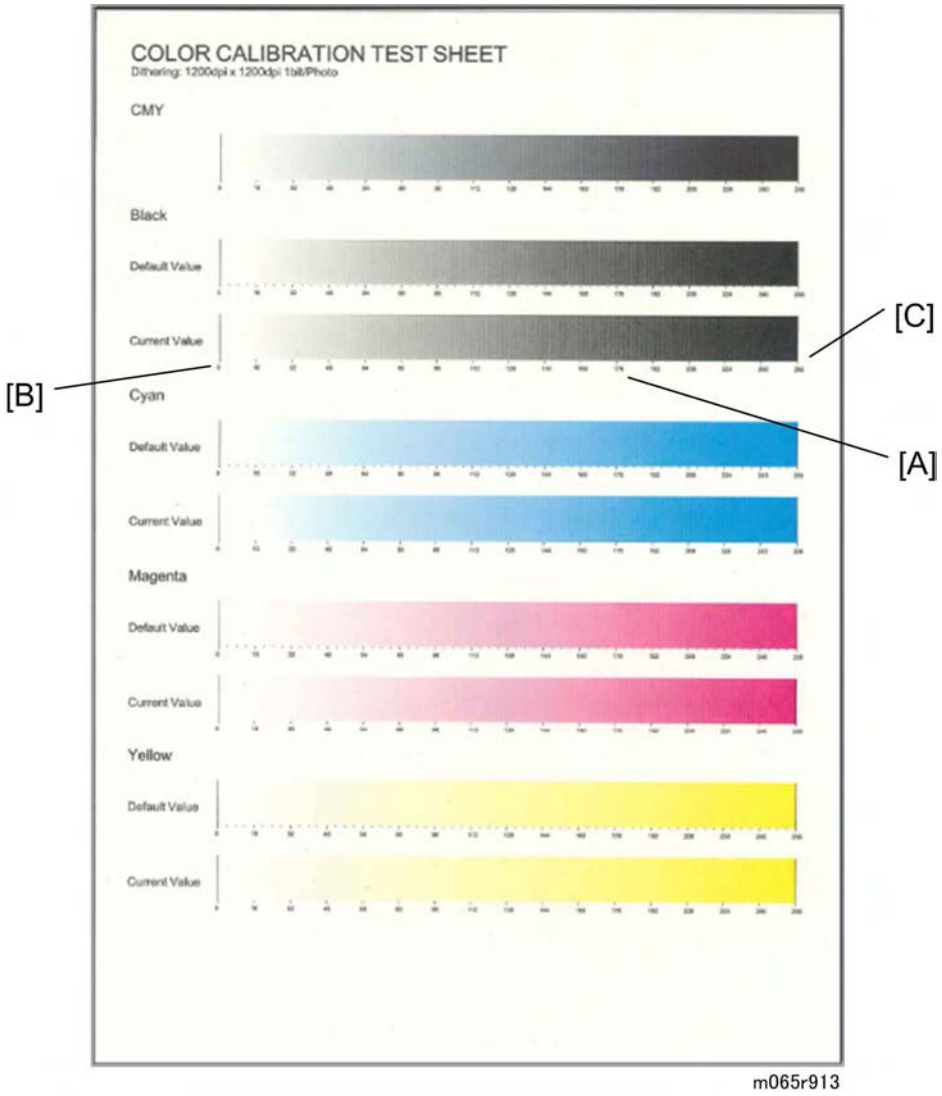
- Clean and/or replace related parts first to solve color quality problems. Do these procedures if adjustments are necessary.

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.

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 SP 1101 ToneCtlSet - Tone (Current)
- Those saved in the previous adjustment: Controller SP 1101 ToneCtlSet - Tone (Prev)
- The factory settings: Controller SP 1101 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.

SYSTEM MAINTENANCE REFERENCE

REVISION HISTORY		
Page	**Date**	**Added/Updated/New**
		None

5. SYSTEM MAINTENANCE REFERENCE

5.1 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.

5.1.1 SP TABLES

See "Appendices" for the following information:

- "System SP Tables"
- "Printer SP Tables"

5.1.2 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.

5.1.3 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
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

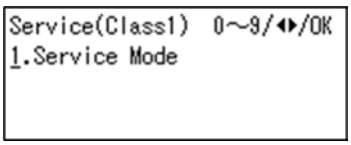
- If "Alphanumeric" is written to the right of the bracket as shown above, the setting of the SP mode is displayed on the screen using alphanumeric characters instead of only numbers. However, the settings in the bracket in the SP mode table are explained by using only the numbers.

5.1.4 BIT SWITCH PROGRAMMING

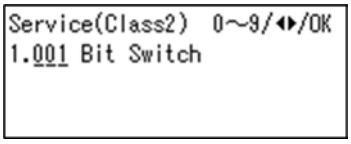
Do not change the bit switches unless you are told to do this by the manufacturer.

1. Start the SP mode.

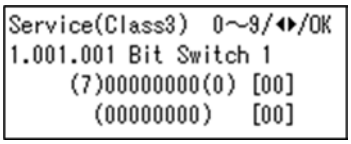
2. Select the "Service" menu with "△/▽" keys, and then push the "OK" key.



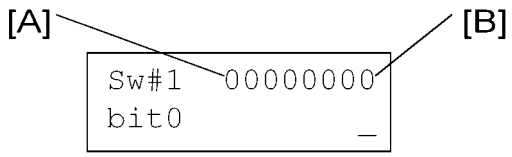
3. Push the "OK" key.



4. Push the "OK" key.



5. To select a bit switch, push the "◁ ▷" keys.
6. Push the "OK" key.
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.



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.

5.2 FIRMWARE UPDATE

To update the firmware for this machine, you must have the new version of the firmware downloaded onto an SD (Secure Digital) Card. The SD Card is inserted into SD Card Slot 2 (lower SD card slot).

5.2.1 TYPE OF FIRMWARE

Type of firmware	Function	Location of firmware	Message shown
Engine	Printer engine control	Flash ROM	Engine
System	Operating system	Controller flash ROM	System
Net File	Feature application		Network DocBox
Printer	Feature application		Printer
NIB/ DESS	Network Interface/ Security control		Network Support
WebSystem	Web Service application		Web Support
PCL	Page description language (PCL)		PCL
PS3/ PDF Adobe	Page description language (PostScript3)		PS3/ PDF
RPCS	Page description language (RPCS for XPS driver data process)		RPCS
PCL Font	PCL fonts		PCL Font
PS Font Adobe	PostScript3 fonts		PS3 Font
Summary Font	Summary fonts		Font EXP
Java VM	Java VM platform (For M066)	Standard Java VM SD card	Java VM v7 std

PictBridge	PictBridge control	Optional PictBridge SD card	Option PctBrgd
Java VM Option	Java VM platform (For M065)	Optional Java VM SD card	Java VM v7

5.2.2 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.

5.2.3 UPDATING FIRMWARE

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

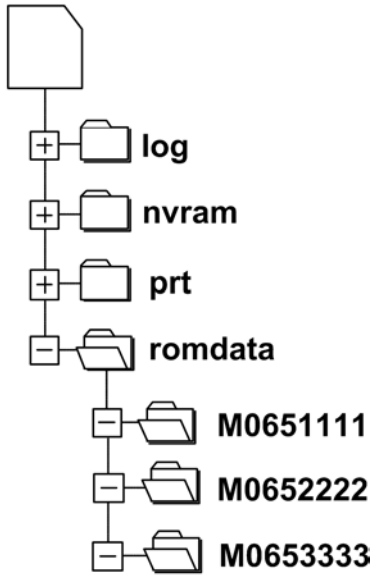
- Do not make another firmware-update program folder in the folder "romdata".
- Otherwise, it may cause a malfunction for the firmware updating. You just keep only one firmware update program folder in the folder "romdata".

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



m065s901a

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 (☛ p.5-12 "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.

5.2.4 ADDRESS BOOK UPLOAD/DOWNLOAD

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.

5.2.5 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.
30	No HDD available for stamp data download	HDD connection incorrect or replace hard disks.
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.

Code	Meaning	Solution
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.
40	Engine module download failed	Replace the update data for the module on the SD card and try again, or replace the BCU.
42	Operation panel module download failed	Replace the update data for the module on the SD card and try again, or replace the LCDC.
43	Stamp data module download failed	Replace the update data for the module on the SD card and try again, or replace the hard disks.
44	Controller module download failed	Replace the update data for the module on the SD card and tray again, or replace controller board.
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.

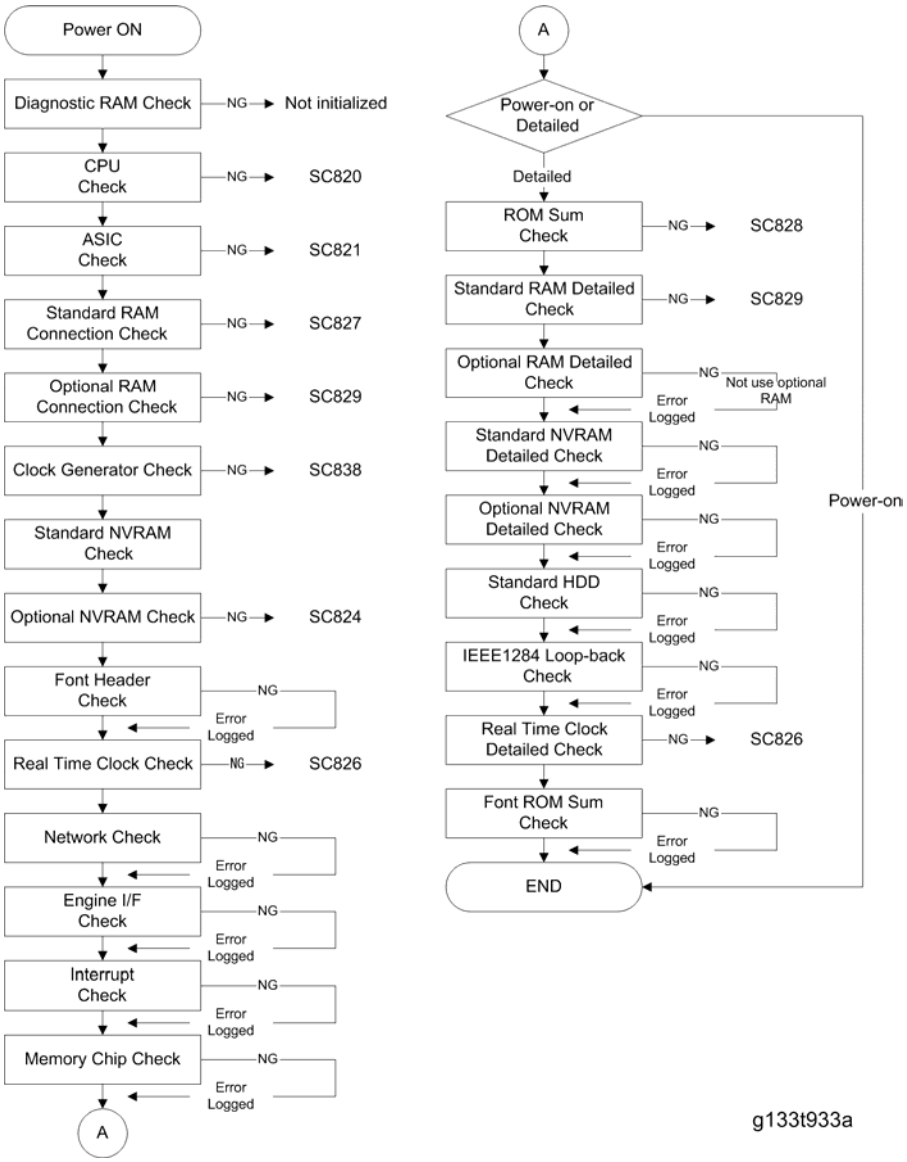
5.3 CONTROLLER SELF-DIAGNOSTICS

5.3.1 OVERVIEW

There are two types of self-diagnostics for the controller.

1. Power-on self-diagnostics: The machine automatically starts the self-diagnostics just after the power has been turned on.
2. SC detection: The machine automatically detects SC conditions at power-on or during operation.

The following shows the workflow of the power-on and detailed self-diagnostics.



5.4 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.

5.4.1 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 (☛ p.5-16 "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 M0650017, the file name is "M0650017.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 (☛ p.5-16 "Downloading NVRAM Data").

Note

- One SD card can store the NVRAM data from two or more machines.

5.4.2 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 (☛ p.5-15 "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

5.5 USING THE DEBUG LOG

This machine provides a Save Debug Log feature that allows the Customer Engineer to save and retrieve error information for analysis.

Every time an error occurs, debug information is recorded in volatile memory. But this information is lost when the machine is switched off and on.

To capture this debug information, the Save Debug Log feature provides two main features:

- Switching on the debug feature so error information is saved directly to the HDD for later retrieval.
- Copying the error information from the HDD to an SD card.

Do the following procedure below to set up the machine so the error information is saved automatically to the HDD when a user has problems with the machine. Then ask the user to reproduce the problem.

5.5.1 SWITCHING ON AND SETTING UP SAVE DEBUG LOG

The debug information cannot be saved until the "Save Debug Log" function has been switched on and a target has been selected.

1. Enter the SP mode and switch the Save Debug Log feature on.
   - On the LCD panel, open SP5857.
2. Under "5857 Save Debug Log", select "1" with the △ or ▽ key.
3. On the control panel keypad, press "1". Then press "OK" key. This switches the Save Debug Log feature on.

   Note

   - The default setting is "0" (OFF). This feature must be switched on in order for the debug information to be saved.
4. Select the target destination where the debug information will be saved. Under "5857 Save Debug Log", select "2 Target", enter "2" with the operation panel key with the △ or ▽ key to select the hard disk as the target destination. Then press "OK".

   Note

   - Select "3 SD Card" to save the debug information directly to the SD card if it is inserted in the service slot.
5. Now select "SP5858" and specify the events that you want to record in the debug log. SP5858 (Debug Save When) provides the following items for selection.

1	Engine SC Error	Saves data when an engine-related SC code is generated.
2	Controller SC Error	Saves debug data when a controller-related SC Code is generated.
3	Any SC Error	Saves data only for the SC code that you specify by entering code number.
4	Jam	Saves data for jams.

Note

- More than one event can be selected.
- **Example 1: To Select Items 1, 2, 4**
- Push the △ or ▽ key to select the appropriate items(s). Press the "OK" key for each selection. This example shows "Engine SC Error" selected.
- **Example 2: To Specify an SC Code**
- Push the △ or ▽ key to select "3 Any SC Error", enter the 3-digit SC code number with the △ or ▽ key. Then press"OK" key. This example shows an entry for SC670.

Note

- For details about SC code numbers, please refer to the SC tables in Chpater 4. "Troubleshooting".

6. Select one or more memory modules for reading and recording debug information.
   Select "SP5859".
   Under "5859" press the necessary key item for the module that you want to record.
   Enter the appropriate 4-digit number with the △ or ▽ key. Then press"OK".

Note

- Refer to the two tables below for the 4-digit numbers to enter for each key.

The following keys can be set with the corresponding numbers. (The initials in parentheses indicate the names of the modules.)

4-Digit Entries for Keys 1 to 10

Key No.	Printer
1	2222 (SCS)
2	14000 (SRM)
3	256 (IMH)
4	1000 (ECS)
5	1025 (MCS)
6	4400 (GPS)
7	4500 (PDL)
8	4600 (GPS-PM)
9	2000 (NCS)
10	2224 (BCU)

Note

- The default settings for Keys 1 to 10 are all zero ("0").

Key to Acronyms

Acronym	Meaning	Acronym	Meaning
ECS	Engine Control Service	NFA	Net File Application
GPS	GW Print Service	PDL	Printer Design Language
GSP-PM	GW Print Service – Print Module	PTS	Print Server
IMH	Image Memory Handler	SCS	System Control Service
MCS	Memory Control Service	SRM	System Resource Management
NCS	Network Control Service	WebDB	Web Document Box (Document Server)

The machine is now set to record the debugging information automatically on the HDD (the target selected with SP5857-002) for the events that you selected with SP5858 and the memory modules selected with SP5859.

Please keep the following important points in mind when you do this setting:

- The initial settings are all zero.
- These settings remain in effect until you change them. Be sure to check all the settings, especially the settings for Keys 6 to 10. To switch off a key setting, enter a zero for that key.
- You can select any number of keys from 1 to 10 (or all) by entering the corresponding 4-digit numbers from the table.
- One area of the disk is reserved to store the debug log. The size of this area is limited to 4 MB.

5.5.2 RETRIEVING THE DEBUG LOG FROM THE HDD

Retrieve the debug log by copying it from the hard disk to an SD card.

1. Insert the SD card into the service slot of the printer.
2. Enter the SP mode and execute SP5857-009 (Copy HDD to SD Card (Latest 4 MB)) to write the debugging data to the SD card.
3. Use a card reader to copy the file and send it for analysis to your local Ricoh representative by email. You can also send the SD card by regular mail if you want.

5.5.3 DEBUG LOG CODES

SP5857-015 Copy SD Card-to-SD Card: Any Desired Key

This SP copies the log on an SD card (the file that contains the information written directly from shared memory) to a log specified by key number. The copy operation is executed in the log directory of the SD card inserted in the same slot. (This function does not copy from one slot to another.) Each SD card can hold up to 4 MB of file data. Unique file names are created for the data during the copy operation to prevent overwriting files of the same name. This means that log data from more than one machine can be copied onto the same SC card. This command does not execute if there is no log on the HDD for the name of the specified key.

SP5857-016 Create a File on HDD to Store a Log

This SP creates a 32 MB file to store a log on the HDD. However, this is not a completely empty file. The created file will hold the number "2225" as the SCS key number and other non-volatile information. Even if this SP is not executed, a file is created on the HDD when the first log is stored on the HDD (it takes some time to complete this operation). This creates the possibility that the machine may be switched off and on before the log can be created completely. If you execute this SP to create the log file beforehand, this will greatly reduce the amount of time required to acquire the log information and save onto the HDD. With the file already created on the HDD for the log file, the data only needs to be recorded. A new log file does not need to be created. To create a new log file, do SP5857-011 to delete the debug log data from the HDD. Then do SP5857-016.

SP5857-017 Create a File on SD Card to Store a Log

This SP creates a 4 MB file to store a log on an SD card. However, this is not a completely empty file. The created file will hold the number "2225" as the SCS key number and other non-volatile information. Even if this SP is not executed, a file is created on the SD card when the first log is stored on the SD card (it takes some time to complete this operation). This creates the possibility that the machine may be switched off and on before the log can be created completely. If you execute this SP to create the log file beforehand, this will greatly reduce the amount of time required to acquire the log information and save onto the SD card. With the file already created on the SD card for the log file, the data only needs to be recorded; a new log file does not require creation. To create a new log file, do SP5857-012 to delete the debug log data from the SD card. Then do SP5857-017.

5.6 DIP SWITCHES

5.6.1 CONTROLLER BOARD

Factory Use Only: Do not change the switch settings.

DIP SW No.	Default
1	ON
2	OFF
3	
4	

TROUBLESHOOTING

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6. TROUBLESHOOTING

6.1 SERVICE CALL CONDITIONS

See "Appendices" for the following information:

- "SC Tables"

6.2 PROCESS CONTROL ERROR CONDITIONS

See "Appendices" for the following information:

- "Process Control Results"

6.3 TROUBLESHOOTING GUIDE

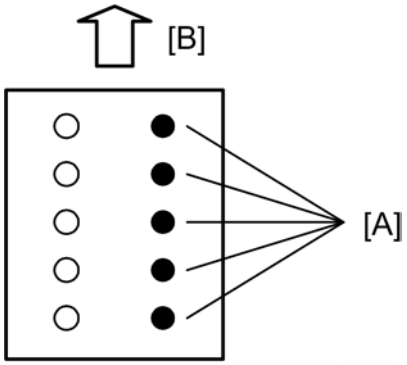
See "Appendices" for the following information:

- "Troubleshooting Guide"

6.4 IMAGE PROBLEMS

6.4.1 OVERVIEW

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).



[A]: Problems at regular intervals

[B]: Paper feed

- Abnormal image at 35-mm intervals: Charge roller
- Abnormal image at 795-mm intervals: Image transfer belt unit
- Colored spots at 41-mm intervals: Image transfer roller
- Colored spots at 82-mm intervals: Image transfer belt drive roller/ Image transfer belt idling roller
- Colored spots at 33-mm intervals: Development roller
- Abnormal image at 83-mm intervals: Paper transfer roller
- Colored spots at 94-mm intervals: OPC drum
- Spots at 141-mm intervals: Pressure roller
- Spots at 126-mm intervals: Fusing roller
- Spots at 204-mm intervals: Fusing belt

6.5 JAM DETECTION

See "Appendices" for the following information:

- "Jam Detection"

6.6 ELECTRICAL COMPONENT DEFECTS

See "Appendices" for the following information:

- "Electrical Component Defects"

ENERGY SAVING

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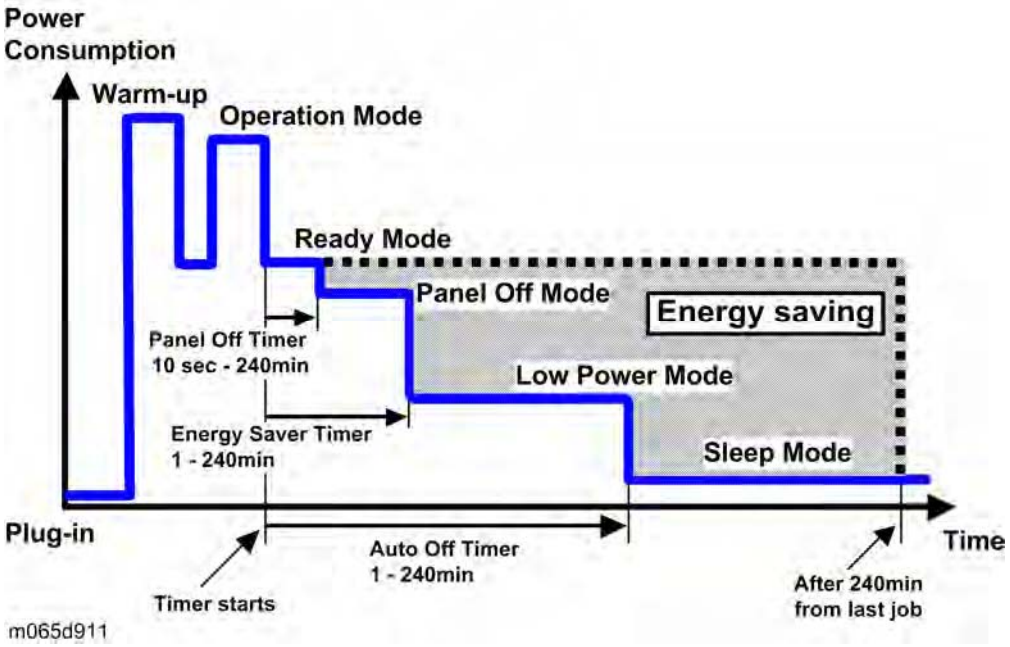
7. ENERGY SAVING

7.1 ENERGY SAVE

7.1.1 ENERGY SAVER MODES

Customers should use energy saver modes properly, to save energy and protect the environment.



The area shaded grey in this diagram represents the amount of energy that is saved when the timers are at the default settings. If the timers are changed, then the energy saved will be different. For example, if the timers are all set to 240 min., the grey area will disappear, and no energy is saved before 240 min. expires.

Timer Settings

The user can set these timers with User Tools (System settings > Timer setting)

- Panel off timer (10 sec – 240 min): Panel Off Mode. Default setting: 10 sec.
- Energy saver timer (1 – 240 min): Low Power Mode. Default setting: 1 min.
- Auto off timer (1 – 240 min): Sleep Mode. Default setting: 11 min.

Normally, Panel Off timer < Energy Saver timer < Auto Off timer. But, for example, if Auto Off timer < or = Panel Off timer and Energy Saver timer, the machine goes immediately to Off mode when the Auto Off timer expires. It skips the Panel Off and Energy Saver modes.

Example

- Panel off: 1 min.
- Low power: 15 min.
- Sleep: 1 min.
- The machine goes to sleep mode after 1 minute. Panel Off and Low Power modes are not used.

Return to Stand-by Mode

Low Power Mode

The recovery time depends on the model and the region.

- 18 sec.

Sleep Mode

Recovery time.

- M065/M066: 45 sec.

Recommendation

We recommend that the default settings should be kept.

- If the customer requests that these settings should be changed, please explain that their energy costs could increase, and that they should consider the effects on the environment of extra energy use.
- If it is necessary to change the settings, please try to make sure that the Auto Off timer is not too long. Try with a shorter setting first, such as 30 min., then go to a longer one (such as 60 min.) if the customer is not satisfied.
- If the timers are all set to the maximum value, the machine will not begin saving energy until 240 minutes has expired after the last job. This means that after the customer has finished using the machine for the day, energy will be consumed that could otherwise be saved.
- If you change the settings, the energy consumed can be measured using SP8941, as explained below.

7.1.2 ENERGY SAVE EFFECTIVENESS

SP 8941 (Machine Status) keeps a record of the amount of time that the machine spends in each mode.

- 8941-001: Operating mode
- 8941-002: Standby mode
- 8941-003: Panel off mode
- 8941-004: Low power mode
- 8941-005: Sleep mode

With this data, and the power consumption values from the specifications, we can estimate the amount of energy that is used by the machine.

This should only be used as a reference value, because the power consumption specifications are measured in a controlled environment with a constant power supply.

To get an exact measurement at the customers site, a watt meter must be used to measure the actual energy consumed.

To use SP8941 to calculate the energy consumed:

- At the start of the measurement period, read the values of SP8941 001 to 005.
- At the end of the measurement period, read the values of SP8941 001 to 005 again.
- Find the amount of time spent in each mode (subtract the earlier measurement from the later measurement).
- Multiply this by the power consumption spec for each mode.
- Convert the result to kWh (kilowatt hours)

Here is an example calculation.

Machine Condition	SP8941: Machine Status	Time at Start (min.) ①	Time at End (min.) ②	Running time (hour) (②-①)/60 = ③	Power consumption Spec. (W) ④	Power consumption (KWH) (③x④)/1000 = ⑤
Operating	001: Operating Time	21089.0	21386.0	5.0	894	4.43
Stand by (Ready)	002: Standby Time	306163.0	308046.0	31.4	177.3	5.56
Energy save (Panel off)	003: Energy Save Time	74000	75111.0	18.5	113.5	2.1
Low power	004: Low Power Time	148000	150333	38.9	72.3	2.81
Sleep	005: Off Mode Time	508776.0	520377.0	193.4	5.2	1.01
Total						15.91

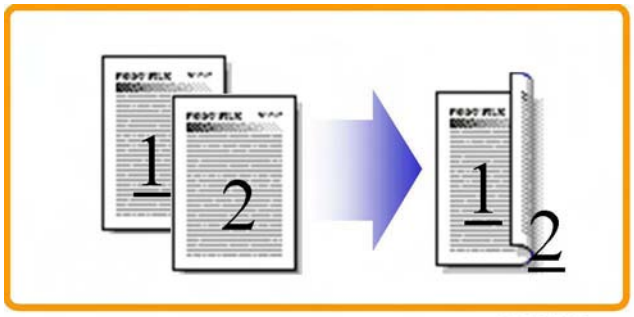
7.2 PAPER SAVE

7.2.1 EFFECTIVENESS OF DUPLEX/COMBINE FUNCTION

Duplexing and the combine functions reduce the amount of paper used. This means that less energy overall is used for paper production, which improves the environment.

1. Duplex:

Reduce paper volume in half!



d062d102

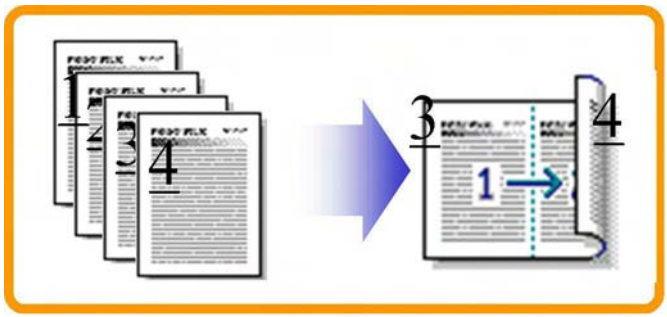
2. Combine mode:

Reduce paper volume in half!

d062d100

3. Duplex + Combine:

Using both features together can further reduce paper volume by 3/4!



d062d101

To check the paper consumption, look at the total counter and the duplex counter.

The total counter counts all pages printed.

- For one duplex page, the total counter goes up by 2.
- For a duplex job of a three-page original, the total counter goes up by 3.

The duplex counter counts pages that have images on both sides.

- For one duplex page, the duplex counter goes up by 1.
- For a duplex job of a three-page original, the duplex counter will only increase by 1, even though two sheets are used.

How to calculate the paper reduction ratio

How to calculate the paper reduction ratio, when compared with Single-sided copying, with no 2-in-1 combine mode

Paper reduction ratio (%) = Number of sheets reduced: A/Number of printed original images: B x 100

- Number of sheets reduced: A
  = Output pages in duplex mode/2 + Number of pages in Single-sided with combine mode + Number of pages in Duplex with combine mode x 3/2: A = (2) /2 + (3) + (4) x 3/2
- Number of printed original images: B
  = Total counter + Number of pages in Single-sided with combine mode + Number of pages in Duplex with combine mode: B = (1) + (3) + (4)
- (1) Total counter: SP 8581 001 (pages)
- (2) Single-sided with duplex mode: SP 8421 001 (pages)
- (3) Single-sided with combine mode: SP 8421 004 (pages)
- (4) Duplex with combine mode: SP 8421 005 (pages)

M065/M066
SERVICE MANUAL APPENDICES

M065/M066 APPENDICES

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APPENDIX:

SPECIFICATIONS

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2	12/24/2012	Wristband Tray

1. APPENDIX: SPECIFICATIONS

1.1 SPECIFICATIONS

1.1.1 GENERAL SPECIFICATIONS

Configuration:	Desktop
Print Process:	Laser beam scanning and electro-photographic printing 4 drums tandem method
Printer Languages:	PCL5c, PCL6, PostScript 3, PDF, XPS, PictBridge (Option)
Resolution:	XPS: 1200 x 1200 dpi, 600 x 600 dpi (1 bit), 600 x 600 dpi (2 bit) PCL5c: 600 x 600 dpi (1 bit), 600 x 600 dpi (2 bit) PCL-6: 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)
Gradation:	256 gradations
Printing Speed	M065: 37 ppm LT, 35 ppm A4 M066: 42 ppm LT, 40 ppm A4
Resident Fonts:	PCL5c/ 6: 45 fonts 13 International fonts Adobe PostScript 3: 136 fonts

Host Interfaces:	Ethernet (100 Base-TX/ 10 Base-T): Standard USB2.0 (Type A/ B): Standard IEEE802.11a/b/g (Wireless LAN): Optional Parallel (IEEE1284): Optional Gigabit Ethernet (1000 Base-T): 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 x3		
Print Paper Size:	(☛ p.1-4 "Supported Paper Sizes")		
	-	Minimum	Maximum
	Standard Tray	98 x 148 mm	216 x 355.6 mm
	By-pass	70 x 127 mm	216 x 1260 mm
	Optional Tray	98 x 148 mm	216 x 355.6 mm
⇒	Wristband Tray	W 3.25” to 8.25”	L 5.52” to 14”
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:	M065: Standard: 384 MB Up to 768 MB with optional memory M066: Standard: 768 MB		

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: 1520 W or less 220-240 V: 1510 W or less Energy Saver: 6 W or less
Noise Emission: (Sound Power Level)	M065: Color: 68.5 dB (A) Black and White: 68.3 dB (A) M066: 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.

1.2 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"

Paper	Size (W x L)	Main Tray		PFU		By-pass Tray		Duplex
		NA	E/A	NA	E/A	NA	E/A	
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
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

Y: Supported: the sensor detects the paper size.

Y#: Supported: the user specifies the paper size.

N: Not supported

1.3 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.

1.3.1 PRINTER DRIVERS

Printer Language	Windows 2000	Windows XP	Vista	Macintosh
PCL 5c/6	Yes	Yes	Yes	No
PS3	Yes	Yes	Yes	Yes
XPS	No	No	Yes	No

Note

- The PS3 drivers are all genuine AdobePS drivers, except for Windows 2000, which uses Microsoft PS. A PPD file for each operating system is provided with the driver.
- The PS3 driver for Macintosh supports Mac OS 7.6 or later versions.

1.4 OPTIONAL EQUIPMENT

1.4.1 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 5.5")
Weight:	12 kg (26.5 lb.)

1.4.2 UTILITY SOFTWARE

Software	Description
Font Manager 2000	A font management utility with screen fonts for the printer
Smart Device Monitor for Admin	A printer management utility for administrator.
DeskTopBinder Lite Ver.5, Professional Ver.5	DeskTopBinder itself can be used as personal document management software and can manage both image data converted from paper documents and application files saves in each client's PC.
Remote Communication Gate S Pro	Used to control devices connected to the same network.

APPENDIX:

PREVENTIVE MAINTENANCE TABLES

REVISION HISTORY		
Page	**Date**	**Added/Updated/New**
		None

2. APPENDIX: PREVENTIVE MAINTENANCE TABLES

2.1 USER MAINTENANCE ITEMS

The user replaces the following maintenance items.

2.1.1 MAINFRAME

Replacement Items

Item	Remarks
▪ PCDU - K, C, M, Y ▪ Waste Toner Bottle	50 kp
▪ Fusing Unit ▪ Dust Filter	120 kp
▪ Image Transfer Belt Unit ▪ Paper Transfer Roller	100 kp

Chart: A4 (LT), 5%
Mode: 2 pages/Job
Environment: Recommended temperature and humidity
Yield changes depend on circumstances and print conditions.
An error message shows when a maintenance counter gets to the value above table when the machine's default settings are used.
It is not necessary to reset counters for each part. The machine detects new components automatically and resets the necessary counters.

Cleaning Items

Item	EM
▪ Paper Dust Container	Clean with vacuum cleaner
▪ Sensors (excepting the ID sensors)	Dry cloth
▪ ID sensors	Damp cloth
▪ Rollers	Damp cloth

2.1.2 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

APPENDIX:

SERVICE CALL CONDITIONS

REVISION HISTORY		
Page	**Date**	**Added/Updated/New**
7	12/14/2011	SC240/241
44	3/16/2011	SC817
46	10/10/2011	SC833

3. APPENDIX: SERVICE CALL CONDITIONS

3.1 SC TABLES

3.1.1 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.

3.1.2 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.

3.1.3 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	D	Laser synchronizing detection error: start position [K]: LD1
222	D	Laser synchronizing detection error: start position [Y]: LD1
-	-	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	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)
231	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 SC 230 for troubleshooting details.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
232	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 SC 230 for troubleshooting details.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
233	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 SC 230 for troubleshooting details.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
234	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 SC 230 for troubleshooting details.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
235	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 SC 230 for troubleshooting details.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
236	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 SC 230 for troubleshooting details.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
237	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 SC 230 for troubleshooting details.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
⇒ 240	C	LD error: K or C
⇒ 241	C	LD error: Y or M
-	-	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 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.

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.

3.1.4 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]
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
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
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
-	-	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.

3.1.5 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.

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)
466	D	Paper transfer roller contact error
		The paper transfer roller contact sensor does not detect the movement of the actuator at the sensor for 2 seconds after the paper transfer roller has moved from its home position.
		▪ Dirty or defective paper transfer roller contact sensor ▪ Defective paper transfer roller contact motor ▪ Disconnected or broken harness of paper transfer roller contact sensor or motor
		1. Clean or replace the paper transfer roller contact sensor. 2. Replace the paper transfer roller contact motor. 3. Check or replace the harness of the paper transfer roller contact sensor or motor.

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.

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.

3.1.6 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.

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.

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.

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 Procedures)
547	D	Zero cross error
		▪ The zero cross signal is detected for 0.05 seconds 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 ▪ Unstable power supply
		1. Check the power supply source. 2. Replace the shorted 24V fuse on the PSU. 3. Replace the PSU

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.

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.

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.

3.1.7 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.

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)
641	CTL D	BCU control data transfer abnormal
		A sampling of the control data sent from the BCU reveals an abnormality.
		▪ Controller board defective ▪ External noise ▪ BCU defective
		1. Check the connection between the controller board and BCU. 2. Replace the controller board. 3. Replace the BCU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
652	CTL	Remote service ID2 mismatch error
		The ID2 in the individual certificate does not match the ID2 in the NVRAM on the controller board.
		▪ The controller board in this machine has already been used in a machine in which RC Gate was installed. ▪ The controller board NVRAM in this machine has already been used in a machine in which RC Gate was installed.
		If an error occurs at installation of the RC Gate: 1. Check that the individual certificate is correct for the NVRAM in the machine and that the ID2 is correct. 2. Reinstall the RC Gate after writing the common certificate. If an error occurs after installation of the RC Gate: 1. Clear the RC Gate data. 2. Check that the individual certificate is correct for the NVRAM in the machine and that the ID2 is correct. 3. Reinstall the RC Gate after writing the common certificate.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
653	CTL	Remote service ID2 incorrect error
		The ID2 in the NVRAM on the controller board is incorrect.
		▪ ID2 is not exactly 17 bytes. ▪ ID2 includes text which cannot be printed. ▪ ID2 is all filled by spaces. ▪ ID2 is null.
		1. Clear the RC Gate data. 2. Reinstall the RC Gate after writing the common certificate.

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 Procedures)
670	CTL D	Engine start up error
		The ready signal from the engine board is not detected.
		Defective engine board.
		Replace the engine board.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
671	CTL D	Engine board mismatch error
		Engine board and controller mismatch detected.
		▪ Wrong engine board installed. ▪ Wrong controller board installed. ▪ Check the type of engine board and controller board.
		1. Replace the BCU. 2. Replace the controller board.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
681	D	RFID: Communication error
001-005		Communication error occurs when the RFID starts to communicate with the RFID board.
		▪ Noise ▪ No memory chip on the toner cartridge ▪ Defective RFID CPU board ▪ Defective RFID board ▪ Disconnected RFID CPU board I/F ▪ Disconnected RFID board I/F
		1. Turn the main power off and on. 2. Replace the toner cartridge. 3. Replace the RFID CPU board. 4. Replace the RFID board.
061-164		Retry of RFID communication fails three times after the machine has detected the RFID communication error.
		▪ Defective RFID CPU board ▪ Defective RFID board ▪ No memory chip on the toner cartridge ▪ Noise
		1. Replace the toner cartridge. 2. Turn the main power off and on. 3. Replace the RFID CPU board. 4. Replace the RFID board.

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.

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.

3.1.8 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.

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No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
817	CTL D	Monitor Error
		00FE File Detection/Electronic Signature Check Error
		▪ The boot loader failed to read the signature of one or more of the following files on the boot SD card: 1) Self-diagnostic module, 2) Kernel, 3) Root file system. One or more of these files in the flash ROM or on the SD card is false, missing, or revised.
		Replace the controller board.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)	
819	CTL C	Fatal kernel error	
		Due to a control error, a RAM overflow occurred during system processing. One of the following messages was displayed on the operation panel.	
[0x5032]		HAIC-P2 error	▪ System program defective ▪ Controller board defective ▪ Optional board defective Replace controller firmware
[0x6261]		HDD error	
[554C]		USB error	

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
820	CTL D	Self-diagnostics error: CPU [XXXX]: Detailed error code
[0612]		CPU error During the self-diagnostic, the controller CPU detects an error. The CPU detects an error and displays the specific error code with the program address where the error occurs.
		▪ System firmware problem ▪ Defective controller
		1. Turn the main switch off and on. 2. Reinstall the controller system firmware. 3. Replace the controller. When the problem cannot be fixed with the above procedure, the following information displayed on the screen needs to be fed back to a technical support center. ▪ SC code ▪ Detailed error code ▪ Program address

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
⇒ 833	CTL C	Self-diagnostic error 8: Engine I/F ASIC
[0F30] [0F31]		▪ ASIC (Mandolin) for system control could not be detected. After the PCI configuration, the device ID for the ASIC could not be checked.
		Replace the controller board
[0F41]		▪ ASIC (Mandolin) for system control could not be detected. After the PCI configuration, the device ID for the ASIC could not be checked.
		Replace the controller board
[50B1]		Could not initialize or read the bus connection.
		▪ Check for loose connections at the mother board.
		Replace the controller board
[50B2]		Value of the SSCG register is incorrect.
		▪ Check for loose connections at the mother board.
		Replace the mother board

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
853	CTL B	Wireless LAN card not detected
		The wireless LAN card is not detected before communication is established, though the wireless LAN board is detected.
		▪ Loose connection
		Check the connection.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
854	CTL B	Wireless LAN card not detected
		The wireless LAN card is not detected after communication is established, but the wireless LAN board is detected.
		▪ Loose connection
		Check the connection.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
855 856	CTL B	Wireless LAN card/board error
		An error is detected in the wireless LAN card/board.
		▪ Loose connection ▪ Defective wireless LAN card/board
		1. Check the connection. 2. Replace the wireless LAN card/board.

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.

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.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
861	CTL D	HDD: Reboot error
		The HDD does not become ready within 30 seconds after the power is supplied to the HDD.
		▪ Loose connection ▪ Defective cables ▪ Defective HDD ▪ Defective controller
		1. Check the connection between the HDD and controller. 2. Check and replace the cables. 3. Replace the HDD. 4. Replace the controller.

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 the 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.

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.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
881	CTL D	Management area error
		This is a software error than can occur: ▪ At login ▪ When a print job was received ▪ When WEB browser was opened
		Cycle the machine off/on.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
899	CTL D	Software error
		A software error occurred in the GW controller.
		▪ Cycle the machine off/on ▪ Update controller firmware ▪ Controller board defective

3.1.9 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)
920	CTL D	Printer application error
		An error is detected in the printer application program.
		▪ Defective software ▪ Unexpected hardware resource (e.g., memory shortage)
		1. Software defective; switch off/on, or change the controller firmware if the problem is not solved 2. Insufficient memory

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
921	CTL D	Printer font error
		A necessary font is not found in the SD card.
		▪ A necessary font is not found in the SD card. ▪ The SD card data is corrupted.
		Check that the SD card has the correct data.

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)
995	D	CPM setting error
	-001	▪ Defective BCU ▪ Replacement NVRAM error
		1. Input the serial number with SP5811-004, and turn the main power switch off/on.
	-002	▪ Defective NVRAM on the controller ▪ Defective controller
		1. Install a new NVRAM, and turn off and on the main power switch after SC995-002 has occurred. 2. Reinstall the previous NVRAM or download the information with SP5825-001, after that turn the main power off and on.
	-003	▪ Incorrect type controller installed ▪ Defective controller
		Replace the controller with the correct type.
	-004	▪ Incorrect model controller installed.
		Replace the controller with the correct model.

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

APPENDIX:

PROCESS CONTROL ERROR CONDITIONS

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		None

4. APPENDIX: PROCESS CONTROL ERROR CONDITIONS

4.1 PROCESS CONTROL RESULTS

4.1.1 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	1. Make sure that the heat seal on the development unit is not removed. 2. Defective TD sensor

No.	Result	Description	Possible Causes/Action
		±0.2V.	
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.

4.1.2 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.
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	▪ ID sensor pattern density is too high or low. ▪ ID sensor or shutter is defective. Same as 53

No.	Result	Description	Possible Causes/Action
		error 54 is displayed.	
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.

4.1.3 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	-	-

APPENDIX:

TROUBLESHOOTING GUIDE

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		None

5. APPENDIX: TROUBLESHOOTING GUIDE

5.1 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.

5.1.1 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.

5.1.2 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.

5.1.3 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.

5.1.4 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.

5.1.5 REPEATED SPOTS OR LINES ON PRINTS

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.
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.

5.1.6 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.

5.1.7 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.

5.1.8 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.

5.1.9 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.

5.1.10 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.

5.1.11 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.

5.1.12 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.

5.1.13 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.

5.1.14 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.

5.1.15 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.

5.1.16 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.

5.1.17 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.

5.1.18 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.

APPENDIX:

JAM DETECTION

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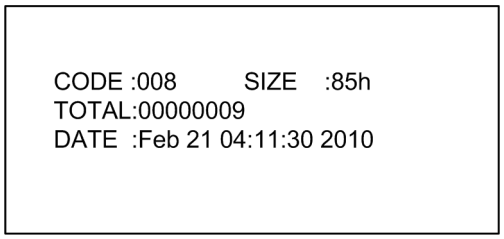
		None

6. APPENDIX: JAM DETECTION

6.1 JAM DETECTION

6.1.1 PAPER JAM DISPLAY

SP7-507 shows the paper jam history.



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.

6.1.2 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	A

Jam Code SP	Display	Description	LCD Display
		detect paper from tray 1.	
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.	Z
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

Jam Code SP	Display	Description	LCD Display
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
7504 68	Inverter Sn: OFF	Inverter sensor does not turn off.	Z

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)

APPENDIX:

ELECTRICAL COMPONENT DEFECTS

REVISION HISTORY		
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7. APPENDIX: ELECTRICAL COMPONENT DEFECTS

7.1 ELECTRICAL COMPONENT DEFECTS

7.1.1 SENSORS

M065/ M066

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	

No.	Sensor Name/ Sensor Board Name	Active	CN No./ Pin No.	Condition	Symptom
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	
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.

No.	Sensor Name/ Sensor Board Name	Active	CN No./ Pin No.	Condition	Symptom
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.
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	

No.	Sensor Name/ Sensor Board Name	Active	CN No./ Pin No.	Condition	Symptom
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
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

No.	Sensor Name/ Sensor Board Name	Active	CN No./ Pin No.	Condition	Symptom
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
29	Duplex Exit Sensor	L	CN126/A11	Open	▪ Paper is not detected. ▪ Jam Z
				Short	▪ Paper is detected. ▪ Jam Z

No.	Sensor Name/ Sensor Board Name	Active	CN No./ Pin No.	Condition	Symptom
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	
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

7.1.2 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 IPU 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 IPU not supplied.
FU3	5A/250V	5A/250V	▪ 5V power to the BCU and IPU not supplied. ▪ 5VS power to the IPU 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.

7.1.3 LEDS

No LEDs are used for this model (except for the Network Interface).

APPENDIX:

SP MODE TABLES

REVISION HISTORY		
Page	**Date**	**Added/Updated/New**
61	08/31/2010	Updated SP2192. Requires Engine Firmware ver. 1.04:02.
245	05/17/2011	Removed SP5805-001.
272	6/13/2012	SP5907 Plug & Play Maker/Model Name
354	03/16/2011	Updated SP1001 Bit Switch 9 Bit 4 - PJL Ustatus Job End
359	08/16/2010	Updated SP1109. Requires Printer Firmware ver 1.02 or newer.

8. APPENDIX: SP MODE TABLES

8.1 SYSTEM SERVICE MODE

8.1.1 SERVICE MODE TABLE

SP1-XXX (Feed)

1001	**[Leading Edge Registration]** Leading Edge Registration Adjustment (Tray Location, Paper Type, Color Mode), Paper Type -> Plain, 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.		
001	Tray:Plain	*ENG	[–9 to 9 / **3.8** / 0.1 mm/step]
002	Tray:M-Thick	*ENG	[–9 to 9 / -**0.6** / 0.1 mm/step]
003	Tray:Thick1	*ENG	[–9 to 9 / -**1.8** / 0.1 mm/step]
004	Tray:Thick2	*ENG	[–9 to 9 / -**2.7** / 0.1 mm/step]
005	Tray:Thick3	*ENG	[–9 to 9 / -**2.4** / 0.1 mm/step]
006	Tray:Plain:1200dpi	*ENG	[–9 to 9 / **1** / 0.1 mm/step]
007	Tray:M-Thick:1200dpi	*ENG	[–9 to 9 / **-0.7** / 0.1 mm/step]
008	Tray:Thick1:1200dpi	*ENG	[–9 to 9 / **-0.1** / 0.1 mm/step]
009	By-pass:Plain	*ENG	[–9 to 9 / **3.8** / 0.1 mm/step]
010	By-pass: M-Thick	*ENG	[–9 to 9 / **0.4** / 0.1 mm/step]
011	By-pass: Thick1	*ENG	[–9 to 9 / **-1.3** / 0.1 mm/step]
012	By-pass: Thick2	*ENG	[–9 to 9 / **-2.1** / 0.1 mm/step]
013	By-pass: Thick3	*ENG	[–9 to 9 / **-1.9** / 0.1 mm/step]

014	By-pass:Plain:1200dpi	*ENG	[–9 to 9 / **1** / 0.1 mm/step]
015	By-pass: M-Thick:1200dpi	*ENG	[–9 to 9 / **0.1** / 0.1 mm/step]
016	By-pass:Thick1:1200dpi	*ENG	[–9 to 9 / **0.1** / 0.1 mm/step]
017	Duplex:Plain	*ENG	[–9 to 9 / **3.9** / 0.1 mm/step]
018	Duplex:M-Thick	*ENG	[–9 to 9 / **0.1** / 0.1 mm/step]
019	Duplex:Thick1	*ENG	[–9 to 9 / -**1.6** / 0.1 mm/step]
020	Duplex: Thick2	*ENG	[–9 to 9 / -**2.4** / 0.1 mm/step]
021	Duplex:Plain:1200dpi	*ENG	[–9 to 9 / **0.8** / 0.1 mm/step]
022	Duplex:MThck:1200dpi	*ENG	[–9 to 9 / **0.1** / 0.1 mm/step]
023	Duplex:Thck1:1200dpi	*ENG	[–9 to 9 / **0.2** / 0.1 mm/step]
024	Tray:Thin	*ENG	[–9 to 9 / **0** / 0.1 mm/step]
026	By-pass:Thin	*ENG	[–9 to 9 / **0** / 0.1 mm/step]

1002	**[Side-to-Side Registration]**		
	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.		
001	By-pass	*ENG	[–4 to 4 / **0.0** / 0.1 mm/step]
002	Paper Tray 1	*ENG	
003	Paper Tray 2	*ENG	
004	Paper Tray 3	*ENG	
005	Paper Tray 4	*ENG	
006	Duplex	*ENG	

1003	**[Paper Buckle]** Paper Buckle Adjustment (Tray Location, Paper Type), Paper Type: N: Normal, TH: Thick		
	Adjusts the amount of paper buckle at the registration roller by changing the paper feed timing.		
001	Tray1:Plain	*ENG	[–20 to 20 / **-1** / 1 mm/step]
002	Tray1:M-Thick	*ENG	[–20 to 20 / **-1** / 1 mm/step]
003	Tray1:Thick1	*ENG	[–20 to 20 / **-3** / 1 mm/step]
004	Tray234:Plain	*ENG	[–20 to 20 / **-1** / 1 mm/step]
005	Tray234:M-Thick	*ENG	[–20 to 20 / **-1** / 1 mm/step]
006	Tray234:Thick1	*ENG	[–20 to 20 / **-3** / 1 mm/step]
007	By-pass:Plain	*ENG	[–20 to 20 / **-3** / 1 mm/step]
008	By-pass:M-Thick	*ENG	[–20 to 20 / **-3** / 1 mm/step]
009	By-pass:Thick1	*ENG	[–20 to 20 / **-4** / 1 mm/step]
010	Duplex:Plain	*ENG	[–20 to 20 / **-2** / 1 mm/step]
011	Duplex:M-Thick	*ENG	[–20 to 20 / **-2** / 1 mm/step]
012	Duplex:Thick1	*ENG	[–20 to 20 / **-4** / 1 mm/step]
013	Tray1:Plain:1200dpi	*ENG	[–20 to 20 / **-1** / 1 mm/step]
014	Tray1:M-Thick:1200dpi	*ENG	[–20 to 20 / **-1** / 1 mm/step]
015	Tray1:Thick1:1200dpi	*ENG	[–20 to 20 / **-3** / 1 mm/step]
016	Tray234:Plain:1200dpi	*ENG	[–20 to 20 / **-1** / 1 mm/step]
017	Tray234:M-Thick:1200dpi	*ENG	[–20 to 20 / **-1** / 1 mm/step]
018	Tray234:Thick1:1200dpi	*ENG	[–20 to 20 / **-3** / 1 mm/step]
019	By-pass:Plain:1200dpi	*ENG	[–20 to 20 / **-3** / 1 mm/step]
020	By-pass:M-Thick:1200dpi	*ENG	[–20 to 20 / **-3** / 1 mm/step]
021	By-pass:Thick1:1200dpi	*ENG	[–20 to 20 / **-4** / 1 mm/step]

022	Duplex:Plain:1200dpi	*ENG	[–20 to 20 / **-2** / 1 mm/step]
023	Duplex:M-Thick:1200dpi	*ENG	[–20 to 20 / **-2** / 1 mm/step]
024	Duplex:Thick1:1200dpi	*ENG	[–20 to 20 / **-4** / 1 mm/step]

1103	**[Fusing Idling]** Fusing Idling Adjustment		
012	Forced Idling Stop	*ENG	[0 to 1 / **0** / 1 /step]
013	Forced Idling Stop Temp.	*ENG	[100 to 180 / **100** / 1 deg/step]
014	Minimum Idling Time	*ENG	[0 to 10 / **2** / 1 sec/step]
016 to 018	Specifies how long the extra idling operation is executed for each environment. Each environment is determined with SP1112-001 and 002.		
016	Extra Idling Time (L)	*ENG	[0 to 60 / **20** / 1 sec/step]
017	Extra Idling Time (H)	*ENG	[0 to 60 / **0** / 1 sec/step]
018	Extra Idling Time (M)	*ENG	[0 to 60 / **0** / 1 sec/step]
019	Ex Idling Temp:P-Roll	*ENG	[0 to 160 / **110** / 1 deg/step]
020	Control Switch Temp	*ENG	[0 to 15 / **16** / 1 deg/step]

1104	**[Fusing Idling Before Job]**		
001	Environment Thresh	*ENG	[0 to 2 / **2** / 1 /step]
002	Idling Temp:P-Roll	*ENG	[0 to 160 / **160** / 1 deg /step]
	Specifies the threshold temperature for the pressure roller idling before a job.		
003	Idling Time: BW	*ENG	Specifies the fusing idling time for each printe mode before a job. [0 to 10 / **2** / 1 sec/step]
004	Idling Time: FC	*ENG	
005	Idling Time: M-Thick: BW	*ENG	
006	Idling Time: M-Thick: FC	*ENG	
007-009	Specifies the thereshold temperature of the paper feed before a job.		

007	Paper Feed Temp:P-Roller	*ENG	[0 to 160 / **90**/ 1 deg/step]
008	P.Feed Temp:MThick:P-Roll:BW	*ENG	[0 to 160 / **100**/ 1 deg/step]
009	P.Feed Temp:MThick:P-Roll:FC	*ENG	[0 to 160 / **100**/ 1 deg/step]
010	Upper Limit Temp	*ENG	[0 to 100 / **25**/ 1 deg/step]
011	Offset: Feed Start	*ENG	[0 to 100 / **20**/ 1 deg/step]
012	Offset: Feed Start: M-Thick	*ENG	[0 to 100 / **10**/ 1 deg/step]
013	Offset: Feed Start: 600dpi: Plain1: BW	*ENG	[0 to 100 / **25**/ 1 deg/step]
014	Offset: Feed Start: 600dpi: Plain2: BW	*ENG	[0 to 100 / **25**/ 1 deg/step]
030	Offset: Feed Start: Time	*ENG	[15 to 500 / **60** / 1 sec/step]
031	Offset:Feed Start:1200dpi	*ENG	[0 to 100 / **15** / 1 deg/step]
033	Offset: Feed Start: Glossy	*ENG	[0 to 100 / **15**/ 1 deg/step]

1105	**[Fusing Temperature]** Fusing Temperature Adjustment		
	(Printing Mode, Roller Type, [Color], Simplex/Duplex) Roller Type –> Center and Ends: Heating roller, P-Roller –> Pressure roller Paper Type -> Plain, Thin, Thick, OHP, Middle Thick, Special		
001	Fusing Ready Temp	*ENG	[100 to 180 / **160** / 1 deg/step]
	Specifies the heating roller target temperature for the ready condition.		
002	Fusing Ready: Offset	*ENG	[5 to 30 / **11** / 1 deg/step]
003	P-Roll Ready Target Temp.	*ENG	[50 to 160 / **120** / 1 deg/step]
007	P-Roll Ready Temp	*ENG	[0 to 150 / **20** / 1 deg/step]
	Sets the heating roller offset temperature at the end of the heating roller. This value is one of the thresholds to determine if the machine is at the heating roller target temperature during warm-up.		
010	Stand-By: Center	* ENG	[50 to 180 / **160** / 1 deg/step]

011	Stand-By: Ends	* ENG	[50 to 180 / **160** / 1 deg/step]
012	Stand-By:P-Roller	* ENG	[50 to 160 / **140** / 1 deg/step]
	Sets the pressure roller offset temperature. This value is one of the thresholds to determine if the machine is at the heating roller target temperature during warm-up.		
013	Panel Off Mode: Center	* ENG	[50 to 180 / **140** / 1 deg /step]
	Specifies the heating roller temperature (center) in the panel off mode.		
014	Panel Off Mode: Ends	* ENG	[50 to 180 / **140** / 1 deg /step]
	Specifies the heating roller temperature (both ends) in the panel off mode.		
015	Panel Off Mode: P-Roller	*ENG	[50 to 160 / **120** / 1 deg /step]
	Specifies the presure roller temperature in the panel off mode.		
016	Low Power: Center	*ENG	Specifies the heating roller temperature (center or ends) in the low power mode. [30 to 180 / **40** / 1 deg /step]
017	Low Power: Ends	*ENG	
018	Low Power: P-Roller	*ENG	[30 to 160 / **110** / 1 deg /step]
	Specifies the pressure roller temperature in the low power mode.		
019	Off Mode: Center	*ENG	Specifies the heating roller temperature (center or ends) in the sleep mode. [0 to 180 / **0** / 1 deg /step]
020	Off Mode: Ends	*ENG	
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.		
030	Plain:FC:Simplex:Center	*ENG	[100 to 180 / **155** / 1 deg /step]
031	Plain: FC: Simplex: Ends	*ENG	
032	Plain:FC:Duplex:Center	*ENG	
033	Plain: FC: Duplex: Ends	*ENG	
034	Plain: BW: Simplex:Center	*ENG	
035	Plain: BW: Simplex: Ends	*ENG	
036	Plain: BW: Duplex:Center	*ENG	
037	Plain: BW: Duplex: Ends	*ENG	
038	Thin: FC: Simplex:Center	*ENG	[100 to 180 / **145** / 1 deg /step]
039	Thin: FC: Simplex: Ends	*ENG	
040	Thin:FC:Duplex:Center	*ENG	
041	Thin:FC:Duplex:Ends	*ENG	
042	Thin: BW: Simplex:Center	*ENG	
043	Thin: BW: Simplex: Ends	*ENG	
044	Thin: BW: Duplex:Center	*ENG	
045	Thin:BW:Duplex:Ends	*ENG	
046	Thick 1: FC: Simplex:Center	*ENG	[100 to 180 / **165** / 1 deg /step]
047	Thick 1: FC: Simplex: Ends	*ENG	
048	Thick 1: FC: Duplex:Center	*ENG	
049	Thick 1: FC: Duplex:Ends	*ENG	
050	Thick 1: BW: Simplex:Center	*ENG	
051	Thick 1: BW: Simplex: Ends	*ENG	
052	Thick 1: BW: Duplex:Center	*ENG	

053	Thick 1:BW:Duplex:Ends	*ENG	
054	Thick 2: FC: Simplex:Center	*ENG	[100 to 180 / **140** / 1 deg /step]
055	Thick 2: BW: Simplex:Center	*ENG	
056	OHP: FC	*ENG	[100 to 180 / **160** / 1 deg /step]
057	OHP: BW	*ENG	[100 to 180 / **160** / 1 deg /step]
058	SP 1:FC:Simplex:Center	*ENG	[100 to 180 / **170** / 1 deg/step]
059	SP 1:FC:Simplex:Ends	*ENG	
060	SP 1:FC:Duplex:Center	*ENG	
061	SP 1:FC:Duplex:Ends	*ENG	
062	SP 1:BW:Simplex:Center	*ENG	
063	SP 1:BW:Simplex:Ends	*ENG	
064	SP 1:BW:Duplex:Center	*ENG	
065	SP 1: BW: Duplex: Ends	*ENG	
066	SP 2:FC:Simplex:Center	*ENG	[100 to 200 / **165** / 1 deg/step]
067	SP 2: FC: Simplex: Ends	*ENG	
068	SP 2:FC:Duplex:Center	*ENG	
069	SP 2:FC:Duplex:Ends	*ENG	
070	SP 2:BW:Simplex:Center	*ENG	
071	SP 2:BW:Simplex:Ends	*ENG	
072	SP 2:BW:Duplex:Center	*ENG	
073	SP 2:BW:Duplex:Ends	*ENG	
074	SP 3:FC:Simplex:Center	*ENG	[100 to 200 / **160** / 1 deg/step]
075	SP 3:FC:Simplex:Ends	*ENG	
076	SP 3:FC:Duplex:Center	*ENG	
077	SP 3:FC:Duplex:Ends	*ENG	

078	SP 3:BW:Simplex:Center	*ENG	
079	SP 3:BW:Simplex:Ends	*ENG	
080	SP 3:BW:Duplex:Center	*ENG	
081	SP 3:BW:Duplex:Ends	*ENG	
082	Target Temp. After Ready	*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.		
083	Recovery 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.		
087	Thick 2: FC: Simplex: Ends	*ENG	[100 to 180 / **140** / 1 deg/step]
088	Thick 2: BW: Simplex: Ends	*ENG	
089	Thick 3: FC: Simplex: Center	*ENG	[100 to 180 / **160** / 1 deg/step]
090	Thick 3: FC: Simplex: Ends	*ENG	
091	Thick 3: BW: Simplex: Center	*ENG	
092	Thick 3: BW: Simplex: Ends	*ENG	
109	M-Thick:FC:Simplex:Center	*ENG	[100 to 180 / **175** / 1 deg/step]
110	M-Thick:FC:Duplex:Center	*ENG	
111	M-Thick: BW: Simplex:Center	*ENG	
112	M-Thick: BW: Duplex:Center	*ENG	
113	M-Thick: FC: Simplex: Ends	*ENG	
114	M-Thick: FC: Duplex: Ends	*ENG	
115	M-Thick: BW: Simplex: Ends	*ENG	
116	M-Thick: BW: Duplex: Ends	*ENG	
120	Plain2: FC: Simplex:Center	*ENG	[100 to 180 / **160** / 1 deg/step]
121	Plain2: FC: Simplex:Ends	*ENG	

122	Plain2: FC: Duplex:Center	*ENG	
123	Plain2: FC: Duplex:Ends	*ENG	
124	Plain2: BW: Simplex:Center	*ENG	
125	Plain2: BW: Simplex: Ends	*ENG	
126	Plain2: BW: Duplex:Center	*ENG	
127	Plain2: BW: Duplex: Ends	*ENG	
128	F: Plain1: FC : Simplex:Center	*ENG	[100 to 180 / **125** / 1 deg/step]
129	F: Plain1: FC : Simplex: Ends	*ENG	
130	F: Plain1: BW : Simplex:Center	*ENG	
131	F: Plain1: BW : Simplex: Ends	*ENG	
132	F: Plain2: FC: Simplex:Center	*ENG	[100 to 180 / **130** / 1 deg /step]
133	F: Plain2: FC: Simplex: Ends	*ENG	
134	F: Plain2: BW: Simplex:Center	*ENG	
135	F: Plain2: BW: Simplex: Ends	*ENG	
136	F: MThick: FC: Simplex:Center	*ENG	
137	F: MThick: FC: Simplex: Ends	*ENG	
138	F: MThick: BW: Simplex:Center	*ENG	
139	F: MThick: BW: Simplex: Ends	*ENG	
142	Glossy: Plain1:Center	*ENG	
143	Glossy: Plain1: Ends	*ENG	
144	Glossy: Plain2:Center	*ENG	[100 to 180 / **135** / 1 deg/step]
145	Glossy: Plain2: Ends	*ENG	
146	Glossy: MThick:Center	*ENG	
147	Glossy: MThick: Ends	*ENG	
160	F: Thick1:FC:Simplex:Center	*ENG	

161	F: Thick1:FC:Simplex:Ends	*ENG	
162	F: Thick1:BW:Simplex:Center	*ENG	
163	F: Thick1:BW:Simplex:Ends	*ENG	
164	F: SP 1:FC:Simplex:Center	*ENG	
165	F: SP 1:FC:Simplex:Ends	*ENG	
166	F: SP 1:BW: Simplex:Center	*ENG	
167	F: SP 1:BW: Simplex:Ends	*ENG	
168	F: SP 2:FC Simplex:Center	*ENG	[100 to 180 / **140** / 1 deg/step]
169	F: SP 2:FC Simplex:Ends	*ENG	
170	F: SP 2:BW:Simplex:Center	*ENG	
171	F: SP 2:BW:Simplex:Ends	*ENG	
201	Plain1:Simplex:Press	*ENG	[50 to 160 / **120** / 1 deg/step]
202	Thin:Simplex:Press	*ENG	[50 to 160 / **115** / 1 deg/step]
203	Thick1:Simplex:Press	*ENG	[50 to 160 / **130** / 1 deg/step]
204	Thick2:Simplex:Press	*ENG	[50 to 160 / **115** / 1 deg/step]
205	Thick3:Simplex:Press	*ENG	[50 to 160 / **115** / 1 deg/step]
206	OHP:Simplex:Press	*ENG	[50 to 160 / **80** / 1 deg/step]
207	SP 1:Simplex: Press	*ENG	[50 to 160 / **120** / 1 deg/step]
208	SP 2:Simplex: Press	*ENG	[50 to 160 / **130** / 1 deg/step]
209	SP 3:Simplex: Press	*ENG	[50 to 160 / **115** / 1 deg/step]
210	MThick:Simplex: Press	*ENG	[50 to 160 / **130** / 1 deg/step]
211	Plain2:Simplex:Press	*ENG	[50 to 160 / **125** / 1 deg/step]
212	F: Plain1:Simplex:Press	*ENG	[50 to 160 / **105** / 1 deg/step]
213	F: Plain2:Simplex:Press	*ENG	[50 to 160 / **110** / 1 deg/step]
214	F: MThick:Simplex: Press	*ENG	[50 to 160 / **115** / 1 deg/step]

215	Glossy: Plain1:Simplex: Press	*ENG	[50 to 160 / **105** / 1 deg/step]
216	Glossy: Plain2:Simplex: Press	*ENG	[50 to 160 / **110** / 1 deg/step]
217	Glossy: MThick:Simplex: Press	*ENG	[50 to 160 / **115** / 1 deg/step]
220	F: Thick1:Simplex: Press	*ENG	[50 to 160 / **115** / 1 deg/step]
221	F: SP 1:Simplex: Press	*ENG	[50 to 160 / **105** / 1 deg/step]
222	F: SP 2:Simplex: Press	*ENG	[50 to 160 / **115** / 1 deg/step]
223	Plain1:Duplex: Press	*ENG	[50 to 160 / **90** / 1 deg/step]
224	Thick1:Duplex: Press	*ENG	
225	Thick2:Duplex: Press	*ENG	
226	SP 1:Duplex: Press	*ENG	
227	SP 2:Duplex: Press	*ENG	
228	SP 3:Duplex: Press	*ENG	
229	MThick:Duplex: Press	*ENG	
230	Plain2:Duplex: Press	*ENG	
231	F: Plain1:Duplex: Press	*ENG	
232	F: Plain2:Duplex: Press	*ENG	
233	F: MThick:Duplex: Press	*ENG	[50 to 160 / **90** / 1 deg/step]
234	Glossy: Plain1: Duplex: Press	*ENG	
235	Glossy: Plain2: Duplex: Press	*ENG	
236	Glossy: MThick: Duplex: Press	*ENG	
237	F: Thick1:Duplex: Press	*ENG	
238	F: SP 1:Duplex: Press	*ENG	
239	F: SP 2:Duplex: Press	*ENG	

1106	**[Fusing Temperature Display]** Fusing Temperature Display (Heating or Pressure)		
	Displays the current temperature of the heating and pressure rollers.		
001	Fusing Roller: Center	-	[–20 to 250 / 0 / 1 deg/step]
002	Fusing Roller: Ends	-	[–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.		
003	Pressure Roller: Center	-	[–10 to 250 / 0 / 1 deg/step]
	The pressure roller has two lamps. One heats the center of the heating roller and the other heats both ends of the heating roller.		

1108	**[Ready Temp Setting]**		
	Japan use only		
007	Ready Temp Time	*ENG	[22 to 60 / **43** / 0.1 sec/step]

1109	**[Fusing Nip Band Check]**		
001	Execute	-	[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.
002	Pre-Idling Time	*ENG	[0 to 120 / **0** / 1 sec/step]
	Specifies the fusing rotation time before executing SP1109-001.		
003	Stop Time	* ENG	[5 to 30 / **20** / 1 sec/step]
	Specifies the time for measuring the nip.		

1112	**[Envir. Correct: Fusing]**		
001	Temp.: Threshold: Low	*ENG	[10 to 23 / **17** / 1 deg/step]
	Specifies the threshold temperature for low temperature condition.		
002	Temp.: Threshold: High	*ENG	[24 to 40 / **30** / 1 deg/step]
	Specifies the threshold temperature for high temperature condition.		
003	Low Temp. Correction	*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.		
004	High Temp. Correction	*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.		
005	Offset Temp:Low	*ENG	[0 to 15 / **5** / 0.1 deg/step]
006	Offset Temp:High	*ENG	[0 to 15 / **3** / 0.1 deg/step]

1113	**[Stand-by Mode Setting]**		
001	Wait Time AF Ready	*ENG	[0 to 60 / **30** / 1 sec/step]
003	Wait Time AF Recovery	*ENG	[0 to 60 / **10** / 1 sec/step]
	Specifies the time for keeping the target temperature without any jobs after recovery (SP1105-083).		
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.		
005	P-Roll Thresh AF Ready	*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).		
006	P-Roll 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).		
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]**		
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.		
002	Idling Time	*ENG	[0 to 60 / **2** / 0.1 sec/step]
	Specifies the length of each idling operation during stand-by mode.		
003	Idling Speed	*ENG	[0 to 1 / **0** / 1 mm/sec/step]

1116	**[Fusing Temp Change]** Paper Type –> MThick: Middle Thick		
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.		
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.		
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.		
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.		

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.		
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	Center Temp.1:MThick	ENG	[-10 to 10 / **0** / 1 deg/step]
023	Ends Temp.1:MThick	ENG	
024	Center Temp.2:MThick	ENG	
025	Ends Temp.2:MThick	ENG	
030	Center Temp.1:Other	ENG	
031	Ends Temp.1:Other	ENG	
032	Center Temp.2:Other	ENG	
033	Ends Temp.2:Other	ENG	

1117	[Idling Time AF Heater OFF]		
001	After Ready	ENG	[0 to 10 / **5** / 1 sec/step] **DFU**
	Specifies the idling time without the lamp on after reaching the ready temperature.		
002	After Job End	ENG	[0 to 10 / **5** / 1 sec/step]
	Specifies the idling time without the lamp on after job end. This idling prevents the heating roller overheating after job end.		

1118	[Curl Temp Correction]		
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.		
002	Humidity Thresh 1	*ENG	[0 to 100 / **65** / 1 %]
	Specifies the first threshold humidity for executing the curl correction.		
003	Humidity Thresh 2	*ENG	[0 to 100 / **80** / 1 %]
	Specifies the second threshold humidity for executing the curl correction.		
004	Pattern 1: MM: H-Roll	*ENG	[-30 to 0 / **-3** / 1 deg]
005	Pattern 1: MM: P-Roll	*ENG	[0 to 60 / **0** / 1 deg]
006	Pattern 1: HM: H-Roll	*ENG	[-30 to 0 / **0** / 1 deg]
007	Pattern 1: HM: P-Roll	*ENG	[0 to 60 / **0** / 1 deg]
008	Pattern 2: MM: H-Roll	*ENG	[-30 to 0 / **-5** / 1 deg]

009	Pattern 2: MM: P-Roll	*ENG	[0 to 60 / **50** / 1 deg]
010	Pattern 2: HM: H-Roll	*ENG	[-30 to 0 / **-5** / 1 deg]
011	Pattern 2: HM: P-Roll	*ENG	[0 to 60 / **50** / 1 deg]

1119	**[Fusing FF Control] DFU**		
001 to 020	Specifies the additional duty to the heating roller fusing lamp for each paper type. These values are added to the duty decided by the PID control.		
001	Plain: Center	*ENG	[0 to 100 / **50** / 1 %]
002	Plain: Ends	*ENG	
003	Thin: Center	*ENG	[0 to 100 / **35** / 1 %]
004	Thin: Ends	*ENG	
005	M-Thick: Center	*ENG	[0 to 100 / **80** / 1 %]
006	M-Thick: Ends	*ENG	
007	Thick1: Center	*ENG	[0 to 100 / **75** / 1 %]
008	Thick1: Ends	*ENG	
009	Thick2: Center	*ENG	[0 to 100 / **35** / 1 %]
010	Thick2: Ends	*ENG	
011	Thick3: Center	*ENG	[0 to 100 / **40** / 1 %]
012	Thick3: Ends	*ENG	
013	OHP: Center	*ENG	
014	OHP: Ends	*ENG	
015	SP 1: Center	*ENG	[0 to 100 / **80** / 1 %]
016	SP 1: Ends	*ENG	
017	SP 2: Center	*ENG	[0 to 100 / **75** / 1 %]
018	SP 2: Ends	*ENG	
019	SP 3: Center	*ENG	[0 to 100 / **40** / 1 %]

020	SP 3: Ends	*ENG	
021	Envir. Correct:Low	*ENG	[-100 to 100 / **10** / 1 %]
022	Envir. Correct:High	*ENG	[-100 to 100 / **0** / 1 %]
023	FF. Correct: Center	*ENG	
024	FF Correct:Ends	*ENG	
[FF Correct Time]			
025	FF Correct Time	*ENG	[0 to 60 / **5** / 1 sec]
	Specifies the FF duty correction time after the fusing/ paper exit motor has started to rotate in each print mode.		
[FF Control thresh] Specifies the offset temperature for turning off the FF duty correction.			
026	Offset:Center	*ENG	[0 to 50 / **25** / 1 deg]
027	Offset:Ends	*ENG	
[FF Start Time] Specifies the start time of the FF duty correction after FGATE has been "ON".			
028	Fgate Timer:FC:Full	*ENG	[0 to 10000 / **400** / 1msec]
029	Fgate Timer:FC:Half	*ENG	[0 to 10000 / **3700** / 100msec]
030	Fgate Timer:BW:Full	*ENG	[0 to 10000 / **0** / 100msec]
031	Fgate Timer:BW:Half	*ENG	[0 to 10000 / **800** / 100msec]
[FF Correct Time] Specifies the additional time to the FF duty correction time for each lien speed. Full: Full speed, Half: Half speed			
032	Time Set:Full	*ENG	[-5000 to 5000 / **0** / 100msec]
033	Time Set:Half	*ENG	
[Fgate Timer] Specifies the additional duty to the heating roller fusing lamp for each paper type. These values are added to the duty decided by the PID control.			

034	FC:Middle	*ENG	[0 to 10000 / **1000** / 100msec]
035	BK:Middle	*ENG	[0 to 10000 / **0** / 100msec]
[Correct Time Set]			
036	Middle	*ENG	[-5000 to 5000 / **0** / 100msec]
[Fusing FF Control] Specifies the additional duty to the heating roller fusing lamp for each paper type. These values are added to the duty decided by the PID control.			
050	Plain2:Center	*ENG	[0 to 100 / **60** / 1 %]
051	Plain2: End	*ENG	
052	F:Plain1: Center	*ENG	[0 to 100 / **20** / 1 %]
053	F:Plain1: End	*ENG	
054	F:M-Thick: Center	*ENG	[0 to 100 / **30** / 1 %]
055	F:M-Thick: End	*ENG	
056	F:Thick1: Center	*ENG	
057	F:Thick1: End	*ENG	
058	F:Special1: Center	*ENG	
059	F:Special1: End	*ENG	
060	F:Special2: Center	*ENG	
061	F:Special2: End	*ENG	
062	F:Plain2: Center	*ENG	[0 to 100 / **20** / 1 %]
063	F:Plain2: End	*ENG	

1120	[Multi-Print Mode]		
001	Feed Condition	*ENG	[0 or 2 / **0** / 1]
	Selects the paper feed timing. 0: Productivity priority, 1: Fusing quality priory		

1121	[Maximum Duty Switch]		
001	Control Method Switch	*ENG	[0 or 1 / **1** / 1]
	Selects the power control method for the fusing unit. 0: Fixed control, 1: Power control		

1159	[Fusing Jam Detection]		
001	SC Display	*ENG	[0 or 1 / **0** / 1]
	Enables or disables the fusing consecutive jam (three times) SC detection. 0: No detection, 1: Detection		

1201	[CPM Down Setting] DFU		
001	Low: Down Temp.	*ENG	[-50 to 0 / **-10**/ 1 deg/step]
002	Low: Up Temp.	*ENG	[-50 to 0 / **-7**/ 1 deg/step]
003	Low: 1st CPM	*ENG	[10 to 100 / **80** / 5 %]
004	Low: 2nd CPM	*ENG	[10 to 100 / **65** / 5 %]
005	Low: 3rd CPM	*ENG	[10 to 100 / **50** / 5 %]
006	Unit Low Judge Temp.	*ENG	[0 to 100 / **65**/ 1 deg/step]
007	High: 1st CPM	*ENG	[10 to 100 / **75** / 5 %]
008	High: 2nd CPM	*ENG	[10 to 100 / **50** / 5 %]
009	High: 3rd CPM	*ENG	[10 to 100 / **25** / 5 %]
010	Hi: 1-CPM DwnTemp.	*ENG	[160 to 240 / **210**/ 1 deg/step]

011	Hi: 2-CPM DwnTemp.	*ENG	[160 to 240 / **215**/ 1 deg/step]
012	Hi: 3-CPM DwnTemp.	*ENG	[160 to 240 / **220**/ 1 deg/step]
021	Judging Interval	*ENG	[1 to 250 / **10**/ 1 sec/step]

1801	**[Motor Speed Adj.] FA** Low: 85 mm/s, High: 260 mm/s, Middle: 182 mm/s		
001	Regist:Plain: Low	*ENG	[-4 to 4 / **0.4** / 0.1 %]
002	Regist:Plain: High	*ENG	
003	Regist:M-Thick: Low	*ENG	
004	Regist:M-Thick: High	*ENG	
005	Regist:Thick1: Low	*ENG	[-4 to 4 / **0.7** / 0.1 %]
006	Regist:Thick1: Middle	*ENG	
008	BkOpcDevMot (ITB Unit/ Drum: K/ Development: K Motor): 260	*ENG	[-4 to 4 / **0.15** / 0.1 %]
009	BkOpcDevMot (ITB Unit/ Drum: K/ Development: K Motor): 182	*ENG	
011	BkOpcDevMot (ITB Unit/ Drum: K/ Development: K Motor): 85	*ENG	
013	ColorOpcMot (Drum Motor: CMY): 260	*ENG	[-11 to 11 / **0**/ 1 step]
014	ColorOpcMot (Drum Motor: CMY): 182	*ENG	[-15 to 15 / **0**/ 1 step]
016	ColorOpcMot (Drum Motor: CMY): 85	*ENG	[-80 to 80 / **0**/ 1 step]
019	FusingMot (Fusing/ Paper Exit Motor): 260	*ENG	[-4 to 4 / **1.85** / 0.1 %]
020	FusingMot (Fusing/ Paper Exit Motor): 182	*ENG	

022	FusingMot (Fusing/ Paper Exit Motor): 85	*ENG	[-4 to 4 / **1.55** / 0.1 %]
029	Regist:Thick2: Low	*ENG	[-4 to 4 / **0.7** / 0.1 %]
030	Regist:Thick3: Low	*ENG	
031	Feed:Plain: Low	*ENG	[-2 to 2 / **0.4** / 0.1 %]
032	Feed:Plain: High	*ENG	
033	Feed:M-Thick: Low	*ENG	
034	Feed:M-Thick: High	*ENG	
035	Feed:Thick1: Low	*ENG	[-2 to 2 / **0.7** / 0.1 %]
036	Feed:Thick1: Middle	*ENG	
037	Feed:Thick2: Low	*ENG	
038	Feed:Thick3: Low	*ENG	
039	VerticalTransport:Plain: Low	*ENG	[-2 to 2 / **0.4** / 0.1 %]
040	VerticalTransport:Plain: High	*ENG	
041	VerticalTransport:M-Thick: Low	*ENG	
042	VerticalTransport:M-Thick: High	*ENG	
043	VerticalTransport:Thick1: Low	*ENG	[-2 to 2 / **0.7** / 0.1 %]
044	VerticalTransport:Thick1: Middle	*ENG	
045	VerticalTransport:Thick2: Low	*ENG	
046	VerticalTransport:Thick3: Low	*ENG	
047	By-pass:Plain: Low	*ENG	[-4 to 4 / **0** / 0.1 %]
048	By-pass:Plain: High	*ENG	
049	By-pass:M-Thick: Low	*ENG	
050	By-pass:M-Thick: High	*ENG	
051	By-pass:Thick1: Low	*ENG	

052	By-pass:Thick1: Middle	*ENG	
053	By-pass:Thick2: Low	*ENG	
054	By-pass:Thick3: Low	*ENG	
055	Duplex:Plain: Low	*ENG	[-4 to 4 / **0.4** / 0.1 %]
056	Duplex:Plain: High	*ENG	
057	Duplex:M-Thick: Low	*ENG	
058	Duplex:M-Thick: High	*ENG	
059	Duplex:Thick1: Low	*ENG	[-4 to 4 / **0.7** / 0.1 %]
060	Duplex:Thick1: Middle	*ENG	
061	Duplex:Thick2: Low	*ENG	
062	Reverse CW:Plain: Low	*ENG	[-4 to 4 / **0** / 0.1 %]
063	Reverse CW:Plain: High	*ENG	
064	Reverse CW: M-Thick: Low	*ENG	
065	Reverse CW: M-Thick: High	*ENG	
066	Reverse CW: Thick1: Low	*ENG	
067	Reverse CW: Thick1: Middle	*ENG	
068	Reverse CW: Thick2: Low	*ENG	
069	Reverse CCW:Plain: Low	*ENG	
070	Reverse CCW:Plain: High	*ENG	
071	Reverse CCW: M-Thick: Low	*ENG	
072	Reverse CCW: M-Thick: High	*ENG	
073	Reverse CCW: Thick1: Low	*ENG	
074	Reverse CCW: Thick1: Middle	*ENG	
075	Reverse CCW: Thick2: Low	*ENG	
101	Offset: 260: Color	*ENG	[-11 to 11 / **0**/ 1 step]

102	Offset: 182: Color	*ENG	[-15 to 15 / **0**/ 1 step]
103	Offset: 85: Color	*ENG	[-80 to 80 / **0**/ 1 step]
130	OpcMot (Drum Motor) Adjust Control	*ENG	[0 to 1 / **1**/ 1 step]

1902	**[Gain Control]**		
001	Execute	*ENG	Execute drum phase adjustment.
002	Result	*ENG	[0 to 3 / **0**/ 1] Displays the result of drum phase adjustment. 0: Successfully done 2: Sampling failure 3: Insufficient detection number
003	Auto Execute	*ENG	[0 or 1 / **1**/ -] Turns the automatic drum phase adjustment on or off. 0: Off, 1: On

1907	**[Feed Timing Adj.] DFU**		
001	Feed-Solenoid ON: Plain	*ENG	[-10 to 40 / **0**/ 2.5 mm/step]
002	Feed-STM OFF: Plain	*ENG	[-10 to 10 / **0**/ 1 mm/step]
003	Feed-STM ON: Plain	*ENG	
004	Feed-Solenoid ON: Thick	*ENG	[-10 to 40 / **0**/ 2.5 mm/step]
005	Feed-STM OFF: Thick	*ENG	[-10 to 10 / **0**/ 1 mm/step]
006	Feed-STM ON: Thick	*ENG	
007	Feed-Start: Low	*ENG	
014	By-pass Solenoid ON: Low	*ENG	[-10 to 40 / **0**/ 1 mm/step]
015	By-pass Solenoid ON: Middle	*ENG	

016	By-pass Solenoid ON: High	*ENG	
017	J-GtSOL1 (Junction Gate Solenoid): ON: Low	*ENG	[-20 to 20 / **0**/ 1 mm/step]
018	J-GtSOL1 (Junction Gate Solenoid): ON: Middle	*ENG	
019	J-GtSOL1 (Junction Gate Solenoid): ON: High	*ENG	
020	J-GtSOL1 (Junction Gate Solenoid): OFF: Low	*ENG	
021	J-GtSOL1 (Junction Gate Solenoid): OFF: Middle	*ENG	
022	J-GtSOL1 (Junction Gate Solenoid): OFF: High	*ENG	
023	J-GtSOL2 (Junction Gate Solenoid): ON: Low	*ENG	[-10 to 10 / **0**/ 1 mm/step]
024	J-GtSOL2 (Junction Gate Solenoid): ON: Middle	*ENG	
025	J-GtSOL2 (Junction Gate Solenoid): ON: High	*ENG	
026	J-GtSOL2 (Junction Gate Solenoid): OFF: Low	*ENG	
027	J-GtSOL2 (Junction Gate Solenoid): OFF: Middle	*ENG	
028	J-GtSOL2 (Junction Gate Solenoid): OFF: High	*ENG	
029	Tray2,3,4: Feed-Solenoid ON: Plain	*ENG	[-10 to 25 / **0**/ 2.5 mm/step]
030	Tray2,3,4: Feed-Solenoid OFF: Plain	*ENG	[-10 to 10 / **0**/ 1 mm/step]
031	Tray2,3,4: Feed-Clutch OFF:	*ENG	

	Plain		
032	Tray2,3,4: Feed-STM ON: Plain	*ENG	
033	Tray2,3,4: Feed-Solenoid ON: Thick	*ENG	[-10 to 25 / **0**/ 2.5 mm/step]
034	Tray2,3,4: Feed-Solenoid OFF: Thick	*ENG	[-10 to 10 / **0**/ 1 mm/step]
035	Tray2,3,4: Feed- Clutch OFF: Thick	*ENG	
036	Tray2,3,4: Feed-STM ON: Thick	*ENG	
037	Tray2,3,4: Feed-ON: High-Middle	*ENG	[0 to 10 / **0**/ 0.5 mm/step]
038	Tray2,3,4: Feed-ON: Low	*ENG	

1950	**[Fan Cool Timeset]**		
	Adjust the rotation time for each fan motor after a job end.		
001	Development Fan	*ENG	[0 to 600 / **0**/ 1 sec/step]
002	Development Fan2	*ENG	
003	Imaging Fan (Laser Unit Fan)	*ENG	
004	Fusing Exit Fan1	*ENG	
005	Fusing Exit Fan2	*ENG	
006	PSU Fan	*ENG	
007	P_Toner_Fan (Toner Supply Fan)	*ENG	
008	Image Form Fan (Drive Unit Fan)	*ENG	
009	P_FUSNS (Fusing Cooling Fan)	*ENG	

SP2-XXX (Drum)

2005	**[Charge DC V:Fixed] DFU** (Paper Type, Process Speed, Color) Paper Type –> Plain, Thick 1, Thick 2		
	Adjusts the DC component of the charge roller bias in the various print modes. Charge bias (DC component) is automatically adjusted during process control; therefore, adjusting these settings does not effect while process control mode (SP3-041-1 Default: ON) is activated. When deactivating process control mode with SP3-041-1, the values in these SP modes are used for printing.		
001	Plain: Bk	*ENG	[0 to 1000 / **600** / 10 –V/step]
002	Plain: C	*ENG	
003	Plain: M	*ENG	
004	Plain: Y	*ENG	

2006	**[Charge DC V:Fixed] DFU** (Paper Type, Process Speed, Color) Paper Type –> Plain, Thick 1, Thick 2		
	Adjusts the AC component of the charge roller bias in the various print modes. Charge bias (AC component) is adjusted by environment correction (SP2-007-xxx to SP2-011-xxx). These SPs are activated only when SP2-012-1 is set to "1: manual control".		
001	Plain: Bk	*ENG	[0 to 3000 / **2100** / 10V/step]
002	Plain: C	*ENG	
003	Plain: M	*ENG	
004	Plain: Y	*ENG	

2007	**[Charge AC A: LL] DFU** Charge Roller AC Current Adjustment for LL (Color)		
	Displays/sets the AC current target of the charge roller for LL environment (Low temperature and Low humidity).		
001	Environmental Target: Bk	*ENG	[0 to 3000 / **710** / 10 μA/step]
002	Environmental Target: C	*ENG	
003	Environmental Target: M	*ENG	[0 to 3000 / **760** / 10 μA/step]
004	Environmental Target: Y	*ENG	[0 to 3000 / **750** / 10 μA/step]

2008	**[Charge AC A: ML] DFU** Charge Roller AC Current Adjustment for MM (Color)		
	Displays/sets the AC current target of the charge roller for ML environment (Meddle temperature and Low humidity).		
001	Environmental Target: Bk	*ENG	[0 to 3000 / **740** / 10 μA/step]
002	Environmental Target: C	*ENG	
003	Environmental Target: M	*ENG	[0 to 3000 / **760** / 10 μA/step]
004	Environmental Target: Y	*ENG	[0 to 3000 / **750** / 10 μA/step]

2009	**[Charge AC A: MM] DFU** Charge Roller AC Current Adjustment for MM (Color)		
	Displays/sets the AC current target of the charge roller for MM environment (Middle temperature and Middle humidity).		
001	Environmental Target: Bk	*ENG	[0 to 3000 / **790** / 10 μA/step]
002	Environmental Target: C	*ENG	
003	Environmental Target: M	*ENG	
004	Environmental Target: Y	*ENG	[0 to 3000 / **850** / 10 μA/step]

2010	**[Charge AC A: MH] DFU** Charge Roller AC Current Adjustment for MH (Color)		
	Displays/sets the AC current target of the charge roller for MH environment (Middle temperature and High humidity).		
001	Environmental Target: Bk	*ENG	[0 to 3000 / **820** / 10 μA/step]
002	Environmental Target: C	*ENG	
003	Environmental Target: M	*ENG	[0 to 3000 / **840** / 10 μA/step]
004	Environmental Target: Y	*ENG	[0 to 3000 / **880** / 10 μA/step]

2011	**[Charge AC A: HH] DFU** Charge Roller AC Current Adjustment for HH (Color)		
	Displays/sets the AC current target of the charge roller for HH environment (High temperature and High humidity).		
001	Environmental Target: Bk	*ENG	[0 to 3000 / **860** / 10 μA/step]
002	Environmental Target: C	*ENG	
003	Environmental Target: M	*ENG	[0 to 3000 / **840** / 10 μA/step]
004	Environmental Target: Y	*ENG	[0 to 3000 / **940** / 10 μA/step]

2012	**[Charge Output Control] DFU**		
001	AC Voltage	*ENG	Selects the AC voltage control type. [0 or 1 / **0** / 1 /step] 0: Process control 1: Manual control (AC voltages are decided with SP2006.)

2013	[Envir. Correct:PCU]		
001	Envir. Range:FC:Display	*ENG	Displays the environmental condition, which is measured in absolute humidity. [1 to 5 / – / 1 /step] 1: LL (LL <= 4.3 g/m^3) 2: ML (4.3 < ML <= 11.3 g/m^3) 3: MM (11.3 < MM <= 18.0 g/m^3) 4: MH (18.0 < MH <= 24.0 g/m^3) 5: HH (24.0 g/m^3 < HH)
002	Forced Setting	*ENG	Selects the environmental condition manually. **DFU** [0 to 5 / **0** / 1 /step] 0: The environmental condition is determined automatically. 1: LL, 2: ML, 3: MM, 4: MH, 5: HH
003	Absolute Humidity: Thresh 1	*ENG	Changes the humidity threshold between LL and ML. **DFU** [0 to 100 / **4.3** / 0.01 g/m^3/step]
004	Absolute Humidity: Thresh 2	*ENG	Changes the humidity threshold between ML and MM. **DFU** [0 to 100 / **11.3** / 0.01 g/m^3/step]
005	Absolute Humidity: Thresh 3	*ENG	Changes the humidity threshold between MM and MH. **DFU** [0 to 100 / **18.0** / 0.01 g/m^3/step]
006	Absolute Humidity: Thresh 4	*ENG	Changes the humidity threshold between MH and HH. **DFU** [0 to 100 / **24.0** / 0.01 g/m^3/step]
007	Current Temp.: Display	*ENG	Displays the current temperature. [0 to 100 / **0** / 1 deg/step]
008	Relative Humidity: Display	*ENG	Displays the current relative humidity. [0 to 100 / **0** / 1%RH/step]

009	Absolute Humidity: Display	*ENG	Displays the absolute humidity. [0 to 100 / **0** / 0.01 g/m^3/step]
010	Envir. Range:Bk:Display	*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
011	Previous Temp.: Display	*ENG	Displays the previous temperature. [0 to 100 / **0** / 1 deg/step]
012	Relative Humidity: Display	*ENG	Displays the previous relative humidity. [0 to 100 / **0** / 1%RH/step]
013	Absolute Humidity: Display	*ENG	Displays the previous absolute humidity. [0 to 100 / **0** / 0.01 g/m^3/step]

2014	**[Charge AC Control: Setting] DFU**		
001	Practice Interval: Power ON	*ENG	[0 to 2000 / **500** / 1 page/step]
002	Practice Interval: Printing	*ENG	
003	Judge Interval	*ENG	[0 to 500 / **10** / 1 page/step]
004	Temp Condition	*ENG	[0 to 99 / **25** / 1 deg/step]
005	Relative Humidity Condition	*ENG	[0 to 99 / **50** / 1 %RH/step]
006	Absolute Humidity Condition	*ENG	[0 to 99 / **12** / 1 g/m^3/step]
007	Temp Change: Thresh M	*ENG	[0 to 99 / **10** / 1 deg/step]
008	RH Change: Thresh M	*ENG	[0 to 99 / **50** / 1 %RH/step]
009	AH Change: Thresh M	*ENG	[0 to 99 / **6** / 1 g/m^3/step]
010	Temp Change: Thresh S	*ENG	[0 to 20 / **1** / 0.1 deg/step]
011	RH Change: Thresh S	*ENG	[0 to 50 / **5** / 1 %RH/step]
012	AH Change: Thresh S	*ENG	[0 to 20 / **1** / 0.1 g/m^3/step]

013	Alone Time	*ENG	[0 to 1440 / **360** / 10 min/step]
014	Coefficient of Correction	*ENG	[0 to 2 / **1** / 0.01 kV/mA/step]

2015	**[Charge AC Adj: Result]**		
001	Bk	*ENG	[0 to 9 / **0** / 1 /step]
002	C	*ENG	
003	M	*ENG	
004	Y	*ENG	

2101	**[Color Regist Adust]**		
	These values are the parameters for the automatic line position adjustment and are 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.		
001	Bk: Main Scan: Dot	*ENG	[–511 to 511 / **0** / 1 dot/step]
002	C Main Scan: Dot	*ENG	
003	M Main Scan: Dot	*ENG	
004	Y Main Scan: Dot	*ENG	
005	Bk: Sub Scan: Line	*ENG	[–800 to 800 / **0** / 1 line/step]
006	C: Sub Scan: Line	*ENG	
007	M: Sub Scan: Line	*ENG	
008	Y: Sub Scan: Line	*ENG	

2102	**[Magnification Adjust] DFU**		
	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.		
001	Main Mag.: Bk:Standard Spd	*ENG	[0 to 408 / **204** / 1 /step]
002	Main Mag.: Bk:Middle Spd	*ENG	
003	Main Mag.: Bk:Low Spd	*ENG	
004	Main Mag.: C: Standard Spd	*ENG	
005	Main Mag.: C: Middle Spd	*ENG	
006	Main Mag.: C:Low Spd	*ENG	
007	Main Mag.: M: Standard Spd	*ENG	
008	Main Mag.: M:Middle Spd	*ENG	
009	Main Mag.: M:Low Spd	*ENG	
010	Main Mag.: Y: Standard Spd	*ENG	
011	Main Mag.: Y:Middle Spd	*ENG	
012	Main Mag.: Y:Low Spd	*ENG	
013	Main Beam-Pitch: Bk: Dot	*ENG	[–20 to 20 / **9** / 1 dot/step]
014	Main Beam-Pitch: Bk: Subdot	*ENG	[–15 to 15 / **-3** / 1 sub-dot/step]
015	Main Beam-Pitch: C: Dot	*ENG	[–20 to 20 / **9** / 1 dot/step]
016	Main Beam-Pitch: C: Subdot	*ENG	[–15 to 15 / **-3** / 1 sub-dot/step]
017	Main Beam-Pitch: M: Dot	*ENG	[–20 to 20 / **9** / 1 dot/step]
018	Main Beam-Pitch: M: Subdot	*ENG	[–15 to 15 / **-4** / 1 sub-dot/step]
019	Main Beam-Pitch: Y: Dot	*ENG	[–20 to 20 / **9** / 1 dot/step]
020	Main Beam-Pitch: Y: Subdot	*ENG	[–15 to 15 / **-4** / 1 sub-dot/step]

2103	**[Erase Margin Adjust]** (Area, Paper Size)		
	Adjusts the erase margin by deleting image data at the margins.		
001	Lead Edge Width	*ENG	[0 to 9.9 / **4.2** / 0.1 mm/step]
002	Trailing Edge Width	*ENG	
003	Left	*ENG	[0 to 9.9 / **2** / 0.1 mm/step]
004	Right	*ENG	

2104	**[LD Initial Power Adjust]**		
	Adjusts the LD initial power. These SPs must be input only when a new laser unit is installed.		
001	LD1: K	*ENG	[60 to 140 / **100** / 0.1 %/step]
002	LD2: K	*ENG	
003	LD1: C	*ENG	
004	LD2: C	*ENG	
005	LD1: M	*ENG	
006	LD2: M	*ENG	
007	LD1: Y	*ENG	
008	LD2: Y	*ENG	

2105	**[LD Power Adjust] DFU** (Process Speed, Color)		
	Adjusts the LD power of each color for each process speed. Each LD power setting is decided by process control. Low: 85 mm/s, High: 260 mm/s, Middle: 182 mm/s		
001	Bk: Standard Speed	*ENG	[50 to 120 / **100** / 1%/step] Decreasing a value makes lines thinner on the output. Increasing a value makes lines
002	C: Standard Speed	*ENG	
003	M: Standard Speed	*ENG	

004	Y: Standard Speed	*ENG	thicker on the output.
005	Bk: Middle Speed	*ENG	
006	C: Middle Speed	*ENG	
007	M: Middle Speed	*ENG	
008	Y: Middle Speed	*ENG	
009	Bk: Low Speed	*ENG	
010	C: Low Speed	*ENG	
011	M: Low Speed	*ENG	
012	Y: Low Speed	*ENG	

2106	**[Polygon Rotation Time] DFU**		
	Adjusts the time of the polygon motor rotation.		
001	Warming-Up	*ENG	[0 to 60 / **10** / 1 sec/step]
002	Job End	*ENG	

2107	**[Image Parameter]**		
	DFU		
001	Image Gamma Flag	*ENG	[0 or 1 / **1** / 1 /step]
002	Shading Correction Flag	*ENG	

2109	**[Test Pattern]**		
	Generates the test pattern.		
003	Pattern Selection	-	[0 to 23 / **0** / 1/step]
	0 None 1: Vertical Line (1dot) 2: Vertical Line (2dot) 3: Horizontal (1dot) 4: Horizontal (2dot) 5: Grid Vertical Line 6: Grid Horizontal Line 7: Grid pattern Small 8: Grid pattern Large 9: Argyle Pattern Small 10: Argyle Pattern Large 11. Independent Pattern (1dot)		12. Independent Pattern (2dot) 13. Independent Pattern (4dot) 14. Trimming Area 15: Hound's Tooth Check (Vertical) 16: Hound's Tooth Check (Horizontal) 17: Band (Vertical) 18: Band (Horizontal) 19: Checker Flag Pattern 20: Grayscale Vertical Margin 21: Grayscale Horizontal Margin 22: Two Beam 23: Full Dot Pattern
005	Color Selection	-	Specifies the color for the test pattern. [1 to 4 / **1** / 1/step] 1: All colors, 2: Magenta, 3: Yellow, 4: Cyan
006	Density: Bk	-	Specifies the color density for the test pattern. [0 to 15 / **15** / 1 /step] 0: Lightest density 15: Darkest density
007	Density: C	-	
008	Density: M	-	
009	Density: Y	-	

2111	[Line Pos. Ajust]		
001	Execute: Mode a	-	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.
002	Execute:Mode b	-	Executes the fine line position adjustment once. If this SP is not completed, do SP2111-003 first and then try this SP again.
003	Execute:Mode c	-	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.
004	Execute:Mode d	-	Rough adjustment and fine adjustment, once each.

2112	**[ID Sensor Test]** ID Sensor Check **FA**		
001	Execute		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]**		
	Specifies a skew adjustment value for the skew motor M, C or Y.		
001	Pulse: C	*ENG	[–100 to 100 / **0** / 1 pulse/step]
002	Pulse: M	*ENG	
003	Pulse: Y	*ENG	

2118	[Skew Adjustment]		
001	Execute: C	*ENG	Changes the current skew adjustment values to the values specified with SP2117.
002	Execute: M	*ENG	
003	Execute: Y	*ENG	

2119	[Skew Adjustment Display]		
	Displays the current skew adjustment value for each skew motor.		
001	C	*ENG	[–75 to 75 / **0** / 1 pulse/step]
002	M	*ENG	
003	Y	*ENG	

2140	[ID Sensor Check Result]		
	Displays the maximum result values of the ID sensor check. Front, Center, Rear: ID sensors for the automatic line position adjustment and the process control		
001	PWM: Bk	*ENG	[0 to 1024 / **0** / 1/step]
002	PWM: C	*ENG	
003	PWM: M	*ENG	
004	PWM: Y	*ENG	
005	PWM: Front	*ENG	
006	PWM: Center	*ENG	
007	PWM: Rear	*ENG	

2141	**[ID Sensor Check Result]**		
	Displays the maximum result values of the ID sensor check. Front, Center, Rear: ID sensors for the automatic line position adjustment and the process control		
001	Average: Bk	*ENG	[0 to 5.5 / **0** / 0.01V/step]
002	Average: C	*ENG	
003	Average: M	*ENG	
004	Average: Y	*ENG	
005	Average: Front	*ENG	
006	Average: Center	*ENG	
007	Average: Rear	*ENG	

2142	**[ID Sensor Check Result]**		
	Displays the maximum result values of the ID sensor check. Front, Center, Rear: ID sensors for the automatic line position adjustment and the process control		
001	Maximum: Bk	*ENG	[0 to 5.5 / **0** / 0.01V/step]
002	Maximum: C	*ENG	
003	Maximum: M	*ENG	
004	Maximum: Y	*ENG	
005	Maximum: Front	*ENG	
006	Maximum: Center	*ENG	
007	Maximum: Rear	*ENG	

2143	**[ID Sensor Check Result]**		
	Displays the minimum result values of the ID sensor check. Front, Center, Rear: ID sensors for the automatic line position adjustment and the process control		
001	Minimum: Bk	*ENG	[0 to 5.5 / **0** / 0.01V/step]
002	Minimum: C	*ENG	
003	Minimum: M	*ENG	
004	Minimum: Y	*ENG	
005	Minimum: Front	*ENG	
006	Minimum: Center	*ENG	
007	Minimum: Rear	*ENG	

2144	**[ID Sensor Check Result]**		
	Displays the maximum result 2 values of the ID sensor check. Front, Center, Rear: ID sensors for the automatic line position adjustment and the process control		
001	Maximum 2: Bk	*ENG	[0 to 5.5 / **0** / 0.01V/step]
002	Maximum 2: C	*ENG	
003	Maximum 2: M	*ENG	
004	Maximum 2: Y	*ENG	
005	Maximum 2: Front	*ENG	
006	Maximum 2: Center	*ENG	
007	Maximum 2: Rear	*ENG	

2145	**[ID Sensor Check Result]**		
	Displays the minimum result 2 values of the ID sensor check. Front, Center, Rear: ID sensors for the automatic line position adjustment and the process control		
001	Minimum 2: Bk	*ENG	[0 to 5.5 / **0** / 0.01V/step]
002	Minimum 2: C	*ENG	
003	Minimum 2: M	*ENG	
004	Minimum 2: Y	*ENG	
005	Minimum 2: Front	*ENG	
006	Minimum 2: Center	*ENG	
007	Minimum 2: Rear	*ENG	

2150	**[Area Mag. Correction]** LD Pulse Area Correction (Color, Area) **FA**		
	Adjusts the magnification for each area. The main scan (297 mm) is divided into 13 areas. Area 1 is at the front side of the machine (left side of the image) and area 13 is at the rear side of the machine (right side of the image). Decreasing a value makes the image shift to the left side on the print. Increasing a value makes the image shift to the right side on the print. 1 pulse = 1/16 dot		
027	Bk: LD1 Area0	*ENG	[-255 to 255 / **0** / 1sub-dot/step]
028	Bk: LD1 Area1	*ENG	[-255 to 255 / **-233** / 1sub-dot/step]
029	Bk: LD1 Area2	*ENG	[-255 to 255 / **-193** / 1sub-dot/step]
030	Bk: LD1 Area3	*ENG	[-255 to 255 / **58** / 1sub-dot/step]
031	Bk: LD1 Area4	*ENG	
032	Bk: LD1 Area5	*ENG	[-255 to 255 / **143** / 1sub-dot/step]
033	Bk: LD1 Area6	*ENG	
034	Bk: LD1 Area7	*ENG	[-255 to 255 / **47** / 1sub-dot/step]

035	Bk: LD1 Area8	*ENG	[-255 to 255 / **-23** / 1sub-dot/step]
036	Bk: LD1 Area9	*ENG	[-255 to 255 / **0** / 1sub-dot/step]
037	Bk: LD1 Area10	*ENG	
038	Bk: LD1 Area11	*ENG	
039	Bk: LD1 Area12	*ENG	
040	Bk: LD2 Area0	*ENG	
041	Bk: LD2 Area1	*ENG	[-255 to 255 / **-233** / 1sub-dot/step]
042	Bk: LD2 Area2	*ENG	[-255 to 255 / **-193** / 1sub-dot/step]
043	Bk: LD2 Area3	*ENG	[-255 to 255 / **58** / 1sub-dot/step]
044	Bk: LD2 Area4	*ENG	
045	Bk: LD2 Area5	*ENG	[-255 to 255 / **143** / 1sub-dot/step]
046	Bk: LD2 Area6	*ENG	
047	Bk: LD2 Area7	*ENG	[-255 to 255 / **47** / 1sub-dot/step]
048	Bk: LD2 Area8	*ENG	[-255 to 255 / **-23** / 1sub-dot/step]
049	Bk: LD2 Area9	*ENG	[-255 to 255 / **0** / 1sub-dot/step]
050	Bk: LD2 Area10	*ENG	
051	Bk: LD2 Area11	*ENG	
052	Bk: LD2 Area12	*ENG	
079	C: LD1 Area0	*ENG	
080	C: LD1 Area1	*ENG	[-255 to 255 / **-234** / 1sub-dot/step]
081	C: LD1 Area2	*ENG	[-255 to 255 / **-195** / 1sub-dot/step]
082	C: LD1 Area3	*ENG	[-255 to 255 / **56** / 1sub-dot/step]
083	C: LD1 Area4	*ENG	[-255 to 255 / **57** / 1sub-dot/step]
084	C: LD1 Area5	*ENG	[-255 to 255 / **143** / 1sub-dot/step]
085	C: LD1 Area6	*ENG	

086	C: LD1 Area7	*ENG	[-255 to 255 / **50** / 1sub-dot/step]
087	C: LD1 Area8	*ENG	[-255 to 255 / **-20** / 1sub-dot/step]
088	C: LD1 Area9	*ENG	[-255 to 255 / **0** / 1sub-dot/step]
089	C: LD1 Area10	*ENG	
090	C: LD1 Area11	*ENG	
091	C: LD1 Area12	*ENG	
092	C: LD2 Area0	*ENG	
093	C: LD2 Area1	*ENG	[-255 to 255 / **-234** / 1sub-dot/step]
094	C: LD2 Area2	*ENG	[-255 to 255 / **-195** / 1sub-dot/step]
095	C: LD2 Area3	*ENG	[-255 to 255 / **56** / 1sub-dot/step]
096	C: LD2 Area4	*ENG	[-255 to 255 / **57** / 1sub-dot/step]
097	C: LD2 Area5	*ENG	[-255 to 255 / **143** / 1sub-dot/step]
098	C: LD2 Area6	*ENG	
099	C: LD2 Area7	*ENG	[-255 to 255 / **50** / 1sub-dot/step]
100	C: LD2 Area8	*ENG	[-255 to 255 / **-20** / 1sub-dot/step]
101	C: LD2 Area9	*ENG	[-255 to 255 / **0** / 1sub-dot/step]
102	C: LD2 Area10	*ENG	
103	C: LD2 Area11	*ENG	
104	C: LD2 Area12	*ENG	
131	M: LD1 Area0	*ENG	
132	M: LD1 Area1	*ENG	[-255 to 255 / **-232** / 1sub-dot/step]
133	M: LD1 Area2	*ENG	[-255 to 255 / **-192** / 1sub-dot/step]
134	M: LD1 Area3	*ENG	[-255 to 255 / **60** / 1sub-dot/step]
135	M: LD1 Area4	*ENG	
136	M: LD1 Area5	*ENG	[-255 to 255 / **142** / 1sub-dot/step]

137	M: LD1 Area6	*ENG	
138	M: LD1 Area7	*ENG	[-255 to 255 / **45** / 1sub-dot/step]
139	M: LD1 Area8	*ENG	[-255 to 255 / **-26** / 1sub-dot/step]
140	M: LD1 Area9	*ENG	[-255 to 255 / **0** / 1sub-dot/step]
141	M: LD1 Area10	*ENG	
142	M: LD1 Area11	*ENG	
143	M: LD1 Area12	*ENG	
144	M: LD2 Area0	*ENG	
145	M: LD2 Area1	*ENG	[-255 to 255 / **-232** / 1sub-dot/step]
146	M: LD2 Area2	*ENG	[-255 to 255 / **-192** / 1sub-dot/step]
147	M: LD2 Area3	*ENG	[-255 to 255 / **60** / 1sub-dot/step]
148	M: LD2 Area4	*ENG	
149	M: LD2 Area5	*ENG	[-255 to 255 / **142** / 1sub-dot/step]
150	M: LD2 Area6	*ENG	
151	M: LD2 Area7	*ENG	[-255 to 255 / **45** / 1sub-dot/step]
152	M: LD2 Area8	*ENG	[-255 to 255 / **-26** / 1sub-dot/step]
153	M: LD2 Area9	*ENG	[-255 to 255 / **0** / 1sub-dot/step]
154	M: LD2 Area10	*ENG	
155	M: LD2 Area11	*ENG	
156	M: LD2 Area12	*ENG	
183	Y: LD1 Area0	*ENG	
184	Y: LD1 Area1	*ENG	[-255 to 255 / **-233** / 1sub-dot/step]
185	Y: LD1 Area2	*ENG	[-255 to 255 / **-194** / 1sub-dot/step]
186	Y: LD1 Area3	*ENG	[-255 to 255 / **60** / 1sub-dot/step]
187	Y: LD1 Area4	*ENG	

188	Y: LD1 Area5	*ENG	[-255 to 255 / **144** / 1sub-dot/step]
189	Y: LD1 Area6	*ENG	
190	Y: LD1 Area7	*ENG	[-255 to 255 / **46** / 1sub-dot/step]
191	Y: LD1 Area8	*ENG	[-255 to 255 / **-25** / 1sub-dot/step]
192	Y: LD1 Area9	*ENG	[-255 to 255 / **0** / 1sub-dot/step]
193	Y: LD1 Area10	*ENG	
194	Y: LD1 Area11	*ENG	
195	Y: LD1 Area12	*ENG	
196	Y: LD2 Area0	*ENG	
197	Y: LD2 Area1	*ENG	[-255 to 255 / **-233** / 1sub-dot/step]
198	Y: LD2 Area2	*ENG	[-255 to 255 / **-194** / 1sub-dot/step]
199	Y: LD2 Area3	*ENG	[-255 to 255 / **60** / 1sub-dot/step]
200	Y: LD2 Area4	*ENG	
201	Y: LD2 Area5	*ENG	[-255 to 255 / **144** / 1sub-dot/step]
202	Y: LD2 Area6	*ENG	
203	Y: LD2 Area7	*ENG	[-255 to 255 / **46** / 1sub-dot/step]
204	Y: LD2 Area8	*ENG	[-255 to 255 / **-25** / 1sub-dot/step]
205	Y: LD2 Area9	*ENG	[-255 to 255 / **0** / 1sub-dot/step]
206	Y: LD2 Area10	*ENG	
207	Y: LD2 Area11	*ENG	
208	Y: LD2 Area12	*ENG	

2152	**[Shading Correct Setting] FA** Adjusts the area correction value for each LD power. The main scan is divided into 16 areas. However, the image areas are limited from area 1 to area 14. For BK and Magenta, area 1 is at the rear side of the machine (left side of the image) and area 14 is at the front side of the machine (right side of the image). For Cyan and Yellow, area 1 is at the front side of the machine (right side of the image) and area 14 is at the rear side of the machine (left side of the image).		
001	Bk: LD1 Area 0	*ENG	[50 to 150 / **100** / 0.1 %/step]
002	Bk: LD1 Area 1	*ENG	[50 to 150 / **98.4** / 0.1 %/step]
003	Bk: LD1 Area 2	*ENG	[50 to 150 / **98.8** / 0.1 %/step]
004	Bk: LD1 Area 3	*ENG	[50 to 150 / **97.9** / 0.1 %/step]
005	Bk: LD1 Area 4	*ENG	[50 to 150 / **98** / 0.1 %/step]
006	Bk: LD1 Area 5	*ENG	[50 to 150 / **99** / 0.1 %/step]
007	Bk: LD1 Area 6	*ENG	[50 to 150 / **99.9** / 0.1 %/step]
008	Bk: LD1 Area 7	*ENG	[50 to 150 / **100.5** / 0.1 %/step]
009	Bk: LD1 Area 8	*ENG	[50 to 150 / **100.4** / 0.1 %/step]
010	Bk: LD1 Area 9	*ENG	[50 to 150 / **100.9** / 0.1 %/step]
011	Bk: LD1 Area 10	*ENG	[50 to 150 / **101.9** / 0.1 %/step]
012	Bk: LD1 Area 11	*ENG	[50 to 150 / **102.7** / 0.1 %/step]
013	Bk: LD1 Area 12	*ENG	[50 to 150 / **103.5** / 0.1 %/step]
014	Bk: LD1 Area 13	*ENG	[50 to 150 / **104.5** / 0.1 %/step]
015	Bk: LD1 Area 14	*ENG	[50 to 150 / **105.5** / 0.1 %/step]
016	Bk: LD1 Area 15	*ENG	[50 to 150 / **98.4** / 0.1 %/step]
017	Bk: LD2 Area 0	*ENG	[50 to 150 / **100** / 0.1 %/step]
018	Bk: LD2 Area 1	*ENG	[50 to 150 / **98.4** / 0.1 %/step]

019	Bk: LD2 Area 2	*ENG	[50 to 150 / **98.8** / 0.1 %/step]
020	Bk: LD2 Area 3	*ENG	[50 to 150 / **97.9** / 0.1 %/step]
021	Bk: LD2 Area 4	*ENG	[50 to 150 / **98** / 0.1 %/step]
022	Bk: LD2 Area 5	*ENG	[50 to 150 / **99** / 0.1 %/step]
023	Bk: LD2 Area 6	*ENG	[50 to 150 / **99.9** / 0.1 %/step]
024	Bk: LD2 Area 7	*ENG	[50 to 150 / **100.5** / 0.1 %/step]
025	Bk: LD2 Area 8	*ENG	[50 to 150 / **100.4** / 0.1 %/step]
026	Bk: LD2 Area 9	*ENG	[50 to 150 / **100.9** / 0.1 %/step]
027	Bk: LD2 Area 10	*ENG	[50 to 150 / **101.9** / 0.1 %/step]
028	Bk: LD2 Area 11	*ENG	[50 to 150 / **102.7** / 0.1 %/step]
029	Bk: LD2 Area 12	*ENG	[50 to 150 / **103.5** / 0.1 %/step]
030	Bk: LD2 Area 13	*ENG	[50 to 150 / **104.5** / 0.1 %/step]
031	Bk: LD2 Area 14	*ENG	[50 to 150 / **105.5** / 0.1 %/step]
032	Bk: LD2 Area 15	*ENG	[50 to 150 / **98.4** / 0.1 %/step]
033	C: LD1 Area 0	*ENG	[50 to 150 / **100** / 0.1 %/step]
034	C: LD1 Area 1	*ENG	[50 to 150 / **96.4** / 0.1 %/step]
035	C: LD1 Area 2	*ENG	[50 to 150 / **96.8** / 0.1 %/step]
036	C: LD1 Area 3	*ENG	[50 to 150 / **97.8** / 0.1 %/step]
037	C: LD1 Area 4	*ENG	[50 to 150 / **97.5** / 0.1 %/step]
038	C: LD1 Area 5	*ENG	[50 to 150 / **98.3** / 0.1 %/step]
039	C: LD1 Area 6	*ENG	[50 to 150 / **99.1** / 0.1 %/step]
040	C: LD1 Area 7	*ENG	[50 to 150 / **100.1** / 0.1 %/step]
041	C: LD1 Area 8	*ENG	[50 to 150 / **100.3** / 0.1 %/step]
042	C: LD1 Area 9	*ENG	[50 to 150 / **101.2** / 0.1 %/step]
043	C: LD1 Area 10	*ENG	[50 to 150 / **102.1** / 0.1 %/step]

044	C: LD1 Area 11	*ENG	[50 to 150 / **103.1** / 0.1 %/step]
045	C: LD1 Area 12	*ENG	[50 to 150 / **103.8** / 0.1 %/step]
046	C: LD1 Area 13	*ENG	[50 to 150 / **104.6** / 0.1 %/step]
047	C: LD1 Area 14	*ENG	[50 to 150 / **105.6** / 0.1 %/step]
048	C: LD1 Area 15	*ENG	[50 to 150 / **96.4** / 0.1 %/step]
049	C: LD2 Area 0	*ENG	[50 to 150 / **100** / 0.1 %/step]
050	C: LD2 Area 1	*ENG	[50 to 150 / **96.4** / 0.1 %/step]
051	C: LD2 Area 2	*ENG	[50 to 150 / **96.8** / 0.1 %/step]
052	C: LD2 Area 3	*ENG	[50 to 150 / **97.8** / 0.1 %/step]
053	C: LD2 Area 4	*ENG	[50 to 150 / **97.5** / 0.1 %/step]
054	C: LD2 Area 5	*ENG	[50 to 150 / **98.3** / 0.1 %/step]
055	C: LD2 Area 6	*ENG	[50 to 150 / **99.1** / 0.1 %/step]
056	C: LD2 Area 7	*ENG	[50 to 150 / **100.1** / 0.1 %/step]
057	C: LD2 Area 8	*ENG	[50 to 150 / **100.3** / 0.1 %/step]
058	C: LD2 Area 9	*ENG	[50 to 150 / **101.2** / 0.1 %/step]
059	C: LD2 Area 10	*ENG	[50 to 150 / **102.1** / 0.1 %/step]
060	C: LD2 Area 11	*ENG	[50 to 150 / **103.1** / 0.1 %/step]
061	C: LD2 Area 12	*ENG	[50 to 150 / **103.8** / 0.1 %/step]
062	C: LD2 Area 13	*ENG	[50 to 150 / **104.6** / 0.1 %/step]
063	C: LD2 Area 14	*ENG	[50 to 150 / **105.6** / 0.1 %/step]
064	C: LD2 Area 15	*ENG	[50 to 150 / **96.4** / 0.1 %/step]
065	M: LD1 Area 0	*ENG	[50 to 150 / **100** / 0.1 %/step]
066	M: LD1 Area 1	*ENG	[50 to 150 / **98** / 0.1 %/step]
067	M: LD1 Area 2	*ENG	[50 to 150 / **97.9** / 0.1 %/step]
068	M: LD1 Area 3	*ENG	[50 to 150 / **98.6** / 0.1 %/step]

069	M: LD1 Area 4	*ENG	[50 to 150 / **99.1** / 0.1 %/step]
070	M: LD1 Area 5	*ENG	[50 to 150 / **100.1** / 0.1 %/step]
071	M: LD1 Area 6	*ENG	[50 to 150 / **100.6** / 0.1 %/step]
072	M: LD1 Area 7	*ENG	[50 to 150 / **100.3** / 0.1 %/step]
073	M: LD1 Area 8	*ENG	[50 to 150 / **100.2** / 0.1 %/step]
074	M: LD1 Area 9	*ENG	[50 to 150 / **100.3** / 0.1 %/step]
075	M: LD1 Area 10	*ENG	[50 to 150 / **100** / 0.1 %/step]
076	M: LD1 Area 11	*ENG	
077	M: LD1 Area 12	*ENG	[50 to 150 / **99.6** / 0.1 %/step]
078	M: LD1 Area 13	*ENG	[50 to 150 / **98.6** / 0.1 %/step]
079	M: LD1 Area 14	*ENG	[50 to 150 / **97.9** / 0.1 %/step]
080	M: LD1 Area 15	*ENG	[50 to 150 / **98** / 0.1 %/step]
081	M: LD2 Area 0	*ENG	[50 to 150 / **100** / 0.1 %/step]
082	M: LD2 Area 1	*ENG	[50 to 150 / **98** / 0.1 %/step]
083	M: LD2 Area 2	*ENG	[50 to 150 / **97.9** / 0.1 %/step]
084	M: LD2 Area 3	*ENG	[50 to 150 / **98.6** / 0.1 %/step]
085	M: LD2 Area 4	*ENG	[50 to 150 / **99.1** / 0.1 %/step]
086	M: LD2 Area 5	*ENG	[50 to 150 / **100.1** / 0.1 %/step]
087	M: LD2 Area 6	*ENG	[50 to 150 / **100.6** / 0.1 %/step]
088	M: LD2 Area 7	*ENG	[50 to 150 / **100.3** / 0.1 %/step]
089	M: LD2 Area 8	*ENG	[50 to 150 / **100.2** / 0.1 %/step]
090	M: LD2 Area 9	*ENG	[50 to 150 / **100.3** / 0.1 %/step]
091	M: LD2 Area 10	*ENG	[50 to 150 / **100** / 0.1 %/step]
092	M: LD2 Area 11	*ENG	
093	M: LD2 Area 12	*ENG	[50 to 150 / **99.6** / 0.1 %/step]

094	M: LD2 Area 13	*ENG	[50 to 150 / **98.6** / 0.1 %/step]
095	M: LD2 Area 14	*ENG	[50 to 150 / **97.9** / 0.1 %/step]
096	M: LD2 Area 15	*ENG	[50 to 150 / **98** / 0.1 %/step]
097	Y: LD1 Area 0	*ENG	[50 to 150 / **100** / 0.1 %/step]
098	Y: LD1 Area 1	*ENG	[50 to 150 / **98.9** / 0.1 %/step]
099	Y: LD1 Area 2	*ENG	[50 to 150 / **98.4** / 0.1 %/step]
100	Y: LD1 Area 3	*ENG	[50 to 150 / **98.1** / 0.1 %/step]
101	Y: LD1 Area 4	*ENG	[50 to 150 / **98.4** / 0.1 %/step]
102	Y: LD1 Area 5	*ENG	[50 to 150 / **99.3** / 0.1 %/step]
103	Y: LD1 Area 6	*ENG	[50 to 150 / **100.4** / 0.1 %/step]
104	Y: LD1 Area 7	*ENG	[50 to 150 / **99.7** / 0.1 %/step]
105	Y: LD1 Area 8	*ENG	[50 to 150 / **100.7** / 0.1 %/step]
106	Y: LD1 Area 9	*ENG	[50 to 150 / **100** / 0.1 %/step]
107	Y: LD1 Area 10	*ENG	[50 to 150 / **99** / 0.1 %/step]
108	Y: LD1 Area 11	*ENG	[50 to 150 / **99.4** / 0.1 %/step]
109	Y: LD1 Area 12	*ENG	[50 to 150 / **98.9** / 0.1 %/step]
110	Y: LD1 Area 13	*ENG	[50 to 150 / **98.7** / 0.1 %/step]
111	Y: LD1 Area 14	*ENG	[50 to 150 / **97.7** / 0.1 %/step]
112	Y: LD1 Area 15	*ENG	[50 to 150 / **98.9** / 0.1 %/step]
113	Y: LD2 Area 0	*ENG	[50 to 150 / **100** / 0.1 %/step]
114	Y: LD2 Area 1	*ENG	[50 to 150 / **98.9** / 0.1 %/step]
115	Y: LD2 Area 2	*ENG	[50 to 150 / **98.4** / 0.1 %/step]
116	Y: LD2 Area 3	*ENG	[50 to 150 / **98.1** / 0.1 %/step]
117	Y: LD2 Area 4	*ENG	[50 to 150 / **98.4** / 0.1 %/step]
118	Y: LD2 Area 5	*ENG	[50 to 150 / **99.3** / 0.1 %/step]

119	Y: LD2 Area 6	*ENG	[50 to 150 / **100.4** / 0.1 %/step]
120	Y: LD2 Area 7	*ENG	[50 to 150 / **99.7** / 0.1 %/step]
121	Y: LD2 Area 8	*ENG	[50 to 150 / **100.7** / 0.1 %/step]
122	Y: LD2 Area 9	*ENG	[50 to 150 / **100** / 0.1 %/step]
123	Y: LD2 Area 10	*ENG	[50 to 150 / **99** / 0.1 %/step]
124	Y: LD2 Area 11	*ENG	[50 to 150 / **99.4** / 0.1 %/step]
125	Y: LD2 Area 12	*ENG	[50 to 150 / **98.9** / 0.1 %/step]
126	Y: LD2 Area 13	*ENG	[50 to 150 / **98.7** / 0.1 %/step]
127	Y: LD2 Area 14	*ENG	[50 to 150 / **97.7** / 0.1 %/step]
128	Y: LD2 Area 15	*ENG	[50 to 150 / **98.9** / 0.1 %/step]

2153	**[Shade: SP Clear]**		
001	SP Clear Execute	*ENG	
Clears "Shading Correct Setting" (SP2152)			

2160	**[Vertical Line Width] DFU**		
001	600dpi:Bk	*ENG	[10 to 15 / **15** / 1 /step]
002	600dpi:C	*ENG	
003	600dpi:M	*ENG	
004	600dpi:Y	*ENG	
005	1200dpi:Bk	*ENG	
006	1200dpi:C	*ENG	
007	1200dpi:M	*ENG	
008	1200dpi:Y	*ENG	

2180	[Line Pos. Adj. Clear] DFU		
001	Color Regist.	-	
002	Mag Adjust	-	
003	MUSIC Result	-	
004	Area Mag. Correction	-	

2181	[Line Pos. Adj. Result] DFU		
	Displays the values for each correction. ▪ "Paper Int. Mag: Subdot" indicates the magnification correction value between two sheets of paper. ▪ "Mag.Cor. Subdot" indicates the magnification correction value. ▪ "M. Scan Erro." indicates the shift correction value in the main scan direction. ▪ "S. Scan Erro." Indicates the shift correction value in the sub scan direction. ▪ "M. Cor.: Dot" indicates the dot correction value in the main scan direction. ▪ "M. Cor.: Subdot" indicates the sub dot correction value in the main scan direction. ▪ Bk: Black, M: Magenta, C: Cyan, Y: Yellow		
002	Mag.Cor. Subdot: Bk	*ENG	[–2040 to 2040 / **0** / 1 pulse/step]
003	Skew: C	*ENG	[–5000 to 5000 / **0** / 0.001 um/step]
005	M. Scan Shift: Left: C	*ENG	[–16000 to 16000 / **0** / 0.001 um/step]
006	M. Scan Shift: Center: C	*ENG	
007	M. Scan Shift: RIght: C	*ENG	
008	S. Scan Shift: Left: C	*ENG	[–21000 to 21000 / **0** / 0.001 um/step]
009	S. Scan Shift: Center: C	*ENG	
010	S. Scan Shift: RIght: C	*ENG	
011	M. Cor.: Dot: C	*ENG	[–511 to 511 / **0** / 1 dot/step]

012	M. Cor.: Subdot: C	*ENG	[–15 to 15 / **0** / 1 pulse/step]
014	Mag.Cor. Subdot: C	*ENG	[–2040 to 2040 / 0 / 1 pulse/step]
015	M. Left Mag.: Subdot: C	*ENG	[–1020 to 1020 / 0 / 1 pulse/step]
016	M. Right Mag.: Subdot: C	*ENG	
017	S. Cor.: 600 Line: C	*ENG	[–800 to 800 / **0** / 1 line/step]
018	S. Cor.: 600 Subdot: C	*ENG	[–2 to 2 / **0** / 0.001 line/step]
019	S. Cor.: 1200 Line: C	*ENG	[–1600 to 1600 / **0** / 1 line/step]
020	S. Cor.: 1200 Subdot: C	*ENG	[–2 to 2 / **0** / 0.001 line/step]
021	Skew: M	*ENG	[–5000 to 5000 / **0** / 0.001 um/step]
023	M. Scan Shift: Left: M	*ENG	[–16000 to 16000 / **0** / 0.001 um/step]
024	M. Scan Shift: Center: M	*ENG	
025	M. Scan Shift: Right: M	*ENG	
026	S. Scan Shift: Left: M	*ENG	[–21000 to 21000 / **0** / 0.001 um/step]
027	S. Scan Shift: Center: M	*ENG	
028	S. Scan Shift: Right: M	*ENG	
029	M. Cor.: Dot: M	*ENG	[–511 to 511 / **0** / 1 dot/step]
030	M. Cor.: Subdot: M	*ENG	[–15 to 15 / **0** / 1 pulse/step]
032	Mag.Cor. Subdot: M	*ENG	[–2040 to 2040 / 0 / 1 pulse/step]
033	M. Left Mag.: Subdot: M	*ENG	[–1020 to 1020 / 0 / 1 pulse/step]
034	M. Right Mag.: Subdot: M	*ENG	
035	S. Cor.: 600 Line: M	*ENG	[–800 to 800 / **0** / 1 line/step]
036	S. Cor.: 600 Subdot: M	*ENG	[–2 to 2 / **0** / 0.001 line/step]
037	S. Cor.: 1200 Line: M	*ENG	[–1600 to 1600 / **0** / 1 line/step]
038	S. Cor.: 1200 Subdot: M	*ENG	[–2 to 2 / **0** / 0.001 line/step]
039	Skew: Y	*ENG	[–5000 to 5000 / **0** / 0.001 um/step]

041	M. Scan Shift: Left: Y	*ENG	[–16000 to 16000 / **0** / 0.001 um/step]
042	M. Scan Shift: Center: Y	*ENG	
043	M. Scan Shift: Right: Y	*ENG	
044	S. Scan Shift: Left: Y	*ENG	[–21000 to 21000 / **0** / 0.001 um/step]
045	S. Scan Shift: Center: Y	*ENG	
046	S. Scan Shift: Right: Y	*ENG	
047	M. Cor.: Dot: Y	*ENG	[–511 to 511 / **0** / 1 dot/step]
048	M. Cor.: Subdot: Y	*ENG	[–15 to 15 / **0** / 1 pulse/step]
050	Mag.Cor. Subdot: Y	*ENG	[–2040 to 2040 / 0 / 1 pulse/step]
051	M. Left Mag.: Subdot: Y	*ENG	[–1020 to 1020 / 0 / 1 pulse/step]
052	M. Right Mag.: Subdot: Y	*ENG	
053	S. Cor.: 600 Line: Y	*ENG	[–800 to 800 / **0** / 1 line/step]
054	S. Cor.: 600 Subdot: Y	*ENG	[–2 to 2 / **0** / 0.001 line/step]
055	S. Cor.: 1200 Line: Y	*ENG	[–1600 to 1600 / **0** / 1 line/step]
056	S. Cor.: 1200 Subdot: Y	*ENG	[–2 to 2 / **0** / 0.001 line/step]
057	S. Cor.: 600 Subdot	*ENG	[–1 to 1 / **0** / 0.001 line/step]
059	S. Cor.:1200 Subdot	*ENG	[–1 to 1 / **0** / 0.001 line/step]

2182	**[Line Pos. Adj. Offset] DFU** (Color) M. Scan: Main scan, S. Scan: Sub-scan		
001	C Magnification	*ENG	Adjusts the line position manually. [-1 to 1 / **0** / 0.001%/step] When line shifts are not corrected by the automatic line position adjustment, do this SP. Increasing a value reduces the image in the main scan direction. Decreasing a value enlarges the
002	M Magnification	*ENG	
003	Y Magnification	*ENG	

			image in the main scan direction.
004	M. Scan: High: Dot: C	*ENG	[-511 to 511 / **0** / 1 dot/step]
005	M. Scan: High: Subdot: C	*ENG	[-15 to 15 / **0** / 1 pulse/step]
006	M. Scan: Medium: Dot: C	*ENG	[-511 to 511 / **0** / 1 dot/step]
007	M. Scan: Medium: Subdot: C	*ENG	[-15 to 15 / **0** / 1 pulse/step]
008	M. Scan: Low: Dot: C	*ENG	[-511 to 511 / **0** / 1 dot/step]
009	M. Scan: Low: Subdot: C	*ENG	[-15 to 15 / **0** / 1 pulse/step]
010	M. Scan: High: Dot: M	*ENG	[-511 to 511 / **0** / 1 dot/step]
011	M. Scan: High: Subdot: M	*ENG	[-15 to 15 / **0** / 1 pulse/step]
012	M. Scan: Medium: Dot: M	*ENG	[-511 to 511 / **0** / 1 dot/step]
013	M. Scan: Medium: Subdot: M	*ENG	[-15 to 15 / **0** / 1 pulse/step]
014	M. Scan: Low: Dot: M	*ENG	[-511 to 511 / **0** / 1 dot/step]
015	M. Scan: Low: Subdot: M	*ENG	[-15 to 15 / **0** / 1 pulse/step]
016	M. Scan: High: Dot: Y	*ENG	[-511 to 511 / **0** / 1 dot/step]
017	M. Scan: High: Subdot: Y	*ENG	[-15 to 15 / **0** / 1 pulse/step]
018	M. Scan: Medium: Dot: Y	*ENG	[-511 to 511 / **0** / 1 dot/step]
019	M. Scan: Medium: Subdot: Y	*ENG	[-15 to 15 / **0** / 1 pulse/step]
020	M. Scan: Low: Dot: Y	*ENG	[-511 to 511 / **0** / 1 dot/step]
021	M. Scan: Low: Subdot: Y	*ENG	[-15 to 15 / **0** / 1 pulse/step]
022	S. Scan: High: Dot: C	*ENG	[-800 to 800 / **0** / 1 line]
023	S. Scan: High: Subdot: C	*ENG	[–1 to 1 / **0** / 0.001 /line]
024	S. Scan: Medium: Dot: C	*ENG	[-800 to 800 / **0** / 1 line]
025	S. Scan: Medium: Subdot: C	*ENG	[–1 to 1 / **0** / 0.001 /line]
026	S. Scan: Low: Dot: C	*ENG	[-1600 to 1600 / **1** / 1 line]
027	S. Scan: Low: Subdot: C	*ENG	[–1 to 1 / **0** / 0.001 /line]

028	S. Scan: High: Dot: M	*ENG	[-800 to 800 / **0** / 1 line]
029	S. Scan: High: Subdot: M	*ENG	[–1 to 1 / **0** / 0.001 /line]
030	S. Scan: Medium: Dot: M	*ENG	[-800 to 800 / **0** / 1 line]
031	S. Scan: Medium: Subdot: M	*ENG	[–1 to 1 / **0** / 0.001 /line]
032	S. Scan: Low: Dot: M	*ENG	[-1600 to 1600 / **3** / 1 line]
033	S. Scan: Low: Subdot: M	*ENG	[–1 to 1 / **0** / 0.001 /line]
034	S. Scan: High: Dot: Y	*ENG	[-800 to 800 / **0** / 1 line]
035	S. Scan: High: Subdot: Y	*ENG	[–1 to 1 / **0** / 0.001 /line]
036	S. Scan: Medium: Dot: Y	*ENG	[-800 to 800 / **0** / 1 line]
037	S. Scan: Medium: Subdot: Y	*ENG	[–1 to 1 / **0** / 0.001 /line]
038	S. Scan: Low: Dot: Y	*ENG	[-1600 to 1600 / **5** / 1 line]
039	S. Scan: Low: Subdot: Y	*ENG	[–1 to 1 / **0** / 0.001 /line]

2190	[Line Pos. Adj. Mode] DFU		
001	Paper Int. Mag.: Subdot: Bk	*ENG	[0 or 1 / **1** / 1 boolean/step]
002	Paper Int. Mag.: Subdot: C	*ENG	
003	Paper Int. Mag.: Subdot: M	*ENG	
004	Paper Int. Mag.: Subdot: Y	*ENG	
005	M. Scan Mag.: Subdot: C	*ENG	[0 or 1 / **1** / 1 boolean /step] 0: Disable correction 1: Enable correction
006	M. Scan Mag.: Subdot: M	*ENG	
007	M. Scan Mag.: Subdot: Y	*ENG	
008	Area Mag.: Subdot: C	*ENG	[0 or 1 / **1** / 1 boolean /step]
009	Area Mag.: Subdot: M	*ENG	
010	Area Mag.: Subdot: Y	*ENG	
011	S. Scan Cor. Setting	*ENG	[0 or 1 / **0** / 1 boolean /step] 0: Adjusted with Bk 1: Adjusted in minimum shift among four colors

2191	**[MUSIC Coeff Setting] DFU** Position Adjustment: Coefficient Setting ch 0: ID sensor at rear, ch 1: ID sensor at center, ch 2: ID sensor at front		
001	ch 0: Filter: Front: a1	*ENG	[–131071 to 131071 / **125869** / 1 bit/step]
002	ch 0: Filter: Front: a2	*ENG	[–131071 to 131071 / **–60488** / 1 bit/step]
003	ch 0: Filter: Front: b0	*ENG	[–131071 to 131071 / **39** / 1 bit/step]
004	ch 0: Filter: Front: b1	*ENG	[–131071 to 131071 / **77** / 1 bit/step]
005	ch 0: Filter: Front: b2	*ENG	[–131071 to 131071 / **39** / 1 bit/step]
006	ch 0: Filter: Rear: a1	*ENG	[–131071 to 131071 / **128596** / 1 bit/step]
007	ch 0: Filter: Rear: a2	*ENG	[–131071 to 131071 / **–63398** / 1 bit/step]
008	ch 0: Filter: Rear: b0	*ENG	[–131071 to 131071 / **84** / 1 bit/step]
009	ch 0: Filter: Rear: b1	*ENG	[–131071 to 131071 / **168** / 1 bit/step]
010	ch 0: Filter: Rear: b2	*ENG	[–131071 to 131071 / **84** / 1 bit/step]
011	ch 1: Filter: Front: a1	*ENG	[–131071 to 131071 / **125869** / 1 bit/step]
012	ch 1: Filter: Front: a2	*ENG	[–131071 to 131071 / **–60488** / 1 bit/step]
013	ch 1: Filter: Front: b0	*ENG	[–131071 to 131071 / **39** / 1 bit/step]
014	ch 1: Filter: Front: b1	*ENG	[–131071 to 131071 / **77** / 1 bit/step]
015	ch 1: Filter: Front: b2	*ENG	[–131071 to 131071 / **39** / 1 bit/step]
016	ch 1: Filter: Rear: a1	*ENG	[–131071 to 131071 / **128596** / 1 bit/step]
017	ch 1: Filter: Rear: a2	*ENG	[–131071 to 131071 / **–63398** / 1 bit/step]
018	ch 1: Filter: Rear: b0	*ENG	[–131071 to 131071 / **84** / 1 bit/step]
019	ch 1: Filter: Rear: b1	*ENG	[–131071 to 131071 / **168** / 1 bit/step]
020	ch 1: Filter: Rear: b2	*ENG	[–131071 to 131071 / **84** / 1 bit/step]
021	ch 2: Filter: Front: a1	*ENG	[–131071 to 131071 / **125869** / 1 bit/step]
022	ch 2: Filter: Front: a2	*ENG	[–131071 to 131071 / **–60488** / 1 bit/step]

023	ch 2: Filter: Front: b0	*ENG	[–131071 to 131071 / **39** / 1 bit/step]
024	ch 2: Filter: Front: b1	*ENG	[–131071 to 131071 / **77** / 1 bit/step]
025	ch 2: Filter: Front: b2	*ENG	[–131071 to 131071 / **39** / 1 bit/step]
026	ch 2: Filter: Rear: a1	*ENG	[–131071 to 131071 / **128596** / 1 bit/step]
027	ch 2: Filter: Rear: a2	*ENG	[–131071 to 131071 / **–63398** / 1 bit/step]
028	ch 2: Filter: Rear: b0	*ENG	[–131071 to 131071 / **84** / 1 bit/step]
029	ch 2: Filter: Rear: b1	*ENG	[–131071 to 131071 / **168** / 1 bit/step]
030	ch 2: Filter: Rear: b2	*ENG	[–131071 to 131071 / **84** / 1 bit/step]
031	Q Format Selection	*ENG	[0 to 3 / **3** / 1/step]

2192	**[MUSIC Coeff Setting] DFU** Line Position Adjustment: Threshold Setting ch 0: ID sensor at rear, ch 1: ID sensor at center, ch 2: ID sensor at front		
001	ch 0: 1st	*ENG	
002	ch 0: 2nd	*ENG	
003	ch 0: 3rd	*ENG	
004	ch 0: 4th	*ENG	
⇒ 005	ch 1: 1st	*ENG	[0.5 to 3 / **1.2** / 0.1 V/step] **NOTE:** The default value was changed from 1.4V to 1.2V with Engine Firmware version 1.04:02 to avoid unnecessary occurrences of SC285 (MUSIC error).
006	ch 1: 2nd	*ENG	
007	ch 1: 3rd	*ENG	
008	ch 1: 4th	*ENG	
009	ch 2: 1st	*ENG	
010	ch 2: 2nd	*ENG	
011	ch 2: 3rd	*ENG	
012	ch 2: 4th	*ENG	

2193	**[MUSIC Condition] DFU** Line Position Adjustment: Condition Setting		
001	Auto Execution	*ENG	[0 or 1 / **1** / 1] 0: OFF, 1: ON
	Enables/disables the automatic line position adjustment.		
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.		
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.		
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.		
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.		
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.		
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.		
008	Temp Change	*ENG	[0 to 100 / **5** / 1 deg/step]
	Adjust 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.		
009	Elapse Time	*ENG	[1 to 1440 / **300** / 1 minute/step]
	Adjust 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.		
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.		
011	Temp Change 2	*ENG	[0 to 100 / **10** / 1 deg/step]
	Adjust 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.		
012	Time 2	*ENG	[1 to 9999 / **600** / 1 minute/step]
	Adjust 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.		
013	Time 3	*ENG	[1 to 1440 / **300** / 1 minute/step]
014	Page: Full Color Job Before: BW+FC	*ENG	[0 to 999 / **200** / 1 page/step]
015	Page: Full Color Job Before: FC	*ENG	[0 to 999 / **200** / 1 page/step]
016	Page: Power ON:BW+FC	*ENG	[0 to 999 / **200** / 1 page/step]

2194	**[MUSIC Exe Result]** Line Position Adjustment: Execution Result		
001	Year	*ENG	[0 to 99 / **0** / 1 year/step]
002	Month	*ENG	[1 to 12 / **1** / 1 month/step]
003	Day	*ENG	[1 to 31 / **1** / 1 day/step]
004	Hour	*ENG	[0 to 23 / **0** / 1 hour/step]
005	Minute	*ENG	[0 to 59 / **0** / 1 minute/step]
006	Temperature	*ENG	[0 to 100 / **0** / 1 deg/step]
007	Execution Result	*ENG	[0 or 1 / **0** / 1 /step] 0: Completed successfully, 1: Failed
008	Number of Execution	*ENG	[0 to 999999 / **0** / 1 times/step]
009	Number of Failure	*ENG	[0 to 999999 / **0** / 1 times/step]
010	Error Result: C	*ENG	[0 to 9 / **0** / 1 /step] 0: Not done 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
011	Error Result: M	*ENG	
012	Error Result: Y	*ENG	

2197	**[MUSIC Start Time]**		
	DFU		
001	Start Time	*ENG	[10 to 40 / **20** / 10 ms/step]
002	TM Sensor Position	*ENG	[100 to 150 / **114.6** / 0.1 mm/step]

2198	**[Music A/D Interval] DFU**		
001	ADC Trigger	*ENG	[7.5 to 20 / **10** / 0.1 μs/step]

2199	**[Music Time Setting] DFU**		
001	Error Time Set	*ENG	[0.1 to 9.9 / **3** / 0.1 sec /step]

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.		
001	C:Skew Motor	*ENG	-
002	M:Skew Motor	*ENG	
003	Y:Skew Motor	*ENG	

2229	**[Dev. DC Bias:Fixed] DFU** Development DC Bias Adjustment		
	Adjusts the development bias. Development bias is automatically adjusted during process control; therefore, adjusting these settings has no effect while Process Control (SP3-041-001 Default: ON) is activated. After deactivating Process Control with SP3-041-001, the values in these SP modes are used for printing.		
001	Bk	*ENG	[0 to 800 / **450** / 1 –V/step]
002	C	*ENG	
003	M	*ENG	
004	Y	*ENG	

2241	**[Ambient Temp/Hum:Display]**		
	Displays the environment temperature and humidity.		
001	Temperature	-	[–1280 to 1270 / **0** / 0.1 deg/step]
002	Relative Humidity	-	[0 to 1000 / **0** / 0.1 %RH/step]
003	Absolute Humidity	-	[0 to 100 / **0** / 0.01 g/m^3/step]

2302	**[Env. Correct:Transfer] DFU** Environmental Correction: Image Transfer Belt Unit		
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)		
003	Absolute Humidity: Threshold 1	*ENG	[0 to 100 / **4** / 0.01 g/m^3/step]
	Adjusts the threshold value between LL and ML.		
004	Absolute Humidity: Threshold 2	*ENG	[0 to 100 / **8** / 0.01 g/m^3/step]
	Adjusts the threshold value between ML and MM.		
005	Absolute Humidity: Threshold 3	*ENG	[0 to 100 / **16** / 0.01 g/m^3/step]
	Adjusts the threshold value between MM and MH.		
006	Absolute Humidity: Threshold 4	*ENG	[0 to 100 / **24** / 0.01 g/m^3/step]
	Adjusts the threshold value between MH and HH.		

007	Temperature: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	**[Paper Size Correction] DFU**		
	Adjusts the threshold value for the paper size correction.		
001	Threshold 1	*ENG	[0 to 250 / **194** / 1 mm/step] Threshold 1 ≤ paper: Paper is detected as "S1" size.
002	Threshold 2	*ENG	[0 to 250 / **165** / 1 mm/step] Threshold 2 ≤ paper ≤ Threshold 1: Paper is detected as "S2" size.
003	Threshold 3	*ENG	[0 to 250 / **139** / 1 mm/step] Threshold 3 ≤ paper ≤ Threshold 2: Paper is detected as "S3" size.

2311	**[Non Image Area: Bias] DFU**		
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]
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**		
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	**[Paper Transfer Roller CL: Bias] DFU** Paper Transfer Roller Cleaning: Bias Adjustment		
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.		
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.		
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.		
004	Negative:after JAM	*ENG	[10 to 995 / **100** / 10 %/step]

2351	**[Common: BW: Bias]** Image Transfer Belt: B/W: Bias Adjustment Standard: 260 mm/sec, Middle: 182 mm/sec, Low: 85 mm/sec		
001	Image Transfer:Standard Speed	*ENG	[0 to 80 / **26** / 1 µA]
	Adjusts the current for the image transfer belt in B/W mode for plain paper.		
002	Image Transfer:Middle Speed	*ENG	[0 to 80 / **17** / 1 µA]
	Adjusts the current for the image transfer belt in B/W mode for M-Thick paper.		
003	Image Transfer:Low Speed	*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** Image Transfer Belt: Full Color: Bias Adjustment Standard: 260 mm/sec, Middle: 182 mm/sec, Low: 85 mm/sec		
001	Image Transfer: Standard 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.		
002	Image Transfer:: Standard 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.		
003	Image Transfer: Standard 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.		
004	Image Transfer: Standard 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.		
005	Image Transfer: Middle Spd: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.		
006	Image Transfer: Middle Spd: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.		
007	Image Transfer: Middle Spd: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.		
008	Image Transfer: Middle Spd: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.		

009	Image Transfer: Low Speed: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.		
010	Image Transfer: Low Speed: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.		
011	Image Transfer: Low Speed: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.		
012	Image Transfer: Low Speed: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 Env. Correction Table] DFU**		
001	Image Transfer: Standard Spd	*ENG	[1 to 100 / **30** / 1 /step]
002	Image Transfer: Middle Spd	*ENG	[1 to 100 / **53** / 1 /step]
003	Image Transfer: Low Spd	*ENG	[1 to 100 / **56** / 1 /step]
[Common: FC Env. Correction Table] DFU			
004	Image Transfer: Standard Spd:BK	*ENG	[1 to 100 / **30** / 1 /step]
005	Image Transfer: Standard Spd: C	*ENG	[1 to 100 / **51** / 1 /step]
006	Image Transfer: Standard Spd:M	*ENG	[1 to 100 / **51** / 1 /step]
007	Image Transfer:: Standard Spd:Y	*ENG	[1 to 100 / **52** / 1 /step]
008	Image Transfer: Middle Spd:BK	*ENG	[1 to 100 / **53** / 1 /step]
009	Image Transfer: Middle Spd:C	*ENG	[1 to 100 / **54** / 1 /step]
010	Image Transfer: Middle Spd:M	*ENG	[1 to 100 / **54** / 1 /step]
011	Image Transfer: Middle Spd:Y	*ENG	[1 to 100 / **55** / 1 /step]

012	Image Transfer: Low Spd:Bk	*ENG	[1 to 100 / **57** / 1 /step]
013	Image Transfer: Low Spd:C	*ENG	[1 to 100 / **58** / 1 /step]
014	Image Transfer: Low Spd:M	*ENG	[1 to 100 / **58** / 1 /step]
015	Image Transfer: 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. Standard: 260 mm/sec, Low: 85 mm/sec		
001	Separation DC: Standard-Spd: 1st	*ENG	[0 to 6000 / **2000** / 10 -V/step]
002	Separation DC: Standard-Spd: 2nd	*ENG	
003	Separation DC: Low-Spd: 1st	*ENG	
004	Separation DC: Low-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		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 230 / **21** / 1 –μA /step]
002	Paper Transfer: Normal: 2nd	*ENG	[0 to 230 / **23** / 1 –μA /step]
003	Paper Transfer: Low: 1st	*ENG	[0 to 230 / **15** / 1 –μA /step]
004	Paper Transfer: 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		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 230 / **38** / 1 –µA /step]
002	Paper Transfer: Normal: 2nd	*ENG	[0 to 230 / **40** / 1 –µA /step]
003	Paper Transfer: Low: 1st	*ENG	[0 to 230 / **21** / 1 –µA /step]
004	Paper Transfer: Low: 2nd	*ENG	[0 to 230 / **18** / 1 –µA /step]

2411	**[Plain-T:SizeCorrect: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		
001	Paper Transfer: Normal: 1st: S1	*ENG	[100 to 995 / **100** / 5%/step] S1 size ≥ 194 mm (Paper width)
002	Paper Transfer: Normal: 2nd: S1	*ENG	
003	Paper Transfer: Low: 1st: S1	*ENG	
004	Paper Transfer: Low: 2nd: S1	*ENG	
005	Paper Transfer: Normal: 1st: S2	*ENG	[100 to 995 / **135** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
006	Paper Transfer: Normal: 2nd: S2	*ENG	[100 to 995 / **200** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
007	Paper Transfer: Low: 1st: S2	*ENG	[100 to 995 / **135** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
008	Paper Transfer: Low : 2nd:S2	*ENG	[100 to 995 / **200** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)

009	Paper Transfer: Normal: 1st: S3	*ENG	[100 to 995 / **135** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
010	Paper Transfer: Normal: 2nd: S3	*ENG	[100 to 995 / **390** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
011	Paper Transfer: Low: 1st: S3	*ENG	[100 to 995 / **135** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
012	Paper Transfer: Low 2nd:S3	*ENG	[100 to 995 / **390** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
013	Paper Transfer: Normal: 1st: S4	*ENG	[100 to 995 / **220** / 5%/step] 139 mm > S4 size (Paper width)
014	Paper Transfer: Normal: 2nd: S4	*ENG	[100 to 995 / **330** / 5%/step] 139 mm > S4 size (Paper width)
015	PaperTransfer: Low:1st:S4	*ENG	[100 to 995 / **220** / 5%/step] 139 mm > S4 size (Paper width)
016	Paper Transfer: Low 2nd: S4	*ENG	[100 to 995 / **330** / 5%/step] 139 mm > S4 size (Paper width)

2412	**[Plain-T:SizeCorrect: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		
001	Paper Transfer: Normal: 1st: S1	*ENG	[100 to 995 / **100** / 5%/step] S1 size ≥ 194 mm (Paper width)
002	Paper Transfer: Normal: 2nd: S1	*ENG	
003	Paper Transfer: Low: 1st: S1	*ENG	
004	Paper Transfer: Low: 2nd: S1	*ENG	
005	Paper Transfer: Normal: 1st: S2	*ENG	[100 to 995 / **135** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
006	Paper Transfer: Normal: 2nd: S2	*ENG	[100 to 995 / **200** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
007	Paper Transfer: Low: 1st: S2	*ENG	[100 to 995 / **135** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
008	Paper Transfer: Low : 2nd:S2	*ENG	[100 to 995 / **200** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
009	Paper Transfer: Normal: 1st: S3	*ENG	[100 to 995 / **135** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
010	Paper Transfer: Normal: 2nd: S3	*ENG	[100 to 995 / **325** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
011	Paper Transfer: Low: 1st: S3	*ENG	[100 to 995 / **135** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)

012	Paper Transfer: Low 2nd:S3	*ENG	[100 to 995 / **100** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
013	Paper Transfer: Normal: 1st: S4	*ENG	[100 to 995 / **220** / 5%/step] 139 mm > S4 (Paper width)
014	Paper Transfer: Normal: 2nd: S4	*ENG	[100 to 995 / **330** / 5%/step] 139 mm > S4 (Paper width)
015	Paper Transfer: Low: 1st: S4	*ENG	[100 to 995 / **220** / 5%/step] 139 mm > S4 (Paper width)
016	Paper Transfer: Low: 2nd: S4	*ENG	[100 to 995 / **330** / 5%/step] 139 mm > S4 (Paper width)

2413	**[Pain-T:Size-Env.Correct: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		
001	Paper Transfer: Normal: 1st: S1	*ENG	[1 to 100 / **19** / 1/step] S1 size ≥ 194 mm (Paper width)
002	Paper Transfer: Normal: 2nd: S1	*ENG	[1 to 100 / **14** / 1/step] S1 size ≥ 194 mm (Paper width)
003	Paper Transfer: Low: 1st: S1	*ENG	[1 to 100 / **38** / 1/step] S1 size ≥ 194 mm (Paper width)
004	Paper Transfer: Low: 2nd: S1	*ENG	[1 to 100 / **11** / 1/step] S1 size ≥ 194 mm (Paper width)
005	Paper Transfer: Normal: 1st: S2	*ENG	[1 to 100 / **19** / 1/step] 194 mm > S2 size ≥ 165 mm (Paper width)

006	Paper Transfer: Normal: 2nd: S2	*ENG	[1 to 100 / **14** / 1/step] 194 mm > S2 size ≥ 165 mm (Paper width)
007	Paper Transfer: Low: 1st: S2	*ENG	[1 to 100 / **38** / 1/step] 194 mm > S2 size ≥ 165 mm (Paper width)
008	Paper Transfer: Low : 2nd:S2	*ENG	[1 to 100 / **11** / 1/step] 194 mm > S2 size ≥ 165 mm (Paper width)
009	Paper Transfer: Normal: 1st: S3	*ENG	[1 to 100 / **19** / 1/step] 165 mm > S3 size ≥ 139 mm (Paper width)
010	Paper Transfer: Normal: 2nd: S3	*ENG	[1 to 100 / **6** / 1/step] 165 mm > S3 size ≥ 139 mm (Paper width)
011	Paper Transfer: Low: 1st: S3	*ENG	[1 to 100 / **38** / 1/step] 165 mm > S3 size ≥ 139 mm (Paper width)
012	Paper Transfer: Low 2nd:S3	*ENG	[1 to 100 / **3** / 1/step] 165 mm > S3 size ≥ 139 mm (Paper width)
013	Paper Transfer: Normal: 1st: S4	*ENG	[1 to 100 / **19** / 1/step] 139 mm > S4 (Paper width)
014	Paper Transfer: Normal: 2nd: S4	*ENG	[1 to 100 / **14** / 1/step] 139 mm > S4 (Paper width)
015	Paper Transfer: Low: 1st: S4	*ENG	[1 to 100 / **38** / 1/step] 139 mm > S4 (Paper width)
016	Paper Transfer: Low: 2nd: S4	*ENG	[1 to 100 / **11** / 1/step] 139 mm > S4 (Paper width)

2414	**[Pain-T:Size-Env.Correct: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		
001	Paper Transfer: Normal: 1st: S1	*ENG	[1 to 100 / **22** / 1/step] S1 size ≥ 194 mm (Paper width)
002	Paper Transfer: Normal: 2nd: S1	*ENG	[1 to 100 / **17** / 1/step] S1 size ≥ 194 mm (Paper width)
003	Paper Transfer: Low: 1st: S1	*ENG	[1 to 100 / **35** / 1/step] S1 size ≥ 194 mm (Paper width)
004	Paper Transfer: Low: 2nd: S1	*ENG	[1 to 100 / **33** / 1/step] S1 size ≥ 194 mm (Paper width)
005	Paper Transfer: Normal: 1st: S2	*ENG	[1 to 100 / **11** / 1/step] 194 mm > S2 size ≥ 165 mm (Paper width)
006	Paper Transfer: Normal: 2nd: S2	*ENG	[1 to 100 / **16** / 1/step] 194 mm > S2 size ≥ 165 mm (Paper width)
007	Paper Transfer: Low: 1st: S2	*ENG	[1 to 100 / **35** / 1/step] 194 mm > S2 size ≥ 165 mm (Paper width)
008	Paper Transfer: Low : 2nd:S2	*ENG	[1 to 100 / **33** / 1/step] 194 mm > S2 size ≥ 165 mm (Paper width)
009	Paper Transfer: Normal: 1st: S3	*ENG	[1 to 100 / **11** / 1/step] 165 mm > S3 size ≥ 139 mm (Paper width)

010	Paper Transfer: Normal: 2nd: S3	*ENG	[1 to 100 / **4** / 1/step] 165 mm > S3 size ≥ 139 mm (Paper width)
011	Paper Transfer: Low: 1st: S3	*ENG	[1 to 100 / **36** / 1/step] 165 mm > S3 size ≥ 139 mm (Paper width)
012	Paper Transfer: Low 2nd:S3	*ENG	[1 to 100 / **77** / 1/step] 165 mm > S3 size ≥ 139 mm (Paper width)
013	Paper Transfer: Normal: 1st: S4	*ENG	[1 to 100 / **22** / 1/step] 139 mm > S4 (Paper width)
014	Paper Transfer: Normal: 2nd: S4	*ENG	[1 to 100 / **79** / 1/step] 139 mm > S4 (Paper width)
015	Paper Transfer: Low: 1st: S4	*ENG	[1 to 100 / **35** / 1/step] 139 mm > S4 (Paper width)
016	Paper Transfer: Low: 2st: S4	*ENG	[1 to 100 / **78** / 1/step] 139 mm > S4 (Paper width)

2421	**[Plain:L-Edge Correction] DFU**		
	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. Normal: 260 mm/sec, Low: 85 mm/sec Note ▪ The paper leading edge area can be adjusted with SP2422.		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 995 / **100** / 5%/step]
002	Paper Transfer: Normal: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: Low: 2nd	*ENG	
005	Separation DC: Normal: 1st	*ENG	
006	Separation DC: Normal: 2nd	*ENG	
007	Separation DC: Low: 1st	*ENG	
008	Separation DC: Low: 2nd	*ENG	

2422	**[Plain: Switch Timing: L-Edge] 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. Normal: 260 mm/sec, Low: 85 mm/sec		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 50 / **0** / 2 mm/step]
002	Paper Transfer: Normal: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: Low: 2nd	*ENG	
005	Separation DC: Normal: 1st	*ENG	
006	Separation DC: Normal: 2nd	*ENG	
007	Separation DC: Low: 1st	*ENG	
008	Separation DC: Low: 2nd	*ENG	

2423	**[Plain: T-Edge Correction] DFU** Plain Paper: Trailing Edge Correction		
	Adjusts the correction coefficient to the paper transfer roller current for the paper trailing edge in each mode. SP2403 and SP2407 are multiplied by these SP values. Normal: 260 mm/sec, Low: 85 mm/sec Note ▪ The paper trailing edge area can be adjusted with SP2424.		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 995 / **100** / 5 %/step]
002	Paper Transfer: Normal: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: Low: 2nd	*ENG	
005	Separation DC: Normal: 1st	*ENG	
006	Separation DC: Normal: 2nd	*ENG	

007	Separation DC: Low: 1st	*ENG	
008	Separation DC: Low: 2nd	*ENG	

2424	**[Plain: Switch Timing: T-Edge] 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. Normal: 260 mm/sec, Low: 85 mm/sec		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 50 / **0** / 2 mm/step]
002	Paper Transfer: Normal: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: Low: 2nd	*ENG	
005	Separation DC: Normal: 1st	*ENG	
006	Separation DC: Normal: 2nd	*ENG	
007	Separation DC: Low: 1st	*ENG	
008	Separation DC: Low: 2nd	*ENG	

2425	**[HH-Small: L-Edge Correction]**		
001	Paper Transfer: Standard & Low: 1	*ENG	[0 to 995 / **100** / 5 %/step]
002	Paper Transfer: Standard & Low: 2	*ENG	

2430	**[Plain1: Env. Correct Table] DFU**		
013	Separation DC: Standard: 1st	*ENG	[1 to 100 / **30** / 1 /step]
014	Separation DC: Standard: 2nd	*ENG	
015	Separation DC: Low: 1st	*ENG	
016	Separation DC: Low: 2nd	*ENG	
[Plain: Env. Correct Edge] DFU			
017	Separation DC: Standard: 1st	*ENG	[1 to 100 / **50** / 1 /step]
018	Separation DC: Standard: 2nd	*ENG	
019	Separation DC: Low: 1st	*ENG	
020	Separation DC: Low: 2nd	*ENG	

2439	**[Plain2: Bias]**		
	Adjusts the DC voltage of the discharge plate for plain2 paper. Standard: 260 mm/sec, Low: 85mm/sec		
001	Separation DC: Standard Spd: 1st	*ENG	[0 to 6000 / **2000** / 10 -V/step]
002	Separation DC: Standard Spd: 2nd	*ENG	
003	Separation DC: Low Spd: 1st	*ENG	
004	Separation DC: Low Spd: 2nd	*ENG	

2440	**[Plain2: Bias: BW]**		
	Adjusts the current for the paper transfer roller for plain2 paper in black-and-white mode. Standard: 260 mm/sec, Low: 85mm/sec		
001	Paper Transfer: Standard Spd: 1st	*ENG	[0 to 230 / **21** / 1 -µA /step]
002	Paper Transfer: Standard Spd: 2nd	*ENG	[0 to 230 / **23** / 1 -µA /step]
003	Paper Transfer: Low Spd: 1st	*ENG	[0 to 230 / **15** / 1 -µA /step]
004	Paper Transfer: Low Spd: 2nd	*ENG	

2441	**[Plain2: Bias: FC]**		
	Adjusts the current for the paper transfer roller for plain2 paper in full color mode. Standard: 260 mm/sec, Low: 85mm/sec		
001	Paper Transfer: Standard Spd: 1st	*ENG	[0 to 230 / **38** / 1 -µA /step]
002	Paper Transfer: Standard Spd: 2nd	*ENG	[0 to 230 / **40** / 1 -µA /step]
003	Paper Transfer: Low Spd: 1st	*ENG	[0 to 230 / **21** / 1 -µA /step]
004	Paper Transfer: Low Spd: 2nd	*ENG	[0 to 230 / **18** / 1 -µA /step]

2442	**[Plain2: Size Correct: BW] DFU**		
	Adjusts the size correction coefficient 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		
001	Paper Transfer: Standard: 1Side: S1	*ENG	[100 to 995 / **100** / 5 %/step] S1 size ≥ 194 mm (Paper width)
002	Paper Transfer: Standard: 2Side: S1	*ENG	
003	Paper Transfer: Low: 1: S1	*ENG	
004	Paper Transfer: Low: 2: S1	*ENG	

005	Paper Transfer: Standard: 1Side: S2	*ENG	[100 to 995 / **135** / 5 %/step] 194 mm > S2 size ≥ 165 mm (Paper width)
006	Paper Transfer: Standard: 2Side: S2	*ENG	[100 to 995 / **200** / 5 %/step] 194 mm > S2 size ≥ 165 mm (Paper width)
007	Paper Transfer: Low: 1: S2	*ENG	[100 to 995 / **135** / 5 %/step] 194 mm > S2 size ≥ 165 mm (Paper width)
008	Paper Transfer: Low: 2: S2	*ENG	[100 to 995 / **200** / 5 %/step] 194 mm > S2 size ≥ 165 mm (Paper width)
009	Paper Transfer: Standard: 1Side: S3	*ENG	[100 to 995 / **135** / 5 %/step] 165 mm > S3 size ≥ 139 mm (Paper width)
010	Paper Transfer: Standard: 2Side: S3	*ENG	[100 to 995 / **390** / 5 %/step] 165 mm > S3 size ≥ 139 mm (Paper width)
011	Paper Transfer: Low: 1: S3	*ENG	[100 to 995 / **135** / 5 %/step] 165 mm > S3 size ≥ 139 mm (Paper width)
012	Paper Transfer: Low: 2: S3	*ENG	[100 to 995 / **390** / 5 %/step] 165 mm > S3 size ≥ 139 mm (Paper width)
013	Paper Transfer: Standard: 1Side: S4	*ENG	[100 to 995 / **220** / 5 %/step] 139 mm > S4 (Paper width)
014	Paper Transfer: Standard: 2Side: S4	*ENG	[100 to 995 / **330** / 5 %/step] 139 mm > S4 (Paper width)
015	Paper Transfer: Low: 1: S4	*ENG	[100 to 995 / **220** / 5 %/step] 139 mm > S4 (Paper width)
016	Paper Transfer: Low: 2: S4	*ENG	[100 to 995 / **330** / 5 %/step] 139 mm > S4 (Paper width)

2443	**[Plain2: Size Correct: FC] DFU**		
	Adjusts the size correction coefficient 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		
001	Paper Transfer: Standard: 1Side: S1	*ENG	[100 to 995 / **100** / 5 %/step] S1 size ≥ 194 mm (Paper width)
002	Paper Transfer: Standard: 2Side: S1	*ENG	
003	Paper Transfer: Low: 1: S1	*ENG	
004	Paper Transfer: Low: 2: S1	*ENG	
005	Paper Transfer: Standard: 1Side: S2	*ENG	[100 to 995 / **135** / 5 %/step] 194 mm > S2 size ≥ 165 mm (Paper width)
006	Paper Transfer: Standard: 2Side: S2	*ENG	[100 to 995 / **200** / 5 %/step] 194 mm > S2 size ≥ 165 mm (Paper width)
007	Paper Transfer: Low: 1: S2	*ENG	[100 to 995 / **135** / 5 %/step] 194 mm > S2 size ≥ 165 mm (Paper width)
008	Paper Transfer: Low: 2: S2	*ENG	[100 to 995 / **200** / 5 %/step] 194 mm > S2 size ≥ 165 mm (Paper width)
009	Paper Transfer: Standard: 1Side: S3	*ENG	[100 to 995 / **135** / 5 %/step] 165 mm > S3 size ≥ 139 mm (Paper width)
010	Paper Transfer: Standard: 2Side: S3	*ENG	[100 to 995 / **325** / 5 %/step] 165 mm > S3 size ≥ 139 mm (Paper width)

011	Paper Transfer: Low: 1: S3	*ENG	[100 to 995 / **135** / 5 %/step] 165 mm > S3 size ≥ 139 mm (Paper width)
012	Paper Transfer: Low: 2: S3	*ENG	[100 to 995 / **325** / 5 %/step] 165 mm > S3 size ≥ 139 mm (Paper width)
013	Paper Transfer: Standard: 1Side: S4	*ENG	[100 to 995 / **220** / 5 %/step] 139 mm > S4 (Paper width)
014	Paper Transfer: Standard: 2Side: S4	*ENG	[100 to 995 / **330** / 5 %/step] 139 mm > S4 (Paper width)
015	Paper Transfer: Low: 1: S4	*ENG	[100 to 995 / **220** / 5 %/step] 139 mm > S4 (Paper width)
016	Paper Transfer: Low: 2: S4	*ENG	[100 to 995 / **330** / 5 %/step] 139 mm > S4 (Paper width)

2444	**[Plain2: Size Env Correct: BW] DFU**		
	Adjusts the size correction coefficient table 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		
001	Paper Transfer: Standard: 1Side: S1	*ENG	[1 to 100 / **19** / 1 /step] S1 size ≥ 194 mm (Paper width)
002	Paper Transfer: Standard: 2Side: S1	*ENG	[1 to 100 / **8** / 1 /step] S1 size ≥ 194 mm (Paper width)
003	Paper Transfer: Low: 1: S1	*ENG	
004	Paper Transfer: Low: 2: S1	*ENG	
005	Paper Transfer: Standard: 1Side: S2	*ENG	[1 to 100 / **19** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
006	Paper Transfer: Standard: 2Side: S2	*ENG	[1 to 100 / **8** / 1 /step] 194 mm > S2 size ≥ 165 mm

007	Paper Transfer: Low: 1: S2	*ENG	(Paper width)
008	Paper Transfer: Low: 2: S2	*ENG	
009	Paper Transfer: Standard: 1Side: S3	*ENG	[1 to 100 / **19** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
010	Paper Transfer: Standard: 2Side: S3	*ENG	[1 to 100 / **4** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
011	Paper Transfer: Low: 1: S3	*ENG	[1 to 100 / **8** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
012	Paper Transfer: Low: 2: S3	*ENG	[1 to 100 / **4** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
013	Paper Transfer: Standard: 1Side: S4	*ENG	[1 to 100 / **19** / 1 /step] 139 mm > S4 (Paper width)
014	Paper Transfer: Standard: 2Side: S4	*ENG	[1 to 100 / **8** / 1 /step] 139 mm > S4 (Paper width)
015	Paper Transfer: Low: 1: S4	*ENG	
016	Paper Transfer: Low: 2: S4	*ENG	

2445	**[Plain2: Size Env Correct: FC] DFU**		
	Adjusts the size correction coefficient table 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		
001	Paper Transfer: Standard: 1Side: S1	*ENG	[1 to 100 / **32** / 1 /step] S1 size ≥ 194 mm (Paper width)
002	Paper Transfer: Standard: 2Side: S1	*ENG	[1 to 100 / **39** / 1 /step] S1 size ≥ 194 mm (Paper width)
003	Paper Transfer: Low: 1: S1	*ENG	[1 to 100 / **35** / 1 /step] S1 size ≥ 194 mm (Paper width)
004	Paper Transfer: Low: 2: S1	*ENG	[1 to 100 / **31** / 1 /step] S1 size ≥ 194 mm (Paper width)
005	Paper Transfer: Standard: 1Side: S2	*ENG	[1 to 100 / **17** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
006	Paper Transfer: Standard: 2Side: S2	*ENG	[1 to 100 / **38** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
007	Paper Transfer: Low: 1: S2	*ENG	[1 to 100 / **35** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
008	Paper Transfer: Low: 2: S2	*ENG	[1 to 100 / **29** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
009	Paper Transfer: Standard: 1Side: S3	*ENG	[1 to 100 / **17** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
010	Paper Transfer: Standard: 2Side: S3	*ENG	[1 to 100 / **16** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)

011	Paper Transfer: Low: 1: S3	*ENG	[1 to 100 / **35** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
012	Paper Transfer: Low: 2: S3	*ENG	[1 to 100 / **28** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
013	Paper Transfer: Standard: 1Side: S4	*ENG	[1 to 100 / **32** / 1 /step] 139 mm > S4 (Paper width)
014	Paper Transfer: Standard: 2Side: S4	*ENG	[1 to 100 / **39** / 1 /step] 139 mm > S4 (Paper width)
015	Paper Transfer: Low: 1: S4	*ENG	[1 to 100 / **35** / 1 /step] 139 mm > S4 (Paper width)
016	Paper Transfer: Low: 2: S4	*ENG	[1 to 100 / **31** / 1 /step] 139 mm > S4 (Paper width)

2446	**[Plain2: LE Correct] DFU**		
	Adjusts the correction to the paper transfer roller current at the paper leading edge in each mode. SP2440 and SP2441 are multiplied by these SP values. Standard: 260 mm/sec, Low: 85mm/sec Note ▪ The paper leading edge area can be adjusted with SP2447.		
001	Paper Transfer: Standard: 1	*ENG	[0 to 995 / **100** / 5 %/step]
002	Paper Transfer: Standard: 2	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: Low: 2nd	*ENG	
005	Separation DC: Standard: 1st	*ENG	
006	Separation DC: Standard: 2nd	*ENG	
007	Separation DC: Low: 1st	*ENG	
008	Separation DC: Low: 2nd	*ENG	

2447	**[Plain2: SW Timing: 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: 85mm/sec		
001	Paper Transfer: Standard: 1st	*ENG	[0 to 50 / **0** / 2 mm/step]
002	Paper Transfer: Standard: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: Low: 2nd	*ENG	
005	Separation DC: Standard: 1st	*ENG	
006	Separation DC: Standard: 2nd	*ENG	
007	Separation DC: Low: 1st	*ENG	
008	Separation DC: Low: 2nd	*ENG	

2448	**[Plain2: TE Correct] DFU** Plain2 Paper: Trailing Edge Correction		
	Adjusts the correction coefficient to the paper transfer roller current for the paper trailing edge in each mode. SP2440 and SP2441 are multiplied by these SP values. Standard: 260 mm/sec, Low: 85mm/sec Note ▪ The paper trailing edge area can be adjusted with SP2449.		
001	Paper Transfer: Standard: 1	*ENG	[0 to 995 / **100** / 5 %/step]
002	Paper Transfer: Standard: 2	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: Low: 2nd	*ENG	
005	Separation DC: Standard: 1st	*ENG	
006	Separation DC: Standard: 2nd	*ENG	

007	Separation DC: Low: 1st	*ENG	
008	Separation DC: Low: 2nd	*ENG	

2449	**[Plain2: SW Timing: 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: 85mm/sec		
001	Paper Transfer: Standard: 1st	*ENG	[0 to 50 / **0** / 2 mm/step]
002	Paper Transfer: Standard: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: Low: 2nd	*ENG	
005	Separation DC: Standard: 1st	*ENG	
006	Separation DC: Standard: 2nd	*ENG	
007	Separation DC: Low: 1st	*ENG	
008	Separation DC: Low: 2nd	*ENG	

2450	**[Plain2: Env Correct Table]**		
013	Separation DC: Standard: 1st	*ENG	[1 to 100 / **30** / 1 /step]
014	Separation DC: Standard: 2nd	*ENG	
015	Separation DC: Low: 1st	*ENG	
016	Separation DC: Low: 2nd	*ENG	
[Plain2: Env Correct Edge]			
017	Separation DC: Standard: 1st	*ENG	[1 to 100 / **50** / 1 /step]
018	Separation DC: Standard: 2nd	*ENG	
019	Separation DC: Low: 1st	*ENG	
020	Separation DC: 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		
001	Separation DC: Standard Spd: 1st	*ENG	[0 to 6000 / 2000 / 10 -V /step
003	Separation DC: Low Spd: 1st	*ENG	

2453	**[Thin: Bias: BW]**		
	Adjusts the current for the paper transfer roller for thin paper in black-and-white mode. Normal: 260 mm/sec, Low: 85 mm/sec		
001	Paper Transfer: Standard: 1st	*ENG	[0 to 230 / **23** / 1 –μA /step]
003	Paper Transfer: Low: 1st	*ENG	[0 to 230 / **12** / 1 –μA /step]

2457	**[Thin: Bias: FC]**
	Adjusts the current for the paper transfer roller for thin paper in full color mode. Normal: 260 mm/sec, Low: 85 mm/sec

001	Paper Transfer: Standard: 1st	*ENG	[0 to 230 / **29** / 1 –μA /step]
003	Paper Transfer: Low: 1st	*ENG	[0 to 230 / **18** / 1 –μA /step]

2461	**[Thin: Paper Size Correction] DFU**		
	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2453 and SP2457 are multiplied by these SP values. Standard: 260 mm/sec, Low: 85mm/sec		
001	Paper Transfer: Standard: 1Side: S1	*ENG	[100 to 995 / **100** / 5% /step] S1 size ≥ 194 mm (Paper width)
003	Paper Transfer: Low: 1: S1	*ENG	[100 to 995 / **100** / 5% /step] S1 size ≥ 194 mm (Paper width)
005	Paper Transfer: Standard: 1Side: S2	*ENG	[100 to 995 / **135** / 5% /step] 194 mm > S2 size ≥ 165 mm (Paper width)
007	Paper Transfer: Low: 1: S2	*ENG	[100 to 995 / **135** / 5% /step] 194 mm > S2 size ≥ 165 mm (Paper width)
009	Paper Transfer: Standard: 1Side: S3	*ENG	[100 to 600 / **140** / 5% /step] 165 mm > S3 size ≥ 139 mm (Paper width)
011	Paper Transfer: Low: 1: S3	*ENG	[100 to 995 / **135** / 5% /step] 165 mm > S3 size ≥ 139 mm (Paper width)
013	Paper Transfer: Standard: 1Side: S4	*ENG	[100 to 995 / **220** / 5% /step] 139 mm > S4 (Paper width)
015	Paper Transfer: Low: 1: S4	*ENG	[100 to 995 / **220** / 5% /step] 139 mm > S4 (Paper width)

2462	**[Thin: Size Correct: FC] DFU**		
	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2453 and SP2457 are multiplied by these SP values. Standard: 260 mm/sec, Low: 85mm/sec		
001	Paper Transfer: Standard: 1Side: S1	*ENG	[100 to 995 / **100** / 5% /step] S1 size ≥ 194 mm (Paper width)
003	Paper Transfer: Low: 1: S1	*ENG	
005	Paper Transfer: Standard: 1Side: S2	*ENG	[100 to 995 / **135** / 5% /step] 194 mm > S2 size ≥ 165 mm (Paper width)
007	Paper Transfer: Low: 1: S2	*ENG	
009	Paper Transfer: Standard: 1Side: S3	*ENG	[100 to 995 / **135** / 5% /step] 165 mm > S3 size ≥ 139 mm (Paper width)
011	Paper Transfer: Low: 1: S3	*ENG	
013	Paper Transfer: Standard: 1Side: S4	*ENG	[100 to 995 / **220** / 5% /step] 139 mm > S4 (Paper width)
015	Paper Transfer: Low: 1: S4	*ENG	

2463	**[Thin: Size Env Correct: BW] DFU**		
	Adjusts the size correction coefficient table for the paper transfer roller current for each paper size. SP2453 and SP2457 are multiplied by these SP values. Standard: 260 mm/sec, Low: 85mm/sec		
001	Paper Transfer: Standard: 1Side: S1	*ENG	[1 to 100 / **16** / 1 /step] S1 size ≥ 194 mm (Paper width)
003	Paper Transfer: Low: 1: S1	*ENG	[1 to 100 / **21** / 1 /step] S1 size ≥ 194 mm (Paper width)
005	Paper Transfer: Standard: 1Side: S2	*ENG	[1 to 100 / **8** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
007	Paper Transfer: Low: 1: S2	*ENG	[1 to 100 / **21** / 1 /step]

			194 mm > S2 size ≥ 165 mm (Paper width)
009	Paper Transfer: Standard: 1Side: S3	*ENG	[1 to 100 / **8** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
011	Paper Transfer: Low: 1: S3	*ENG	[1 to 100 / **21** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
013	Paper Transfer: Standard: 1Side: S4	*ENG	[1 to 100 / **16** / 1 /step] 139 mm > S4 (Paper width)
015	Paper Transfer: Low: 1: S4	*ENG	[1 to 100 / **21** / 1 /step] 139 mm > S4 (Paper width)

2464	**[Thin: Size Env Correct: FC] DFU**		
	Adjusts the size correction coefficient table for the paper transfer roller current for each paper size. SP2453 and SP2457 are multiplied by these SP values. Standard: 260 mm/sec, Low: 85mm/sec		
001	Paper Transfer: Standard: 1Side: S1	*ENG	[1 to 100 / **9** / 1 /step] S1 size ≥ 194 mm (Paper width)
003	Paper Transfer: Low: 1: S1	*ENG	[1 to 100 / **26** / 1 /step] S1 size ≥ 194 mm (Paper width)
005	Paper Transfer: Standard: 1Side: S2	*ENG	[1 to 100 / **9** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
007	Paper Transfer: Low: 1: S2	*ENG	[1 to 100 / **26** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
009	Paper Transfer: Standard: 1Side: S3	*ENG	[1 to 100 / **9** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)

011	Paper Transfer: Low: 1: S3	*ENG	[1 to 100 / **26** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
013	Paper Transfer: Standard: 1Side: S4	*ENG	[1 to 100 / **9** / 1 /step] 139 mm > S4 (Paper width)
015	Paper Transfer: Low: 1: S4	*ENG	[1 to 100 / **26** / 1 /step] 139 mm > S4 (Paper width)

2471	**[Thin: L-Edge Correction] DFU** Thin Paper: Leading Edge Correction		
	Adjusts the correction to the paper transfer roller current at the paper leading edge in each mode. SP2453 and SP2457 are multiplied by these SP values. Standard: 260 mm/sec, Low: 85 mm/sec Note ▪ The paper leading edge area can be adjusted with SP2472.		
001	Paper Transfer: Standard: 1st	*ENG	[0 to 995 / **100** / 5%/step]
003	Paper Transfer: Low: 1st	*ENG	
005	Separation DC: Standard: 1st	*ENG	[0 to 995 / **200** / 5%/step]
007	Separation DC: Low: 1st	*ENG	

2472	**[Thin: Switch Timing: L-Edge] 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		
001	Paper Transfer: Standard: 1st	*ENG	[0 to 50 / **0** / 2 mm/step]
003	Paper Transfer: Low: 1st	*ENG	
005	Separation DC: Standard: 1st	*ENG	[0 to 50 / **30** / 2 mm/step]
007	Separation DC: Low: 1st	*ENG	

2473	**[Thin: T-Edge Correct] DFU** Thin Paper: Trailing Edge Correction		
	Adjusts the correction coefficient to the paper transfer roller current for the paper trailing edge in each mode. SP2453 and SP2457 are multiplied by these SP values. Standard: 260 mm/sec, Low: 85 mm/sec Note ▪ The paper trailing edge area can be adjusted with SP2474.		
001	Paper Transfer: Standard: 1st	*ENG	[0 to 995 / **100** / 5%/step]
003	Paper Transfer: Low: 1st	*ENG	
005	Separation DC: Standard: 1st	*ENG	
007	Separation DC: Low: 1st	*ENG	

2474	**[Thin: Switch Timing: T-Edge] 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		
001	Paper Transfer: Standard: 1st	*ENG	[0 to 50 / **0** / 2 mm/step]
003	Paper Transfer: Low: 1st	*ENG	
005	Separation DC: Standard: 1st	*ENG	
007	Separation DC: Low: 1st	*ENG	

2480	**[Thin: Environment Correction] DFU** Standard: 260 mm/sec, Low: 85 mm/sec		
013	Separation DC: Standard: 1st	*ENG	[1 to 100 / **30** / 1 /step]
015	Separation DC: Low: 1st	*ENG	
[Thin: Edge Env. Correct]			
017	Separation DC: Standard: 1st	*ENG	[1 to 100 / **30** / 1 /step]
019	Separation DC: Low: 1st	*ENG	

2501	**[Thick1: Bias]**		
	Adjusts the DC voltage of the discharge plate for thick 1 paper. Middle: 182 mm/sec, Low: 85 mm/sec		
001	Separation DC: Middle Spd: 1st	*ENG	[0 to 6000 / **2000** / 10 -V / step]
002	Separation DC: Middle Spd: 2nd	*ENG	
003	Separation DC: Low Spd: 1st	*ENG	
004	Separation DC: Low Spd: 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		
001	Paper Transfer: Middle Spd: 1st	*ENG	[0 to 230 / **15** / 1 –µA /step]
002	Paper Transfer: Middle Spd: 2nd	*ENG	Not used
003	Paper Transfer: Low Spd: 1st	*ENG	[0 to 230 / **9** / 1 –µA /step]
004	Paper Transfer: Low Spd: 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		
001	Paper Transfer: Middle Spd: 1st	*ENG	[0 to 230 / **24** / 1 –μA /step]
002	Paper Transfer: Middle Spd: 2nd	*ENG	Not used
003	Paper Transfer: Low Spd: 1st	*ENG	[0 to 230 / **12** / 1 –μA /step]
004	Paper Transfer: Low Spd: 2nd	*ENG	[0 to 230 / **18** / 1 –μA /step]

2511	**[Thick-T:Size Correct:BW] DFU**		
	Adjusts the size correction coefficient 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		
001	Paper Transfer: Middle: 1st: S1	*ENG	[100 to 995 / **100** / 5%/step] S1 size ≥ 194 mm (Paper width)
002	Paper Transfer: Middle: 2nd: S1	*ENG	
003	Paper Transfer: Low: 1: S1	*ENG	[100 to 995 / **100** / 5%/step] S1 size ≥ 194 mm (Paper width)
004	Paper Transfer: Low: 2: S1	*ENG	
005	Paper Transfer: Middle: 1st: S2	*ENG	[100 to 995 / **150** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
006	Paper Transfer: Middle: 2nd: S2	*ENG	[100 to 995 / **160** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
007	Paper Transfer: Low: 1: S2	*ENG	[100 to 995 / **150** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
008	Paper Transfer: Low: 2: S2	*ENG	[100 to 995 / **160** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)

009	Paper Transfer: Middle: 1st: S3	*ENG	[100 to 995 / **150** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
010	Paper Transfer: Middle: 2nd: S3	*ENG	[100 to 995 / **270** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
011	Paper Transfer: Low: 1: S3	*ENG	[100 to 995 / **150** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
012	Paper Transfer: Low: 2: S3	*ENG	[100 to 995 / **270** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
013	Paper Transfer: Middle: 1st: S4	*ENG	[100 to 995 / **200** / 5%/step] 139 mm > S4 (Paper width)
014	Paper Transfer: Middle: 2nd: S4	*ENG	[100 to 995 / **435** / 5%/step] 139 mm > S4 (Paper width)
015	Paper Transfer: Low: 1: S4	*ENG	[100 to 995 / **200** / 5%/step] 139 mm > S4 (Paper width)
016	Paper Transfer: Low: 2: S4	*ENG	[100 to 995 / **435** / 5%/step] 139 mm > S4 (Paper width)

2512	**[Thick-T:Size Correct:FC] DFU**		
	Adjusts the size correction coefficient 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		
001	Paper Transfer: Middle: 1st: S1	*ENG	[100 to 995 / **100** / 5%/step] S1 size ≥ 194 mm (Paper width)
002	Paper Transfer: Middle: 2nd: S1	*ENG	
003	Paper Transfer: Low: 1: S1	*ENG	
004	Paper Transfer: Low: 2: S1	*ENG	
005	Paper Transfer: Middle: 1st: S2	*ENG	[100 to 995 / **150** / 5%/step]

			194 mm > S2 size ≥ 165 mm (Paper width)
006	Paper Transfer: Middle: 2nd: S2	*ENG	[100 to 995 / **160** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
007	Paper Transfer: Low: 1: S2	*ENG	[100 to 995 / **150** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
008	Paper Transfer: Low: 2: S2	*ENG	[100 to 995 / **160** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
009	Paper Transfer: Middle: 1st: S3	*ENG	[100 to 995 / **150** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
010	Paper Transfer: Middle: 2nd: S3	*ENG	[100 to 995 / **270** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
011	Paper Transfer: Low: 1: S3	*ENG	[100 to 995 / **150** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
012	Paper Transfer: Low: 2: S3	*ENG	[100 to 995 / **270** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
013	Paper Transfer: Middle: 1st: S4	*ENG	[100 to 995 / **200** / 5%/step] 139 mm > S4 (Paper width)
014	Paper Transfer: Middle: 2nd: S4	*ENG	[100 to 995 / **435** / 5%/step] 139 mm > S4 (Paper width)
015	Paper Transfer: Low: 1: S4	*ENG	[100 to 995 / **200** / 5%/step] 139 mm > S4 (Paper width)
016	Paper Transfer: Low: 2: S4	*ENG	[100 to 995 / **435** / 5%/step] 139 mm > S4 (Paper width)

2513	**[Thick:Size-Env.Correct:BW] DFU**		
	Adjusts the size correction coefficient table 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		
001	Paper Transfer: Middle: 1st: S1	*ENG	[1 to 100 / **20** / 1/step] S1 size ≥ 194 mm (Paper width)
002	Paper Transfer: Middle: 2nd: S1	*ENG	[1 to 100 / **19** / 1/step] S1 size ≥ 194 mm (Paper width)
003	Paper Transfer: Low: 1: S1	*ENG	[1 to 100 / **18** / 1/step] S1 size ≥ 194 mm (Paper width)
004	Paper Transfer: Low: 2: S1	*ENG	[1 to 100 / **23** / 1/step] S1 size ≥ 194 mm (Paper width)
005	Paper Transfer: Middle: 1st: S2	*ENG	[1 to 100 / **20** / 1/step] 194 mm > S2 size ≥ 165 mm (Paper width)
006	Paper Transfer: Middle: 2nd: S2	*ENG	[1 to 100 / **19** / 1/step] 194 mm > S2 size ≥ 165 mm (Paper width)
007	Paper Transfer: Low: 1: S2	*ENG	[1 to 100 / **18** / 1/step] 194 mm > S2 size ≥ 165 mm (Paper width)
008	Paper Transfer: Low: 2: S2	*ENG	[1 to 100 / **23** / 1/step] 194 mm > S2 size ≥ 165 mm (Paper width)
009	Paper Transfer: Middle: 1st: S3	*ENG	[1 to 100 / **20** / 1/step] 165 mm > S3 size ≥ 139 mm (Paper width)
010	Paper Transfer: Middle: 2nd: S3	*ENG	[1 to 100 / **19** / 1/step] 165 mm > S3 size ≥ 139 mm (Paper width)
011	Paper Transfer: Low: 1: S3	*ENG	[1 to 100 / **18** / 1/step]

			165 mm > S3 size ≥ 139 mm (Paper width)
012	Paper Transfer: Low: 2: S3	*ENG	[1 to 100 / **23** / 1/step] 165 mm > S3 size ≥ 139 mm (Paper width)
013	Paper Transfer: Middle: 1st: S4	*ENG	[1 to 100 / **20** / 1/step] 139 mm > S4 (Paper width)
014	Paper Transfer: Middle: 2nd: S4	*ENG	[1 to 100 / **19** / 1/step] 139 mm > S4 (Paper width)
015	Paper Transfer: Low: 1: S4	*ENG	[1 to 100 / **18** / 1/step] 139 mm > S4 (Paper width)
016	Paper Transfer: Low: 2: S4	*ENG	[1 to 100 / **23** / 1/step] 139 mm > S4 (Paper width)

2514	**[Thick:Size-Env.Correct:FC] DFU**		
	Adjusts the size correction coefficient table 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		
001	Paper Transfer: Middle: 1st: S1	*ENG	[1 to 100 / **2** / 1/step] S1 size ≥ 194 mm (Paper width)
002	Paper Transfer: Middle: 2nd: S1	*ENG	[1 to 100 / **31** / 1/step] S1 size ≥ 194 mm (Paper width)
003	Paper Transfer: Low: 1: S1	*ENG	[1 to 100 / **13** / 1/step] S1 size ≥ 194 mm (Paper width)
004	Paper Transfer: Low: 2: S1	*ENG	[1 to 100 / **25** / 1/step] S1 size ≥ 194 mm (Paper width)
005	Paper Transfer: Middle: 1st: S2	*ENG	[1 to 100 / **2** / 1/step] 194 mm > S2 size ≥ 165 mm (Paper width)

006	Paper Transfer: Middle: 2nd: S2	*ENG	[1 to 100 / **31** / 1/step] 194 mm > S2 size ≥ 165 mm (Paper width)
007	Paper Transfer: Low: 1: S2	*ENG	[1 to 100 / **13** / 1/step] 194 mm > S2 size ≥ 165 mm (Paper width)
008	Paper Transfer: Low: 2: S2	*ENG	[1 to 100 / **25** / 1/step] 194 mm > S2 size ≥ 165 mm (Paper width)
009	Paper Transfer: Middle: 1st: S3	*ENG	[1 to 100 / **2** / 1/step] 165 mm > S3 size ≥ 139 mm (Paper width)
010	Paper Transfer: Middle: 2nd: S3	*ENG	[1 to 100 / **31** / 1/step] 165 mm > S3 size ≥ 139 mm (Paper width)
011	Paper Transfer: Low: 1: S3	*ENG	[1 to 100 / **13** / 1/step] 165 mm > S3 size ≥ 139 mm (Paper width)
012	Paper Transfer: Low: 2: S3	*ENG	[1 to 100 / **25** / 1/step] 165 mm > S3 size ≥ 139 mm (Paper width)
013	Paper Transfer: Middle: 1st: S4	*ENG	[1 to 100 / **2** / 1/step] 139 mm > S4 (Paper width)
014	Paper Transfer: Middle: 2nd: S4	*ENG	[1 to 100 / **31** / 1/step] 139 mm > S4 (Paper width)
015	Paper Transfer: Low: 1: S4	*ENG	[1 to 100 / **13** / 1/step] 139 mm > S4 (Paper width)
016	Paper Transfer: Low: 2: S4	*ENG	[1 to 100 / **25** / 1/step] 139 mm > S4 (Paper width)

2521	**[Thick 1:L-Edge Correct] DFU** Thick 1 Paper: Leading Edge Correction		
	Adjusts the correction to the paper transfer roller current 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.		
001	Paper Transfer: Middle: 1st	*ENG	[0 to 995 / **100** / 5%/step]
002	Paper Transfer: Middle: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: Low: 2nd	*ENG	
005	Separation DC: Middle: 1st	*ENG	
006	Separation DC: Middle: 2nd	*ENG	
007	Separation DC: Low: 1st	*ENG	
008	Separation DC: Low: 2nd	*ENG	

2522	**[Thick 1: Switch Timing: L-Edge] 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		
001	Paper Transfer: 1st	*ENG	[0 to 50 / **0** / 2 mm/step]
002	Paper Transfer: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: Low: 2nd	*ENG	
005	Separation DC: Middle: 1st	*ENG	
006	Separation DC: Middle: 2nd	*ENG	
007	Separation DC: Low: 1st	*ENG	
008	Separation DC: Low: 2nd	*ENG	

2523	**[Thick 1: T-Edge 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.		
001	Paper Transfer: 1st	*ENG	[0 to 995 / **100** / 5%/step]
002	Paper Transfer: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: Low: 2nd	*ENG	
005	Separation DC: Middle: 1st	*ENG	
006	Separation DC: Middle: 2nd	*ENG	
007	Separation DC: Low: 1st	*ENG	
008	Separation DC: Low: 2nd	*ENG	

2524	**[Thick 1: Switch Timing: T-Edge] 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		
001	Paper Transfer: 1st	*ENG	[0 to 50 / **0** / 2 mm/step]
002	Paper Transfer: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: Low: 2nd	*ENG	
005	Separation DC: Middle: 1st	*ENG	
006	Separation DC: Middle: 2nd	*ENG	
007	Separation DC: Low: 1st	*ENG	
008	Separation DC: Low: 2nd	*ENG	

2530	**[Thick 1: Env. Correct Table] DFU**		
013	Separation DC: Middle: 1st	*ENG	[1 to 100 / **30** / 1 /step]
014	Separation DC: Middle: 2nd	*ENG	
015	Separation DC: Low: 1st	*ENG	
016	Separation DC: Low: 2nd	*ENG	
[Thick 1: Edge-Env. Correct] DFU			
017	Separation DC: Middle: 1st	*ENG	[1 to 100 / **30** / 1 /step]
018	Separation DC: Middle: 2nd	*ENG	
019	Separation DC: Low: 1st	*ENG	
020	Separation DC: Low: 2nd	*ENG	

2551	**[Thick2: Bias]**		
	Adjusts the DC voltage of the discharge plate for thick 2 paper.		
003	Separation DC: 1st	*ENG	[0 to 6000 / **2000** / 10 -V/step]
004	Separation DC: 2nd	*ENG	

2553	**[Thick 2: Bias: BW] DFU**		
	Adjusts the current for the paper transfer roller for thick2 paper in black-and-white mode.		
001	Paper Transfer: 1st	*ENG	[0 to 230 / **9** / 1 –μA /step]
002	Paper Transfer: 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.		
001	Paper Transfer: 1st	*ENG	[0 to 230 / **12** / 1 –μA /step]
002	Paper Transfer: 2nd	*ENG	[0 to 230 / **20** / 1 –μA /step]

2561	**[Thick 2: Paper Size Correction: BW]**		
	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2553 and SP2558 are multiplied by these SP values.		
003	Paper Transfer: 1: S1	*ENG	[100 to 995 / **100** / 5% /step] S1 size ≥ 194 mm (Paper width)
004	Paper Transfer: 2: S1	*ENG	[100 to 995 / **100** / 5% /step] S1 size ≥ 194 mm (Paper width)
007	Paper Transfer: 1: S2	*ENG	[100 to 995 / **150** / 5% /step] 194 mm > S2 size ≥ 165 mm (Paper width)
008	Paper Transfer: 2: S2	*ENG	[100 to 995 / **160** / 5% /step] 194 mm > S2 size ≥ 165 mm (Paper width)
011	Paper Transfer: 1: S3	*ENG	[100 to 995 / **150** / 5% /step] 165 mm > S3 size ≥ 139 mm (Paper width)
012	Paper Transfer: 2: S3	*ENG	[100 to 995 / **270** / 5% /step] 165 mm > S3 size ≥ 139 mm (Paper width)
015	Paper Transfer: 1: S4	*ENG	[100 to 995 / **200** / 5% /step] 139 mm > S4 (Paper width)
016	Paper Transfer: 2: S4	*ENG	[100 to 995 / **435** / 5% /step] 139 mm > S4 (Paper width)

2562	**[Thick 2: Size Correction: FC]**		
	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2553 and SP2558 are multiplied by these SP values.		
003	Paper Transfer: 1: S1	*ENG	[100 to 995 / **100** / 5% /step] S1 size ≥ 194 mm (Paper width)
004	Paper Transfer: 2: S1	*ENG	
007	Paper Transfer: 1: S2	*ENG	[100 to 995 / **150** / 5% /step] 194 mm > S2 size ≥ 165 mm (Paper width)
008	Paper Transfer: 2: S2	*ENG	[100 to 995 / **160** / 5% /step] 194 mm > S2 size ≥ 165 mm (Paper width)
011	Paper Transfer: 1: S3	*ENG	[100 to 995 / **150** / 5% /step] 165 mm > S3 size ≥ 139 mm (Paper width)
012	Paper Transfer: 2: S3	*ENG	[100 to 995 / **270** / 5% /step] 165 mm > S3 size ≥ 139 mm (Paper width)
015	Paper Transfer: 1: S4	*ENG	[100 to 995 / **200** / 5% /step] 139 mm > S4 (Paper width)
016	Paper Transfer: 2: S4	*ENG	[100 to 995 / **435** / 5% /step] 139 mm > S4 (Paper width)

2563	**[Thick 2: Size Env. Correction: BW] DFU**		
	Adjusts the size correction coefficient table for the paper transfer roller current for each paper size. SP2553 and SP2558 are multiplied by these SP values.		
003	Paper Transfer: 1: S1	*ENG	[1 to 100 / **18** / 1 /step] S1 size ≥ 194 mm (Paper width)
004	Paper Transfer: 2: S1	*ENG	[1 to 100 / **22** / 1 /step] S1 size ≥ 194 mm (Paper width)
007	Paper Transfer: 1: S2	*ENG	[1 to 100 / **18** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
008	Paper Transfer: 2: S2	*ENG	[1 to 100 / **22** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
011	Paper Transfer: 1: S3	*ENG	[1 to 100 / **18** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
012	Paper Transfer: 2: S3	*ENG	[1 to 100 / **22** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
015	Paper Transfer: 1: S4	*ENG	[1 to 100 / **18** / 1 /step] 139 mm > S4 (Paper width)
016	Paper Transfer: 2: S4	*ENG	[1 to 100 / **22** / 1 /step] 139 mm > S4 (Paper width)

2564	**[Thick 2: Size Env. Correction: FC] DFU**		
	Adjusts the size correction coefficient table for the paper transfer roller current for each paper size. SP2553 and SP2558 are multiplied by these SP values.		
003	Paper Transfer: 1: S1	*ENG	[1 to 100 / **13** / 1 /step] S1 size ≥ 194 mm (Paper width)
004	Paper Transfer: 2: S1	*ENG	[1 to 100 / **38** / 1 /step] S1 size ≥ 194 mm (Paper width)
007	Paper Transfer: 1: S2	*ENG	[1 to 100 / **13** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
008	Paper Transfer: 2: S2	*ENG	[1 to 100 / **38** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
011	Paper Transfer: 1: S3	*ENG	[1 to 100 / **13** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
012	Paper Transfer: 2: S3	*ENG	[1 to 100 / **38** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
015	Paper Transfer: 1: S4	*ENG	[1 to 100 / **13** / 1 /step] 139 mm > S4 (Paper width)
016	Paper Transfer: 2: S4	*ENG	[1 to 100 / **38** / 1 /step] 139 mm > S4 (Paper width)

2571	**[Thick 2: L-Edge Correct] DFU** Thick 2 Paper: Leading Edge Correction		
	Adjusts the correction to the paper transfer roller current 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.		
001	Paper Transfer: 1st	*ENG	[0 to 995 / **100** / 5%/step]
002	Paper Transfer: 2nd	*ENG	
003	Separation DC: 1st	*ENG	
004	Separation DC: 2nd	*ENG	

2572	**[Thick 2: Switch Timing: L-Edge] 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.		
001	Paper Transfer: 1st	*ENG	[0 to 50 / **0** / 2mm/step]
002	Paper Transfer: 2nd	*ENG	
003	Separation DC: 1st	*ENG	
004	Separation DC: 2nd	*ENG	

2573	**[Thick 2: T-Edge Correction] DFU** Thick 2 Paper: Trailing Edge Correction		
	Adjusts the correction to the paper transfer roller current 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.		
001	Paper Transfer: 1st	*ENG	[0 to 995 / **100** / 5%/step]
002	Paper Transfer: 2nd	*ENG	
003	Separation DC: 1st	*ENG	
004	Separation DC: 2nd	*ENG	

2574	**[Thick2:T-Edge Correct] 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.		
001	Paper Transfer: 1st	*ENG	[0 to 50 / **0** / 2 mm/step]
002	Paper Transfer: 2nd	*ENG	
003	Separation DC: 1st	*ENG	
004	Separation DC: 2nd	*ENG	

2580	**[Thick 2 Env. Correct Table] DFU**		
015	Separation DC: 1st	*ENG	[1 to 100 / **30** / 1 /step]
016	Separation DC: 2nd	*ENG	
[Thick 2 Edge-Env. Correct] DFU			
019	Separation DC: 1st	*ENG	[1 to 100 / **30** / 1 /step]
020	Separation DC: 2nd	*ENG	

2601	**[OHP: Bias]**		
	Adjusts the DC voltage of the discharge plate for OHP.		
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.		
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.		
001	Paper Transfer	*ENG	[0 to 230 / **21** / 1 –μA /step]

2611	**[OHP: Paper Size Correction: BW]**		
	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2603 and SP2608 are multiplied by these SP values.		
003	Paper Transfer: S1	*ENG	[100 to 995 / **100** / 5% /step] S1 size ≥ 194 mm (Paper width)
007	Paper Transfer: S2	*ENG	[100 to 995 / **150** / 5% /step] 194 mm > S2 size ≥ 165 mm (Paper width)
011	Paper Transfer: S3	*ENG	[100 to 995 / **150** / 5% /step] 165 mm > S3 size ≥ 139 mm (Paper width)
015	Paper Transfer: S4	*ENG	[100 to 995 / **200** / 5% /step] 139 mm > S4 (Paper width)

2612	**[OHP: Size Correct: FC]**		
	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2603 and SP2608 are multiplied by these SP values.		
003	Paper Transfer: S1	*ENG	[100 to 995 / **100** / 5% /step] S1 size ≥ 194 mm (Paper width)
007	Paper Transfer: S2	*ENG	[100 to 995 / **150** / 5% /step] 194 mm > S2 size ≥ 165 mm (Paper width)
011	Paper Transfer: S3	*ENG	[100 to 995 / **150** / 5% /step] 165 mm > S3 size ≥ 139 mm (Paper width)
015	Paper Transfer: S4	*ENG	[100 to 995 / **200** / 5% /step] 139 mm > S4 (Paper width)

2613	**[OHP: Size-Env. Correct: BW] DFU**		
	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2603 and SP2608 are multiplied by these SP values.		
003	Paper Transfer: S1	*ENG	[1 to 100 / **15** / 1 /step] S1 size ≥ 194 mm (Paper width)
007	Paper Transfer: S2	*ENG	[100 to 995 / **15** / 5% /step] 194 mm > S2 size ≥ 165 mm (Paper width)
011	Paper Transfer: S3	*ENG	[100 to 995 / **15** / 5% /step] 165 mm > S3 size ≥ 139 mm (Paper width)
015	Paper Transfer: S4	*ENG	[100 to 995 / **15** / 5% /step] 139 mm > S4 (Paper width)

2614	**[OHP: Size-Env. Correct: FC] DFU**		
	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2603 and SP2608 are multiplied by these SP values.		
003	Paper Transfer: S1	*ENG	[1 to 100 / **12** / 1 /step] S1 size ≥ 194 mm (Paper width)
007	Paper Transfer: S2	*ENG	[1 to 100 / **12** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
011	Paper Transfer: S3	*ENG	[1 to 100 / **12** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
015	Paper Transfer: S4	*ENG	[1 to 100 / **12** / 1 /step] 139 mm > S4 (Paper width)

2621	**[OHP: L-Edge Correct] DFU** OHP: Leading Edge Correction		
	Adjusts the correction to the paper transfer roller current 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.		
001	Paper Transfer	*ENG	[0 to 995 / **100** / 5%/step]
002	Separation DC	*ENG	

2622	**[OHP: Switch Timing: L-Edge] 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.		
001	Paper Transfer	*ENG	[0 to 50 / **0** / 2 mm/step]
002	Separation DC	*ENG	

2623	**[OHP: T-Edge Correct] DFU** OHP: Trailing Edge Correction		
	Adjusts the correction to the paper transfer roller current 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.		
001	Paper Transfer	*ENG	[0 to 995 / **100** / 5%/step]
002	Separation DC	*ENG	

2624	**[OHP: T-Edge Correction] 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.		
001	Paper Transfer	*ENG	[0 to 50 / **0** / 2 mm/step]
002	Separation DC	*ENG	

2630	**[OHP: Env. Correct Table] DFU**		
015	Separation DC	*ENG	[1 to 100 / **30** / 1 /step]
019	Separation DC	*ENG	

2647	**[Thick3: Bias]**		
	Adjusts the DC voltage of the discharge plate for thick paper 3.		
001	Separation DC: 1st	*ENG	[0 to 6000 / **2000** / 10 -V /step]
002	Separation DC: 2nd	*ENG	

2648	**[Thick3: Bias: BW]**		
	Adjusts the current for the paper transfer roller for thick paper 3 in black-and-white mode.		
001	Paper Transfer: 1st	*ENG	[0 to 230 / **9** / 1 –μA /step]
002	Paper Transfer: 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.		
001	Paper Transfer: 1st	*ENG	[0 to 230 / **12** / 1 –μA /step]
002	Paper Transfer: 2nd	*ENG	[0 to 230 / **18** / 1 –μA /step]

2650	**[Thick3: Size Correct: 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.		
001	Paper Transfer: 1: S1	*ENG	[100 to 995 / **100** / 5%/step] S1 size ≥ 194 mm (Paper width)
002	Paper Transfer: 2: S1	*ENG	
003	Paper Transfer: 1: S2	*ENG	[100 to 995 / **150** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
004	Paper Transfer: 2: S2	*ENG	[100 to 995 / **160** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
005	Paper Transfer: 1: S3	*ENG	[100 to 995 / **150** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
006	Paper Transfer: 2: S3	*ENG	[100 to 995 / **270** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
007	Paper Transfer: 1: S4	*ENG	[100 to 995 / **200** / 5%/step] 139 mm > S4 (Paper width)
008	Paper Transfer: 2: S4	*ENG	[100 to 995 / **435** / 5%/step] 139 mm > S4 (Paper width)

2651	**[Thick 3: Size Correct: 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.		
001	Paper Transfer: 1: S1	*ENG	[100 to 995 / **100** / 5%/step] S1 size ≥ 194 mm (Paper width)
002	Paper Transfer: 2: S1	*ENG	
003	Paper Transfer: 1: S2	*ENG	[100 to 995 / **150** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
004	Paper Transfer: 2: S2	*ENG	[100 to 995 / **160** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
005	Paper Transfer: 1: S3	*ENG	[100 to 995 / **150** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
006	Paper Transfer: 2: S3	*ENG	[100 to 995 / **270** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
007	Paper Transfer: 1: S4	*ENG	[100 to 995 / **200** / 5%/step] 139 mm > S4 (Paper width)
008	Paper Transfer: 2: S4	*ENG	[100 to 995 / **435** / 5%/step] 139 mm > S4 (Paper width)

2652	**[Thick 3: Size Env. Correct: 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.		
001	Paper Transfer: 1: S1	*ENG	[1 to 100 / **24** / 1 /step] S1 size ≥ 194 mm (Paper width)
002	Paper Transfer: 2: S1	*ENG	[1 to 100 / **22** / 1 /step] S1 size ≥ 194 mm (Paper width)
003	Paper Transfer: 1: S2	*ENG	[1 to 100 / **24** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
004	Paper Transfer: 2: S2	*ENG	[1 to 100 / **22** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
005	Paper Transfer: 1: S3	*ENG	[1 to 100 / **24** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
006	Paper Transfer: 2: S3	*ENG	[1 to 100 / **22** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
007	Paper Transfer: 1: S4	*ENG	[1 to 100 / **24** / 1 /step] 139 mm > S4 (Paper width)
008	Paper Transfer: 2: S4	*ENG	[1 to 100 / **22** / 1 /step] 139 mm > S4 (Paper width)

2653	**[Thick 3: Size Env. Correct: 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.		
001	Paper Transfer: 1: S1	*ENG	[1 to 100 / **24** / 1 /step] S1 size ≥ 194 mm (Paper width)
002	Paper Transfer: 2: S1	*ENG	[1 to 100 / **27** / 1 /step] S1 size ≥ 194 mm (Paper width)
003	Paper Transfer: 1: S2	*ENG	[1 to 100 / **24** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
004	Paper Transfer: 2: S2	*ENG	[1 to 100 / **27** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
005	Paper Transfer: 1: S3	*ENG	[1 to 100 / **24** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
006	Paper Transfer: 2: S3	*ENG	[1 to 100 / **27** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
007	Paper Transfer: 1: S4	*ENG	[1 to 100 / **24** / 1 /step] 139 mm > S4 (Paper width)
008	Paper Transfer: 2: S4	*ENG	[1 to 100 / **27** / 1 /step] 139 mm > S4 (Paper width)

2654	**[Thick 3: L-Edge 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.		
001	Paper Transfer: 1st	*ENG	[0 to 995 / **100** / 5%/step]
002	Paper Transfer: 2nd	*ENG	
003	Separation DC: 1st	*ENG	
004	Separation DC: 2nd	*ENG	

2655	**[Thick 3: Switch Timing: L-Edge] 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.		
001	Paper Transfer: 1st	*ENG	[0 to 50 / **0** / 2 mm/step]
002	Paper Transfer: 2nd	*ENG	
003	Separation DC: 1st	*ENG	
004	Separation DC: 2nd	*ENG	

2656	**[Thick 3: T-Edge 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.		
001	Paper Transfer: 1st	*ENG	[0 to 995 / **100** / 5%/step]
002	Paper Transfer: 2nd	*ENG	
003	Separation DC: 1st	*ENG	
004	Separation DC: 2nd	*ENG	

2657	**[Thick 3: Switch Timing: T-Edge] 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.		
001	Paper Transfer: 1st	*ENG	[0 to 50 / **0** / 2 mm/step]
002	Paper Transfer: 2nd	*ENG	
003	Separation DC: 1st	*ENG	
004	Separation DC: 2nd	*ENG	

2660	**[Thick 3: Env. Correct Table] DFU** Thick 3 Paper: MM Environment Coefficient Adjustment		
015	Separation DC: 1st	*ENG	[1 to 100 / **30** / 1 /step]
016	Separation DC: 2nd	*ENG	
[Thick 3: Edge-Env. Correct] DFU			
019	Separation DC: 1st	*ENG	[1 to 100 / **30** / 1 /step]
020	Separation DC: 2nd	*ENG	

2701	**[M-Thick: Bias]**		
	Adjusts the DC voltage of the discharge plate for middle thick paper.		
001	Separation DC: Standard Spd: 1st	*ENG	[0 to 6000 / **2000** / 10 -V /step]
002	Separation DC: Standard Spd: 2nd	*ENG	
003	Separation DC: Low Spd: 1st	*ENG	
004	Separation DC: Low Spd: 2nd	*ENG	

2703	**[M-Thick:Bias:BW]** Standard: 260mm/sec, Low: 85mm/sec		
	Adjusts the current for the paper transfer roller for middle thick in black-and-white mode.		
001	Paper Transfer:Standard:1st	*ENG	[0 to 230 / **20** / 1-µA /step]
002	Paper Transfer: Standard:2nd	*ENG	[0 to 230 / **18** / 1-µA /step]
003	Paper Transfer: Low: 1st	*ENG	[0 to 230 / **10** / 1-µA /step]
004	Paper Transfer: Low: 2nd	*ENG	[0 to 230 / **12** / 1-µA /step]

2707	**[M-Thick:Bias:FC]** Standard: 260mm/sec, Low: 85mm/sec		
	Adjusts the current for the paper transfer roller for middle thick in full color mode.		
001	Paper Transfer: Standard:1st	*ENG	[0 to 230 / **35** / 1-µA /step]
002	Paper Transfer: Standard:2nd	*ENG	[0 to 230 / **25** / 1-µA /step]
003	Paper Transfer: Low: 1st	*ENG	[0 to 230 / **12**/ 1-µA /step]
004	Paper Transfer: Low: 2nd	*ENG	[0 to 230 / **14** / 1-µA /step]

2713	**[M-Thick: Size Correct: 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		
001	Paper Transfer: Standard: 1Side: S1	*ENG	[100 to 995 / **100** / 5%/step] S1 size ≥ 194 mm (Paper width)
002	Paper Transfer: Standard: 2Side: S1	*ENG	
003	Paper Transfer: Low: 1: S1	*ENG	
004	Paper Transfer: Low: 2: S1	*ENG	
005	Paper Transfer: Standard: 1Side: S2	*ENG	[100 to 995 / **135** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
006	Paper Transfer: Standard: 2Side: S2	*ENG	[100 to 995 / **200** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
007	Paper Transfer: Low: 1: S2	*ENG	[100 to 995 / **135** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
008	Paper Transfer: Low: 2: S2	*ENG	[100 to 995 / **200** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
009	Paper Transfer: Standard: 1Side: S3	*ENG	[100 to 995 / **135** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
010	Paper Transfer: Standard: 2Side: S3	*ENG	[100 to 995 / **390** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)

011	Paper Transfer: Low: 1: S3	*ENG	[100 to 995 / **135** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
012	Paper Transfer: Low: 2: S3	*ENG	[100 to 995 / **390** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
013	Paper Transfer: Standard: 1Side: S4	*ENG	[100 to 995 / **220** / 5%/step] 139 mm > S4 (Paper width)
014	Paper Transfer: Standard: 2Side: S4	*ENG	[100 to 995 / **330** / 5%/step] 139 mm > S4 (Paper width)
015	Paper Transfer: Low: 1: S4	*ENG	[100 to 995 / **220** / 5%/step] 139 mm > S4 (Paper width)
016	Paper Transfer: Low: 2: S4	*ENG	[100 to 995 / **330** / 5%/step] 139 mm > S4 (Paper width)

2714	**[M-Thick: Size Correct: 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		
001	Paper Transfer: Standard: 1Side: S1	*ENG	[100 to 995 / **100** / 5%/step] S1 size ≥ 194 mm (Paper width)
002	Paper Transfer: Standard: 2Side: S1	*ENG	
003	Paper Transfer: Low: 1: S1	*ENG	
004	Paper Transfer: Low: 2: S1	*ENG	
005	Paper Transfer: Standard: 1Side: S2	*ENG	[100 to 995 / **135** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)

006	Paper Transfer: Standard: 2Side: S2	*ENG	[100 to 995 / **200** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
007	Paper Transfer: Low: 1: S2	*ENG	[100 to 995 / **135** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
008	Paper Transfer: Low: 2: S2	*ENG	[100 to 995 / **200** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
009	Paper Transfer: Standard: 1Side: S3	*ENG	[100 to 995 / **135** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
010	Paper Transfer: Standard: 2Side: S3	*ENG	[100 to 995 / **325** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
011	Paper Transfer: Low: 1: S3	*ENG	[100 to 995 / **135** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
012	Paper Transfer: Low: 2: S3	*ENG	[100 to 995 / **325** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
013	Paper Transfer: Standard: 1Side: S4	*ENG	[100 to 995 / **220** / 5%/step] 139 mm > S4 (Paper width)
014	Paper Transfer: Standard: 2Side: S4	*ENG	[100 to 995 / **330** / 5%/step] 139 mm > S4 (Paper width)
015	Paper Transfer: Low: 1: S4	*ENG	[100 to 995 / **220** / 5%/step] 139 mm > S4 (Paper width)
016	Paper Transfer: Low: 2: S4	*ENG	[100 to 995 / **330** / 5%/step] 139 mm > S4 (Paper width)

2715	**[M-Thick: Size Env. Correct: 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		
001	Paper Transfer: Standard: 1Side: S1	*ENG	[1 to 100 / **14** / 1 /step] S1 size ≥ 194 mm (Paper width)
002	Paper Transfer: Standard: 2Side: S1	*ENG	[1 to 100 / **13** / 1 /step] S1 size ≥ 194 mm (Paper width)
003	Paper Transfer: Low: 1: S1	*ENG	[1 to 100 / **10** / 1 /step] S1 size ≥ 194 mm (Paper width)
004	Paper Transfer: Low: 2: S1	*ENG	[1 to 100 / **12** / 1 /step] S1 size ≥ 194 mm (Paper width)
005	Paper Transfer: Standard: 1Side: S2	*ENG	[1 to 100 / **14** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
006	Paper Transfer: Standard: 2Side: S2	*ENG	[1 to 100 / **13** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
007	Paper Transfer: Low: 1: S2	*ENG	[1 to 100 / **10** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)

008	Paper Transfer: Low: 2: S2	*ENG	[1 to 100 / **12** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
009	Paper Transfer: Standard: 1Side: S3	*ENG	[1 to 100 / **14** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
010	Paper Transfer: Standard: 2Side: S3	*ENG	[1 to 100 / **5** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
011	Paper Transfer: Low: 1: S3	*ENG	[1 to 100 / **10** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
012	Paper Transfer: Low: 2: S3	*ENG	[1 to 100 / **5** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
013	Paper Transfer: Standard: 1Side: S4	*ENG	[1 to 100 / **14** / 1 /step] 139 mm > S4 (Paper width)
014	Paper Transfer: Standard: 2Side: S4	*ENG	[1 to 100 / **13** / 1 /step] 139 mm > S4 (Paper width)
015	Paper Transfer: Low: 1: S4	*ENG	[1 to 100 / **10** / 1 /step] 139 mm > S4 (Paper width)
016	Paper Transfer: Low: 2: S4	*ENG	[1 to 100 / **12** / 1 /step] 139 mm > S4 (Paper width)

2716	**[M-Thick: Size Env. Correct: 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		
001	Paper Transfer: Standard: 1Side: S1	*ENG	[1 to 100 / **7** / 1 /step] S1 size ≥ 194 mm (Paper width)
002	Paper Transfer: Standard: 2Side: S1	*ENG	[1 to 100 / **43** / 1 /step] S1 size ≥ 194 mm (Paper width)
003	Paper Transfer: Low: 1: S1	*ENG	[1 to 100 / **37** / 1 /step] S1 size ≥ 194 mm (Paper width)
004	Paper Transfer: Low: 2: S1	*ENG	[1 to 100 / **41** / 1 /step] S1 size ≥ 194 mm (Paper width)
005	Paper Transfer: Standard: 1Side: S2	*ENG	[1 to 100 / **1** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
006	Paper Transfer: Standard: 2Side: S2	*ENG	[1 to 100 / **42** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
007	Paper Transfer: Low: 1: S2	*ENG	[1 to 100 / **10** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)

008	Paper Transfer: Low: 2: S2	*ENG	[1 to 100 / **12** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
009	Paper Transfer: Standard: 1Side: S3	*ENG	[1 to 100 / **1** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
010	Paper Transfer: Standard: 2Side: S3	*ENG	[1 to 100 / **23** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
011	Paper Transfer: Low: 1: S3	*ENG	[1 to 100 / **37** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
012	Paper Transfer: Low: 2: S3	*ENG	[1 to 100 / **39** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
013	Paper Transfer: Standard: 1Side: S4	*ENG	[1 to 100 / **7** / 1 /step] 139 mm > S4 (Paper width)
014	Paper Transfer: Standard: 2Side: S4	*ENG	[1 to 100 / **43** / 1 /step] 139 mm > S4 (Paper width)
015	Paper Transfer: Low: 1: S4	*ENG	[1 to 100 / **37** / 1 /step] 139 mm > S4 (Paper width)
016	Paper Transfer: Low: 2: S4	*ENG	[1 to 100 / **41** / 1 /step] 139 mm > S4 (Paper width)

2721	**[M-Thick:L-Edge 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.		
001	Paper Transfer: Standard:1st	*ENG	[0 to 995 / **100** / 5% /step]
002	Paper Transfer: Standard:2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: Low: 2nd	*ENG	
005	Separation DC: Standard: 1st	*ENG	
006	Separation DC: Standard: 2nd	*ENG	
007	Separation DC: Low: 1st	*ENG	
008	Separation DC: Low: 2nd	*ENG	

2722	**[M-Thick:SwTiming:L-Edge] 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.		
001	Paper Transfer: Standard:1st	*ENG	[0 to 50 / **0** / 2mm /step]
002	Paper Transfer: Standard:2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: Low: 2nd	*ENG	
005	Separation DC: Standard: 1st	*ENG	
006	Separation DC: Standard: 2nd	*ENG	
007	Separation DC: Low: 1st	*ENG	
008	Separation DC: Low: 2nd	*ENG	

2723	**[M-Thick:T-Edge 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		
001	Paper Transfer: Standard:1st	*ENG	[0 to 995 / **100** / 5% /step]
002	Paper Transfer: Standard:2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: Low: 2nd	*ENG	
005	Separation DC: Standard: 1st	*ENG	
006	Separation DC: Standard: 2nd	*ENG	
007	Separation DC: Low: 1st	*ENG	
008	Separation DC: Low: 2nd	*ENG	

2724	**[M-Thick:SwTiming:T-Edge] 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.		
001	Paper Transfer: Standard:1st	*ENG	[0 to 50 / **0** / 2mm /step]
002	Paper Transfer: Standard:2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: Low: 2nd	*ENG	
005	Separation DC: Standard: 1st	*ENG	
006	Separation DC: Standard: 2nd	*ENG	
007	Separation DC: Low: 1st	*ENG	
008	Separation DC: Low: 2nd	*ENG	

2730	**[M-Thick:Env.Correct Table] DFU** Standard: 260 mm/sec, Low: 85 mm/sec		
013	Separation DC: Standard: 1st	*ENG	[1 to 100 / **30** / 1 /step]
014	Separation DC: Standard: 2nd	*ENG	
015	Separation DC: Low: 1st	*ENG	
016	Separation DC: Low: 2nd	*ENG	
[M-Thick:Edge-Env.Correct] DFU			
017	Separation DC: Standard: 1st	*ENG	[1 to 100 / **50** / 1 /step]
018	Separation DC: Standard: 2nd	*ENG	
019	Separation DC: Low: 1st	*ENG	
020	Separation DC: 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		
001	Separation DC: Standard Spd: 1st	*ENG	[0 to 6000 / 2000 / 10 -V /step]
002	Separation DC: Standard Spd: 2nd	*ENG	
003	Separation DC: Low Spd: 1st	*ENG	
004	Separation DC: Low Spd: 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		
001	Paper Transfer: Standard: 1st	*ENG	[0 to 230 / **20** / 1 –µA /step]
002	Paper Transfer: Standard: 2nd	*ENG	[0 to 230 / **18** / 1 –µA /step]
003	Paper Transfer: Low: 1st	*ENG	[0 to 230 / **10** / 1 –µA /step]
004	Paper Transfer: Low: 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		
001	Paper Transfer: Standard: 1st	*ENG	[0 to 230 / **35** / 1 –µA /step]
002	Paper Transfer: Standard: 2nd	*ENG	[0 to 230 / **25** / 1 –µA /step]
003	Paper Transfer: Low: 1st	*ENG	[0 to 230 / **12** / 1 –µA /step]
004	Paper Transfer: Low: 2nd	*ENG	[0 to 230 / **14** / 1 –µA /step]

2761	**[SP1:Size Correct: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		
001	Paper Transfer: Standard: 1st: S1	*ENG	[100 to 995 / **100** / 5%/step] S1 size ≥ 194 mm (Paper width)
002	Paper Transfer: Standard: 2nd: S1	*ENG	
003	Paper Transfer:Low:1st:S1	*ENG	
004	Paper Transfer:Low:2nd:S1	*ENG	
005	Paper Transfer: Standard: 1st: S2	*ENG	[100 to 995 / **135** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
006	Paper Transfer: Standard: 2nd: S2	*ENG	[100 to 995 / **200** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
007	Paper Transfer:Low:1st:S2	*ENG	[100 to 995 / **135** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
008	Paper Transfer:Low:2nd:S2	*ENG	[100 to 995 / **200** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
009	Paper Transfer: Standard: 1st: S3	*ENG	[100 to 995 / **135** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
010	Paper Transfer: Standard: 2nd: S3	*ENG	[100 to 995 / **390** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
011	PaperTransfer:Low:1st:S3	*ENG	[100 to 995 / **135** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper

			width)
012	PaperTransfer:Low:2nd:S3	*ENG	[100 to 995 / **390** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
013	Paper Transfer: Standard: 1st: S4	*ENG	[100 to 995 / **220** / 5%/step] 139 mm > S4 (Paper width)
014	Paper Transfer: Standard: 2nd: S4	*ENG	[100 to 995 / **330** / 5%/step] 139 mm > S4 (Paper width)
015	PaperTransfer:Low:1st:S4	*ENG	[100 to 995 / **220** / 5%/step] 139 mm > S4 (Paper width)
016	PaperTransfer:Low:2nd:S4	*ENG	[100 to 995 / **330** / 5%/step] 139 mm > S4 (Paper width)

2762	**[SP1:Size Correct: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		
001	Paper Transfer: Standard: 1st: S1	*ENG	[100 to 995 / **100** / 5%/step] S1 size ≥ 194 mm (Paper width)
002	Paper Transfer: Standard: 2nd: S1	*ENG	
003	Paper Transfer:Low:1st:S1	*ENG	
004	Paper Transfer:Low:2nd:S1	*ENG	
005	Paper Transfer: Standard: 1st: S2	*ENG	[100 to 995 / **135** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
006	Paper Transfer: Standard: 2nd: S2	*ENG	[100 to 995 / **200** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
007	Paper Transfer:Low:1st:S2	*ENG	[100 to 995 / **135** / 5%/step]

			194 mm > S2 size ≥ 165 mm (Paper width)
008	Paper Transfer:Low:2nd:S2	*ENG	[100 to 995 / **200** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
009	Paper Transfer: Standard: 1st: S3	*ENG	[100 to 995 / **135** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
010	Paper Transfer: Standard: 2nd: S3	*ENG	[100 to 995 / **325** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
011	PaperTransfer:Low:1st:S3	*ENG	[100 to 995 / **135** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
012	PaperTransfer:Low:2nd:S3	*ENG	[100 to 995 / **325** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
013	Paper Transfer: Standard: 1st: S4	*ENG	[100 to 995 / **220** / 5%/step] 139 mm > S4 (Paper width)
014	Paper Transfer: Standard: 2nd: S4	*ENG	[100 to 995 / **330** / 5%/step] 139 mm > S4 (Paper width)
015	PaperTransfer:Low:1st:S4	*ENG	[100 to 995 / **220** / 5%/step] 139 mm > S4 (Paper width)
016	PaperTransfer:Low:2nd:S4	*ENG	[100 to 995 / **330** / 5%/step] 139 mm > S4 (Paper width)

2763	**[SP1:Size Env.Correct: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		
001	Paper Transfer: Standard: 1st: S1	*ENG	[1 to 100 / **14** / 1 /step] S1 size ≥ 194 mm (Paper width)
002	Paper Transfer: Standard: 2nd: S1	*ENG	[1 to 100 / **13** / 1 /step] S1 size ≥ 194 mm (Paper width)
003	Paper Transfer:Low:1st:S1	*ENG	[1 to 100 / **10** / 1 /step] S1 size ≥ 194 mm (Paper width)
004	Paper Transfer:Low:2nd:S1	*ENG	[1 to 100 / **12** / 1 /step] S1 size ≥ 194 mm (Paper width)
005	Paper Transfer: Standard: 1st: S2	*ENG	[1 to 100 / **14** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
006	Paper Transfer: Standard: 2nd: S2	*ENG	[1 to 100 / **13** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
007	Paper Transfer:Low:1st:S2	*ENG	[1 to 100 / **10** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
008	Paper Transfer:Low:2nd:S2	*ENG	[1 to 100 / **12** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
009	Paper Transfer: Standard: 1st: S3	*ENG	[1 to 100 / **14** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)

010	Paper Transfer: Standard: 2nd: S3	*ENG	[1 to 100 / **5** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
011	PaperTransfer:Low:1st:S3	*ENG	[1 to 100 / **10** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
012	PaperTransfer:Low:2nd:S3	*ENG	[1 to 100 / **5** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
013	Paper Transfer: Standard: 1st: S4	*ENG	[1 to 100 / **14** / 1 /step] 139 mm > S4 (Paper width)
014	Paper Transfer: Standard: 2nd: S4	*ENG	[1 to 100 / **13** / 1 /step] 139 mm > S4 (Paper width)
015	PaperTransfer:Low:1st:S4	*ENG	[1 to 100 / **10** / 1 /step] 139 mm > S4 (Paper width)
016	PaperTransfer:Low:2nd:S4	*ENG	[1 to 100 / **12** / 1 /step] 139 mm > S4 (Paper width)

2764	**[SP1:Size Env.Correct: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		
001	Paper Transfer: Standard: 1st: S1	*ENG	[1 to 100 / **7** / 1 /step] S1 size ≥ 194 mm (Paper width)
002	Paper Transfer: Standard: 2nd: S1	*ENG	[1 to 100 / **43** / 1 /step] S1 size ≥ 194 mm (Paper width)
003	Paper Transfer:Low:1st:S1	*ENG	[1 to 100 / **37** / 1 /step] S1 size ≥ 194 mm (Paper width)

004	Paper Transfer:Low:2nd:S1	*ENG	[1 to 100 / **41** / 1 /step] S1 size ≥ 194 mm (Paper width)
005	Paper Transfer: Standard: 1st: S2	*ENG	[1 to 100 / **1** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
006	Paper Transfer: Standard: 2nd: S2	*ENG	[1 to 100 / **42** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
007	Paper Transfer:Low:1st:S2	*ENG	[1 to 100 / **37** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
008	Paper Transfer:Low:2nd:S2	*ENG	[1 to 100 / **40** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
009	Paper Transfer: Standard: 1st: S3	*ENG	[1 to 100 / **1** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
010	Paper Transfer: Standard: 2nd: S3	*ENG	[1 to 100 / **23** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
011	PaperTransfer:Low:1st:S3	*ENG	[1 to 100 / **37** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
012	PaperTransfer:Low:2nd:S3	*ENG	[1 to 100 / **39** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
013	Paper Transfer: Standard: 1st: S4	*ENG	[1 to 100 / **7** / 1 /step] 139 mm > S4 (Paper width)

014	Paper Transfer: Standard: 2nd: S4	*ENG	[1 to 100 / **43** / 1 /step] 139 mm > S4 (Paper width)
015	PaperTransfer:Low:1st:S4	*ENG	[1 to 100 / **37** / 1 /step] 139 mm > S4 (Paper width)
016	PaperTransfer:Low:2nd:S4	*ENG	[1 to 100 / **41** / 1 /step] 139 mm > S4 (Paper width)

2771	**[SP1: L-Edge 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.		
001	Paper Transfer: Standard: 1st	*ENG	[0 to 995 / **100** / 5%/step]
002	Paper Transfer: Standard: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: Low: 2nd	*ENG	
005	Separation DC: Standard: 1st	*ENG	
006	Separation DC: Standard: 2nd	*ENG	
007	Separation DC: Low: 1st	*ENG	
008	Separation DC: Low: 2nd	*ENG	

2772	**[SP 1:SwTiming:L-Edge] 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		
001	Paper Transfer: Standard: 1st	*ENG	[0 to 50 / **0** / 2 mm/step]
002	Paper Transfer: Standard: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: Low: 2nd	*ENG	
005	Separation DC: Standard: 1st	*ENG	
006	Separation DC: Standard: 2nd	*ENG	
007	Separation DC: Low: 1st	*ENG	
008	Separation DC: Low: 2nd	*ENG	

2773	**[SP1: T-Edge 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.		
001	Paper Transfer: Standard: 1st	*ENG	[0 to 995 / **100** / 5%/step]
002	Paper Transfer: Standard: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: Low: 2nd	*ENG	
005	Separation DC: Standard: 1st	*ENG	
006	Separation DC: Standard: 2nd	*ENG	
007	Separation DC: Low: 1st	*ENG	
008	Separation DC: Low: 2nd	*ENG	

2774	**[SP 1:SwTiming:T-Edge] 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		
001	Paper Transfer: Standard: 1st	*ENG	[0 to 50 / **0** / 2 mm/step]
002	Paper Transfer: Standard: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: Low: 2nd	*ENG	
005	Separation DC: Standard: 1st	*ENG	
006	Separation DC: Standard: 2nd	*ENG	
007	Separation DC: Low: 1st	*ENG	
008	Separation DC: Low: 2nd	*ENG	

2780	**[SP 1: Env. Correct Table] DFU** Standard: 260 mm/sec, Low: 85 mm/sec		
013	Separation DC: Standard: 1st	*ENG	[1 to 100 / **30** / 1 /step]
014	Separation DC: Standard: 2nd	*ENG	
015	Separation DC: Low: 1st	*ENG	
016	Separation DC: Low: 2nd	*ENG	
[SP 1: Edge-Env. Correct] DFU			
017	Separation DC: Standard: 1st	*ENG	[1 to 100 / **50** / 1 /step]
018	Separation DC: Standard: 2nd	*ENG	
019	Separation DC: Low: 1st	*ENG	
020	Separation DC: 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		
001	Separation DC: Middle Spd: 1st	*ENG	[0 to 6000 / 2000 / 10 -V /step]
002	Separation DC: Middle Spd: 2nd	*ENG	
003	Separation DC: Low Spd: 1st	*ENG	
004	Separation DC: Low Spd: 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		
001	Paper Transfer: Middle: 1st	*ENG	[0 to 230 / **15** / 1 –μA /step]
002	Paper Transfer: Middle: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	[0 to 230 / **9** / 1 –μA /step]
004	Paper Transfer: Low: 2nd	*ENG	[0 to 230 / **12** / 1 –μA /step]

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		
001	Paper Transfer: Middle: 1st	*ENG	[0 to 230 / **24** / 1 –μA /step]
002	Paper Transfer: Middle: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	[0 to 230 / **12** / 1 –μA /step]
004	Paper Transfer: Low: 2nd	*ENG	[0 to 230 / **18** / 1 –μA /step]

2811	**[SP 2: Size Correct: 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		
001	Paper Transfer: Middle: 1Side: S1	*ENG	[100 to 995 / **100** / 5%/step] S1 size ≥ 194 mm (Paper width)
002	Paper Transfer: Middle: 2Side: S1	*ENG	
003	Paper Transfer: Low: 1: S1	*ENG	
004	Paper Transfer: Low: 2: S1	*ENG	
005	Paper Transfer: Middle: 1Side: S2	*ENG	[100 to 995 / **150** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
006	Paper Transfer: Middle: 2Side: S2	*ENG	[100 to 995 / **160** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
007	Paper Transfer: Low: 1: S2	*ENG	[100 to 995 / **150** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
008	Paper Transfer: Low: 2: S2	*ENG	[100 to 995 / **160** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
009	Paper Transfer: Middle: 1Side: S3	*ENG	[100 to 995 / **150** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
010	Paper Transfer: Middle: 2Side: S3	*ENG	[100 to 995 / **270** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)

011	Paper Transfer: Low: 1: S3	*ENG	[100 to 995 / **150** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
012	Paper Transfer: Low: 2: S3	*ENG	[100 to 995 / **270** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
013	Paper Transfer: Middle: 1Side: S4	*ENG	[100 to 995 / **200** / 5%/step] 139 mm > S4 (Paper width)
014	Paper Transfer: Middle: 2Side: S4	*ENG	[100 to 995 / **435** / 5%/step] 139 mm > S4 (Paper width)
015	Paper Transfer: Low: 1: S4	*ENG	[100 to 995 / **200** / 5%/step] 139 mm > S4 (Paper width)
016	Paper Transfer: Low: 2: S4	*ENG	[100 to 995 / **435** / 5%/step] 139 mm > S4 (Paper width)

2812	**[SP 2: Size Correct: 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		
001	Paper Transfer: Middle: 1Side: S1	*ENG	[100 to 995 / **100** / 5%/step] S1 size ≥ 194 mm (Paper width)
002	Paper Transfer: Middle: 2Side: S1	*ENG	
003	Paper Transfer: Low: 1: S1	*ENG	
004	Paper Transfer: Low: 2: S1	*ENG	
005	Paper Transfer: Middle: 1Side: S2	*ENG	[100 to 995 / **150** / 5%/step]] 194 mm > S2 size ≥ 165 mm (Paper width)
006	Paper Transfer: Middle: 2Side: S2	*ENG	[100 to 995 / **160** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)

007	Paper Transfer: Low: 1: S2	*ENG	[100 to 995 / **150** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
008	Paper Transfer: Low: 2: S2	*ENG	[100 to 995 / **160** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
009	Paper Transfer: Middle: 1Side: S3	*ENG	[100 to 995 / **150** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
010	Paper Transfer: Middle: 2Side: S3	*ENG	[100 to 995 / **270** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
011	Paper Transfer: Low: 1: S3	*ENG	[100 to 995 / **150** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
012	Paper Transfer: Low: 2: S3	*ENG	[100 to 995 / **270** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
013	Paper Transfer: Middle: 1Side: S4	*ENG	[100 to 995 / **200** / 5%/step] 139 mm > S4 (Paper width)
014	Paper Transfer: Middle: 2Side: S4	*ENG	[100 to 995 / **435** / 5%/step] 139 mm > S4 (Paper width)
015	Paper Transfer: Low: 1: S4	*ENG	[100 to 995 / **200** / 5%/step] 139 mm > S4 (Paper width)
016	Paper Transfer: Low: 2: S4	*ENG	[100 to 995 / **435** / 5%/step] 139 mm > S4 (Paper width)

2813	**[SP 2: Size Env. Correct: 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		
001	Paper Transfer: Middle: 1Side: S1	*ENG	[1 to 100 / **20** / 1 /step] S1 size ≥ 194 mm (Paper width)
002	Paper Transfer: Middle: 2Side: S1	*ENG	[1 to 100 / **19** / 1 /step] S1 size ≥ 194 mm (Paper width)
003	Paper Transfer: Low: 1: S1	*ENG	[1 to 100 / **18** / 1 /step] S1 size ≥ 194 mm (Paper width)
004	Paper Transfer: Low: 2: S1	*ENG	[1 to 100 / **23** / 1 /step] S1 size ≥ 194 mm (Paper width)
005	Paper Transfer: Middle: 1Side: S2	*ENG	[1 to 100 / **20** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
006	Paper Transfer: Middle: 2Side: S2	*ENG	[1 to 100 / **19** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
007	Paper Transfer: Low: 1: S2	*ENG	[1 to 100 / **18** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
008	Paper Transfer: Low: 2: S2	*ENG	[1 to 100 / **23** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
009	Paper Transfer: Middle: 1Side: S3	*ENG	[1 to 100 / **20** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)

010	Paper Transfer: Middle: 2Side: S3	*ENG	[1 to 100 / **19** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
011	Paper Transfer: Low: 1: S3	*ENG	[1 to 100 / **18** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
012	Paper Transfer: Low: 2: S3	*ENG	[1 to 100 / **23** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
013	Paper Transfer: Middle: 1Side: S4	*ENG	[1 to 100 / **20** / 1 /step] 139 mm > S4 (Paper width)
014	Paper Transfer: Middle: 2Side: S4	*ENG	[1 to 100 / **19** / 1 /step] 139 mm > S4 (Paper width)
015	Paper Transfer: Low: 1: S4	*ENG	[1 to 100 / **18** / 1 /step] 139 mm > S4 (Paper width)
016	Paper Transfer: Low: 2: S4	*ENG	[1 to 100 / **23** / 1 /step] 139 mm > S4 (Paper width)

2814	**[SP 2: Size Env. Correct: 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		
001	Paper Transfer: Middle: 1Side: S1	*ENG	[1 to 100 / **2** / 1 /step] S1 size ≥ 194 mm (Paper width)
002	Paper Transfer: Middle: 2Side: S1	*ENG	[1 to 100 / **31** / 1 /step] S1 size ≥ 194 mm (Paper width)
003	Paper Transfer: Low: 1: S1	*ENG	[1 to 100 / **13** / 1 /step] S1 size ≥ 194 mm (Paper width)

004	Paper Transfer: Low: 2: S1	*ENG	[1 to 100 / **25** / 1 /step] S1 size ≥ 194 mm (Paper width)
005	Paper Transfer: Middle: 1Side: S2	*ENG	[1 to 100 / **2** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
006	Paper Transfer: Middle: 2Side: S2	*ENG	[1 to 100 / **31** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
007	Paper Transfer: Low: 1: S2	*ENG	[1 to 100 / **13** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
008	Paper Transfer: Low: 2: S2	*ENG	[1 to 100 / **25** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
009	Paper Transfer: Middle: 1Side: S3	*ENG	[1 to 100 / **2** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
010	Paper Transfer: Middle: 2Side: S3	*ENG	[1 to 100 / **31** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
011	Paper Transfer: Low: 1: S3	*ENG	[1 to 100 / **13** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
012	Paper Transfer: Low: 2: S3	*ENG	[1 to 100 / **25** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
013	Paper Transfer: Middle: 1Side: S4	*ENG	[1 to 100 / **2** / 1 /step] 139 mm > S4 (Paper width)

014	Paper Transfer: Middle: 2Side: S4	*ENG	[1 to 100 / **31** / 1 /step] 139 mm > S4 (Paper width)
015	Paper Transfer: Low: 1: S4	*ENG	[1 to 100 / **13** / 1 /step] 139 mm > S4 (Paper width)
016	Paper Transfer: Low: 2: S4	*ENG	[1 to 100 / **25** / 1 /step] 139 mm > S4 (Paper width)

2821	**[SP 2: L-Edge 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.		
001	Paper Transfer: Middle: 1st	*ENG	[0 to 995 / **100** / 5%/step]
002	Paper Transfer: Middle: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: Low: 2nd	*ENG	
005	Separation DC: Middle: 1st	*ENG	
006	Separation DC: Middle: 2nd	*ENG	
007	Separation DC: Low: 1st	*ENG	
008	Separation DC: Low: 2nd	*ENG	

2822	**[SP 2: SW Timing: L-Edge] 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		
001	Paper Transfer: Middle: 1st	*ENG	[0 to 50 / **0** / 2 mm/step]
002	Paper Transfer: Middle: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: Low: 2nd	*ENG	
005	Separation DC: Middle: 1st	*ENG	
006	Separation DC: Middle: 2nd	*ENG	
007	Separation DC: Low: 1st	*ENG	
008	Separation DC: Low: 2nd	*ENG	

2823	**[SP 2: T-Edge 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.		
001	Paper Transfer: Middle: 1st	*ENG	[0 to 995 / **100** / 5%/step]
002	Paper Transfer: Middle: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: Low: 2nd	*ENG	
005	Separation DC: Middle: 1st	*ENG	

006	Separation DC: Middle: 2nd	*ENG	
007	Separation DC: Low: 1st	*ENG	
008	Separation DC: Low: 2nd	*ENG	

2824	**[SP 2: SwTiming: T-Edge] 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		
001	Paper Transfer: Middle: 1st	*ENG	[0 to 50 / **0** / 2 mm/step]
002	Paper Transfer: Middle: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: Low: 2nd	*ENG	
005	Separation DC: Middle: 1st	*ENG	
006	Separation DC: Middle: 2nd	*ENG	
007	Separation DC: Low: 1st	*ENG	
008	Separation DC: Low: 2nd	*ENG	

2830	**[SP 2: Env. Correct Table] DFU** Middle: 182 mm/sec, Low: 85 mm/sec		
013	Separation DC: Middle: 1st	*ENG	[1 to 100 / **30** / 1 /step]
014	Separation DC: Middle: 2nd	*ENG	
015	Separation DC: Low: 1st	*ENG	
016	Separation DC: Low: 2nd	*ENG	
[SP 2: Edge-Env. Correct] DFU			
017	Separation DC: Middle: 1st	*ENG	[1 to 100 / **30** / 1 /step]
018	Separation DC: Middle: 2nd	*ENG	
019	Separation DC: Low: 1st	*ENG	
020	Separation DC: Low: 2nd	*ENG	

2851	**[Special 3: Bias]**		
	Adjusts the DC voltage of the discharge plate for special paper 3. Low: 85 mm/sec		
003	Separation DC: Low Spd: 1st	*ENG	[0 to 6000 / 2000 / 10 -V/step]
004	Separation DC: Low Spd: 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		
003	Paper Transfer: Low: 1st	*ENG	[0 to 230 / **9** / 1 –μA /step]
004	Paper Transfer: Low: 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		
003	Paper Transfer: Low: 1st	*ENG	[0 to 230 / **12** / 1 –μA /step]
004	Paper Transfer: Low: 2nd	*ENG	[0 to 230 / **18** / 1 –μA /step]

2861	**[Special 3: Size Correct: 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		
001	Paper Transfer: Low: 1: S1	*ENG	[100 to 995 / **100** / 5%/step] S1 size ≥ 194 mm (Paper width)
002	Paper Transfer: Low: 2: S1	*ENG	
003	Paper Transfer: Low: 1: S2	*ENG	[100 to 995 / **150** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
004	Paper Transfer: Low: 2: S2	*ENG	[100 to 995 / **160** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
005	Paper Transfer: Low: 1: S3	*ENG	[100 to 995 / **150** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
006	Paper Transfer: Low: 2: S3	*ENG	[100 to 995 / **270** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
007	Paper Transfer: Low: 1: S4	*ENG	[100 to 995 / **200** / 5%/step] 139 mm > S4 (Paper width)
008	Paper Transfer: Low: 2: S4	*ENG	[100 to 995 / **435** / 5%/step] 139 mm > S4 (Paper width)

2862	**[Special 3: Size Correct: 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		
001	Paper Transfer: Low: 1: S1	*ENG	[100 to 995 / **100** / 5%/step] S1 size ≥ 194 mm (Paper width)
002	Paper Transfer: Low: 2: S1	*ENG	
003	Paper Transfer: Low: 1: S2	*ENG	[100 to 995 / **150** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
004	Paper Transfer: Low: 2: S2	*ENG	[100 to 995 / **160** / 5%/step] 194 mm > S2 size ≥ 165 mm (Paper width)
005	Paper Transfer: Low: 1: S3	*ENG	[100 to 995 / **150** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
006	Paper Transfer: Low: 2: S3	*ENG	[100 to 995 / **270** / 5%/step] 165 mm > S3 size ≥ 139 mm (Paper width)
007	Paper Transfer: Low: 1: S4	*ENG	[100 to 995 / **200** / 5%/step] 139 mm > S4 (Paper width)
008	Paper Transfer: Low: 2: S4	*ENG	[100 to 995 / **435** / 5%/step] 139 mm > S4 (Paper width)

2863	**[Special 3: Size Env. Correct: 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		
001	Paper Transfer: Low: 1: S1	*ENG	[1 to 100 / **24** / 1 /step] S1 size ≥ 194 mm (Paper width)
002	Paper Transfer: Low: 2: S1	*ENG	[1 to 100 / **22** / 1 /step] S1 size ≥ 194 mm (Paper width)
003	Paper Transfer: Low: 1: S2	*ENG	[1 to 100 / **24** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
004	Paper Transfer: Low: 2: S2	*ENG	[1 to 100 / **22** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
005	Paper Transfer: Low: 1: S3	*ENG	[1 to 100 / **24** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
006	Paper Transfer: Low: 2: S3	*ENG	[1 to 100 / **22** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
007	Paper Transfer: Low: 1: S4	*ENG	[1 to 100 / **24** / 1 /step] 139 mm > S4 (Paper width)
008	Paper Transfer: Low: 2: S4	*ENG	[1 to 100 / **22** / 1 /step] 139 mm > S4 (Paper width)

2864	**[Special 3: Size Env. Correct: 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		
001	Paper Transfer: Low: 1: S1	*ENG	[1 to 100 / **24** / 1 /step] S1 size ≥ 194 mm (Paper width)
002	Paper Transfer: Low: 2: S1	*ENG	[1 to 100 / **27** / 1 /step] S1 size ≥ 194 mm (Paper width)
003	Paper Transfer: Low: 1: S2	*ENG	[1 to 100 / **24** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
004	Paper Transfer: Low: 2: S2	*ENG	[1 to 100 / **27** / 1 /step] 194 mm > S2 size ≥ 165 mm (Paper width)
005	Paper Transfer: Low: 1: S3	*ENG	[1 to 100 / **24** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
006	Paper Transfer: Low: 2: S3	*ENG	[1 to 100 / **27** / 1 /step] 165 mm > S3 size ≥ 139 mm (Paper width)
007	Paper Transfer: Low: 1: S4	*ENG	[1 to 100 / **24** / 1 /step] 139 mm > S4 (Paper width)
008	Paper Transfer: Low: 2: S4	*ENG	[1 to 100 / **27** / 1 /step] 139 mm > S4 (Paper width)

2871	**[Special 3: L-Edge 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.		
003	Paper Transfer: Low: 1st	*ENG	[0 to 995 / **100** / 5%/step]
004	Paper Transfer: Low: 2nd	*ENG	
007	Separation DC: Low: 1st	*ENG	
008	Separation DC: Low: 2nd	*ENG	

2872	**[Special 3: Sw Timing: Lead. Edge] 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		
003	Paper Transfer: Low: 1st	*ENG	[0 to 50 / **0** / 2 mm/step]
004	Paper Transfer: Low: 2nd	*ENG	
007	Separation DC: Low: 1st	*ENG	
008	Separation DC: Low: 2nd	*ENG	

2873	**[Special 3: T-Edge 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.		
003	Paper Transfer: Low: 1st	*ENG	[0 to 995 / **100** / 5%/step]
004	Paper Transfer: Low: 2nd	*ENG	
007	Separation DC: Low: 1st	*ENG	
008	Separation DC: Low: 2nd	*ENG	

2874	**[Special 3: Sw Timing: T-Edge] 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		
003	Paper Transfer: Low: 1st	*ENG	[0 to 50 / **0** / 2 mm/step]
004	Paper Transfer: Low: 2nd	*ENG	
007	Separation DC: Low: 1st	*ENG	
008	Separation DC: Low: 2nd	*ENG	

2880	**[Special 3: Env. Correct Table] DFU** Low: 85 mm/sec		
015	Separation DC: Low: 1st	*ENG	[1 to 100 / **30** / 1 /step]
016	Separation DC: Low: 2nd	*ENG	
[SP 3: Edge-Env. Correct] DFU			
019	Separation DC: Low: 1st	*ENG	[1 to 100 / **30** / 1 /step]
020	Separation DC: Low: 2nd	*ENG	

2902	**[OPC Drum Rev Time] DFU**		
	Adjusts the time for how long the drum motor reverses after job end.		
002	All: FC	*ENG	[0 to 800 / **70** / 10 msec/step]
003	DevRev: FC	*ENG	
004	DevRev: Bk	*ENG	

2904	**[Image Transfer Rev Time] DFU**		
	Adjusts the time for how long the image transfer belt motor reverses after job end.		
003	All	*ENG	[0 to 800 / **70** / 10 msec/step]

2906	**[Drum Phase Angle] DFU**		
001	Y	*ENG	[0 to 359 / **0** / 1 deg/step]
002	M	*ENG	
003	C	*ENG	
004	K	*ENG	
005	Color	*ENG	
[Drum Amplitude Setting] DFU			
006	Y	*ENG	[0 to 100 / **0** / 0.1 μm/step]
007	M	*ENG	
008	C	*ENG	
009	K	*ENG	
010	Color	*ENG	
[Drum Stop Position] DFU			
011	K	*ENG	[0 to 359 / **0** / 1 deg/step]
012	Color	*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.		
001	Bk Image Count	*ENG	[0 to 10 / **0** / 1 sheet/step]

2911	[Offset Phase] DFU		
001	Y Drum	*ENG	[0 to 359 / **0** / 1 deg/step]
002	M Drum	*ENG	
003	C Drum	*ENG	
004	K Drum	*ENG	

2912	[Offset Gain] DFU		
001	Y Drum	*ENG	[0 to 100 / **0** / 0.1 μm/step]
002	M Drum	*ENG	
003	C Drum	*ENG	
004	K Drum	*ENG	

2914	[Shutter Motor] DFU		
008	Delay Time Open	*ENG	[0 to 500 / **240** / 10 msec/step]
009	Delay Time Close	*ENG	[0 to 500 / **370** / 10 msec/step]
[Adjust Delay Time]			
010	Shutter Open	*ENG	[0 to 500 / **100** / 10 msec/step]
011	Shutter Close	*ENG	[0 to 500 / **180** / 10 msec/step]
[Skip]			
014	Shutter Open/ Close	*ENG	[0 or 1 / **1** / 1/step]

2915	[GainAdj:BkOpcDevM] DFU		
002	260 mm/sec	*ENG	[0 or 1 / **0** / 1/step] 0: GAIN: High speed 1: GAIN: Low speed
003	182 mm/sec	*ENG	[0 or 1 / **1** / 1/step] 0: GAIN: High speed 1: GAIN: Low speed
005	85 mm/sec	*ENG	

2916	[GainAdj:ColorOpcM] DFU		
002	260 mm/sec	*ENG	[0 or 1 / **0** / 1/step] 0: GAIN: High speed 1: GAIN: Low speed
003	182 mm/sec	*ENG	
005	85 mm/sec	*ENG	[0 or 1 / **1** / 1/step] 0: GAIN: High speed 1: GAIN: Low speed

2920	[Transfer Motor Ctrl]		
001	TransferMotorCtrl	*ENG	**DFU** [0 or 1 / **1** / 1 /step] 0: FG Control 1: ENC Control
002	SC443 Count	*ENG	[0 to 3 / **0** / 1 /step]
	Displays the detection times of SC443.		
003	BkTransferMotorCtrl 85	*ENG	**DFU** [0 or 1 / **1** / 1 /step] 0: FG Control 1: ENC Control

2930	**[P-Transfer:Bias Limit] DFU** Paper Transfer Roller Feed-back: Threshold Adjustment		
	Adjusts the threshold between high resistance (division 1) and low resistance (division 2) at the paper transfer roller.		
001	Bias	*ENG	[0 to 7000 / **6000** / 10 –V/step]

2941	**[Dev. Bias Down Mode] DFU**		
001	T5: Bk: Standard	*ENG	[-140 to 140 / **0** / 10 msec /step]
002	T7: FC: Standard	*ENG	
003	T5: Bk: Low	*ENG	[-210 to 210 / **0** / 10 msec /step]
004	T7: FC: Low	*ENG	
005	T5: Bk: Middle	*ENG	
006	T7: FC: Middle	*ENG	

2960	**[Process Interval] DFU**		
001	Additional Time	*ENG	[0 to 10 / **1** / 1 sec/step]

2971	**[BW Non-Image:Bias ON] DFU**		
001	T1 BW:Bias On:Standard	*ENG	[-360 to 80 / **0** / 10 msec/step]
002	T1 BW:Bias On:Middle	*ENG	[-780 to 210 / **0** / 10 msec/step]
003	T1 BW:Bias On:Low	*ENG	

SP3-XXX (Process)

3011	**[Process Cont. Manual Execution]**		
001	Normal Procon	-	[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.
002	Toner Density Adjst	-	[0 or 1 / **0** / 1 /step] Executes the toner density adjustment manually. Check the result with SP3-325-001 after executing this SP.
003	Procon Pre-ACC	-	[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.
004	With Full MUSIC	-	[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.
005	With Normal MUSIC	-	[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.

3012	**[Process Cont. Check Result]** 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.		
001	History: Latest	*ENG	[1111 to 99999999 / **-** / 1/step]
002	Result: Latest 1	*ENG	
003	Result: Latest 2	*ENG	
004	Result: Latest 3	*ENG	
005	Result: Latest 4	*ENG	
006	Result: Latest 5	*ENG	
007	Result: Latest 6	*ENG	
008	Result: Latest 7	*ENG	
009	Result: Latest 8	*ENG	
010	Result: Latest 9	*ENG	

3013	**[TD Sen Initial Setting]** Developer Initialization Setting		
001	Execution: ALL	-	[0 or 1 / **0** / 1/step]
002	Execution: COL	-	
003	Execution: Bk	-	
004	Execution: C	-	
005	Execution: M	-	
006	Execution: Y	-	

3014	**[TD Sen Initial Set Result]** Developer Initialization Result: Display		
001	Display: YMCK	*ENG	[0 to 9999 / **-** / 1 /step] 1: Success 2 to 9: Failure
	Displays the developer initialization result. See the "Error Condition Tables" in the Process Control Error section for details on the meaning of each code. All colors are displayed. Values are displayed in the order Y M C Bk. e.g., 1 (Y) 1 (M) 2 (C) 1 (Bk): Initialization of Cyan failed but the others succeeded.		

3015	**[Forced Toner Supply]** Forced Toner Supply ([Color])		
001	Execution: ALL	-	[0 or 1 / **0** / 1 /step] Executes the manual toner supply to the development unit.
002	Execution: COL (MCY)	-	
003	Execution: Bk	-	
004	Execution: C	-	
005	Execution: M	-	
006	Execution: Y	-	

3016	**[Forced Toner Supply Cntl]** Forced Toner Supply Setting ([Color])		
	Specifies the manual toner supply time for each color.		
001	Supply Time: Bk	*ENG	[0 to 30 / **4** / 1 sec/step]
002	Supply Time: C	*ENG	
003	Supply Time: M	*ENG	
004	Supply Time: Y	*ENG	

3020	**[Vt Limit Error]**		
	DFU		
001	Delta Vt Threshold	*ENG	[0 to 5 / **5** / 0.01 V/step]
002	Upper Threshold	*ENG	[0 to 5 / **4.7** / 0.01 V/step]
003	Upper Error Thresh	*ENG	[0 to 99 / **20** / 1 time/step]
004	Lower Threshold	*ENG	[0 to 5 / **0.5** / 0.01 V/step]
005	Lower Error Thresh	*ENG	[0 to 99 / **10** / 1 times/step]
006	Upper Counter: Bk	*ENG	Displays the total times of the Vt upper or lower limit error. [0 to 99 / **0** / 1 times/step]
007	Upper Counter: C	*ENG	
008	Upper Counter: M	*ENG	
009	Upper Counter: Y	*ENG	
010	Lower Counter: Bk	*ENG	
011	Lower Counter: C	*ENG	
012	Lower Counter: M	*ENG	
013	Lower Counter: Y	*ENG	

3021	**[TD Sensor Initial Set]** Developer Initialization Setting		
	Specifies the developer agitation time for each color at the developer initialization.		
001	Agitation Time: Bk	*ENG	[0 to 200 / **65** / 1 sec/step]
002	Agitation Time: C	*ENG	
003	Agitation Time: M	*ENG	
004	Agitation Time: Y	*ENG	
005-008	Sets the execution flag of the developer initialization for each color.		
005	Execution Flag: Bk	*ENG	[0 or 1 / **0** / 1/step] 0: Flag OFF, 1: Flag ON This flag is cleared after executing TD sensor initialization.
006	Execution Flag: C	*ENG	
007	Execution Flag: M	*ENG	
008	Execution Flag: Y	*ENG	
009	Initial Setting Prohibition	*ENG	Enables or disables developer initialization. **DFU** [0 or 1 / **0** / 1/step] 0: Enable, 1: Disable

3022	**[Toner Replenishment Mode]**		
	Sets the toner supply flag of each color.		
005	Execution Flag: Bk	*ENG	[0 or 1 / **0** / 1/step] 0: Flag OFF, 1: Flag ON This flag is cleared after executing TD sensor initialization.
006	Execution Flag: C	*ENG	
007	Execution Flag: M	*ENG	
008	Execution Flag: Y	*ENG	

3041	**[Process Control Type]**		
001	Bias 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.		
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.		
003	Auto Control Prohibition Set	*ENG	[0 or 1 / **0** / 1/step]
	DFU		
004	Pre-ACC Process Control	*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.		
005	Pattern Caluculation Method	*ENG	[0 to 2 / **0** / 1/step] 0: FIXED 1: INITIALIZED 2: CALCULATED

3043	**[TD Adjustment Mode]**		
001	Repeat Number: Power ON	*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		
002	Repeat Number: 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		
003	Repeat Number: 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		

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		
005	Repeat Number: Recovery	*ENG	[0 to 9 / **3** / 1 time/step]
	Not used		
006	Repeat Number: 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		
007	Repeat Number:Interrupt	*ENG	[0 to 9 / **0** / 1 time/step]
	Specifies the maximum number of repeats of the toner density adjustment during printing. **DFU**		
008	Toner Supply Coeff.	*ENG	[0 to 25.5 / **10** / 0.1 sec/step]
	Adjusts the time for the toner supply mode when a toner density is detected to be low.		
009	C-pattern: Bk	*ENG	[0 to 255 / **5** / 1 time/step]
	Specifies the belt mark generating time for checking the black toner density when toner density is detected to be low at the toner density adjustment.		

010	C-pattern: C	*ENG	[0 to 255 / **5** / 1 time/step]
	Specifies the belt mark generating time for checking the magenta toner density when toner density is detected to be low at the toner density adjustment.		
011	C-pattern: M	*ENG	[0 to 255 / **5** / 1 time/step]
	Specifies the belt mark generating time for checking the cyan toner density when toner density is detected to be low at the toner density adjustment.		
012	C-pattern: Y	*ENG	[0 to 255 / **5** / 1 time/step]
	Specifies the belt mark generating time for checking the yellow toner density when toner density is detected to be low at the toner density adjustment.		
013	T1 Bias: Bk	*ENG	[0 to 80 / **26** / 1 μA/step]
	Adjusts the image transfer belt bias for Black.		
014	T1 Bias: C	*ENG	[0 to 80 / **22** / 1 μA/step]
	Adjusts the image transfer belt bias for Magenta.		
015	T1 Bias: M	*ENG	[0 to 80 / **22** / 1 μA/step]
	Adjusts the image transfer belt bias for Cyan.		
016	T1 Bias: Y	*ENG	[0 to 80 / **22** / 1 μA/step]
	Adjusts the image transfer belt bias for Yellow.		
017	Developer Agitation Time	*ENG	[0 to 255 / **10** / 1 sec/step]
	Specifies the developer mixing time at the toner density adjustment.		
018	C-Pattern: 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).		

019	C-Pattern: 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).		
020	C-Pattern: 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).		
021	C-Pattern: 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.		
001	Bk	*ENG	[0 to 4 / **4** / 1/step] Alphanumeric 0: FIXED (with the supply rates stored with SP 3401) 1: PID (Vtref_Fixed) 2: PID (Vtref_Control) 3: MBD (Vtref_Fixed) 4: MBD (Vtref_Control)
002	C	*ENG	
003	M	*ENG	
004	Y	*ENG	

3045	**[Toner End Detection: Set]**		
	Enables/disables the toner alert display on the LCD.		
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**		
001	Toner Replenishment: Bk	*ENG	[1 to 600 / **240** / 1 g/step]
002	Toner Replenishment: C	*ENG	
003	Toner Replenishment: M	*ENG	
004	Toner Replenishment: Y	*ENG	
005-008	Displays the consumed amount of each color toner.		
005	Toner Consumption: Bk	*ENG	[0 to 3000 / **0** / 0.001 g/step]
006	Toner Consumption: C	*ENG	
007	Toner Consumption: M	*ENG	
008	Toner Consumption: Y	*ENG	
009-012	Displays the remaining amount of each color toner. These are calculated by the operating times of the toner supply pumps.		
009	Toner Remaining: Bk	*ENG	[–50000 to 600 / **0** / 0.001 g/step]
010	Toner Remaining: C	*ENG	
011	Toner Remaining: M	*ENG	
012	Toner Remaining: 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.		
013	Near End Thresh: Bk	*ENG	[0 to 600 / **45** / 1 g/step]
014	Near End Thresh: C	*ENG	
015	Near End Thresh: M	*ENG	
016	Near End Thresh: Y	*ENG	
021	Delta Vt Threshold	*ENG	[0 to 5 / **5** / 0.01 V/step]
	This SP is the threshold for toner end. Delta Vt: Vt-Vtref When both this SP and SP3-101-026 occur at same time, toner end is determined.		
022-025	Displays the total delta Vt (Vt-Vtref) value for each color.These are calculated by pixel counting.		
022	Delta Vt Sum: Bk	*ENG	[0 to 655 / **0** / 0.01 V/step]
023	Delta Vt Sum: C	*ENG	
024	Delta Vt Sum: M	*ENG	
025	Delta Vt Sum: Y	*ENG	
026	Delta Vt Sum Threshold	*ENG	[0 to 255 / **10** / 1 V/step]
028-031	Displays the consumed toner amount calculated with the pixel count for each color.		
028	Pixel: Consumption: Bk	*ENG	[0 to 3000 / **0** / 0.001 g/step]
029	Pixel: Consumption: C	*ENG	
030	Pixel: Consumption: M	*ENG	
031	Pixel: Consumption: Y	*ENG	

032-035	Displays the remaining toner amount for each color, using pixel count.		
032	Pixel: Remaining : Bk	*ENG	[-50000 to 600 / **0** / 0.001 g/step]
033	Pixel: Remaining : C	*ENG	
034	Pixel: Remaining : M	*ENG	
035	Pixel: Remaining : Y	*ENG	
040-043	Displays the pixel M/A for each color.		
040	Pixel M/A: Bk	*ENG	[0 to 1 / **0.679** / 0.001 mg/cm^2/step]
041	Pixel M/A: C	*ENG	[0 to 1 / **0.638** / 0.001 mg/cm^2/step]
042	Pixel M/A: M	*ENG	
043	Pixel M/A: Y	*ENG	
044	Delta Vt Thresh BF NE	*ENG	Adjusts the delta Vt (Vt – Vtref) of toner end before toner near end is detected. [0 to 5 / **5** / 0.01 V/step]
045	Delta Vt Sum Thresh BF NE	*ENG	Adjusts the total delta Vt (Vt – Vtref) of toner end before toner near end is detected. [0 to 255 / **10** / 1 V/step]
046-049	Displays the latest bottle motor off time.		
046	Bottle Motor Off Time: Bk	*ENG	[0 to 0 x FFFFFFFF / **0** / 1 sec/step]
047	Bottle Motor Off Time: C	*ENG	
048	Bottle Motor Off Time: M	*ENG	
049	Bottle Motor Off Time: Y	*ENG	

050-053	Adjusts the threshold of the remaining toner for the toner near-end detection. **DFU**		
050	TE Sn Detect Thresh:Bk	*ENG	[0 to 3000 / **999** / 0.001 g/step]
051	TE Sn Detect Thresh:C	*ENG	
052	TE Sn Detect Thresh:M	*ENG	
053	TE Sn Detect Thresh:Y	*ENG	

3102	**[Toner End Recovery] 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.		
001	Repeat: Bk	*ENG	[1 to 20 / **5** / 1 time/step]
002	Repeat: C	*ENG	
003	Repeat: M	*ENG	
004	Repeat: Y	*ENG	

3131	**[TE Count: Display]**		
	Display the number of toner end detections for each color.		
001	Bk	*ENG	[0 to 99 / **0** / 1 time/step]
002	C	*ENG	
003	M	*ENG	
004	Y	*ENG	

3201	**[TD Sensor: Vt Display]**		
	Display the current voltage of the TD sensor for each color.		
001	Current: Bk	*ENG	[0 to 5.5 / **0.01** / 0.01 V/step]
002	Current: C	*ENG	
003	Current: M	*ENG	
004	Current: Y	*ENG	

3211	**[Vt Shift: Display/Set]**		
	Adjusts the Vt correction value for each line speed. Middle: 182 mm/sec, Low: 85 mm/sec		
001	Med Speed Shift:Bk	*ENG	[0 to 5 / **0.46** / 0.01 V/step]
002	Med Speed Shift:C	*ENG	[0 to 5 / **0.48** / 0.01 V/step]
003	Med Speed Shift:M	*ENG	[0 to 5 / **0.5** / 0.01 V/step]
004	Med Speed Shift:Y	*ENG	[0 to 5 / **0.45** / 0.01 V/step]
005	Low Speed Shift:Bk	*ENG	[0 to 5 / **0.84** / 0.01 V/step]
006	Low Speed Shift:C	*ENG	[0 to 5 / **0.87** / 0.01 V/step]
007	Low Speed Shift:M	*ENG	
008	Low Speed Shift:Y	*ENG	[0 to 5 / **0.84** / 0.01 V/step]
009	Mid TC Shift: Bk	*ENG	[-0.5 to 0.5 / **0** / 0.01 V/step]
010	Mid TC Shift: C	*ENG	
011	Mid TC Shift: M	*ENG	
012	Mid TC Shift: Y	*ENG	
013	Low TC Shift: Bk	*ENG	

014	Low TC Shift: C	*ENG	
015	Low TC Shift: M	*ENG	
016	Low TC Shift: Y	*ENG	

3221	**[Vtcnt: Display/Set]**		
	Displays or adjusts the current Vtcnt value for each color.		
001	260 Current: Bk	*ENG	[2.45 to 5 / **3.7** / 0.01 V/step]
002	260 Current: C	*ENG	
003	260 Current: M	*ENG	
004	260 Current: Y	*ENG	
005-008	Displays or adjusts the Vtcnt value for each color at developer initialization. **DFU**		
005	260 Initial: Bk	*ENG	[2.45 to 5 / **3.7** / 0.01 V/step]
006	260 Initial: C	*ENG	
007	260 Initial: M	*ENG	
008	260 Initial: Y	*ENG	
009	182 Current: Bk	*ENG	[2.45 to 5 / **3.5** / 0.01 V/step]
010	182 Current: C	*ENG	
011	182 Current: M	*ENG	
012	182 Current: Y	*ENG	
013	182 Initial: Bk	*ENG	
014	182 Initial: C	*ENG	
015	182 Initial: M	*ENG	
016	182 Initial: Y	*ENG	

3222	**[Vtcnt: Display/Set]**		
	Displays or adjusts the current Vtref value for each color.		
001	Current: Bk	*ENG	[0 to 5.5 / **3** / 0.01 V/step]
002	Current: C	*ENG	
003	Current: M	*ENG	
004	Current: Y	*ENG	
005-008	Displays or adjusts the Vtref value for each color at developer initialization. **DFU**		
005	Initial: Bk	*ENG	[0 to 5.5 / **3** / 0.01 V/step]
006	Initial: C	*ENG	
007	Initial: M	*ENG	
008	Initial: Y	*ENG	
009-012	Displays or adjusts Vtref correction by pixel coverage for each color. **DFU**		
009	Pixel Correction: Bk	*ENG	[-5 to 5.5 / **0** / 0.01 V/step]
010	Pixel Correction: C	*ENG	
011	Pixel Correction: M	*ENG	[-5 to 5 / **0** / 0.01 V/step]
012	Pixel Correction: Y	*ENG	

3223	**[Vtref U/L-Limit Set] DFU**		
	Adjusts the lower or upper limit value of Vtref for each color.		
001	Lower: Bk	*ENG	[0 to 5 / **2** / 0.01 V/step]
002	Lower: C	*ENG	
003	Lower: M	*ENG	
004	Lower: Y	*ENG	
005	Upper: Bk	*ENG	[0 to 5 / **4** / 0.01 V/step]
006	Upper: C	*ENG	
007	Upper: M	*ENG	
008	Upper: Y	*ENG	
009	Initial TC	*ENG	Adjusts the initial toner concentration. [1 to 15 / **8** / 0.1 wt%/step]
010	Upper: TC	*ENG	Adjusts the upper limit of the toner concentration. [1 to 15 / **10.5** / 0.1 wt%/step]
011	Lower: TC	*ENG	Adjusts the lower limit of the toner concentration. [1 to 15 / **4** / 0.1 wt%/step]
012	Upper Sensitivity	*ENG	Adjusts the upper limit of the TD sensor sensitivity. [0.2 to 0.5 / **0.44** / 0.001 V/wt% /step]
013	Lower Sensitivity	*ENG	Adjusts the lower limit of the TD sensor sensitivity. [0.2 to 0.5 / **0.209** / 0.001 V/wt% /step]
014	TD Thresh H/M	*ENG	[1 to 10 / **4** / 0.1 wt%/step]
015	TD Thresh M/L	*ENG	

3224	**[Vtref Correct: Pixel] DFU**		
	Adjusts the coefficient of Vtref correction for each coverage and color.		
001	Low Coverage Coeff. Bk	*ENG	[0 to 5 / **0.7** / 0.1 /step]
002	Low Coverage Coeff.C	*ENG	
003	Low Coverage Coeff.M	*ENG	
004	Low Coverage Coeff. Y	*ENG	
005	High Coverage Coeff. Bk	*ENG	[0 to 5 / **1.8** / 0.01 V/step]
006	High Coverage Coeff. C	*ENG	
007	High Coverage Coeff. M	*ENG	
008	High Coverage Coeff. Y	*ENG	
009	Low Coverage: Thresh	*ENG	Adjusts the threshold of the low coverage. [0 to 20 / **3** / 0.1 %/step]
010	High Coverage: Thresh:M	*ENG	Adjusts the threshold of the high coverage. [0 to 100 / **30** / 1 %/step]
011	TC Upper Limit Correction	*ENG	[0 to 5 / **0.5** / 0.1 wt%/step]
012	TC Upper Limit:Display: Bk	*ENG	[1 to 15 / **10** / 0.1 wt% /step]
013	TC Upper Limit:Display: C	*ENG	
014	TC Upper Limit:Display: M	*ENG	
015	TC Upper Limit:Display: Y	*ENG	
016	Process Control Thresh	*ENG	[0 to 255 / **15** / 1 time/step]

3230	[Toner Supply MBD] DFU		
001	ADD:Time	*ENG	[0 to 1000 / **200** / 10 msec/step]
002	ADD:K	*ENG	[0 to 2 / **1** / 0.01 /step]
003	ADD:C	*ENG	
004	ADD:M	*ENG	
005	ADD:Y	*ENG	
006	ADD:MiddleSpd	*ENG	[0 to 5 / **1** / 0.01 /step]
007	ADD:LowSpd	*ENG	
008	Msec:V	*ENG	[0 to 1 / **0.08** / 0.01 /step]
009	N:Delay	*ENG	[0 to 200 / **5** / 1 /step]
030	PID:I:K	*ENG	[0 to 100 / **0.4** / 0.01 /step]
031	PID:I:C	*ENG	
032	PID:I:M	*ENG	
033	PID:I:Y	*ENG	
034	PID:P:K	*ENG	[0 to 100 / **8** / 0.01 /step]
035	PID:P:C	*ENG	
036	PID:P:M	*ENG	
037	PID:P:Y	*ENG	
038	PID:I: MidSpd	*ENG	[0 to 5 / **0.7** / 0.01 /step]
039	PID:I: LowSpd	*ENG	[0 to 5 / **0.33** / 0.01 /step]
040	PID:P: MidSpd	*ENG	[0 to 5 / **0.7** / 0.01 /step]

041	PID:P: LowSpd	*ENG	[0 to 5 / **0.33** / 0.01 /step]
060	AWILOW:K	*ENG	[-1 to 1 / **0.125** / 0.0001 /step]
061	AWILOW:C	*ENG	
062	AWILOW:M	*ENG	
063	AWILOW:Y	*ENG	
064	AWPUP:K	*ENG	[-1 to 1 / **1** / 0.0001 /step]
065	AWPUP:C	*ENG	
066	AWPUP:M	*ENG	
067	AWPUP:Y	*ENG	
068	AWILOW:MidSpd	*ENG	[0 to 100 / **0.18** / 0.01 /step]
069	AWPUP:MidSpd	*ENG	[0 to 100 / **1** / 0.01 /step]
070	AWILOW:LowSpd	*ENG	[0 to 100 / **0.38** / 0.01 /step]
071	AWPUP: LowSpd	*ENG	[0 to 100 / **1** / 0.01 /step]
090	SMITH:K	*ENG	[0 to 2 / **1** / 0.01 /step]
091	SMITH:C	*ENG	
092	SMITH:M	*ENG	
093	SMITH:Y	*ENG	
094	SMITH: MidSpd	*ENG	[0 to 5 / **1** / 0.01 /step]
095	SMITH: LowSpd	*ENG	
100	Int:Conserve:I:K	*ENG	[-1000 to 1000 / **0** / 0.0001 /step]
101	Int:Conserve:I:C	*ENG	
102	Int:Conserve:I:M	*ENG	
103	Int:Conserve:I:Y	*ENG	
110	ANCrefCons:K	*ENG	

111	ANCrefCons:C	*ENG	
112	ANCrefCons:M	*ENG	
113	ANCrefCons:Y	*ENG	
120	ANCY:K	*ENG	[0 to 10 / **0.69** / 0.01 /step]
121	ANCY:C	*ENG	[0 to 10 / **0.8** / 0.01 /step]
122	ANCY:M	*ENG	[0 to 10 / **0.84** / 0.01 /step]
123	ANCY:Y	*ENG	[0 to 10 / **0.88** / 0.01 /step]
124	ANCT:K	*ENG	[0 to 10 / **0.6** / 0.01 /step]
125	ANCT:C	*ENG	[0 to 10 / **0.7** / 0.01 /step]
126	ANCT:M	*ENG	[0 to 10 / **0.73** / 0.01 /step]
127	ANCT:Y	*ENG	[0 to 10 / **0.77** / 0.01 /step]
128	ANCY:MidSpd	*ENG	[0 to 10 / **1.07** / 0.01 /step]
129	ANCT:MidSpd	*ENG	[0 to 10 / **1.1** / 0.01 /step]
130	ANCY:LowSpd	*ENG	[0 to 10 / **1.02** / 0.01 /step]
131	ANCT:LowSpd	*ENG	[0 to 10 / **1.16** / 0.01 /step]
150	AWPNI:K	*ENG	[0 to 10 / **0.2** / 0.001 /step]
151	AWPNI:C	*ENG	
152	AWPNI:M	*ENG	
153	AWPNI:Y	*ENG	
154	PID	*ENG	[0 to 5 / **1** / 0.01 /step]
180	ANCLA:K	*ENG	[0 to 10 / **0.49** / 0.01 /step]
181	ANCLA: C	*ENG	[0 to 10 / **0.57** / 0.01 /step]
182	ANCLA: M	*ENG	[0 to 10 / **0.6** / 0.01 /step]
183	ANCLA: Y	*ENG	[0 to 10 / **0.63** / 0.01 /step]

184	ANCLB:K	*ENG	[0 to 10 / **0.41** / 0.01 /step]
185	ANCLB: C	*ENG	[0 to 10 / **0.48** / 0.01 /step]
186	ANCLB: M	*ENG	[0 to 10 / **0.5** / 0.01 /step]
187	ANCLB: Y	*ENG	[0 to 10 / **0.52** / 0.01 /step]
188	ANCLA: Midspd	*ENG	[0 to 5 / **0.86** / 0.01 /step]
189	ANCLB: Midspd	*ENG	[0 to 5 / **0.7** / 0.01 /step]
190	ANCLA: Lowspd	*ENG	[0 to 5 / **0.55** / 0.01 /step]
191	ANCLB: Lowspd	*ENG	[0 to 5 / **0.31** / 0.01 /step]
210	PIX:TBL:1	*ENG	[0 to 5 / **1** / 0.01 /step]
211	PIX:TBL:2	*ENG	
212	PIX:TBL:3	*ENG	
213	PIX:TBL:4	*ENG	
214	PIX:TBL:5	*ENG	
215	PIX:TBL:6	*ENG	
216	PIX:TBL:7	*ENG	
217	PIX:TBL:8	*ENG	
218	PIX:TBL:9	*ENG	
219	PIX:TBL:10	*ENG	
220	PIX:TBL:11	*ENG	
221	PIX:TBL:12	*ENG	
222	PIX:COR:K	*ENG	
223	PIX:COR:C	*ENG	
224	PIX:COR:M	*ENG	

225	PIX:COR:Y	*ENG	
226	SEL:PIX:AVE	*ENG	[1 to 5 / **2** / 1 /step]
240	PID:I:LIM:Std	*ENG	[0 to 1 / **0.154** / 0.001 /step]
241	PID:I:LIM:LowSpd	*ENG	[0 to 1 / **0.05** / 0.001 /step]
242	PID:I:STD to Low	*ENG	[0 to 5 / **0.33** / 0.01 /step]
243	PID:I:Low to STD	*ENG	[0 to 5 / **3.06** / 0.01 /step]
244	PID:I:LIM:MidSpd	*ENG	[0 to 1 / **0.108** / 0.001 /step]
245	PID:I:STD to MID	*ENG	[0 to 5 / **0.7** / 0.01 /step]
246	PID:I:MID to STD	*ENG	[0 to 5 / **1.43** / 0.01 /step]
247	PID:I:MID to Low	*ENG	[0 to 5 / **0.47** / 0.01 /step]
248	PID:I:Low to MID	*ENG	[0 to 5 / **2.14** / 0.01 /step]

3231	**[Toner Supply: Setting] DFU**		
	Adjusts the coefficient of the toner supply time for each color.		
001	Conversion Coeff.:Bk	*ENG	[0.5 to 9.99 / **2.18** / 0.01 /step]
002	Conversion Coeff.:C	*ENG	
003	Conversion Coeff.:M	*ENG	[0.5 to 9.99 / **2.24** / 0.01 /step]
004	Conversion Coeff.:Y	*ENG	[0.5 to 9.99 / **2.18** / 0.01 /step]

3232	[T - Supply Coeff.: Setting] DFU		
001	Vt Proportion: Bk	*ENG	[0 to 2550 / **50** / 1 /step]
002	Vt Proportion: C	*ENG	
003	Vt Proportion: M	*ENG	
004	Vt Proportion: Y	*ENG	
005	Pixel Proportion: Bk	*ENG	[0 to 2.55 / **0.58** / 0.01 /step]
006	Pixel Proportion: C	*ENG	[0 to 2.55 / **0.51** / 0.01 /step]
007	Pixel Proportion: M	*ENG	[0 to 2.55 / **0.52** / 0.01 /step]
008	Pixel Proportion: Y	*ENG	[0 to 2.55 / **0.54** / 0.01 /step]
009	Vt Integral Control: Bk	*ENG	[0 to 2550 / **500** / 1 /step]
010	Vt Integral Control: C	*ENG	
011	Vt Integral Control: M	*ENG	
012	Vt Integral Control: Y	*ENG	
013	Vt Sum Times: Bk	*ENG	[1 to 255 / **20** / 1 time/step]
014	Vt Sum Times: C	*ENG	
015	Vt Sum Times: M	*ENG	
016	Vt Sum Times: Y	*ENG	

3233	[Pixel-Prop. Coeff.2:Set] DFU		
001	Correction Coeff.:1	*ENG	[0 to 2.55 / **1** / 0.01 /step]
002	Correction Coeff.:2	*ENG	[0 to 2.55 / **0.5** / 0.01 /step]
003	Correction Coeff.:3	*ENG	[0 to 2.55 / **0** / 0.01 /step]
004	Correction Coeff.:4	*ENG	[0 to 2.55 / **0.25** / 0.01 /step]
005	Correction Coeff.:5	*ENG	[0 to 2.55 / **0.5** / 0.01 /step]

3234	[Pixel-Prop. Coeff.3:Set] DFU		
001	Correction Value 1	*ENG	[-0.1 to 0 / -**0.01** / 0.01 /step]
002	Correction Value 2	*ENG	[0 to 0.1 / **0.01** / 0.01 /step]

3235	[Toner Supply Coeff.: Display] DFU		
001	Pixel Proportion 2: Bk	*ENG	[0 to 2.55 / **1** / 0.01 /step]
002	Pixel Proportion 2: C	*ENG	
003	Pixel Proportion 2: M	*ENG	
004	Pixel Proportion 2: Y	*ENG	
005	Pixel Proportion 3: Bk	*ENG	[0.7 to 1.3 / **1** / 0.01 /step]
006	Pixel Proportion 3: C	*ENG	
007	Pixel Proportion 3: M	*ENG	
008	Pixel Proportion 3: Y	*ENG	
009	Vt Integral Value: Bk	*ENG	[-255 to 255 / **0** / 0.01 /step]
010	Vt Integral Value: C	*ENG	
011	Vt Integral Value: M	*ENG	
012	Vt Integral Value: Y	*ENG	

3236	[Toner Supply Consum.: Display] DFU		
	Displays the toner amount of the latest toner supply for each color.		
001	Latest: Bk	*ENG	[0 to 40000 / **0** / 0.1 mg/step]
002	Latest: C	*ENG	
003	Latest: M	*ENG	
004	Latest: Y	*ENG	

3237	[Developer Agitation Setting]		
	Displays the toner amount of the latest toner supply for each color. **DFU**		
001	Agitation Time	*ENG	[0 to 200 / **5** / 1 sec/step]

3238	[Vt Target: Setting]		
	Displays the Vt target value at developer initialization. **DFU**		
001	Bk	*ENG	[0 to 5 / **2.7** / 0.01 V/step]
002	C	*ENG	
003	M	*ENG	
004	Y	*ENG	

3239	[Vtref Correction: Setting]		
	Adjusts the parameter for Vtref correction at the process control.		
001	(+)Consumption: Bk	*ENG	[0 to 1 / **0.08** / 0.01 V/step]
002	(+)Consumption: C	*ENG	
003	(+)Consumption: M	*ENG	
004	(+)Consumption: Y	*ENG	
005	(-)Consumption: Bk	*ENG	
006	(-)Consumption: C	*ENG	

007	(-)Consumption: M	*ENG	
008	(-)Consumption: Y	*ENG	
009-012	Threshold for development gamma rank.		
009	P Rank 1 Threshold	*ENG	[0 to 2 / **0.5** / 0.01 /step]
010	P Rank 2 Threshold	*ENG	[0 to 2 / **0.25** / 0.01 /step]
011	P Rank 3 Threshold	*ENG	[-2 to 0 / **-0.25** / 0.01 /step]
012	P Rank 4 Threshold	*ENG	[-2 to 0 / **-0.5** / 0.01 /step]
013-014	Threshold for image density rank on the image transfer belt.		
013	T Rank 1 Threshold	*ENG	[-1 to 0 / **-0.16** / 0.01 V/step]
014	T Rank 2 Threshold	*ENG	[0 to 1 / **0.16** / 0.01 V/step]
015	Correct Value Coef	*ENG	[1 to 2.5 / **9.99** / 0.01 /step]

3241	**[Background Potential Setting]**		
001	Coefficient: Bk	*ENG	These are parameters for calculating the charge bias referring to the development bias at process control. [-1000 to 1000 / **0** / 1 /step] DC charge bias = Development bias x (1 + 0.001 x these vales) + SP3-241-005 to -008
002	Coefficient: C	*ENG	
003	Coefficient: M	*ENG	
004	Coefficient: Y	*ENG	
005	Offset: Bk	*ENG	These are additional values for calculating the charge bias referring to the development bias at process control. [0 to 255 / **158** / 1 V/step] DC charge bias = Development bias x (1 + 0.001 x SP3-241-001 to -004) + these values
006	Offset: C	*ENG	
007	Offset: M	*ENG	
008	Offset: Y	*ENG	

3242	**[LD Power Setting]**		
	Adjusts the coefficient for LD power control value at the process control.		
001	Standard Speed: Coefficient: Bk	*ENG	[-1000 to 1000 / **152** / 1 /step]
002	Standard Speed: Coefficient: C	*ENG	
003	Standard Speed: Coefficient: M	*ENG	
004	Standard Speed: Coefficient: Y	*ENG	
005	Standard Speed: Offset: Bk	*ENG	[-1000 to 1000 / **7** / 1 /step]
006	Standard Speed: Offset: C	*ENG	
007	Standard Speed: Offset: M	*ENG	
008	Standard Speed: Offset: Y	*ENG	
009	Middle Speed: Coef: Bk	*ENG	[-1000 to 1000 / **141** / 1 /step]
010	Middle Speed: Coef: C	*ENG	
011	Middle Speed: Coef: M	*ENG	
012	Middle Speed: Coef: Y	*ENG	
013	Middle Speed: Offset: Bk	*ENG	[-1000 to 1000 / **13** / 1 /step]
014	Middle Speed: Offset: C	*ENG	
015	Middle Speed: Offset: M	*ENG	
016	Middle Speed: Offset: Y	*ENG	
017	Low Speed Coeff.:Bk	*ENG	[-1000 to 1000 / **123** / 1 /step]
018	Low Speed Coeff.:C	*ENG	
019	Low Speed Coeff.:M	*ENG	
020	Low Speed Coeff.:Y	*ENG	

021	Low Speed Offset:Bk	*ENG	[-1000 to 1000 / **16** / 1 /step]
022	Low Speed Offset:C	*ENG	
023	Low Speed Offset:M	*ENG	
024	Low Speed Offset:Y	*ENG	

3243	**[Development Bias: Speed Correct Setting]**		
	DFU		
001	Middle Speed: Coef: Bk	*ENG	[0.5 to 1 / **1.5** / 0.01 /step]
002	Middle Speed: Coef: C	*ENG	
003	Middle Speed: Coef: M	*ENG	
004	Middle Speed: Coef: Y	*ENG	
005	Middle Speed: Offset: Bk	*ENG	[0 to 200 / **0** / 1 V/step]
006	Middle Speed: Offset: C	*ENG	
007	Middle Speed: Offset: M	*ENG	
008	Middle Speed: Offset: Y	*ENG	
009	Low Speed: Coef: Bk	*ENG	[0.5 to 1.5 / **0.92** / 0.01 /step]
010	Low Speed: Coef: C	*ENG	
011	Low Speed: Coef: M	*ENG	
012	Low Speed: Coef: Y	*ENG	
013	Low Speed: Offset: Bk	*ENG	[0 to 200 / **0** / 1 V/step]
014	Low Speed: Offset: C	*ENG	
015	Low Speed: Offset: M	*ENG	
016	Low Speed: Offset: Y	*ENG	

3251	**[Coverage]**		
	These (-001 to -016) are coefficients for SP3-222-009 to -012.		
001	Latest: Pixcel Bk	*ENG	Displays the latest coverage for each color. [0 to 9999 / **0** / 1 cm^2/step]
002	Latest: Pixcel C	*ENG	
003	Latest: Pixcel M	*ENG	
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.		
005	Average S: Bk	*ENG	[0 to 100 / **5** / 0.01 %/step]
006	Average S: C	*ENG	
007	Average S: M	*ENG	
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.		
009	Average M: Bk	*ENG	[0 to 100 / **5** / 0.01 %/step]
010	Average M: C	*ENG	
011	Average M: M	*ENG	
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.		
013	Average L: Bk	*ENG	[0 to 100 / **5** / 0.01 %/step]
014	Average L: C	*ENG	
015	Average L: M	*ENG	
016	Average L: Y	*ENG	
017-019	Adjusts the threshold for SP3-251-005 to -016.		
017	Total Page Setting: S	*ENG	[1 to 100 / **50** / 1 sheet/step]
018	Total Page Setting: M	*ENG	[1 to 500 / **10** / 1 sheet/step]
019	Total Page Setting: L	*ENG	[1 to 999 / **50** / 1 sheet/step]
020-022	Adjusts the threshold for SP3-251-024 to -027.		
020	Total Page Setting: S2	*ENG	[1 to 100 / **20** / 1 sheet/step]
021	Total Page Setting: M2	*ENG	[1 to 500 / **10** / 1 sheet/step]
022	Total Page Setting: L2	*ENG	[1 to 999 / **50** / 1 sheet/step]
024-027	Displays the latest coverage ratio for each color.		
024	Latest Coverage: Bk	*ENG	[0 to 100 / - / 0.01 %/step]
025	Latest Coverage: C	*ENG	
026	Latest Coverage: M	*ENG	
027	Latest Coverage: Y	*ENG	
028	Displays the threshold of whether to perform developer churning or not.		
	DevAgi. Theresh BF ProCon	*ENG	[0 to 100 / **20** / 1 %/step]

3311	**[ID Sn Detection Value]**		
	Displays the ID sensor (regular) offset voltage for Vsg adjustments.		
001	Voffset reg: Bk	*ENG	[0 to 5 / **0** / 0.01 V/step]
002	Voffset reg: C	*ENG	[0 to 5.5 / **0** / 0.01 V/step]
003	Voffset reg: M	*ENG	
004	Voffset reg: Y	*ENG	
005-007	Displays the ID sensor (diffusion) offset voltage for Vsg adjustments.		
005	Voffset dif: C	*ENG	[0 to 5.5 / **0** / 0.01 V/step]
006	Voffset dif: M	*ENG	
007	Voffset dif: Y	*ENG	
008-010	Displays the ID sensor offset voltage for Vsg adjustments.		
008	Voffset TM (Front)	*ENG	[0 to 5.5 / **0** / 0.01 V/step]
009	Voffset TM (Center)	*ENG	
010	Voffset TM (Rear)	*ENG	

3321	**[Vsg Adjust: Exe.]**		
010	P/TM Sensor All	-	Execute the ID sensor initialization setting for all sensors

3322	[Vsg Adjust. Result: Vsg]		
	Displays the result value of the Vsg adjustment for each sensor.		
001	Vsg reg: Bk	*ENG	[0 to 5.5 / **0** / 0.01 V/step]
002	Vsg reg: C	*ENG	
003	Vsg reg: M	*ENG	
004	Vsg reg: Y	*ENG	
005	Vsg dif: C	*ENG	
006	Vsg dif: M	*ENG	
007	Vsg dif: Y	*ENG	
008	Vsg TM (Front)	*ENG	
009	Vsg TM (Center)	*ENG	
010	Vsg TM (Rear)	*ENG	

3323	[Vsg Adjust. Result: Ifsg] DFU		
001	Ifsg: Bk	*ENG	[0 to 50 / **0** / 0.1 mA/step]
002	Ifsg: C	*ENG	
003	Ifsg: M	*ENG	
004	Ifsg: Y	*ENG	
005	Ifsg TM (Front)	*ENG	
006	Ifsg TM (Center)	*ENG	
007	Ifsg TM (Rear)	*ENG	

3324	[Vsg Adjustment: Set] DFU		
003	Vsg Error Counter	*ENG	[0 to 99 / **0** / 0.1 time/step]
004	Vofset Threshold	*ENG	[0 to 5 / **1** / 0.01 V/step]
005	Vsg Upper Threshold	*ENG	[0 to 5 / **4.5** / 0.01 V/step]
006	Vsg Lower Threshold	*ENG	[0 to 5 / **3.5** / 0.01 V/step]

3325	[Vsg Adjustment 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).		
001	Latest	*ENG	[111 to 9999 / **9999** / 1 /step] 9: Unexpected error 3: Offset voltage error 2: Vsg adjustment value error 1: O.K
002	Latest 1	*ENG	
003	Latest 2	*ENG	
004	Latest 3	*ENG	
005	Latest 4	*ENG	
006	Latest 5	*ENG	
007	Latest 6	*ENG	
008	Latest 7	*ENG	
009	Latest 8	*ENG	
010	Latest 9	*ENG	

3361	[ID Sn Sensitivity: Display] DFU		
003	K2C (Latest)	*ENG	[0 to 5 / **0** / 0.0001 /step]
004	K5C (Latest)	*ENG	
005	K2M (Latest)	*ENG	
006	K5M (Latest)	*ENG	
007	K2Y (Latest)	*ENG	
008	K5Y (Latest)	*ENG	

3362	[ID Sn Sensitivity: Setting] DFU		
001	K2: Upper	*ENG	[0 to 1 / **0.32** / 0.01 /step]
002	K2: Lower	*ENG	[0 to 1 / **0.22** / 0.01 /step]
003	K5: Upper	*ENG	[0 to 10 / **6.5** / 0.01 /step]
004	K5: Lower	*ENG	[0 to 1 / **0.5** / 0.01 /step]
005	Kn: Upper	*ENG	[0 to 1 / **0.05** / 0.01 /step]
006	Kn: Lower	*ENG	[0 to 1 / **0.7** / 0.01 /step]
007	K5 Edit Point	*ENG	[0 to 1 / **0.15** / 0.01 /step]
008	K5 Target Voltage	*ENG	[0 to 5 / **2.2** / 0.01 V/step]
009	K5 Approximate Method	*ENG	[0 to 1 / **1** / 1 /step] 0:Linear, 1: Curve
010	K2: U/L Limit Coeff. 1	*ENG	[0 to 1 / **0** / 0.01 /step]
011	K2: Upper Limit Correction	*ENG	[–0.2 to 0.4 / **0.03** / 0.01 /step]

012	K2: Lower Limit Correction	*ENG	[–0.4 to 0.2 / **–0.03** / 0.01 /step]
013	Diffusion Correction: C	*ENG	[0.75 to 1.35 / **1** / 0.01 /step]
014	Diffusion Correction: M	*ENG	
015	Diffusion Correction: Y	*ENG	
016	K2: Check: C	*ENG	[0 to 1 / **0.25** / 0.001 /step]
017	K2: Check: M	*ENG	
018	K2: Check: Y	*ENG	

3363	**[ID Pattern Timing Setting] DFU**		
001	Scan YCMBk	*ENG	Adjusts the detection timing for the process control pattern. [-500 to 500 / **0** / 1 mm/step]
002	Detection Delay Time	*ENG	Adjusts the timing when the paper transfer unit is kept away from the image transfer belt. [0 to 2500 / **1400** / 1 msec/step]
003	Delay Time	*ENG	Adjusts the processing timing for the process control pattern. [0 to 2500 / **930** / 1 msec/step]
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]

3371	[M/A Calculation] DFU		
001	Correction Coeff.: Bk	*ENG	[0.5 to 2 / **1** / 0.01 /step]
002	Correction Coeff.: C	*ENG	
003	Correction Coeff.: M	*ENG	
004	Correction Coeff.: Y	*ENG	
005	Color Correct Coeff.:Bk	*ENG	
006	Color Correct Coeff.:C	*ENG	
007	Color Correct Coeff.:M	*ENG	
008	Color Correct Coeff.:Y	*ENG	

3401	[Fixed Toner Supply Mode]		
	Adjusts the toner supply rate in the fixed toner supply mode.		
001	Fixed Rate: Bk	*ENG	[0 to 100 / **5** / 1 %/step] These SPs are used only when SP3-044 is set to "0".
002	Fixed Rate: C	*ENG	
003	Fixed Rate: M	*ENG	
004	Fixed Rate: Y	*ENG	

3411	[Toner Supply Rate: Display]		
	Displays the current toner supply rate.		
001	Latest: Bk	*ENG	[0 to 100 / **-** / 1 %/step]
002	Latest: C	*ENG	
003	Latest: M	*ENG	
004	Latest: Y	*ENG	

3421	[Toner Supply Range]		
001	Upper Limit: Bk	*ENG	Adjusts the toner supply rate during printing. [0 to 100 / **100** / 1%/step]
002	Upper Limit: C	*ENG	
003	Upper Limit: M	*ENG	
004	Upper Limit: Y	*ENG	
005	Minimum Supply Time: Bk	*ENG	Adjusts the minimum toner supply time. [0 to 1000 / **200** / 1 msec/step]
006	Minimum Supply Time: C	*ENG	
007	Minimum Supply Time: M	*ENG	
008	Minimum Supply Time: Y	*ENG	

3451	[T-Supply Carry Over: Display]		
001	Bk	*ENG	Displays the toner supply time carried over from a previous toner supply mode for each color. [0 to 10000 / **0** / 1 msec/step]
002	C	*ENG	
003	M	*ENG	
004	Y	*ENG	

3452	[T-Supply Carry Over: Setting] DFU		
001	Maximum: Bk	*ENG	Adjusts the maximum time carried over from a previous toner supply mode. [0 to 10000 / **1000** / 1 msec/step]
002	Maximum: C	*ENG	
003	Maximum: M	*ENG	
004	Maximum: Y	*ENG	

3453	**[Toner Supply: Setting]**		
	Adjusts the toner supply time.		
001	Motor Control Max Drive Time	*ENG	[0 to 10000 / **800** / 1 msec/step]
002	Motor Break Time	*ENG	[0 to 10000 / **200** / 1 msec/step]

3501	**[Process Control Target M/A]**		
	Adjusts the target M/A of the full coverage in single color printer mode.		
001	Maximum M/A: Bk	*ENG	[0 to 1 / **0.482** / 0.001 mg/cm^2/step]
002	Maximum M/A: C	*ENG	[0 to 1 / **0.5** / 0.001 mg/cm^2/step]
003	Maximum M/A: M	*ENG	
004	Maximum M/A: Y	*ENG	

3510	**[Image Adj. Counter:Display]**		
	Displays the total page counter for each adjustment mode.		
001	Process Control: BW	*ENG	[0 to 2000 / **0** / 1 page/step]
002	Process Control: FC	*ENG	
003	Power ON: BW	*ENG	
004	Power ON: FC	*ENG	
005	MUSIC: BW	*ENG	
006	MUSIC: FC	*ENG	
007	Vsg Adj.	*ENG	
008	Charge AC Control	*ENG	
009	MUSIC: Power ON: BW	*ENG	
010	MUSIC: Power ON: FC	*ENG	

3511	**[Execution Interval: Setting]**		
	Adjusts the threshold for each adjustment mode.		
001	Job End: Process Control: BW	*ENG	[0 to 2000 / **250** / 1 page/step]
002	Job End: Process Control: FC	*ENG	[0 to 2000 / **85** / 1 page/step]
003	Interrupt: Process Control: BW	*ENG	[0 to 2000 / **500** / 1 page/step]
004	Interrupt: Process Control: FC	*ENG	[0 to 2000 / **200** / 1 page/step]
005	Initial: Potential Control: BW	*ENG	[0 to 2000 / **250** / 1 page/step]
006	Initial: Potential Control: FC	*ENG	[0 to 2000 / **100** / 1 page/step]
007	Vsg Adj. Counter	*ENG	[0 to 2000 / **0** / 1 page/step]
008	Charge AC Control Counter	*ENG	[0 to 2000 / **500** / 1 page/step]
019	Envir.Correction:ON/OFF	*ENG	[0 or 1 / **1** / 1 /step] 0: Not Correct (OFF), 1: Correct (ON)
020	Gamma Correction: ON/OFF	*ENG	
021	Non-use Time Correct:ON/OFF	*ENG	
022	Correction Coeff. 1: JE: BW	*ENG	[0 to 1 / **0.2** / 0.01 /step]
023	Correction Coeff. 2: JE: BW	*ENG	[0 to 1 / **1** / 0.01/step]
024	Correction Coeff. 1: JE: FC	*ENG	[0 to 1 / **0.59** / 0.01/step]
025	Correction Coeff. 2: JE: FC	*ENG	[0 to 1 / **1** / 0.01/step]
026	Correction Coeff. 1: Interrupt: BW	*ENG	[0 to 1 / **0.1** / 0.01/step]
027	Correction Coeff. 2: Interrupt: BW	*ENG	[0 to 1 / **1** / 0.01/step]
028	Correction Coeff. 1: Interrupt: FC	*ENG	[0 to 1 / **0.25** / 0.01/step]

029	Correction Coeff. 2: Interrupt: FC	*ENG	[0 to 1 / **1** / 0.01/step]
030	Max. Number Correction Threshold	*ENG	[0 to 99 / **5** / 1/step]
031	Max. Number Correction Counter	*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.		
001	During Job	*ENG	[0 to 100 / **10** / 1 page/step]
002	During Stand-by	*ENG	[0 to 100 / **10** / 1 minute/step]

3513	**[PCU Motor Stop Time: Bk]**		
	Displays the last time that the PCU motors stopped. These are used for process control execution timing.		
001	Year	*ENG	[0 to 99 / **0** / 1/step]
002	Month	*ENG	[1 to 12 / **1** / 1/step]
003	Day	*ENG	[1 to 31 / **1** / 1/step]
004	Hour	*ENG	[0 to 23 / **0** / 1/step]
005	Minute	*ENG	[0 to 59 / **0** / 1/step]

3514	**[Environmental Displ: Job End]**		
	Displays the environmental conditions at the last job. These are used for process control execution timing.		
001	Temperature	*ENG	[-1280 to 1270 / **0** / 0.1°C/step]
002	Relative Humidity	*ENG	[0 to 1000 / **-** / 0.1%RH/step]
003	Absolute Humidity	*ENG	[0 to 1000 / **-** / 0.1 g/cm^3/step]

3515	**[Execution Interval: Display]**		
	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.		
001	Job End: Process Control: BW	*ENG	[0 to 2000 / **500** / 1 page/step]
002	Job End: Process Control: FC	*ENG	[0 to 2000 / **200** / 1 page/step]
003	Interrupt: Process Control: BW	*ENG	[0 to 2000 / **500** / 1 page/step]
004	Interrupt: Process Control: 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.		
001	Dev. Motor Rotation: Display: Bk	*ENG	[0 to 1000 / **0** / 0.1 m/step]
002	Dev. Motor Rotation: Display: C	*ENG	
003	Dev. Motor Rotation: Display: M	*ENG	
004	Dev. Motor Rotation: Display: Y	*ENG	

005	Rotation Threshold	*ENG	[0 to 1000 / **0.1** / 1 m/step]
006	Pixel Coverage Sum: Bk	*ENG	[0 to 65535 / **0** / 1 cm^2/step]
007	Pixel Coverage Sum: C	*ENG	
008	Pixel Coverage Sum: M	*ENG	
009	Pixel Coverage Sum: Y	*ENG	
010	Required Area: Bk	*ENG	
011	Required Area: C	*ENG	
012	Required Area: M	*ENG	
013	Required Area: Y	*ENG	
014	Refresh Threshold: Bk	*ENG	[0 to 255 / **35** / 1 cm^2/m/step]
015	Refresh Threshold: C	*ENG	[0 to 255 / **18** / 1 cm^2/m/step]
016	Refresh Threshold: M	*ENG	
017	Refresh Threshold: Y	*ENG	
018	Pattern Number: Bk	*ENG	[0 to 255 / **0** / 1 time/step]
019	Pattern Number: C	*ENG	
020	Pattern Number: M	*ENG	
021	Pattern Number: Y	*ENG	
022	Pattern Number: Upper limit	*ENG	[0 to 255 / **16** / 1 time/step]
023	Toner Consumption Pattern Area	*ENG	[10 to 2550 / **130** / 10 cm^2/step]
024	Supply Coefficient	*ENG	[0 to 2.55 / **0.8** / 0.01/step]

025	Job End Area Coefficient	*ENG	[0.1 to 25.5 / **1** / 0.1/step]
026	Job End Vb Coefficient	*ENG	[0 to 100 / **40** / 1%/step]
027	Job End Length	*ENG	[0 to 56 / **28** / 1mm/step]
028	Job End Supply	*ENG	[0 to 1 / **0.45** / 0.001 mg/cm^2/step]
029	TnCnmp: IntvlThsh	*ENG	[0 to 1000 / **0** / 1 page/step]
030	TnCnmp: Counter:Bk	*ENG	
031	TnCnmp: Counter:FC	*ENG	
032	TnCnmp: IntvlThsh2	*ENG	[0 to 255 / **4** / 1 page/step]

3517	**[Blade Damage Prevention]**		
	Adjusts the threshold temperature for preventing the cleaning blade in the transfer belt cleaning unit from being damaged. If the temperature is above this value, toner is applied to the transfer belt at set intervals during the job to prevent the blade from flipping over.		
001	Execution Temp. Thresh	*ENG	[0 to 50 / **0** / 1 deg/step]

3518	**[Image Adj. Execution Flag] DFU**		
001	Toner End Recovery: Bk	*ENG	[0 or 1 / **0** / 1/step] 0: OFF. 1: ON
002	Toner End Recovery: C	*ENG	
003	Toner End Recovery: M	*ENG	
004	Toner End Recovery: Y	*ENG	
005	Vsg Adjustment	*ENG	
006	Developer Agitation	*ENG	
007	Process Control	*ENG	[0 to 2 / **0** / 1/step] 0: OFF. 1: ON (once), 2: ON (twice)
008	MUSIC	*ENG	

009	Drum Phase Adj.	*ENG	[0 or 1 / **0** / 1/step] 0: OFF. 1: ON
010	Charge AC Control	*ENG	
011	Blade Damage Prevention	*ENG	
012	Vsg Average Error	*ENG	[0 or 1 / **0** / 1/step] Sets "1", when the following values shows. Vsg_reg_ave: 3.5 ≤ Vsg_reg_ave ≤ 4.5 or Vsg_dif_ave: 0.0 ≤ Vsg_dif_ave ≤ 0.5

3519	**[Toner End Prohibition Setting]**		
	Enables or disables each adjustment at toner end.		
001	Process Control	*ENG	[0 or 1 / **1** / 1/step] 0: Permit (adjustment is done even toner end condition) 1: Forbid (adjustment is not done at toner end condition)
002	MUSIC	*ENG	
003	TC Adjustment	*ENG	

3520	**[ITB Idle Rotation] DFU**		
001	Temperature: High	*ENG	Specifies the idle rotation times of the ITB after the process control. [0 or 3 / **1.9** / 1 revolution/step]
002	Temperature: Medium	*ENG	
003	Temperature: Low	*ENG	
004	Temp.: L: ON	*ENG	
005 to 011	Adjusts the threshold temperature for entering the ITB idle rotation after the process control.		
005	Temp. Range Thresh:T2	*ENG	[20 or 30 / **25** / 1 deg/step]
006	Temp. Range Thresh:T1	*ENG	[0 or 15 / **15** / 1 deg/step]

3522	**[Initial Process Control Setting]**		
	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.		
002	Non-use Time Setting	*ENG	[0 to 1440 / **360** / 1 minute/step]
003	Temp. Range	*ENG	[0 to 99 / **10** / 1 deg/step]
004	Relative Humidity Change	*ENG	[0 to 99 / **50** / 1 %RH/step]
005	Absolute Humidity Change	*ENG	[0 to 99 / **6** / 1 g/m^3/step]
100	**[Rapi Timer]**		
	Time Setting	*ENG	[0 to 255 / **30** / 1 sec/step]
	Adjusts the time-out time to get the Rapi timer.		

3531	**[Non-use Time Process Control Setting]**		
	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.		
001	Non-use Time Setting	*ENG	[0 to 1440 / **360** / 1 minute/step]
002	Temp. Range	*ENG	[0 to 99 / **10** / 1 deg/step]
003	Relative Humidity Change	*ENG	[0 to 99 / **50** / 1 %RH/step]
004	Absolute Humidity Change	*ENG	[0 to 99 / **6** / 1 g/m^3/step]
005	Maximum Execution Number	*ENG	Adjusts the maximum execution time for the process control at stand-by. [0 to 99 / **10** / 1 time/step]

3611	[Dev. Gamma: Display/Set]		
001	Bk (Current)	*ENG	Displays the current development gamma for Bk [0 to 5 / **0** / 0.01 mg/cm^2/kV /step]
002	C (Current)	*ENG	Displays the current development gamma for C/M/Y. [0 to 5 / **0** / 0.01 mg/cm^2/kV /step]
003	M (Current)	*ENG	
004	Y (Current)	*ENG	
005	Bk (Target Display)	*ENG	Displays the target development gamma for Bk. [0 to 5 / **0.85** / 0.01 mg/cm^2/kV /step]
006	C (Target Display)	*ENG	Displays the target development gamma for C/M/Y. [0 to 5 / **0.85** / 0.01 mg/cm^2/kV /step]
007	M (Target Display)	*ENG	[0 to 5 / **0.8** / 0.01 mg/cm^2/kV /step]
008	Y (Target Display)	*ENG	[0 to 5 / **0.77** / 0.01 mg/cm^2/kV /step]
009	Bk (Standard Target Set)	*ENG	Displays the standard target development gamma for each color. [0 to 5 / **1.37** / 0.01 mg/cm^2/kV /step]
010	C (Standard Target Set)	*ENG	[0 to 5 / **1.32** / 0.01 mg/cm^2/kV /step]
011	M (Standard Target Set)	*ENG	
012	Y (Standard Target Set)	*ENG	
013	Environmental Correction	*ENG	Turns on or off the environmental correction for target development gamma. [0 or 1 / **1** / -] 0: Not Correct, 1: Correct

014	K (Max Correction)	*ENG	[0 to 5 / **0.23** / 0.01 mg/cm2/kv/step]
015	C (Max Correction)	*ENG	
016	M (Max Correction)	*ENG	
017	Y (Max Correction)	*ENG	
018	K (Max Abs Hum)	*ENG	[1 to 99 / **10** / 1 g/m3/step]
019	C (Max Abs Hum)	*ENG	
020	M (Max Abs Hum)	*ENG	
021	Y (Max Abs Hum)	*ENG	

3612	**[Vk Display]**		
	Displays Vk for each color.		
001	Bk	*ENG	[-300 to 300 / **0** / 1 V/step]
002	C	*ENG	
003	M	*ENG	
004	Y	*ENG	

3621	**[Dev. DC Control:Display]** Standard: 260 mm/sec, Middle: 182 mm/sec, Low: 85 mm/sec		
	Displays the development DC bias adjusted with the process control for each line speed and color.		
001	Standard Speed:Bk	*ENG	[0 to 800 / **550** / 1 -V/step]
002	Standard Speed:C	*ENG	
003	Standard Speed:M	*ENG	
004	Standard Speed:Y	*ENG	
005	Middle Speed:Bk	*ENG	
006	Middle Speed:C	*ENG	

007	Middle Speed:M	*ENG	
008	Middle Speed:Y	*ENG	
009	Low Speed:Bk	*ENG	
010	Low Speed:C	*ENG	
011	Low Speed:M	*ENG	
012	Low Speed:Y	*ENG	

3631	**[Charge DC Control: Display]** Standard: 260 mm/sec, Middle: 182 mm/sec, Low: 85 mm/sec		
	Displays the charge DC voltage adjusted with the process control for each line speed and color.		
001	Standard Speed:Bk	*ENG	[0 to 2000 / **690** / 1 -V/step]
002	Standard Speed:C	*ENG	
003	Standard Speed:M	*ENG	
004	Standard Speed:Y	*ENG	
005	Middle Speed:Bk	*ENG	
006	Middle Speed:C	*ENG	
007	Middle Speed:M	*ENG	
008	Middle Speed:Y	*ENG	
009	Low Speed:Bk	*ENG	
010	Low Speed:C	*ENG	
011	Low Speed:M	*ENG	
012	Low Speed:Y	*ENG	

3641	**[Charge DC Control: Display]** Standard: 260 mm/sec		
	Displays the charge AC voltage adjusted with the process control for each color.		
001	Standard Speed:Bk	*ENG	[0 to 3 / **1.75** / 0.01 kV/step]
002	Standard Speed:C	*ENG	
003	Standard Speed:M	*ENG	
004	Standard Speed:Y	*ENG	

3651	**[LD Power Control: Display]** Standard: 260 mm/sec, Middle: 182 mm/sec, Low: 85 mm/sec		
	Displays the LD power adjusted for each environment.		
001	Standard Speed:Bk	*ENG	[0 to 200 / **100** / 1 %/step]
002	Standard Speed:C	*ENG	
003	Standard Speed:M	*ENG	
004	Standard Speed:Y	*ENG	
005	Middle Speed:Bk	*ENG	
006	Middle Speed:C	*ENG	
007	Middle Speed:M	*ENG	
008	Middle Speed:Y	*ENG	
009	Low Speed:Bk	*ENG	
010	Low Speed:C	*ENG	
011	Low Speed:M	*ENG	
012	Low Speed:Y	*ENG	

3710	**[HST Controll Setting]** TD Sensor: Toner Concentration Control Setting		
	Selects the toner concentration control method by HST memory, which is in the TD sensor.		
001	Control Selection	*ENG	[0 or 1 / **1** / -] 0: Not Use, 1: Use

3711	**[HST Control: Bk]**		
	Displays the factory settings of the black PCU.		
001	Vcnt	*ENG	[0 to 5 / **4** / 0.1 V/step]
002	Vt	*ENG	[0 to 5 / **2.5** / 0.1 V/step]
003	Sensitivity: HL	*ENG	[1.22 to 3.77 / **2.5** / 0.01 V/step]
004	Sensitivity: HM	*ENG	[0 to 2.55 / **1.3** / 0.01 V/step]
005	Sensitivity: ML	*ENG	[0 to 2.55 / **1.2** / 0.01 V/step]
006	Set Detection	*ENG	[0 to 5 / **1** / 0.1 V/step]
007	Without Developer	*ENG	[0 to 5 / **1.2** / 0.1 V/step]
008	With Developer	*ENG	[0 to 5 / **1.3** / 0.1 V/step]
009	Serial Number 1	*ENG	[0 to 255 / **-** / 1 V/step]
010	Serial Number 2	*ENG	
011	Adjustment: Vt	*ENG	[0 to 5 / **3** / 0.1 V/step]
012	Adjustment: Vtref	*ENG	
013	260 Adjustment: Vtcnt	*ENG	[0 to 5 / **4** / 0.01 V/step]
014	Adjustment: Gamma	*ENG	[0 to 2.55 / **0** / 0.01 mg/cm^2/kV /step]
015	Adjustment: Vcnt Result	*ENG	[0 to 9 / **9** / 1 /step]
016	182 Adjustment: Vtcnt	*ENG	[0 to 5 / **4** / 0.01 V/step]

3712	**[HST Control: C]**		
	Displays the factory settings of the magenta PCU.		
001	Vcnt	*ENG	[0 to 5 / **4** / 0.1 V/step]
002	Vt	*ENG	[0 to 5 / **2.5** / 0.1 V/step]
003	Sensitivity: HL	*ENG	[1.22 to 3.77 / **2.5** / 0.01 V/step]
004	Sensitivity: HM	*ENG	[0 to 2.55 / **1.3** / 0.01 V/step]
005	Sensitivity: ML	*ENG	[0 to 2.55 / **1.2** / 0.01 V/step]
006	Set Detection	*ENG	[0 to 5 / **1** / 0.1 V/step]
007	Without Developer	*ENG	[0 to 5 / **1.2** / 0.1 V/step]
008	With Developer	*ENG	[0 to 5 / **1.3** / 0.1 V/step]
009	Serial Number 1	*ENG	[0 to 255 / **-** / 1 V/step]
010	Serial Number 2	*ENG	
011	Adjustment: Vt	*ENG	[0 to 5 / **3** / 0.1 V/step]
012	Adjustment: Vtref	*ENG	
013	260 Adjustment: Vtcnt	*ENG	[0 to 5 / **4** / 0.01 V/step]
014	Adjustment: Gamma	*ENG	[0 to 2.55 / **0** / 0.01 mg/cm^2/kV /step]
015	Adjustment: Vcnt Result	*ENG	[0 to 9 / **9** / 1 /step]
016	182 Adjustment: Vtcnt	*ENG	[0 to 5 / **4** / 0.01 V/step]

3713	**[HST Control: M]**		
	Displays the factory settings of the cyan PCU.		
001	Vcnt	*ENG	[0 to 5 / **4** / 0.1 V/step]
002	Vt	*ENG	[0 to 5 / **2.5** / 0.1 V/step]
003	Sensitivity: HL	*ENG	[1.22 to 3.77 / **2.5** / 0.01 V/step]
004	Sensitivity: HM	*ENG	[0 to 2.55 / **1.3** / 0.01 V/step]
005	Sensitivity: ML	*ENG	[0 to 2.55 / **1.2** / 0.01 V/step]
006	Set Detection	*ENG	[0 to 5 / **1** / 0.1 V/step]
007	Without Developer	*ENG	[0 to 5 / **1.2** / 0.1 V/step]
008	With Developer	*ENG	[0 to 5 / **1.3** / 0.1 V/step]
009	Serial Number 1	*ENG	[0 to 255 / **-** / 1 V/step]
010	Serial Number 2	*ENG	
011	Adjustment: Vt	*ENG	[0 to 5 / **3** / 0.1 V/step]
012	Adjustment: Vtref	*ENG	
013	260 Adjustment: Vtcnt	*ENG	[0 to 5 / **4** / 0.01 V/step]
014	Adjustment: Gamma	*ENG	[0 to 2.55 / **0** / 0.01 mg/cm^2/kV /step]
015	Adjustment: Vcnt Result	*ENG	[0 to 9 / **9** / 1 /step]
016	182 Adjustment: Vtcnt	*ENG	[0 to 5 / **4** / 0.01 V/step]

3714	**[HST Control:Y]**		
	Displays the factory settings of the yellow PCU.		
001	Vcnt	*ENG	[0 to 5 / **4** / 0.1 V/step]
002	Vt	*ENG	[0 to 5 / **2.5** / 0.1 V/step]
003	Sensitivity: HL	*ENG	[1.22 to 3.77 / **2.5** / 0.01 V/step]
004	Sensitivity: HM	*ENG	[0 to 2.55 / **1.3** / 0.01 V/step]
005	Sensitivity: ML	*ENG	[0 to 2.55 / **1.2** / 0.01 V/step]
006	Set Detection	*ENG	[0 to 5 / **1** / 0.1 V/step]
007	Without Developer	*ENG	[0 to 5 / **1.2** / 0.1 V/step]
008	With Developer	*ENG	[0 to 5 / **1.3** / 0.1 V/step]
009	Serial Number 1	*ENG	[0 to 255 / **-** / 1 V/step]
010	Serial Number 2	*ENG	
011	Adjustment: Vt	*ENG	[0 to 5 / **3** / 0.1 V/step]
012	Adjustment: Vtref	*ENG	
013	260 Adjustment: Vtcnt	*ENG	[0 to 5 / **4** / 0.01 V/step]
014	Adjustment: Gamma	*ENG	[0 to 2.55 / **0** / 0.01 mg/cm^2/kV /step]
015	Adjustment: Vcnt Result	*ENG	[0 to 9 / **9** / 1 /step]
016	182 Adjustment: Vtcnt	*ENG	[0 to 5 / **4** / 0.01 V/step]

3800	**[Toner Collection Bttl Full]**		
	Displays/ adjusts the PCDU toner collection bottle detection settings.		
001	Condition	*ENG	[0 to 4 / **0** / 1 /step]
	Displays the current condition of the PCDU toner collection bottle. 0: Factory default, 1: Before near full, 2; Near full, 3: Full, 4: Reserved		
002	Detection Times	*ENG	Not used [0 to 10000 / **0** / 1 sheet/step]
003	Print Page AF Near Full	*ENG	Not used [0 to 10000000 / **0** / 1 /step]
004	Pixel Count AF Near Full	*ENG	Not used [0 to 100000 / **0** / 1 sheet /step]
005	Pixel Count AF Replacement	*ENG	Not used Displays the pixel counter after replacement of toner collection bottle. [0 to 100000000 / **0** / 1 /step]
006	Print Page AF Replacement	*ENG	[0 to 100000 / **0** / 1 sheet /step]
007	Pixel Count AF Replacement	*ENG	[0 to 100000000 / **0** / 1 /step]
008	PrPgThreshold	*ENG	[0 to 10000 / **3000** / 1 sheet /step]
009	PixCntThreshold	*ENG	[0 to 100000 / **25000** / 1 /step]
010	PrPgThreshold 2	*ENG	[0 to 100000 / **100000** / 1 sheet /step]
011	PixCntThreshold 2	*ENG	[0 to 1000000 / **120000** / 1 /step]
014	Full Detection Date	*ENG	Displays the date of the near full detection for the PCDU toner collection bottle.

3810	[P-Inter Exit:HlfSpd]		
	DFU		
001	Formula: Slope	*ENG	[0 to 100 / **10** / 1 /step]
002	Formula: Intercept	*ENG	[-2000 to 2000 / **0** / 1 %/step]
003	Formula: Up-Limit	*ENG	[100 to 2000 / **100** / 1 %/step]

3901	[New Unit Detection]		
	Turns new PCU detection on or off.		
001	ON/OFF Setting	*ENG	[0 or 1 / **1** / -] 0: OFF, 1: ON

3902	[Manual New Unit Set]		
	Turns the new unit detection flag for each PM unit on or off.		
001	Development Unit: Bk	*ENG	[0 or 1 / **0** / -] 0: OFF, 1: ON
002	Development Unit: C	*ENG	
003	Development Unit: M	*ENG	
004	Development Unit: Y	*ENG	
005	Developer: Bk	*ENG	Not used [0 or 1 / **0** / -] 0: OFF, 1: ON
006	Developer: C	*ENG	
007	Developer: M	*ENG	
008	Developer: Y	*ENG	
009	PCU: Bk	*ENG	[0 or 1 / **0** / -] 0: OFF, 1: ON
010	PCU: C	*ENG	

011	PCU: M	*ENG	
012	PCU: Y	*ENG	
013	ITB Unit	*ENG	[0 or 1 / **0** / -] 0: OFF, 1: ON Do not use 3902-013 if you only change the cleaning unit. 3902-015: This is for the image transfer belt cleaning unit.
014	Fusing Unit	*ENG	
015	Fusing Roller	*ENG	
016	Fusing Belt	*ENG	
017	ITB Cleaning Unit	*ENG	
018	PTR Unit	*ENG	[0 or 1 / **0** / -] 0: OFF, 1: ON
020	Waste Toner Bottle	*ENG	

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.		
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.		
001	Counter Method	*CTL	[0 or 1 / **1** / -] 0: Developments 1: Prints

5051	**[Toner Refill Detection Display]**		
	Enables or disables the toner refill detection display.		
001	-	*CTL	[0 or 1 / **0** / -] Alphanumeric 0: ON 1: OFF

5055	**[Display IP Address]**		
	Display or does not display the IP address on the operation panel.		
001	-	*CTL	[0 or 1 / **0** / -] 0: OFF 1: ON

5056	**[Coverage Counter Display]**		
	Display or does not display the coverage counter on the operation panel.		
001	-	*CTL	[0 or 1 / **0** / -] 0: Not display, 1: Display

5101	**[Energy Saver Level]**		
005	Energy Saver Level	*ENG	[0 or 1 / **1** / 1/step]
	Selects the energy saver level. 0: Panel off (The fusing temperature is not lowered.) 1: Panel off (The fusing temperature is lowered.)		

5131	**[Paper Size/Type Select]**		
001	1.NA 2.EU ASIA	*ENG	[0 to 2 / **1: NA, 2: EU** / 1] 0: Japan, 1: NA, 2: EU
	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.		
001	-	*CTL	[0 or 1 / **0** / -] 0: Disabled 1: Enabled

5186	**[RK 4 Disconnect Operation]**		
	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.		
001	-	*ENG	[0 or 1 / **0** / 1/step] 0: Disable 1: Enable

5195	**[Limitless SW] DFU**		
001	-	*CTL	[0 or 1 / **1** / -] 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)		
002	Time Difference	*CTL#	[-1440 to 1440 / **Area** / 1 min./step]

5307	**[Summer Time]**		
001	Setting	-	[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".		
003	Rule Set (Start)	-	
	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".		
004	Rule Set (End)	-	-
	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**		
104	Authentication Time	*CTL	[0 to 255 / 0 / 1 second]
	Specifies the time for the authentication timeout. 0 = 60 seconds, 1 to 255 = displayed time (seconds)		
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
200	SDK1 Unique ID	*CTL	"SDK" is the "Software Development Kit". This data can be converted from SAS (VAS) when installed or uninstalled. **(DFU)**
201	SDK1 Certification Method	*CTL	
210	SDK2 Unique ID	*CTL	
211	SDK2 Certification Method	*CTL	
220	SDK3 Unique ID	*CTL	
221	SDK3 Certification Method	*CTL	
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		

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		

5404	**[User Code Counter Clear]**		
001	-	*CTL	Clears all counters for users.

5411	**[LDAP Certification]**		
004	Easy Certification	*CTL	Determines whether easy LDAP certification is done. [0 to 1 / **1** / 1] 1: On, 0: Off
005	Password Null Not Permit	*CTL	This SP is referenced only when SP5411-4 is set to "1" (On). [0 to 1 / **0** / 1] 0: Password NULL not permitted. 1: Password NULL permitted.
006	Detail Option	*CTL	-

5413	[Lockout Setting]		
001	Lockout On/Off	*CTL	Switches on/off the lock on the local address book account. [0 to 1 / **0** / 1] 0: Off, 1: On
002	Lockout Threshold	*CTL	Sets a limit on the frequency of lockouts for account lockouts. [1 to 10 / **5** / 1]
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] 0: Off (no wait time, lockout not cancelled) 1: On (system waits, cancels lockout if correct user ID and password are entered.
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.]

5414	**[Access Mitigation]**		
001	Mitigation On/Off	*CTL	Switches on/off masking of continuously used IDs and passwords that are identical. [0 to 1 / **0** /1] 0: Off 1: On
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.]

5415	**[Password Attack]**		
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]
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.]

5416	[Access Information]		
001	Access 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]
002	Access 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]
003	Monitor Interval	*CTL	Sets the processing time interval for referencing user ID and password information. [1 to 10 / **3** / 1 sec.]

5417	[Access Attack]		
001	Access Permissible Number	*CTL	Sets a limit on access attempts when an excessive number of attempts are detected for MFP features. [0 to 500 / **100** / 1]
002	Attack Detect Time	*CTL	Sets the length of time for monitoring the frequency of access to MFP features. [10 to 30 / **10** / 1 sec.]
003	Productivity Fall 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.]

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]

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.		
041	Printer	*CTL	Determines whether certification is required before a user can use the printer applications. [0 to 1 / **0** / 1] 0: On, 1: Off
051	SDK1	*CTL	[0 or 1 / **0** / 1] 0: ON. 1: OFF Determines whether certification is required before a user can use the SDK application.
061	SDK2		
071	SDK3		

5481	**[Authentication Error Code]**		
	These SP codes determine how the authentication failures are displayed.		
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] 0: Off, 1: On

5501	**[PM Alarm]**		
001	PM Alarm Level	*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	-
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".		
001	-	*CTL	[0 to 255 / **20** / 100 copies /step]

5507	**[Supply Alarm]**	*CTL	-
	Enables or disables the notifying a supply call via the @Remote.		
001	Paper Supply Alarm	**0**: Off, 1: On	
003	Toner Supply Alarm	0: Off, **1**: On	
005	Drum Life Remain Supply Alarm	0: Off, **1**: On	
006	Waste Toner Bottle Supply Alarm	0: Off, **1**: On	
007	Transfer Belt Supply Alarm	0: Off, **1**: On	
008	Fusing Unit Supply Alarm	0: Off, **1**: On	
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	
128	Interval :Others	[250 to 10000 / **1000** / 1 /step]	
133	Interval :A4		
134	Interval :A5		
142	Interval :B5		
164	Interval :LG		
166	Interval :LT		
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.	
001	SC Call	[0 or 1 / **1** / -] 0: Off, 1: On
002	Service Parts Near End Call	[0 or 1 / **0** / -] 0: Off, 1: On
003	Service Parts End Call	
004	User Call	[0 or 1 / **1** / -] 0: Off, 1: On
006	Communication Test Call	
007	Machine Information Notice	
008	Alarm Notice	[0 or 1 / **0** / -] 0: Off, 1: On
009	Non Genuin Tonner Alarm	[0 or 1 / **1** / -] 0: Off, 1: On
010	Supply Automatic Ordering Call	
011	Supply Manegement Report Call	
012	Jam/Door Open Call	

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]**	
001	All Clear	Resets all correction data for process control and all software counters, and returns all modes and adjustments to their default values.
002	Engine [ENG]	Clears the engine settings.
003	SCS	Initializes default system settings, SCS (System Control Service) settings, operation display coordinates, and ROM update information.
004	IMH Memory Clr	Initializes the IMH settings.
005	MCS	Initializes the Mcs settings.
008	Printer application	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
010	Web Service	Deletes the network file application management files and thumbnails, and initializes the job login ID.
011	NCS	All setting of Network Setup (User Menu) (NCS: Network Control Service)
014	Clear DCS Setting	Initializes the DCS (Delivery Control Service) settings.
015	Clear UCS Setting	Initializes the UCS (User Information Control Service) settings.
016	MIRS Setting	Initializes the MIRS (Machine Information Report Service) settings.

017	CCS	Initializes the CCS (Certification and Charge-control Service) settings.
018	SRM Memory Clr	Initializes the SRM (System Resource Manager) settings.
019	LCS	Initializes the LCS settings.
021	ECS	Initializes the ECS settings.

5803	**[Input Check]**	See "Input Check Table" in this section.
5804	**[Output Check]**	See "Output Check Table" in this section.

⇒

5806	**[RFID Cont. Reading]**		
	DFU		
001	Times	*ENG	[0 to 65535 / **0** / 1 time/step]
002	NOT 0	*ENG	
003	RET.	*ENG	
004	EXE.ALL	*ENG	[0 to 1 / **0** / 1 /step]
005	EXE.K	*ENG	
006	EXE.M	*ENG	
007	EXE.C	*ENG	
008	EXE.Y	*ENG	

5810	**[SC Reset]**		
	Resets a type A service call condition. Note ▪ Turn the main switch off and on after resetting the SC code.		
001	Fusing SC Reset	-	-

5811	**[Machine Serial]** Machine Serial Number Display		
002	Display	*ENG	Displays the machine serial number.
004	BCU	*ENG	Inputs the serial number.

5812	**[Service Tel. No. Setting]**		
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).		
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]**	*CTL	**-**
001	I/F Setting		
	Selects the remote service setting. [0 to 2 / **2** / 1 /step] 0: Remote service off 1: CSS remote service on 2: @Remote service on		
002	CE Call		
	Performs the CE Call at the start or end of the service. [0 or 1 / **0** / 1 /step] 0: Start of the service 1: End of the service **NOTE:** This SP is activated only when SP 5816-001 is set to "2".		
003	Function Flag		
	Enables or disables the remote service function. [0 to 1 / **0** / 1 /step] 0: Disabled, 1: Enabled **NOTE:** This SP setting is changed to "1" after @Remote registor has been completed.		
007	SSL Disable		
	Uses or does not use the RCG certification by SSL when calling the RCG. [0 to 1 / **0** / 1 /step] 0: Uses the RCG certification 1: Does no use the RCG certification		

008	RCG Connect Timeout
	Specifies the connect timeout interval when calling the RCG. [1 to 90 / **10** / 1 second /step]
009	RCG Write Timeout
	Specifies the write timeout interval when calling the RCG. [1 to 100 / **60** / 1 second /step]
010	RCG Read Timeout
	Specifies the read timeout interval when calling the RCG. [1 to 100 / **60** / 1 second /step]
011	Port 80 Enable
	Enables/disables access via port 80 to the SOAP method. [0 or 1 / **0** / –] 0: Disabled, 1: Enabled
013	RFU (Remote Frimware Update) Timing
	Selects the RFU timing. [0 or 1 / **1** / –] 0: RFU is executed whenever update request is received. 1: RFU is executed only when the machine is in the sleep mode.
021	Function Flag
	This SP displays the Embedded RC Gate installation end flag. 0: Installation not completed 1: Installation completed
022	Install Status
	This SP displays the Embedded RC Gate installation status. 0: RCG device not registered 1: RCG device registered 2: Device registered

023	Connect Mode (N/M)
	This SP displays and selects the Embedded RC Gate connection method. [0 or 1 / **0** / 1 /step 0: Internet connection 1: Dial-up connection
061	Cert. Expire Timing **DFU**
	Proximity of the expiration of the certification.
062	Use Proxy
	This SP setting determines if the proxy server is used when the machine communicates with the service center.
063	Proxy Host
	This SP sets the address of the proxy server used for communication between Embedded RC Gate-N and the gateway. Use this SP to set up or display the customer proxy server address. The address is necessary to set up Embedded RC Gate-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.
064	Proxy Port Number
	This SP sets the port number of the proxy server used for communication between Embedded RC Gate-N and the gateway. This setting is necessary to set up Embedded RC Gate-N. Note ▪ This port number is customer information and is not printed in the SMC report.

<table>
<tr><td rowspan="2">065</td><td colspan="2">Proxy User Name</td></tr>
<tr><td colspan="2">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.</td></tr>
<tr><td rowspan="2">066</td><td colspan="2">Proxy Password</td></tr>
<tr><td colspan="2">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.</td></tr>
<tr><td rowspan="10">067</td><td colspan="2">CERT: Up State</td></tr>
<tr><td colspan="2">Displays the status of the certification update.</td></tr>
<tr><td>0</td><td>The certification used by Embedded RC Gate is set correctly.</td></tr>
<tr><td>1</td><td>The certification request (setAuthKey) for update has been received from the GW URL and certification is presently being updated.</td></tr>
<tr><td>2</td><td>The certification update is completed and the GW URL is being notified of the successful update.</td></tr>
<tr><td>3</td><td>The certification update failed, and the GW URL is being notified of the failed update.</td></tr>
<tr><td>4</td><td>The period of the certification has expired and new request for an update is being sent to the GW URL.</td></tr>
<tr><td>11</td><td>A rescue update for certification has been issued and a rescue certification setting is in progress for the rescue GW connection.</td></tr>
<tr><td>12</td><td>The rescue certification setting is completed and the GW URL is being notified of the certification update request.</td></tr>
<tr><td>13</td><td>The notification of the request for certification update has completed</td></tr>
</table>

		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.
068	CERT: Error	
	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.

069	CERT: Up ID	The ID of the request for certification.
083	Firmware Up Status	Displays the status of the firmware update.

5821	**[NRS Address]**		
002	RCG IP Address	*CTL	Sets the IP address of the RCG (Remote Communication Gate) destination for call processing at the remote service center.

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.		
001	-	#	-

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.		
001	-	#	-

5828	**[Network Setting]**	*CTL	**-**
050	1284 Compatibility (Centro)	Enables or disables 1284 Compatibility. 0 or 1 / 1 / 1 / step] 0: Disabled, 1: Enabled	
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".	
065	Job Spooling	Enables/disables Job Spooling. [0 or 1 / **0** / 1 / step] 0: Disabled, 1: Enabled	
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)	
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)	

090	TELNET (0: OFF 1: ON)	Enables or disables the Telnet protocol. [0 or 1 / **1** / –] 0: Disable, 1: Enable
091	Web (0: OFF 1: ON)	Enables or disables the Web operation. [0 or 1 / **1** / –] 0: Disable, 1: Enable
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.
147	Active IPv6 Stateless Address 1	These SPs are the IPv6 status addresses (1 to 5) referenced on the Ethernet or wireless LAN (802.11b) in the format: "Status Address" + "Prefix Length" The IPv6 address consists of a total 128 bits configured in 8 blocks of 16 bits each.
149	Active IPv6 Stateless Address 2	
151	Active IPv6 Stateless Address 3	
153	Active IPv6 Stateless Address 4	
155	Active IPv6 Stateless Address 5	
156	IPv6 Manual Address	This SP is the IPv6 manually set address referenced on the Ethernet or wireless LAN (802.11b) 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.

158	IPv6 Gateway Address	This SP is the IPv6 gateway address referenced on the Ethernet or wireless LAN (802.11b). The IPv6 address consists of a total 128 bits configured in 8 blocks of 16 bits each.
161	IPv6 Stateless Auto Setting	Enables or disables the automatic setting for IPv6 stateless. [0 or 1 / 1 / 1 /step] 0: Disable, 1: Enable
236	Web Item visible	Displays or does not display the Web system items. [0 x 0000 to 0 x ffff / **0 x ffff**] 0: Not displayed, 1: Displayed bit0: Net RICOH bit1: Consumable Supplier bit2-15: Reserved (all)
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] 0: Not display, 1:Display
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] 0: Not display, 1:Display
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.
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.

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] 0: Not display, 1:Display
242	Web Link2 Name	Same as "-239"
243	Web Link2 URL	Same as "-240"
244	Web Link2 visible	Same as "-241"

5832	**[HDD]** HDD Initialization	*CTL
001	HDD Formatting (ALL)	Initializes the hard disk. Use this SP mode only if there is a hard disk error.

5840	**[IEEE 802.11]**		
5840 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]

5840 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]
5840 008	Transmission Speed	*CTL	[0 x 00 to 0 x FF / **0 x FF to Auto** / -] **0 x FF to Auto** [Default] 0 x 11 - 55M Fix 0 x 10 - 48M Fix 0 x 0F - 36M Fix 0 x 0E - 18M Fix 0 x 0D - 12M Fix 0 x 0B - 9M Fix 0 x 0A - 6M Fix 0 x 07 - 11M Fix 0 x 05 - 5.5M Fix 0 x 08 - 1M Fix 0 x 13 - 0 x FE (reserved) 0 x 12 - 72M (reserved) 0 x 09 - 22M (reserved)
5840 011	WEP Key Select	*CTL	Selects the WEP key. [00 to 11 / **00** / 1 binary] 00: Key #1 01: Key #2 (Reserved) 10: Key #3 (Reserved) 11: Key #4 (Reserved)

5840 042	Fragment Thresh	*CTL	Adjusts the fragment threshold for the IEEE802.11 card. [256 to 2346 / **2346** / 1] This SP is displayed only when the IEEE802.11 card is installed.
5840 043	11g CTS to Self	*CTL	Determines whether the CTS self function is turned on or off. [0 to 1 / **1** / 1] 0: Off, 1: On This SP is displayed only when the IEEE802.11 card is installed.
5840 044	11g Slot Time	*CTL	Selects the slot time for IEEE802.11. [0 to 1 / **0** / 1] 0: 20 µm, 1: 9 µm This SP is displayed only when the IEEE802.11 card is installed.
5840 045	WPA Debug Lvl	*CTL	Selects the debug level for WPA authentication application. [1 to 3 / **3** / 1] 1: Info, 2: warning, 3: error This SP is displayed only when the IEEE802.11 card is installed.

5842	**[GWWS Analysis] DFU**		
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
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]		
001	Transfer Rate	*CTL	Adjusts the USB transfer rate. [0001 or 0004 / **0004** / -] 0001: Full speed, 0004: Auto Change
002	Vendor ID	*CTL	Displays the vendor ID.
003	Product ID	*CTL	Displays the product ID.
004	Dev Release Num	*CTL	Displays the device release version number.
005	Fixed USB Port	*CTL	Displays the fixed USB Port.
006	PnP Model Name	*CTL	Displays the PnP Model Name.
007	PnP Serial Number	*CTL	Displays the PnP Serial Number.
100	Notify Unsupport	*CTL	Displays a message of the unspported USB device for the USB host slot. [0 or 1 / **1** / -] 0: Not displayed, 1: Displayed

5845	**[Delivery Server Setting]**		
	Provides items for delivery server settings.		
003	Retry Interval	*CTL	[60 to 900 / **300** / 1 sec]
	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.		
004	Number of Retries	*CTL	[0 to 99 / **3** / 1]
	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.		
022	Instant Trans Off	*CTL	[0 to 1 / **1** / -]
	Enables or disables the prevention function for the continuous data sending error. 0: Disable, 1: Enable		

5846	**[UCS Settings]**	*CTL	-
010	LDAP Search Timeout		[1 to 255 / **60** / 1 /step]
	Sets the length of the timeout for the search of the LDAP server.		
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.	
043	Addr Book Media	Displays the slot number where an address book data is in. [0 to 30 / - /1] 0: Unconfirmed 1: SD Slot 1 2: SD Slot 2 4: USB Flash ROM 20: HDD 30: Nothing
047	Initialize Local Addr Book	Clears the local address book information, including the user code.
049	Initialize LDAP Addr Book	Clears the LDAP address book information, except the user code.
050	Initialize All Addr Book	Clears all directory information managed by UCS, including all user codes.
051	Backup All Addr Book	Uploads all directory information to the SD card.
052	Restore All Addr Book	Downloads all directory information from the SD card.
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.

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	
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.	
063	Complexity Option 2 **DFU**	
064	Complexity Option 3 **DFU**	
065	Complexity Option 4 **DFU**	
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.		
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.	
009	Access Ctrl: Job Ctrl (Lower 4 bits)		
011	Access Ctrl: Device management (Lower 4 bits)		
022	Access Ctrl: uadministration (Lower 4bits)		
210	Setting: LogType: Job1	**DFU**	
211	Setting: LogType: Job2		
212	Setting: LogType: Access		
213	Setting: Primary Srv		
214	Setting: Secondary Srv		
215	Setting: Start Time		
216	Setting: Interval Time		
217	Setting: Timing		

5849	**[Installation Date]**	*CTL	-
001	Display	The "Counter Clear Day" has been changed to "Installation Date" or "Inst. Date".	
002	Switch to Print	Determines whether the installation date is printed on the printout for the total counter. [0 or 1 / **1** / -] 0: OFF (No Print) 1: ON (Print)	
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.		
002	Local Port	*CTL	[0 to 1 / **0** / 1/step] 0: Disable 1: Enable

5857	**[Save Debug Log]**	*CTL	-
001	On/Off (1:ON 0:OFF)	**0**: OFF, 1: ON	
	Switches the debug log feature on and off. The debug log cannot be captured until this feature is switched on.		
002	Target (2: HDD 3: SD)	**2**: HDD, 3: SD Card	
	Selects the storage device to save debug logs information when the conditions set with SP5-858 are satisfied. [2 to 3 / **2** / 1 /step]		
005	Save to HDD		
	Saves the debug log of the input SC number in memory to the HDD. A unique file name is generated to avoid overwriting existing file names on the SD Card. Up to 4MB can be copied to an SD Card. 4 MB segments can be copied one by one to each SD Card.		
006	Save to SD Card		
	Saves the debug log of the input SC number in memory to the SD card.		
009	Copy HDD to SD Card (Latest 4 MB)		
010	Copy HDD to SD Card (Latest 4 MB Any Key)		
011	Erase HDD Debug Data		
012	Erase SD Card Debug Data		
013	Free Space on SD Card		
014	Copy SD to SD (Latest 4 MB)		
015	Copy SD to SD (Latest 4 MB Any Key)		
016	Make HDD Debug		
017	Make SD Debug		

5858	**[Debug Save When]**	*CTL	-
	These SPs select the content of the debugging information to be saved to the destination selected by SP5857-002. SP5858-3 stores one SC specified by number. Refer to Section 4 for a list of SC error codes.		
001	Engine SC Error	Turns on/off the debug save for SC codes generated by printer engine errors. [0 or 1 / **0** / 1/ step] 0: OFF, 1: ON	
002	Controller SC Error	Turns on/off the debug save for SC codes generated by GW controller errors. [0 or 1 / **0** / 1/ step] 0: OFF, 1: ON	
003	Any SC Error	[0 to 65535 / **0** / 1 /step]	
004	Jam	Turns on/off the debug save for jam errors. [0 or 1 / **0** / 1/ step] 0: OFF, 1: ON	

5859	**[Debug Save Key No.]**	*CTL	**-**
001	Key 1	These SPs allow you to set up to 10 keys for log files for functions that use common memory on the controller board. [–9999999 to 9999999 / **0** / –]	
002	Key 2		
003	Key 3		
004	Key 4		
005	Key 5		
006	Key 6		
007	Key 7		
008	Key 8		

009	Key 9	
010	Key 10	

5860	**[SMTP/POP3/IMAP4]**	*CTL	**-**
002	SMTP Srvr Port no.		Input the SMTP server port number.
003	SMTP Auth		SMTP authentication enable/disable
006	SMTP Auth Encryp		Encryption mode for SMTP authentication enable/disable (Only valid if 5860 3 is set to "enable")
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)
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.
009	Mail Receive Protocol		Selects the protocol for the mail reception. [0 to 3 / **1** / 1] 0: No reception 1: POP3 2: IMAP4 3: SMTP

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] 0: Auto 1: Off 2: On
014	POP Serv Port No.	Input the POP server port number.
015	IMAP4 Srvr Port	Input the IMAP4 server port number.
016	SMTP Rx Port No.	Input the SMTP port for the mail reception.
017	Mail Rx Interval	Specifies the interval for the mail reception.
019	Mail Keep Setting	Selects the mail saving setting. [0 to 2 / 0 / 1] 0: Not saved in the mail server 1: All saved in the mail server 2: Only error mails saved in the mail server
020	Partial Mail Receive Timeout	[1 to 168 / **72** / –]
	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.	
021	MDN Response RFC2298 Compliance	[0 to 1 / **1** / –]
	Determines whether RFC2298 compliance is switched on for MDN reply mail. 0: No **1**: Yes	

022	SMTP Auth. From Field Replacement	[0 to 1 / **0** / –]
	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.	
025	SMTP Auth. Direct Setting	[0 or 1 / **0** / –]
	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.	

026	S/MIME: MIME Header Setting	-	Selects the MIME header type of an E-mail sent by S/MIME. [0 to 2 / **0** / 1] 0: Microsoft Outlook Express standard 1: Internet Draft standard 2: RFC standard

5866	**[E-mail Report] Not Used**		
001	Report Validity	*CTL	Enables or disables the e-mail alert. [0 or 1 / **0** / –] 0: Enable, 1: Disable
005	Add Date Field	*CTL	Adds or does not add the date field to the header of the alert mail. [0 or 1 / **0** / –] 0: Not added, 1: Added

5869	[RAM Disk Setting]		
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]		
001	Writing	*CTL	Rewrites the common certification used for the @Remote.
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.		

5873	[SD Card Appli Move]	
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.
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).

5878	[Option Setup]		
001	Overwrite Security	-	Enables the Data Overwrite Security unit. Press "EXECUTE" on the operation panel. Then turn the machine off and on.
002	HDD Encryption	-	Installs the HDD Encryption unit.

5884	[Plain 1/2 Setting]		
001	By-pass Table	*ENG	[0 or 1 / **1** / -] 0: Plain Paper 1 1: Plain Paper 2
002	Tray 1	*ENG	
003	Tray 2	*ENG	
004	Tray 3	*ENG	
005	Tray 4	*ENG	

5887	[SD Get Counter]		
	This SP determines whether the ROM can be updated.		
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]		
001	-	*CTL	Selects the protection level for logs. [0 to 1 / **0** / 1} 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.		
001	SDK-1	*CTL	-
002	SDK-2	*CTL	-
003	SDK-3	*CTL	-
004	SDK-4	*CTL	-
005	SDK-5	*CTL	-
006	SDK-6	*CTL	-

5894	[External Counter Setting]		
	DFU		
001	Switch Charge Mode	*ENG	[0 to 2 / **0** / 1/step]

⇒

5907	[Plug & Play Maker/Model Name]
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 OK.

5930	[Meter Click Charge]		
001	Setting	*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.		
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** / -] 0: OFF, 1: ON
014	ITB 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** / -] 0: OFF, 1: ON

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** / -] 0: OFF, 1: ON

5987	**[Mech. Counter Protection]**	
001	0: OFF / 1: ON	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.		
001	All (Data List)	-	-
002	SP (Mode Data List)	-	
004	Logging Data	-	
005	Diagnostic Report	-	
006	Non-Default	-	
024	SDK/J Summary	-	
025	SDK/J Appli.Info	-	

SP7-XXX (Data Log)

7401	**[Total SC Counter]**		
	Displays the number of SC codes detected.		
001	-	*CTL	[0 to 9999 / **0** / 1/step]

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.		
001	Latest	*CTL	-
002	Latest 1		
003	Latest 2		
004	Latest 3		
005	Latest 4		
006	Latest 5		
007	Latest 6		
008	Latest 7		
009	Latest 8		
010	Latest 9		

7404	**[SC991 History]**		
	Logs the SC Code 991 detected. The 10 most recently detected SC Code 991 are not displayed on the screen, but can be seen on the SMC (logging) outputs.		
001	Latest	*CTL	-
002	Latest 1		
003	Latest 2		
004	Latest 3		
005	Latest 4		
006	Latest 5		
007	Latest 6		
008	Latest 7		
009	Latest 8		
010	Latest 9		

7502	**[Total Paper Jam Counter]**		
	Displays the total number of jams detected.		
001	-	* CTL	[0 to 9999 / **0** / 1 sheet/step]

7504	**[Paper Jam Location]** ON: On check, OFF: Off Check		
	Displays the number of jams according to the location where jams were detected.		
001	At Power On	*CTL	For details, ☛ "p.6-1 "Jam Detection""
003	Tray 1: ON	*CTL	
004	Tray 2: ON	*CTL	
005	Tray 3: ON	*CTL	
006	Tray 4: ON	*CTL	
008	Bypass: ON	*CTL	
009	Duplex: ON	*CTL	
011	Vertical Transport 1: ON	*CTL	
012	Vertical Transport 2: ON	*CTL	
013	Vertical Transport 3: ON	*CTL	
014	Vertical Transport 4: ON	*CTL	
017	Registration: ON	*CTL	
018	Fusing Entrance: ON	*CTL	
019	Fusing Exit: ON	*CTL	
020	Paper Exit: ON	*CTL	
025	Duplex Exit: ON	*CTL	
027	Duplex Entrance: ON	*CTL	

028	Inverter Sensor: ON	*CTL	For details, ☛ "p.6-1 "Jam Detection""
047	Paper Feed Sensor 1	*CTL	
048	Bank Paper Feed Sensor 1	*CTL	
049	Bank Paper Feed Sensor 2	*CTL	
050	Bank Paper Feed Sensor 3	*CTL	
051	SEF Sensor 1	*CTL	
052	Bank SEF Sensor 1	*CTL	
053	Bank SEF Sensor 2	*CTL	
054	Bank SEF Sensor 3	*CTL	
057	Regist Sensor	*CTL	
060	Exit Sensor	*CTL	
065	Duplex Exit Sensor	*CTL	
067	Duplex Entrance Sensor	*CTL	
068	Inverter Sensor	*CTL	

7506	[Paper Jam/Size]		
	Displays the number of jams according to the paper size.		
006	A5 LEF	*CTL	[0 to 9999 / **0** / 1 sheet/step]
044	HLT LEF		
133	A4 SEF		
134	A5 SEF		
142	B5 SEF		
164	LG SEF		
166	LT SEF		
172	HLT SEF		
255	Others		

7507	[Plotter Jam History]		
	Displays the 10 most recently detected paper jams.		
001	Latest	*CTL	-
002	Latest 1		
003	Latest 2		
004	Latest 3		
005	Latest 4		
006	Latest 5		
007	Latest 6		
008	Latest 7		
009	Latest 8		
010	Latest 9		

7801	**[ROM No./Firmware Version]**	
	Displays the ROM version numbers of the main machine and connected peripheral devices.	
255	-	Displays all versions and ROM numbers in the machine.

7803	**[PM Counter Display]**
	(Page, Unit, [Color])
-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.
001	Paper
002	Page: PCU: Bk
003	Page: PCU: C
004	Page: PCU: M
005	Page: PCU: Y
006	Page: Development Unit: Bk
007	Page: Development Unit: C
008	Page: Development Unit: M
009	Page: Development Unit: Y
014	Page: ITB Unit
015	Page: ITB Cleaning Unit

016	Page: Fusing Unit
017	Page: Fusing Roller
018	Page: Fusing Belt
019	Page:PTR Unit
020	Page:ITB T-Collect Bottle
-031 to -048	Displays the number of revolutions of motors or clutches for each current maintenance unit. [0 to 9999999 / **0** / 1 revolution/step] 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.
031	Rotation: PCU: Bk
032	Rotation: PCU: C
033	Rotation: PCU: M
034	Rotation: PCU: Y
035	Rotation: Development Unit: Bk
036	Rotation: Development Unit: C
037	Rotation: Development Unit: M
038	Rotation: Development Unit: Y
043	Rotation:ITB Unit
044	Rotation: ITB Cleaning Unit
045	Rotation: Fusing Unit

046	Rotation: Fusing Roller
047	Rotation: Fusing Belt
048	Rotation: PTR Unit
049	[0 to 999999999 / - / 1 mg/step] Displays the total amount of each waste toner bottle.
	Amount:T-Collect Bottle
-061 to -078	[0 to 255 / - / 1 %/step] Displays the value given by the following formula: (Current revolution ÷ Target revolution) × 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%.
061	Rotation (%): PCU: Bk
062	Rotation (%): PCU: C
063	Rotation (%): PCU: M
064	Rotation (%): PCU: Y
065	Rotation (%): Development Unit: Bk
066	Rotation (%): Development Unit: C
067	Rotation (%): Development Unit:M
068	Rotation (%): Development Unit: Y
073	Rotation (%): ITB Unit
074	Rotation (%): ITB Cleaning Unit
075	Rotation (%): Fusing Unit

076	Rotation (%): Fusing Roller		
077	Rotation (%): Fusing Belt		
078	Rotation (%):PTR Unit		
079	[0 to 255 / - / 1 %/step] Displays how much of the unit's expected lifetime has been used up.		
	Amt(%):ITB T-Collect Bottle		
-091 to -108	Displays the value given by the following formula: (Current printouts ÷ Target printouts) × 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%.		
091	Page (%): PCU: Bk	*ENG	[0 to 255 / - / 1 %/step]
092	Page (%): PCU: C		
093	Page (%): PCU: M		
094	Page (%): PCU: Y		
095	Page (%): Development Unit: Bk		
096	Page (%): Development Unit: C		
097	Page (%): Development Unit: M		
098	Page (%): Development Unit: Y		
103	Page (%): ITB Unit	*ENG	[0 to 255 / - / 1 %/step]
104	Page (%): ITB Cleaning Unit		
105	Page (%): Fusing Unit		
106	Page (%): Fusing Roller		
107	Page (%): Fusing Belt		
108	Page (%): PTR Unit		

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".
001	Paper
002	PCU: Bk
003	PCU: C
004	PCU: M
005	PCU: Y
006	PCU: All
007	Development Unit: Bk
008	Development Unit: C
009	Development Unit: M
010	Development Unit: Y
011	Development Unit: All
017	ITB Unit
018	ITB Cleaning Unit
019	Fusing Unit
020	Fusing Roller
021	Fusing Belt
022	PTR Unit

023	T-Collect Bottle
100	All

7807	**[SC/Jam Counter Reset]**		
	Clears the counters related to SC codes and paper jams.		
001	-	*CTL	-

7832	**[Self-Diagnose Result Display]**		
	Displays the result of the diagnostics.		
001	-	*CTL	-

7836	**Total Memory Size**		
	Displays the memory capacity of the controller system.		
001	-	*CTL	-

7853	**[Replacement Counter]**
	Displays the PM parts replacement number.
001	PCU: Bk
002	PCU: C
003	PCU: M
004	PCU: Y
005	Development Unit: Bk
006	Development Unit: C

007	Development Unit: M
008	Development Unit: Y
013	ITB Unit
014	ITB Cleaning Unit
015	Fusing Unit
016	Fusing Roller
017	Fusing Belt
018	PTR Unit
019	T-Collect Bottle

<table>
<tr><td rowspan="2">7855</td><td colspan="3">[Coverage Range]</td></tr>
<tr><td colspan="3">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</td></tr>
<tr><td>001</td><td>Coverage Range 1</td><td>*CTL</td><td>[1 to 200 / 5 /1]</td></tr>
<tr><td>002</td><td>Coverage Range 2</td><td>*CTL</td><td>[1 to 200 / 20 /1]</td></tr>
</table>

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**		
001	File Name	*CTL	-
002	Number of Lines		
003	Location		

7904	**[Near End Setting]**		
	Selects the time between near end and end. 0: three days, 1: five days, 2: seven days		
001	PCU: K	*ENG	-
002	PCU: Color	*ENG	-
004	ITB	*ENG	-
006	Fusing Unit	*ENG	-

7906	**[Prev. Unit PM Counter]**	
	(Page or Rotations, Unit, [Color]), Dev.: Development Unit	*ENG
-001 to -019	Displays the number of sheets printed with the previous maintenance units. [0 to 9999999 / **0** / 1 page/step]	
001	Page: PCU: Bk	
002	Page: PCU: C	
003	Page: PCU: M	
004	Page: PCU: Y	
005	Page: Development Unit: Bk	

006	Page: Development Unit: C
007	Page: Development Unit: M
008	Page: Development Unit: Y
013	Page: ITB Unit
014	Page: ITB Cleaning Unit
015	Page: Fusing Unit
016	Page: Fusing Roller
017	Page: Fusing Belt
018	Page: PTR Unit
019	Page:T-Collect Bottle
-031 to -049	Displays the number of revolutions for motors or clutches in the previous maintenance units. [0 to 9999999 / **0** / 1 mm/step]
031	Rotation: PCU: Bk
032	Rotation: PCU: C
033	Rotation: PCU: M
034	Rotation: PCU: Y
035	Rotation: Development Unit: Bk
036	Rotation: Development Unit: C
037	Rotation: Development Unit: M
038	Rotation: Development Unit: Y
043	Rotation: ITB Unit
044	Rotation: ITB Cleaning Unit

045	Rotation: Fusing Unit
046	Rotation: Fusing Roller
047	Rotation: Fusing Belt
048	Rotation: PTR Unit
049	Amount:T-Collect Bottle
-061 to -079	Displays the number of sheets printed with the previous maintenance unit or toner cartridge. [0 to 255 / **0** / 1 %/step]
061	Rotation %: PCU: Bk
062	Rotation %: PCU: C
063	Rotation %: PCU: M
064	Rotation %: PCU: Y
065	Rotation %: Development Unit: Bk
066	Rotation %: Development Unit: C
067	Rotation %: Development Unit: M
068	Rotation %: Development Unit: Y
073	Rotation %: ITB Unit
074	Rotation %: ITB Cleaning Unit
075	Rotation %: Fusing Unit
076	Rotation %: Fusing Roller
077	Rotation %: Fusing Belt
078	Rotation %: PTR Unit

079	Amount %: T-Collect Bottle
-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. [0 to 255 / **0** / 1 %/step]
091	Page (%): PCU: Bk
092	Page (%): PCU: C
093	Page (%): PCU: M
094	Page (%): PCU: Y
095	Page (%): Development Unit: Bk
096	Page (%): Development Unit: C
097	Page (%): Development Unit: M
098	Page (%): Development Unit: Y
103	Page (%): ITB Unit
104	Page (%): ITB Cleaning Unit
105	Page (%): Fusing Unit
106	Page (%): Fusing Roller
107	Page (%): Fusing Belt
108	Page (%): PTR Unit

7931	[Toner Bottle Bk]		
	Displays the toner bottle information for Bk.		
001	Machine Serial ID	*ENG	
002	Cartridge Ver	*ENG	
003	Brand ID	*ENG	
004	Area ID	*ENG	
005	Product ID	*ENG	
006	Color ID	*ENG	
007	Maintenance ID	*ENG	
008	New Product Information	*ENG	
009	Recycle Counter	*ENG	
010	Date	*ENG	
011	Serial No.	*ENG	-
012	Toner Remaining	*ENG	
013	EDP Code	*ENG	
014	End History	*ENG	
015	Refill Information	*ENG	
016	Attachment: Total Counter	*ENG	
017	Attachment: Color Counter	*ENG	
018	End: Total Counter	*ENG	
019	End: Color Counter	*ENG	
020	Attachment Date	*ENG	
021	End Date	*ENG	

7932	**[Toner Bottle C]**		
	Displays the toner bottle information for C.		
001	Machine Serial ID	*ENG	
002	Cartridge Ver	*ENG	
003	Brand ID	*ENG	
004	Area ID	*ENG	
005	Product ID	*ENG	
006	Color ID	*ENG	
007	Maintenance ID	*ENG	
008	New Product Information	*ENG	
009	Recycle Counter	*ENG	
010	Date	*ENG	
011	Serial No.	*ENG	-
012	Toner Remaining	*ENG	
013	EDP Code	*ENG	
014	End History	*ENG	
015	Refill Information	*ENG	
016	Attachment: Total Counter	*ENG	
017	Attachment: Color Counter	*ENG	
018	End: Total Counter	*ENG	
019	End: Color Counter	*ENG	
020	Attachment Date	*ENG	
021	End Date	*ENG	

7933	**[Toner Bottle M]**		
	Displays the toner bottle information for M.		
001	Machine Serial ID	*ENG	
002	Cartridge Ver	*ENG	
003	Brand ID	*ENG	
004	Area ID	*ENG	
005	Product ID	*ENG	
006	Color ID	*ENG	
007	Maintenance ID	*ENG	
008	New Product Information	*ENG	
009	Recycle Counter	*ENG	
010	Date	*ENG	
011	Serial No.	*ENG	-
012	Toner Remaining	*ENG	
013	EDP Code	*ENG	
014	End History	*ENG	
015	Refill Information	*ENG	
016	Attachment: Total Counter	*ENG	
017	Attachment: Color Counter	*ENG	
018	End: Total Counter	*ENG	
019	End: Color Counter	*ENG	
020	Attachment Date	*ENG	
021	End Date	*ENG	

7934	**[Toner Bottle Y]**		
	Displays the toner bottle information for Y.		
001	Machine Serial ID	*ENG	
002	Cartridge Ver	*ENG	
003	Brand ID	*ENG	
004	Area ID	*ENG	
005	Product ID	*ENG	
006	Color ID	*ENG	
007	Maintenance ID	*ENG	
008	New Product Information	*ENG	
009	Recycle Counter	*ENG	
010	Date	*ENG	
011	Serial No.	*ENG	-
012	Toner Remaining	*ENG	
013	EDP Code	*ENG	
014	End History	*ENG	
015	Refill Information	*ENG	
016	Attachment: Total Counter	*ENG	
017	Attachment: Color Counter	*ENG	
018	End: Total Counter	*ENG	
019	End: Color Counter	*ENG	
020	Attachment Date	*ENG	
021	End Date	*ENG	

7935	[Toner Bottle Log 1: Bk]		
001	Serial No.	*ENG	Displays the toner bottle information log 1 for Bk.
002	Attachment Date		
003	Attachment: Total Counter		
004	Refill Information		
005	Serial No.	*ENG	Displays the toner bottle information log 2 for Bk.
006	Attachment Date		
007	Attachment: Total Counter		
008	Refill Information		
009	Serial No.	*ENG	Displays the toner bottle information log 3 for Bk.
010	Attachment Date		
011	Attachment: Total Counter		
012	Refill Information		
013	Serial No.	*ENG	Displays the toner bottle information log 4 for Bk.
014	Attachment Date		
015	Attachment: Total Counter		
016	Refill Information		
017	Serial No.	*ENG	Displays the toner bottle information log 5 for Bk.
018	Attachment Date		
019	Attachment: Total Counter		
020	Refill Information		

7936	[Toner Bottle Log 1: M]		
001	Serial No.	*ENG	Displays the toner bottle information log 1 for M.
002	Attachment Date		
003	Attachment: Total Counter		
004	Refill Information		
005	Serial No.	*ENG	Displays the toner bottle information log 2 for M.
006	Attachment Date		
007	Attachment: Total Counter		
008	Refill Information		
009	Serial No.	*ENG	Displays the toner bottle information log 3 for M.
010	Attachment Date		
011	Attachment: Total Counter		
012	Refill Information		
013	Serial No.	*ENG	Displays the toner bottle information log 4 for M.
014	Attachment Date		
015	Attachment: Total Counter		
016	Refill Information		
017	Serial No.	*ENG	Displays the toner bottle information log 5 for M.
018	Attachment Date		
019	Attachment: Total Counter		
020	Refill Information		

7937	[Toner Bottle Log 1: C]		
001	Serial No.	*ENG	Displays the toner bottle information log 1 for C.
002	Attachment Date		
003	Attachment: Total Counter		
004	Refill Information		
005	Serial No.	*ENG	Displays the toner bottle information log 2 for C.
006	Attachment Date		
007	Attachment: Total Counter		
008	Refill Information		
009	Serial No.	*ENG	Displays the toner bottle information log 3 for C.
010	Attachment Date		
011	Attachment: Total Counter		
012	Refill Information		
013	Serial No.	*ENG	Displays the toner bottle information log 4 for C.
014	Attachment Date		
015	Attachment: Total Counter		
016	Refill Information		
017	Serial No.	*ENG	Displays the toner bottle information log 5 for C.
018	Attachment Date		
019	Attachment: Total Counter		
020	Refill Information		

7938	[Toner Bottle Log 1: Y]		
001	Serial No.	*ENG	Displays the toner bottle information log 1 for Y.
002	Attachment Date		
003	Attachment: Total Counter		
004	Refill Information		
005	Serial No.	*ENG	Displays the toner bottle information log 2 for Y.
006	Attachment Date		
007	Attachment: Total Counter		
008	Refill Information		
009	Serial No.	*ENG	Displays the toner bottle information log 3 for Y.
010	Attachment Date		
011	Attachment: Total Counter		
012	Refill Information		
013	Serial No.	*ENG	Displays the toner bottle information log 4 for Y.
014	Attachment Date		
015	Attachment: Total Counter		
016	Refill Information		
017	Serial No.	*ENG	Displays the toner bottle information log 5 for Y.
018	Attachment Date		
019	Attachment: Total Counter		
020	Refill Information		

7950	[Unit Replacement Date]		
	Displays the replacement date of each PM unit.		
001	ITB Unit	*ENG	
002	ITB Cleaning Unit	*ENG	
003	PTR Unit	*ENG	
004	Fusing Unit	*ENG	
005	Fusing Roller	*ENG	
006	Fusing Belt	*ENG	
013	PCU: Bk	*ENG	
014	PCU: C	*ENG	
015	PCU: M	*ENG	
016	PCU: Y	*ENG	
017	Development Unit:Bk	*ENG	
018	Development Unit:C	*ENG	
019	Development Unit:M	*ENG	
020	Development Unit:Y	*ENG	

7951	**[Remaining Day Counter]**	*ENG	
	Displays the remaining unit life of each PM unit. [0 to 255 / **255** / 1 day/step]		
001	Page: PCU: Bk		
002	Page: PCU: C		
003	Page: PCU: M		
004	Page: PCU: Y		
005	Page: Development Unit: Bk		
006	Page: Development Unit: C		
007	Page: Development Unit: M		
008	Page: Development Unit: Y		
013	Page: ITB Unit		
014	Page: ITB Cleaning Unit		
015	Page: Fusing Unit		
016	Page: Fusing Roller		
017	Page: Fusing Belt		
018	Page: PTR Unit		
031	Rotation: PCU: Bk		
032	Rotation: PCU: C		
033	Rotation: PCU: M		
034	Rotation: PCU: Y		
035	Rotation: Development Unit: Bk		
036	Rotation: Development Unit: C		

037	Rotation: Development Unit: M
038	Rotation: Development Unit: Y
039	Rotation: Developer: Bk
040	Rotation: Developer: C
041	Rotation: Developer: M
042	Rotation: Developer: Y
043	Rotation: ITB Unit
044	Rotation: ITB Cleaning Unit
045	Rotation: Fusing Unit
046	Rotation: Fusing Roller
047	Rotation: Fusing Belt
048	Rotation: PTR Unit
049	Rotation: T-Collect Bottle

7952	**[PM Yield Setting]**		
	Adjusts the unit yield of each PM unit.		
001	Rotation: ITB Unit	*ENG	[0 to 999999999 / **96306000** / 1000 mm/step]
003	Rotation: Fusing Unit	*ENG	[0 to 999999999 / **253408000** / 1000 mm/step]
007	Amount:T-Collect Bottle	*ENG	[0 to 999999999 / **300000** / 1000 mg/step]
011	Page: ITB Unit	*ENG	[0 to 999999 / **100000** / 1000 sheet/step]
013	Page: Fusing Unit	*ENG	[0 to 999999 / **120000** / 1 sheet/step]

021	Day Threshold: PCU: Bk	*ENG	Adjusts the threshold day of the near end for each PM unit. [1 to 30 / **15** / 1 day/step] These threshold days are used for @Remote alarms.
022	Day Threshold: PCU: C	*ENG	
023	Day Threshold: PCU: M	*ENG	
024	Day Threshold: PCU: Y	*ENG	
025	Day Threshold: Development Unit: Bk	*ENG	
026	Day Threshold: Development Unit: C	*ENG	
027	Day Threshold: Development Unit: M	*ENG	
028	Day Threshold: Development Unit: Y	*ENG	
033	Day Threshold: ITB Unit	*ENG	
034	Day Threshold: ITB Cleaning Unit	*ENG	
035	Day Threshold: Fusing Unit	*ENG	
036	Day Threshold: Fusing Roller	*ENG	
037	Day Threshold: Fusing Belt	*ENG	
038	Rotation: PCU: Bk	*ENG	[0 to 999999999 / **0** / 1 mm/step]
039	Rotation: PCU: C	*ENG	
040	Rotation: PCU: M	*ENG	
041	Rotation: PCU: Y	*ENG	

050	Page: PCU: Bk	*ENG	[0 to 999999 / **0** / 1 sheet/step]
051	Page: PCU: C		
052	Page: PCU: M		
053	Page: PCU: Y		
062	Day Threshold:PTR Unit	*ENG	Adjusts the threshold day of the near end for each PM unit. [1 to 30 / **15** / 1 day/step] These threshold days are used for @Remote alarms.
063	Day Thresh: T-Collect Bttl		

7953	**[Operation Env. Log: PCU: Bk]**		
	Displays the PCU rotation distance in each specified operation environment. T: Temperature (°C), H: Relative Humidity (%)		
001	T<=0	*ENG	[0 to 99999999 / - / 1 mm/step]
002	0<T<=5:0<=H<30		
003	0<T<=5:30<=H<70		
004	T<=5: 70<=H<=100		
005	5<T<15: 0<=H<30		
006	5<T<15: 30<=H<55		
007	5<T<15: 55<=H<80		
008	5<T<15: 80<=H<=100		
009	15<=T<25: 0<=H<30		
010	15<=T<25: 30<=H<55		
011	15<=T<25: 55<=H<80		

012	15<=T<25: 80<=H<=100		
013	25<=T<30: 0<=H<30		
014	25<=T<30: 30<=H<55		
015	25<=T<30: 55<=H<80		
016	25<=T<30: 80<=H<=100		
017	30<=T: 0<=H<30		
018	30<=T: 30<=H<55		
019	30<=T: 55<=H<80		
020	30<=T: 80<=H<=100		

7954	**[Operation Env. Log Clear]**
	Clears the operation environment log.
001	-

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
SP8 211 to SP8 216	The number of pages scanned to the document server.
SP8 401 to SP8 406	The number of pages printed from the document server
SP8 691 to SP8 696	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
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

Abbreviation	What it means
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
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

Abbreviation	What it means
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.

8 001	T:Total Jobs	*CTL	These SPs count the number of times each application is used to do a job. [0 to 9999999/ **0** / 1]
8 004	P:Total Jobs	*CTL	

- 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.

8 061	T:FIN Jobs	*CTL	[0 to 9999999/ **0** / 1]
	Not used		
8 064	P:FIN Jobs	*CTL	[0 to 9999999/ **0** / 1]
	Not used		
8 067	O:FIN Jobs	*CTL	[0 to 9999999/ **0** / 1]
	Not used		
8 06x 1	Sort	Not used	
8 06x 2	Stack	Not used	
8 06x 3	Staple	Not used	
8 06x 4	Booklet	Not used	
8 06x 5	Z-Fold	Not used	
8 06x 6	Punch	Not used	
8 06x 7	Other	Not used	
8 06x 8	Inside-Fold	Not used	
8 06x 9	Three-IN-Fold	Not used	
8 06x 10	Three-OUT-Fold	Not used	
8 06x 11	Four-Fold	Not used	
8 06x 12	KANNON-Fold	Not used	
8 06x 13	Perfect-Bind	Not used	
8 06x 14	Ring-Bind	Not used	

8 071	T:Jobs/PGS	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count the number of jobs broken down by the number of pages in the job, regardless of which application was used.		
8 074	P:Jobs/PGS	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count and calculate the number of print jobs by size based on the number of pages in the job.		
8 077	O:Jobs/PGS	*CTL	[0 to 9999999/ **0** / 1]
	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 1	1 Page	8 07x 8	21 to 50 Pages
8 07x 2	2 Pages	8 07x 9	51 to 100 Pages
8 07x 3	3 Pages	8 07x 10	101 to 300 Pages
8 07x 4	4 Pages	8 07x 11	301 to 500 Pages
8 07x 5	5 Pages	8 07x 12	501 to 700 Pages
8 07x 6	6 to 10 Pages	8 07x 13	701 to 1000 Pages
8 07x 7	11 to 20 Pages	8 07x 14	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.

8 381	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. [0 to 9999999/ **0** / 1]
8 384	P:Total PrtPGS	*CTL	
8 387	O:Total PrtPGS	*CTL	

- 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.

8 391	LSize PrtPGS	*CTL	[0 to 9999999/ **0** / 1]
	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.		

8 411	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]

8 421	T:PrtPGS/Dup Comb		*CTL	[0 to 9999999/ **0** / 1]
	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.			
8 424	P:PrtPGS/Dup Comb		*CTL	[0 to 9999999/ **0** / 1]
	These SPs count by binding and combine, and n-Up settings the number of pages processed for printing by the printer application.			
8 427	O:PrtPGS/Dup Comb		*CTL	[0 to 9999999/ **0** / 1]
	These SPs count by binding and combine, and n-Up settings the number of pages processed for printing by Other applications			
8 42x 1	Simplex> Duplex			
8 42x 4	Simplex Combine			
8 42x 5	Duplex Combine			
8 42x 6	2>	2 pages on 1 side (2-Up)		
8 42x 7	4>	4 pages on 1 side (4-Up)		
8 42x 8	6>	6 pages on 1 side (6-Up)		
8 42x 9	8>	8 pages on 1 side (8-Up)		

8 42x 10	9>	9 pages on 1 side (9-Up)		
8 42x 11	16>	16 pages on 1 side (16-Up)		
8 42x 12	Booklet			
8 42x 13	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

8 431	T:PrtPGS/ImgEdt	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count the total number of pages output with the three features below, regardless of which application was used.		
8 434	P:PrtPGS/ImgEdt	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count the total number of pages output with the three features below with the print application.		
8 437	O:PrtPGS/ImgEdt	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count the total number of pages output with the three features below with Other applications.		
8 43x 1	Cover/Slip Sheet	Total number of covers or slip sheets inserted. The count for a cover printed on both sides counts 2.	
8 43x 2	Series/Book	The number of pages printed in series (one side) or printed as a book with booklet right/left pagination.	
8 43x 3	User Stamp	The number of pages printed where stamps were applied, including page numbering and date stamping.	

8 441	T:PrtPGS/Ppr Size	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count by print paper size the number of pages printed by all applications.		
8 444	P:PrtPGS/Ppr Size	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count by print paper size the number of pages printed by the printer application.		
8 447	O:PrtPGS/Ppr Size	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count by print paper size the number of pages printed by Other applications.		
8 44x 1	A3		
8 44x 2	A4		

8 44x 3	A5			
8 44x 4	B4			
8 44x 5	B5			
8 44x 6	DLT			
8 44x 7	LG			
8 44x 8	LT			
8 44x 9	HLT			
8 44x 10	Full Bleed			
8 44x 254	Other (Standard)			
8 44x 255	Other (Custom)			

- These counters do not distinguish between LEF and SEF.

8 451	PrtPGS/Ppr Tray	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count the number of sheets fed from each paper feed station.		
8 451 1	Bypass	Bypass Tray	
8 451 2	Tray 1	Machine	
8 451 3	Tray 2	Paper Tray Unit (Option)	
8 451 4	Tray 3	Paper Tray Unit (Option)	
8 451 5	Tray 4	Paper Tray Unit (Option)	
8 451 6	Tray 5	Not used	
8 451 7	Tray 6	Not used	
8 451 8	Tray 7	Not used	
8 451 9	Tray 8	Not used	
8 451 10	Tray 9	Not used	
8 451 11	Tray 10	Not used	
8 451 12	Tray 11	Not used	
8 451 13	Tray 12	Not used	
8 451 14	Tray 13	Not used	
8 451 15	Tray 14	Not used	
8 451 16	Tray 15	Not used	

8 461	T:PrtPGS/Ppr Type	*CTL	[0 to 9999999/ **0** / 1]
	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.		
8 464	P:PrtPGS/Ppr Type	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count by paper type the number pages printed by the printer application.		
8 46x 1	Normal		
8 46x 2	Recycled		
8 46x 3	Special		
8 46x 4	Thick		
8 46x 5	Normal (Back)		
8 46x 6	Thick (Back)		
8 46x 7	OHP		
8 46x 8	Other		

8 471	PrtPGS/Mag	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count by magnification rate the number of pages printed.		
8 471 1	< 49%		
8 471 2	50% to 99%		
8 471 3	100%		
8 471 4	101% to 200%		
8 471 5	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%.

8 481	T:PrtPGS/TonSave	*CTL	
8 484	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]		

8 501	T:PrtPGS/Col Mode	*CTL	These SPs count the number of pages printed in the Color Mode by the print application.
8 504	P:PrtPGS/Col Mode	*CTL	
8 507	O:PrtPGS/Col Mode	*CTL	
8 50x 1	B/W		
8 50x 2	Mono Color		
8 50x 3	Full Color		
8 50x 4	Single Color		
8 50x 5	Two Color		

8 511	T:PrtPGS/Emul		*CTL	[0 to 9999999/ **0** / 1]
	These SPs count by printer emulation mode the total number of pages printed.			
8 514	P:PrtPGS/Emul		*CTL	[0 to 9999999/ **0** / 1]
	These SPs count by printer emulation mode the total number of pages printed.			
8 514 1	RPCS			
8 514 2	RPDL			
8 514 3	PS3			
8 514 4	R98			
8 514 5	R16			
8 514 6	GL/GL2			
8 514 7	R55			
8 514 8	RTIFF			

8 514 9	PDF			
8 514 10	PCL5e/5c			
8 514 11	PCL XL			
8 514 12	IPDL-C			
8 514 13	BM-Links	Japan Only		
8 514 14	Other			
8 514 15	IPDS			

- 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.

8 521	T:PrtPGS/FIN	*CTL	[0 to 9999999 / **0** / 1]
	Not used		
8 524	P:PrtPGS/FIN	*CTL	[0 to 9999999 / **0** / 1]
	Not used		
8 52x 1	Sort		
8 52x 2	Stack		
8 52x 3	Staple		
8 52x 4	Booklet		
8 52x 5	Z-Fold		
8 52x 6	Punch		
8 52x 7	Other		
8 52x 8	Inside-Fold		

8 52x 9	Three-IN-Fold
8 52x 10	Three-OUT-Fold
8 52x 11	Four-Fold
8 52x 12	KANNON-Fold
8 52x 13	Perfect-Bind
8 52x 14	Ring-Bind

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.

8 531	Staples	*CTL	Not used

8 551	T:FIN Books	*CTL	Not used
8 551 1	Perfect-Bind		
8 551 2	Ring-Bind		

8 554	T:FIN Books	*CTL	Not used
8 554 1	Perfect-Bind		
8 554 2	Ring-Bind		

8 581	T:Counter	*CTL	[0 to 9999999 / **0** / 1]
	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 1	Total		
8 581 2	Total: Full Color		
8 581 3	B&W/Single Color		
8 581 4	Development: CMY		
8 581 5	Development: K		
8 581 8	Print: Color		
8 581 9	Print: B/W		
8 581 10	Total: Color		
8 581 11	Total: B/W		
8 581 12	Full Color: A3		
8 581 13	Full Color: B4 JIS or Smaller		
8 581 14	Full Color Print		
8 581 15	Mono Color Print		
8 581 17	Twin Color Mode Print		
8 581 18	Full Color Print (Twin)		
8 581 19	Mono Color Print (Twin)		
8 581 20	Full Color Total (CV)		
8 581 21	Mono Color Total (CV)		
8 581 22	Full Color Print (CV)		

8 584	P:Counter	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count the total output of the print application broken down by color output.		
8 584 1	B/W		
8 584 2	Mono Color		
8 584 3	Full Color		
8 584 4	Single Color		
8 584 5	Two Color		

8 591	O:Counter	*CTL	[0 to 9999999/ **0** / 1]
	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 1	A3/DLT	-	
8 591 2	Duplex		

8 601	Coverage Counter	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count the total coverage for each color and the total printout pages for each printing mode.		
8 601 1	B/W	-	
8 601 2	Color		
8 601 11	B/W Printing Pages		
8 601 12	Color Printing Pages		
8 601 21	Coverage Counter 1		
8 601 22	Coverage Counter 2		
8 601 23	Coverage Counter 3		

8 617	SDK Apli Counter	*CTL	[0 to 9999999/ **0** / 1]
8 617 1	SDK1	These SPs count the total printout pages for each SDK applicaion.	
8 617 2	SDK2		
8 617 3	SDK3		
8 617 4	SDK4		
8 617 5	SDK5		
8 617 6	SDK6		

8 621	Func Use Counter	*CTL	-
001 to 064	Function-001 to Function-064		

8 771	Dev Counter	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count the frequency of use (number of rotations of the development rollers) for black and other color toners.		
8 771 1	Total		
8 771 2	K		
8 771 3	Y		
8 771 4	M		
8 771 5	C		

8 781	Toner Bottle Info.	*CTL	[0 to 9999999/ **0** / 1]
	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 1	Toner: BK	The number of black-toner bottles	
8 781 2	Toner: Y	The number of yellow-toner bottles	
8 781 3	Toner: M	The number of magenta-toner bottles	
8 781 4	Toner: C	The number of cyan-toner bottles	

8 801	Toner Remain	*CTL	[0 to 100/ **0** / 1]
	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 1	K		
8 801 2	Y		
8 801 3	M		
8 801 4	C		

8 851	Cov Cnt: 0-10%	*CTL	[0 to 9999999/ **0** / 1]
	These SPs display the number of scanned sheets on which the coverage of each color is from 0% to 10%.		
8 851 11	0 to 2%: BK	8 851 31	5 to 7%: BK
8 851 12	0 to 2%: Y	8 851 32	5 to 7%: Y
8 851 13	0 to 2%: M	8 851 33	5 to 7%: M
8 851 14	0 to 2%: C	8 851 34	5 to 7%: C
8 851 21	3 to 4%: BK	8 851 41	8 to 10%: BK
8 851 22	3 to 4%: Y	8 851 42	8 to 10%: Y
8 851 23	3 to 4%: M	8 851 43	8 to 10%: M
8 851 24	3 to 4%: C	8 851 44	8 to 10%: C

8 861	Cov Cnt: 11-20%	*CTL	[0 to 9999999/ **0** / 1]
	These SPs display the number of scanned sheets on which the coverage of each color is from 11% to 20%.		
8 861 1	BK		
8 861 2	Y		
8 861 3	M		
8 861 4	C		

8 871	Cov Cnt: 21-30%	*CTL	[0 to 9999999/ **0** / 1]
	These SPs display the number of scanned sheets on which the coverage of each color is from 21% to 30%.		
8 871 1	BK		
8 871 2	Y		
8 871 3	M		
8 871 4	C		

8 881	Cov Cnt: 31%-	*CTL	[0 to 9999999/ **0** / 1]
	These SPs display the number of scanned sheets on which the coverage of each color is 31% or higher.		
8 881 1	BK		
8 881 2	Y		
8 881 3	M		
8 881 4	C		

8 891	Page/Toner Bottle	*CTL	[0 to 9999999/ **0** / 1]
	These SPs display the amount of the remaining current toner for each color.		
8 891 1	BK		
8 891 2	Y		
8 891 3	M		
8 891 4	C		

8 901	Page/Toner – Prev1	*CTL	[0 to 9999999/ **0** / 1]
	These SPs display the amount of the remaining previous toner for each color.		
8 901 1	BK		
8 901 2	Y		
8 901 3	M		
8 901 4	C		

8 911	Page/Toner – Prev2	*CTL	[0 to 9999999/ **0** / 1]
	These SPs display the amount of the remaining 2nd previous toner for each color.		
8 911 1	BK		
8 911 2	Y		
8 911 3	M		
8 911 4	C		

8 921	Cov Cnt: Total	*CTL	[0 to 9999999/ **0** / 1]
	Displays the total coverage and total printout number for each color.		
8 921 1	Coverage (%): BK		
8 921 2	Coverage (%): Y		
8 921 3	Coverage (%): M		
8 921 4	Coverage (%): C		
8 921 11	Coverage/P: BK		
8 921 12	Coverage/P: Y		
8 921 13	Coverage/P: M		
8 921 14	Coverage/P: C		

8 941	Machine Status	*CTL	[0 to 9999999/ **0** / 1]
	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 1	Operation Time	Engine operation time. Does not include time while controller is saving data to HDD (while engine is not operating).	
8 941 2	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 3	Energy Save Time	Includes time while the machine is performing background printing.	
8 941 4	Low Power Time	Includes time in Energy Save mode with Engine on. Includes time while machine is performing background printing.	
8 941 5	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 6	SC	Total time when SC errors have been staying.	
8 941 7	PrtJam	Total time when paper jams have been staying during printing.	
8 941 9	Supply PM Unit End	Total time when toner end has been staying	

8 999	Adomin. Counter List	*CTL	[0 to 9999999/ **0** / 1]
	Displays the total coverage and total printout number for each color.		
8 999 1	Total		
8 999 6	Printer Full Color		
8 999 7	Printer BW		
8 999 8	Printer Single Color		
8 999 9	Printer Two Color		
8 999 13	Duplex		
8 999 14	Coverage: Color (%)		
8 999 15	Coverage: BW (%)		
8 999 16	Coverage: Color Print Page (%)		
8 999 17	Coverage: BW Print Page (%)		

8.1.2 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
5803 1	1 Tray Size	See table 1 following this table.	
5803 2	1 Tray Paper Height Sensor 1	See table 2 following this table.	
5803 3	1 Tray Paper Height Sensor 2	See table 2 following this table.	
5803 4	1 Tray Paper End Sensor	No paper	Paper remaining
5803 5	1 Tray Upper Limit Sensor	Not upper limit	Upper limit
5803 6	Bypass Paper End Sensor	No paper	Paper remaining
5803 7	Paper Feed Sensor	Paper detected	Paper not detected
5803 8	Paper Exit Sensor	Paper detected	Paper not detected
5803 9	Paper Exit Full Sensor	Paper not full	Paper full
5803 10	Fusing Exit Sensor	Paper not detected	Paper detected
5803 11	Fusing Entrance Sensor	Paper detected	Paper not detected
5803 13	Duplex Entrance Sensor	Paper detected	Paper not detected
5803 14	Duplex Exit Sensor	Paper detected	Paper not detected
5803 15	Registration Sensor	Paper detected	Paper not detected

5803 16	Vertical Transport Sensor	Paper detected	Paper not detected
5803 18	Toner End Sensor: Y	Toner end	Toner remaining
5803 19	Toner End Sensor: C	Toner end	Toner remaining
5803 20	Toner End Sensor: M	Toner end	Toner remaining
5803 21	Toner End Sensor: K	Toner end	Toner remaining
5803 22	Drum Phase Sensor: K	Actuator not detected	Actuator detected
5803 23	Drum Phase Sensor: CMY	Actuator not detected	Actuator detected
5803 24	Interlock SW 1	Front door open	Front door closed
5803 25	Interlock SW 2	Front door open	Front door closed
5803 26	Front Door Sensor	Closed	Open
5803 31	LDU Shutter Sensor	Closed	Open
5803 32	Waste Toner Bottle Set Sensor	Set	Not set
5803 33	Waste Toner Bottle Full Sensor	Not full	Full
5803 34	ITB Unit: New	Not new	New
5803 36	Fusing Fan 1: Lock	Normal	Lock
5803 37	Fusing Fan 2: Lock	Normal	Lock
5803 41	Drive Unit Fan: Lock	Normal	Lock
5803 44	Development Fan 2: Lock	Normal	Lock
5803 45	Development Fan 1: Lock	Normal	Lock
5803 46	Laser Unit Fan: Lock	Normal	Lock
5803 47	Feed Fan: Lock	Normal	Lock
5803 48	Transfer Belt Contact Sensor	Not contact	Contact
5803 49	Paper Transfer Roller Contact Sensor	Not contact	Contact

5803 50	Drum Motor: K: Lock	Normal	Lock
5803 51	Fusing Motor: Lock	Normal	Lock
5803 52	Development Motor:CMY: Lock	Normal	Lock
5803 53	Drum Motor:CMY: Lock	Normal	Lock
5803 54	PP: D: SC	SC detected	No SC
5803 55	PP: CB: SC	SC detected	No SC
5803 56	PP: T1T2: SC	SC detected	No SC
5803 57	Fusing: Generation	Not detected	Detected
5803 58	Fusing: New	New	Not new
5803 59	Fusing: Destination	Set	Not set
5803 60	Fusing: Set	Set	Not set
5803 61	Zero-cross Signal	Not detected	Detected
5803 62	Fusing: Temperature	Detected	Not detected
5803 67	Upper Cover Sensor	Closed	Open
5803 72	BCU Version	-	-
5803 73	Polygon Motor 24V	Power supplied	Power not supplied
5803 74	Inverter Sensor	Inverter gate open	Inverter gate close
5803 75	Fusing Cooling Fan: Lock	Normal	Lock
5803 76	Toner Supply Fan: Lock	Normal	Lock
5803 77	Bank Feed Sensor 1	Paper detected	Paper not detected

5803 78	Bank Feed Sensor 2	Paper detected	Paper not detected
5803 79	Bank Feed Sensor 3	Paper detected	Paper not detected
5803 80	Bank Vertical Feed Sensor 1	Paper detected	Paper not detected
5803 81	Bank Vertical Feed Sensor 2	Paper detected	Paper not detected
5803 82	Bank Vertical Feed Sensor 3	Paper detected	Paper not detected
5803 94	LD OFF Check:Factory	-	-

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

8.1.3 OUTPUT CHECK TABLE

Printer

5804	Display	Description
5804 3	Drum Motor: K: 260mm/s	-
5804 4	Drum Motor: K: 182mm/s	-
5804 5	Drum Motor: K: 85mm/s	-
5804 10	Fusing Motor: 260mm/s	-
5804 11	Fusing Motor: 182mm/s	-
5804 12	Fusing Motor: 85mm/s	-
5804 17	Development Motor: CMY: 260mm/s	-
5804 18	Development Motor: CMY: 182mm/s	-
5804 19	Development Motor: CMY: 85mm/s	-
5804 24	Drum Motor: CMY: 260mm/s	-
5804 25	Drum Motor: CMY: 182mm/s	-
5804 26	Drum Motor: CMY: 85mm/s	-
5804 31	Feed Motor: 364mm/s	-
5804 32	Feed Motor: 260mm/s	-
5804 33	Feed Motor: 182mm/s	-
5804 34	Feed Motor: 85mm/s	-
5804 39	Registration Motor: 260mm/s	-
5804 40	Registration Motor: 182mm/s	-
5804 41	Registration Motor: 85mm/s	-

5804 46	Inverter Motor: CW: 442mm/s	-
5804 47	Inverter Motor: CW: 260mm/s	-
5804 48	Inverter Motor: CW: 182mm/s	-
5804 49	Inverter Motor: CW: 85mm/s	-
5804 54	Inverter Motor: CCW: 442mm/s	-
5804 55	Inverter Motor: CCW: 260mm/s	-
5804 56	Inverter Motor: CCW: 182mm/s	-
5804 57	Inverter Motor: CCW: 85mm/s	-
5804 62	By-pass Motor: CCW: 260mm/s	-
5804 63	By-pass Motor: CCW: 182mm/s	-
5804 64	By-pass Motor: CCW: 85mm/s	-
5804 69	Duplex Motor: CCW: 442mm/s	-
5804 70	Duplex Motor: CCW: 260mm/s	-
5804 71	Duplex Motor: CCW: 182mm/s	-
5804 72	Duplex Motor: CCW: 85mm/s	-
5804 77	Vertical Feed Motor: 364mm/s	-
5804 78	Vertical Feed Motor: 260mm/s	-
5804 79	Vertical Feed Motor: 182mm/s	-
5804 80	Vertical Feed Motor: 85mm/s	-
5804 83	Transfer Belt Contact Motor: CW	-
5804 84	Transfer Belt Contact Motor: CCW	-

5804 85	Paper Transfer Roller Contact Motor: CW	-
5804 86	Paper Transfer Roller Contact Motor: CCW	-
5804 87	Toner Collection Motor: CW	-
5804 88	Toner Collection Motor: CCW	-
5804 89	1 Tray Lift Motor: CW	-
5804 90	1 Tray Lift Motor: CCW	-
5804 91	Toner Supply Motor: K	-
5804 92	Toner Supply Motor: M	-
5804 93	Toner Supply Motor: C	-
5804 94	Toner Supply Motor: Y	-
5804 95	LDU Shutter Motor: CW	-
5804 96	LDU Shutter Motor: CCW	-
5804 102	Fusing Fan 1: H	-
5804 103	Fusing Fan 1: L	-
5804 104	Polygon Motor: Standard Speed	-
5804 105	Polygon Motor: Middle Speed	-
5804 106	Polygon Motor: Low Speed	-
5804 107	Fusing Fan 2: H	-
5804 108	Fusing Fan 2: L	-
5804 112	Drive Unit Fan	-

5804 114	Development Fan 2	-
5804 115	Development Fan 1	-
5804 116	Laser Unit Fan	-
5804 117	Feed Fan	-
5804 118	PSU Fan	-
5804 120	Development Clutch	-
5804 121	By-pass Solenoid	-
5804 123	1 Tray Feed Solenoid	-
5804 124	Junction Gate Solenoid	-
5804 126	Fusing Cooling Fan: H	-
5804 127	Toner Supply Fan: H	-
5804 130	PP: Charge DC: Y	-
5804 131	PP: Charge DC: M	-
5804 132	PP: Charge DC: C	-
5804 133	PP: Charge DC: K	-
5804 134	PP: Development: Y	-
5804 135	PP: Development: M	-
5804 136	PP: Development: C	-
5804 137	PP: Development: K	-
5804 138	PP: D	-

5804 139	PP: T1: Y	-
5804 140	PP: T1: M	-
5804 141	PP: T1: C	-
5804 142	PP: T1: K	-
5804 143	PP: T2: +	-
5804 144	PP: T2: -	-
5804 147	PP: Charge AC: Y: 260mm/s	-
5804 148	PP: Charge AC: Y: 182mm/s	-
5804 149	PP: Charge AC: Y: 85mm/s	-
5804 154	PP: Charge AC: M: 260mm/s	-
5804 155	PP: Charge AC: M: 182mm/s	-
5804 156	PP: Charge AC: M: 85mm/s	-
5804 161	PP: Charge AC: C: 260mm/s	-
5804 162	PP: Charge AC: C: 182mm/s	-
5804 163	PP: Charge AC: C: 85mm/s	-
5804 168	PP: Charge AC: K: 260mm/s	-
5804 169	PP: Charge AC: K: 182mm/s	-
5804 170	PP: Charge AC: K: 85mm/s	-
5804 181	HST Sensor: Y	-
5804 182	HST Sensor: M	-
5804 183	HST Sensor: C	-

5804 184	HST Sensor: K	-
5804 185	TM/P Sensor: Front/Y	-
5804 186	P Sensor: M	-
5804 187	TM/P Sensor: Center/C	-
5804 188	TM/P Sensor: Rear/K	-
5804 189	PCL: FC	-
5804 190	PCL: BK	-
5804 191	Toner End Sensor 5V CTL	-
5804 192	RFID ON/OFF: K	-
5804 193	RFID ON/OFF: C	-
5804 194	RFID ON/OFF: M	-
5804 195	RFID ON/OFF: Y	-
5804 196	RFID COM ON: K	-
5804 197	RFID COM ON: C	-
5804 198	RFID COM ON: M	-
5804 199	RFID COM ON: Y	-
5804 216	LD1: K	-
5804 217	LD2: K	-
5804 218	LD1: C	-
5804 219	LD2: C	-
5804 220	LD1: M	-

5804 221	LD2: M	-
5804 222	LD1: Y	-
5804 223	LD2: Y	-
5804 224	Bank Motor 1: 364mm/s	-
5804 225	Bank Motor 1: 260mm/s	-
5804 226	Bank Motor 1: 182mm/s	-
5804 227	Bank Motor 1: 136mm/s	-
5804 228	Bank Motor 1: 85mm/s	-
5804 229	Bank Motor 2: 364mm/s	-
5804 230	Bank Motor 2: 260mm/s	-
5804 231	Bank Motor 2: 182mm/s	-
5804 232	Bank Motor 2: 136mm/s	-
5804 233	Bank Motor 2: 85mm/s	-
5804 234	Bank Motor 3: 364mm/s	-
5804 235	Bank Motor 3: 260mm/s	-
5804 236	Bank Motor 3: 182mm/s	-
5804 237	Bank Motor 3: 136mm/s	-
5804 238	Bank Motor 3: 85mm/s	-
5804 239	Bank Feed Clutch 1	-
5804 240	Bank Feed Clutch 2	-
5804 241	Bank Feed Clutch 3	-
5804 242	Bank Pick-up Solenoid 1	-
5804 243	Bank Pick-up Solenoid 2	-
5804 244	Bank Pick-up Solenoid 3	-

8.1.4 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

8.2 PRINTER SERVICE MODE

8.2.1 SP1-XXX (SERVICE MODE)

1001	Bit Switch			
001	Bit Switch 1		0	1
	bit 0	DFU	-	-
	bit 1	DFU	-	-
	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	DFU	-	-
	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	DFU	-	-
	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 explicitely 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 DFU	-	-

1001	Bit Switch			
005	Bit Switch 5		0	1
	bit 0	**Show "Collate Type", "Staple Type" and "Punch Type" buttons on the operation panel.**	0: Disable	1: Enable
		If enabled, users will be able to configure a Collate Type, Staple Type, and Punch Type from the operation panel. The available Types will depend on the device and configured options. After enabling this BitSw, the settings will appear under: "User Tools > Printer Features > System"		
	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		
	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		0	1
	bit 0	**Print path**	0: Disable	1: Enable
		If enabled, simplex pages (in mixed simplex/duplex PS/PCL5 jobs only) and the last page of an odd paged duplex job (PS, PCL5, PCL6) are always routed through the duplex unit. Not having to switch paper paths increases the print speed slightly.		
	bit 1 to 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 to 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 to 3	DFU	-	-
⇒	bit 4	Timing of the PJL Status Readback (JOB END) when printing multiple collated copies	Disabled	Enabled
		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	-	-

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 001	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] 0: OFF, 1: ON
1007 002	PCU	
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 2	Tone (Prev.)	
1101 3	Tone (Current)	

1102	**[ToneCtlSet]**
	Sets the printing mode (resolution) for the printer gamma adjustment. The asterisk (*) shows which mode is set. ▪ 00: *1200x1200Photo ▪ 01: 600x600Text ▪ 02: 1200x1200Text ▪ 03: 1200x600Text ▪ 04: 600x600Photo ▪ 05: 1200x600Photo

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	
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 / **260** / 1%/step]

⇒

1109	**[Economy Color]**	
	Adjusts the toner density in "Economy Color" mode.	
1109 001	Text	[0 to 100 / **100%** / 1/step]
1109 002	Image	0 to 100 / **50%** / 1/step]
1109 003	Line	0 to 100 / **30%** / 1/step]
1109 004	Paint	0 to 100 / **30%** / 1/step]

M384

PAPER FEED UNIT PB 1020

PB1020T*

*HC (HEALTHCARE MODEL)

REVISION HISTORY		
Page	**Date**	**Added/Updated/New**
		None

M384 (PAPER FEED UNIT PB 1020)

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Read This First

Safety and Symbols

Replacement Procedure Safety

⚠CAUTION

- Turn off the main power switch and unplug the machine before beginning any of the replacement procedures in this manual.

Symbols Used in this Manual

This manual uses the following symbols.

: See or Refer to

: Screws

: Connector

: Clamp

: Clip ring

: E-ring

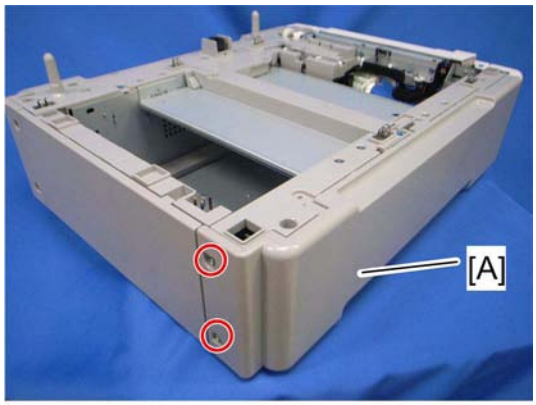
1. REPLACEMENT AND ADJUSTMENT

1.1 EXTERNAL COVERS

CAUTION

- Turn off the main power switch and unplug the machine before attempting any procedure in this section.

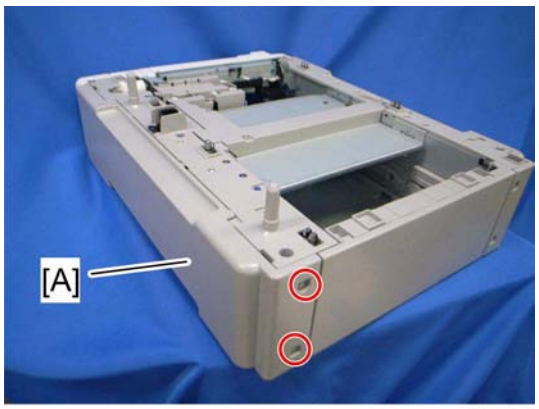
1.1.1 LEFT COVER



m384r505

1. Left cover [A] (x2).

1.1.2 RIGHT COVER



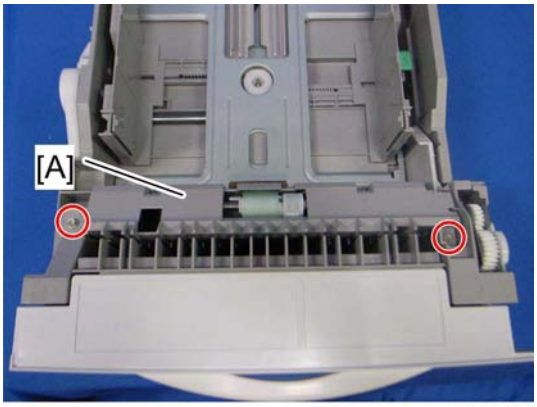
m384r504

1. Right cover [A] (x2).

1.2 PICK-UP, PAPER FEED AND SEPARATION ROLLERS

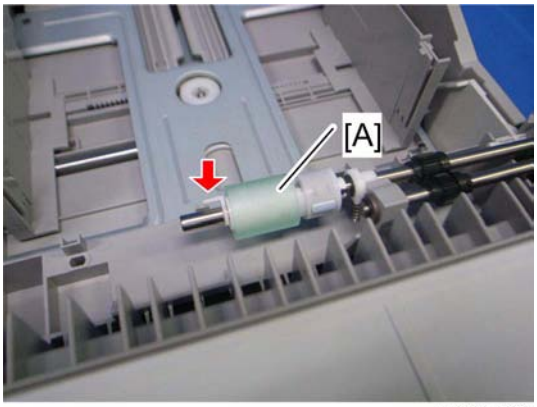
1.2.1 SEPARATION ROLLER

1. Pull out the paper tray.



m384r500

2. Cover [A] (x 2)

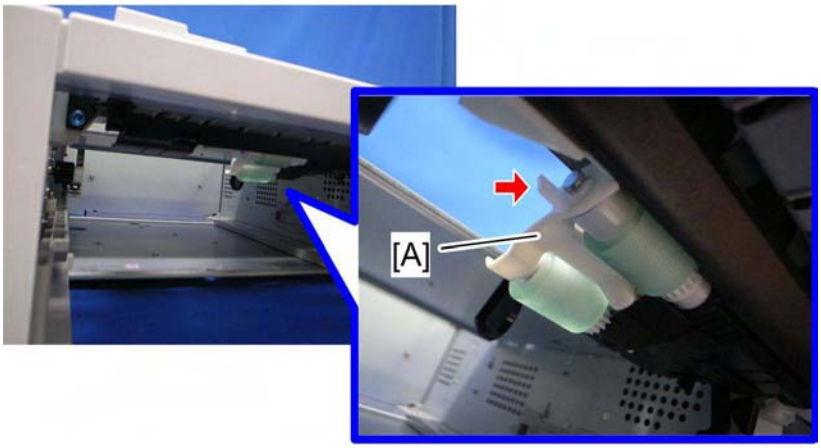


m384r501

3. Separation roller [A] (x 1)

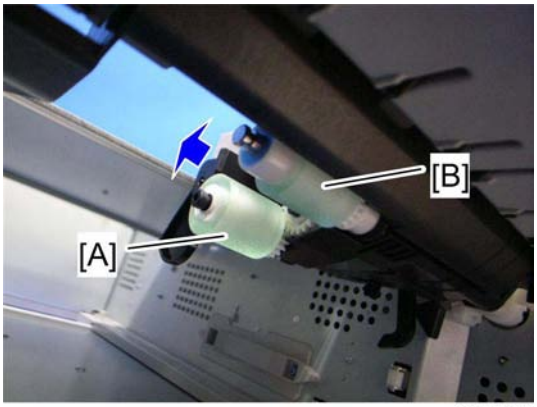
1.2.2 PICK-UP AND PAPER FEED ROLLERS

1. Pull out the paper tray.



m384r502

2. Roller holder [A] (x 1)



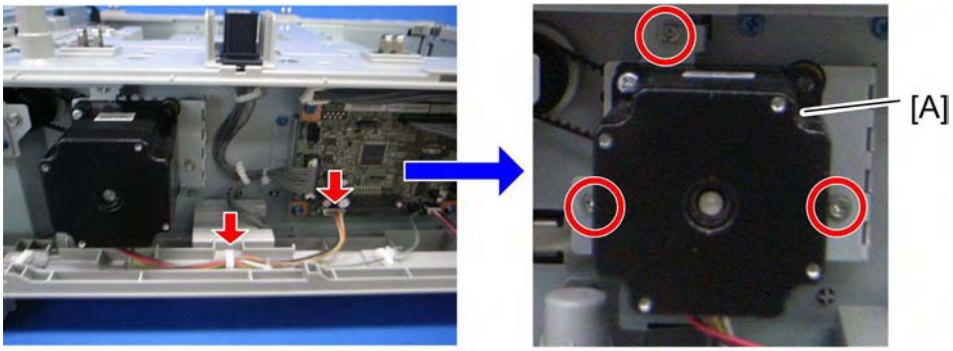
m384r503

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

1.3 ELECTRICAL COMPONENTS

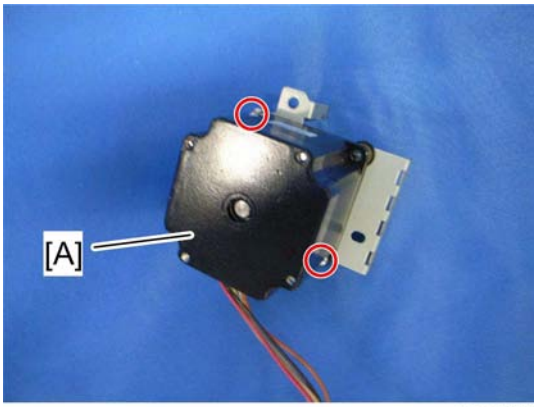
1.3.1 PAPER FEED MOTOR

1. Right cover (☛ p.1)



m384r506

2. Paper feed motor bracket [A] (x3, x1, x1)

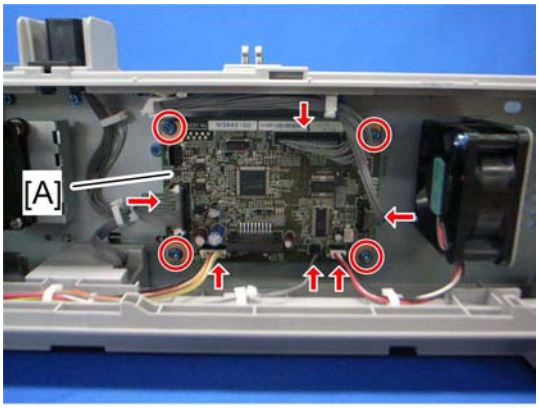


m384r507

3. Paper feed motor [A] (x2)

1.3.2 DRIVE BOARD

1. Right cover (☛ p.1)

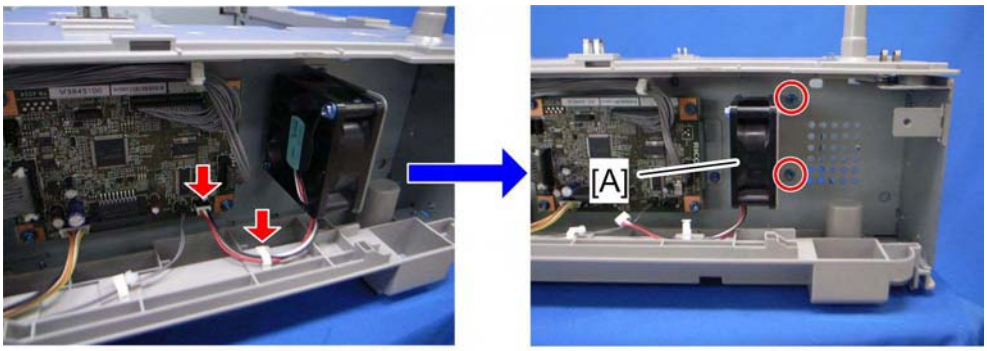


m384r508

2. Drive board [A] (x4, x6)

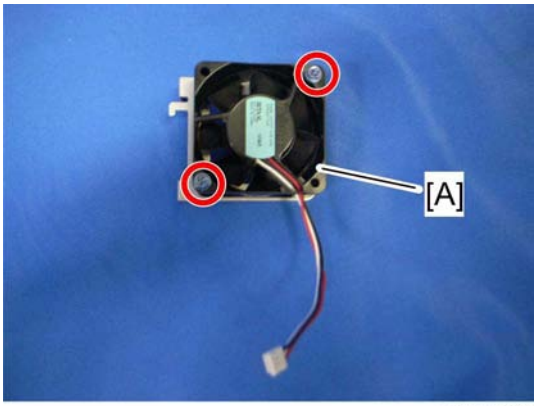
1.3.3 COOLING FAN

1. Right cover (☛ p.1)



m384r509

2. Cooling fan base [A] (x2, x1, x1)



m384r532

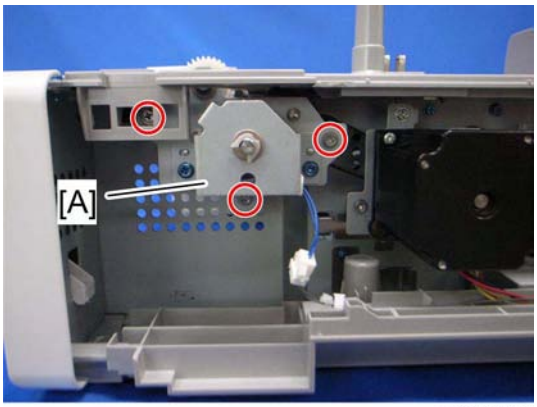
3. Cooling fan [A] (x2)

When installing the cooling fan

Make sure that the cooling fan is installed with its decal facing to the front of the paper feed unit.

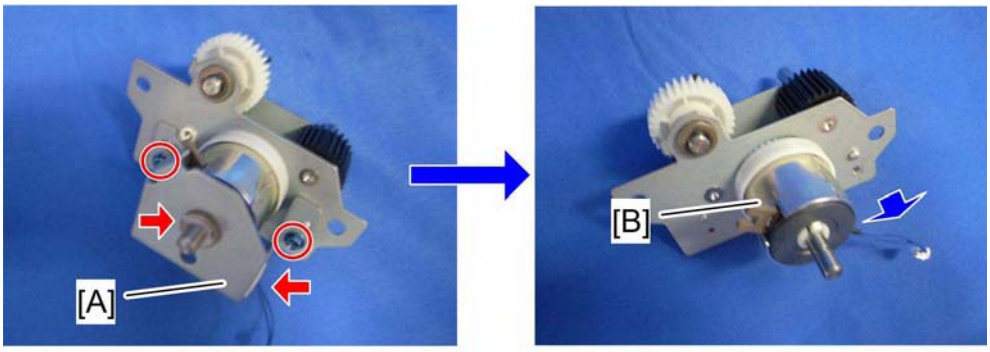
1.3.4 PAPER FEED CLUTCH

1. Right cover (☛ p.1)



m384r510

2. Paper feed clutch bracket [A] (x3)

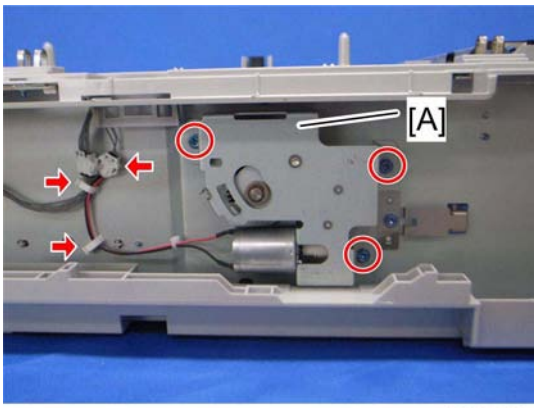


m384r511

3. Paper feed clutch holder [A] (x2, x1, x1, bushing x1)
4. Paper feed clutch [B]

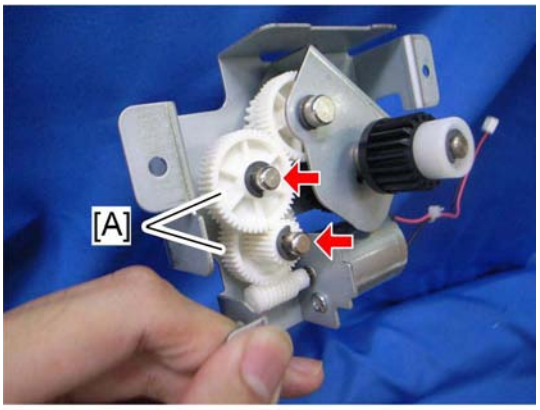
1.3.5 TRAY LIFT MOTOR

1. Left cover (☛ p.1)



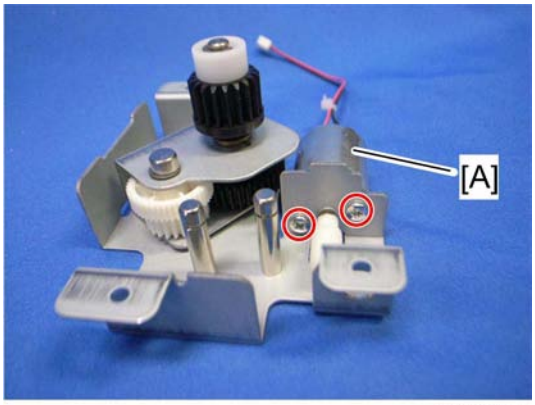
m384r512

2. Tray lift motor bracket [A] (x3, x2, x1)



m384r513

3. Two gears [A] (x1 each)

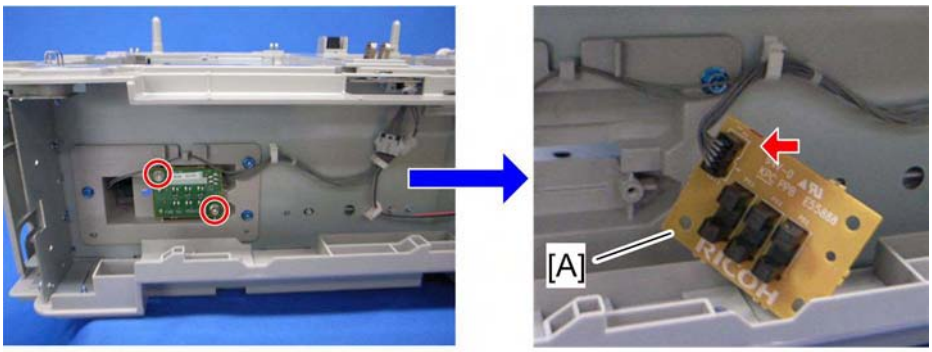


m384r514

4. Tray lift motor [A] (x2)

1.3.6 PAPER SIZE SENSOR BOARD

1. Left cover (☛ p.1)

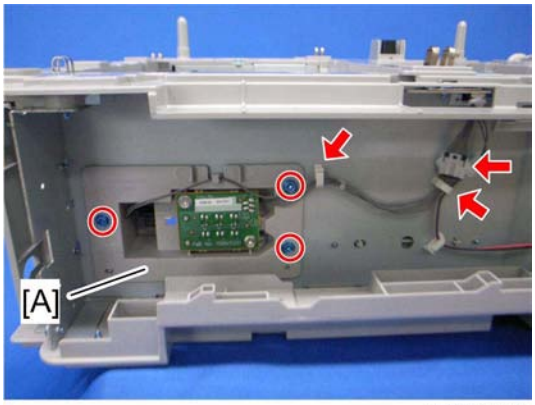


m384r515

2. Paper size sensor board [A] (x2, x1)

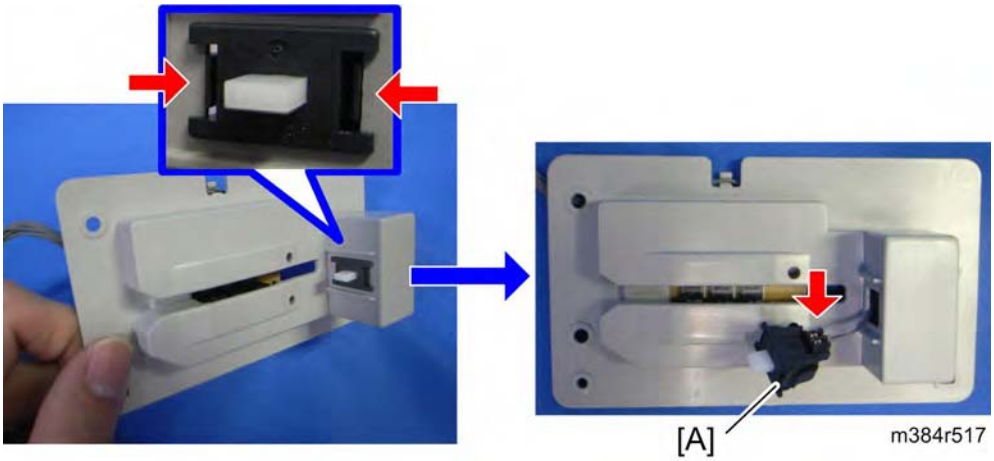
1.3.7 TRAY SET SENSOR

1. Left cover (☛ p.1)



m384r516

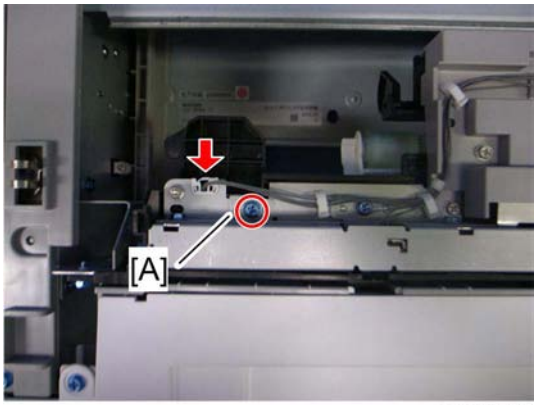
2. Tray set sensor holder [A] (x3, x2, x1)



m384r517

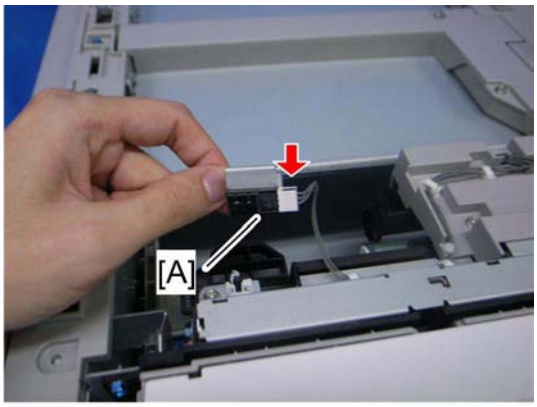
3. Tray set sensor [A] (x1, hooks)

1.3.8 PAPER FEED SENSOR



m384r518

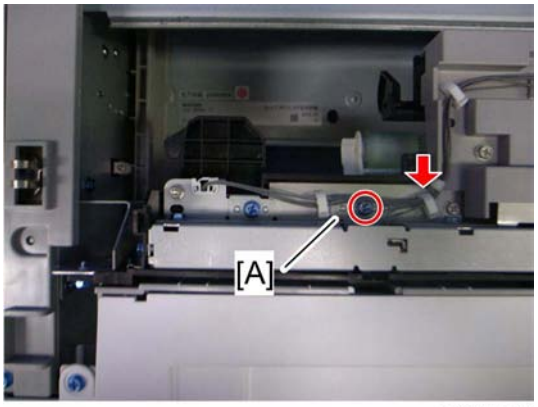
1. Paper feed sensor bracket [A] (x1, x1)



m384r519

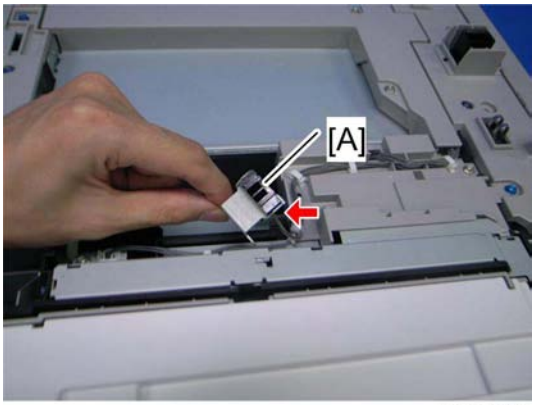
2. Paper feed sensor [A] (x1, hooks)

1.3.9 VERTICAL TRANSPORT SENSOR



m384r520

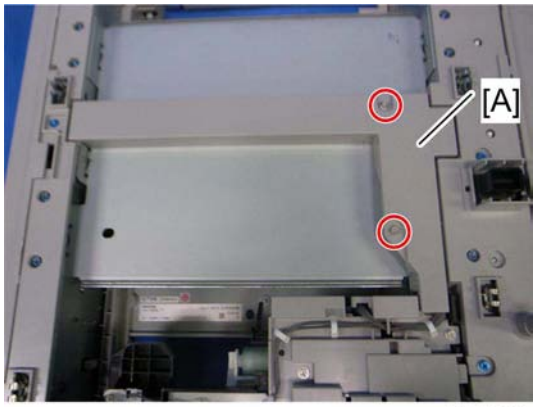
1. Vertical transport sensor bracket [A] (x1, x1)



m384r521

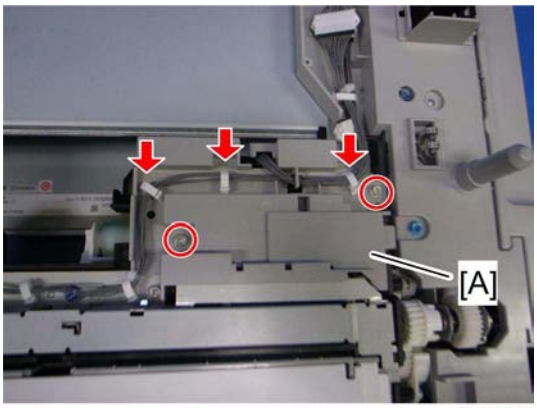
2. Vertical transport sensor [A] (x1, hooks)

1.3.10 PAPER END SENSOR



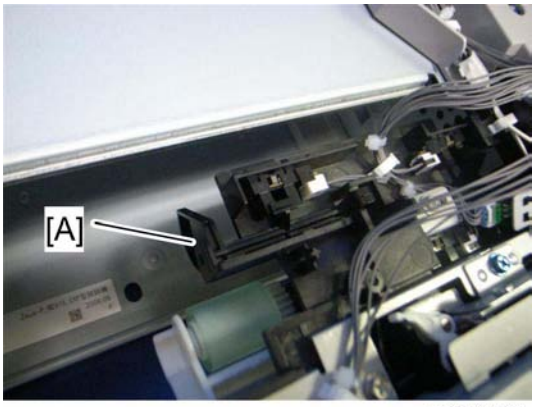
m384r522

1. Upper rear cover [A] (x2)



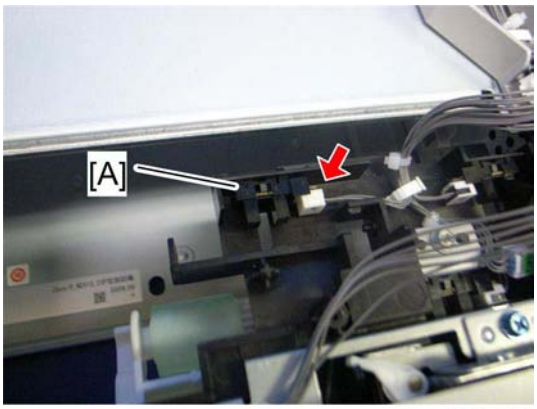
m384r523

2. Upper front cover [A] (x2, x3)



m384r524

3. Remove the actuator [A].

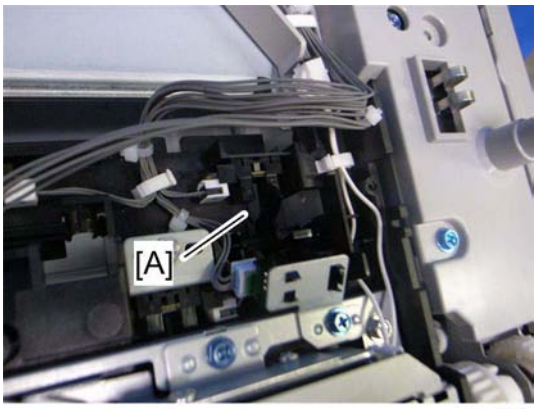


m384r525

4. Paper end sensor [A] (x1, hooks)

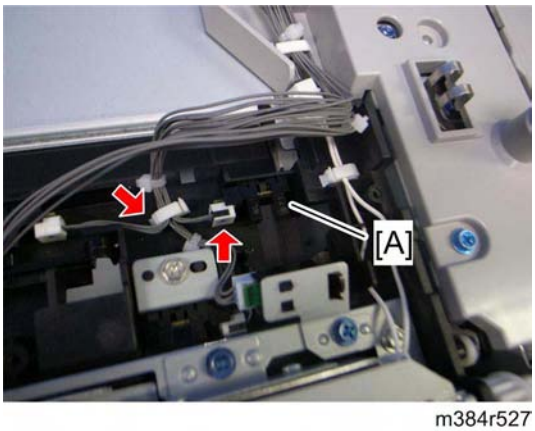
1.3.11 PAPER HEIGHT SENSOR 1

1. Upper rear cover (p.12 "Paper End Sensor")
2. Upper front cover (p.12 "Paper End Sensor")



m384r526

3. Remove the actuator [A].

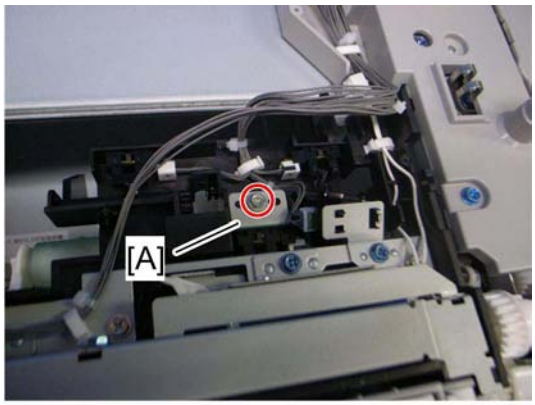


m384r527

4. Paper height sensor 1 [A] (x1, x1, hooks)

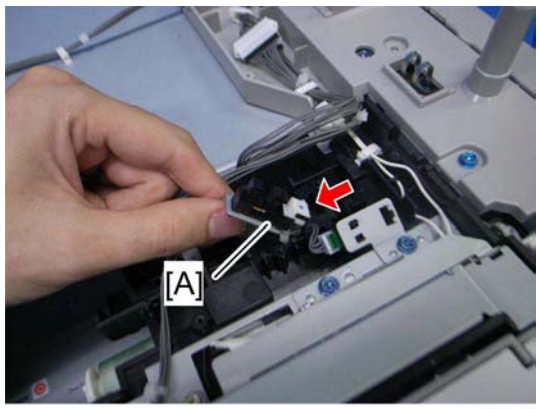
1.3.12 PAPER LIFT SENSOR

1. Upper rear cover (☛ p.12 "Paper End Sensor")
2. Upper front cover (☛ p.12 "Paper End Sensor")



m384r528

3. Paper lift sensor bracket [A] (x1)

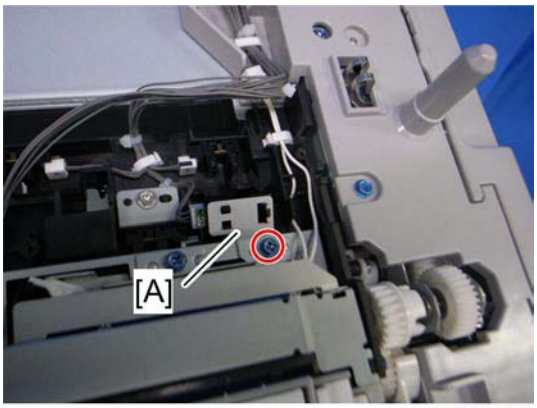


m384r529

4. Paper lift sensor [A] (x1, hooks)

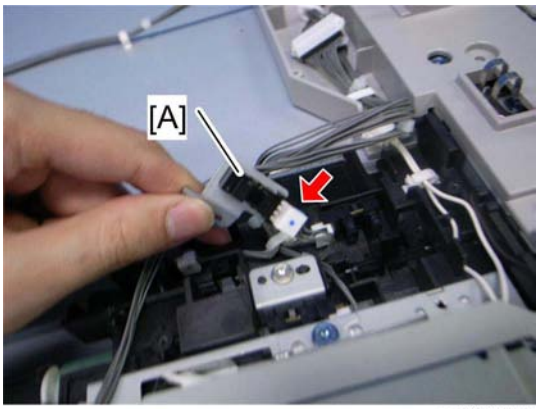
1.3.13 PAPER HEIGHT SENSOR 2

1. Upper rear cover (☛ p.12 "Paper End Sensor")
2. Upper front cover (☛ p.12 "Paper End Sensor")



m384r530

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



m384r531

4. Paper height sensor 2 [A] (🔧 x1, hooks)