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D104/D106
SERVICE MANUAL

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WARNING

The Service Manual contains information regarding service techniques, procedures, processes and spare parts of office equipment distributed by Ricoh Americas Corporation. Users of this manual should be either service trained or certified by successfully completing a Ricoh Technical Training Program.

Untrained and uncertified users utilizing information contained in this service manual to repair or modify Ricoh equipment risk personal injury, damage to property or loss of warranty protection.

Ricoh Americas Corporation

LEGEND

PRODUCT CODE	COMPANY			
	GESTETNER	LANIER	RICOH	SAVIN
D104	MP C2051	LD 620C	Aficio MP C2051	C9120
D106	MP C2551	LD 625C	Aficio MP C2551	C9125

DOCUMENTATION HISTORY

REV. NO.	DATE	COMMENTS
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D104/D016

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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

⚠CAUTION

- Work carefully when lifting or moving the machine. If the machine is heavy, two or more customer engineers may be required to prevent injuries (muscle strains, spinal injuries, etc.) or damage to the machine if it is dropped or tipped over.
- Personnel moving or working around the machine should always wear proper clothing and footwear. Never wear loose fitting clothing or accessories (neckties, loose sweaters, bracelets, etc.) or casual footwear (slippers, sandals, etc.) when lifting or moving the machine.
- Always unplug the power cord from the power source before you move the product. Before you move the product, arrange the power cord so it will not fall under the product.

Power

⚠WARNING

- Always disconnect the power plug before doing any maintenance procedure. After switching off the machine, power is still supplied to the main machine and other devices. To prevent electrical shock, switch the machine off, wait for a few seconds, then unplug the machine from the power source.
- Before you do any checks or adjustments after turning the machine off, work carefully to avoid injury. After removing covers or opening the machine to do checks or adjustments, never touch electrical components or moving parts (gears, timing belts, etc.).
- After turning the machine on with any cover removed, keep your hands away from electrical components and moving parts. Never touch the cover of the fusing unit, gears, timing belts, etc.

Installation, Disassembly, and Adjustments

⚠CAUTION

- After installation, maintenance, or adjustment, always check the operation of the machine to make sure that it is operating normally. This ensures that all shipping materials, protective materials, wires and tags, metal brackets, etc., removed for installation, have been removed and that no tools remain inside the machine. This also ensures that all release interlock switches have been restored to normal operation.
- Never use your fingers to check moving parts causing spurious noise. Never use your fingers to lubricate moving parts while the machine is operating.

Special Tools

⚠CAUTION

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

During Maintenance

General

⚠CAUTION

- Before you begin a maintenance procedure: 1) Switch the machine off, 2) Disconnect the power plug from the power source, 3) Allow the machine to cool for at least 10 minutes.
- Avoid touching the components inside the machine that are labeled as hot surfaces.

Safety Devices

⚠WARNING

- Never remove any safety device unless it requires replacement. Always replace safety devices immediately.
- Never do any procedure that defeats the function of any safety device. Modification or removal of a safety device (fuse, switch, etc.) could lead to a fire and personal injury. Always test the operation of the machine to ensure that it is operating normally and safely after removal and replacement of any safety device.
- For replacements use only the correct fuses or circuit breakers rated for use with the machine. Using replacement devices not designed for use with the machine could lead to a fire and personal injuries.

Organic Cleaners

⚠CAUTION

- During preventive maintenance, never use any organic cleaners (alcohol, etc.) other than those described in the service manual.
- Make sure the room is well ventilated before using any organic cleaner. Use organic solvents in small amounts to avoid breathing the fumes and becoming nauseous.
- Switch the machine off, unplug it, and allow it to cool before doing preventive maintenance. To avoid fire or explosion, never use an organic cleaner near any part that generates heat.
- Wash your hands thoroughly after cleaning parts with an organic cleaner to contamination of food, drinks, etc. which could cause illness.
- Clean the floor completely after accidental spillage of silicone oil or other materials to prevent slippery surfaces that could cause accidents leading to hand or leg injuries. Use "My Ace" Silicone Oil Remover (or dry rags) to soak up spills. For more details, please refer to Technical Bulletin "Silicone Oil Removal" (A024-50).

Lithium Batteries

⚠WARNING

- Always replace a lithium battery on a PCB with the same type of battery prescribed for use on that board. Replacing a lithium battery with any type other than the one prescribed for use on the board could lead to an explosion or damage to the PCB.
- Never discard used batteries by mixing them with other trash. Remove them from the work site and dispose of them in accordance with local laws and regulations regarding the disposal of such items.

Ozone Filters

⚠CAUTION

- Always replace ozone filters as soon as their service life expires (as described in the service manual).
- An excessive amount of ozone can build up around machines that use ozone filters if they are not replaced at the prescribed time. Excessive ozone could cause personnel working around the machine to feel unwell.

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. Never operate the machine without the ozone filters installed.
2. Always replace the ozone filters with the specified types at the proper intervals.
3. 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

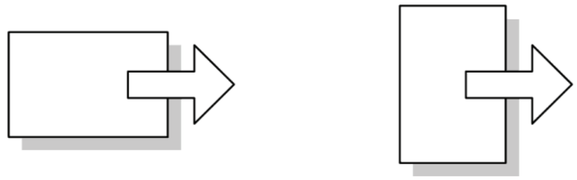
- **WARNING**: Turn off the main switch before attempting any of the procedures in the Laser Optics Housing Unit section. Laser beams can seriously damage your eyes.
- **CAUTION MARKING:**

d037r501

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)**

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PRODUCT INFORMATION

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

1. PRODUCT INFORMATION

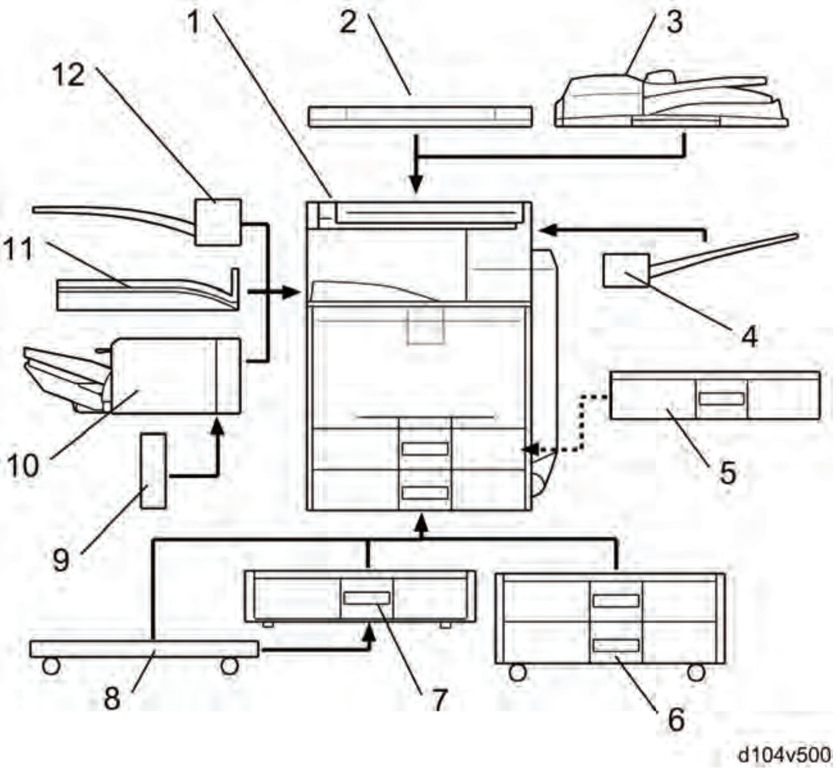
1.1 SPECIFICATIONS

See "Appendices" for the following information:

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

1.2 MACHINE CONFIGURATION

1.2.1 MACHINE D104/D106



Item	Machine Code	Call out	Remarks
Mainframe	D104/D106	[1]	D104: C1.5a, D106: C1.5c
Platen cover	G329	[2]	One from the two; [3] is standard.
ARDF	D366	[3]	
Side tray	D427	[4]	-
1-bin tray	D426	[12]	One of the following 4 choices: [10] only, [11] only, [12] only, or [11]+[12]
Shift tray	D428	[11]	
Internal finisher	D429	[10]	
Punch unit: 2/3 holes	D390-17	[9]	Requires [10].

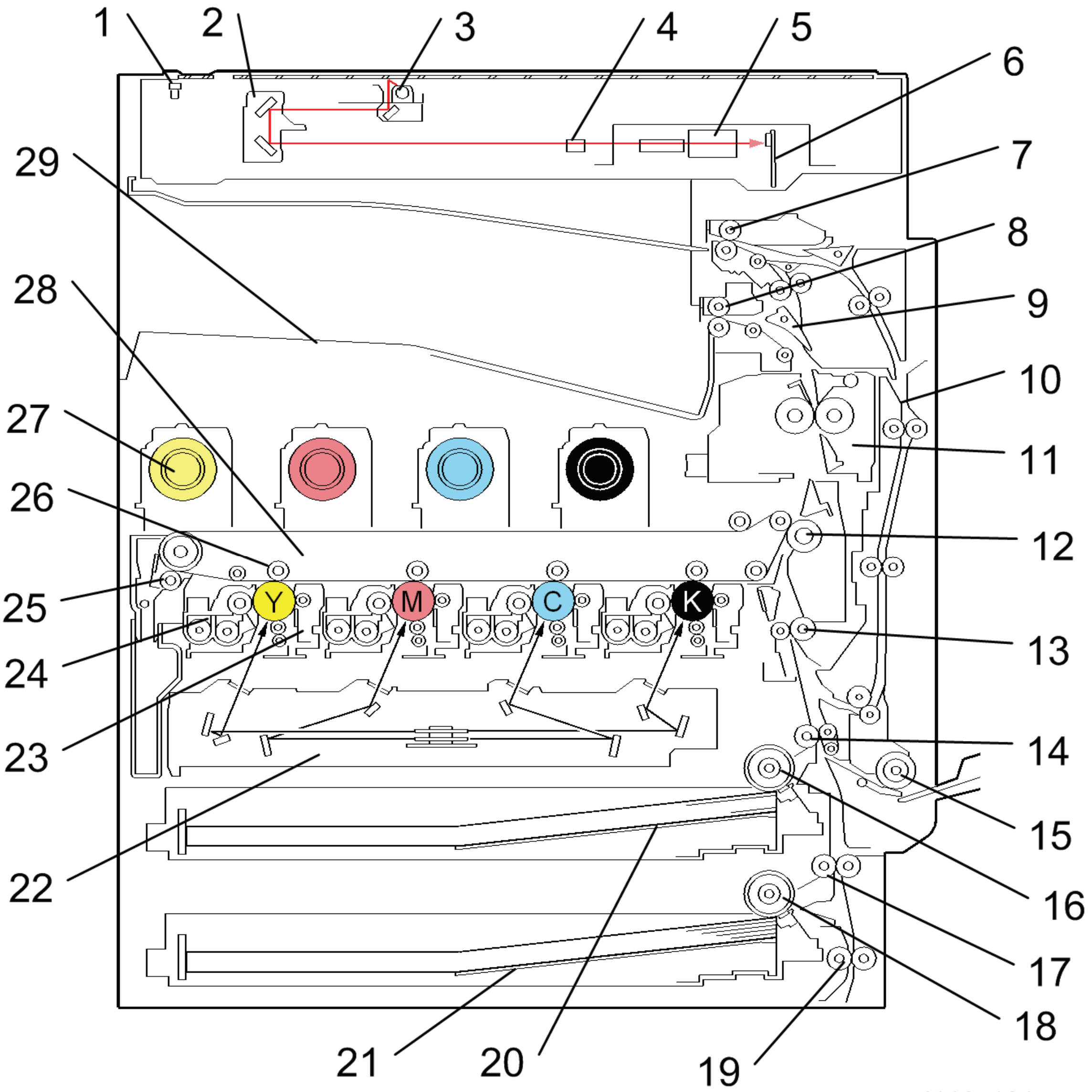
Item	Machine Code	Call out	Remarks
Punch unit: 2 holes	D390-27		Requires [10].
Punch unit: 4 holes	D390-31		Requires [10].
Two-tray paper feed unit	D331	[6]	One from [6], [7], and [8]; The one-tray PFU [6] requires [8]. If neither [6] nor [7] is installed, install [8] if required by the customer.
One-tray paper feed unit	D425	[7]	
Caster Table	D448	[8]	
Envelope Feeder	D559	[5]	This option can be installed only in the tray 1 of the mainframe.

OTHER:

Item	Machine code	Remark
USB2.0/SD Slot Type G	D556	-
Card Reader Bracket	D547	-
Fax Option Type C2551	D555	-
Memory Unit Type B	G578	SAF memory: Requires the Fax Option.
Hand Set	B433	For NA model only: Requires the Fax Option.
Gigabit Ethernet Type B	D377-21	-
IEEE 1284	B679	You can only install one of these at a time.
Wireless LAN (IEEE 802.11a/g)	D377-01, 02	
Wireless LAN (IEEE 802.11g)	D377-19	
Bluetooth	B826	
File Format Converter	D377-04	
Optional Counter Interface Unit Type A	B870	-
Key Counter Bracket	A674	-
Postscript3 Unit Type C2551	D556-4, -5, -6	You can only install one of these in SD slot 1 at a time.
IPDS Unit Type C2551	D556-12, -13, -14	
Camera Direct Print Card Type I	D546	
Browser Unit Type E	D430-05, 06, 07	In SD card slot 2

1.3 OVERVIEW

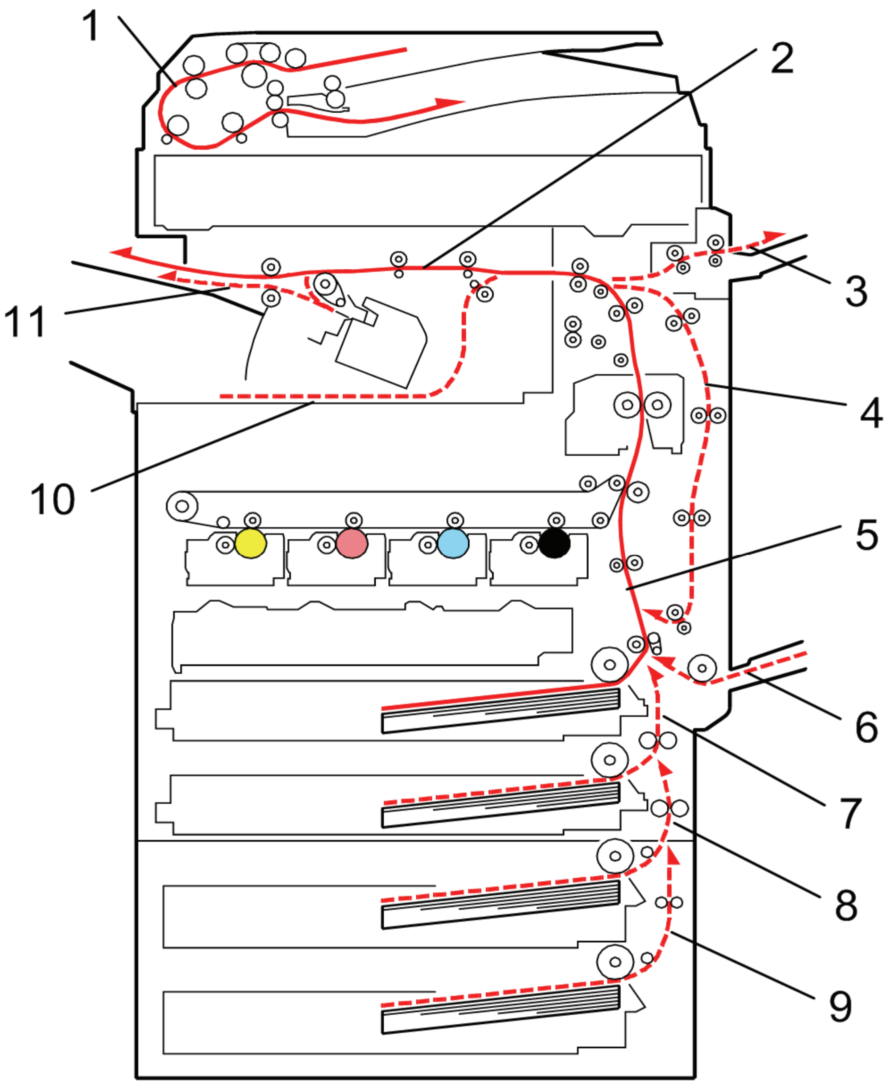
1.3.1 MECHANICAL COMPONENT LAYOUT



1. Scanner HP sensor
2. 2nd carriage
3. 1st carriage
4. Original length sensor
5. Lens
6. SBU
7. Inverter roller
8. Paper exit roller
9. Junction gate
10. Duplex unit
11. Fusing unit
12. PTR (Paper transfer roller) unit
13. Registration roller
14. Vertical transport roller 1
15. By-pass feed roller
16. Feed roller: T1
17. Vertical transport roller 2
18. Feed roller: T1
19. Vertical transport roller 3
20. Tray 2
21. Tray 1
22. Laser unit
23. Drum unit
24. Development unit
25. ITB cleaning unit
26. ITB roller
27. Toner bottle
28. ITB (Image Transfer Belt) unit
29. Inner Tray

1.3.2 PAPER PATH

With options



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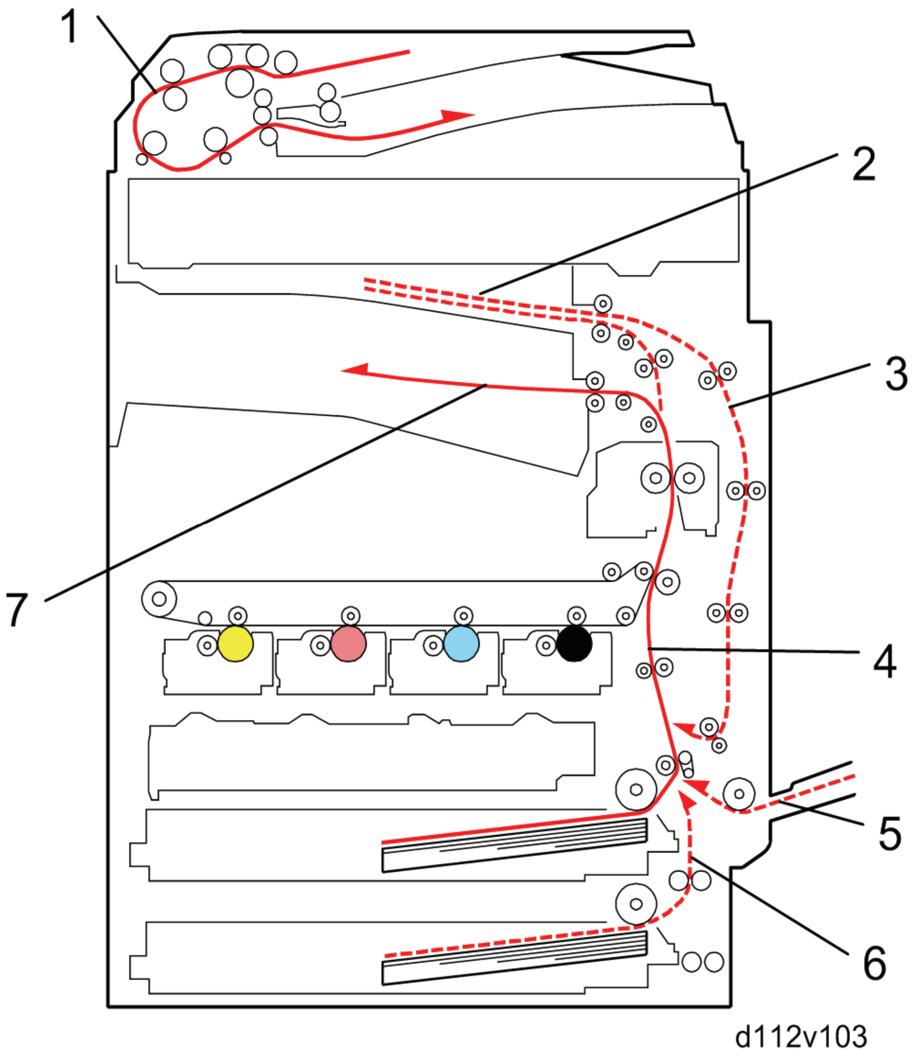
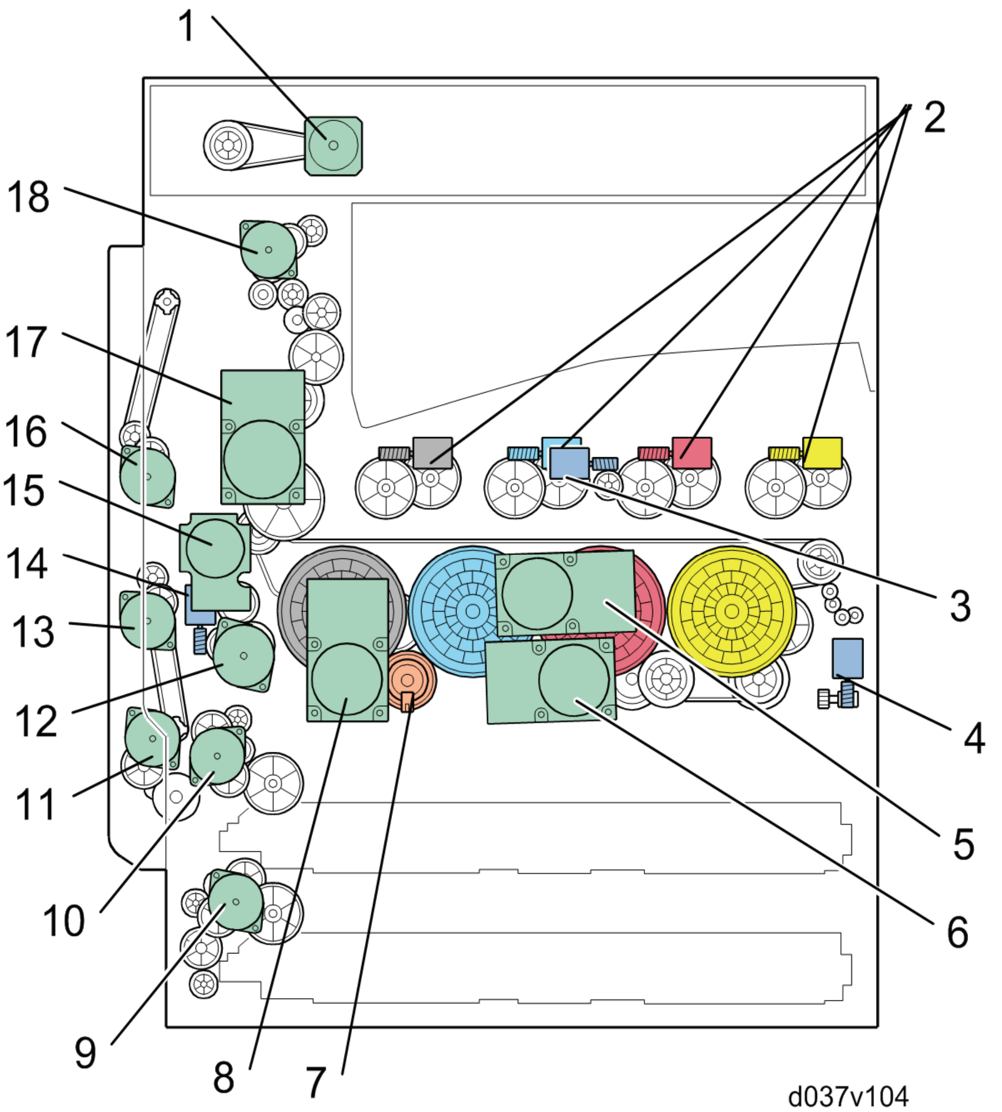
1. DF path
2. Exit path: Straight feed out
3. Exit path: Side tray
4. Duplex path
5. Vertical transport path: Tray 1
6. By-pass tray path
7. Vertical transport path: Tray 2
8. Vertical transport path: Tray 3 (option)
9. Vertical transport path: Tray 4 (option)
10. Inverter path (option)
11. Exit path: Staple/ Shift

Without options



1. DF path 2. Inverter path 3. Duplex path 4. Vertical transport path: T1	5. By-pass tray path 6. Vertical transport path: Tray 2 7. Exit path

1.3.3 DRIVE LAYOUT



1. Scanner motor	10. Paper feed motor: T1
2. Toner supply motors	11. By-pass motor
3. ITB contact motor	12. Registration motor
4. Used toner collection motor	13. Duplex exit motor
5. Drum motor: CMY	14. PTR contact motor
6. Development motor: CMY	15. ITB unit motor
7. Development clutch: K	16. Duplex entrance motor
8. Drum/Development motor: K	17. Fusing/Paper exit motor
9. Paper feed motor: T2	18. Inverter motor

1.4 GUIDANCE FOR THOSE WHO ARE FAMILIAR WITH PREDECESSOR PRODUCTS

Machine D104/D106 is a successor model to Machine D038/D041. If you have experience with the predecessor products, the following information will be of help when you read this manual.

Different Points from Predecessor Products

	D104/D106	D038/D041
Security Card	Standard	Optional
VM Card	Standard	Optional
Safety shutdown function	Available	Not available

INSTALLATION

REVISION HISTORY		
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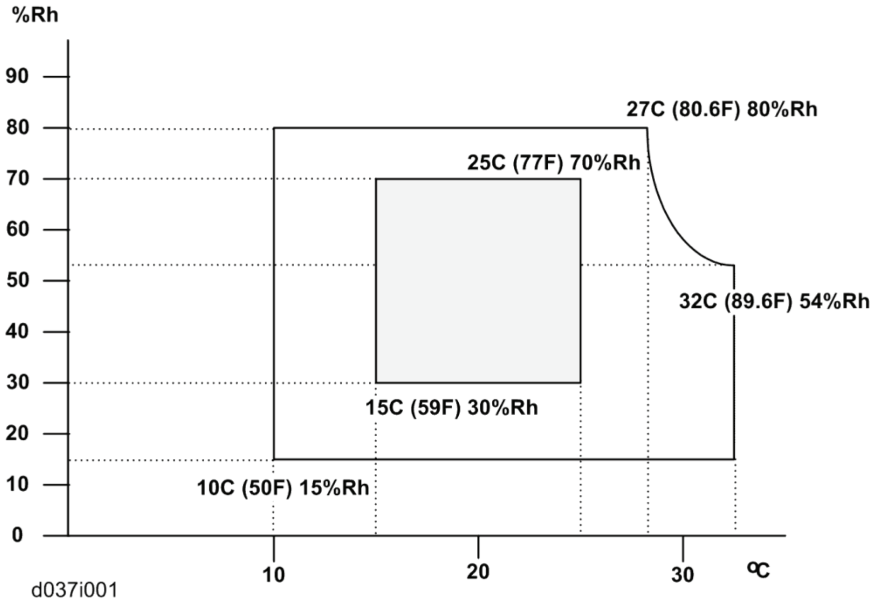
2. INSTALLATION

2.1 INSTALLATION REQUIREMENTS

2.1.1 ENVIRONMENT



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1. Temperature Range: 10°C to 32°C (50°F to 89.6°F)
2. Humidity Range: 15% to 80% RH
3. Ambient Illumination: Less than 1500 lux (do not expose to direct sunlight)
4. Ventilation: 3 times/hr/person or more
5. Do not let the machine get exposed to the following:
   1) Cool air from an air conditioner
   2) Heat from a heater
6. Do not install the machine in areas that are exposed to corrosive gas.
7. Install the machine at locations lower than 2,000 m (6,560 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.

★ **Important**

- Do not leave the toner bottle in a place directly exposed to sunlight.
- The toner bottle must be kept at a temperature of 35°C (95°F) or less. Be careful not to leave the toner bottle in a hot place when transporting or storing it.

2.1.2 MACHINE LEVEL

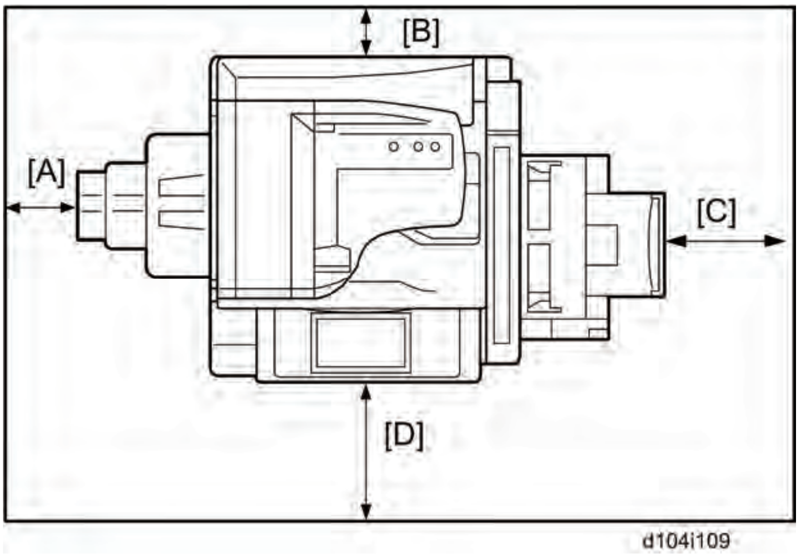
Front to back: Within 5 mm (0.2")

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 100 mm (3.9")

B: Over 100 mm (3.9")

C: Over 315 mm (12.4")

D: Over 400 mm (15.7")

Put the machine near the power source with the clearance shown above.

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 10 A
2. Permissible voltage fluctuation: ±10 %
3. Do not put things on the power cord.

2.2 OPTIONAL UNIT COMBINATIONS

2.2.1 MACHINE OPTIONS

No.	Options	Remarks
1	2-tray paper feed unit	One from No.1 or No.2 (No. 2 requires No. 3)
2	1-tray paper feed unit	
3	Caster table	
4	Envelop Feeder	This option can be installed only in the tray 1 of the mainframe.
5	Platen cover	One from No.5 or No.6
6	ARDF (Standard)	
7	1-bin tray unit	If No 10 is installed, then No 7 and/or No 8 cannot be installed.
8	Shift tray	
9	Side Tray	
10	Internal finisher	
11	*Punch kit (4 types)	No. 10 required; One of the types
12	Fax unit	-
13	Memory Unit (32M)*	Fax unit required
14	USB2.0/SD Slot Type G	-
15	Card Reader Bracket	One from No. 15 or No. 16
16	ADF Handle Type B	
17	Optional Counter Interface Unit	-
18	Key Counter Bracket	-

*: Child options (Child options require a parent option.)

2.2.2 CONTROLLER OPTIONS

No.	Options	Remarks
1	IEEE 802.11a/g	One from six items (I/F Slot)
2	IEEE 1284	
3	Bluetooth	
4	File Format Converter	
5	Gigabit Ethernet	
6	PostScript 3	One of these (SD card slot 1)
7	PictBridge	
8	Browser Unit	SD card slot 2 (during installation only)

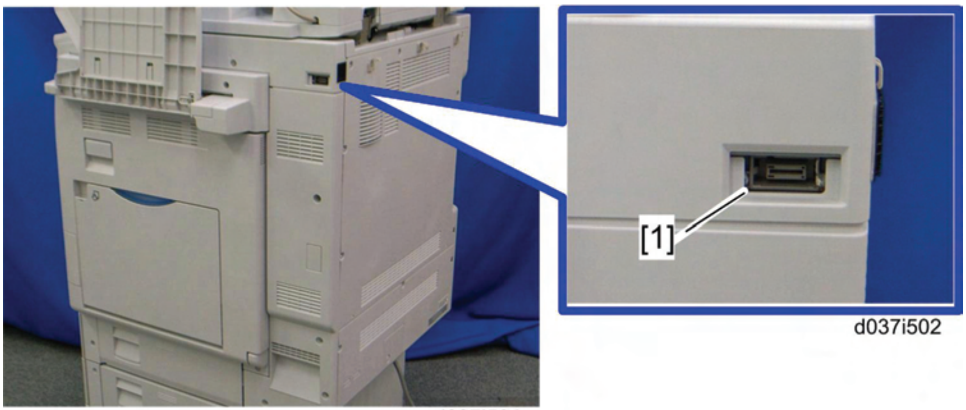
2.3 COPIER INSTALLATION

2.3.1 POWER SOCKETS FOR PERIPHERALS

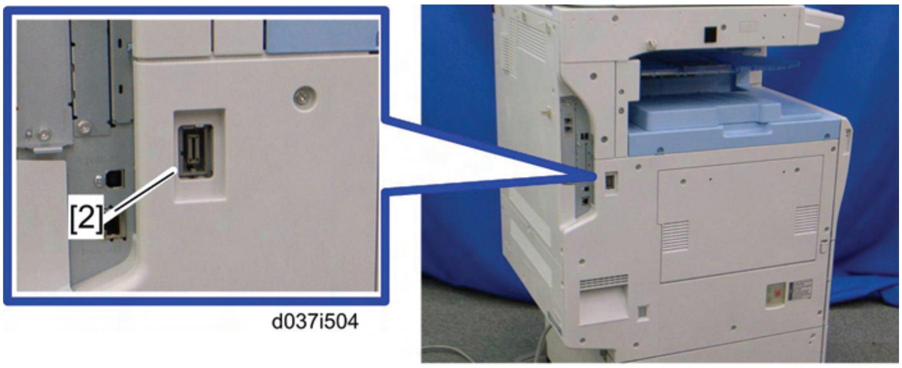
⚠CAUTION

Rating voltage for peripherals.

Make sure to plug the cables into the correct sockets.



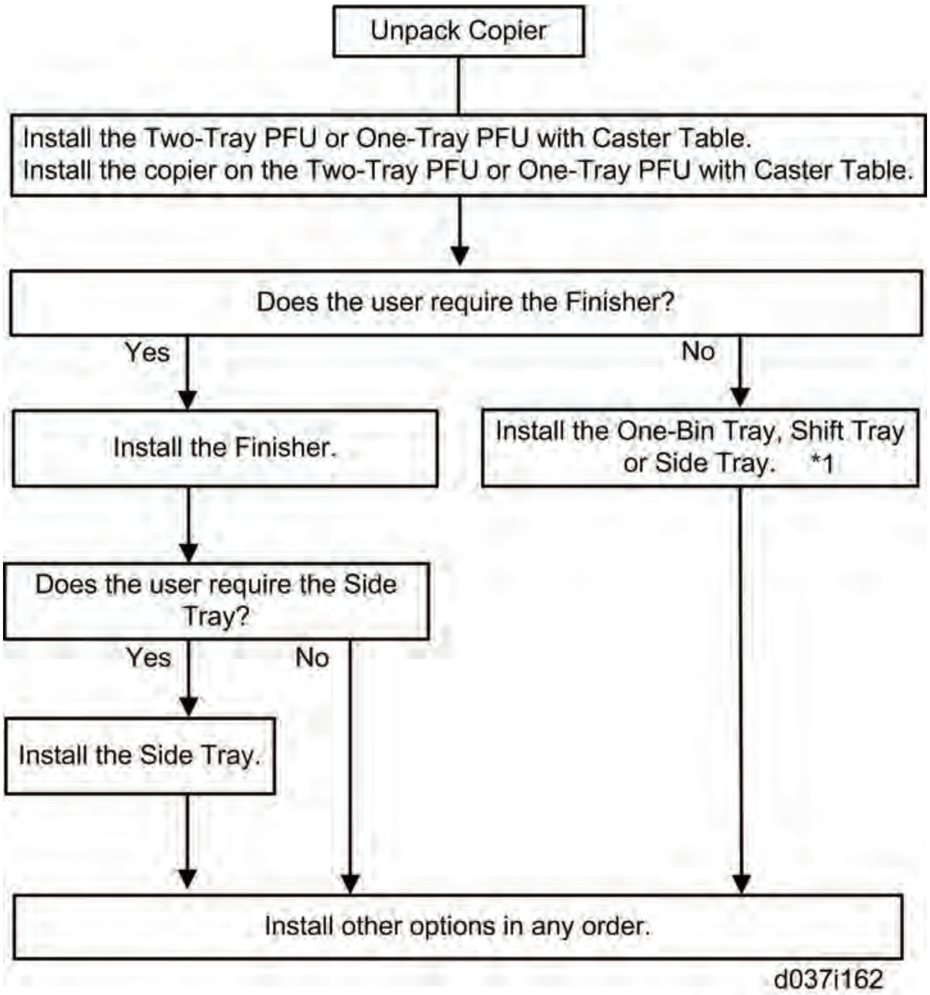
[1] ARDF: Rating voltage output connector for accessory Max. DC24V



[2] Finisher: Rating voltage output connector for accessory Max. DC24V

2.3.2 INSTALLATION FLOW CHART

This flow chart shows the best procedure for installation.



*1: The shift tray should be installed first if you want to install the shift tray with the 1-bin tray at the same time.

2.3.3 ACCESSORY CHECK

Check the quantity and condition of these accessories.

No.	Description	Q'ty	Destination
1.	Stamp	1	-17, -27
2.	EU Safety Sheet	1	-27
3.	WEEE	1	
4.	Certification	1	--17, -19, -21, -27, -28, -29
5.	Warranty Sheet (Chinese)	1	
6.	Operating Instruction – About this machine	1	-17, -29, -21, -19
7.	Operating Instruction – Troubleshooting	1	
8.	Operating Instruction – Quick Reference Copy Guide	1	-27, -29, -21, -19
9.	Operating Instruction – Quick Reference Printer Guide	1	-17, -27, -29, -21, -19
10.	Operating Instruction – Quick Reference Scanner Guide	1	
11.	Operating Instruction – Manual for This Machine	1	-27
12.	Operating Instruction – Safety Information	1	
13.	CD-ROM Instruction – About this machine	1	-17, -27, -29, -21, -19
14.	CD-ROM Instruction – Troubleshooting	1	
15.	CD-ROM Instruction –Copy/Document Server Reference	1	
16.	CD-ROM Instruction –Facsimile Reference	1	
17.	CD-ROM Instruction –Printer Reference	1	
18.	CD-ROM Instruction –Scanner Reference	1	
19.	CD-ROM Instruction – Network and System Settings Reference	1	

No.	Description	Q'ty	Destination	
20.	CD-ROM Instruction – Security Reference	1		
21.	PostScript 3 Supplement		-27, -29, -21, -19	
22.	Printer Driver CD-ROM	1	-29	
23.	Scanner Driver & Utility CD-ROM	1	-17, -27, -29	
24.	Clear Cover	1		
25.	SD Card (Java VM)	1		
26.	Inverter Tray	1	-17, -27, -29, -21, -19	
27.	Handle Cover	1	-17, -27, -29, -21, -19	
28.	Decal - Paper Size	1	-17, -27, -29, -21, -19	
29.	Sheet: Data: Display: Plain	1	-27, -29, -21, -19	

2.3.4 INSTALLATION PROCEDURE

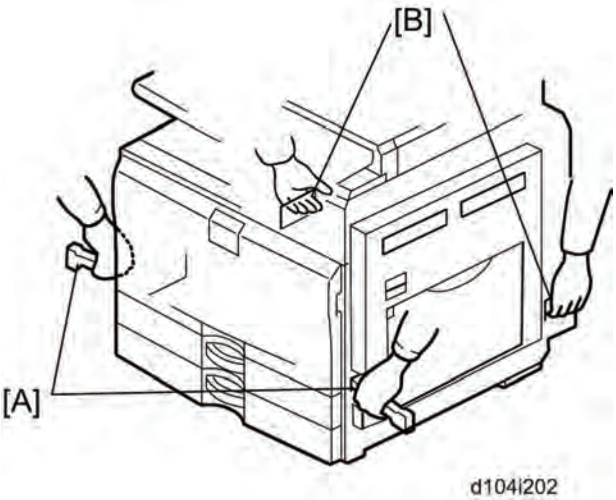
CAUTION

- Remove the tapes from the development units before you turn the main switch on. The development units can be severely damaged if you do not remove the tapes.

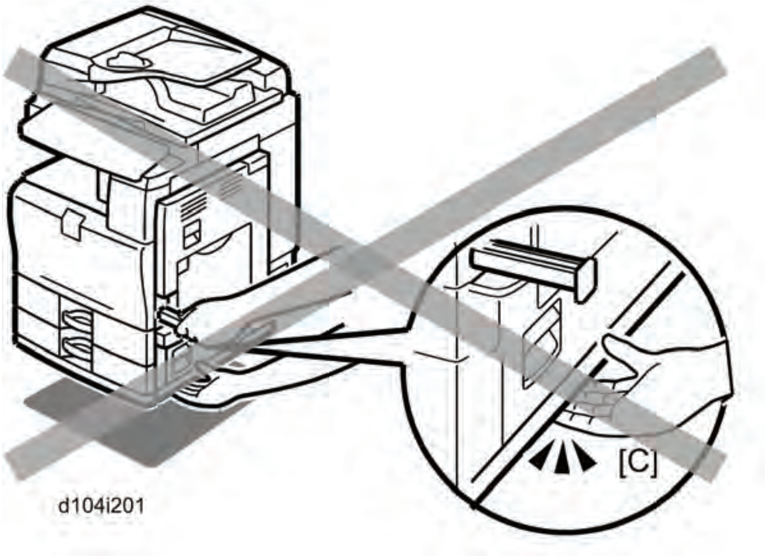
Put the machine on the paper tray unit first if you install an optional paper tray unit at the same time. Then install the machine and other options.

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.

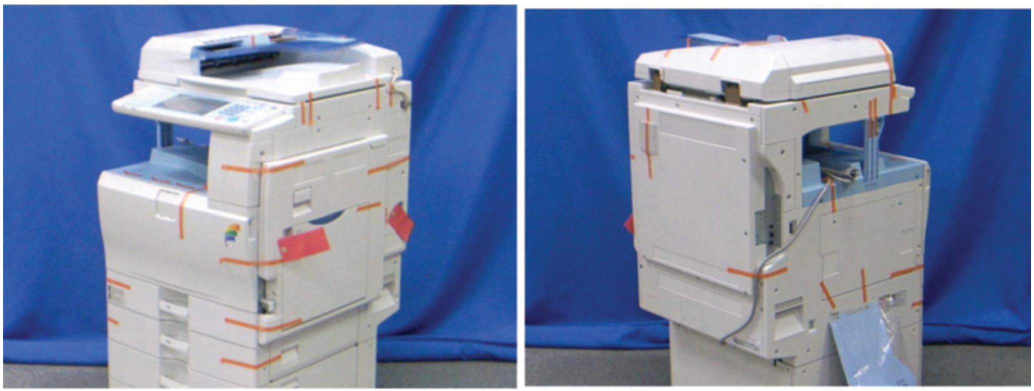


- Hold the handles [A] and grips [B] when lifting or moving the machine.

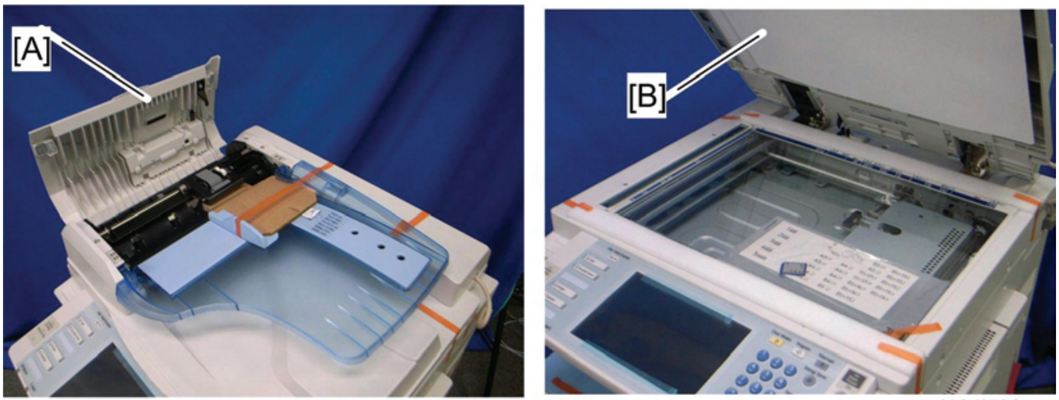


- Do not hold the right bottom frame [C] of the machine when lifting or moving the machine. If you do so, the right bottom frame [C] of the machine may be bent.

Tapes and Retainers

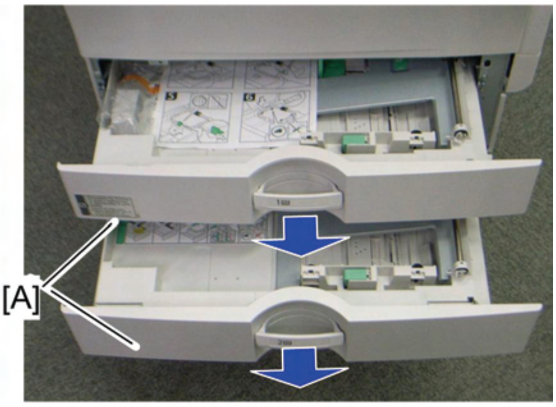

d104i505

1. Remove all the tapes and retainers on the machine.



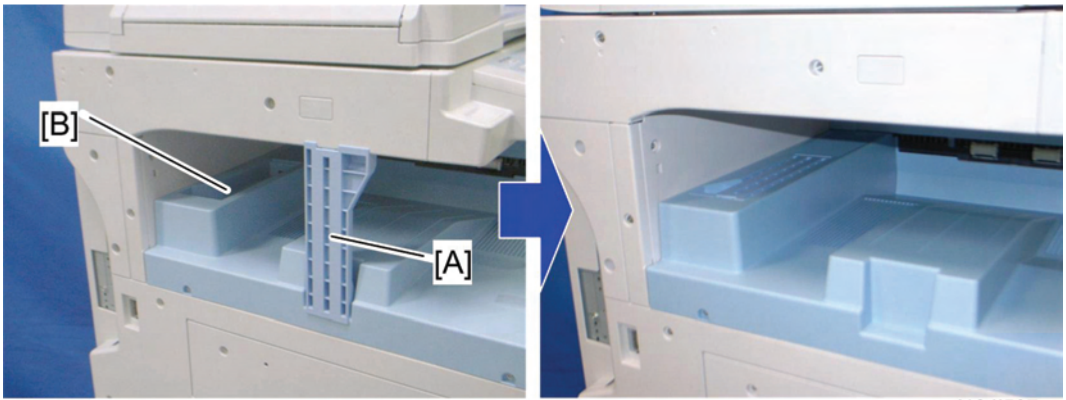
d104i530

2. Open the DF left cover [A], and then remove all the tapes and retainer on the ADF if the ADF has been installed.
3. Open the ADF unit, and then remove all the tapes and plastic package.
   - Keep the SD card for the Java VM and the decal sheet for the tray number and paper size. These items will be used in the later step.



d104i531

4. Pull out the tray 1 and 2 [A], and then remove all the tapes and retainers in the tray 1 and 2.

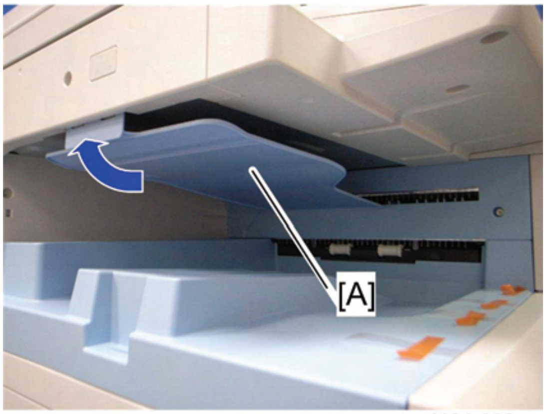


d104i507

5. Remove the scanner unit stay [A].
6. Keep the scanner unit stay in the cutout [B] in the inner tray.

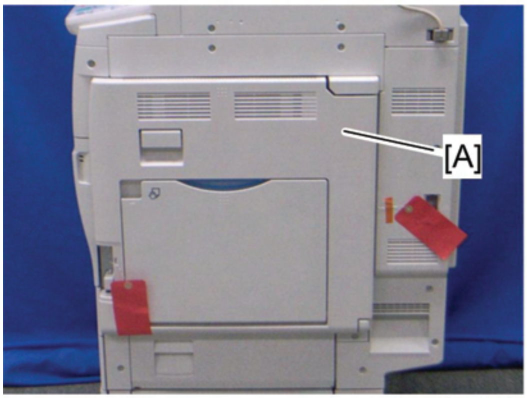
Note

- For the EU models, the scanner unit stay cannot be inserted in the cutout on the inner tray. You must bring this stay back to your depot.

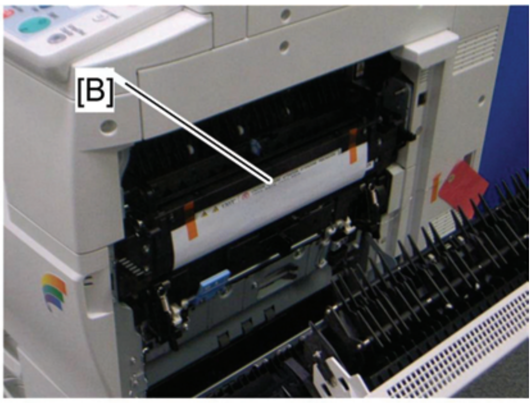


d104r322a

7. Install the inverter tray [A] (hooks).

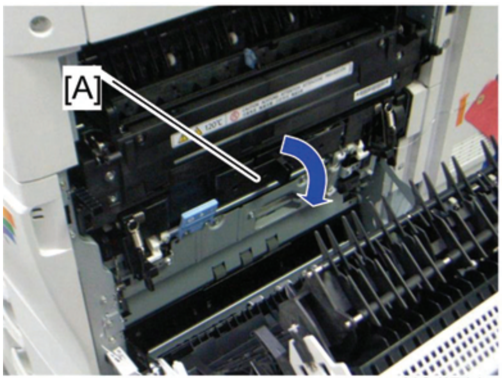


d104i509

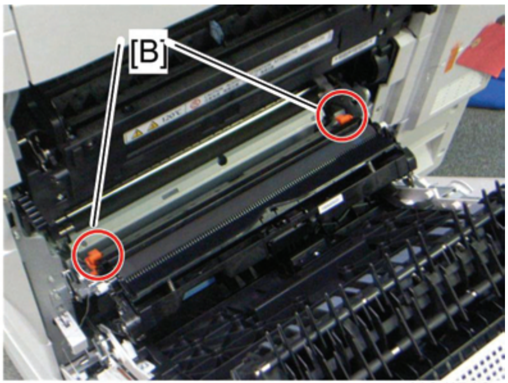


d104i510

8. Open the duplex unit [A].
9. Remove the sheet of paper [B] from the fusing unit.

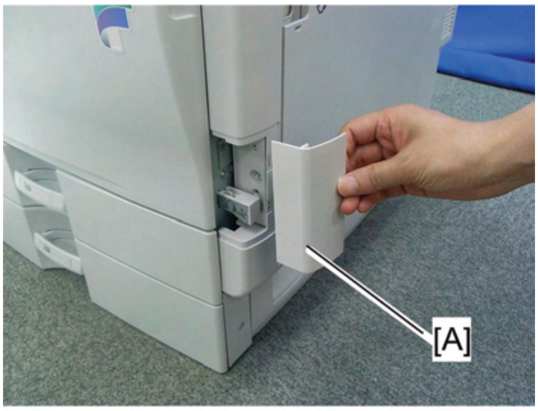


d104i511



d104i512

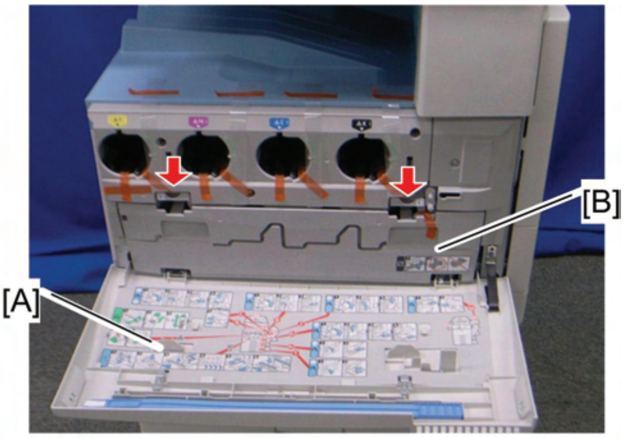
10. Open the paper transfer unit [A].
11. Remove the front and rear stoppers [B] with a red tag.
12. Close the duplex unit.



d037i518

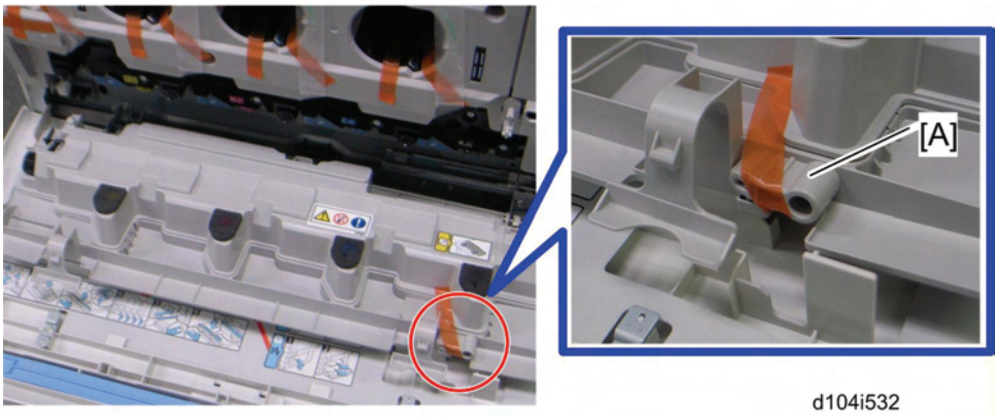
13. Attach the handle cover [A] to the front side of the duplex unit.

Developer and Toner Bottles

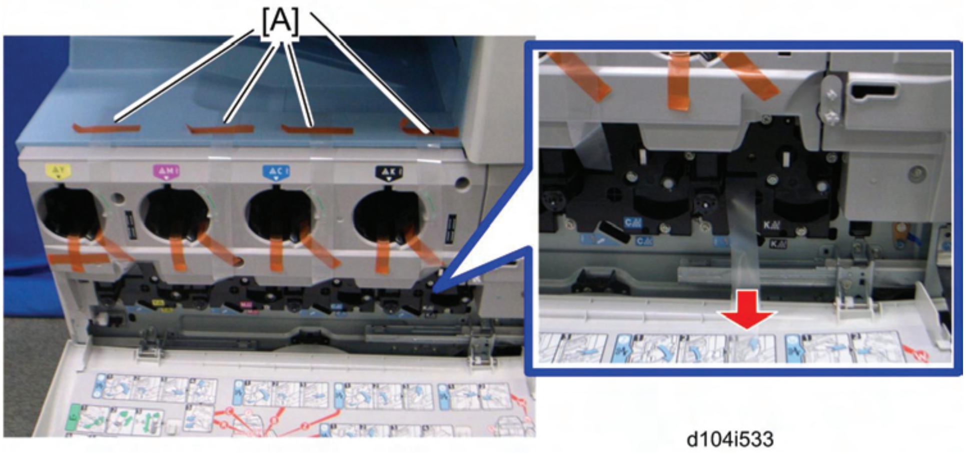


d104i513

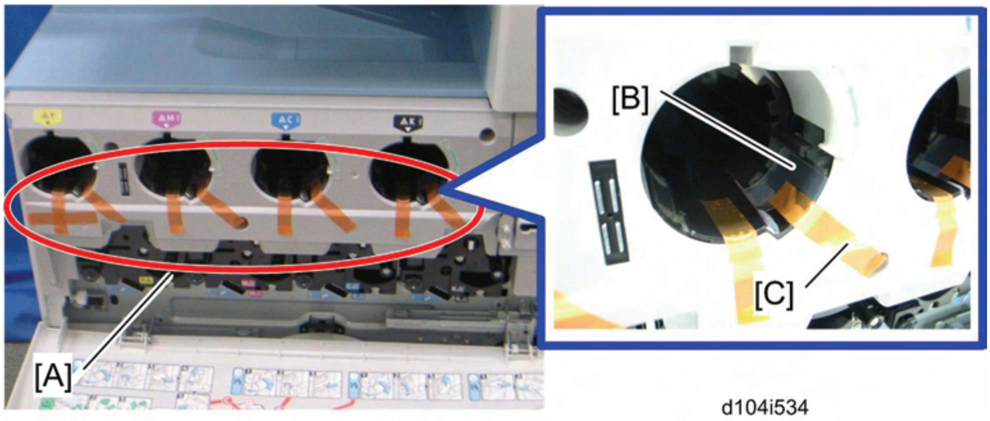
1. Open the front door [A], and then remove the PCDU toner collection bottle [B].



2. Remove the ITB lock lever [A] from the PCDU toner collection bottle.
   - Keep this lever for the later step.



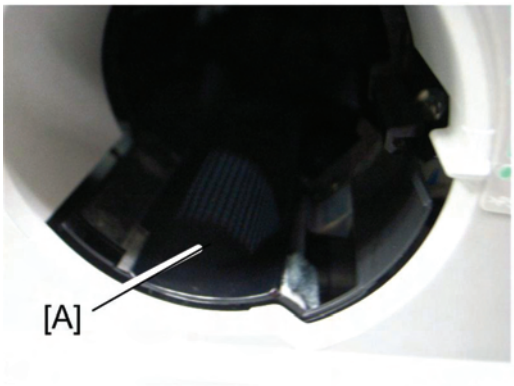
3. Remove four tapes [A] from the four development units.



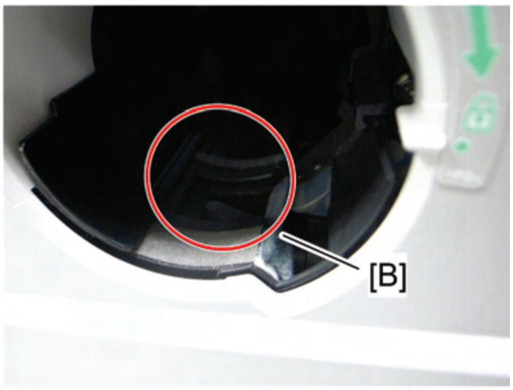
4. Remove the all tapes [A] from the toner hopper units.

Note

- The toner hopper cover [B] can be removed with tape [C].
- Make sure that the all toner hopper covers are removed, when removing all tapes.



d104i516

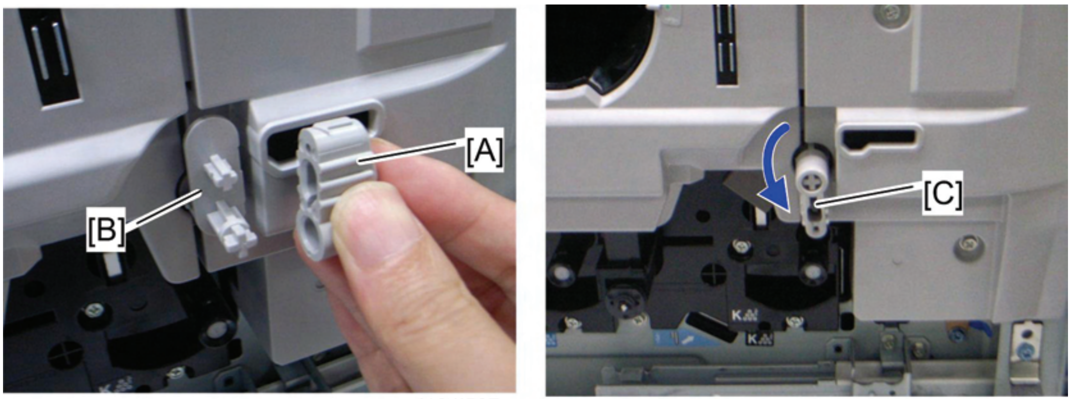


d104i517

5. Check if the toner hopper shutter [A] is fully closed.

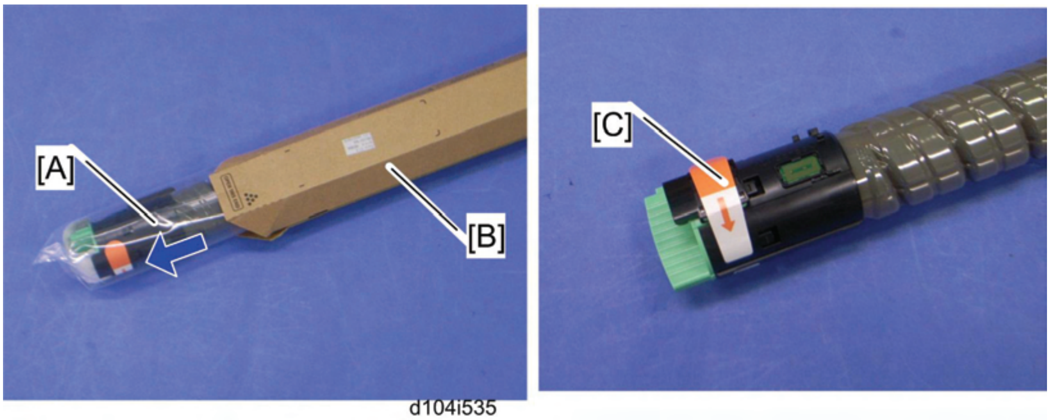
Note

- If the toner hopper shutter is not fully closed and the inlet [B] of the toner hopper unit is visible, the toner bottle cannot be installed properly.



d104i527

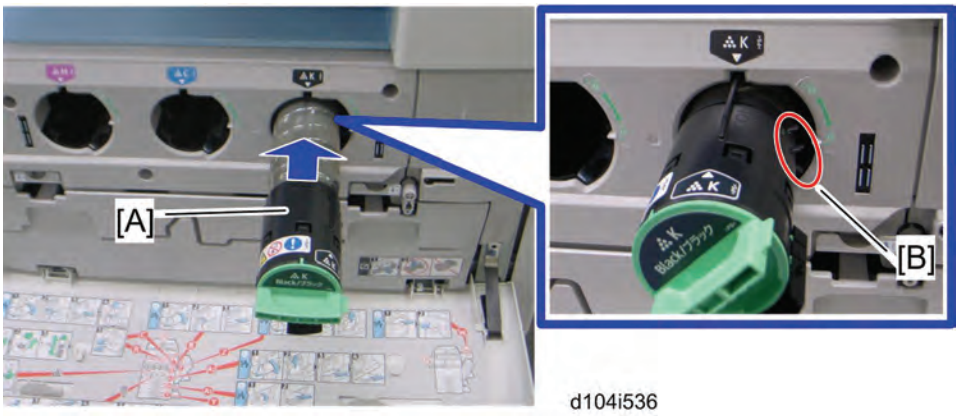
6. Attach the ITB lock lever [A] to the ITB contact arm [B].
   - The arrow mark on the top of the ITB lock lever should be pointed to the machine.
   - This lock lever will not be removed once it is attached to the ITB contact arm.
7. Press the ITB lock lever [C] and turn it down as shown above.
8. Reinstall the PCDU toner collection bottle.



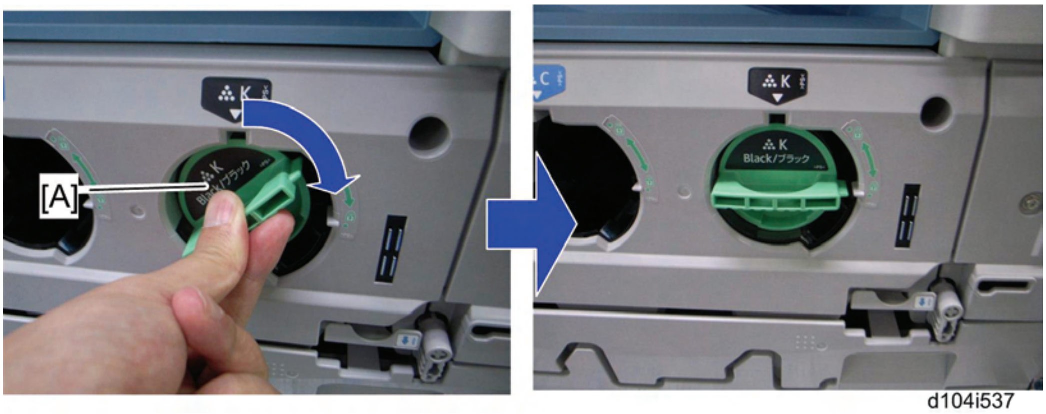
d104i535

9. Take out the toner bottle package [A] from the toner bottle box [B].
10. Unpack the toner bottle package, and then remove the tape [C].

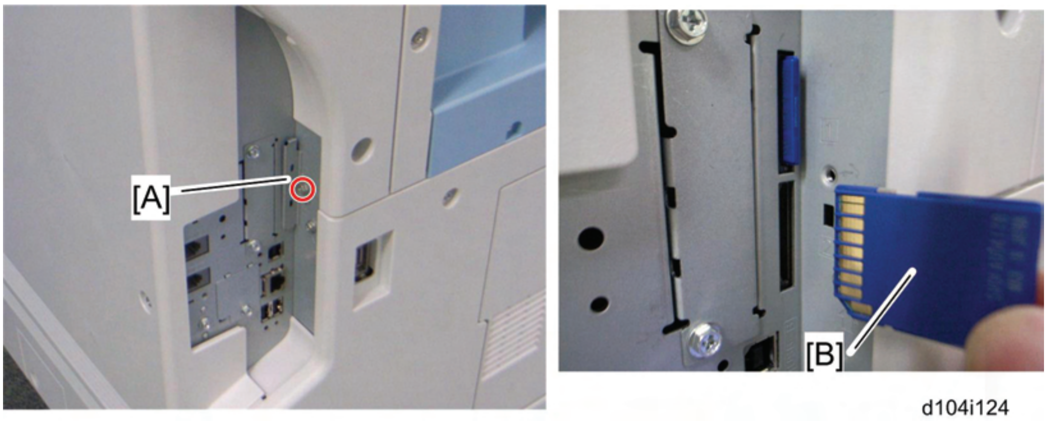
11. Shake each toner bottle five or six times.



12. Slide the toner bottles [A] in toner bottle cartridges.
    - Each toner bottle has unique projections [B]. This prevents the toner bottle from being loaded in a wrong toner hopper unit.



13. Push the toner bottle, and then turn each one to the right (clockwise).



14. Remove the SD card slot cover [A] (🔩 x 1).
15. Insert the SD Card (Java VM) provided in the accessories into SD slot 2 [B].
16. Reattach the SD card slot cover (🔩 x 1).
17. Switch the machine on.
18. On the operation panel, remove the bottom blank keytop and replace it with the keytop provided.

19. Attach the decal to the copier.
20. Close the front door.

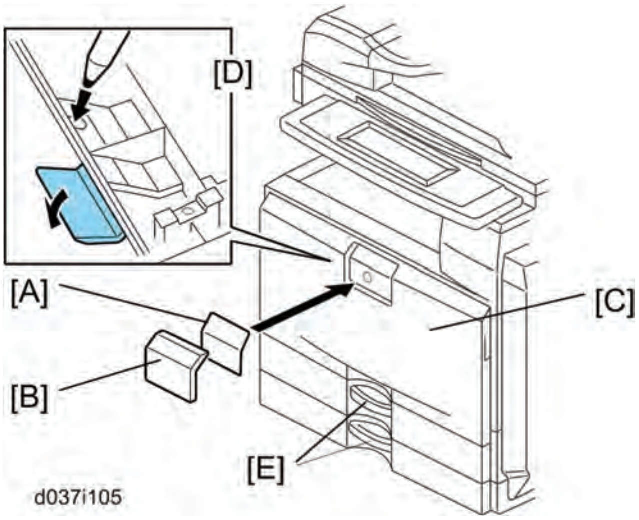
Paper Trays

1. Pull each paper tray [A] out. Then adjust the side guides and end guide to match the paper size.

   Note

   - To move the side guides, first pull out the tray fully. Then push down the green lock at the rear inside the tray.

Emblem and Decals



1. Attach the correct emblem [A] and the cover [B] to the front door [C] of the machine, if the emblem is not attached.

   Note

   - If you want to change the emblem that has been already attached, remove the panel with an object (not a sharp object) as shown [D], and then install the correct emblem.

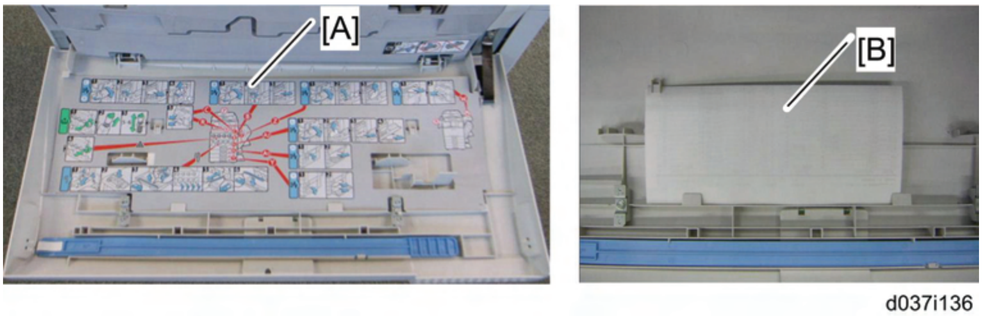
2. Attach the correct paper tray number and size decals to the paper trays [E].

   Note

   - Paper tray number and size decals are also used for the optional paper tray or the optional LCT. Keep these decals for use with these optional units.

Initialize the Developer

1. Make sure that the platen or ARDF is closed and the main power is turned off.
2. Plug in the machine.
3. Turn the main power switch on. The machine automatically starts the initialization procedure. The Start button LED turns green when this procedure has finished.
4. Make copies of image samples (text, photo, and text/photo modes).
5. Do the Automatic Color Calibration process (ACC) for each mode (Copy mode, Printer 600 x 600 dpi, Printer 1800 x 600 dpi, and Printer 1200 x 1200 dpi) as follows:
   - 1) Print the ACC test pattern (User tools > Maintenance > ACC > Start).
   - 2) Put the printout on the exposure glass.
   - 3) Put 10 sheets of white paper on top of the test chart.
   - 4) Close the ARDF or the platen cover.
   - 5) Press "Start Scanning" on the LCD panel. The machine starts the ACC.
6. Check that the sample image has been copied normally.
7. Open the front cover.



8. Remove the instruction guide sheet [A], and make sure the SMC report [B] is stored as shown above. Then replace the instruction guide sheet.

Settings Relevant to the Service Contract

Change the necessary settings for the following SP modes if the customer has made a service contract.

Note

- You must select one of the counter methods (developments/prints) in accordance with the contract (☞ SP5045-001).

Counting method		
SP No.	Function	Default
SP5-045-001	Specifies if the counting method used in meter charge mode is based on developments or prints. NOTE: You can set this one time only. You cannot change the setting after you have set it for the first time.	"0": Developments
A3/11" x 17" double counting		
SP No.	Function	Default
SP5-104-001	Specifies whether the counter is doubled for A3/11" x 17" paper. When you have to change this setting, contact your supervisor.	"No": Single counting
Service Tel. No. Setting		
SP No.	Function	Default
SP5-812-001 through 004	5812-002 programs the service station fax number. The number is printed on the counter list when the meter charge mode is selected. This lets the user fax the counter data to the service station.	

Settings for @Remote Service

Note

- Prepare and check the following check points before you visit the customer site. For details, ask the @Remote key person.

Check points before making @Remote settings

1. The setting of SP5816-201 in the mainframe must be "0".
2. Print the SMC with SP5990-002 and then check if a device ID2 (SP5811-003) must be correctly programmed.
    - 6 spaces must be put between the 3-digit prefix and the following 8-digit number (e.g. xxx______xxxxxxxx).
    - ID2 (SP5811-003) and the serial number (SP5811-001) must be the same (e.g. ID2: A01______23456789 = serial No. A0123456789)
3. The following settings must be correctly programmed.
    - Proxy server IP address (SP5816-063)
    - Proxy server Port number (SP5816-064)
    - Proxy User ID (SP5816-065)
    - Proxy Password (SP5816-066)
4. Get a Request Number

Execute the @Remote Settings

1. Enter the SP mode.
2. Input the Request number which you have obtained from @Remote Center GUI, and then enter [OK] with **SP5816-202**.
3. Confirm the Request number, and then click [EXECUTE] with **SP5816-203**.
4. Check the confirmation result with **SP5816-204**.

Value	Meaning	Solution/ Workaround
0	Succeeded	-
1	Request number error	Check the request number again.
3	Communication error (proxy enabled)	Check the network condition.
4	Communication error (proxy disabled)	Check the network condition.
5	Proxy error (Illegal user name or	Check Proxy user name and password.

Value	Meaning	Solution/ Workaround
	password)	
6	Communication error	Check the network condition.
8	Other error	See "SP5816-208 Error Codes" below this.
9	Request number confirmation executing	Processing… Please wait.

5. Make sure that the screen displays the Location Information with **SP5816-205** only when it has been input at the Center GUI.
6. Click [EXECUTE] to execute the registration with **SP5816-206**.
7. Check the registration result with **SP5816-207**.

Value	Meaning	Solution/ Workaround
0	Succeeded	-
1	Request number error	Check the request number again.
2	Already registered	Check the registration status.
3	Communication error (proxy enabled)	Check the network condition.
4	Communication error (proxy disabled)	Check the network condition.
5	Proxy error (Illegal user name or password)	Check Proxy user name and password.
8	Other error	See "SP5816-208 Error Codes" below this.
9	Request number confirmation executing	Processing… Please wait.

8. Exit the SP mode.

SP5816-208 Error Codes

Cause	Code	Meaning	Solution/ Workaround
Operation Error, Incorrect Setting	-12002	Inquiry, registration attempted without acquiring Request No.	Obtain a Request Number before attempting the Inquiry or Registration.
	-12003	Attempted registration without execution of a confirmation and no previous registration.	Perform Confirmation before attempting the Registration.
	-12004	Attempted setting with illegal entries for certification and ID2.	Check ID2 of the mainframe.
	-12005	@Remote communication is prohibited. The device has an Embedded RC gate-related problem.	Make sure that "Remote Service" in User Tools is set to "Do not prohibit".
	-12006	A confirmation request was made after the confirmation had been already completed.	Execute registration.
	-12007	The request number used at registration was different from the one used at confirmation.	Check Request No.
	-12008	Update certification failed because mainframe was in use.	Check the mainframe condition. If the mainframe is in use, try again later.
Error Caused by Response from GW URL	-2385	Other error	
	-2387	Not supported at the Service Center	
	-2389	Database out of service	
	-2390	Program out of service	
	-2391	Two registrations for the same	Check the registration

Cause	Code	Meaning	Solution/ Workaround
		mainframe	condition of the mainframe
	-2392	Parameter error	
	-2393	External RCG not managed	
	-2394	Mainframe not managed	
	-2395	Box ID for external RCG is illegal.	
	-2396	Mainframe ID for external RCG is illegal.	
	-2397	Incorrect ID2 format	Check the ID2 of the mainframe.
	-2398	Incorrect request number format	Check the Request No.

2.3.5 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.

2.3.6 TRANSPORTING THE MACHINE

Main Frame

1. Do SP 4806-001 to move the scanner carriage from the home position. This prevents dust from falling into the machine during transportation.
2. Make sure there is no paper left in the paper trays. Then fix down the bottom plates with a sheet of paper and tape.
3. Do one of the following:
   - Attach shipping tape to the covers and doors.
   - Shrink-wrap the machine tightly.

   ↓ Note

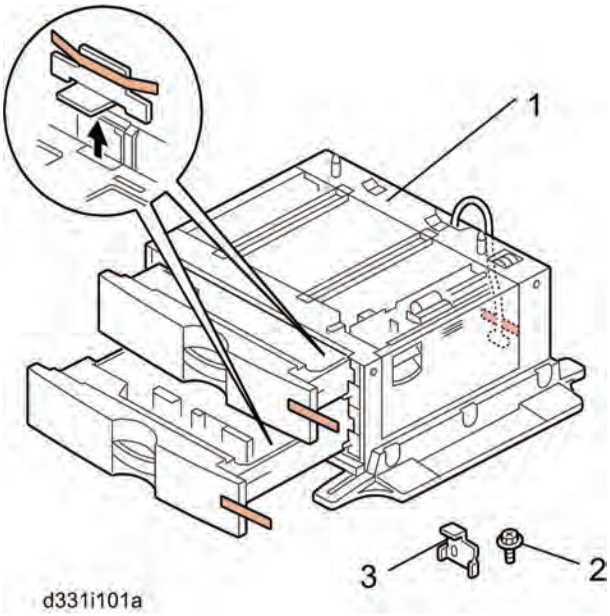
     - After you move the machine, Make sure you do the "Auto Color Registration" as follows. This optimizes color registration.
     - Do the "Forced Line Position Adj. Mode c" (SP2-111-3).
     - Then do the "Forced Line Position Adj. Mode a" (SP2-111-1).
       To check if SP 2-111-1 was successful, watch 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.
     - Make sure that the side fences in the trays are correctly positioned to prevent color registration errors.

2.4 PAPER FEED UNIT (D331)

2.4.1 ACCESSORY CHECK

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

No.	Description	Q'ty
1	Paper Feed Unit	1
2	Screw - M4 x 10	4
3	Securing Bracket	2

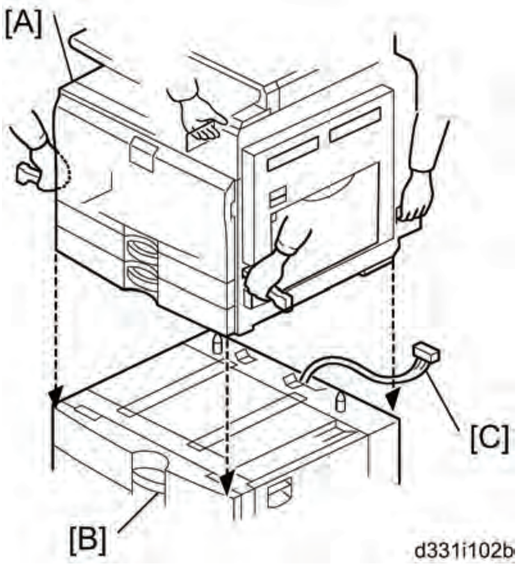


2.4.2 INSTALLATION PROCEDURE

⚠CAUTION

- Unplug the machine power cord before starting the following procedure.
- The handles of the main machine for lifting must be inserted inside the machine and locked, unless these handles are used for the installation or relocation of the main machine.
- You need two or more persons to lift the copier. The copier is highly unstable when lifted by one person, and may cause human injury or property damage.

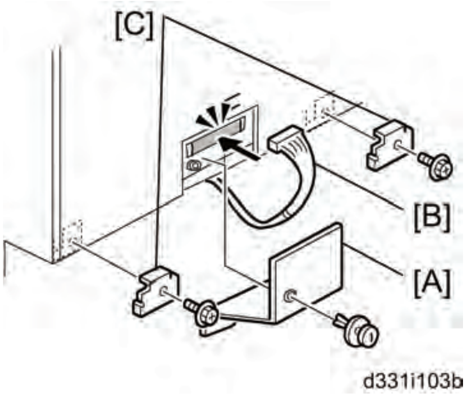
1. Remove the strips of tape.



2. Set the copier [A] on the paper tray unit [B].

Note

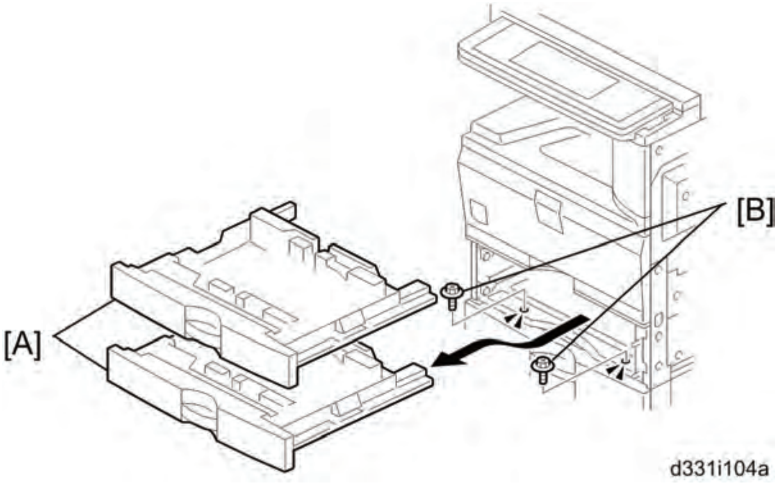
- When installing the copier, be careful not to pinch the cable [C].



3. Remove the connector cover [A] (rivet screw x 1).
4. Connect the cable [B] to the copier, as shown.
5. Attach a securing bracket [C] to each side of the paper tray unit, as shown (🔩 x 1: M3 x

8 each).

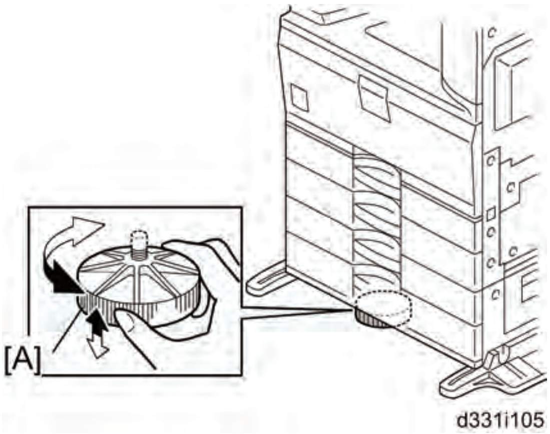
6. Re-install the connector cover.



7. Remove the 1st and 2nd paper trays [A] and secure the paper tray unit with two screws (M4 x 10) [B].
8. Reinstall all the paper trays.
9. Attach the appropriate paper tray number decal and paper size decal to each handle of the trays.

Note

- The paper tray number and size decal sheet is in the accessory box of the main machine.



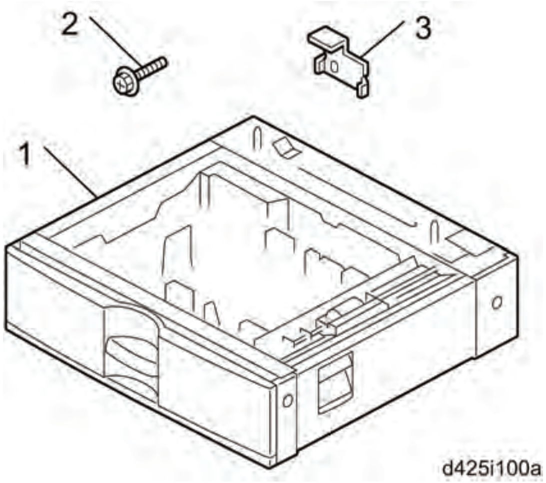
10. Rotate the adjuster [A] until the machine cannot be pushed across the floor.
11. Load paper into the paper trays and select the proper paper size.
12. Turn on the main switch.
13. Adjust the registration for each tray (☞Image Adjustment).
    - For tray 3, use SP1002-004
    - For tray 4, use SP1002-005
14. Check the machine's operation and copy quality.

2.5 PAPER FEED UNIT (D425)

2.5.1 COMPONENT CHECK

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

No.	Description	Q'ty
1	Paper Feed Unit	1
2	Securing bracket	2
3	Screw (M4 x 10)	4



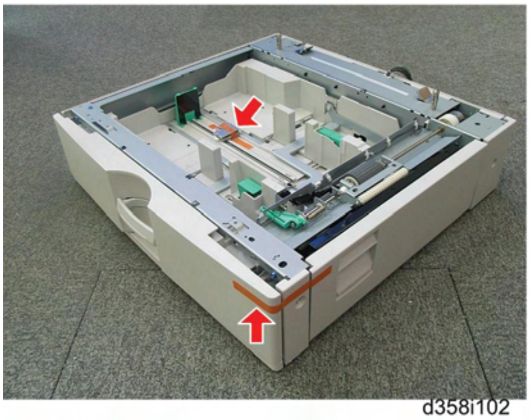
2.5.2 INSTALLATION PROCEDURE

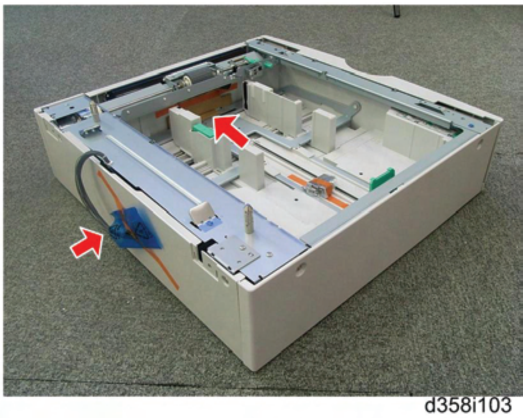
CAUTION

- Turn off the main switch of the copier and unplug the power cord before you start the installation procedure.
- You need two or more persons to lift the copier. The copier is highly unstable when lifted by one person, and may cause human injury or property damage.
- Do not lift the copier with the paper feed unit installed. The handle and grips may be damaged.

Note

- The one-tray paper feed unit must be installed on the caster table (D448). Prepare the caster table first before installing this unit.

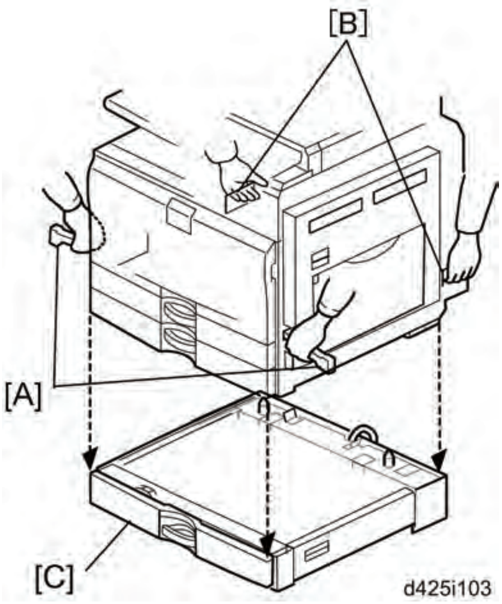

d358i102


d358i103

1. Remove all tape on the paper feed unit.
2. Remove the paper tray and remove all tapes and padding.
3. Put the paper tray unit on the caster table (D448).

   Note

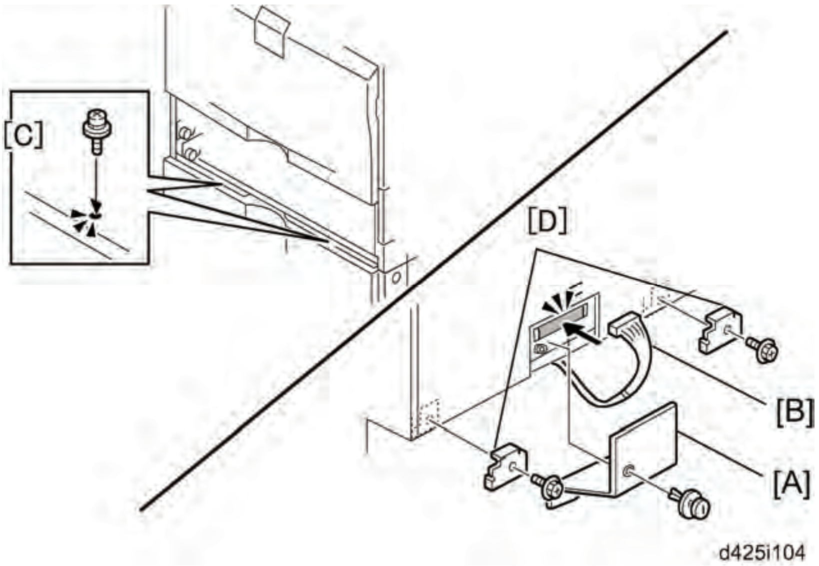
   - For details about the installation of the caster table, see the “Caster Table (D488)” installation procedure.



4. Grasp the handle [A] and grips [B] of the machine.
5. Lift the copier and install it on the paper feed unit [C].

Note

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



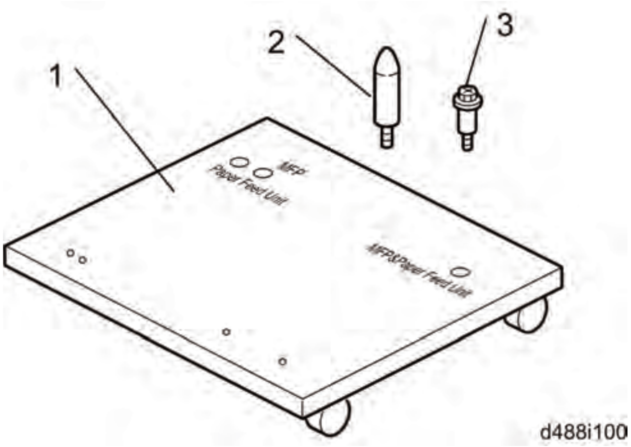
6. Remove the rear connector cover [A] of the main machine (rivet screw x 1).
7. Connect the harness [B] to the main machine.
8. Reinstall the rear connector cover [A] (rivet screw x 1).
9. Remove tray 1 and 2 of the machine.
10. Fasten the screws (M4 x 10) [C].

11. Reinstall all trays.
12. Attach the securing brackets [D] (M4 x 10; 🔩 x 1 each).
13. Load paper into the paper feed unit.
14. Turn on the main power switch of the machine.
15. Adjust the registration for each tray (☞Image Adjustment).
    - Use SP1002-004
16. Check the paper feed unit operation and copy quality.

2.6 CASTER TABLE (D488)

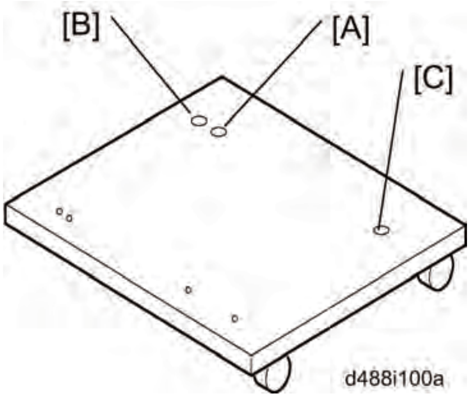
2.6.1 COMPONENT CHECK

No.	Description	Q'ty
1	Caster Table	1
2	Pin	2
3	Step Screw	2

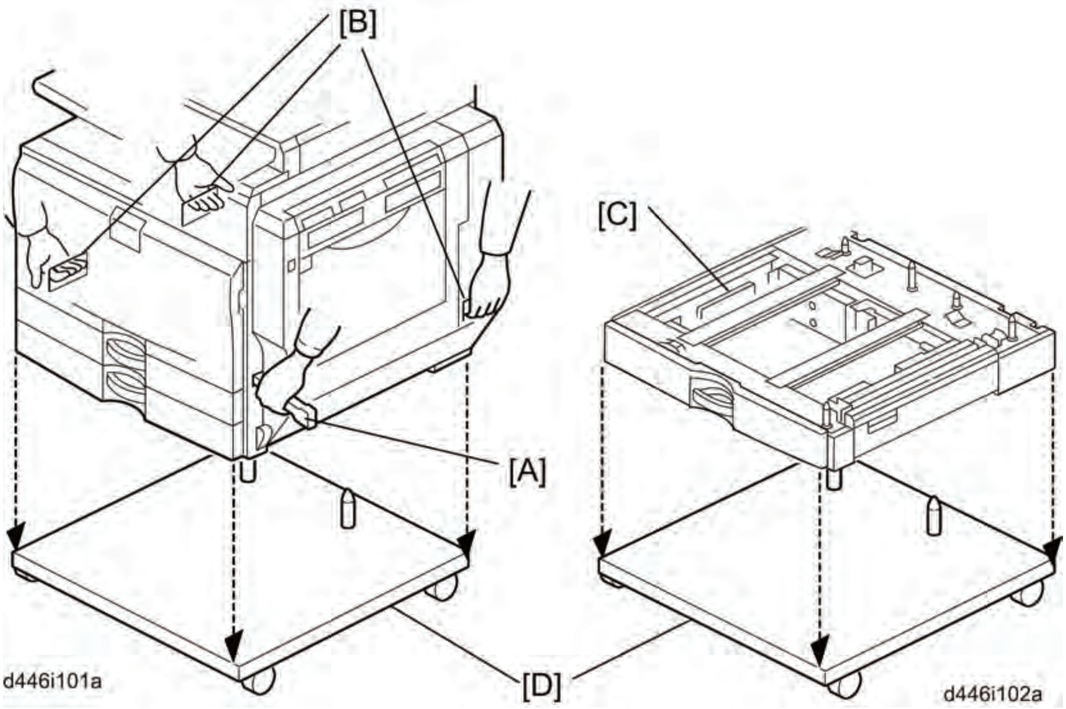


2.6.2 INSTALLATION PROCEDURE

1. Put the caster table on a flat place.



2. Install the two pins in the screw holes.
    - Use the screw holes [A] and [C] if the mainframe is directly installed on the caster table.
    - Use the screw holes [B] and [C] if the one-tray paper feed unit (D425) is installed on the caster table.

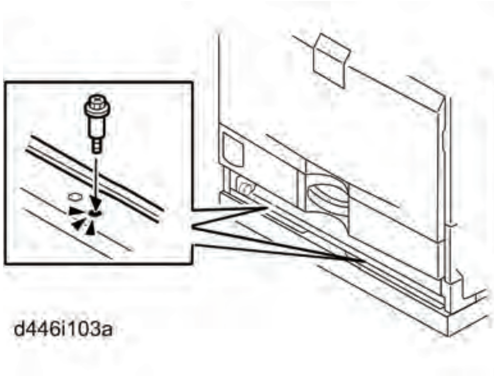


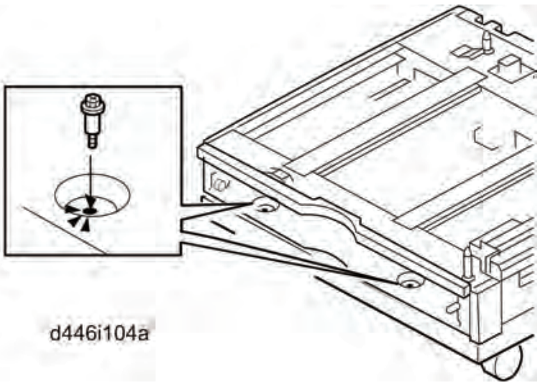
3. Grasp the handle [A] and grips [B] of the machine, if the copier is to be installed on the caster table.

Note

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

4. Lift the copier or one-tray paper feed unit [C], and then install it on the caster table [D].
5. Pull out tray 2 of the mainframe or the tray of the one-tray paper feed unit.





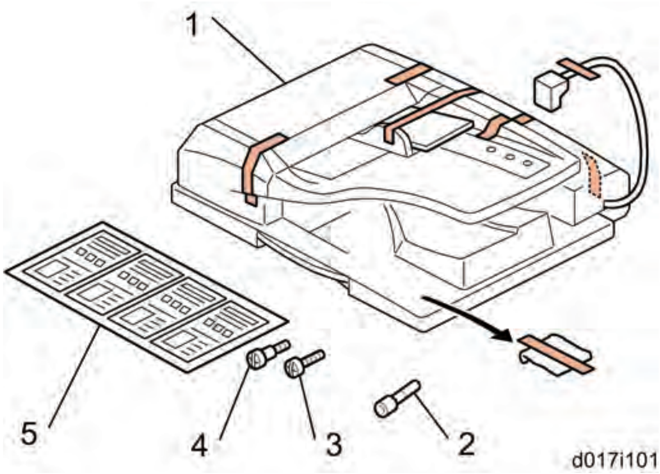
6. Secure the machine or one-tray paper feed unit to the caster table (step screw x 2)
7. Reinstall the tray in the mainframe or one-tray paper feed unit.
8. Adjust the five leveling adjustors of the caster table.

2.7 ARDF (D366)

2.7.1 COMPONENT CHECK

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

No.	Description	Q'ty
1	ARDF	1
2	Stamp Cartridge	1
3	Knob Screw	2
4	Stud Screw	2
5	Attention Decal – Top Cover	1

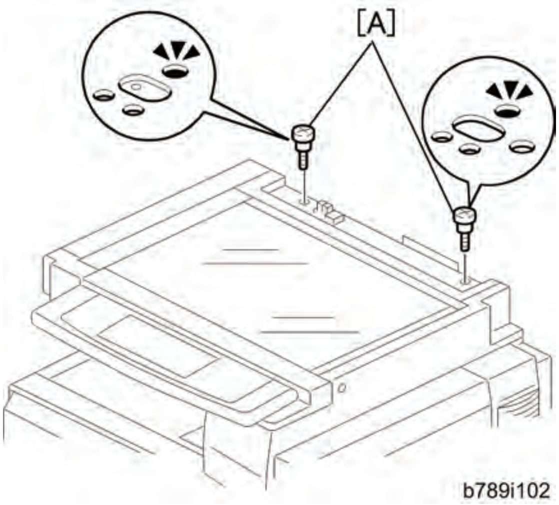


2.7.2 INSTALLATION PROCEDURE

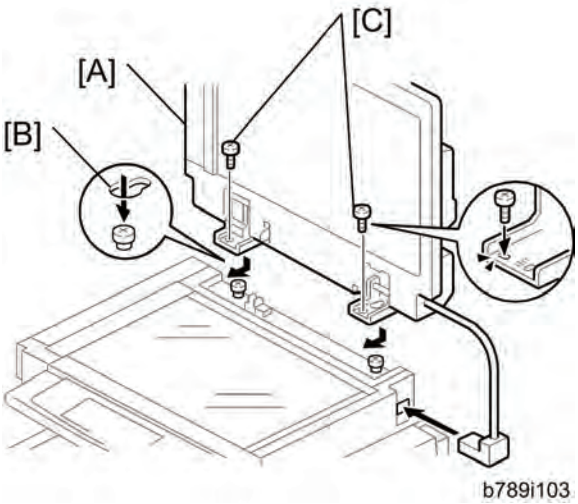
⚠CAUTION

- Unplug the copier power cord before starting the following procedure.

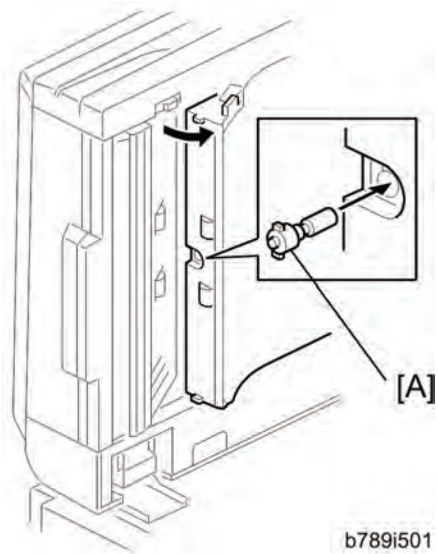
1. Remove all tapes and shipping retainers.



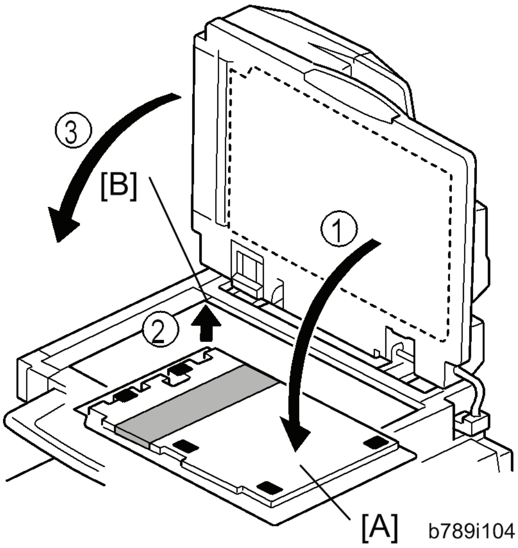
2. Insert the two stud screws [A] on the top of the machine.



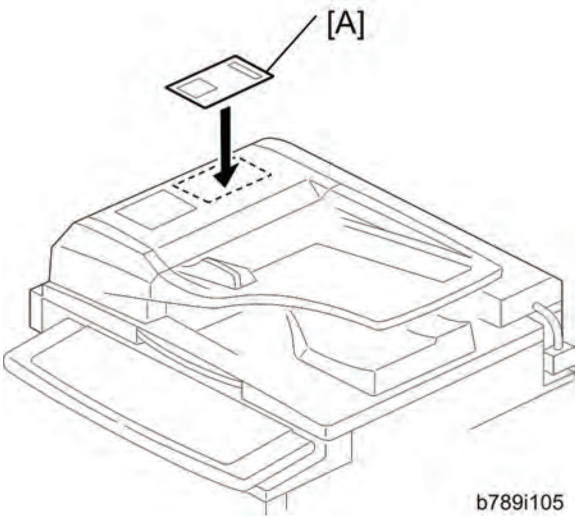
3. Mount the ARDF [A] by aligning the screw keyholes [B] of the ARDF support plate over the stud screws.
4. Slide the ARDF toward the front of the machine.
5. Secure the ARDF with the two knob screws [C].



6. Install the stamp cartridge [A] in the ARDF.

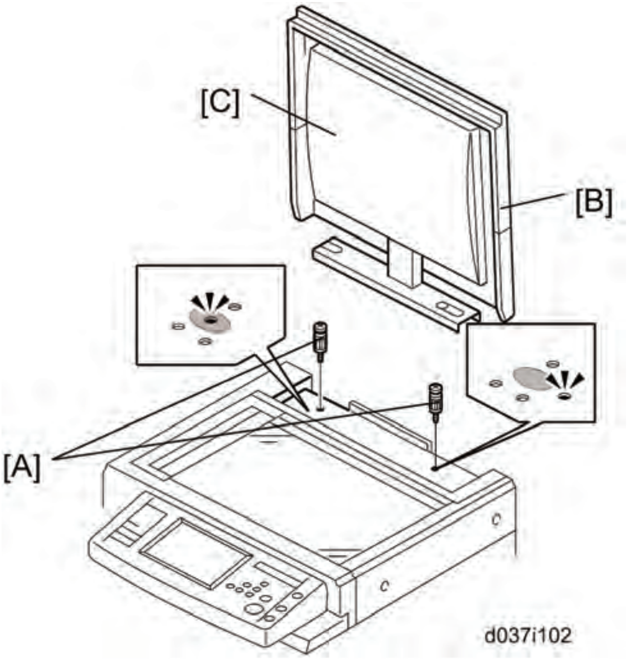


7. Peel off the platen sheet [A] and place it on the exposure glass.
8. Align the rear left corner (of the platen sheet) with the corner [B] on the exposure glass.
9. Close the ARDF.
10. Open the ARDF and check that the platen sheet is correctly attached.



11. Attach the decal [A] to the top cover as shown. Choose the language that you want.
12. Plug in and turn on the main power switch of the machine, and then check the ARDF operation.
13. Make a full size copy. Check that the registrations (side-to-side and leading edge) and image skew are correct. If they are not, adjust the registrations and image skew (see "Image Adjustment" in the "Replacements and Adjustments" chapter).

2.8 PLATEN COVER INSTALLATION (G329)



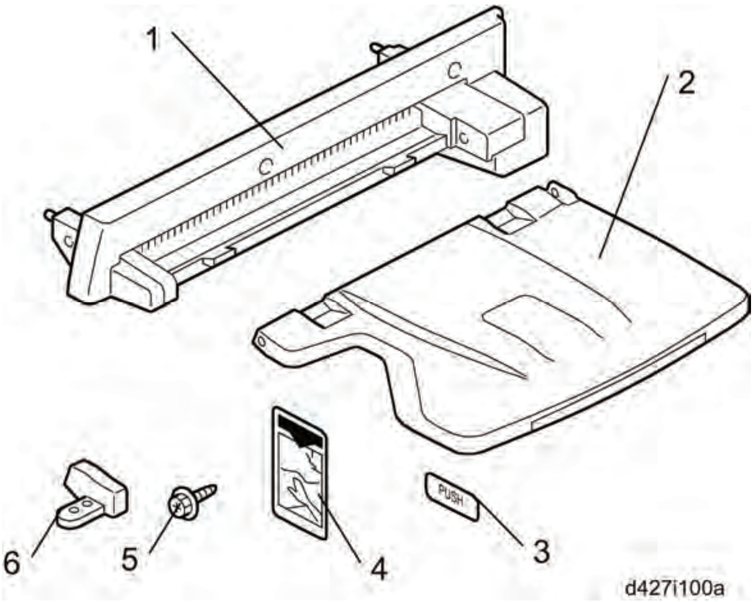
1. Install the stud screws [A] (🔩 x 2) on the top cover as shown.
2. Position the platen cover bracket [B] on the heads of the stud screws, and slide the platen cover [C] to the left.

2.9 SIDE TRAY (D427)

2.9.1 COMPONENT CHECK

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

No.	Description	Q'ty
1	Side Tray Paper Exit Unit	1
2	Side Tray	1
3	Decal: Push	1
4	Decal: Door Push	1
5	Screw: M3x8	1
6	Tray Stopper	1

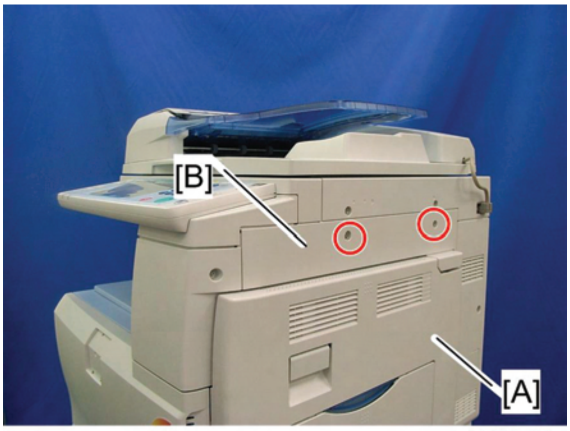


2.9.2 INSTALLATION PROCEDURE

⚠CAUTION

- Unplug the copier power cord before starting the following procedure.

1. Remove all tapes on the side tray.



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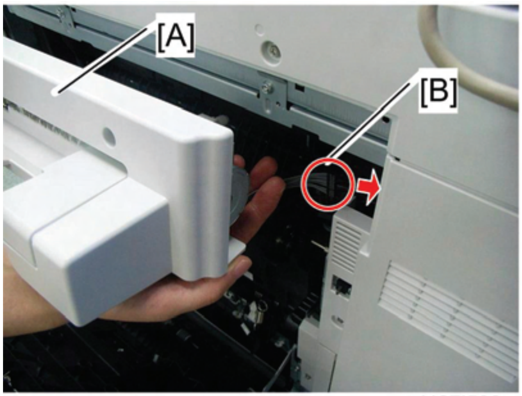
2. Open the duplex unit [A].
3. Remove the right upper cover [B] (🔩 x 2).



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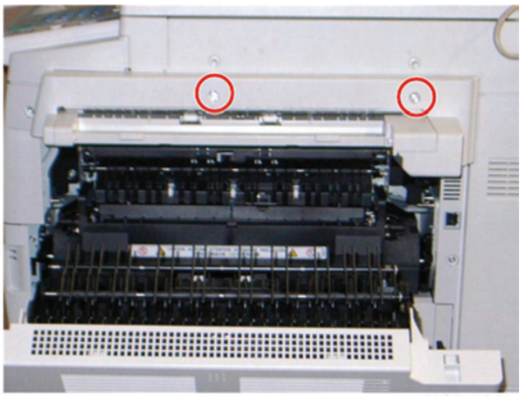
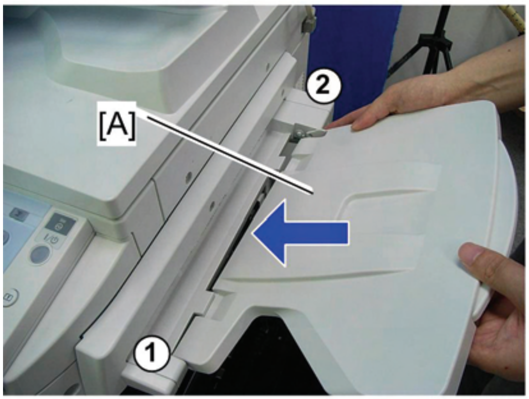
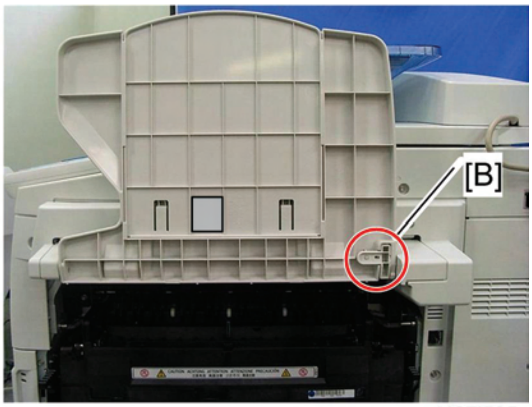


d427i503

4. Close the side tray paper exit unit [A], and then connect the harness [B] to the machine.
5. Install the side tray paper exit unit (🔩 x 2: removed in step 3).

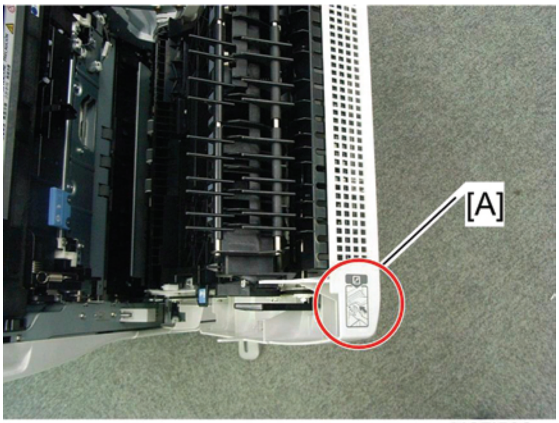


d427i504

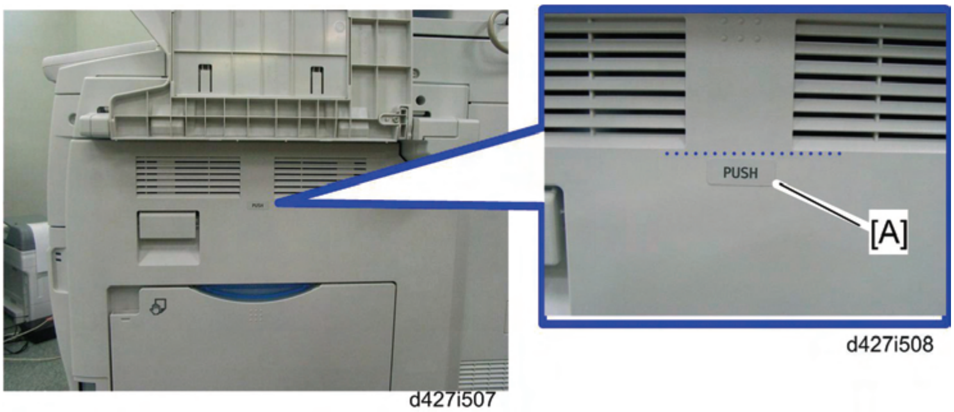


d427i505

6. Install the side tray [A].
7. Lift the side tray, and then install the tray stopper [B] (🔩 x 1: M3x8).



8. Attach the ‘Push door’ decal [A] to the top front edge of the duplex unit cover.



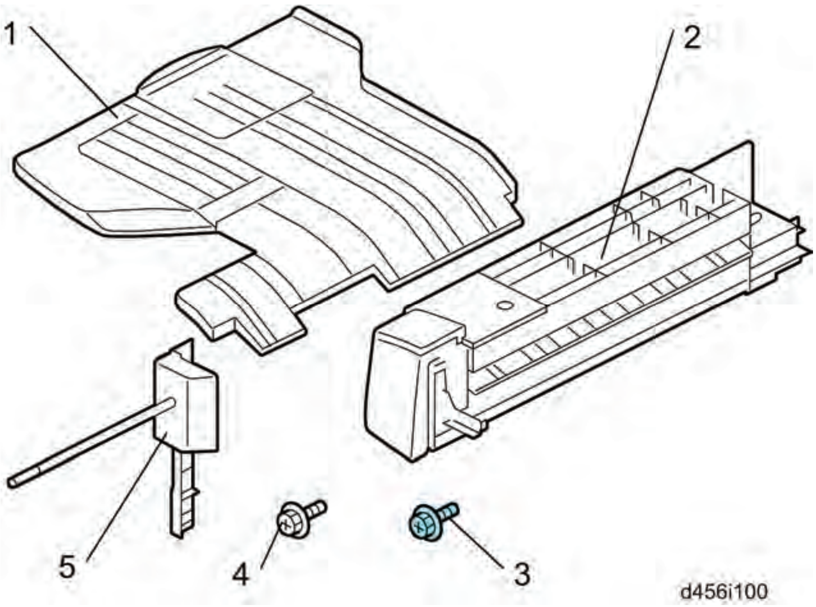
9. Close the duplex unit, and then attach the ‘Push’ decal [A] to the duplex unit cover.
10. Turn on the main power switch of the machine.
11. Check the side tray operation.

2.10 1-BIN TRAY UNIT (D426)

2.10.1 COMPONENT CHECK

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

No.	Description	Q'ty
1	Tray	1
2	1-Bin Tray Unit	1
3	Screw: Blue (M3 x 6)	1
4	Screw (M3 x 8)	1
5	Tray Support Bar	1



2.10.2 INSTALLATION PROCEDURE

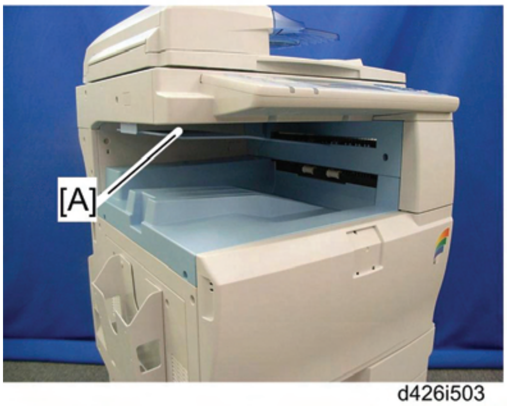
⚠CAUTION

- Unplug the copier power cord before starting the following procedure.

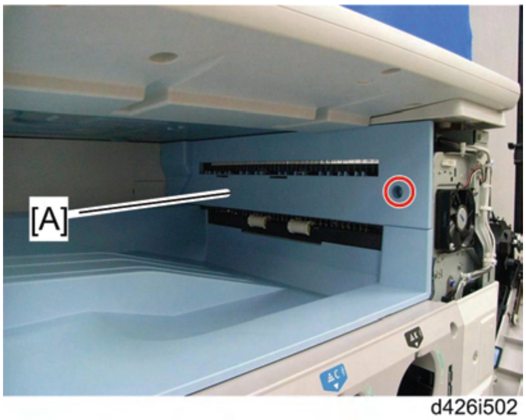
Note

- If both the shift tray unit and the 1-bin tray unit are installed in the mainframe at the same time, install the shift tray unit first. Installing the shift tray unit after the 1-bin tray unit may be difficult.

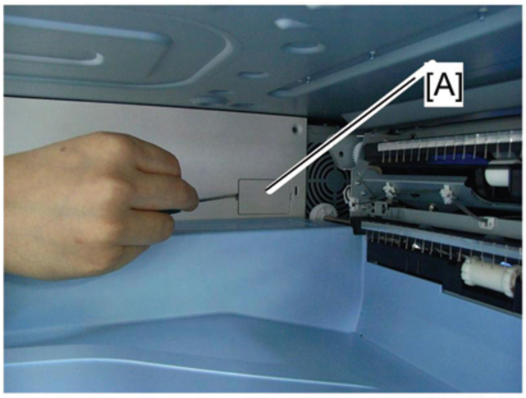
1. Remove all tapes.



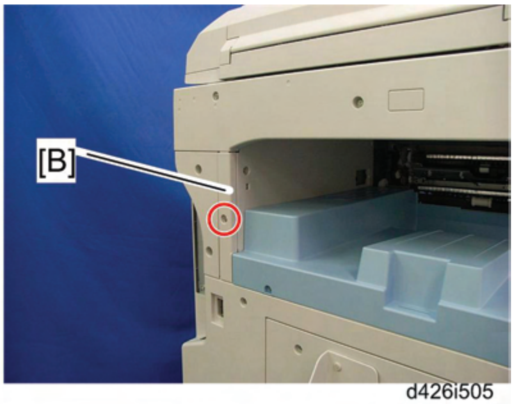
2. Remove the inverter tray [A] (hook).
3. Open the right door [B] of the machine.
4. Remove the front right cover [C] (🔩 x 1).



5. Remove the paper exit cover [A] (🔩 x 1).



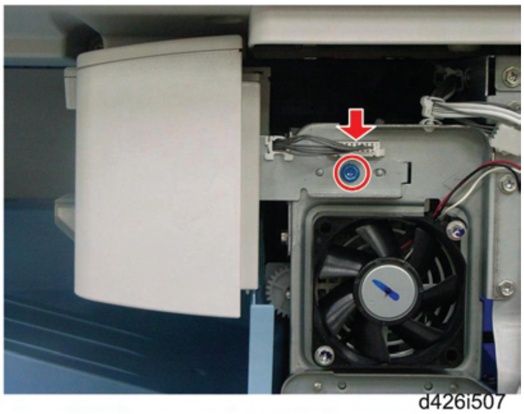
d426i504



d426i505

6. Remove the connector cover [A] with a small flat screwdriver.
7. Remove the left frame cover [B] (🔩 x 1).

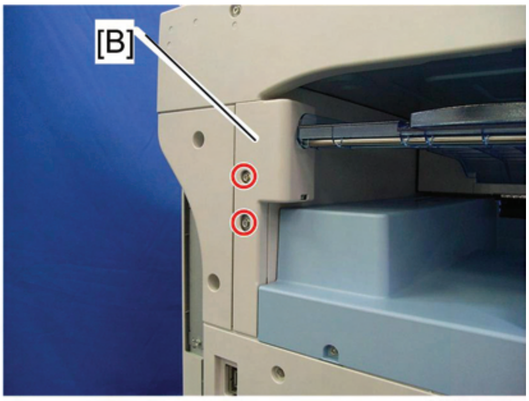
d426i506



d426i507

8. Install the 1-bin tray unit [A] (🔩 x 1: M3x6 blue, 🔌 x 1).

d426i508



d426i509

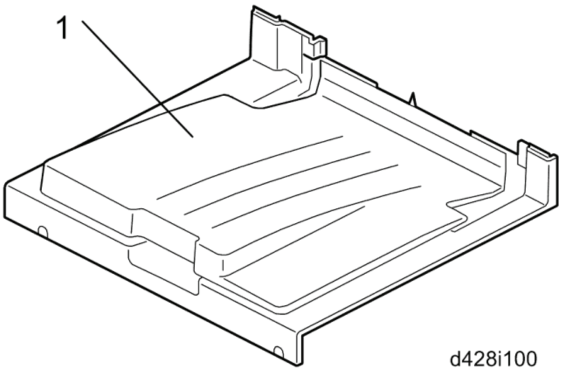
9. Install the tray [A] (with the tray support bar) in the machine.
10. Attach the tray support cover [B] (🔩 x 2: M3x8 in the accessories and one screw removed in step 7).
11. Reassemble the machine.
12. Turn on the main power switch of the machine, and check the 1-bin tray unit operation.

2.11 SHIFT TRAY UNIT (D428)

2.11.1 COMPONENT CHECK

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

No.	Description	Q’ty
1	Shift Tray Unit	1



2.11.2 INSTALLATION PROCEDURE

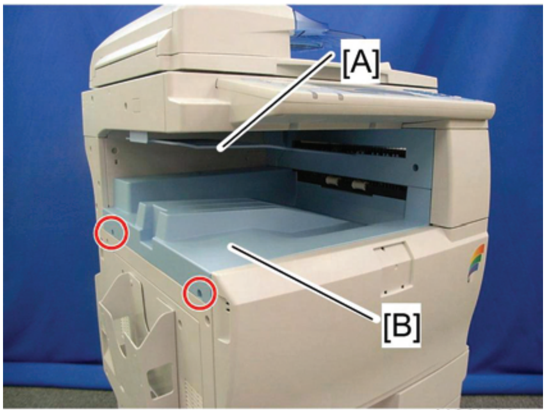
⚠CAUTION

- Unplug the copier power cord before starting the following procedure.

Note

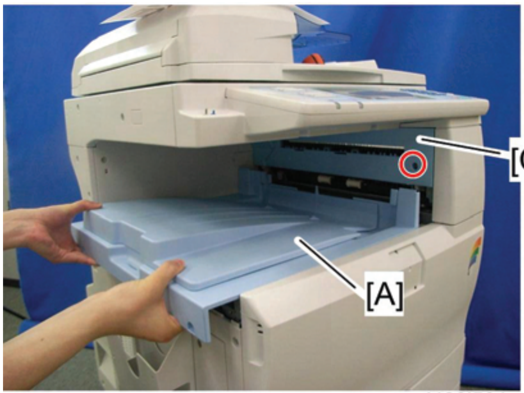
- If both the shift tray unit and the 1-bin tray unit are installed in the mainframe at the same time, install the shift tray unit first. Installing the shift tray unit after the 1-bin tray unit may be difficult.

1. Remove all tapes.

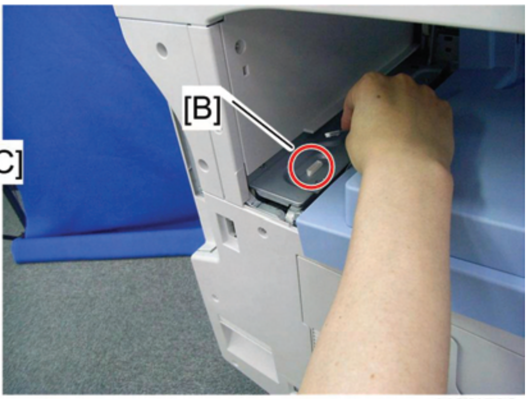


d426i503a

2. Remove the inverter tray [A] (hook).
3. Remove the output tray [B] (x 2).



d428i501

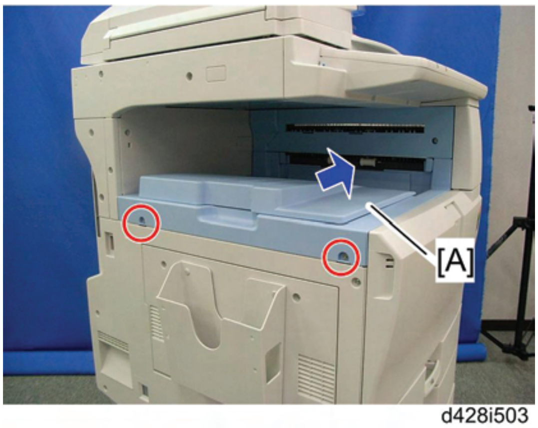


d428i502

4. Put the shift tray [A] in the machine, and then connect the harness to the connector [B] on the inner rear frame.

   Note

   - If the shift tray is difficult to install in the mainframe, remove the paper exit cover [C] first (x 1).



5. Install the shift tray [A] fully in the machine (🔩 x 2).
6. Reinstall the inverter tray.
7. Turn on the main power switch of the machine.
8. Check the shift tray unit operation.

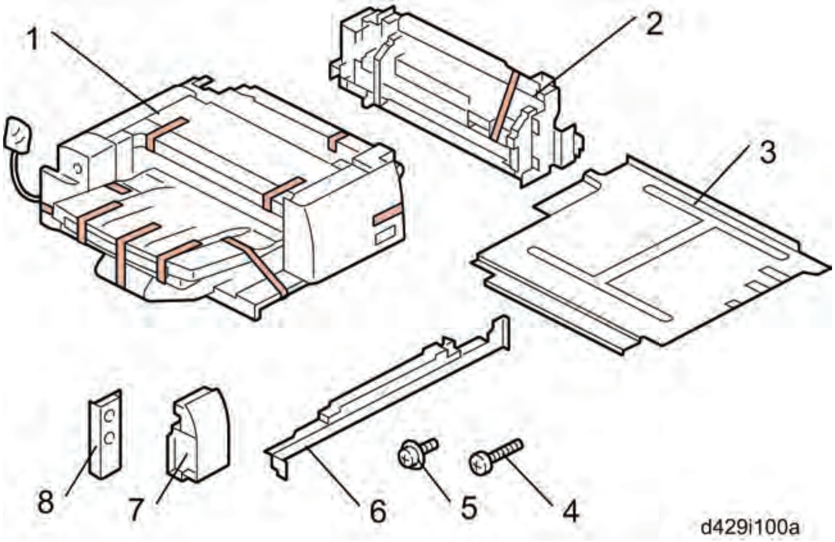
2.12 INTERNAL FINISHER (D429)

This procedure explains how to install the internal finisher, without installing the punch unit at the same time.

2.12.1 COMPONENT CHECK

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

No.	Description	Q'ty
1	Internal Finisher	1
2	Inverter Unit	1
3	Inner Bottom Plate	1
4	Screw: M3x10	3
5	Screw: M3x6	12
6	Guide Rail	1
7	Inverter Cover	1
8	Left Cover	1



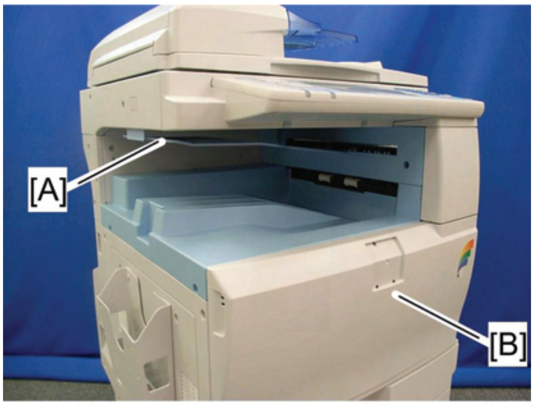
2.12.2 INSTALLATION PROCEDURE

⚠CAUTION

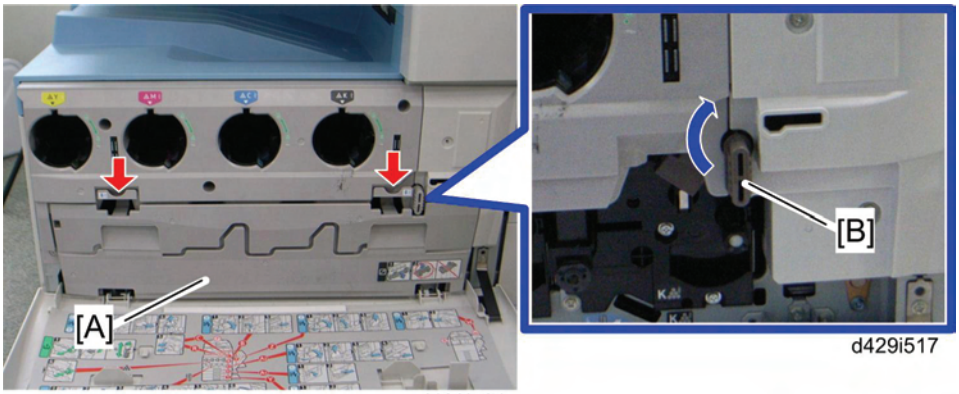
- Unplug the copier power cord before starting the following procedure.

Preparing before Installing the Internal Finisher

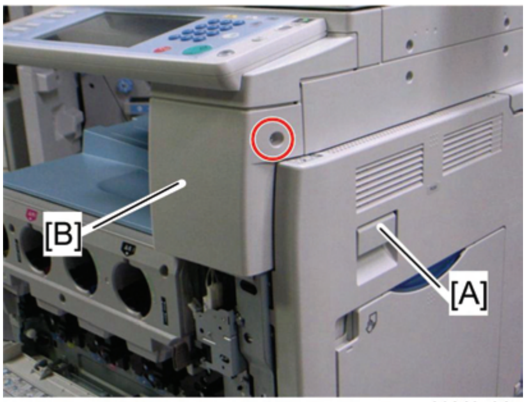
1. Remove all tapes from the internal finisher.



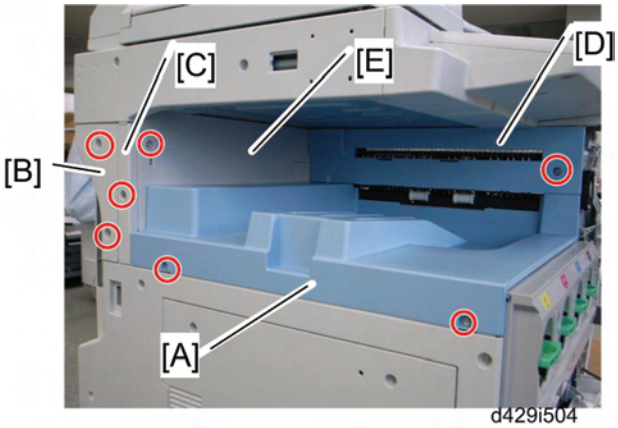
2. Remove the inverter tray [A].
3. Open the front door [B].



4. Remove the PCDU toner collection bottle [A].
5. Hold down the ITB lock lever [B] and turn it in the arrow direction.
6. Remove the inner right cover [A] (x 2).

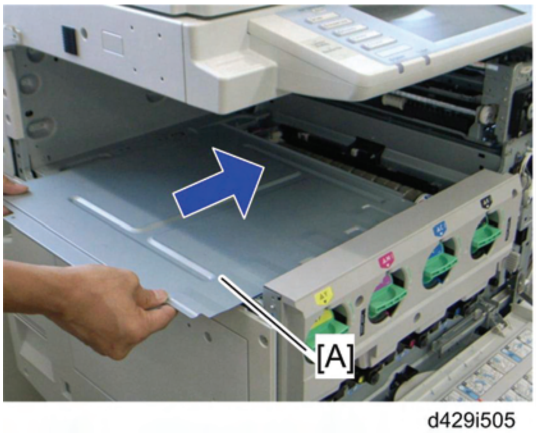


7. Open the duplex unit [A], and then remove the front right cover [B] (🔩 x 1).



d429i504

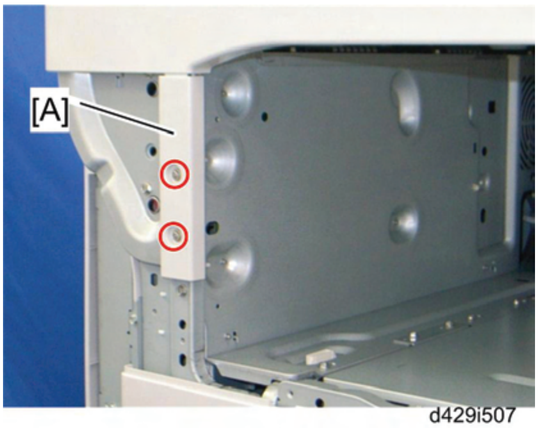
8. Remove the following:
   - Inner tray [A] (🔩 x 2)
   - Left frame rear cover [B] (🔩 x 2)
   - Left frame cover [C] (🔩 x 1)
   - Paper exit cover [D] (🔩 x 1)
   - Inner rear cover [E] (🔩 x 1)



d429i505

d429i506

9. Install the inner bottom plate [A] (🔩 x 6).



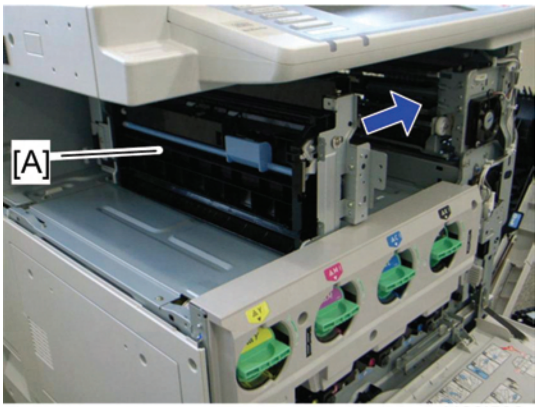
d429i507

10. Attach the left cover [A] (🔩 x 2: M3x6, one screw removed in step 8).

Internal Finisher Installation

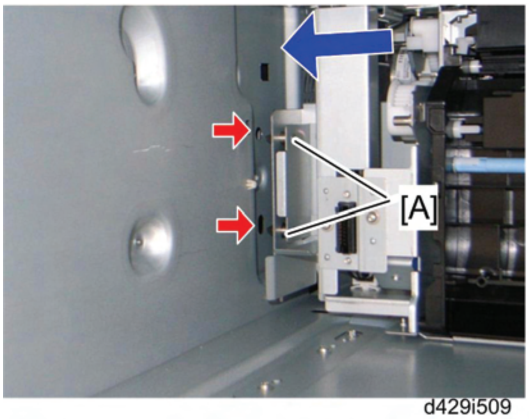
Important

- If the punch unit (D390) is to be installed with this finisher (D429) at the same time, skip this procedure below, and then refer to the installation procedure of "Punch Unit (D390)".



d429i508

1. Insert the inverter unit [A] in the machine.



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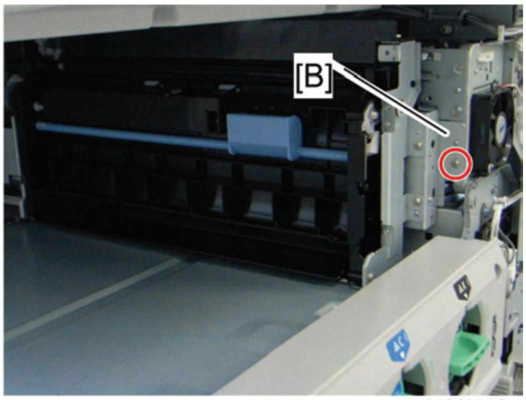
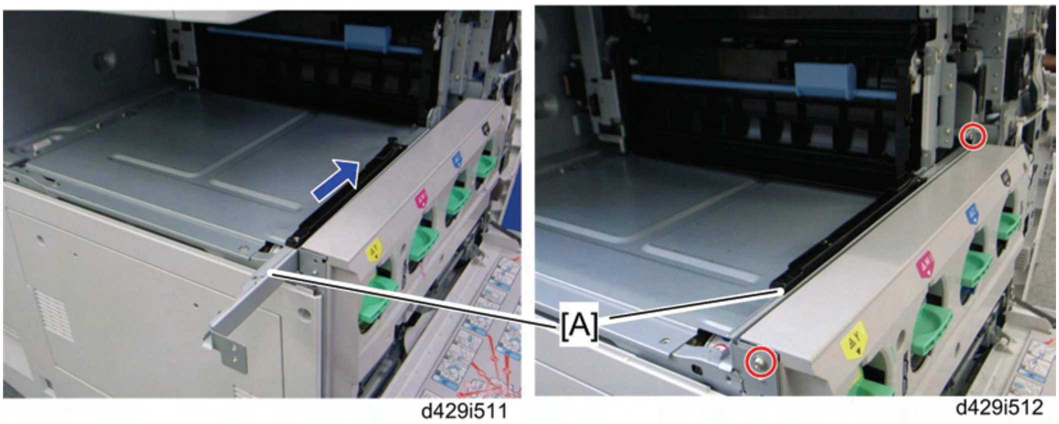


d429i510

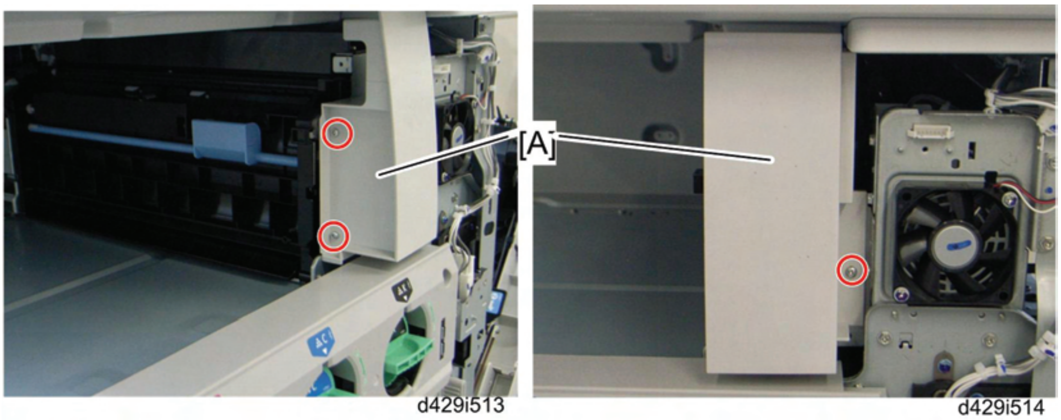
2. Insert two joint pins [A] into the two holes in the inner rear bracket.
3. Fully attach the front side [B] of the inverter unit to the paper exit unit of the mainframe after inserting the two joint pins (x 1: M3x6).

   Note

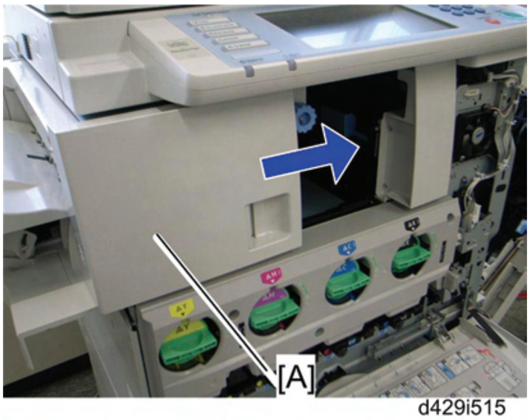
   - Insert the two joint pins before attaching the front side of the inverter unit to the paper exit unit of the mainframe. Otherwise, paper jams may occur between the paper exit unit and inverter unit.



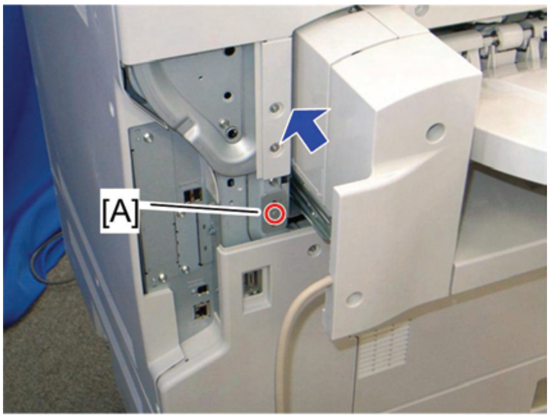
4. Install the guide rail [A] (x 2: M3x6).



5. Attach the inverter cover [A] (x 3: M3x10).

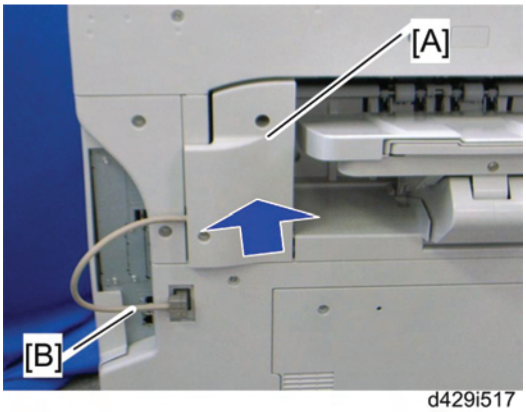


6. Install the internal finisher [A] from the left side of the machine.



d429i516

7. Insert the rear rail pins [A] into the frame of the machine (🔩 x 1: M3x6).



d429i517

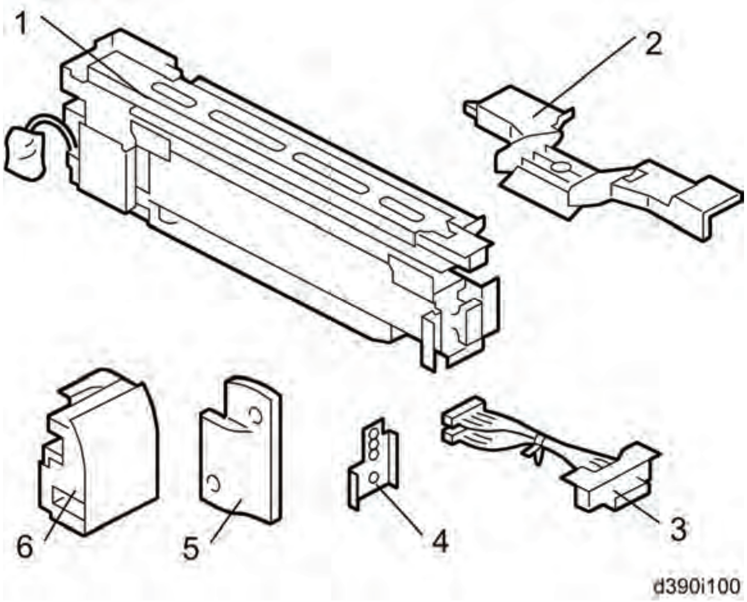
8. Push the internal finisher [A] and connect the cable [B] to the power socket of the machine.
9. Reassemble the machine.
10. Turn on the main power switch of the machine.
11. Check the internal finisher operation.

2.13 PUNCH UNIT (D390)

2.13.1 COMPONENT CHECK

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

No.	Description	Q'ty
1	Punch Unit	1
2	Output Tray Lower Cover	1
3	Drawer Connector	1
4	Bracket	1
5	Left Frame Cover	1
6	Punch Cover	1



2.13.2 INSTALLATION PROCEDURE

If the internal finisher has **not** already been installed, skip the "Removing the Internal Finisher" section, and go to the "Preparing the Punch Unit before Installing the Internal Finisher" section. Also do "Preparing before Installing the Internal Finisher" in the "Internal Finisher (D429)" section.

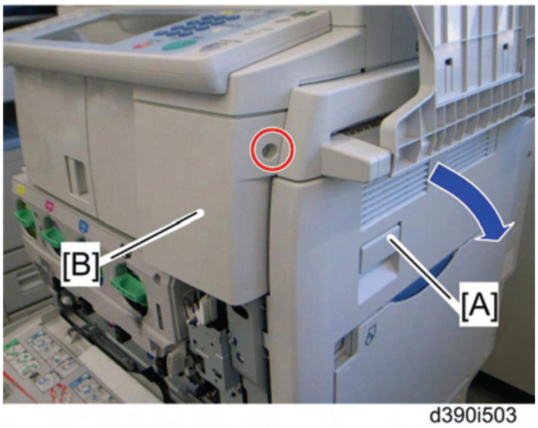
If the internal finisher has already been installed, you must remove it first. Start from the "Removing the Internal Finisher" section.

⚠**CAUTION**

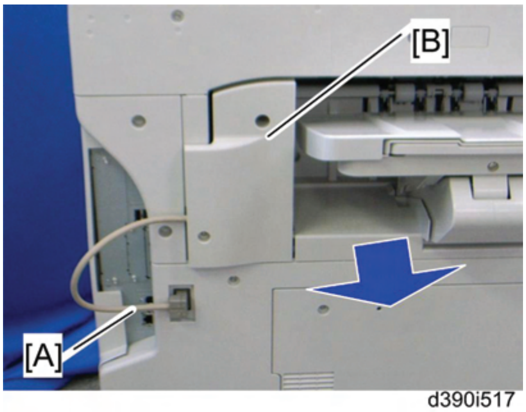
- **Unplug the copier power cord before starting the following procedure.**

Removing the Internal Finisher

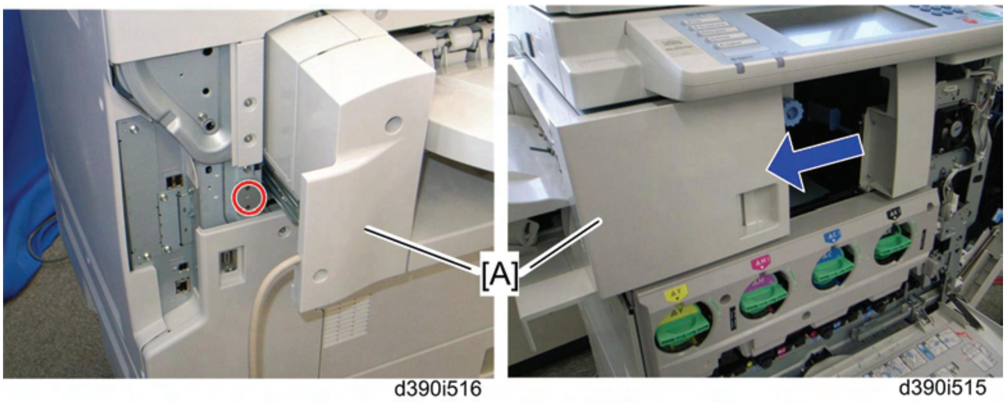
1. Open the front door.



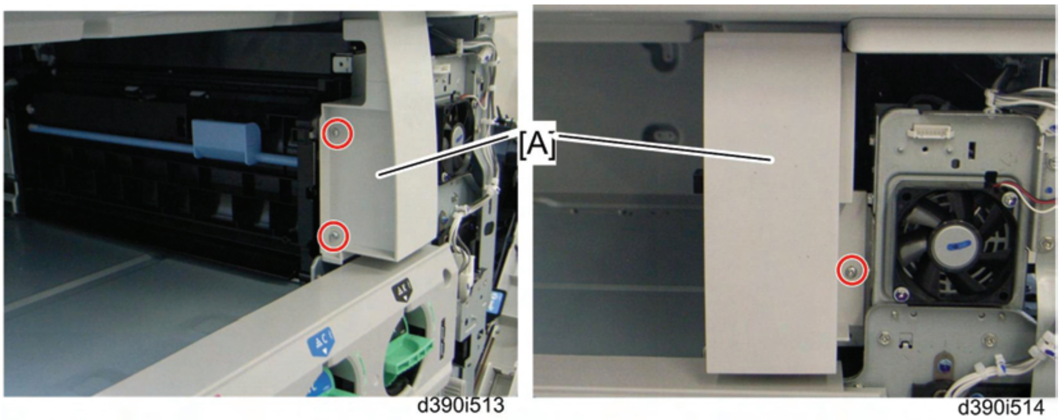
2. Open the right door [A], and then remove the front right cover [B] (🔩 x 1).



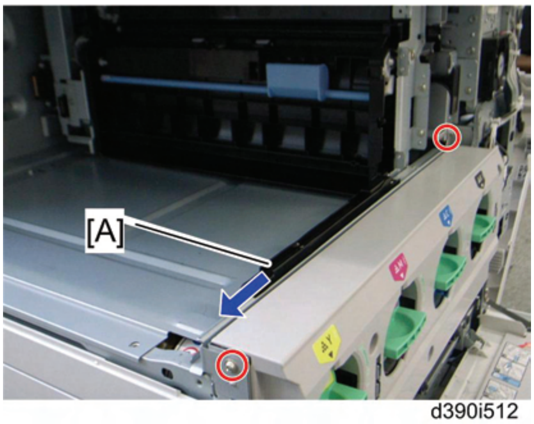
3. Disconnect the cable [A] from the power socket of the machine, and then pull out the internal finisher [B].



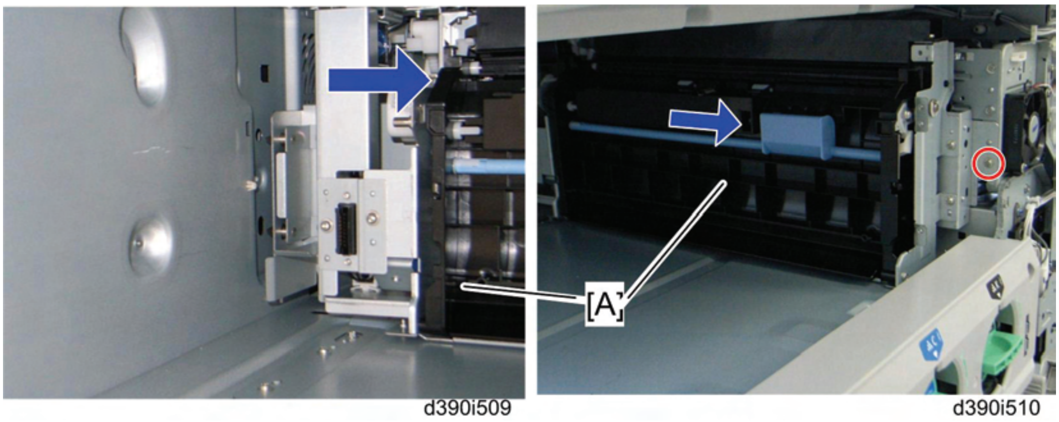
4. Remove the internal finisher [A] (🔩 x 1: M3x6).



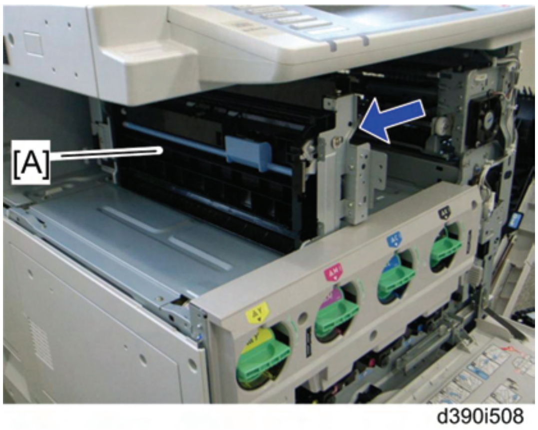
5. Remove the inverter cover [A] (🔩 x 3: M3x10).



6. Remove the guide rail [A] (🔩 x 2: M3x6).

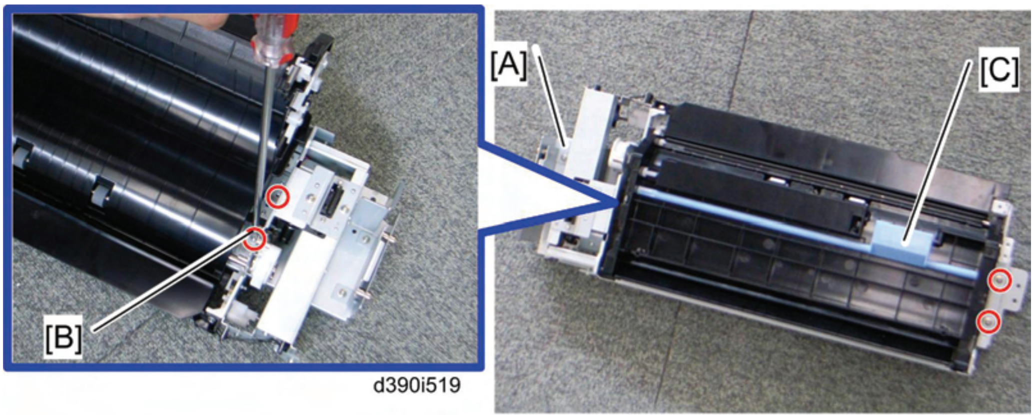


7. Pull the inverter unit [A] toward the front side (x 1: M3x6).



8. Remove the inverter unit [A] from the machine.

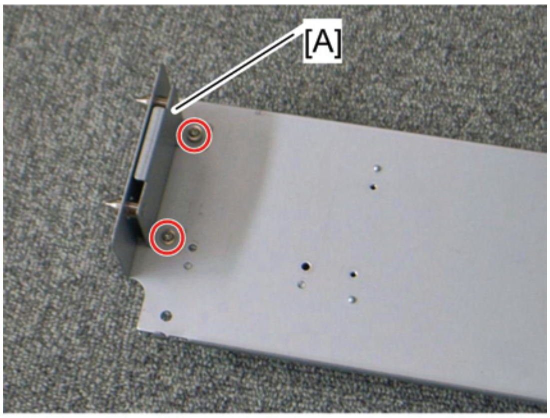
Preparing the Punch Unit before Installing the Internal Finisher



d390i519

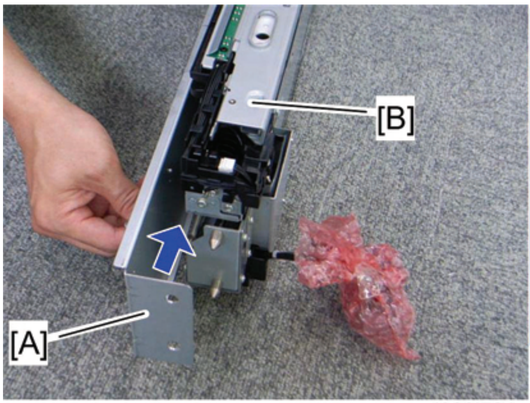
d390i518

1. Remove the inverter right bracket [A] from the inverter unit (x 4).
2. To remove screw [B], open guide plate [C].

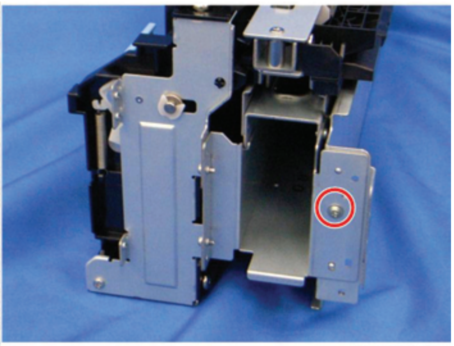


d390i520

3. Remove the positioning pin bracket [A] from the inverter right bracket (x 2).

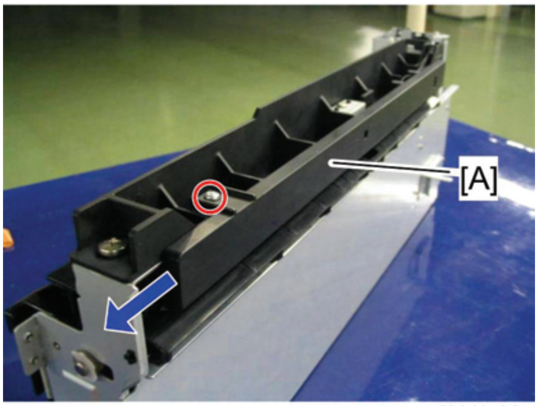


d390i521



d390i517

4. Attach the inverter right bracket [A] to the punch unit [B] (x 1: M3x6).

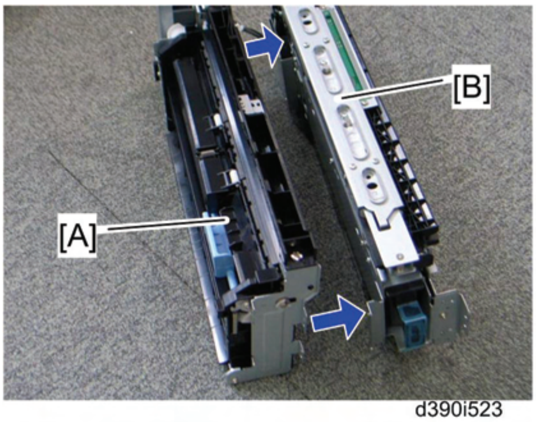


d390i522

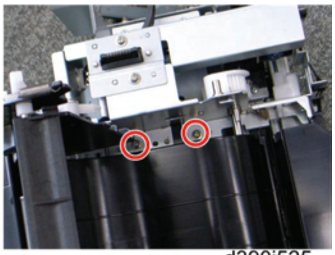
5. Slide the inverter small guide [A] to the front side (arrow direction), and then remove it (🔩 x 1).
6. Remove all the tapes on the punch unit.

Note

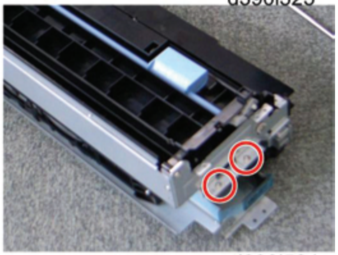
- If all the tapes are not removed, SC763 may occur.



d390i523

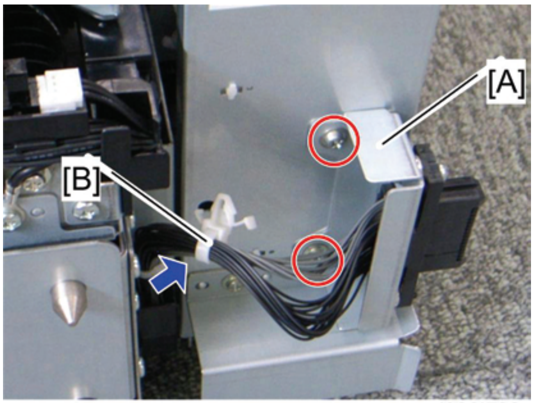


d390i525



d390i524

7. Attach the inverter unit [A] to the punch unit [B], and then secure the inverter unit with the punch unit (🔩 x 4 removed in step 1).



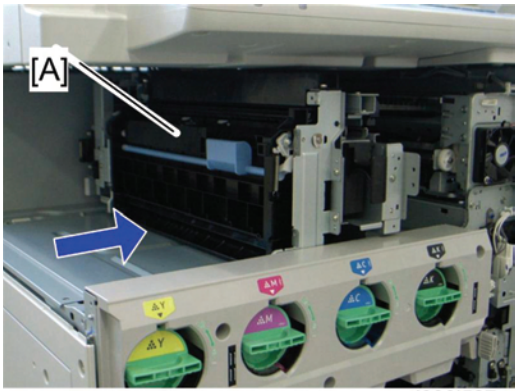
d390i526

8. Attach the drawer connector [A] of the punch unit to the rear bracket of the inverter unit

(🔩 x 2 removed in step 3).

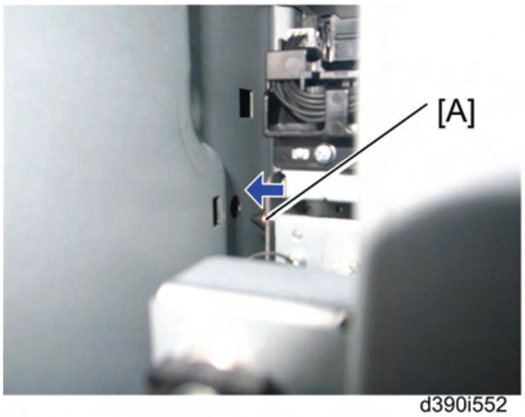
9. Attach the clamp [B] to the rear bracket of the inverter unit.

Installing the Punch and Inverter Unit

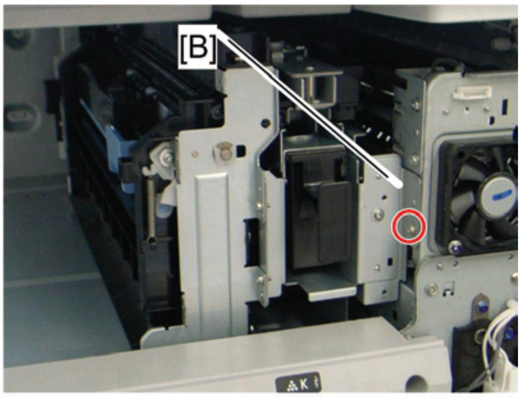


d390i527

1. Install the punch and inverter unit [A] in the mainframe.



d390i552

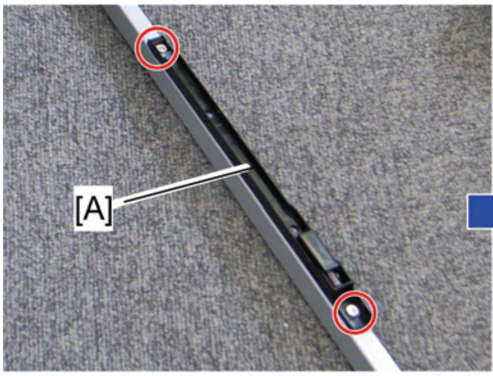


d390i528

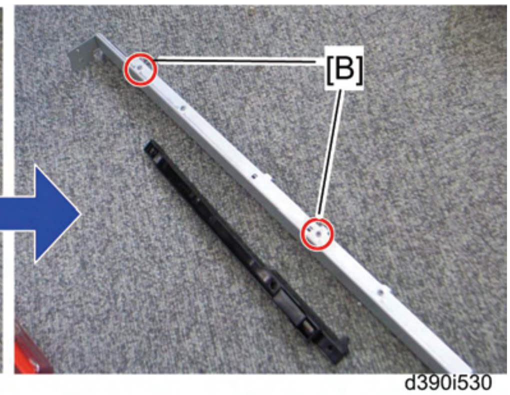
2. Insert the two joint pins [A] (this picture does not show the two joint pins) into the two holes in the inner rear bracket.
3. Fully attach the front side [B] of the inverter unit to the paper exit unit of the mainframe after inserting two joint pins (🔩 x 1: M3x6).

Note

- Insert the two joint pins before attaching the front side of the inverter unit to the paper exit unit of the mainframe. Otherwise, paper jams may occur between the paper exit unit and inverter unit.

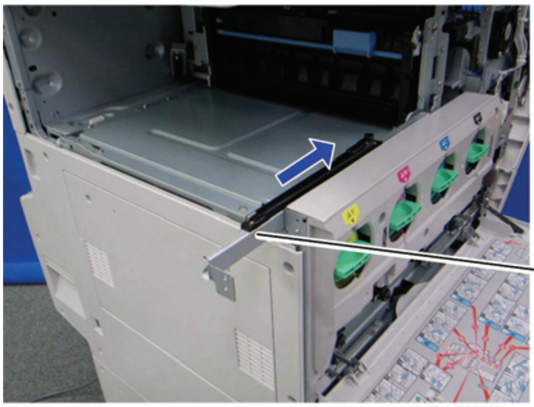


d390i529

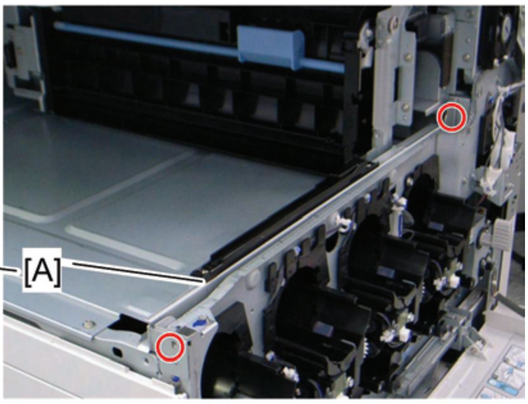


d390i530

4. Remove the stopper [A] from the guide rail, and then attach with the screw holes [B] (these screw holes must be used when the internal finisher is installed with the punch unit).

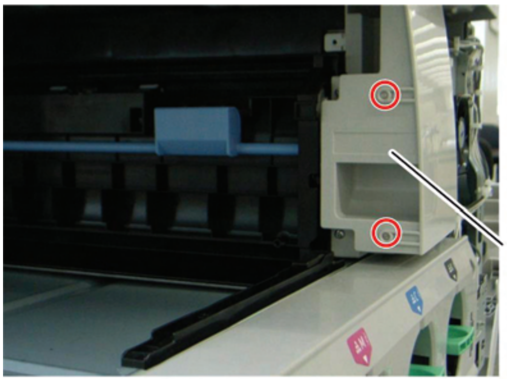


d390i547

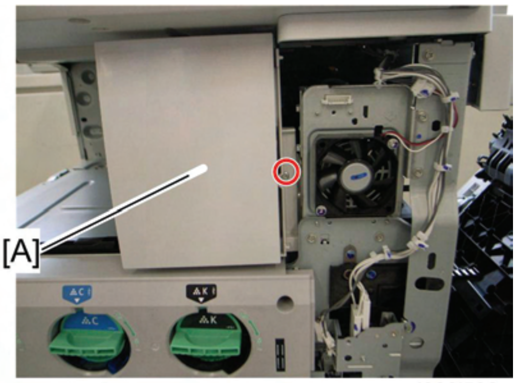


d390i531

5. Install the guide rail [A] on the front edge of the inner bottom plate (🔩 x 2).



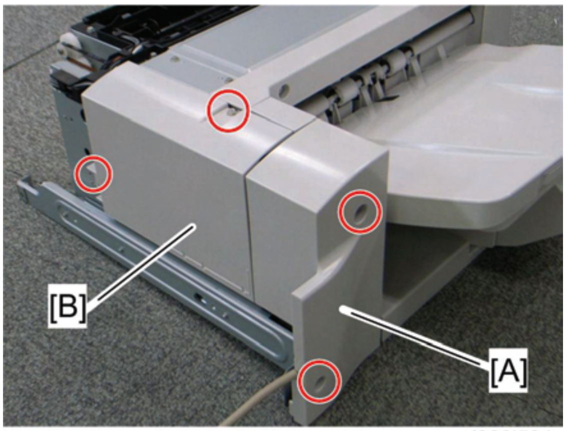
d390i533



d390i532

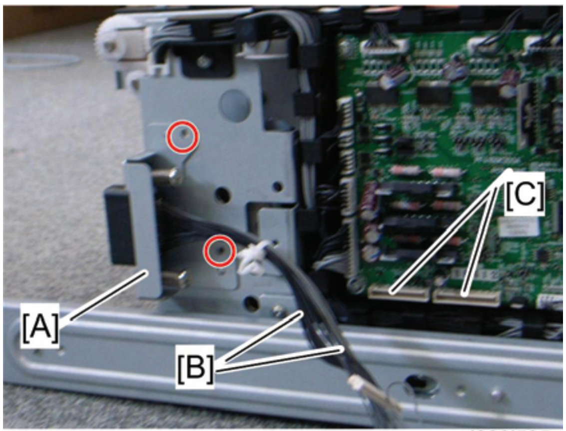
6. Install the punch cover [A] (🔩 x 3: M3x6).

Preparing the Internal Finisher



d390i534

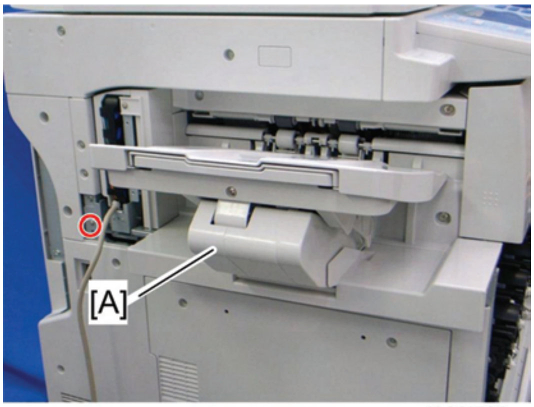
1. Remove the left rear cover [A] and the rear cover [B] of the internal finisher (🔩 x 2 each).



d390i535

2. Attach the drawer connector [A] to the rear bracket of the finisher.
3. Connect the harnesses [B] to the connectors [C] on the main board.
    - Black harness connector to CN16
    - Gray harness connector to CN17
4. Reinstall the rear cover (removed in step 1) (🔩 x 2).

Installing the Internal Finisher

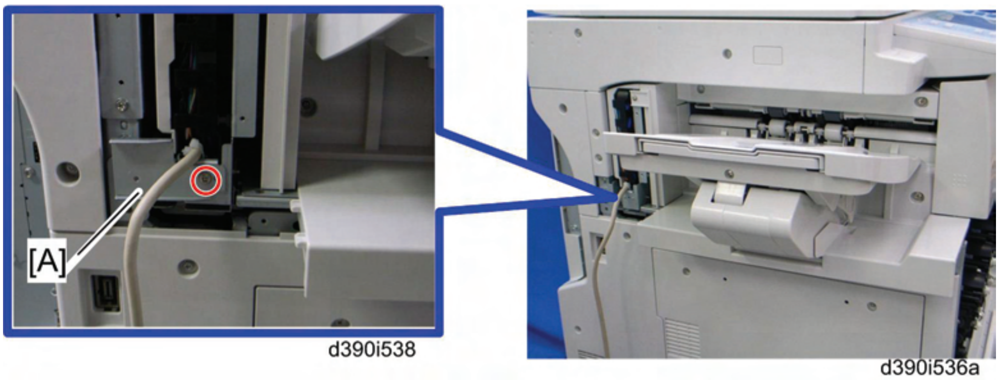


d390i536

1. Install the internal finisher [A] in the mainframe (🔩 x 1).

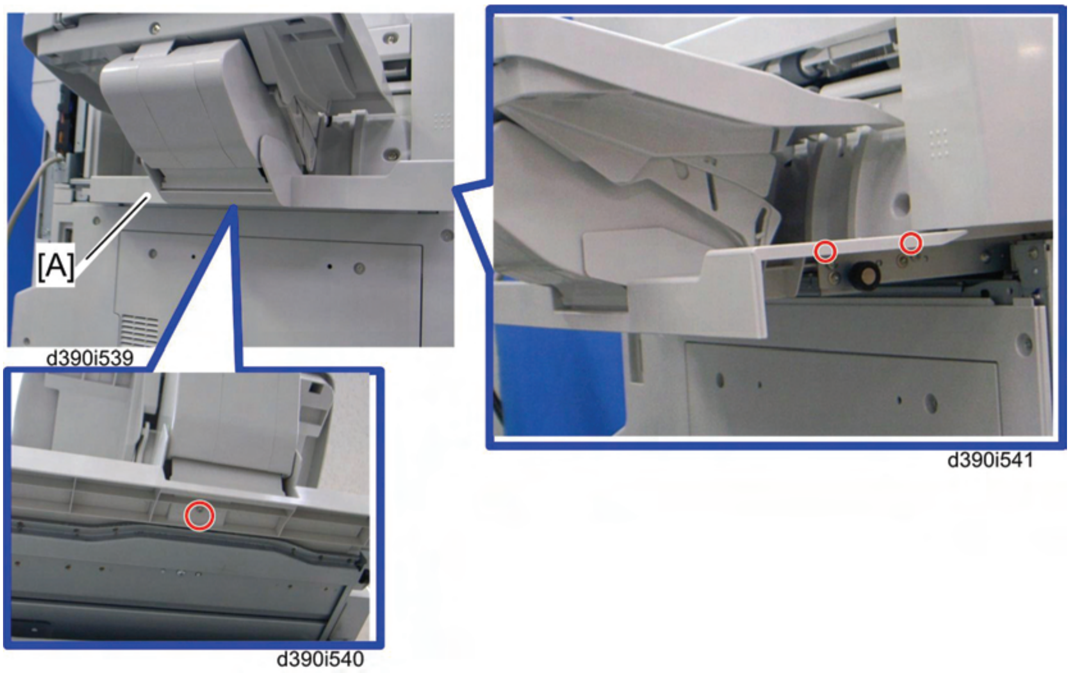
d390i537 d390i536a

2. Remove the bracket [A] (🔩 x 2).

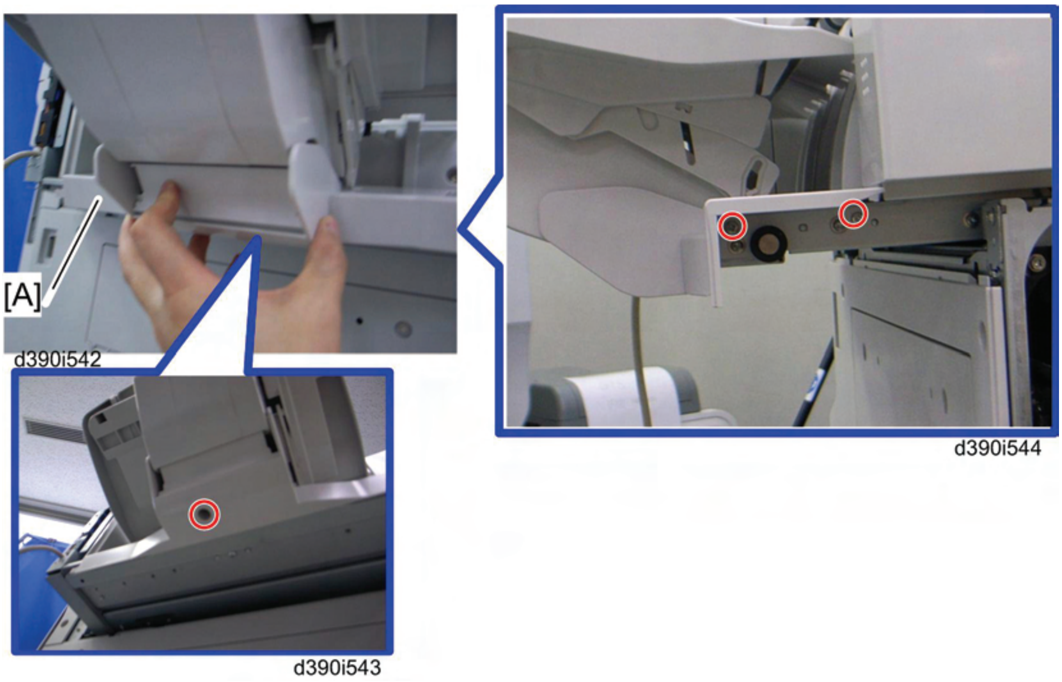


d390i538 d390i536a

3. Attach the bracket [A] (🔩 x 2); this bracket is for the internal finisher when used with the punch unit.

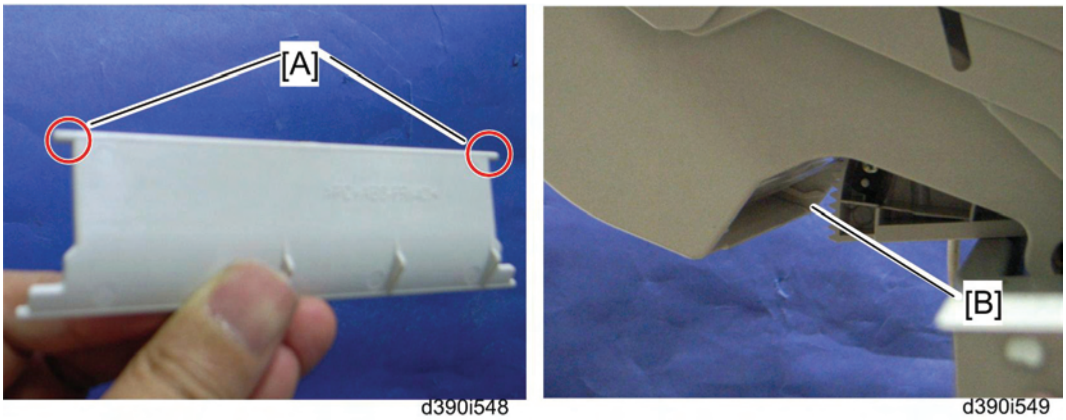


4. Remove the output tray lower cover [A]; this cover is for the internal finisher without the punch unit (🔩 x 3).



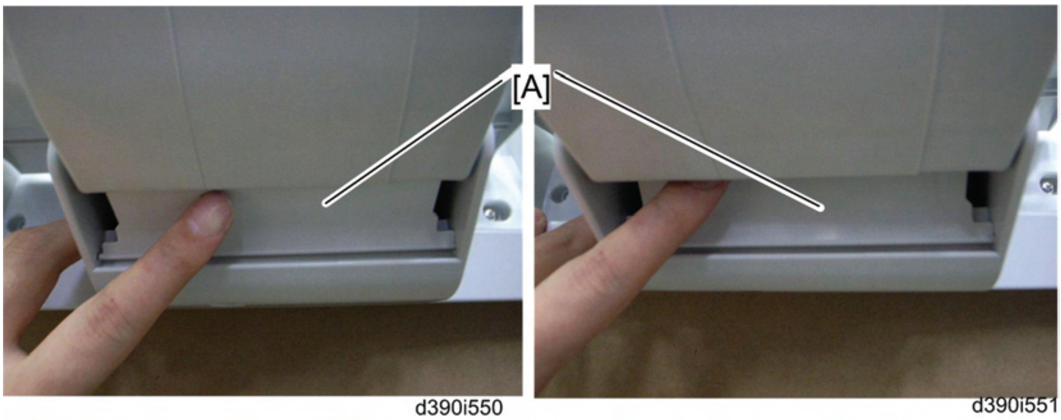
5. Attach the output tray lower cover [A]; this cover is for the internal finisher when used with the punch unit (🔩 x 3).

Note



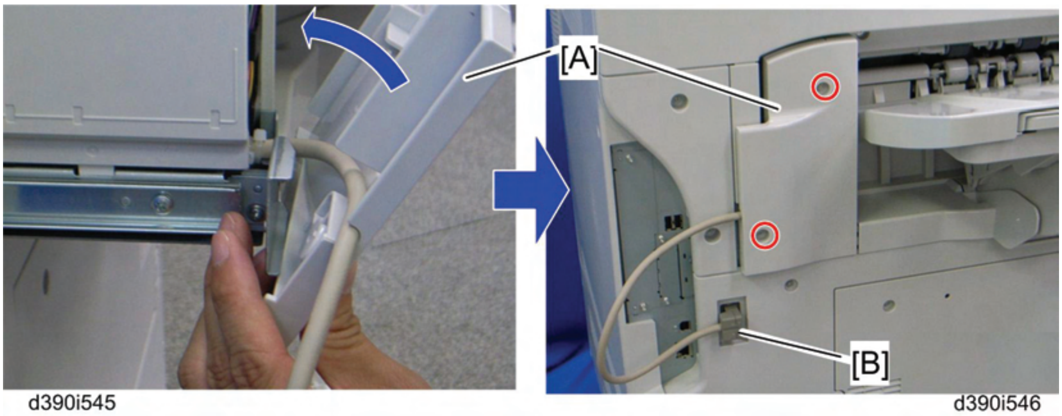
d390i548 d390i549

The two projections [A] on the output tray lower cover (this plate is actually attached to the output tray lower cover) must be inserted along the two guide rails [B] inside the output tray unit.



d390i550 d390i551

Push the slide plate [A] to check if the output tray lower cover is correctly installed. The left side picture shows the correct result and the right side picture shows the incorrect result.



d390i545 d390i546

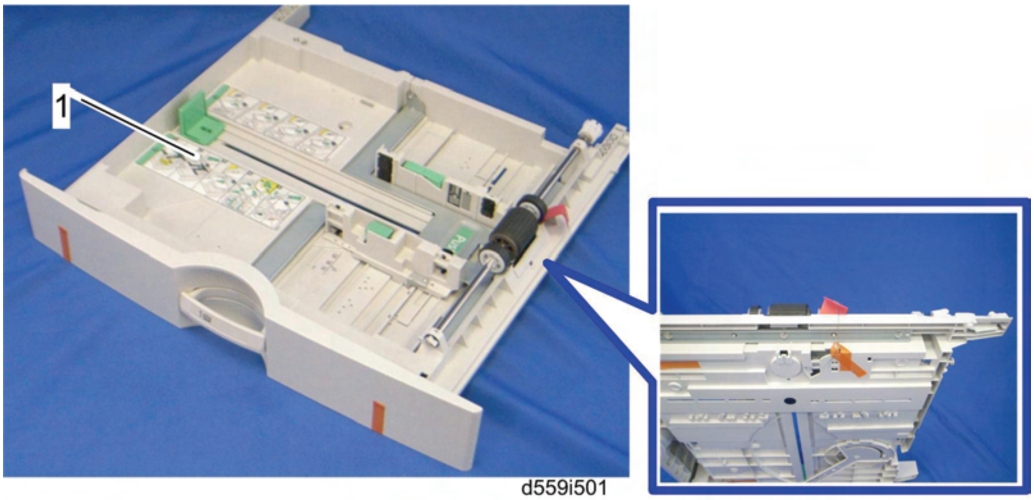
6. Attach the left frame cover [A] (🔩 x 2).
7. Push the internal finisher in the mainframe.
8. Connect the I/F cable [B] of the finisher to the inlet of the mainframe.

2.14 ENVELOPE FEEDER EF3010 (D559)

2.14.1 COMPONENT CHECK

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

No.	Description	Q'ty
1	Envelope Feeder	1



2.14.2 INSTALLATION PROCEDURE

Note

- This tray can be only installed in tray 1 of the copier. Do not install this tray in trays other than tray 1. Otherwise, paper jam or other paper problem may occur.

1. Remove all tapes and red tag from the envelope feeder.

2. Pull paper tray 1 [A] part of the way out.
3. Remove two screws from both tray guides.
4. Pull out paper tray 1 [A].

5. Install the envelope feeder [A] into tray 1 of the main machine.
6. Secure two screws at both tray guides.
7. Close the tray 1, and then turn on the machine.

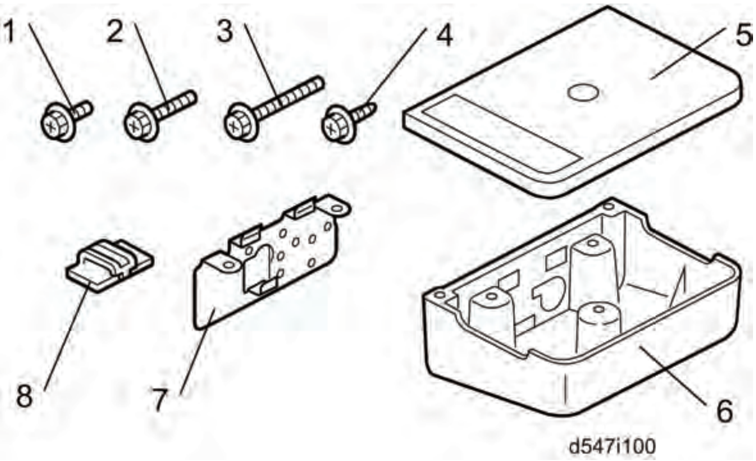
2.15 CARD READER BRACKET TYPE C5501 (D547)

2.15.1 COMPONENT CHECK

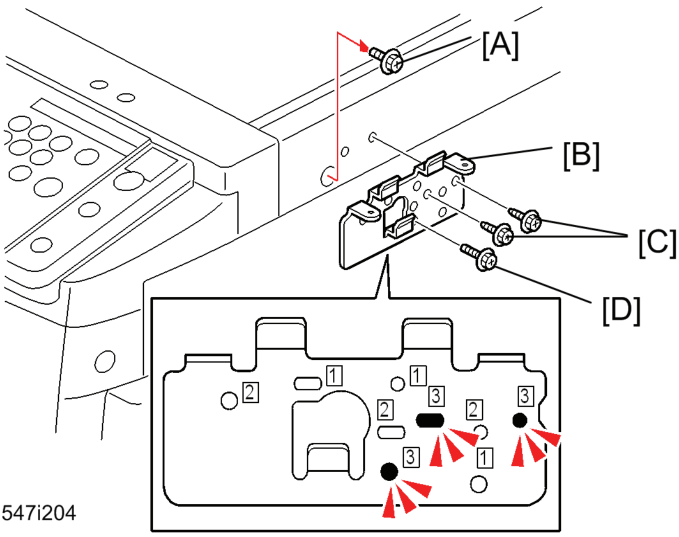
Check the quantity and condition of the accessories against the following list.

No.	Description	Q'ty
1	Screw: M3 x 8	1
2	Screw: M3 x 14*[1]	1
3	Screw: M3 x 25	1
4	Tapping Screw: M3 x 10	2
5	Upper Tray	1
6	Lower Tray	1
7	Tray Bracket	3
8	Clamp	5

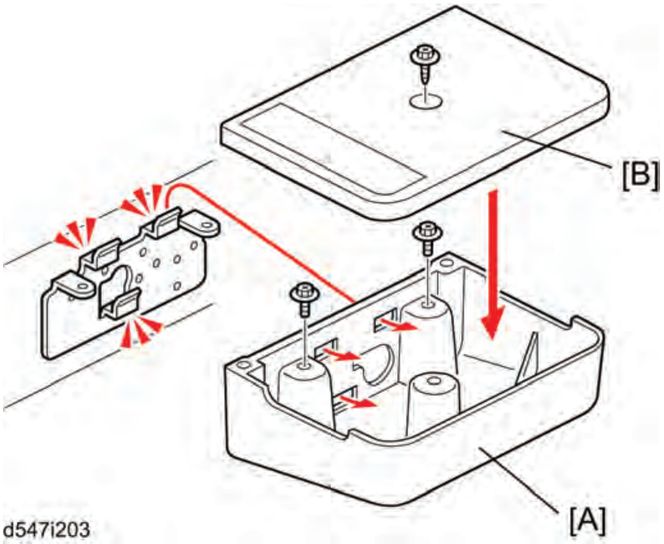
*1: Not used in this machine



2.15.2 INSTALLATION PROCEDURE



1. Remove the screw [A] on the scanner right cover.
2. Attach the tray bracket [B] to the scanner right cover (🔩 [C] x 2: M3x10, 🔩 [D] x 1: M3x25).
    - For this model, use the screw holes marked "3" on the table bracket.



3. Attach the lower tray [A] to the tray bracket (🔩 x 2: M3x8).
4. Attach the upper tray [B] to the tray bracket (🔩 x 1: M3x8).
5. Use the clamps as necessary to clamp the cable of the card read/writer device.

★ Important

- The smart card reader must be placed on this card reader tray. If not, some antenna or transmitter in the main machine may be interrupted.

2.16 USB2.0/SD SLOT TYPE G (D556)

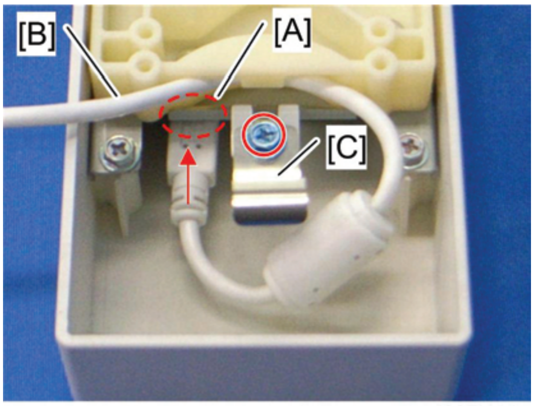
2.16.1 ACCESSORY CHECK

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

No.	Description	Q'ty
1	USB2.0/SD Slot	1
2	Ground Plate	1
3	USB Cable	1
4	Screw: M3 x 6 blue	1
5	Screw: M3 x 8	4
6	Decal	1
7	Clamp	1
8	PDF Direct Card*[1]	1

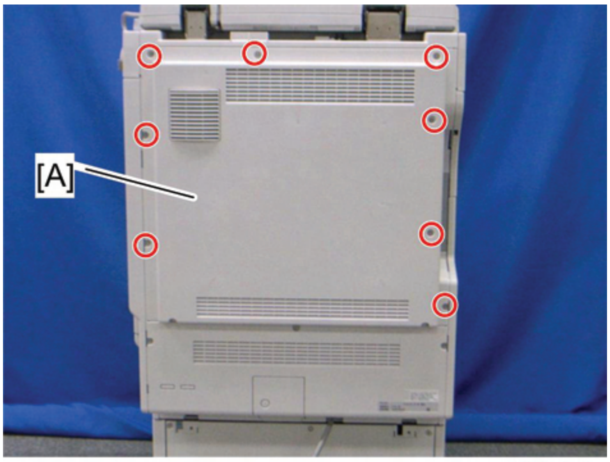
*1: If the PostScript 3 option is used in this machine, this card is not necessary.

2.16.2 INSTALLATION PROCEDURE



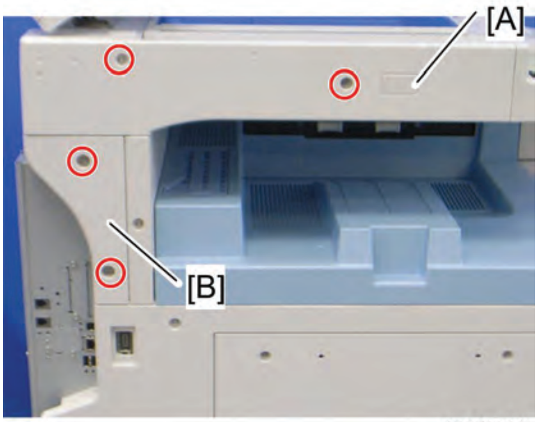
d027i111

1. Connect the USB cable [B] to the USB slot [A] in the USB2.0/SD Slot unit.
2. Attach the ground plate [C] to the bracket of the USB2.0/SD Slot (🔩 x 1: M3x6 blue).



d104r110

3. Remove the rear cover [A] (🔩 x 8).

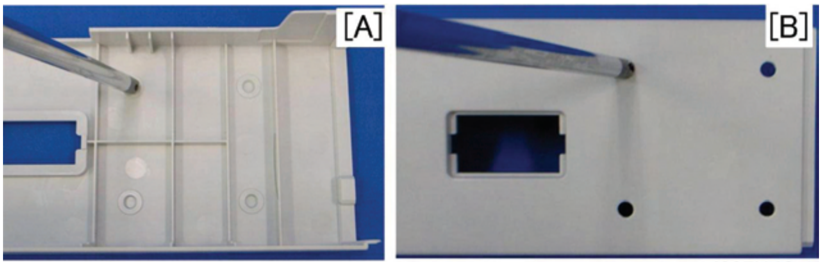


d556i110

4. Remove the scanner left cover [A] (🔩 x 2).
5. Remove the left frame cover [B] (🔩 x 2).

d037i113

6. Remove the part [A] on the scanner left cover.

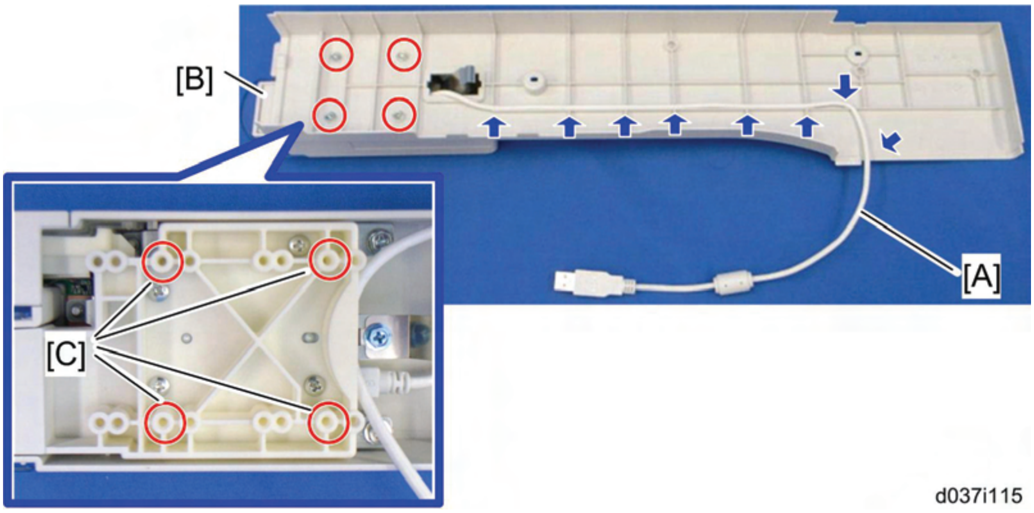


d037i113a

7. Make four holes in the scanner left cover with a screwdriver as shown [A].

Note

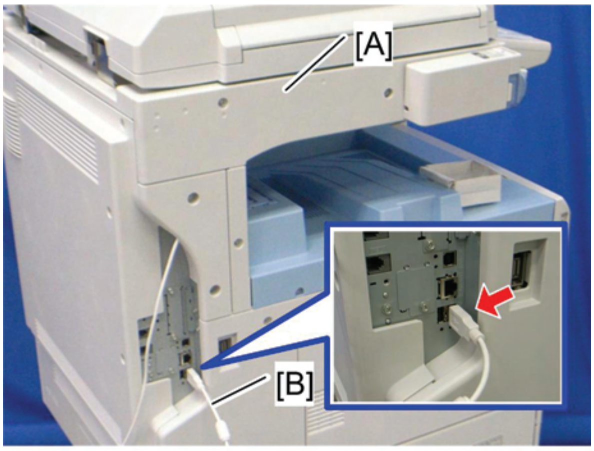
- Smooth the four holes in the scanner left cover as shown [B].



8. Route the USB cable [A] through the gaps in the left scanner cover.
9. Secure the USB2.0/SD Slot [B] with the left scanner cover as shown above (🔩 x 4: M3x8).

Note

- Use the screw holes [C] as shown above.

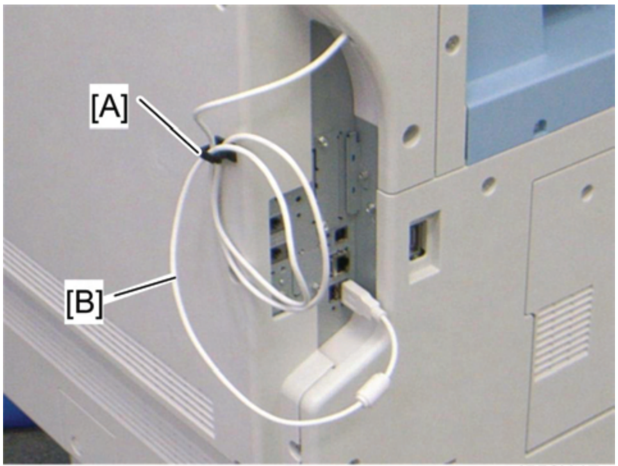


d556i116

10. Attach the scanner left cover [A] to the mainframe (🔩 x 2).
11. Connect the USB cable [B] to USB-A (this is the USB slot closest to the front side of the machine) as shown above.

Note

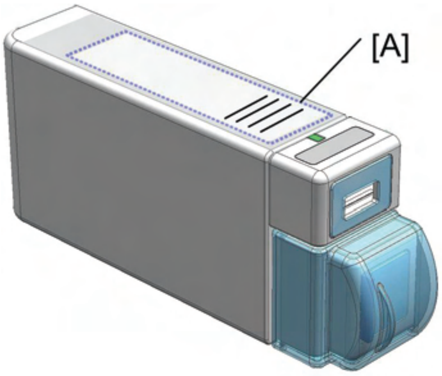
- Make sure that the USB cable is inserted in USB-A (front side).



d556i117

12. Attach the clamp [A] to the left middle area of the rear cover.
13. Wind the USB cable [B] two or three times not to interrupt the other slots, and then clamp the cable loops (x 1).

    If PostScript 3 is already installed, go to step 23. If not, follow the steps from 14 to 22.
14. Remove the SD slot cover (🔩x 1), and move the SD card from SD slot 1 to SD slot 2.
15. Insert the PDF direct card in SD slot 1.
16. Plug in and turn on the mainframe.
17. Enter the System SP mode.
18. Move security applications (HDD Encryption unit and Data Overwrite Security Unit) from the SD card in SD slot 2 to the SD card in SD slot 1 with SP5-873-001 "Move Exec" (☛p.2-94 "SD Card Appli Move").
19. Enter the Scanner SP mode, and then change the setting of SP1013-001 from "0" to "1".
20. Enter the Printer SP mode, and then change the setting of SP1110-001 from "0" to "1".
21. Exit the SP mode, and then turn off the machine.
22. Remove the SD card in slot 2, and then attach the SD slot cover (🔩x 1).
    - Keep this card in the safe place (☛p.2-94).
23. Turn on the mainframe.
24. Check the operation of the USB2.0/SD Slot.



d027i118

25. Attach the decal [A] to the USB2.0/SD Slot as shown above.

2.16.3 TESTING THE SD CARD/USB SLOT

1. Insert an SD card or USB memory device in the slot.

   You can connect only one removable memory device at a time.
2. Close the media slot cover.

   If you leave the cover open, static electricity conducted through an inserted SD card could cause the machine to malfunction.
3. Make sure that no previous settings remain.

   If a previous setting remains, press the [Clear Modes] key.
4. Place an original on the exposure glass.
5. Press [Store File].
6. Press [Store to Memory Device].
7. Press [OK].
8. Press the [Start] key.

   When writing is complete, a confirmation message appears.
9. Press [Exit].
10. Remove the memory device from the media slot.
    - Do not remove the memory device while writing is in process.

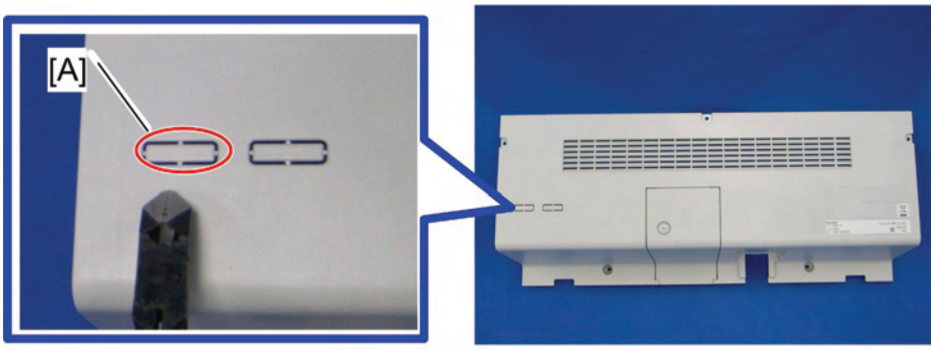
2.17 MECHANICAL COUNTER (NA ONLY)

Note

- This counter is supplied as a spare part.

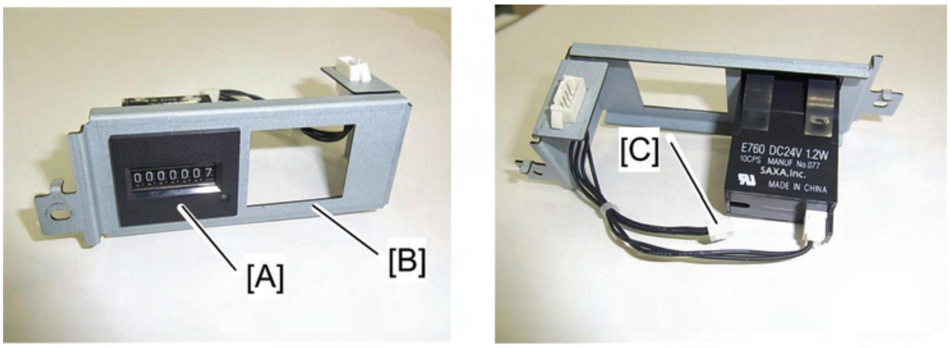
2.17.1 INSTALLATION PROCEDURE

1. Rear cover (☞p.4-18)
2. Rear lower cover (☞p.4-19)
3. Controller box cover (☞p.4-145)



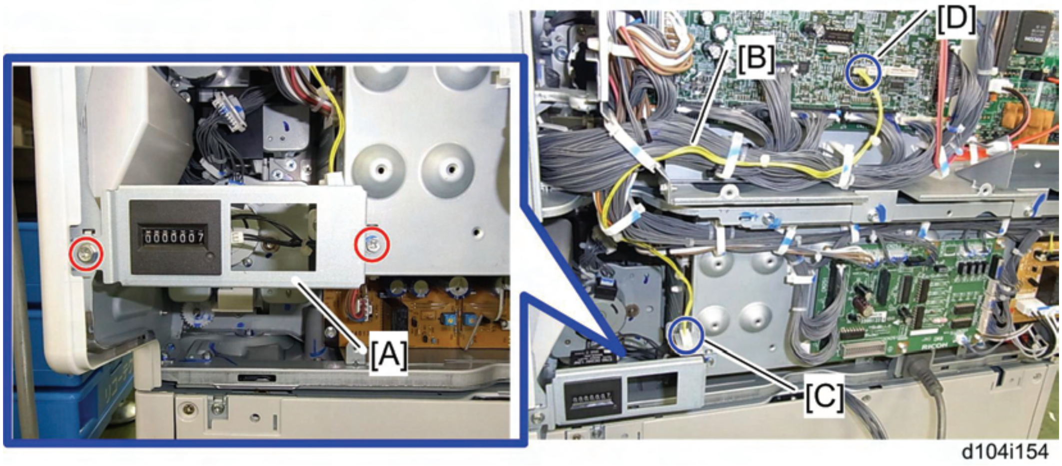
d104i152

4. Remove the cutout [A] in the rear lower cover with nippers.



d104i153

5. Attach the mechanical counter [A] to the bracket [B] and connect the harness to each mechanical counter as shown above.
    - The one [C] of two harnesses is not used in this model.



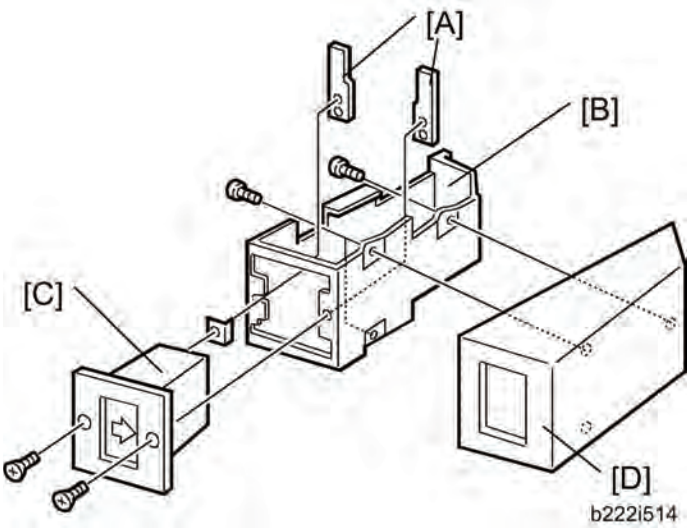
6. Attach the mechanical counter bracket [A] to the frame (x 2).
7. Connect the mechanical counter harness [C] to the mechanical counter [D] and the BCU (CN218) [E], and route the harness as shown above (x 5)
8. Reassemble the machine.
9. Plug in the machine and turn on the main power switch.
10. Enter the SP mode.
11. Set SP5987-001 to "1: ON".
12. Exit the SP mode, and then turn the machine off and on.

2.18 KEY COUNTER BRACKET

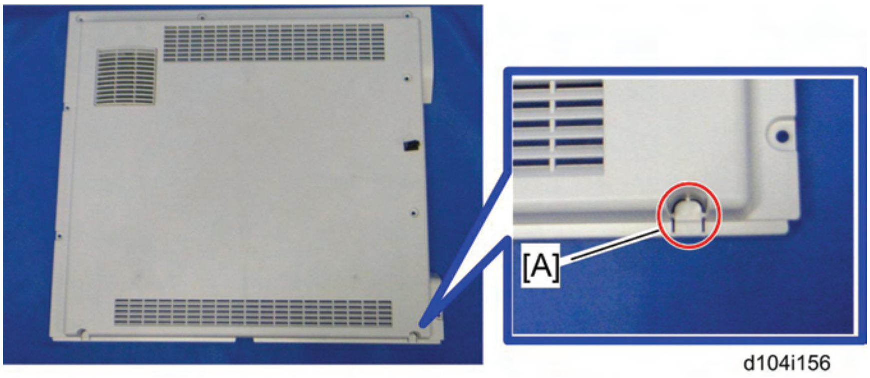
After the key counter bracket is installed in the mainframe, the following options cannot be used at the same time.

- Internal Finisher Type C2550 (D429)
- Handset (B433)

2.18.1 INSTALLATION PROCEDURE



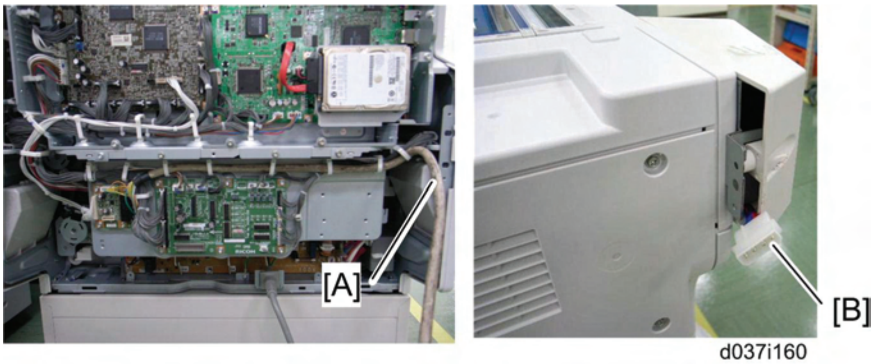
1. Hold the key counter plate nuts [A] on the inside of the key counter bracket [B] and insert the key counter holder [C].
2. Secure the key counter holder to the bracket (x 2).
3. Install the key counter cover [D] (x 2).
4. Rear cover (☞p.4-18)



5. Cut off the part [A] of the rear cover.

d037i161

6. Peel off double sided tape on the key counter bracket, and attach the key counter to the scanner left cover.



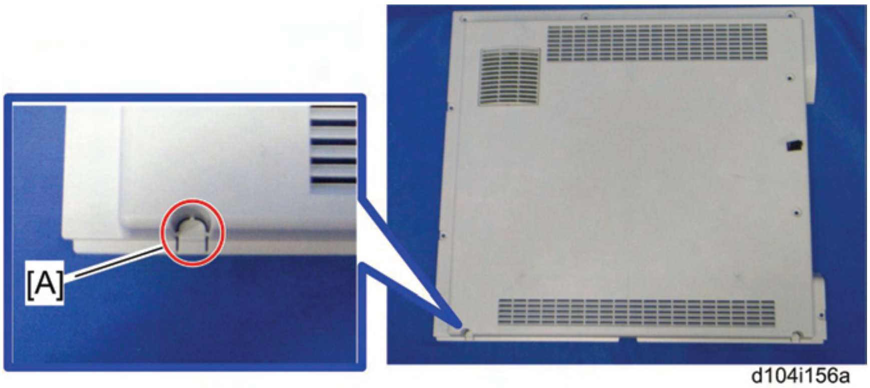
d037i160

7. Connect the key counter cable [A] to the connector [B].
8. Reassemble the machine.

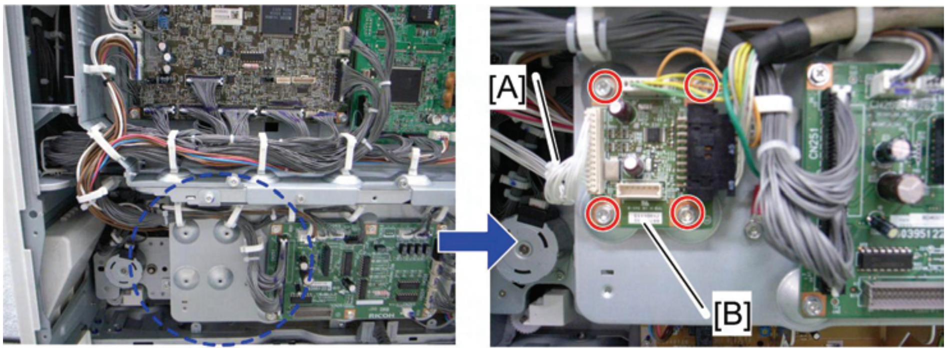
2.19 KEY COUNTER INTERFACE UNIT

2.19.1 INSTALLATION PROCEDURE

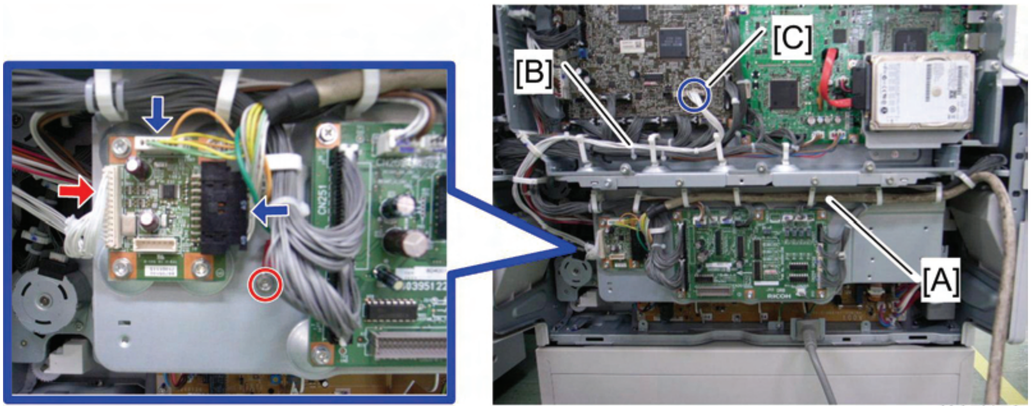
1. Rear cover (☛p.4-18)



2. Cut off the part [A] of the rear cover.
3. Rear lower cover (☛p.4-19)
4. Controller box cover (☛p.4-145)



5. Attach the clamp [A] to the DRB bracket.
6. Install the key counter interface board [B] on the DRB bracket (🔩 x 4).



7. Connect and route the key counter cable [A] to the connector on the key counter interface board as shown above (ground screw x 1, 🗜 x 6).
8. Connect and route the harness [B] to the connector on the key counter interface board

and connector CN216 [C] on the BCU (🔌 x 5)

9. Pull the key counter cable through from the cutout and connect it to the connector [A] of the key counter unit.
10. Reassemble the machine.

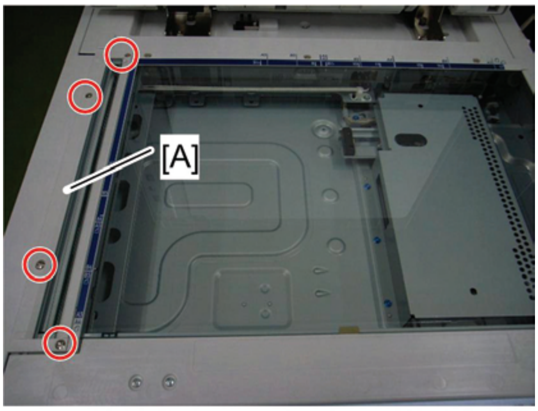
2.20 ANTI-CONDENSATION HEATER

2.20.1 INSTALLATION PROCEDURE

Note

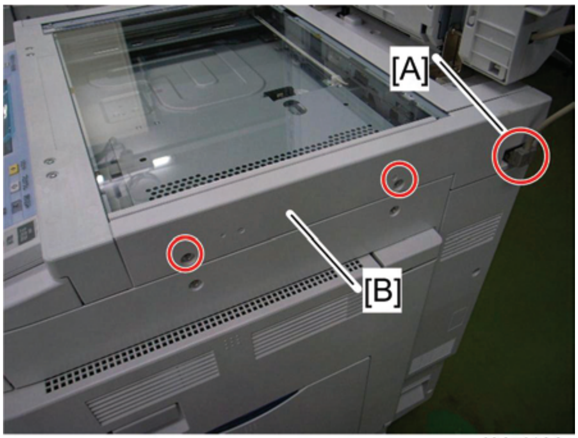
- This heater is supplied as a spare part.

1. Rear cover (☛p.4-18)
2. Open the ARDF or platen cover.



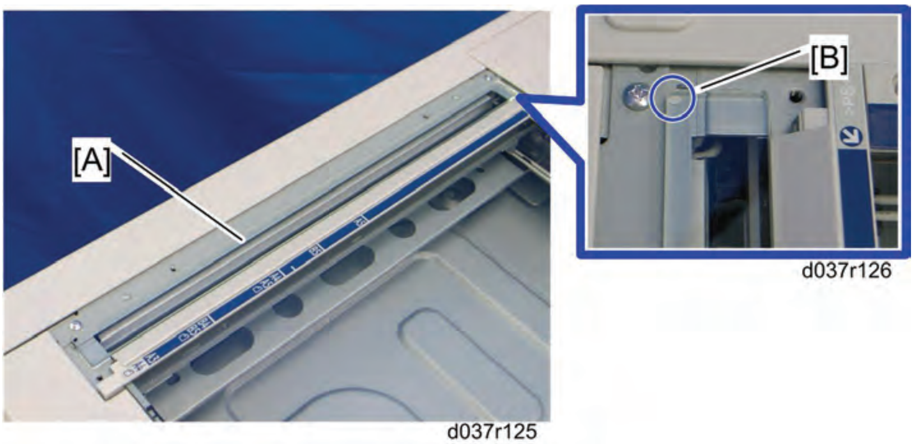
d037i128

3. Glass cover [A] (stepped screw x 4)



d037i130

4. Disconnect the DF I/F cable [A].
5. Scanner right cover [B] (🔩 x 2)



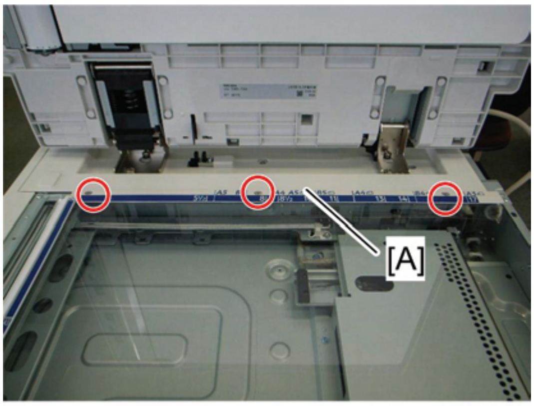
d037r126

d037r125

6. ARDF exposure glass [A]

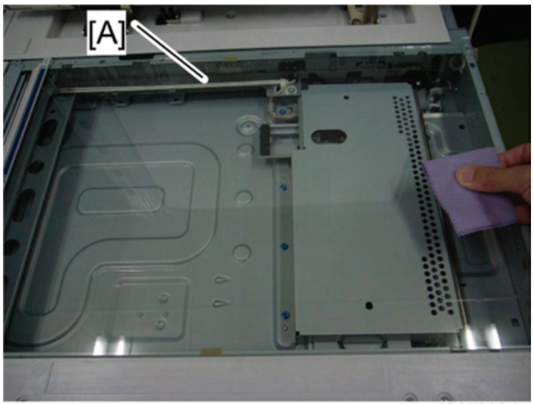
Note

- Position the white marker [B] at the rear-left corner when you reattach the ARDF exposure glass.



d037i129

7. Rear scale [A] (stepped screw x 3)

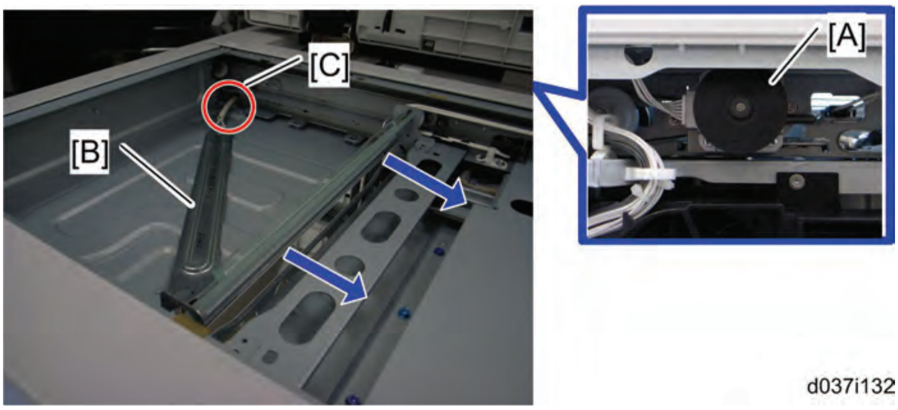


d037i131

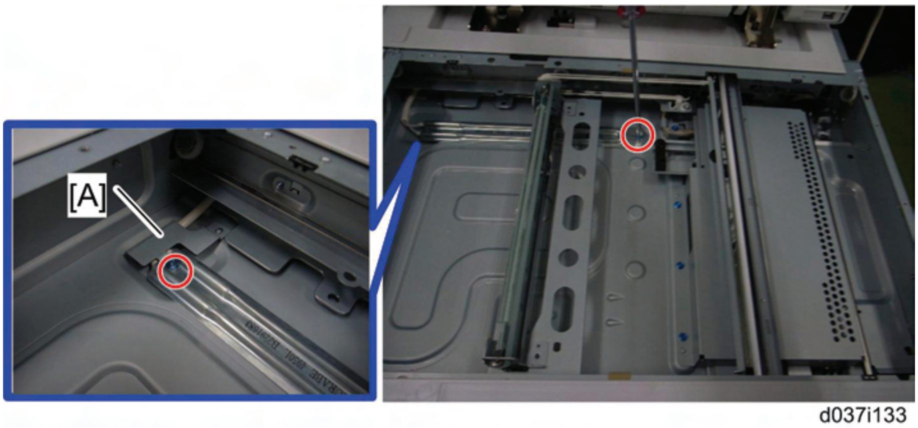
8. Exposure glass [A] with left scale.

Note

- Position the marker at the front-left corner when you reattach the exposure glass.



9. Move the scanner carriage fully across to the right side by rotating the scanner motor [A] at the rear of the machine.
10. Put the connector of the heater [B] through the cutout [C].



11. Move the scanner carriage to the left side as shown above by rotating the scanner motor at the rear of the machine.
12. Install the heater in the scanner unit (🔩 x 1).
13. Secure the cable cover [A] and the left side of the heater (🔩 x 1).

14. Attach a clamp as shown above.
15. Connect the harness [A] of the heater to the connector [B] in the frame of the machine.
16. Reassemble the machine.

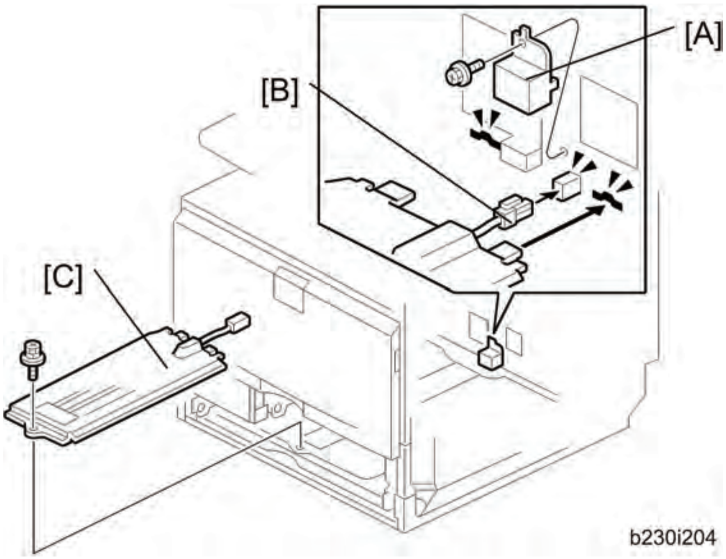
2.21 TRAY HEATER

2.21.1 INSTALLATION PROCEDURE

Mainframe

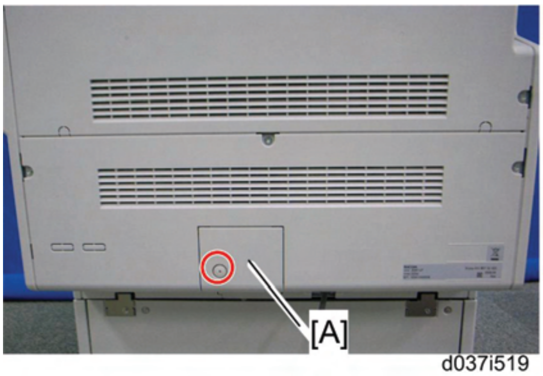
Note

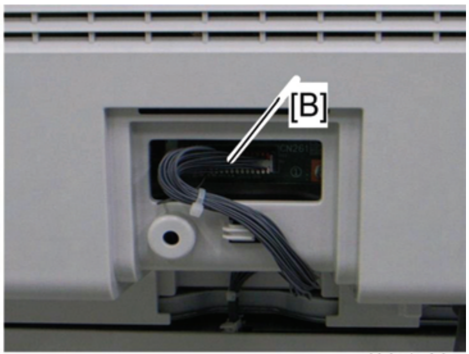
- This heater is supplied as a spare part.



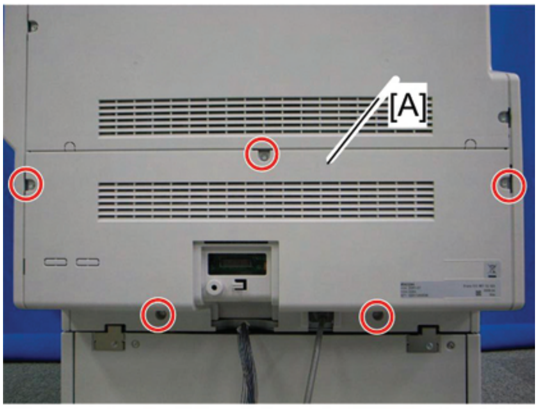
1. Remove trays 1 and 2 from the machine.
2. Remove the connector cover [A] (🔩 x 1).
3. Connect the connector [B] of the heater to the connector of the main machine.
4. Install the heater [C] inside the machine (🔩 x 1).
5. Reassemble the machine.

Tray Heater for D425 (Option)



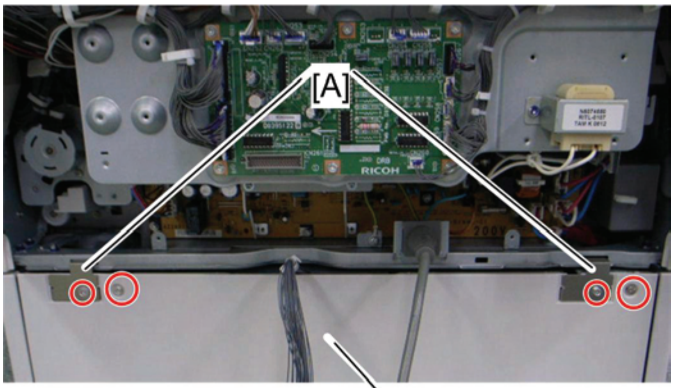


1. Remove the rear connector cover [A] (rivet screw x 1) of the mainframe.
2. Disconnect the harness [B].



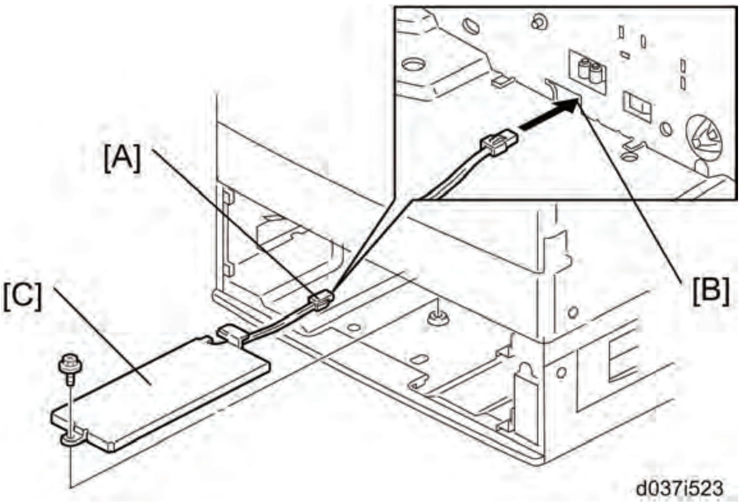
d037i521

3. Remove the rear lower cover [A] of the mainframe (x 5).
4. Pull out all the tray cassettes of the paper feed unit.



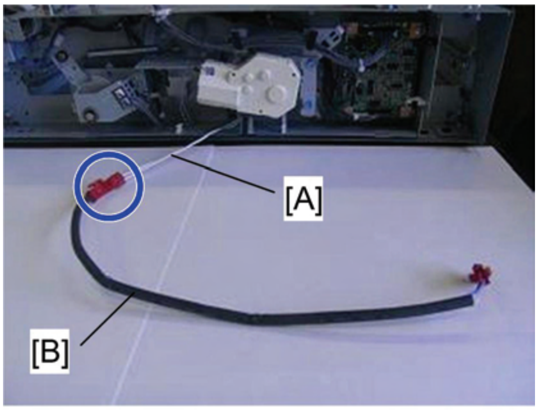
d037i522

5. Remove the securing brackets [A] (x 1 each), and then the rear cover [B] of the paper feed unit (x 2).



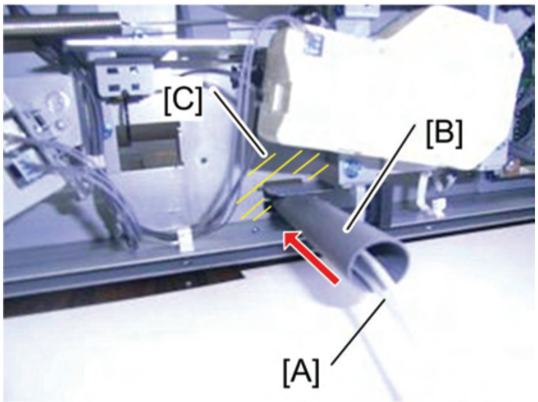
d037i523

6. Pass the connector [A] through the opening [B].
7. Install the tray heater [C] (x 1)



d037i137

8. Connect the heater harness [A] of the heater to the relay harness [B].

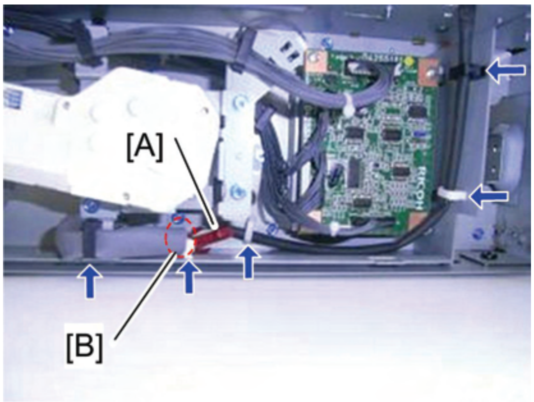


d037i138

9. Insert the heater harness [A] into the tube [B], and push the tube against the rear frame of the paper feed unit as shown above.

Note

   - Make sure that the tube is in contact with the rear frame [C].



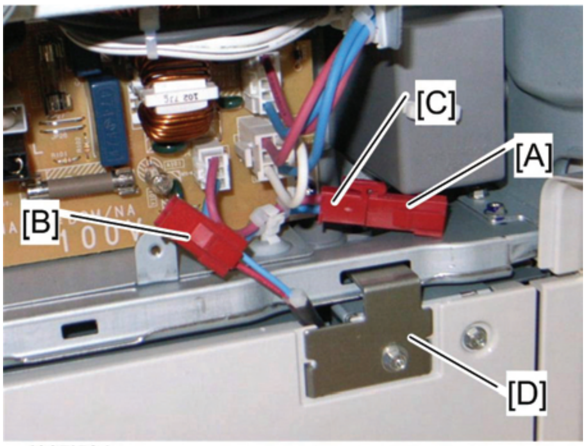
d037i139

10. Route the relay harness [A] as shown above (x 5).

Note

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

11. Reattach the rear cover of the paper feed unit (x 2) and securing brackets (x 1 each)

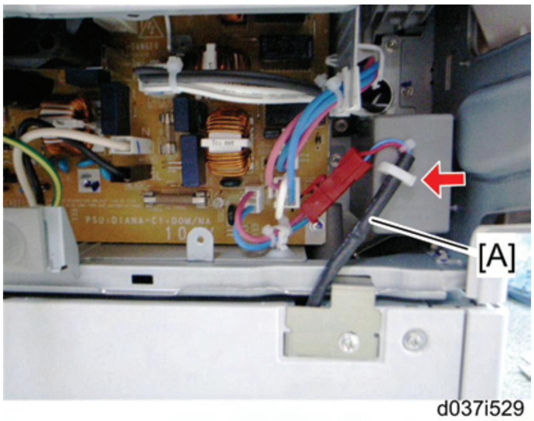


d037i524

12. Remove the connector cap [A] from the tray heater harness.
13. Connect the relay harness [B] to the tray heater harness [C] of the mainframe.

Note

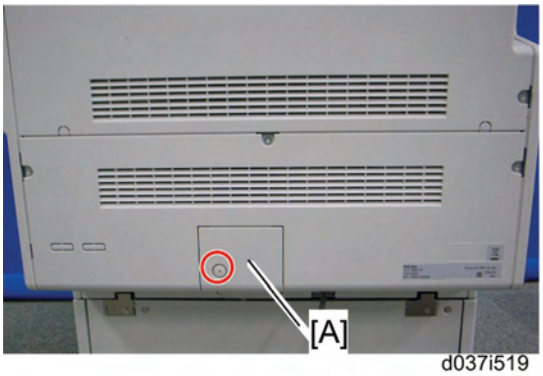
- Do not connect the relay harness [B] to the tray heater harness of the mainframe before installing the securing bracket [D]. Otherwise, the securing bracket may pinch the relay harness.



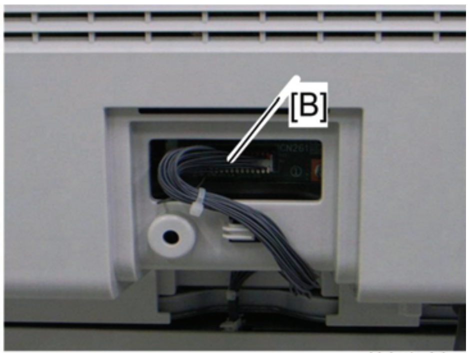
d037i529

14. Clamp the harness [A] as shown above (x 1).
15. Reinstall the rear lower cover of the mainframe (x 5).
16. Reinstall all the tray cassettes.

Tray Heater for D331 (Option)

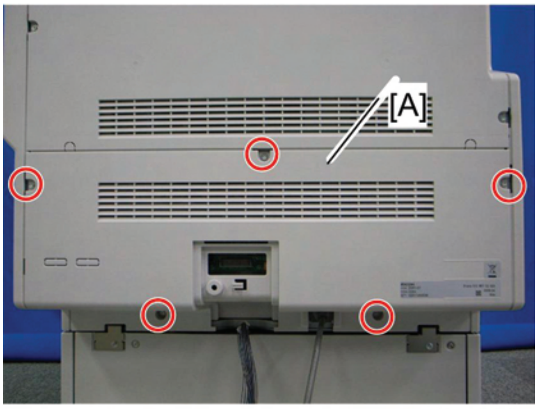


d037i519



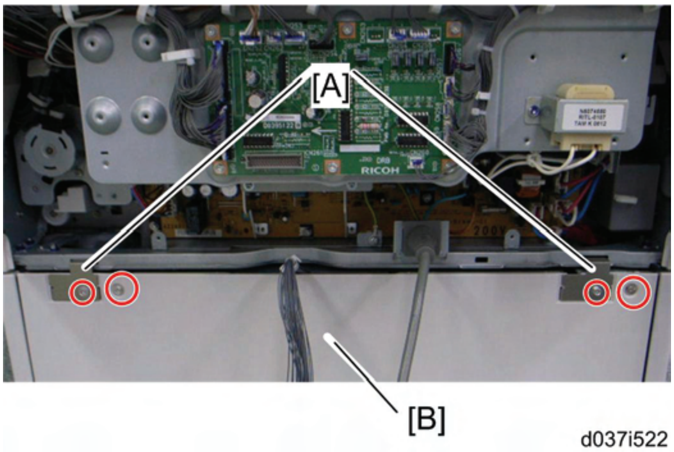
d037i520

1. Remove the rear connector cover [A] (rivet screw x 1) of the mainframe.
2. Disconnect the harness [B].



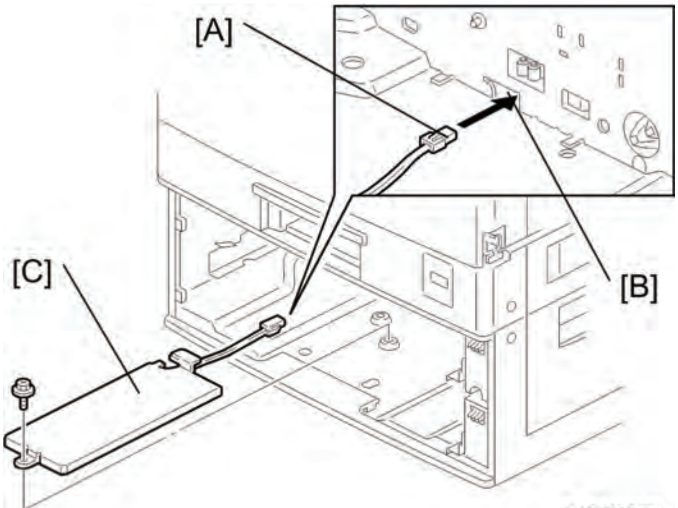
d037i521

3. Remove the rear lower cover [A] of the mainframe (🔩 x 5).
4. Pull out all the tray cassettes of the paper feed unit.



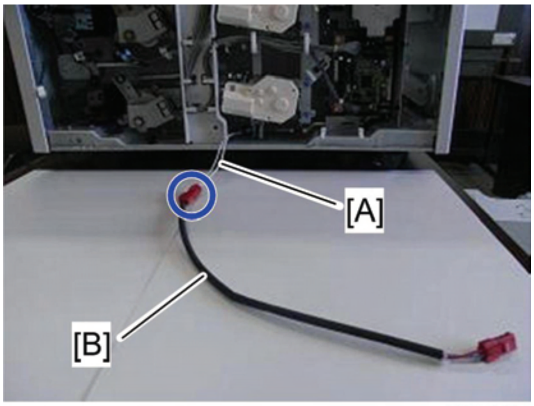
d037i522

5. Remove the securing brackets [A] (🔩 x 1 each), and then rear cover [B] of the paper feed unit (🔩 x 2).



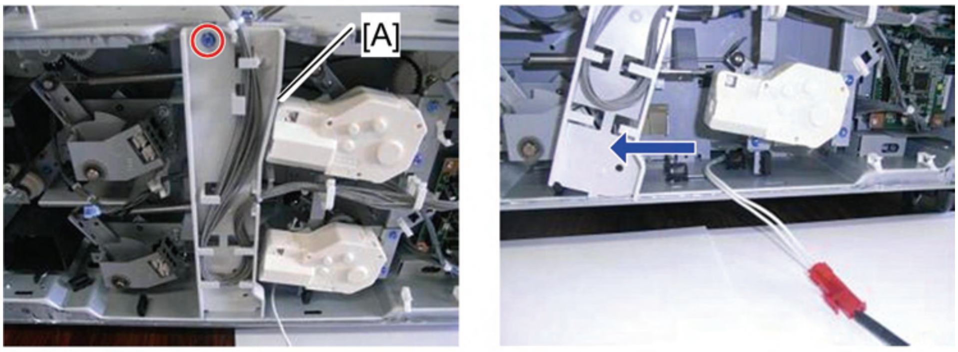
b121i005a

6. Pass the connector [A] through the opening [B].
7. Install the tray heater [C] (🔩 x 1).



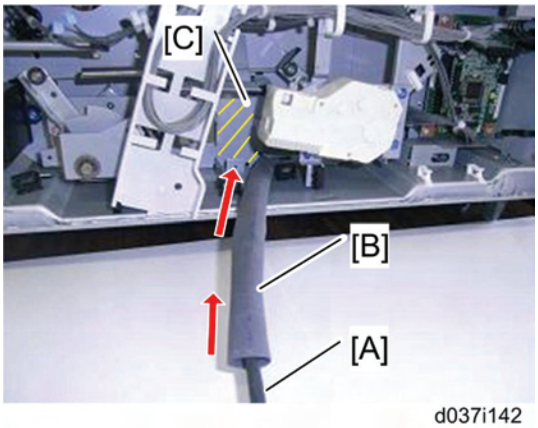
d037i140

8. Connect heater harness [A] of the heater to the relay harness [B].



d037i141

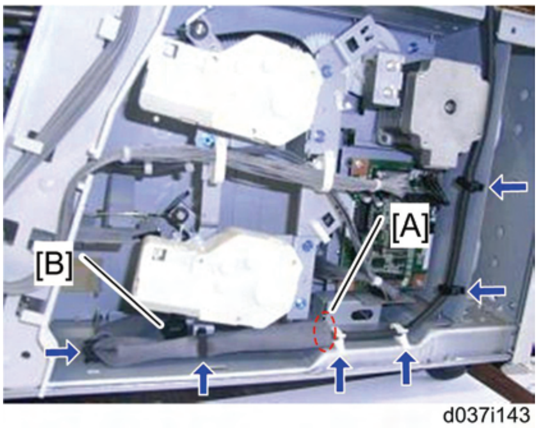
9. Remove the harness guide [A] (🔩 x 1), and move it in the blue arrow direction as shown above.



10. Insert the heater harness [A] into the tube [B], and push the tube against the rear frame of the paper feed unit as shown above.

Note

- Make sure that the tube is contact with the rear frame [C].

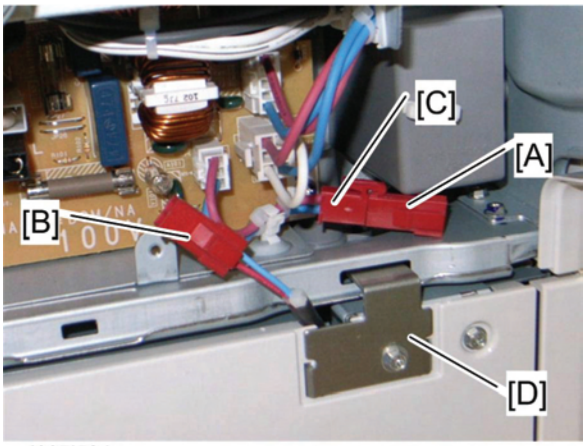


11. Route the relay harness as shown above (x 6).

Note

- Make sure that the edge of the tube [A] is placed as shown above.
- The clamp [B] is not used.

12. Reinstall the harness guide.
13. Reattach the rear cover of the paper feed unit (x 2) and securing brackets (x 1 each).

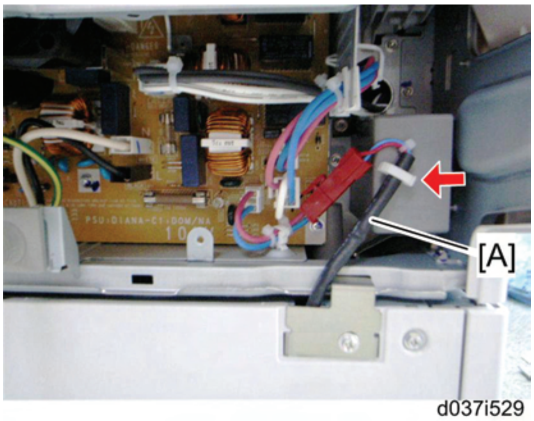


d037i524

14. Remove the connector cap [A] from the tray heater harness.
15. Connect the relay harness [B] to the tray heater harness [C] of the mainframe.

Note

- Do not connect the relay harness [B] to the tray heater harness of the mainframe before installing the securing bracket [D]. Otherwise, the securing bracket may pinch the relay harness.



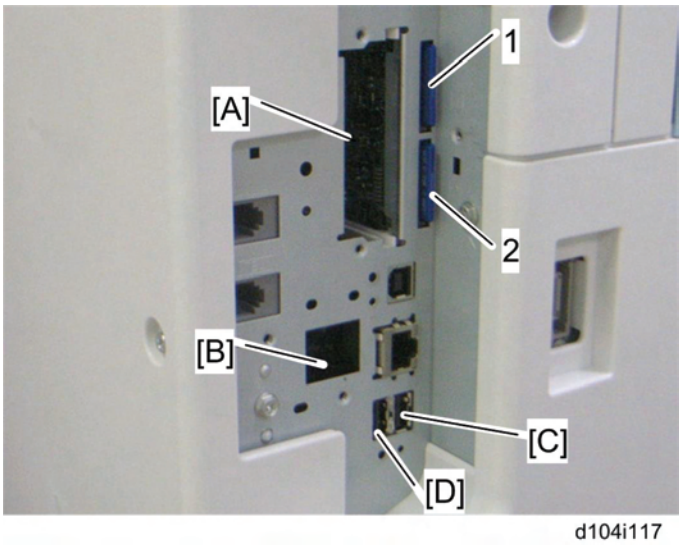
d037i529

16. Clamp the harness [A] as shown above (x 1).
17. Reinstall the rear lower cover of the mainframe (x 5).
18. Reinstall all the tray cassettes.

2.22 CONTROLLER OPTIONS

2.22.1 OVERVIEW

This machine has I/F card slots for optional I/F connections and SD card slot applications. After you install an option, check that the machine can recognize it (see "Check All Connections" at the end of this section).



I/F Card Slots

- I/F slot [A] is used for one of the optional I/F connections (only one can be installed): IEEE1284, IEEE802.11a/g, g (Wireless LAN), Bluetooth, File Format Converter.
- I/F slot [B] is used only for Gigabit Ethernet.

SD Card Slots

- Slot 1 is used for Security Card by default. Merge multiple SD cars in one SD card If the following optional applications are to be installed in this machine; PostScript 3, PictBridge and/or IPDS.
- Slot 2 is used for VM card (App2Me) by default or for service only (for example, updating the firmware). If the Browser Unit is to be installed in this machine, remove the VM card from the SD slot 2, and then use the SD slot 2 for installing the Browser Unit. Reinstall the VM card in the SD slot 2 after completing the installation of the Browser Unit.

USB Slots

- Left-side USB slot [C]: Used for connecting a digital camera (only works if PictBridge is installed).
- Right-side USB slot [D]: Used when installing the optional USB2.0/SD card slot

2.22.2 SD CARD APPLI MOVE

Important

- The PostScript3 application and fonts cannot be moved to another SD card. However, other applications can be moved onto the PostScript3 SD card.

Overview

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

Slot 1 is used to store application programs. But there are four possible applications (PostScript 3, Security Card (DataOverwriteSecurity and HDD Encryption Unit), PictBridge, IPDS). You cannot run application programs from Slot 2. However you can move application programs from Slot 2 to Slot 1 with the following procedure.

Make sure that the target SD card has enough space.

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

   Note

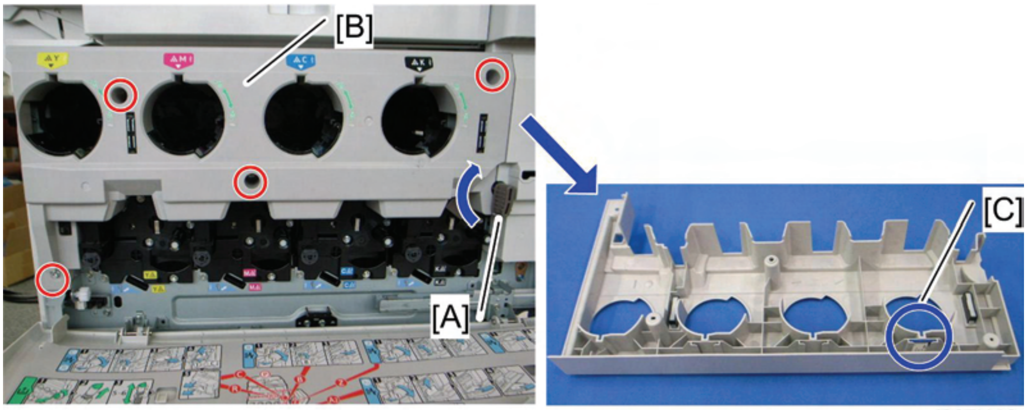
   - Do steps 1-2 again if you want to move another application program.
3. Exit the SP mode.

Be very careful when you do the SD Card Appli Move procedure:

- The data necessary 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.
- Do not use the SD card if it has been used before for other purposes. Normal operation is not guaranteed when such an SD card is used.
- Keep the SD card in the place after you copy 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.



d037i118

SD Card Storage:

- 1. Hold down the ITB lock lever [A] and turn it in the arrow direction.
- 2. Remove the inner cover [B] (🔩 x 4), and then keep the SD card in the place [C] after you copy the application program from one card to another card.

- You cannot copy PostScript application to another SD card. You have to copy the other application (PictBridge, Security Card or IPDS) to the SD card that stores the PostScript application.

Move Exec

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

★ Importan

- Do not turn ON the write protect switch of the system SD card or 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 with 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

"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).

★ Importan

- Do not turn ON the write protect switch of the system SD card or 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 with 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.
12. Make sure that the machine can recognize the option (see "Check All Connections" at the end of this section).

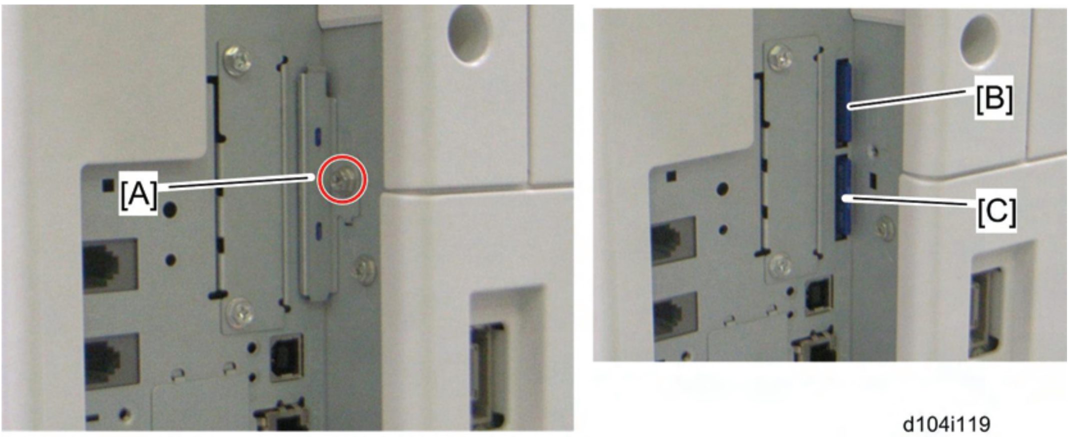
2.22.3 POSTSCRIPT 3

Important

- The PostScript3 application and fonts cannot be moved to another SD card. However, other applications can be moved onto the PostScript3 SD card.

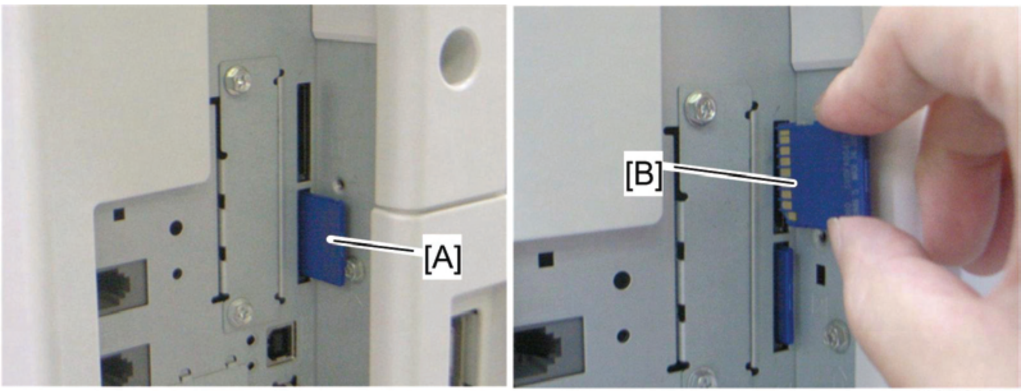
⚠CAUTION

- Unplug the main machine power cord before you do the following procedure.



d104i119

1. Remove the SD slot cover [A] from the SD card slots (🔩x 1).
2. Remove the Security Card [B] from the SD slot 1 and VM card [C] from the SD slot 2.

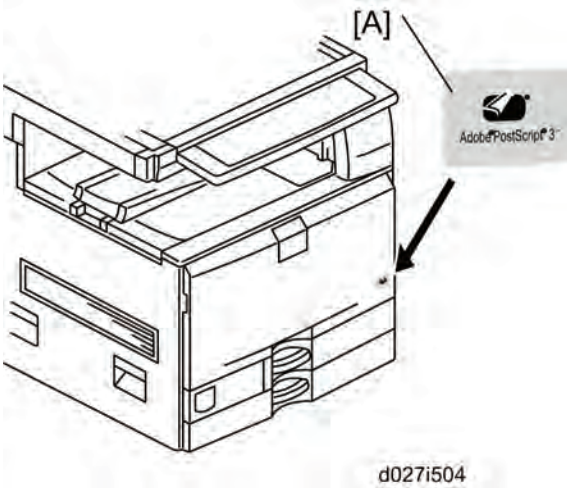


d104i203

3. Turn the SD-card label face of the Security Card [A] to the front of the machine. Then push it [A] slowly into SD slot 2 [B] until you hear a click.
4. Turn the SD-card label face of the PostScript3 [B] to the front of the machine. Then push it slowly into slot 1 [B] until you hear a click.
5. Plug in and turn on the main power switch, and then execute "Move Exec" with SP5-873-001.
    - For details, see "SD Card Appli Move".
6. Turn off the machine after completing the "Move Exec".
7. Remove the Security Card from the SD slot 2, and then keep the Security Card in the

place for the SD card storage (☞p.2-94 "SD Card Appli Move").

8. Reinstall the VM card in the SD slot 2.
9. Attach the SD slot cover (🔩 x 1).

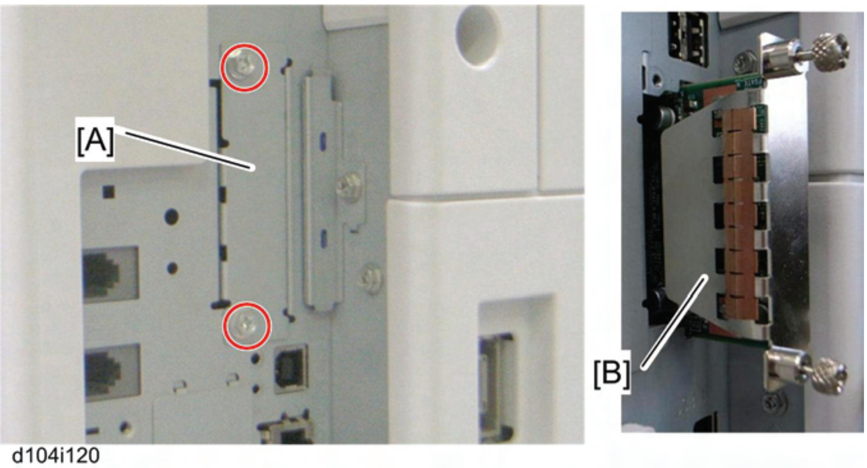


10. Attach the "Adobe PostScript 3" decal [A] to the front door.
11. Make sure that the machine can recognize the option (see "Check All Connections" at the end of this section).

2.22.4 FILE FORMAT CONVERTER

⚠CAUTION

- Unplug the main machine power cord before you do the following procedure.



1. Remove the I/F-slot cover [A] (🔩x 2).
2. Install the file format converter [B] into the I/F-slot and then fasten it with screws.
3. Plug in and turn on the main power switch.
4. Check or set the following SP codes with the values shown below.

SP No.	Title	Setting
SP5-836-001	Capture Function (0:Off 1:On)	"1"
SP5-836-002	Panel Setting	"0"

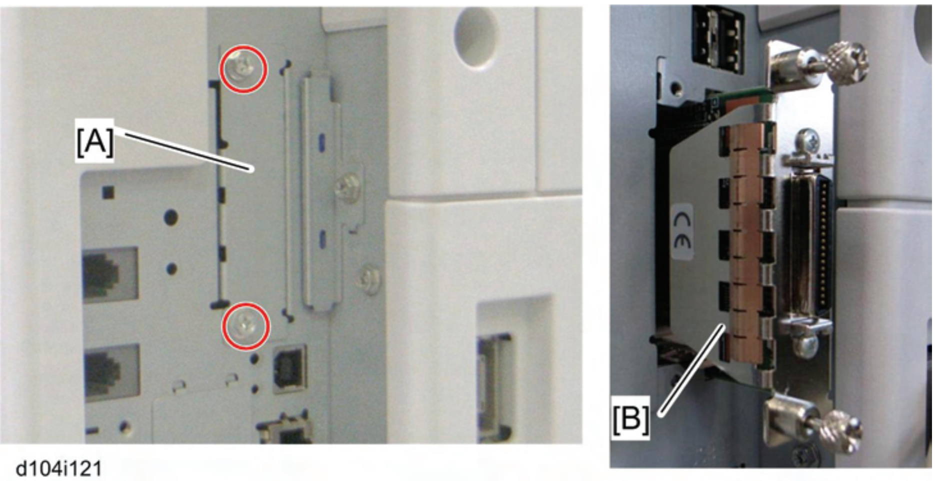
5. Check the operation.
6. Make sure that the machine can recognize the option (see "Check All Connections" at the end of this section).

2.22.5 IEEE1284

⚠CAUTION

- Unplug the main machine power cord before you do the following procedure.

You can only install one of the following network interfaces at a time: (IEEE 802.11 a/g, g (Wireless LAN), IEEE1284, Bluetooth).



d104i121

1. Remove the I/F-slot cover [A] (🔩x 2).
2. Install the interface board [B] (Knob-screw x 2) into the I/F-slot.
3. Make sure that the machine can recognize the option (see "Check All Connections" at the end of this section).

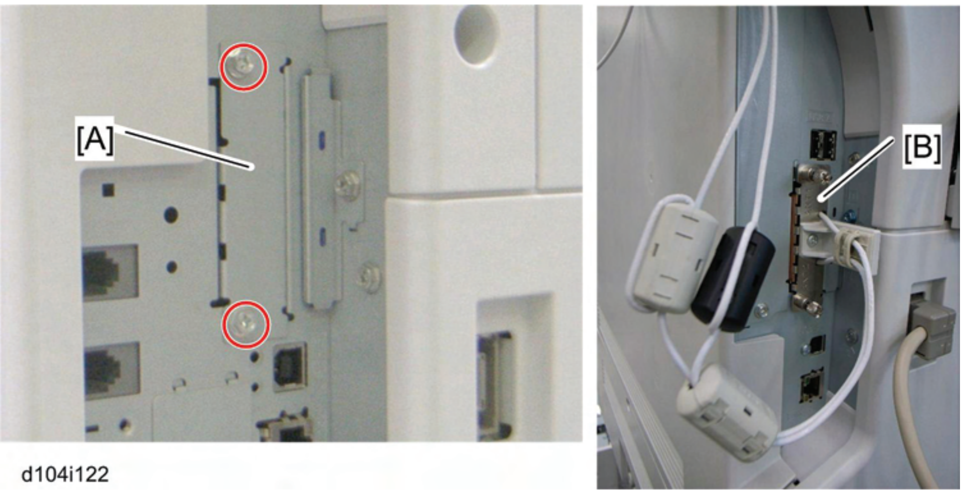
2.22.6 IEEE 802.11 A/G, G (WIRELESS LAN)

Installation Procedure

⚠CAUTION

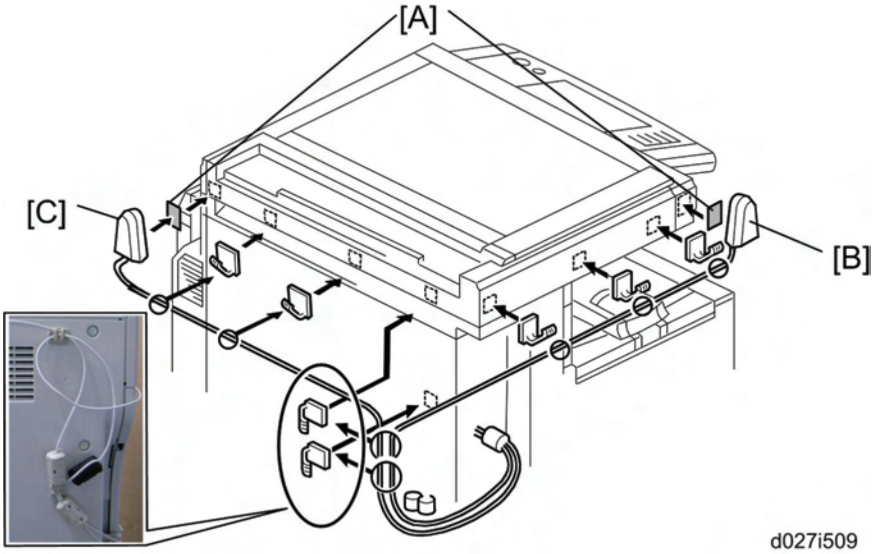
- Unplug the main machine power cord before you do the following procedure.

You can only install one of the following network interfaces at one time: (IEEE 802.11 a/g, g (Wireless LAN), IEEE1284, Bluetooth).



d104i122

1. Remove the I/F-slot cover [A] from the I/F-slot (🔩 x 2).
2. Install the wireless LAN board [B] (Knob-screw x 2) into the I/F-slot.
3. Make sure that the machine can recognize the option (see "Check All Connections" at the end of this section).



d027i509

4. Peel off the double-sided tapes on the Velcro fasteners [A], and then attach them at the front left and rear left of the machine.
5. Attach "ANT1" (having a black ferrite core) [B] to the front left of the machine.

6. Attach "ANT2" (having a white ferrite core) [C] to the rear right of the machine.

   Note

   - "ANT1" is a transmission/reception antenna and "ANT2" is a reception antenna. Do not attach them at the wrong places.

7. Attach the clamps as shown above.
8. Wire the cables and clamp them (x 7).

   Note

   - Make sure that the cables are not slack. Keep them wired tightly along the covers.

You may have to move the machine if the reception is not clear.

- Make sure that the machine is not located near an appliance or any type of equipment that generates strong magnetic fields.
- Put the machine as close as possible to the access point.

Installing Various Hardware Combinations

d037i135

- Refer to the above picture when installing the USB2.0/SD.

UP Mode Settings for Wireless LAN

Enter the UP mode. Then do the procedure below to perform the initial interface settings for IEEE 802.11 a/g, g. These settings take effect every time the machine is powered on.

Note

- You cannot use the wireless LAN if you use Ethernet.

1. Press the "User Tools/Counter" key.
2. On the touch panel, press "System Settings".

   Note

   - The Network I/F (default: Ethernet) must be set for either Ethernet or wireless LAN.

3. Select "Interface Settings".
4. Press "Wireless LAN". Only the wireless LAN options show.
5. Communication Mode. Select either "802.11 Ad hoc", "Ad hoc" or "Infrastructure".
6. SSID Setting. Enter the SSID setting. (The setting is case sensitive.)

7. Channel. You need this setting when Ad Hoc Mode is selected.

   Range: 1 to 14 (default: 11)

   Note

   - The allowed range for the channel settings may vary for different countries.

8. WEP (Encryption) Setting. The WEP (Wired Equivalent Privacy) setting is designed to protect wireless data transmission. The same WEP key is required on the receiving side in order to unlock encoded data. There are 64 bit and 128 bit WEP keys.

   WEP:

   Selects "Active" or "Inactive" ("Inactive" is default.).

   Range of Allowed Settings:

   64 bit: 10 characters

   128 bit: 26 characters

9. Transmission Speed. Press the Next button to show more settings. Then select the transmission speed for the mode: Auto, 11 Mbps, 5.5 Mbps, 2 Mbps, 1 Mbps (default: Auto). This setting should match the distance between the closest machine or access point. This depends on which mode is selected.

   Note

   - For the Ad Hoc Mode, this is the distance between the machine and the closest PC in the network. For the Infrastructure Mode, this is the distance between the machine and the closest access point.

   11 Mbps: 140 m (153 yd.)

   5.5 Mbps: 200 m (219 yd.)

   2 Mbps: 270 m (295 yd.)

   1 Mbps: 400 m (437 yd.)

10. Press "Return to Default" to initialize the wireless LAN settings.

    Press "Yes" to initialize the following settings:

    - Transmission mode
    - Channel
    - Transmission Speed
    - WEP
    - SSID
    - WEP Key

SP Mode and UP Mode Settings for IEEE 802.11 a/g, g Wireless LAN

The following SP commands and UP modes can be set for IEEE 802.11 a/g, g.

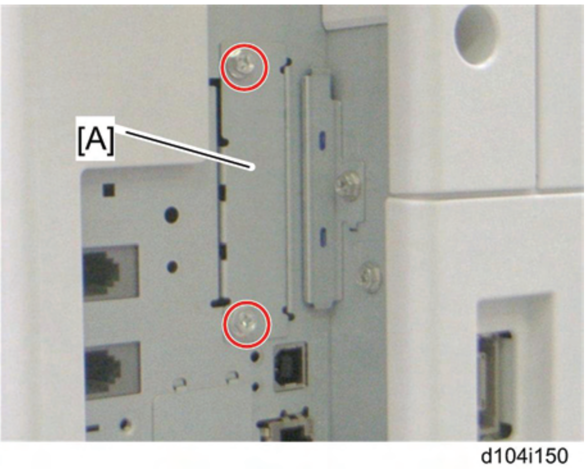
SP No.	Name	Function
5840-006	Channel MAX	Sets the maximum range of the channel settings for the country.
5840-007	Channel MIN	Sets the minimum range of the channels settings allowed for your country.
5840-011	WEP Key Select	Used to select the WEP key (Default: 00).
UP mode	Name	Function
	SSID	Used to confirm the current SSID setting.
WEP Key	Used to confirm the current WEP key setting.	
WEP Mode	Used to show the maximum length of the string that can be used for the WEP Key entry.	

2.22.7 BLUETOOTH

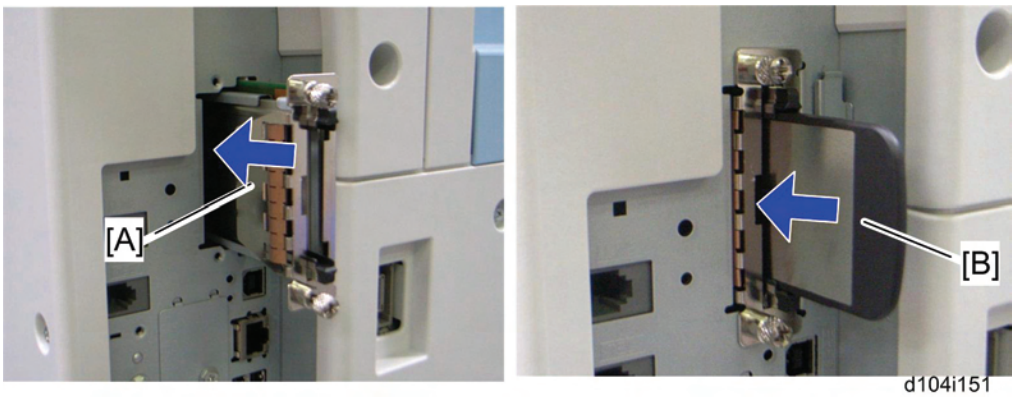
⚠CAUTION

- Unplug the main machine power cord before you do the following procedure.

You can only install one of the following network interfaces at a time: (IEEE 802.11 a/g, g (Wireless LAN), IEEE1284, Bluetooth).



1. Remove the slot cover [A] (🔩 x 2).



2. Install the Bluetooth board [A] (Knob-screw x 2) into the slot.
3. Insert the Bluetooth card [B] into the Bluetooth card adaptor.
4. Install the Bluetooth card adaptor on the Bluetooth board.
5. Attach the antenna cap to the Bluetooth board.
6. Make sure that the machine can recognize the option (see "Check All Connections" at the end of this section).

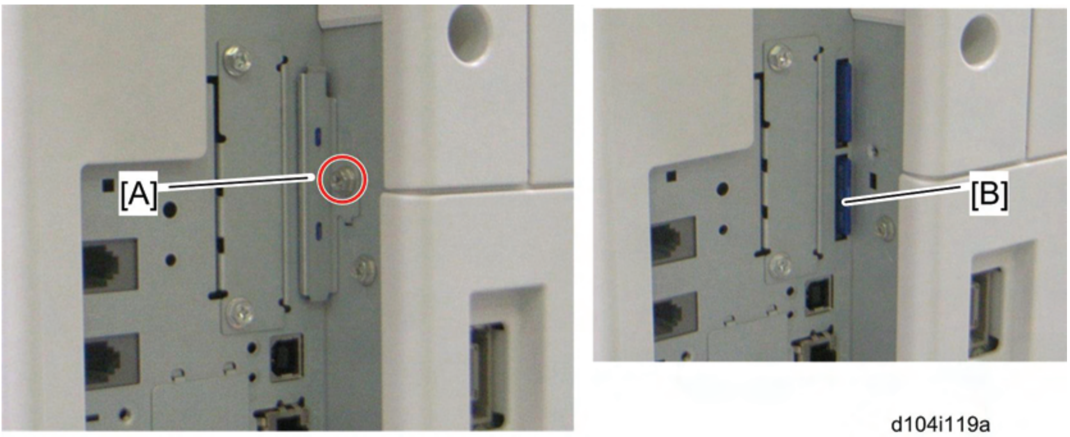
2.22.8 PICTBRIDGE

CAUTION

- Unplug the main machine power cord before you do the following procedure.

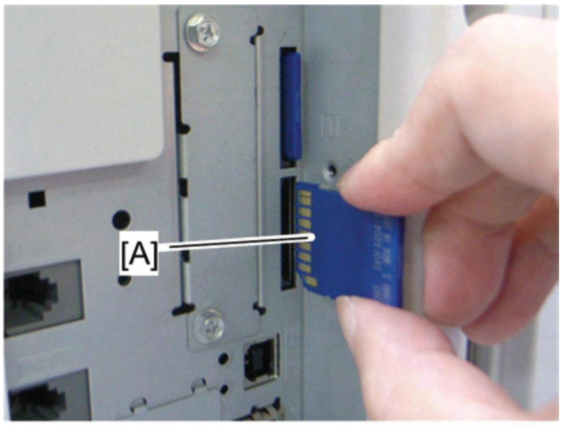
Note

- You must install the PictBridge option in SD Card slot 1. However, the Postscript3 option, Security Card and IPDS unit option are also installed in SD Card slot 1. You must do the SD Card Appli move procedure first if you have the PpostScript3, Security Card or IPDS unit option installed and you want to install the PictBridge unit.



d104i119a

1. Remove the SD slot cover [A] for SD cards (x 1).
2. Remove the VM card [B] from the SD slot 2.



d104i204

3. Turn the SD card label face of the PictBridge [A] to the front of the machine. Then push it slowly into SD slot 2 until you hear a click.
4. Plug in and turn on the main power switch, and then execute "Move Exec" with SP5-873-001.
    - For details, see "SD Card Appli Move".
5. Turn off the machine after completing the "Move Exec".

6. Remove the PictBrdige from the SD slot 2, and then keep the PictBrdige card in the place for the SD card storage (☞p.2-94 "SD Card Appli Move").
7. Reinstall the VM card in the SD slot 2.
8. Attach the SD slot cover (🔩 x 1).
9. Make sure that the machine can recognize the option (see "Check All Connections" at the end of this section).

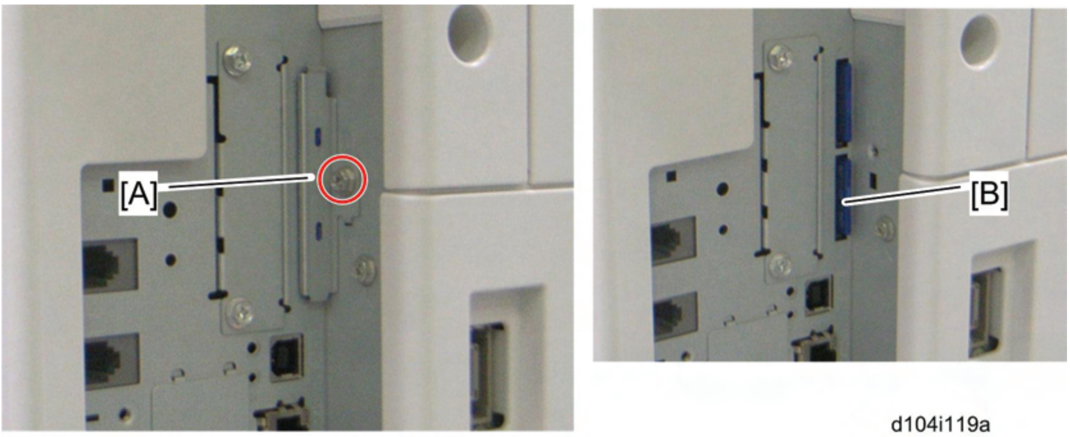
2.22.9 BROWSER UNIT TYPE E

Installation Procedure

⚠CAUTION

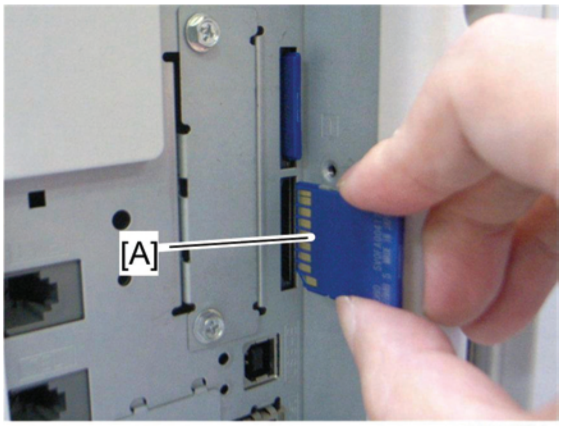
- Unplug the main machine power cord before you do the following procedure.

Do not leave the SD card in slot 2 after installing this application.



d104i119a

1. Remove the SD slot cover [A] for SD cards (🔩x 1).
2. Remove the VM card [B] from the SD slot 2.



d104i204

3. Turn the SD-card label face of the Browser Unit [A] to the front of the machine. Then push it slowly into SD slot 2 [A] until you hear a click.
4. Plug in and turn on the main power switch.
5. Push the "User Tools" key.

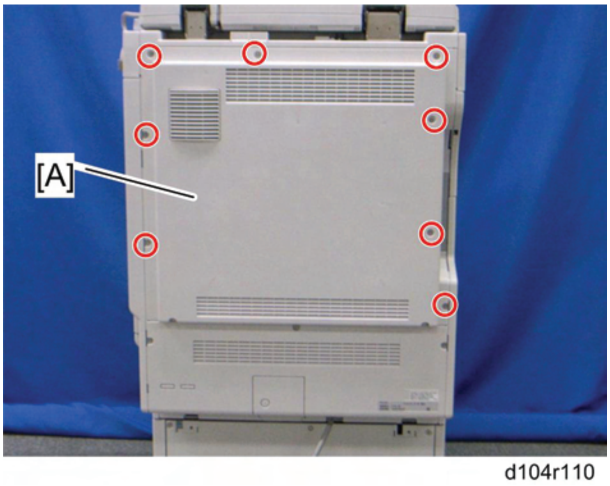
  - If an administrator setting is registered for the machine, step 5 and 6 are required. Otherwise, skip to step 7

6. Push the "Login/ Logout" key.
7. Login with the administrator user name and password.
8. Touch "Extended Feature Settings" twice on the LCD.
9. Touch "Install" on the LCD.
10. Touch "SD Card".
11. Touch the "Browser" line.
12. Under "Install to" touch "Machine HDD" and touch "Next".
13. When you see "Ready to Install", check the information on the screen to confirm your previous selection.
14. Touch "OK". You will see "Installing the extended feature... Please wait.", and then "Completed".
15. Touch "Exit" to go back to the setting screen.
16. Touch "Change Allocation".
17. Touch the "Browser" line.
18. Press the hard key that you want to use for the Browser Unit. As a default, this function is assigned to the "Other Functions" key (the bottom key of the function keys).
19. Touch "OK".
20. Touch "Exit" twice to go back to the copy screen.
21. Turn off the main power switch.
22. Install the key for "Browser Unit" to the place where you want.
23. Remove the SD card of the Brower Unit from SD slot 2.
24. Reinstall the VM card in the SD slot 2.
25. Attach the slot cover [A] (🔩 x 1).
26. Keep the SD card in the place (☛p.2-94 "SD Card Appli Move") after you install the application program from the card to HDD. This is because the SD card can be the only proof that the user is licensed to use the application program. You may need to check the SD card and its data to solve a problem in the future.

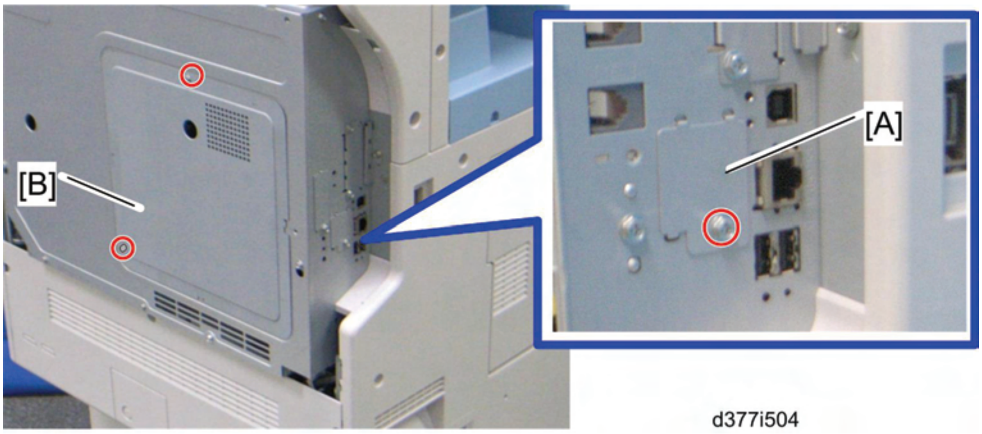
2.22.10 GIGABIT ETHERNET

⚠CAUTION

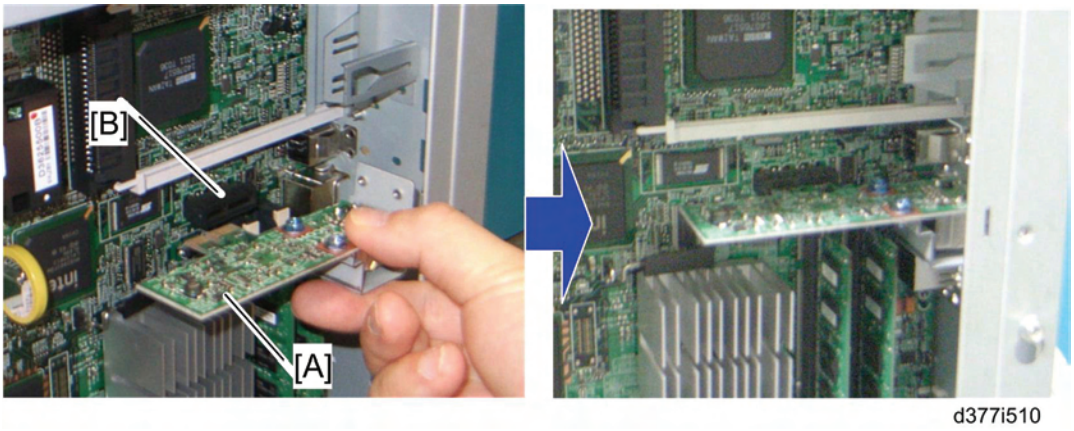
- Unplug the main machine power cord before you do the following procedure.



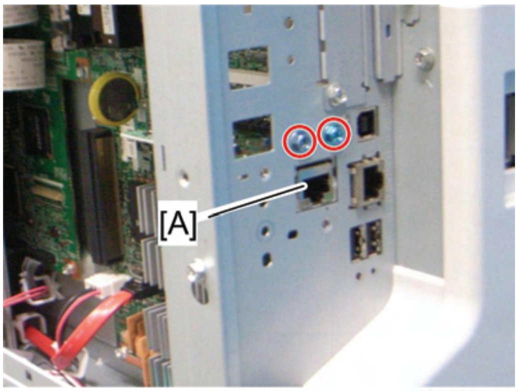
1. Rear cover [A] (🔩 x 8)



2. Remove the I/F-slot cover [A] from the I/F-slot (🔩 x 1).
3. Remove the controller bracket [B] (🔩x 2).

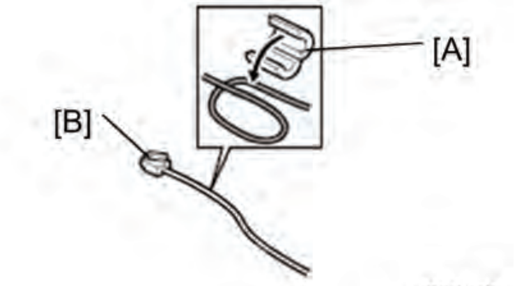


4. Install the Gigabit Ethernet board [A] in the connector [B] on the controller board.



d377i511

5. Secure the GigabitEthernet board [A] to the controller box (🔩 x 2).
6. Reassemble the controller bracket (🔩 x 2) and rear cover (🔩 x 8).



d037i127

7. Attach the ferrite core [A] to the LAN cable [B] as shown above, and connect the LAN cable to the machine.
8. Make sure that the machine can recognize this option (see "Check All Connections" at the end of this section).

2.22.11 CHECK ALL CONNECTIONS

1. Plug in the power cord. Then turn on the main switch.
2. Enter the printer user mode. Then print the configuration page.

   User Tools > Printer Settings > List Test Print > Config. Page

All installed options are shown in the "System Reference" column.

PREVENTIVE MAINTENANCE

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

3. PREVENTIVE MAINTENANCE

3.1 MAINTENANCE TABLES

See "Appendices" for the following information:

- Preventive Maintenance Items
- Other Yield Parts

3.2 PM PARTS SETTINGS

3.2.1 BEFORE REMOVING THE OLD PM PARTS

1. Enter the SP mode.
2. Output the SMC logging data with SP5-990-004.
3. Set the following SPs to "1" before you turn the power off. Then, the machine will reset the PM counters automatically. In the case of developer, the developer initialization will also be done automatically.
4. Exit the SP mode.

Item	SP
Development Unit	Black: 3902-001 Cyan: 3902-002 Magenta: 3902-003 Yellow: 3902-004
Drum Unit	Black: 3902-009 Cyan: 3902-010 Magenta: 3902-011 Yellow: 3902-012
ITB Unit	3902-013
Fusing Unit	3902-014
Heating Roller Unit	3902-016
ITB Cleaning Unit	3902-017
PTR Unit	3902-018
PCDU Toner Collection Bottle	3902-019*[1]
ITB Toner Collection Bottle	3902-020*[1]

Note

- *[1]: Only if the toner collection bottle is replaced before the machine detects near-full.

For the following units, there is a new unit detection mechanism. It is not necessary to reset PM counters.

- Development unit
- PCU/ ITB Toner Collection Bottle (if full or near-full)

3.2.2 AFTER INSTALLING THE NEW PM PARTS

1. Turn on the main power switch.
2. Output the SMC logging data with SP5-990-004 and check the counter values.
3. Make sure that the PM counters for the replaced units are "0" with SP7-803. If the PM counter for a unit was not reset, then reset that counter with SP 7-804.
4. Make sure that the exchange counter counts up with SP7-853.
5. Make sure that the counters for the previous units (SP7-906) on the new SMC logging data list (from step 2 above) are equal to the counters (SP7-803) for these units on the previous SMC logging data list (the list that was output in the "Before removing the old parts" section).
6. Make sure that the unit replacement date is updated with SP7-950.

3.2.3 PREPARATION BEFORE OPERATION CHECK

1. Clean the exposure glasses (for DF and book scanning).
2. Enter the user tools mode.
3. Do the "Automatic Color Calibration (ACC)" for the copier mode & printer mode as follows:
    - Print the ACC test pattern (User Tools > Maintenance > ACC > Start).
    - Put the printout on the exposure glass.
    - Put 10 sheets of white paper on the test chart. This ensures the precise ACC adjustment.
    - Close the ARDF or the platen cover.
    - Press "Start Scanning" on the LCD. Then, the machine starts the ACC.
4. Exit the User Tools mode, and then enter the SP mode.
5. Do the "Forced line position adjustment" as follows.
    - First do SP2-111-3 (Mode c).
    - Then do SP2-111-1 (Mode a).
    - 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.
6. Exit the SP mode.

3.2.4 OPERATION CHECK

Check if the sample image has been copied normally.

REPLACEMENT AND ADJUSTMENT

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

4. REPLACEMENT AND ADJUSTMENT

4.1 BEFOREHAND

⚠CAUTION

- Installing options, please do the following:
- If there is a fax unit in the machine, print out all messages stored in the memory, the lists of user-programmed items, and the system parameter list.
- If there are printer jobs in the machine, print out all jobs in the printer buffer.
- Turn off the main switch and disconnect the power cord, the telephone line, and the network cable.

★ Important

- Always touch a grounded surface to discharge static electricity from your hands before you handle SD cards, printed circuit boards, or memory boards.

4.2 SPECIAL TOOLS

Part Number	Description	Q’ty
B645 5010	SD Card	1
G021 9350	Loop-back Connector - Parallel	1
C401 9503	20X Magnification Scope	1
A257 9300	Grease Barrierta – S552R	1
A092 9503	C4 Color Test Chart (3 pcs/set)	1
B679 5100	Plug - IEEE1284 Type C	1
A184 9501	Optics Adjustment Tool (2 pcs/set)	1
5203 9502	Silicon Grease G-501	1

4.3 IMAGE ADJUSTMENT

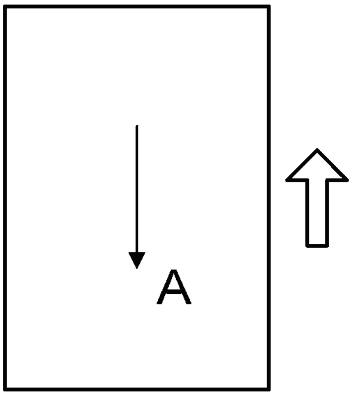
4.3.1 SCANNING

Check the printing registration/side-to-side adjustment and the blank margin adjustment before you do the following scanner adjustments.

Note

- Use S-2-1 test chart to do the following adjustments.

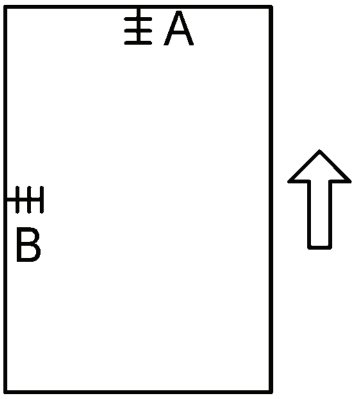
Scanner sub-scan magnification



A: Sub-scan magnification

1. Put the test chart on the exposure glass. Then make a copy from one of the feed stations.
2. Check the magnification ratio. Adjust with SP4-008 if necessary.
   Standard: ±1.0%.

Scanner leading edge and side-to-side registration



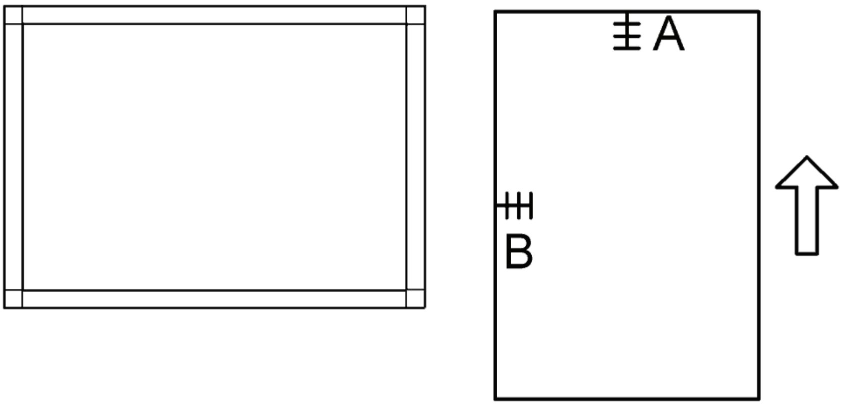
A: Leading Edge Registration

1. Put the test chart on the exposure glass. Then make a copy from one of the feed stations.
2. Check the leading edge and side-to-side registration. Adjust the following SP modes if necessary.
   Standard: 0 ± 2 mm for the leading edge registration, 0 ± 2 mm for the side-to-side registration.

	SP mode	
Leading Edge Registration	SP4-010-001	
Side-to-Side Registration	SP4-011-001	

4.3.2 ARDF

ARDF side-to-side, leading edge registration and trailing edge



A: Leading edge registration, B: Side-to-Side registration

Use A3/DLT paper to make a temporary test chart as shown above.

1. Put the temporary test chart on the ARDF. Then make a copy from one of the feed stations.
2. Check the registration. Check the leading edge and side-to-side registration. Adjust the following SP modes if necessary.

   Standard: 4.2 ± 3.0 mm for the leading edge registration, 2 ± 3.0 mm for the side-to-side registration. Use the following SP modes to adjust if necessary.

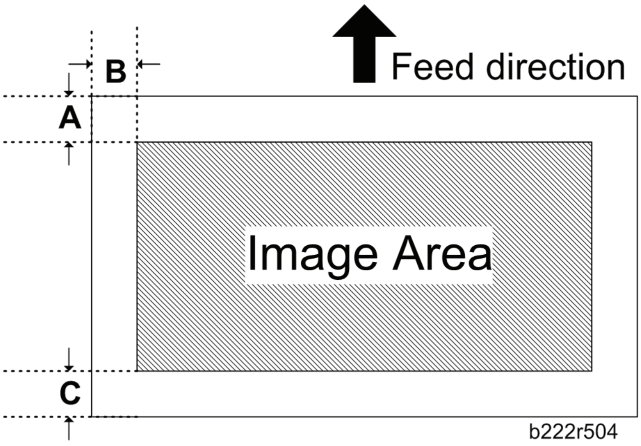
SP Code	What It Does	Adjustment Range
SP6-006-001	Side-to-Side Registration (1st side)	± 3.0 mm
SP6-006-002	Side-to-Side Registration (2nd side)	± 3.0 mm
SP6-006-003	Leading Edge Registration	± 5.0 mm
SP6-006-005	Buckle: Duplex Front	± 5.0 mm
SP6-006-006	Buckle: Duplex Rear	± 5.0 mm
SP6-006-007	Rear Edge Erase (Trailing Edge)	± 5.0 mm

ARDF sub-scan magnification

1. Put the temporary test chart on the ARDF. Then make a copy from one of the feed stations.
2. Check the magnification ratio. Adjust with SP6-017-001 if necessary.
    - Standard: ±5.0%
    - Reduction mode: ±5.0%
    - Enlargement mode: ±5.0%

4.3.3 REGISTRATION

Image Area



A = 4.2 mm, B = 2.25 mm, C = 3.25

Make sure that the registration is adjusted within the adjustment standard range as shown below.

Leading Edge

Adjusts the leading edge registration for each paper type and process line speed.

Side to Side

Adjusts the side-to-side registration for each paper feed station. Use SP mode (SP1-002) to adjust the side-to-side registration for the optional paper feed unit, LCT, and duplex unit.

Adjustment Standard

- Leading edge (sub-scan direction): 4.2 ± 1.5 mm
- Side to side (main-scan direction): 2.25 ± 1.75 mm

Paper Registration Standard

The registration in both main- and sub-scan directions can change within the following tolerance.

- Sub-scan direction: 0 ± 9 mm
- Main-scan direction: 0 ± 4 mm

Adjustment Procedure

1. Enter SP2-109-003.
2. Print out the test pattern (14: Trimming Area) with SP2-109-003.

   Note

   - Registration can change slightly as shown on the previous page. Print some pages of the "Trimming Area" for step 3 and 4. Then average the leading edge and side-to-side registration values, and adjust each SP mode.
3. Do the leading edge registration adjustment.

   1) Check the leading edge registration and adjust it with SP1-001.

   2) Select the adjustment conditions (paper type and process line speed).

   3) Input the value. Then press the # key.

   4) Generate a trim pattern to check the leading edge adjustment.
4. Do the side-to-side registration adjustment.

   1) Check the side-to-side registration and adjust it with SP1-002.

   2) Select the adjustment conditions (paper feed station).

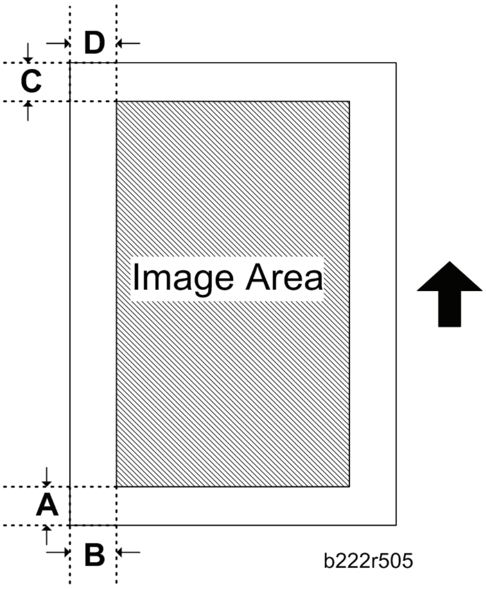
   3) Input the value. Then press the # key.

   4) Generate a trim pattern to check the leading edge adjustment.

4.3.4 ERASE MARGIN ADJUSTMENT

Note

- Adjust the erase margin C and D only if the registration (main scan and sub scan) cannot be adjusted within the standard values. Do the registration adjustment after adjusting the erase margin C and D, and then adjust the erase margin A and B.



b222r505

1. Enter SP2-109-003.
2. Print out the test pattern (14: 1-dot trimming pattern) with SP2-109-003.
3. Check the erase margin A and B. Adjust them with SP2-103-001 to -010 if necessary.
    - Leading edge: 1.5 to 5.0 mm,
    - Side-to-side: 0.5 to 4.0 mm,
    - Trailing edge: 0.5 to 0.6 mm

4.3.5 COLOR REGISTRATION

Line Position Adjustment

The automatic line position adjustment usually is done for a specified condition to get the best color prints.

Do the following if color registration shifts:

- Do "Auto Color Registration" as follows to do the forced line position adjustment.
    1. First do SP2-111-3.
    2. Then do 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 2-194-007 (0: Completed successfully, 1: Failed).
- You should also do the line position adjustment at these times:
    1. After you transport or move the machine (you should do the forced line position adjustment if you install the machine at the user location.) if the machine is pre-installed at the workshop and moved to the user location,
    2. When you remove the PCDU
    3. When you remove or replace the image transfer belt, image transfer belt unit or laser optical housing unit

4.3.6 PRINTER GAMMA CORRECTION

Note

- The ACC is usually sufficient to adjust the color balance to get the best print output. You only need the printer gamma correction to fine-tune to meet user requirements.

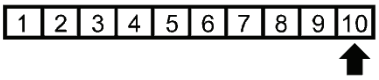
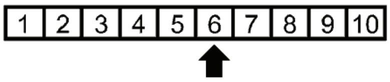
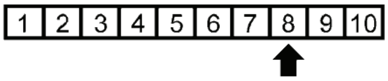
Use SP modes if you want to modify the printer gamma curve created with ACC. You can adjust the gamma data for the following:

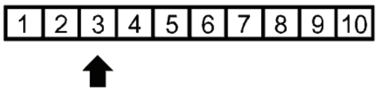
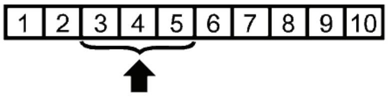
- Highlight
- Middle
- Shadow areas
- IDmax.

The adjustable range is from 0 to 30 (31 steps).

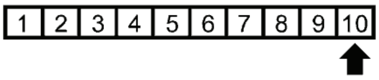
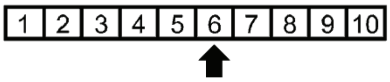
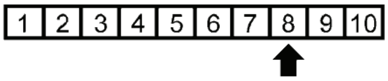
Copy Mode

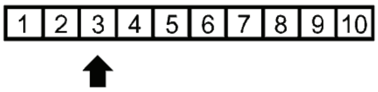
- Photo Mode -

	Item to Adjust	Level on the C-4 chart	Adjustment Standard
1	ID max: (K, C, M, and Y)		Adjust the offset value so that the density of level 10 matches that of level 10 on the C-4 chart.
	For adjusting ID max: Soft keys on the operation panel (SP4-918-009)		
2	Middle (Middle ID) (K, C, M, and Y)		Adjust the offset value so that the density of level 6 matches that of level 6 on the C-4 chart.
	For adjusting Middle: Soft keys on the operation panel (SP4-918-009)		
3	Shadow (High ID) (K, C, M, and Y)		Adjust the offset value so that the density of level 8 matches that of level 8 on the C-4 chart.
	For adjusting Shadow: Soft keys on the operation panel (SP4-918-009)		

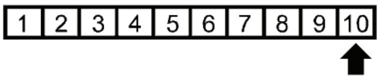
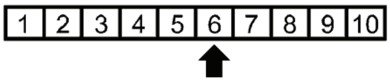
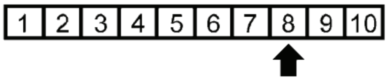
	Item to Adjust	Level on the C-4 chart	Adjustment Standard
4	Highlight (Low ID) (K, C, M, and Y)		Adjust the offset value so that dirty background does not show on the copy and the density of level 3 is slightly lighter than that of level 3 on the C-4 chart.
	For adjusting Highlight: Soft keys on the operation panel (SP4-918-009)		
5	K Highlight (Low ID) (C,M, and Y) <on the full color copy>		Adjust the offset value so that the color balance of black scale levels 3 through 5 in the copy is seen as gray (no C, M, or Y should be visible). If the black scale contains C, M, or Y, do steps 1 to 4 again.
	For adjusting K Highlight: Soft keys on the operation panel (SP4-918-009)		

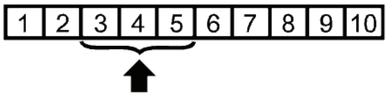
- Text (Letter) Mode, Full Color -

	Item to Adjust	Level on the C-4 chart (K)	Adjustment Standard
1	ID max: (K, C, M, and Y)		Adjust the offset value so that the density of level 10 matches that of level 10 on the C-4 chart.
	For adjusting ID max: Soft keys on the operation panel (SP4-918-009)		
2	Middle (Middle ID) (K, C, M, and Y)		Adjust the offset value so that the density of level 6 matches that of level 6 on the C-4 chart.
	For adjusting Middle: Soft keys on the operation panel (SP4-918-009)		
3	Shadow (High ID) (K, C, M, and Y)		Adjust the offset value so that the density of level 8 matches

	Item to Adjust	Level on the C-4 chart (K)	Adjustment Standard
			that of level 8 on the C-4 chart.
	For adjusting Shadow: Soft keys on the operation panel (SP4-918-009)		
4	Highlight (Low ID) (K, C, M, and Y)		Adjust the offset value so that dirty background does not show on the copy and the density of level 3 is slightly lighter than that of level 3 on the C-4 chart.
	For adjusting Highlight: Soft keys on the operation panel (SP4-918-009)		

- Text (Letter) Mode, Single Color -

	Item to Adjust	Level on the C-4 chart (K)	Adjustment Standard
1	ID max: (K)		Adjust the offset value so that the density of level 10 matches that of level 10 on the C-4 chart.
	For adjusting K ID max: Soft keys on the operation panel (SP4-918-009)		
2	Middle (Middle ID) (K)		Adjust the offset value so that the density of level 6 matches that of level 6 on the C-4 chart.
	For adjusting K Middle: Soft keys on the operation panel (SP4-918-009)		
3	Shadow (High ID) (K)		Adjust the offset value so that the density of level 8 matches that of level 8 on the C-4 chart.
	For adjusting K Shadow: Soft keys on the operation panel (SP4-918-009)		

	Item to Adjust	Level on the C-4 chart (K)	Adjustment Standard
4	Highlight (Low ID) (K)		Adjust the offset value so that dirty background does not show on the copy and the density of level 3 is slightly lighter than that of level 3 on the C-4 chart.
	For adjusting K Highlight: Soft keys on the operation panel (SP4-918-009)		

Note

- Text parts of the test pattern cannot be printed clearly after you adjust "shadow" as shown above. At this time, check if the 5 line/mm pattern at each corner is printed clearly. If it is not, adjust the offset value of "shadow" again until it is.

Printer Mode

There are six adjustable modes (select these modes with printer SP1-102-001):

- 1200 x 1200 photo mode
- 1200 x 1200 text mode
- 2400 x 600 photo mode
- 2400 x 600 text mode
- 1800 x 600 photo mode
- 1800 x 600 text mode
- 600 x 600 photo mode
- 600 x 600 text mode

	K	**C**	**M**	**Y**
Highlight	SP1-104-1	SP1-104-21	SP1-104-41	SP1-104-61
Shadow	SP1-104-2	SP1-104-22	SP1-104-42	SP1-104-62
Middle	SP1-104-3	SP1-104-23	SP1-104-43	SP1-104-63
IDmax	SP1-104-4	SP1-104-24	SP1-104-44	SP1-104-64

- Adjustment Procedure -

1. Do ACC for the printer mode.
2. Turn the main power off and on.
3. Enter SP mode.
4. Select "Printer SP".
5. Select SP1-102-001. Then select the necessary print mode to adjust.
6. Choose SP1-103-1 to print out a tone control test sheet if you want to examine the image quality for these settings.
7. Adjust the color density with SP1-104. Compare the tone control test sheet with the C4 test chart.

   Note

   - Adjust the density in this order: "ID Max", "Shadow", "Middle", "Highlight".
8. Use SP1-105-001 to keep the adjusted settings.

4.4 EXTERIOR COVERS

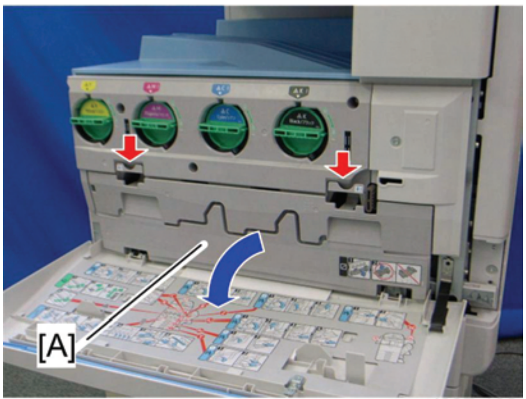
4.4.1 PCDU TONER COLLECTION BOTTLE

If you replace this toner collection bottle after the machine detects that it is full or near-full, the machine automatically resets the PM counter for the PCDU toner collection 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 019 to 1 before you start to work on the machine.

d037r101

1. Open the front door [A].

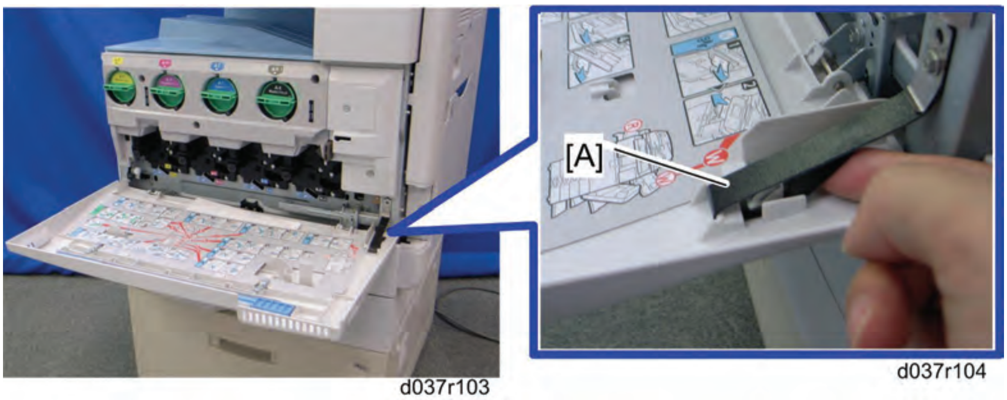


d037r102

2. PCDU toner collection bottle [A] (lock x 2)

4.4.2 FRONT DOOR

1. Open the front door.
2. PCDU toner collection bottle (☞p.4-15)



d037r103

d037r104

3. Release the belt [A].

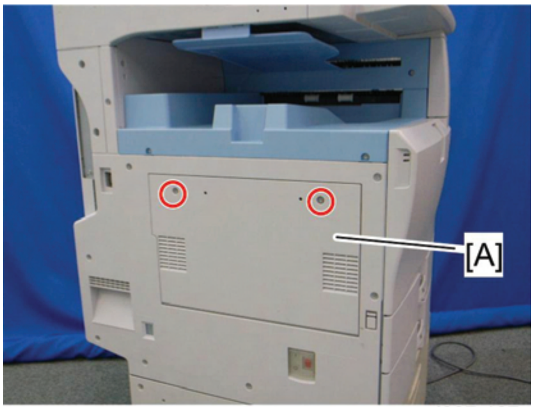
d037r105

d037r103

d037r106

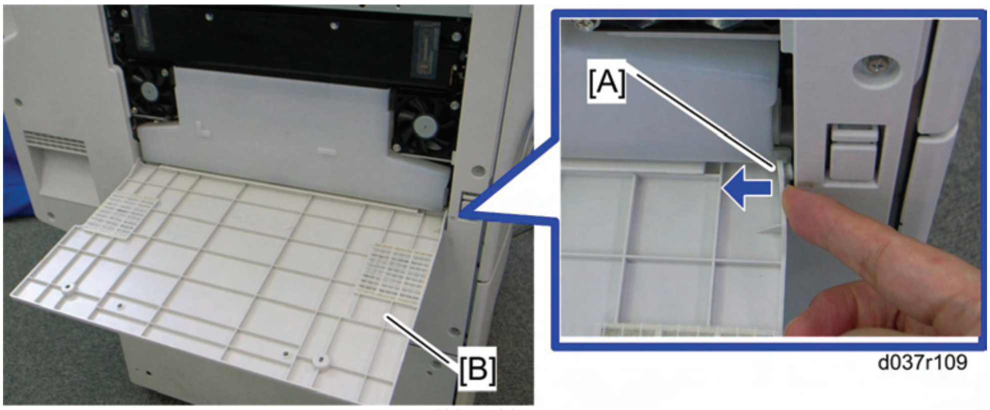
4. Front door [A] (x 2, pin x 2)

4.4.3 ITB CLEANING UNIT COVER



d037r107

1. Open the ITB cleaning unit cover [A] (🔩 x 2).

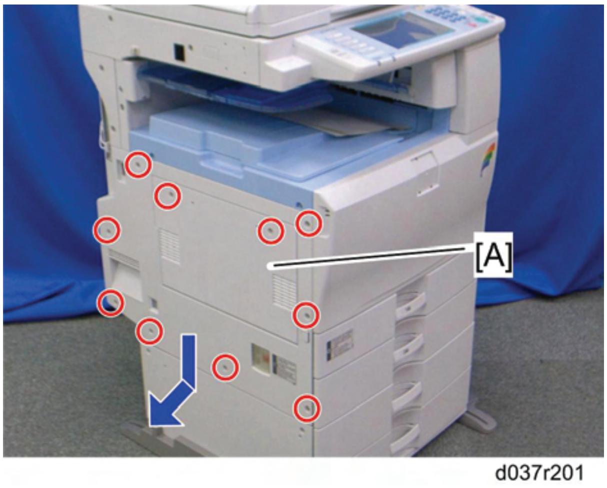


d037r108

d037r109

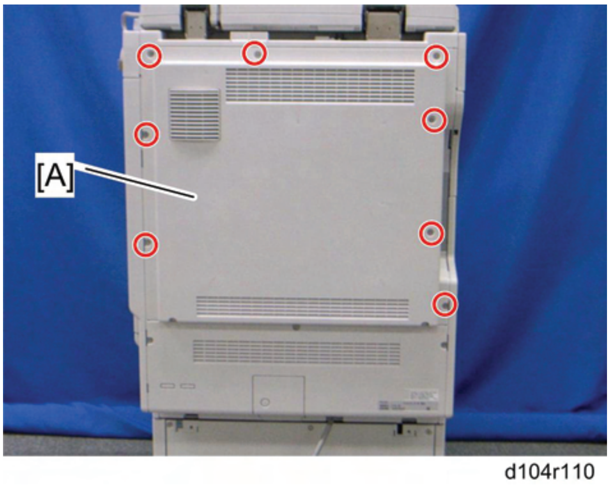
2. Release the tab [A], and then remove the ITB cleaning unit cover [B].

4.4.4 LEFT COVER



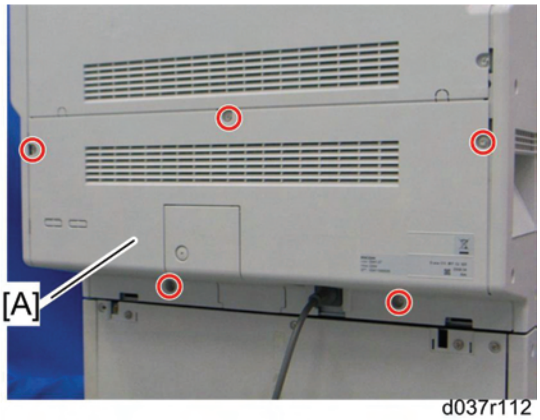
1. Left cover [A] (🔩 x 10)

4.4.5 REAR COVER



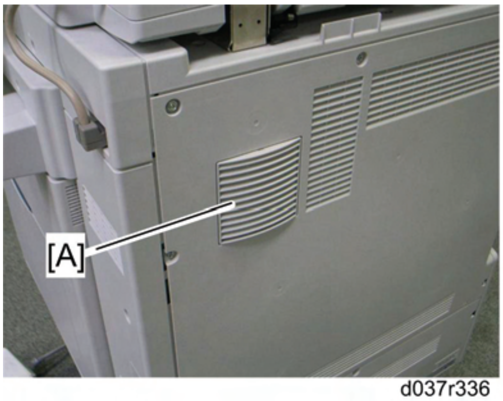
1. Rear cover [A] (🔩 x 8)

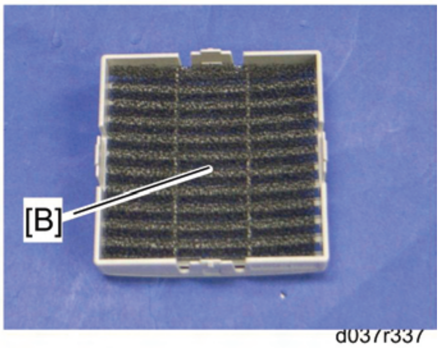
4.4.6 REAR LOWER COVER



1. Rear lower cover [A] (x 5)

4.4.7 DUST FILTER

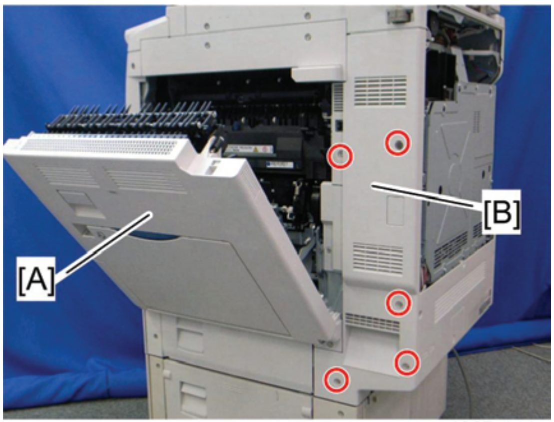




1. Dust filter cover [A] (hooks)
2. Dust filter [B]

4.4.8 RIGHT REAR COVER

1. Rear cover (☛p.4-18)



d037r111

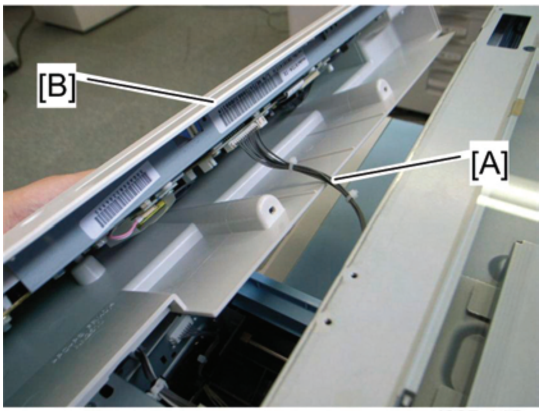
2. Open the duplex unit [A].
3. Right rear cover [B] (🔩x 5)

4.4.9 OPERATION PANEL

d037r114

d037r113

1. Remove six screws on the operation panel [A].
2. Slide the operation panel to the front side.



d037r115

3. Disconnect the harness [A].
4. Operation panel [B]

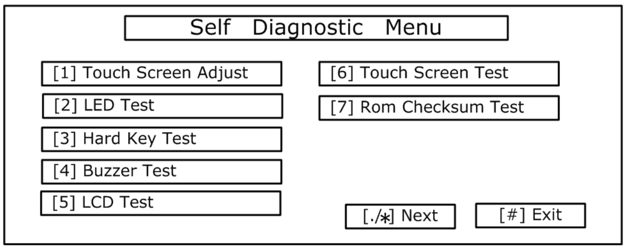
4.4.10 TOUCH PANEL POSITION ADJUSTMENT

Note

- It is necessary to calibrate the touch panel at the following times:
- When you replace the operation panel.
- When you replace the controller board.
- When the touch panel detection function does not operate correctly

Do not use items [2] to [9] on the Self-Diagnostic Menu. These items are for design use only.

1. Press , press "1", "1", "9", "3", and then press 5 times to open the Self-Diagnostics menu.

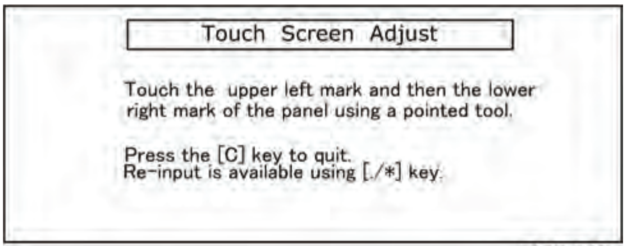


Self Diagnostic Menu

[1] Touch Screen Adjust
[2] LED Test
[3] Hard Key Test
[4] Buzzer Test
[5] LCD Test
[6] Touch Screen Test
[7] Rom Checksum Test
[./*] Next
[#] Exit

b178r548

2. On the touch screen press "Touch Screen Adjust" (or press"1").
3. Use a pointed (not sharp) tool to press the upper left mark °↖.



Touch Screen Adjust

Touch the upper left mark and then the lower right mark of the panel using a pointed tool.

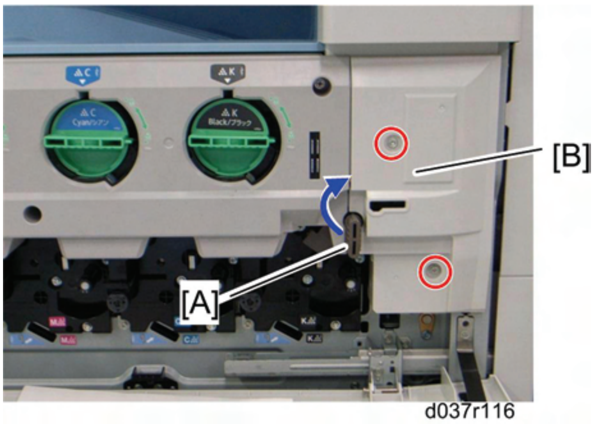
Press the [C] key to quit.
Re-input is available using [./*] key.

b178r549

4. Press the lower right mark when "↘o" shows.
5. Press [#] OK on the screen (or press #) when you are finished.
6. Touch [#] Exit on the screen to close the Self-Diagnostic menu. Save the calibration settings.

4.4.11 INNER RIGHT COVER

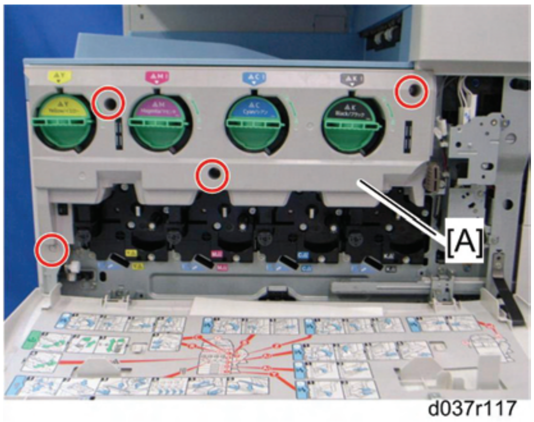
1. PCDU toner collection bottle (☞p.4-15)



2. Press the ITB lock lever [A] and turn it up clockwise as shown above.
3. Inner right cover [B] (🔩x 2)

4.4.12 INNER COVER

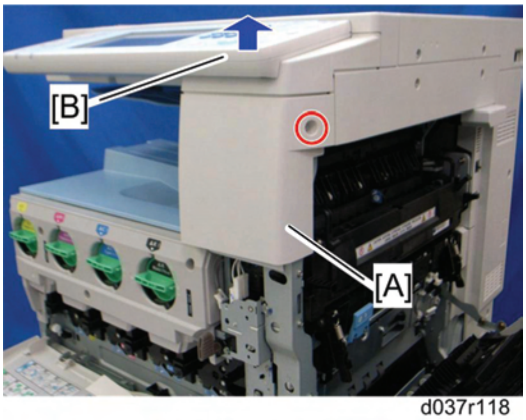
1. PCDU toner collection bottle (☞p.4-15)
2. Inner right cover (☞p.4-22)



3. Inner cover [A] (🔩 x 4)

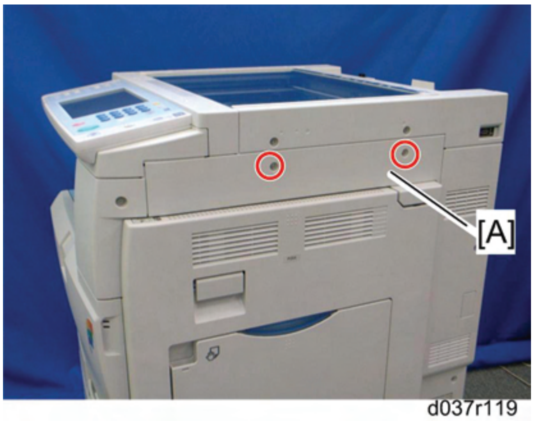
4.4.13 FRONT RIGHT COVER

1. Open the duplex unit.
2. PCDU toner collection bottle (☞p.4-15)
3. Inner right cover (☞p.4-22)



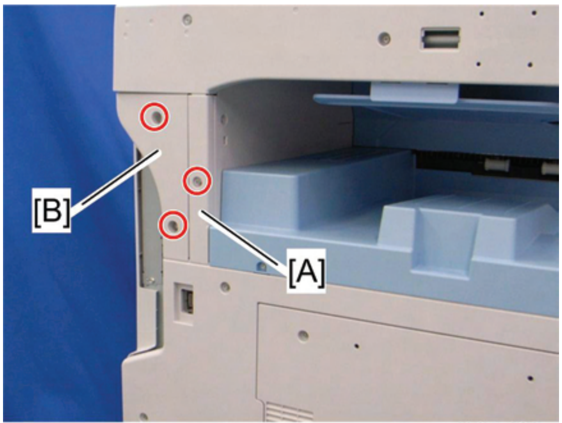
4. Remove the front right cover [A] with the operation panel [B] lifted up (🔩x 1).

4.4.14 RIGHT UPPER COVER



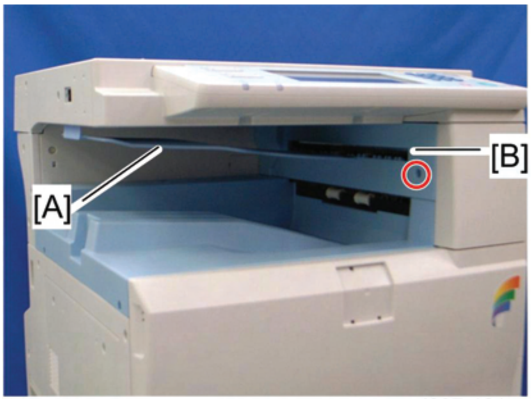
1. Right upper cover [A] (🔩 x 2)

4.4.15 LEFT FRAME AND LEFT FRAME REAR COVER



1. Left frame cover [A] (🔩 x 1)
2. Left frame rear cover [B] (🔩 x 2)

4.4.16 PAPER EXIT COVER

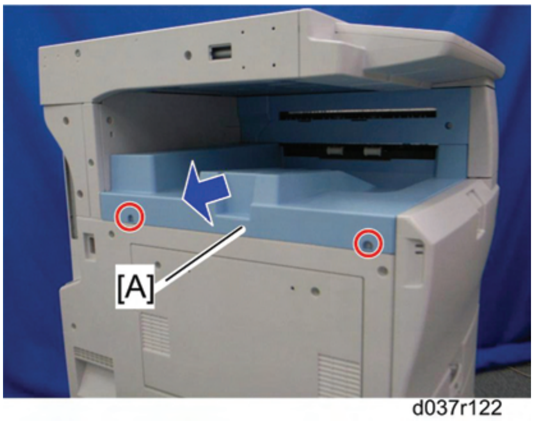


1. Inverter tray [A]
2. Paper exit cover [B] (🔩 x 1)

4.4.17 INVERTER TRAY

1. Inverter tray [A] (hooks)

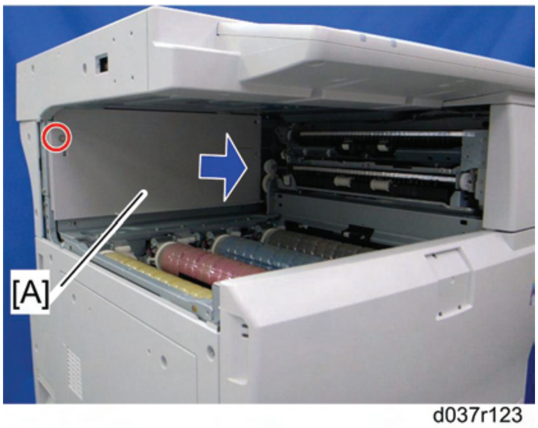
4.4.18 INNER TRAY



1. Inner tray [A] (🔩 x 2)

4.4.19 INNER REAR COVER

1. Left frame cover (☞p.4-24 "Left Frame and Left Frame Rear Cover")
2. Paper exit cover (☞p.4-24)
3. Inner tray (☞p.4-25)

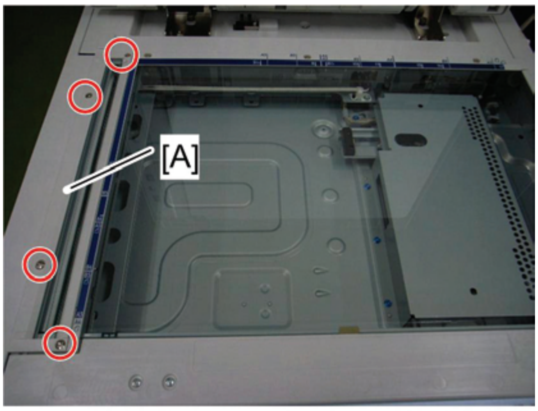


4. Inner rear cover [A] (x 1)

4.5 SCANNER UNIT

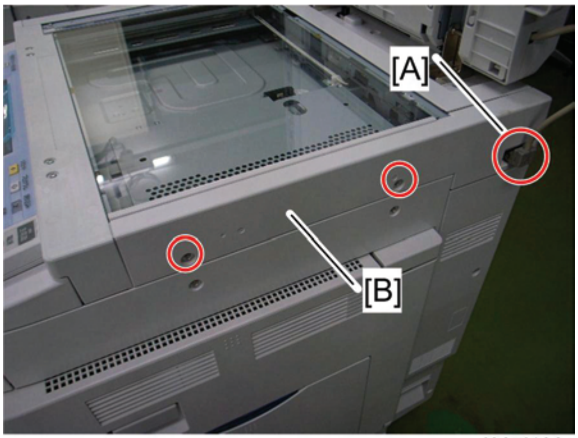
4.5.1 EXPOSURE GLASS

1. Rear cover (☞p.4-18)
2. Open the ARDF or platen cover.



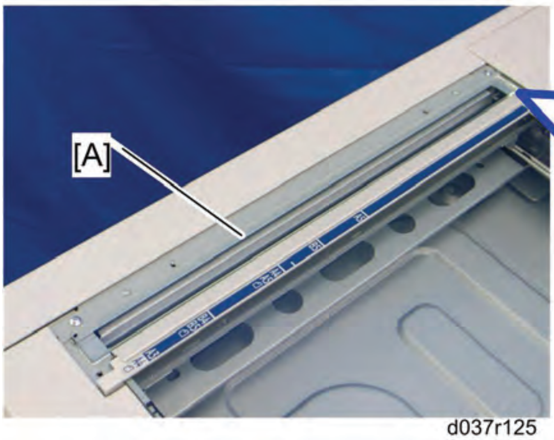
d037i128

3. Glass cover [A] (🔩x 4)

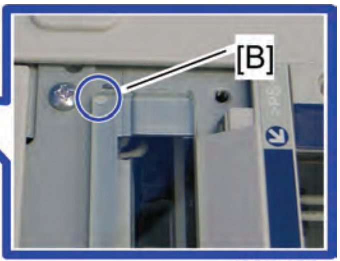


d037i130

4. Disconnect the DF I/F cable [A]
5. Scanner right cover [B] (🔩x 2)



d037r125

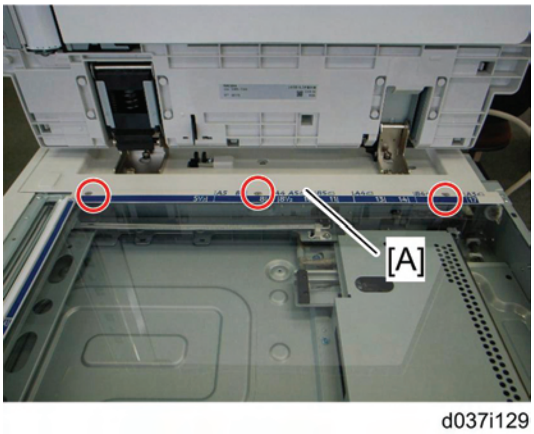


d037r126

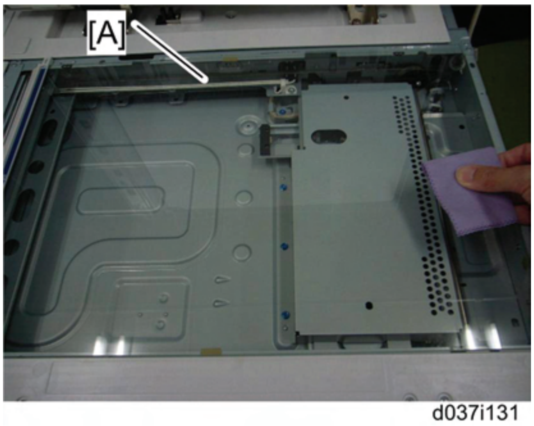
6. ARDF exposure glass [A]

Note

- Position the white marker [B] at the rear-left corner when you reattach the ARDF exposure glass.



7. Rear scale [A] (🔩 x 3)



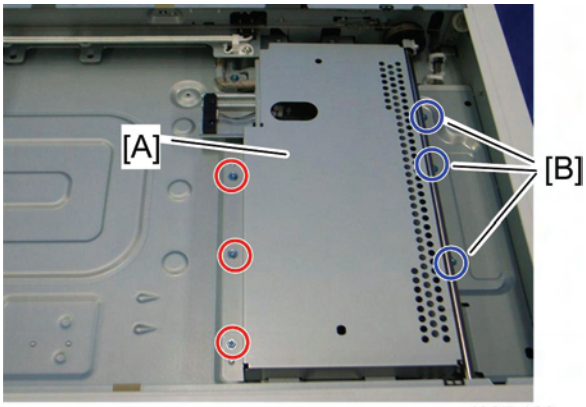
8. Exposure glass [A] with left scale

Note

- Position the marker at the front-left corner when you reattach the exposure glass.

4.5.2 ORIGINAL LENGTH SENSORS

1. Exposure glass with left scale (☞p.4-27)

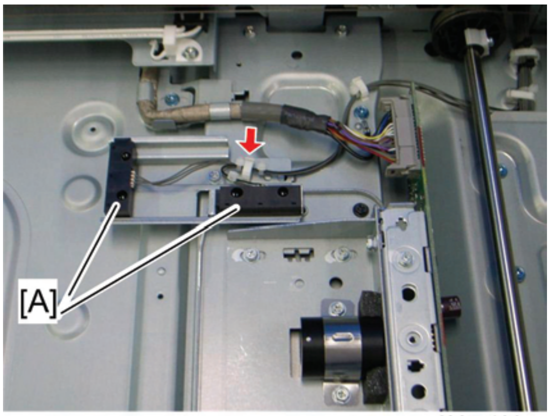


d037r129

2. SBU cover [A] (x 6)

Note

- The three screws [B] do not need to be fully removed. Just loosen them to remove the SBU cover.

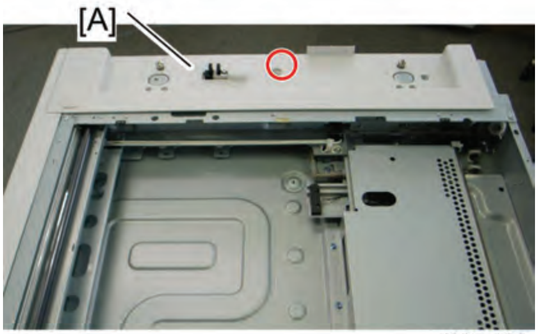


d037r130a

3. Original length sensors [A] (hooks, x1, x 1 each))

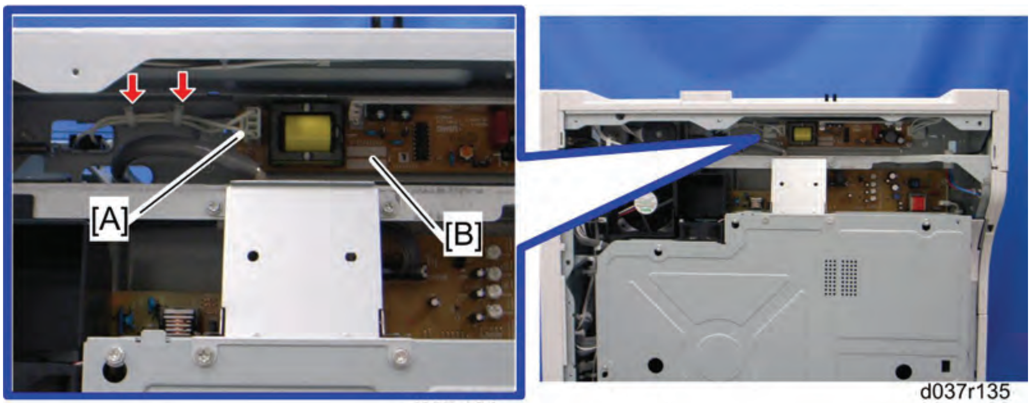
4.5.3 EXPOSURE LAMP

1. Rear cover (☞p.4-18)
2. Operation panel (☞p.4-20)
3. Exposure glass (☞p.4-27)



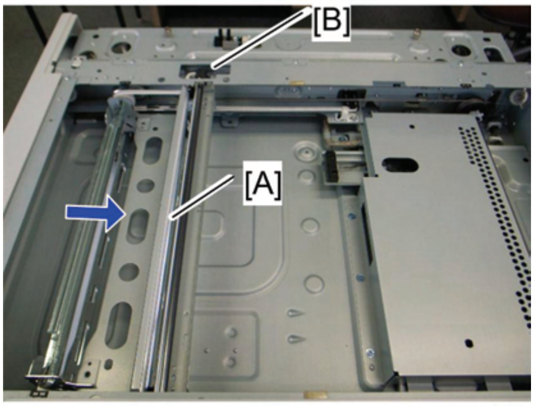
d037r133

4. Scanner rear cover [A] (🔩x 1)



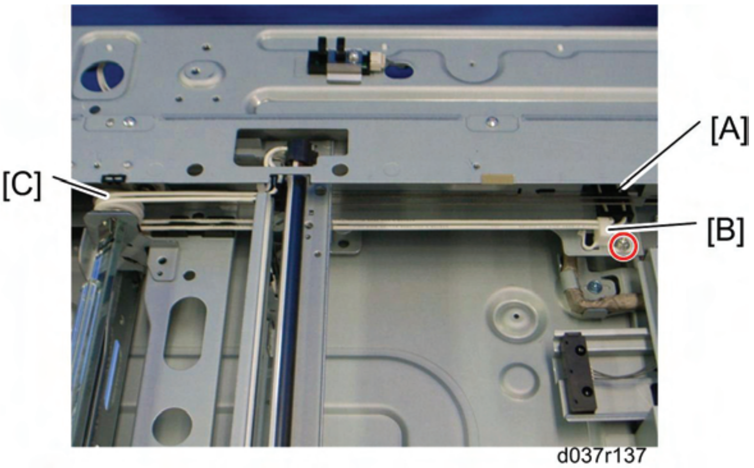
d037r134 d037r135

5. Disconnect the connector [A] from the lamp stabilizer [B].



d037r136

6. Move the carriage unit [A] to the cutout position [B].



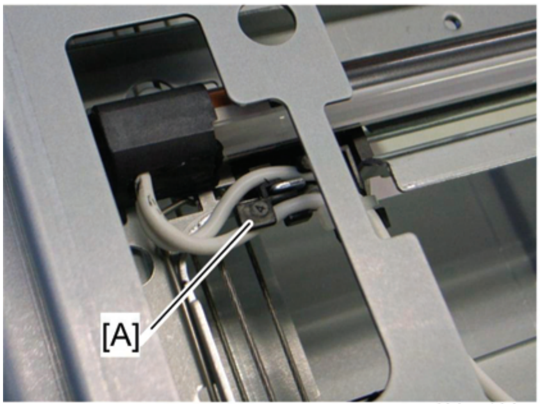
d037r137

7. Cable guide [A] (hooks)

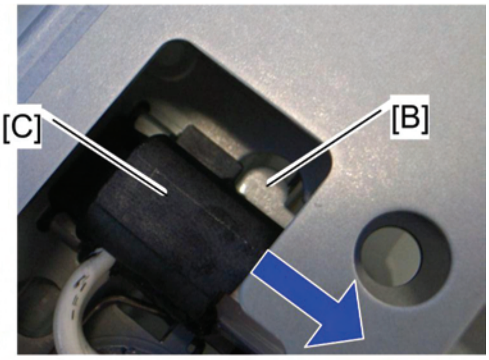
Note

- Keep the cable guide for reassembling.

8. Adjustor clamp [B] (🔩x 1)
9. Pulley [C]

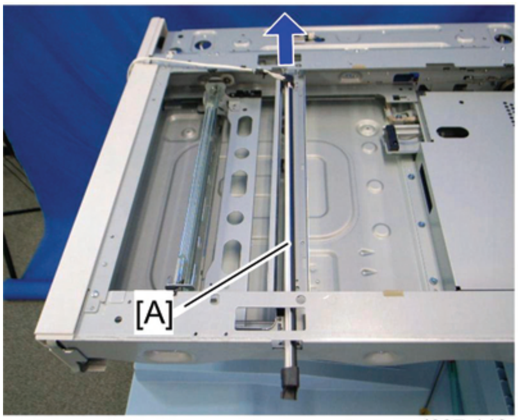


d037r138



d037r139

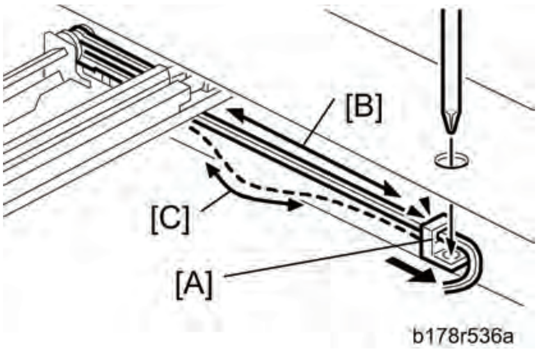
10. Release the cable clamp [A] (one hook under the cable clamp) at the rear edge of the exposure lamp.
11. Hold down the snap [B], and then slide the exposure lamp [C] to the front side.



d037r140

12. Exposure lamp [A]

Reassembling



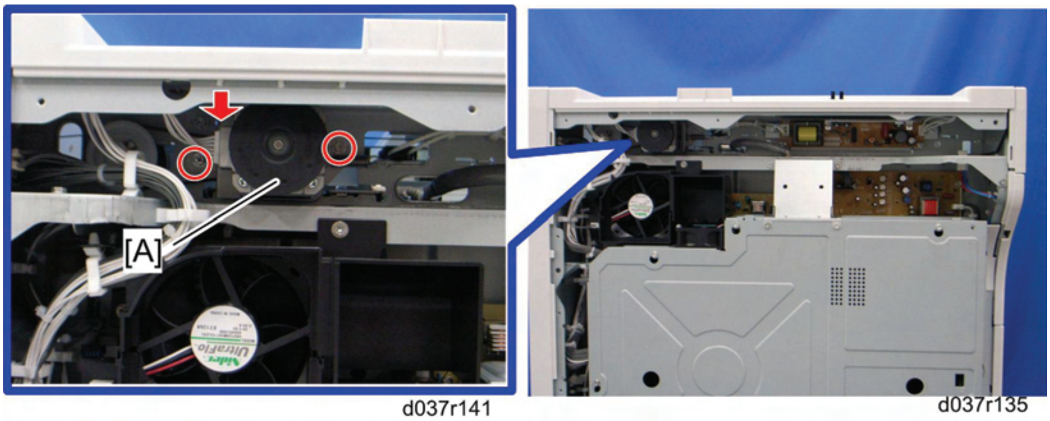
Run the cable so there is no slack. Slide the adjustor clamp [A] to adjust the cable slack.

Note

- [B]: Good
- [C]: Not good

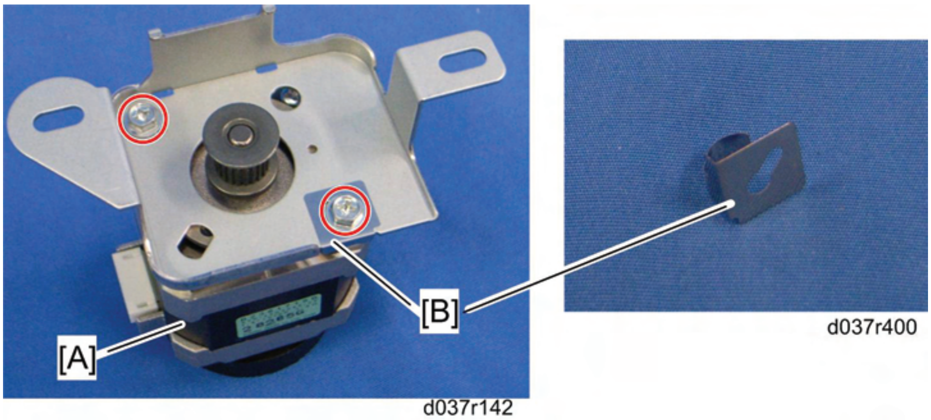
4.5.4 SCANNER MOTOR

1. Rear cover (☞p.4-18)



d037r141 d037r135

2. Scanner motor assembly [A] (x 2, spring x 1, x 1, timing belt x 1)



d037r400

d037r142

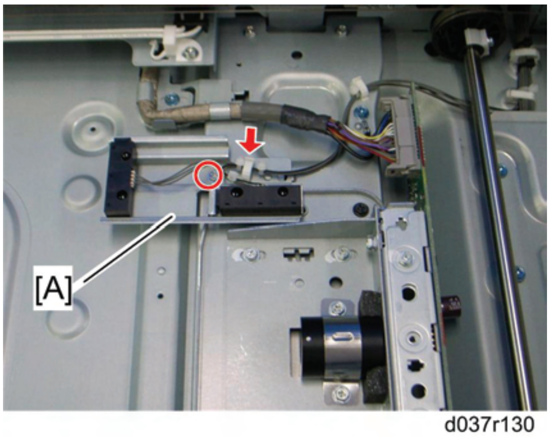
3. Scanner motor [A] (x 2, ground plate [B] x 1)

Note

- Make sure that the ground plate [B] is attached when installing the scanner motor in the scanner motor bracket.
- Do the scanner image adjustment after replacing the scanner motor (☞p.4-3 "Image Adjustment").

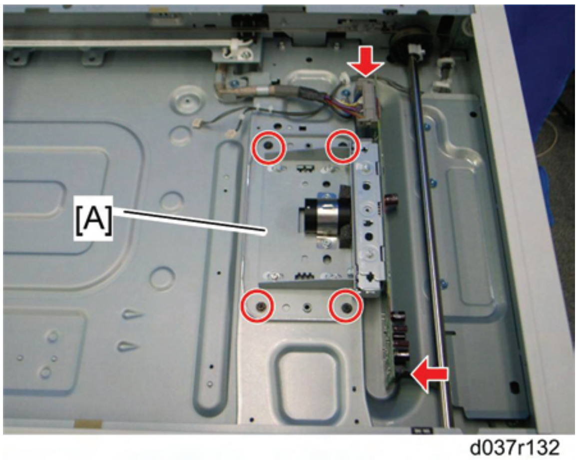
4.5.5 SENSOR BOARD UNIT (SBU)

1. Exposure glass (☞p.4-27)



d037r130

2. Original length sensor assembly [A] (🔩x 1, 🔩x1, 🔌x 1 each)



d037r132

3. Sensor board unit [A] (🔩 x 4, ground screw x 1, 🔌x 2)

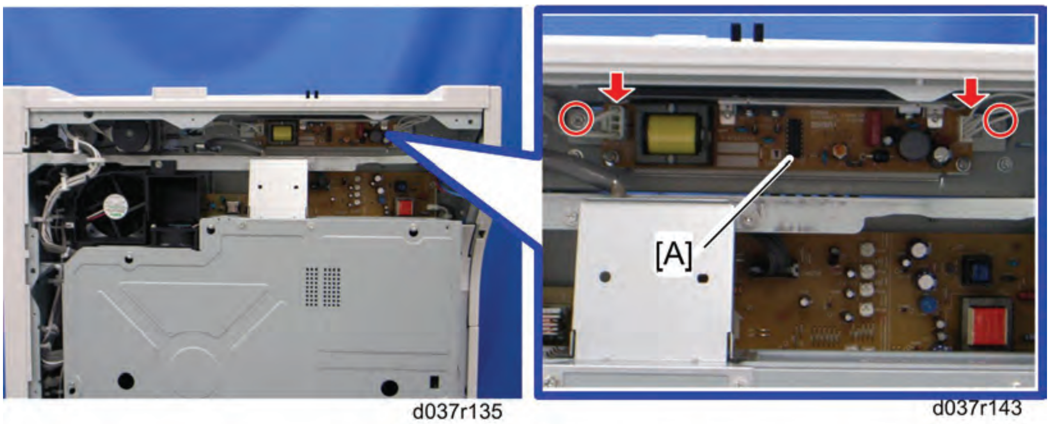
When reassembling

Adjust the following SP modes after you replace the sensor board unit:

- SP4–008 (Sub Scan Mag.Adjustment): See "Image Adjustment: Scanning" (p.4-3 "Image Adjustment").
- SP4–010 (LE Regist Adjust): See "Image Adjustment: Scanning" (p.4-3 "Image Adjustment").
- SP4–011 (S-to-S Regist Adjustment): See "Image Adjustment: Scanning" (p.4-3 "Image Adjustment").
- SP4–688 (DF: Density Adjustment): Use this to adjust the density level if the ID of outputs made in the DF and Platen mode is different.

4.5.6 EXPOSURE LAMP STABILIZER

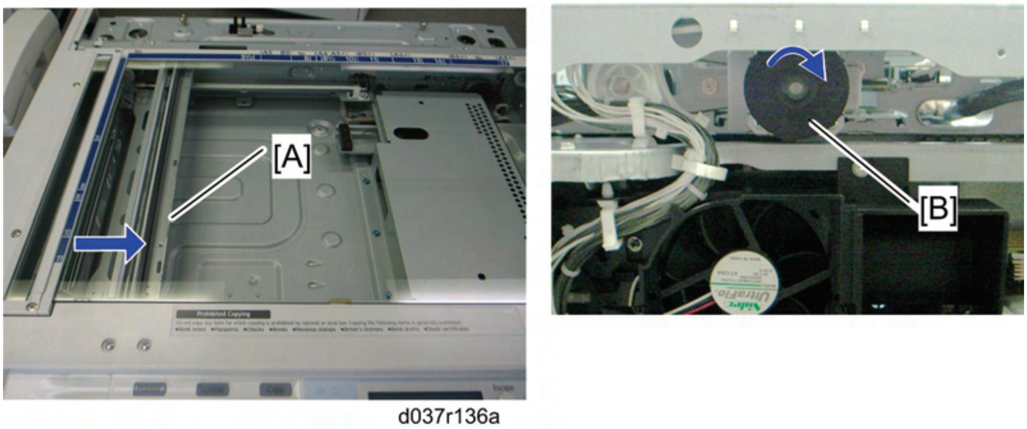
1. Rear cover (☞p.4-18)



2. Exposure lamp stabilizer assembly [A] (🔩x 2, 🔌x 2)

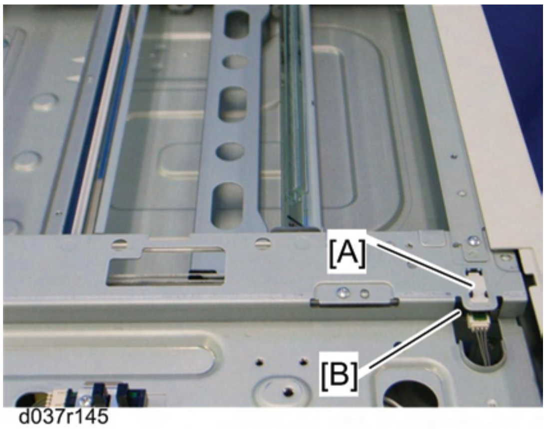
4.5.7 SCANNER HP SENSOR

1. Rear Cover (☞p.4-18)
2. Scanner rear cover (☞p.4-30 "Exposure Lamp")



d037r136a

3. Move the 1st scanner carriage [A] to the right side by rotating the scanner motor [B] clockwise.

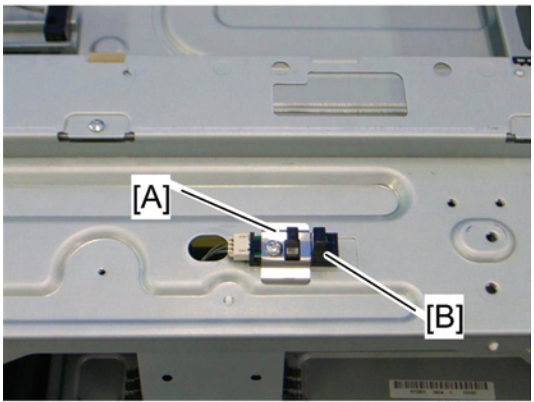


d037r145

4. Remove the mylar [A].
5. Remove the scanner HP sensor [B] (x 1, hooks).

4.5.8 PLATEN COVER SENSOR

1. Scanner rear cover (☞p.4-30 "Exposure Lamp")

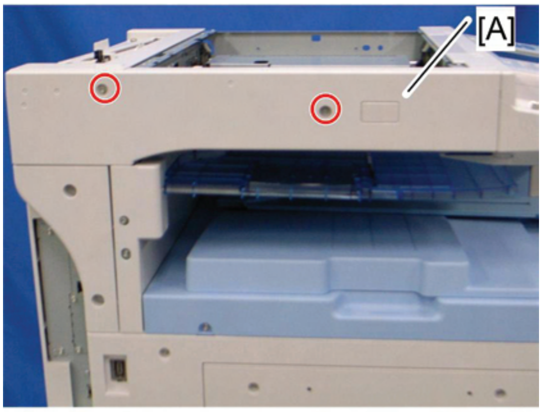


d037r146

2. Holder bracket [A] (🔩x 1)
3. Platen cover sensor [B] (🔌x 1)

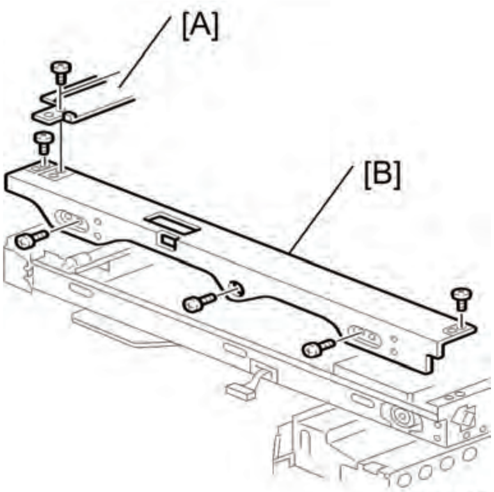
4.5.9 FRONT SCANNER WIRE

1. Rear Cover (☞p.4-18)
2. Operation panel (☞p.4-20)
3. Exposure glass (☞p.4-27)



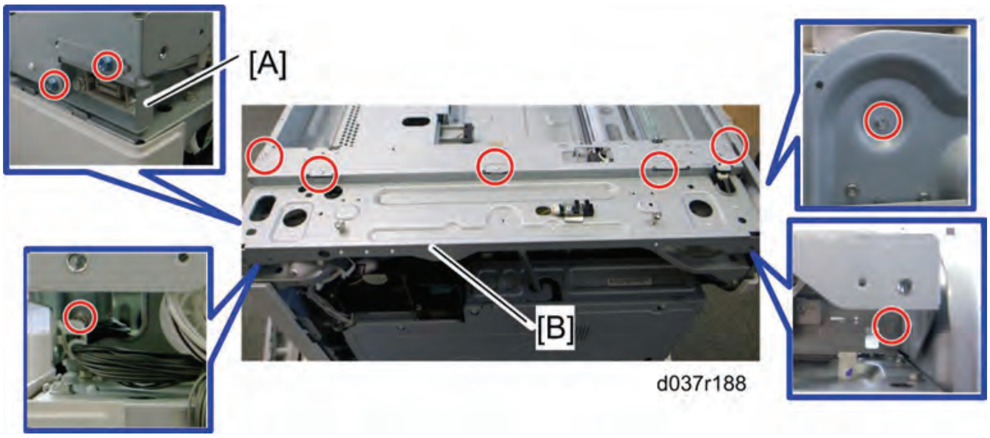
d037r391

4. Scanner left cover [A] (🔩x 2)



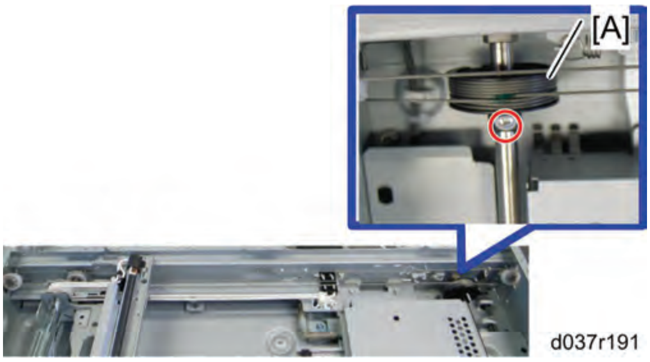
b230r159a

5. Scanner left stay [A] (🔩x 3)
6. Scanner front frame [B] (🔩x 5)



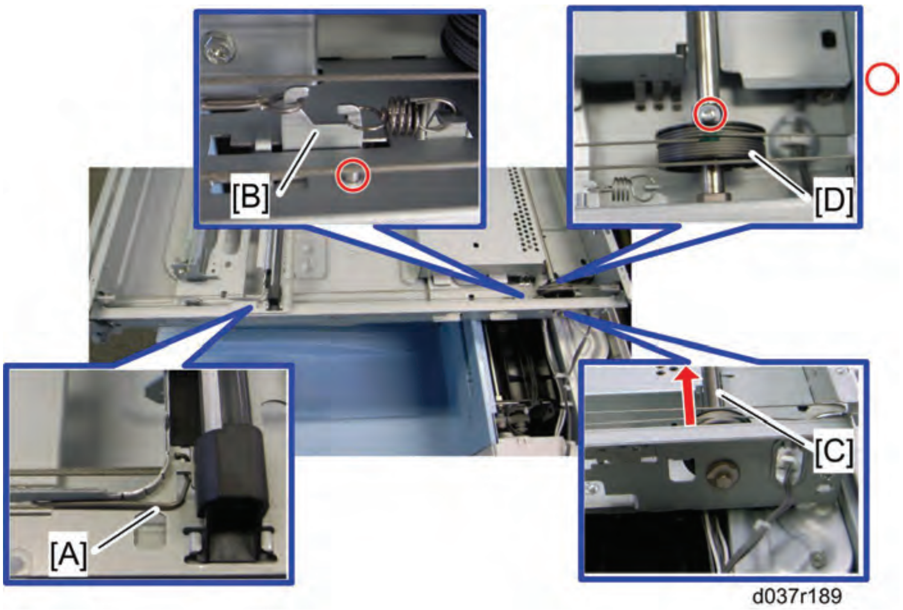
d037r188

7. Take aside the connector bracket [A] (🔩x 2).
8. Scanner rear frame [B] (🔩x 8, 🔌 x all, 📎 x all)
9. Scanner motor assembly (☞p.4-33)



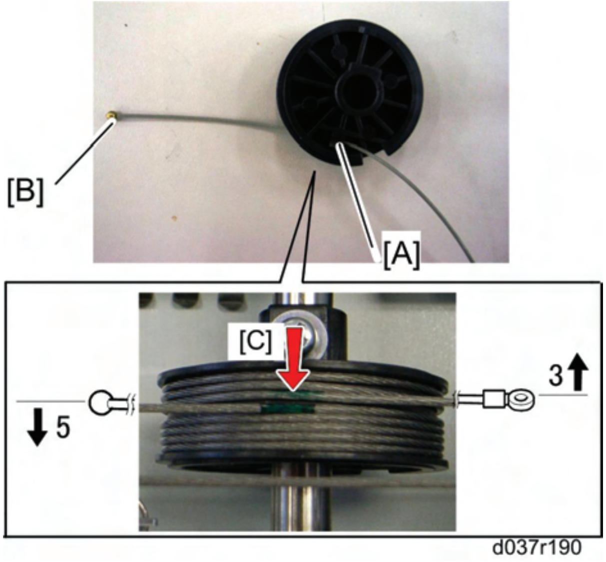
d037r191

10. Rear scanner drive pulley [A] (🔩x 1)



11. Front scanner wire clamp [A]
12. Loosen the front scanner wire bracket [B] (x 1)
13. Front scanner wire
14. Move the shaft [C] in the red arrow direction (x 1: at front), and remove the scanner drive pulley [D] (x 1).

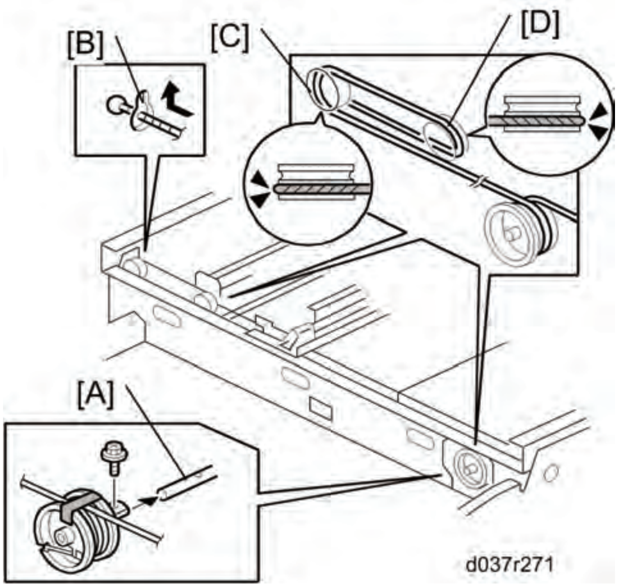
Reinstalling the Front Scanner Wire



1. Position the center ball [A] in the middle of the forked holder.
2. Pass the right end (with the ball) [B] through the square hole. Pass the left end (with the ring) through the notch.
3. Wind the right end counterclockwise (shown from the machine's front) five times. Wind the left end clockwise three times.

Note

- The two green marks [C] come together when you have done this. Stick the wire to the pulley with tape. This lets you easily handle the assembly at the time of installation.

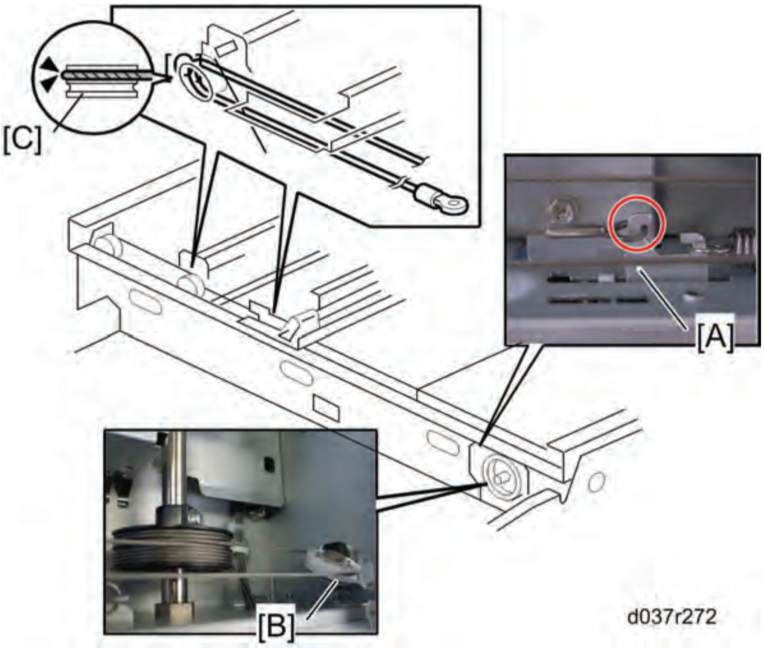


4. Install the drive pulley on the shaft [A] (x 1, x 1).

Note

- Do not attach the pulley to the shaft with the screw at this time.

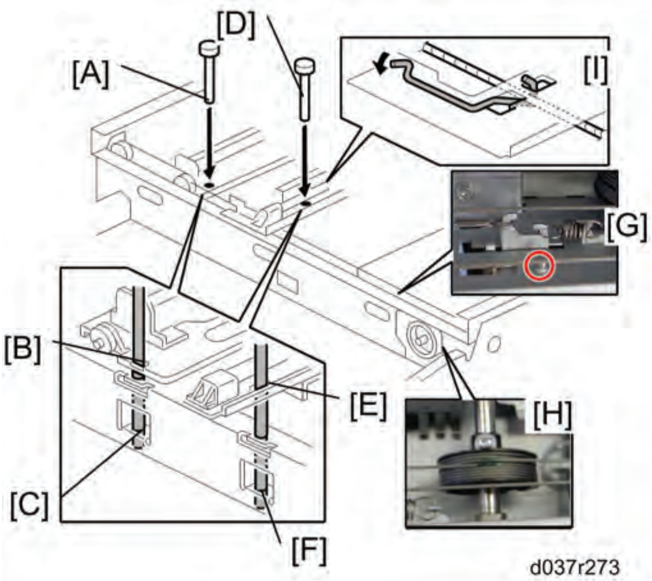
5. Insert the left end into the slit [B]. The end should go via the rear track of the left pulley [C] and the rear track of the movable pulley [D].



6. Hook the right end onto the front scanner wire bracket [A]. The end should go via the rear track of the right pulley [B] and the rear track of the movable pulley [C].

Note

- Do not attach the scanner wire bracket with the screw at this time.



7. Remove the tape from the drive pulley.
8. Insert a scanner positioning pin [A] through the 2nd carriage hole [B] and the left holes [C] in the front rail. Insert another scanner positioning pin [D] through the 1st carriage hole [E] and the right holes in the front rail [F].
9. Insert two more scanner positioning pins through the holes in the rear rail.
10. Screw the drive pulley to the shaft [G].
11. Screw the scanner wire bracket to the front rail [H].
12. Install the scanner wire clamp [I].
13. Pull out the positioning pins.

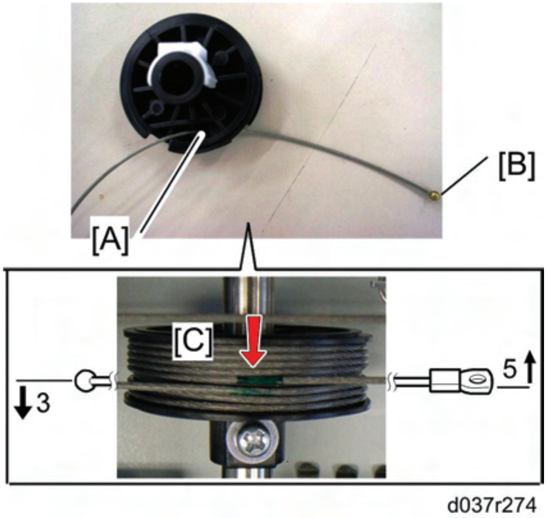
Note

- Make sure the 1st and 2nd carriages move smoothly after you remove the positioning pins. Do steps 8 through 13 again if they do not.

4.5.10 REAR SCANNER WIRE

1. Rear Cover (☞p.4-18)
2. Operation panel (☞p.4-20)
3. Exposure glass (☞p.4-27)
4. Scanner left cover (☞p.4-37 "Front Scanner Wire")
5. Scanner front frame (☞p.4-37 "Front Scanner Wire")
6. Scanner left stay (☞p.4-37 "Front Scanner Wire")
7. Scanner rear frame (☞p.4-37 "Front Scanner Wire")
8. Follow steps 10 through 14 in the p.4-37 "Front Scanner Wire". You can remove the rear scanner wire with the same manner for replacing the front scanner wire.

Reinstalling the Rear Scanner Wire



1. Position the center ball [A] in the middle of the forked holder.
2. Pass the left end (with the ball) [B] through the drive pulley notch. Pass the right end (with the ring) through the drive pulley hole.
3. Wind the left end [B] clockwise (shown from the machine's front) five times. Wind the right end counterclockwise three times.

   Note

   - The two green marks [C] come together when you do this. Attach the wire to the pulley with tape. This lets you easily handle the assembly at the time of installation.
4. Install the drive pulley on the shaft.

   Note

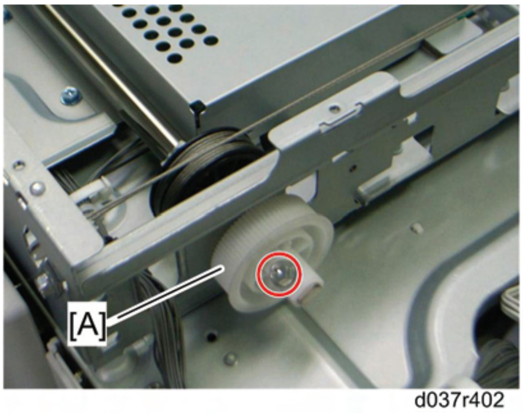
   - Do not attach the pulley on the shaft with the screw at this time.
5. Install the wire.

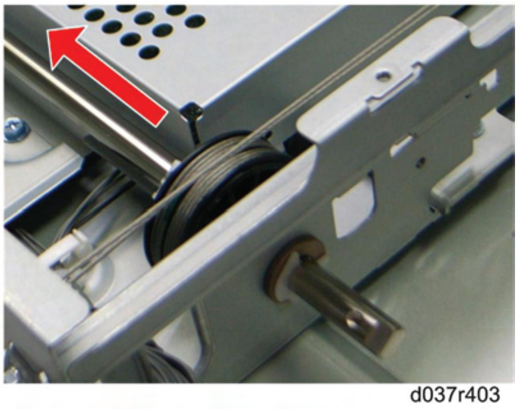
Note

- The winding of the wire on the three pulleys at the rear of the scanner should be the same as the winding on the three pulleys at the front. This must show as a mirror image.

Example: At the front of the machine, the side of the drive pulley with the three windings must face the front of the machine. At the rear of the machine, it must face the rear.

6. Do steps 7 through 13 from the "Reinstalling the Front Scanner Wire" (p.4-37 "Front Scanner Wire").





Note

- When removing the rear scanner wire, removing the timing pulley [A] is required before moving the shaft (🔩 x 1).

4.6 LASER OPTICS

⚠WARNING

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

4.6.1 CAUTION DECAL LOCATION

The caution decal is placed as shown below.

d037r204

⚠WARNING

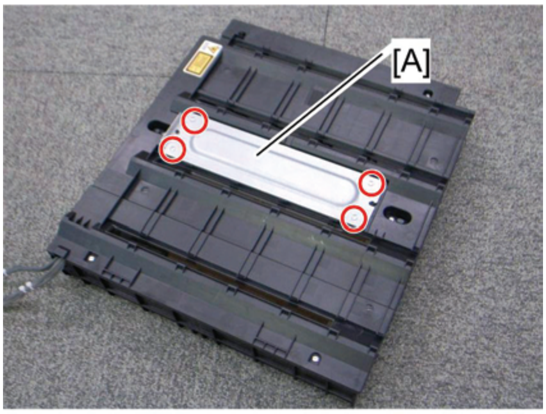
- Be sure to turn off the main switch and disconnect the power plug from the power outlet before beginning any disassembly or adjustment of the laser unit. This copier uses a class IIIb laser beam with a wavelength of 648 - 663 nm and an output of 9 mW. The laser can cause serious eye injury.

4.6.2 LASER UNIT

⚠CAUTION

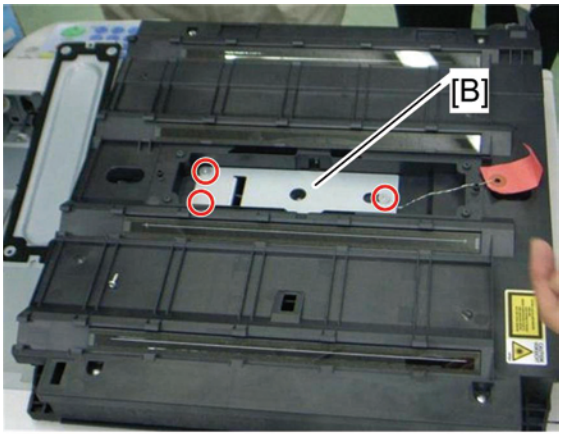
- Before installing a new laser unit, remove the polygon motor holder bracket and the tag from the new unit.

Preparing a new laser unit



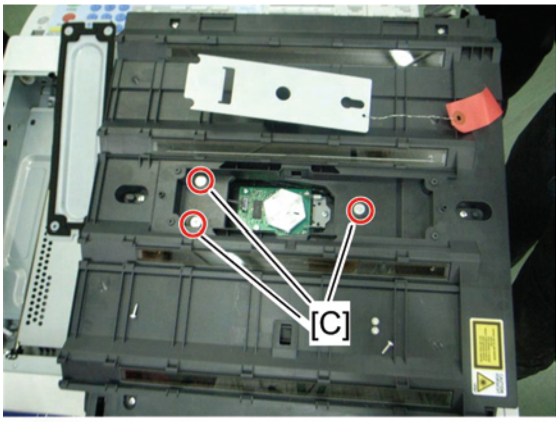
d037r207

1. Polygon mirror motor cover [A] of the laser unit (🔩 x 4)



d037r208

2. Polygon motor holder bracket [B] with a red tag (🔩 x 3)



d037r209

3. Install the three screws [C] (removed in step 2) in the laser unit.
4. Reinstall the polygon mirror motor cover [A] (🔩 x 4).

Before removing the old laser unit

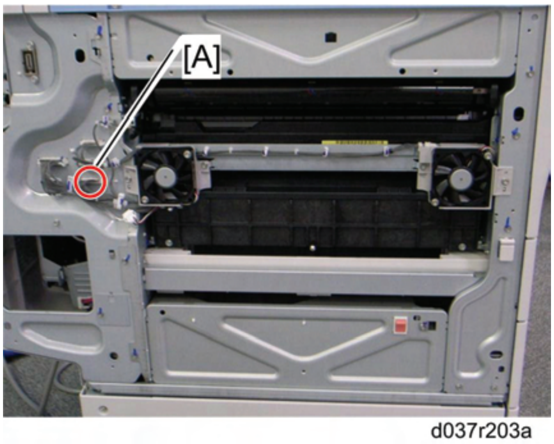
Do the following settings before removing the laser unit. These are adjustments for skew adjustment motors in the laser unit.

1. Plug in and turn on the main power switch of the copier.
2. Enter the SP mode.
3. Execute SP2-220-001 to clear the Mirror-No.2 positioning motor setting for Cyan.
4. Execute SP2-220-002 to clear the Mirror-No.2 positioning motor setting for Magenta.
5. Execute SP2-220-003 to clear the Mirror-No.2 positioning motor setting for Yellow.
6. Exit the SP mode.
7. Turn off the main power switch and disconnect the power cord of the copier.

Recovery procedure for no replacement preparation of laser unit

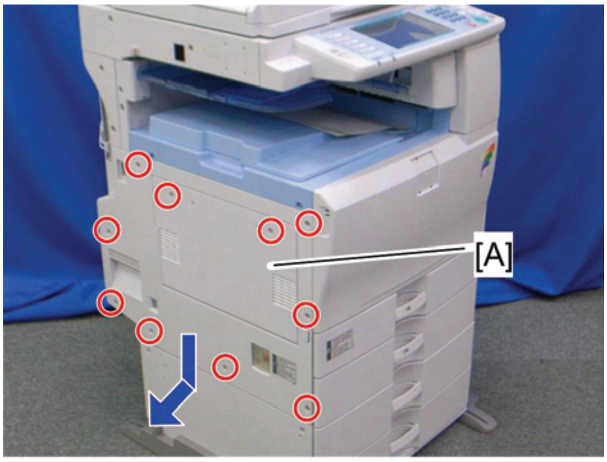
If you did not do the procedure in ‘Before removing the laser unit’ before removing the laser unit, you must do the following.

1. Turn off the main power switch and disconnect the power cord of the copier.
2. Remove the left cover (see the following "Removing the laser unit").



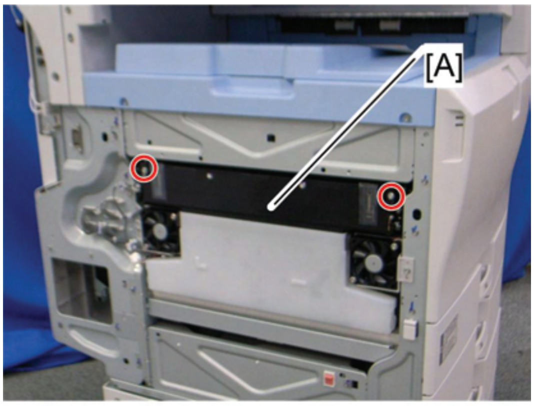
3. Disconnect the harness [A] of the skew correction motor.
4. Do steps 1 to 7 of "Before removing the laser unit".
5. Connect the harness [A] and reinstall the left cover.
6. Plug in and turn on the main power switch.

Removing the laser unit



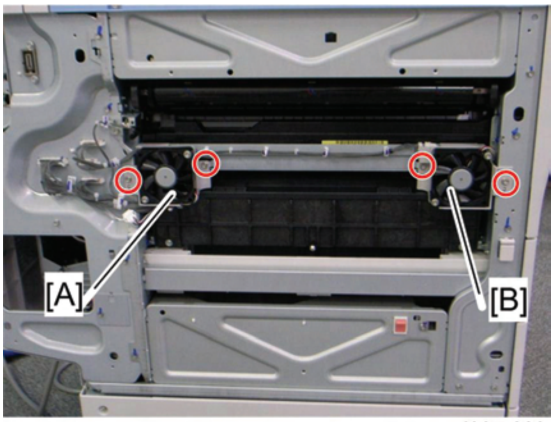
d037r201

1. Left cover [A] (🔩 x 10)



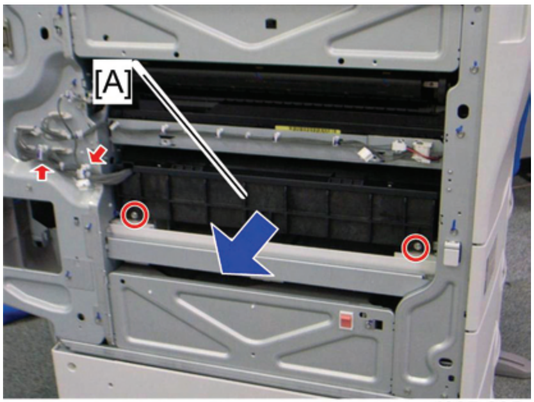
d037r202a

2. ITB cleaning unit [A] (🔩 x 2)



d037r203

3. Ventilation rear fan holder [A] (🔩 x 2, 🔌 x 1)
4. Ventilation front fan holder [B] (🔩 x 2, 📎 x 1, 🔌 x 1)



d037r205

5. Remove the laser unit [A] (x 2, x 2, x 3)

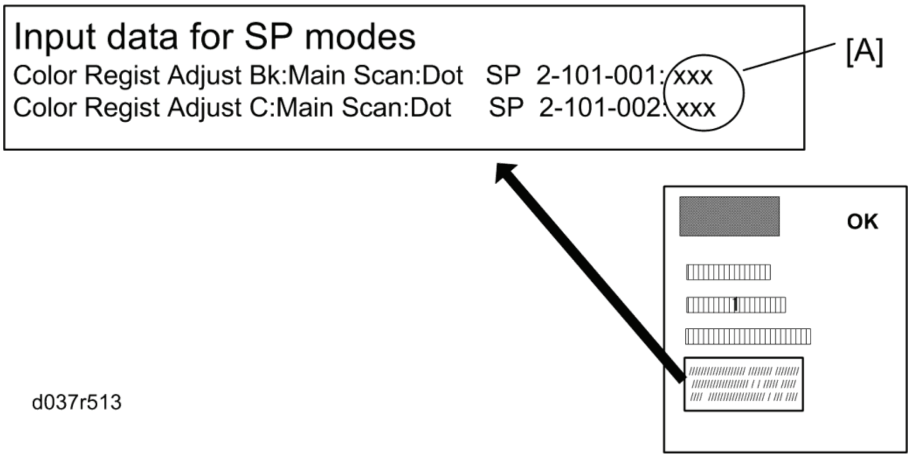
After installing a new laser unit

Do the following adjustment after installing the new laser unit.

1. Open the front door of the machine.
2. Plug in and turn on the main power switch.
3. 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.



Input data for SP modes
Color Regist Adjust Bk:Main Scan:Dot SP 2-101-001: xxx
Color Regist Adjust C:Main Scan:Dot SP 2-101-002: xxx

d037r513

4. Input the SP settings on the sheet provided with a new LD unit.
   - SP2-101-001 to -004: Color Registration: Main Scan for each color
   - SP2-101-013 to -016: Color Registration: Sub Scan for each color
   - SP2-102-001, -003, -004, -006, -007, -009, -010, -012: Main Magnification for each color and line speed
   - SP2-104-001 to -004: :LD Initial Power Adjustment for each color

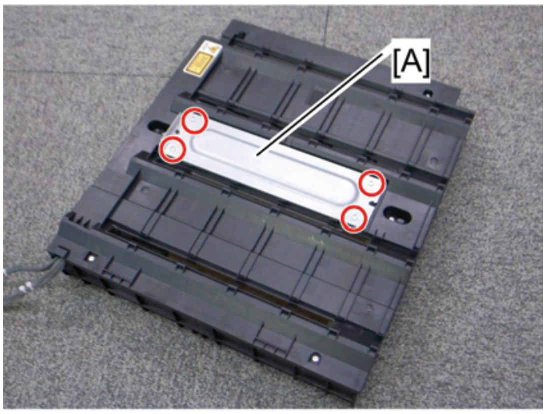
Note

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

5. Print the test pattern (14: 1-dot trimming pattern in the SP2-109-003).
6. 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.
7. Select "0" with SP2-109-003 after printing the "1-dot trimming pattern.
8. 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.
9. Exit the SP mode.

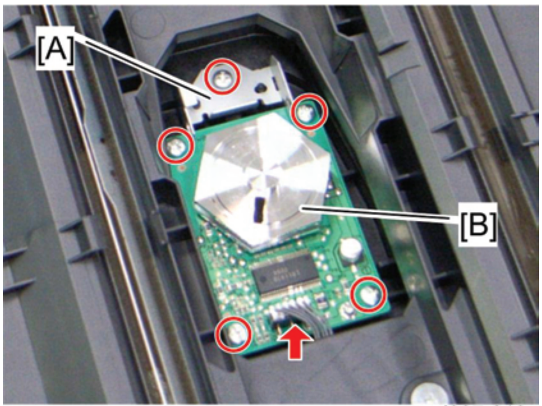
4.6.3 POLYGON MIRROR MOTOR

1. Laser unit (☞p.4-44)



d037r207

2. Polygon mirror motor cover [A] (🔩x 4)



d037r210

3. Polygon mirror motor holder [A] (🔩x 1)
4. Polygon mirror motor [B] (🔩x 4, 🔌x 1)

After installing the laser optics housing unit:

- Do the "Line Pos. Adjust Execute:Mode c" (SP2-111-003).
- Then do the "Line Pos. Adjust Execute:Mode a" (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 SP2-194-010 to -012.

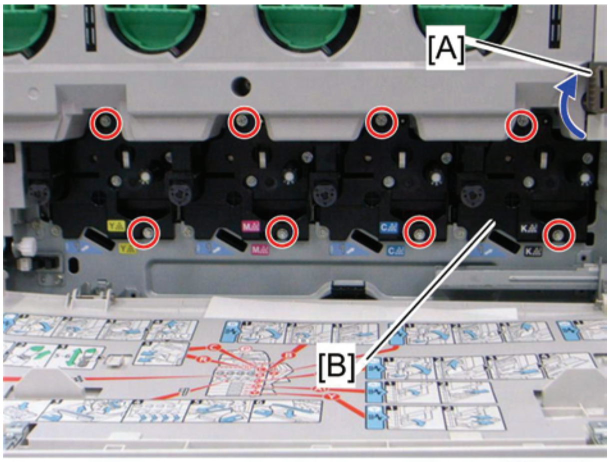
4.7 IMAGE CREATION

4.7.1 PCDU (PHOTO CONDUCTOR AND DEVELOPMENT UNIT)

Note

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

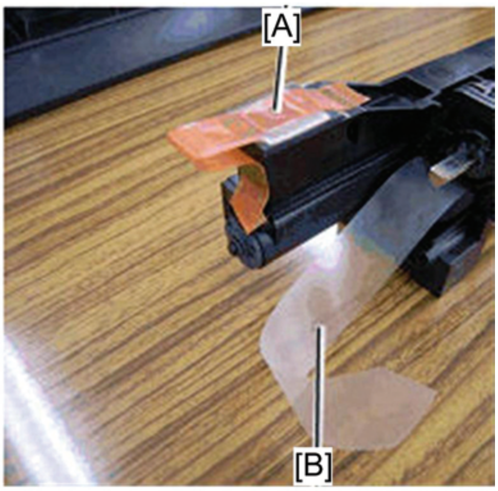
1. Open the front door.
2. PCDU toner collection bottle (☞p.4-15)



d037r177

3. Hold down the ITB lock lever [A] and turn it in the arrow direction.
4. PCDU [B] (🔩x 2 each)

When installing a new PCDU



d037r333

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

4.7.2 DRUM UNIT AND DEVELOPMENT UNIT

The new drum unit has a front cover. When you attach the new drum unit to the development unit, remove the front cover first.

Use it for installing the new drum unit and development unit.

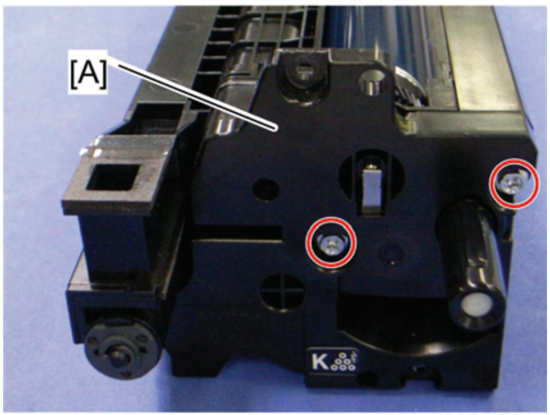
1. If you install a new drum unit only, set SP 3902-xxx to "1".
    - Black: 3902-009
    - Cyan: 3902-010
    - Magenta: 3902-011
    - Yellow: 3902-012

    Note

    - If you do this, then the machine will reset the PM counter for the drum unit automatically, after you turn the power on again.
2. If you install a new development unit only, set SP 3902-xxx to "1".
    - Black: 3902-001
    - Cyan: 3902-002
    - Magenta: 3902-003
    - Yellow: 3902-004

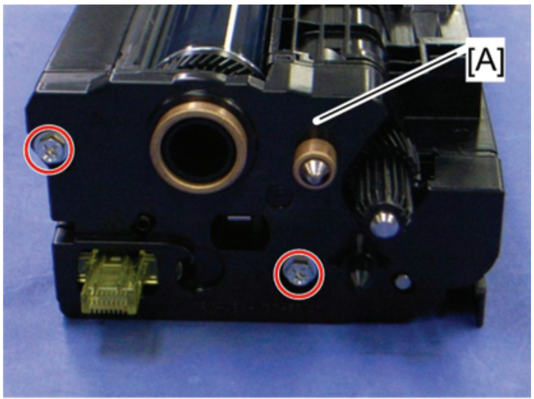
    Note

    - If you do this, then the machine will reset the PM counter for the development unit automatically, after you turn the power on again.
3. Turn the machine power off.
4. PCDU (☞p.4-51)



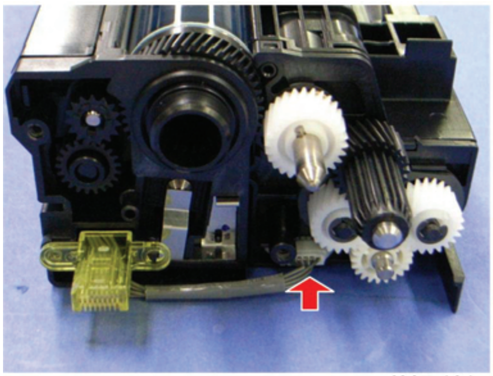
d037r179

5. Front cover [A] (🔩x 2)

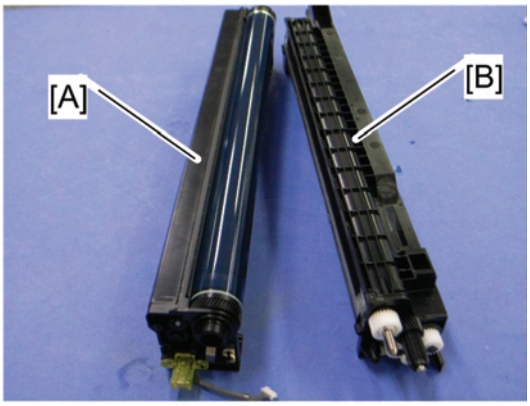


d037r180

6. Rear cover [A] (🔩 x 2)

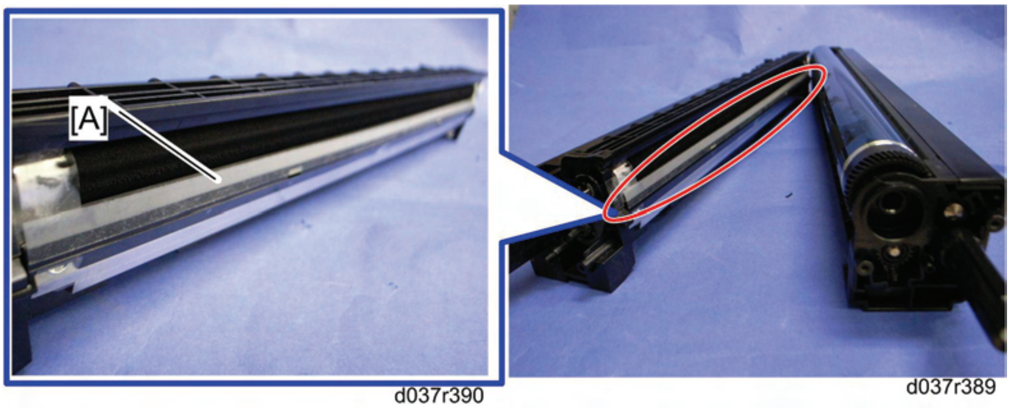


d037r181



d037r182

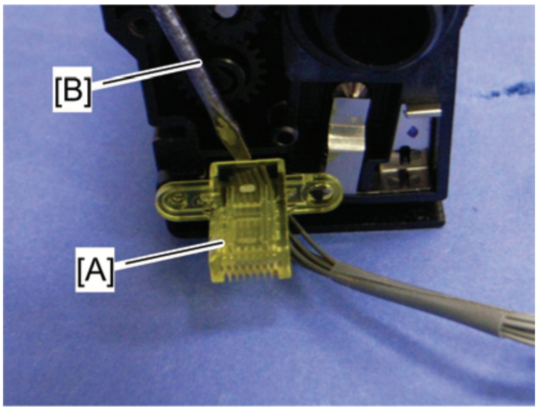
7. Drum unit [A] and development unit [B] (🔌 x 1)



d037r390 d037r389

Note

- When the development unit is removed from the drum unit, clean the entrance mylar [A] with a vacuum cleaner.



d037r334

8. Remove the connector [A] with a small flat tool [B].

Note

- Keep this connector [A] for the new drum unit.

9. If you change the development unit, do the ACC procedure.
10. Execute the drum phase adjustment with SP1902-001 twice.

New unit detection for the development unit

When a new development unit is installed in the machine, the machine will automatically reset the PM counters for the development unit and drum unit, even if the drum unit was not changed. To avoid resetting both counters after you install a new development unit only, make sure that step 2 in the procedure above is done before installing.

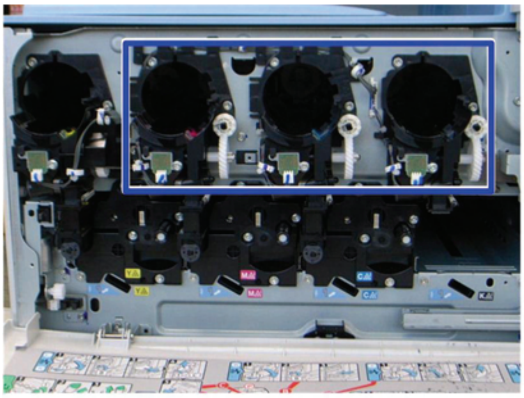
4.7.3 TONER HOPPER UNIT

Toner hopper unit: K, C, M

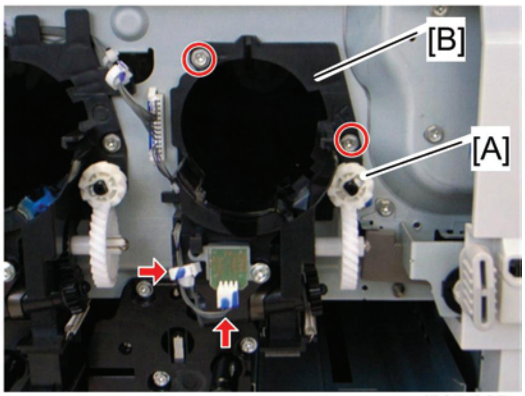
1. Open the front door.
2. PCDU toner collection bottle (☛p.4-15)
3. Inner cover (☛p.4-22)
4. PCDU (☛p.4-51)

Note

- Remove the corresponding color PCDU. For example, if you remove the toner hopper unit: K, remove the black PCDU.

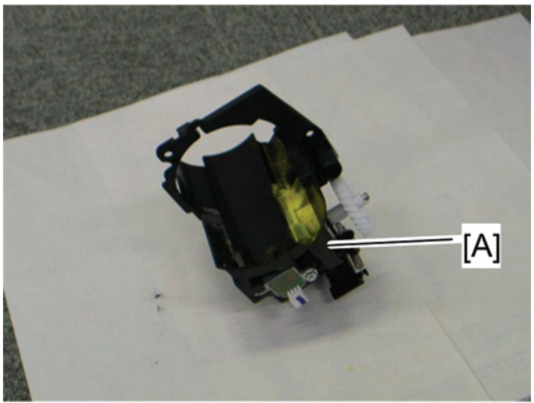


d037r304



d037r305

5. Toner supply drive gear [A] (hook x 1)
6. Toner hopper unit: K, C, M [B] (🔩 x 2, 🗜 x 1 for K and M; 2 for C , 🔌 x 1 each)

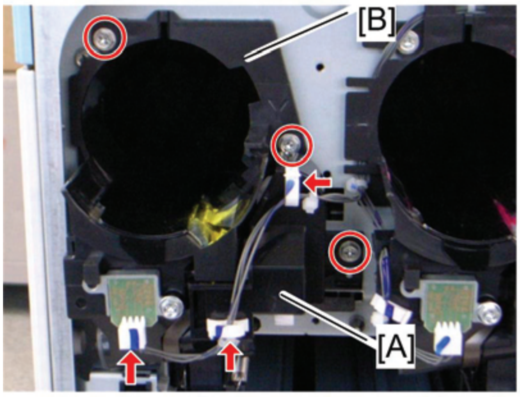


d037r372

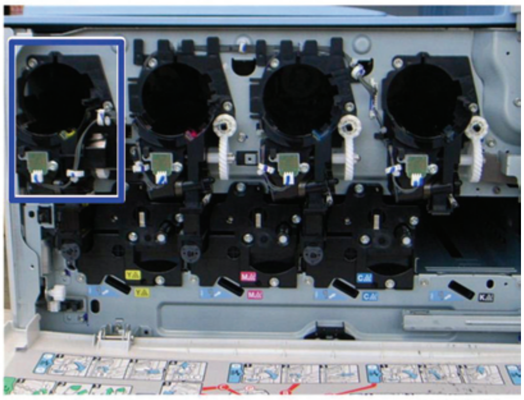
7. Place the toner hopper unit [A] on sheets of paper.

Toner hopper unit: Y

1. Open the front door.
2. PCDU toner collection bottle (☞p.4-15)
3. Inner cover (☞p.4-22)
4. PCDU (☞p.4-51)

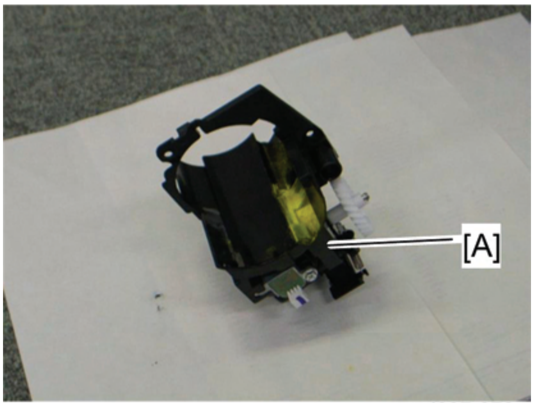


d037r306



d037r304

5. Gear cover [A] (🔩x 2, 🗜x 2)
6. Toner supply drive gear (hook x 1)
7. Toner hopper unit: Y [B] (🔩x 2, 🔌x 1 each)

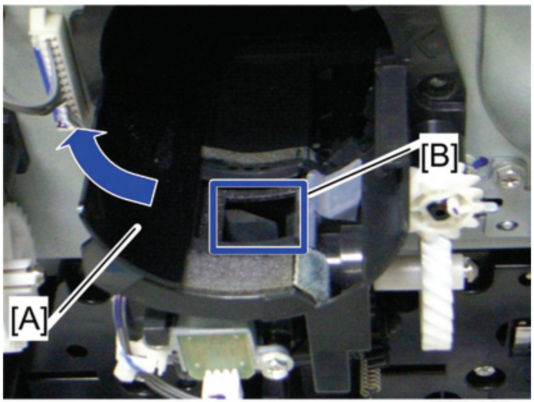


d037r372

8. Place the toner hopper unit [A] on sheets of paper.

When installing a new toner hopper unit

Developer must be added to the new toner hopper. Some developer (8 g) is provided with each new toner hopper unit. Pour this into the toner hopper unit before reattaching the inner cover.



d037r307

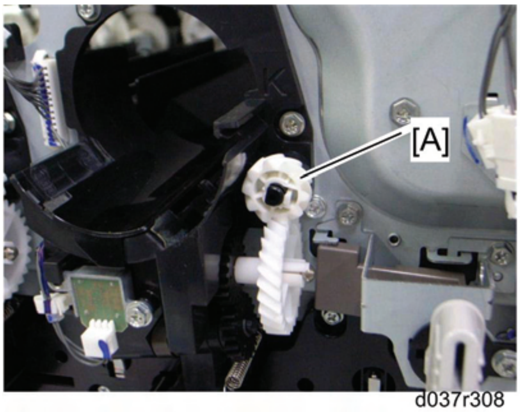
1. Slowly open the toner hopper shutter [A].

   Note

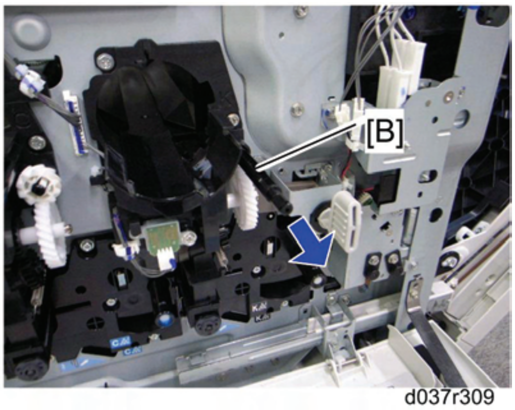
   - Do not try to open the toner hopper shutter fully at one try. This shutter comes off easily without the inner cover. If the toner hopper shutter has come off, reattach it.
2. Pour the developer (8 g) into the inlet [B] of the toner hopper unit.
3. Close the toner hopper shutter.
4. Reassemble the machine.

4.7.4 TONER SUPPLY MOTOR

1. Open the front door.
2. PCDU toner collection bottle (☞p.4-15)
3. Inner cover (☞p.4-22)
4. Inner tray (☞p.4-25)

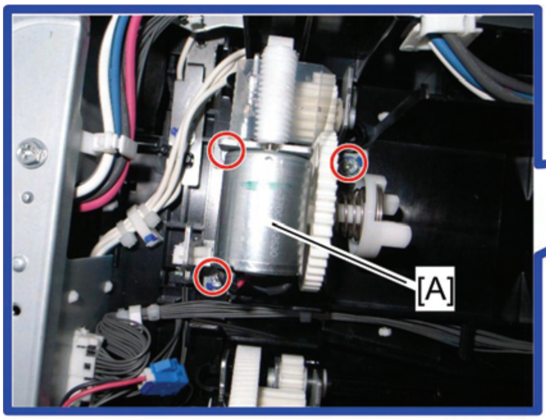


d037r308

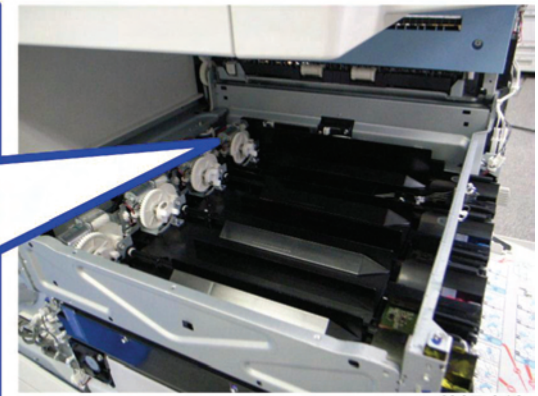


d037r309

5. Toner supply drive gear [A] (hook x 1)
6. Pull the toner supply drive shaft [B].



d037r311



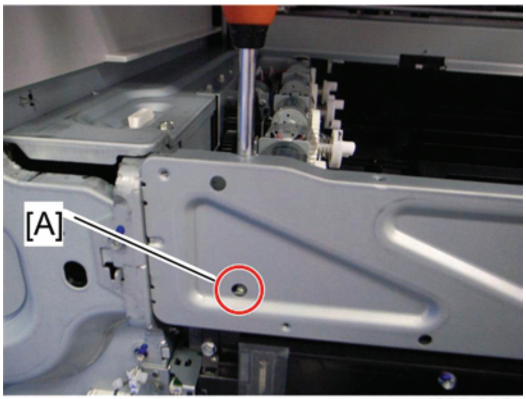
d037r310

7. Take aside the toner supply gear unit [A] (🔩x 3).

NOTE

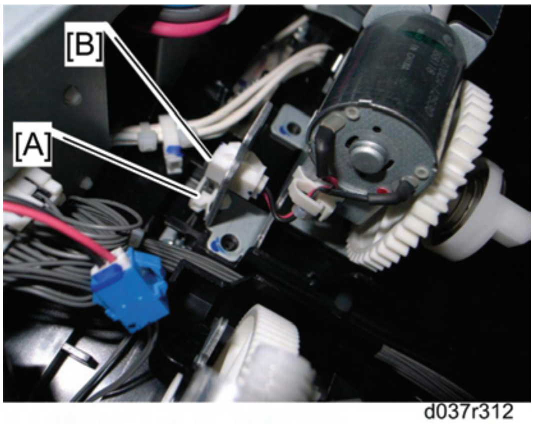
When removing the toner supply gear unit for **Yellow**, one of screws on the toner supply gear unit is difficult to see.

1) Remove the left cover (☛p.4-18).



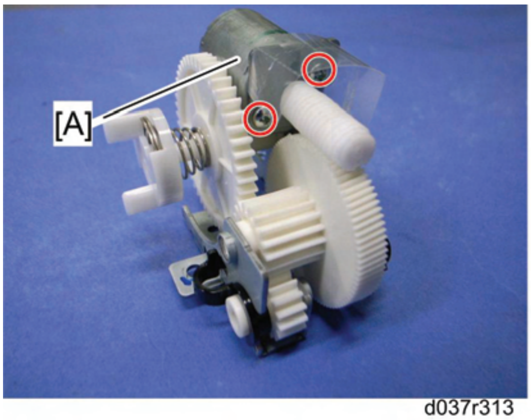
d037r315

2) Check the screw position [A] as shown above.

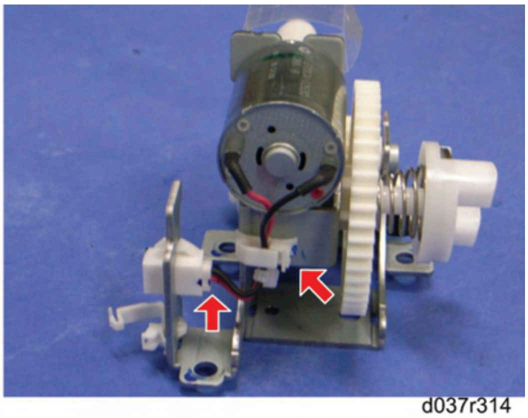


d037r312

8. Release the clamp [A], and then disconnect the harness [B].



d037r313

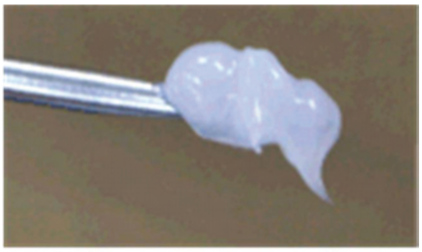


d037r314

9. Toner supply motor [A] (🔌 x 1, ⊏ x 1, 🔩 x 2)

NOTE

Apply “Silicon Grease G501” to the gear of the motor. The appropriate amount of grease is as shown below.

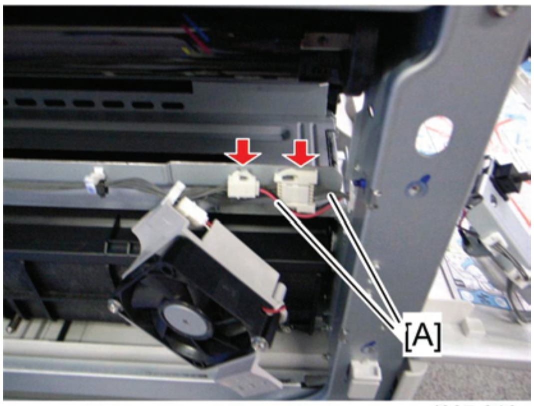


d037r561

- The flat screwdriver in the photo is a small size.

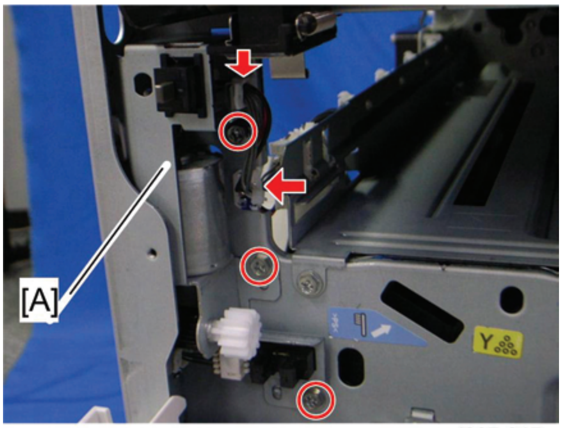
4.7.5 TONER COLLECTION MOTOR

1. Open the front door.
2. PCDU toner collection bottle (☞p.4-15)
3. PCDU: Yellow (☞p.4-51)
4. Ventilation Fan: Front (☞"Removing the laser unit" under p.4-44 "Laser Unit")



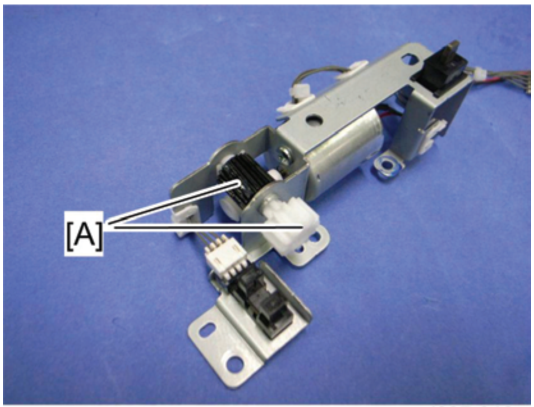
d037r316

5. Disconnect two harnesses [A].



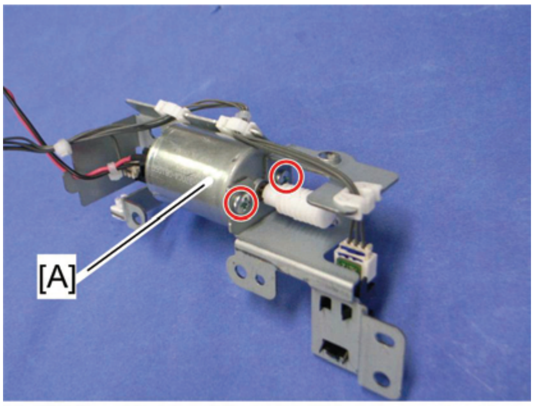
d037r317

6. Toner collection motor assembly [A] (🔌x 2, 🔩x 3)



d037r318

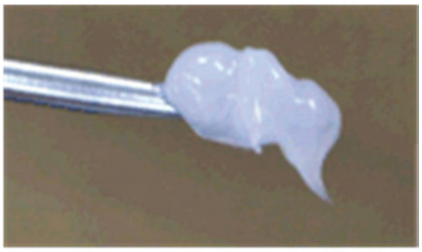
7. Gears [A] (◎x 1)



d037r319

8. Toner collection motor [A] (🔩x 2)

NOTE
Apply “Silicon Grease G501” to the gear of the motor. The appropriate amount of grease is as shown below.

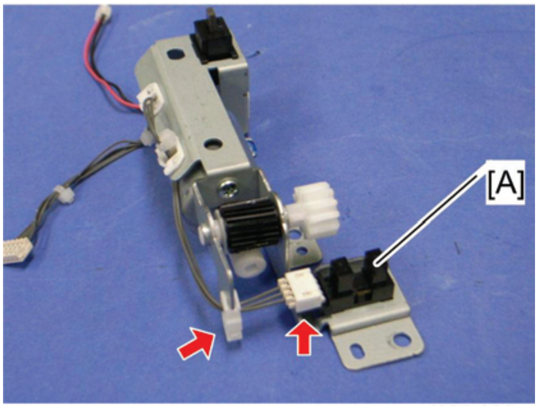


d037r561

- The flat screwdriver in the photo is a small size.

4.7.6 PCDU TONER COLLECTION BOTTLE FULL SENSOR

1. Toner collection motor assembly (☞p.4-60 "Toner Collection Motor")

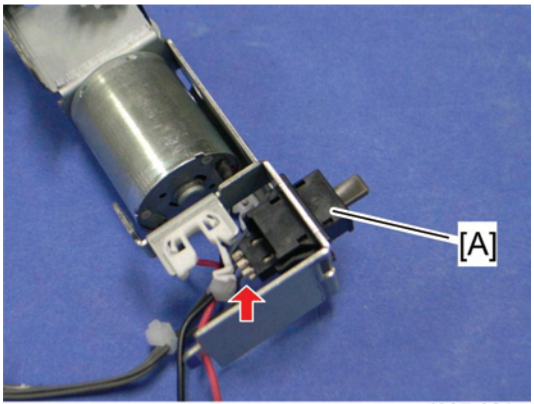


d037r320

2. PCDU toner collection bottle full sensor [A] (🗜x 1, 🔌x 1, hooks)

4.7.7 PCDU TONER COLLECTION BOTTLE SET SWITCH

1. Toner collection motor assembly (☞p.4-60 "Toner Collection Motor")

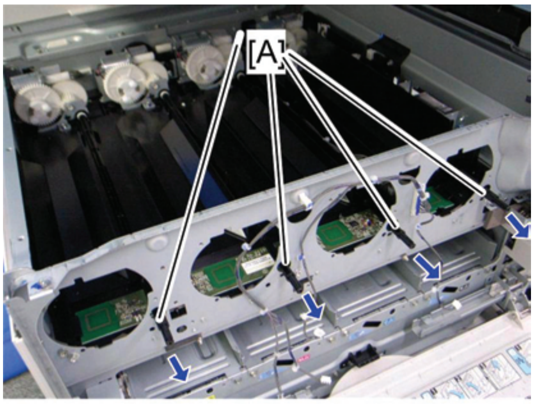


d037r321

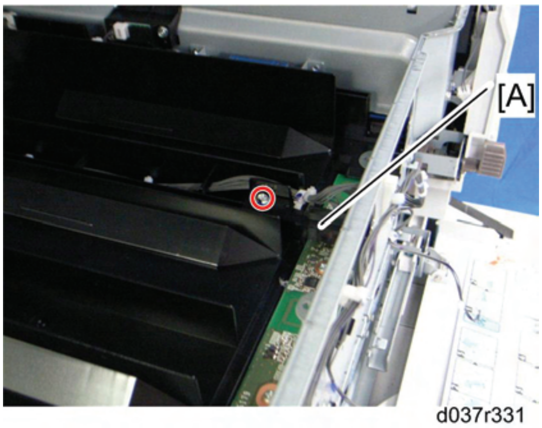
2. PCDU toner collection bottle set switch [A] (hooks, 🔌x 1)

4.7.8 RFID BOARD

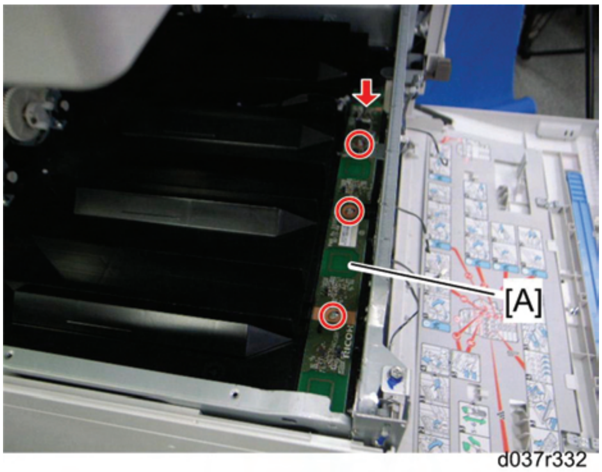
1. All toner hopper units (☞p.4-55)
2. Inner tray (☞p.4-25)



3. Toner supply drive shafts [A]



4. Harness cover [A] (🔩x 1)

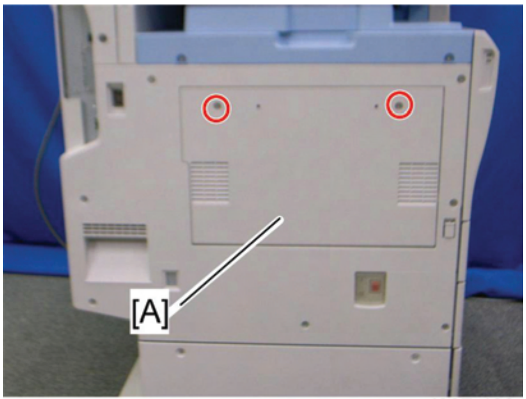


5. RFID board [A] (🔩x 3, 🔌x 1)

4.8 IMAGE TRANSFER

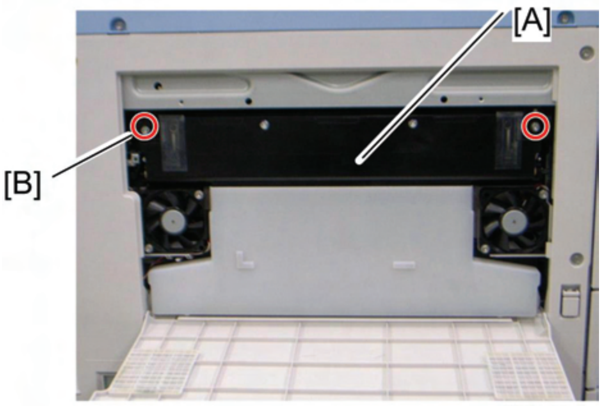
4.8.1 ITB CLEANING UNIT

If you replace the cleaning unit or toner collection bottle after the machine detects that it is full or near-full, the machine automatically resets the PM counter for the 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 SPs 3902-017 and -020 to 1 before you turn off the power switch.
If you do this, then the machine will reset the PM counter for the units automatically, after you turn the power on again.
SP 3902-017 is for the ITB cleaning unit and SP 3902-020 is for the ITB toner collection bottle.



d037r400

1. Open the ITB cleaning unit cover [A] (🔩x 2).



d037r202

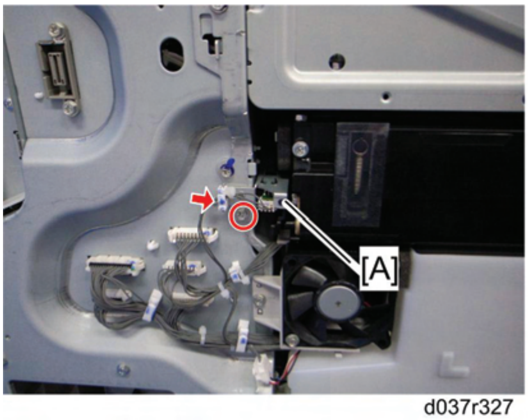
2. ITB cleaning unit [A] (🔩x 2)

When installing the ITB cleaning unit

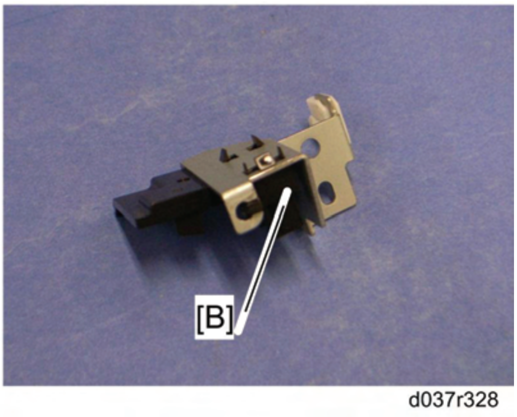
Secure the front side [B] first with a screw. This [B] is the positioning screw.

4.8.2 ITB TONER COLLECTION BOTTLE FULL SENSOR

1. Left cover (☛p.4-18)



d037r327

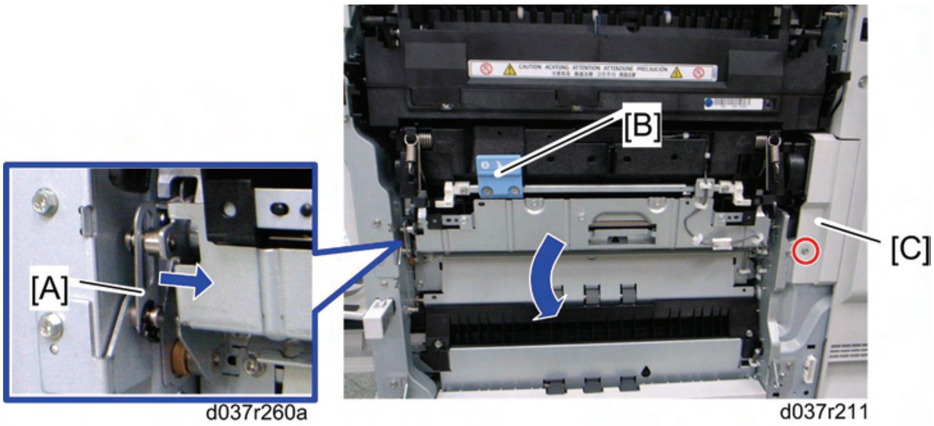


d037r328

2. Bottle full sensor assembly [A] (🔩x 1, 🗜x 1, 🔌x 1)
3. ITB toner collection bottle full sensor [B] (hooks)

4.8.3 ITB (IMAGE TRANSFER BELT) UNIT

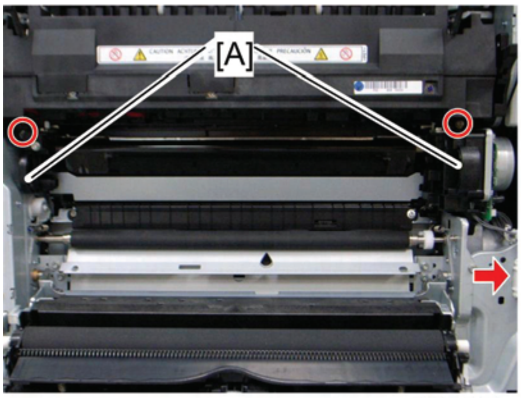
1. ITB cleaning unit (☛p.4-65)
2. PCU toner collection bottle (☛p.4-15)
3. Unlock the ITB lock lever (☛p.4-22 "Inner Right Cover").
4. Duplex unit (☛p.4-131)



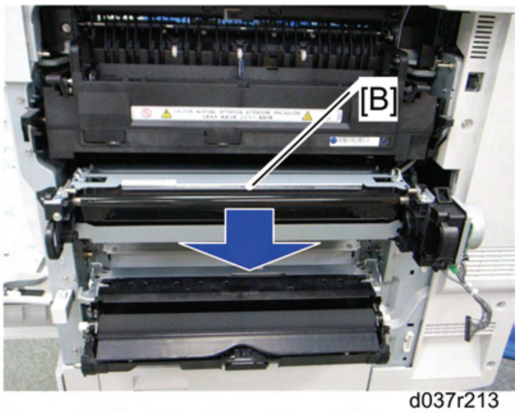
d037r260a

d037r211

5. Release the arm [A] (🗜 x 1).
6. Pull the lever [B] to open the paper transfer unit.
7. Harness cover [C] (🔩x 1)



d037r212



d037r213

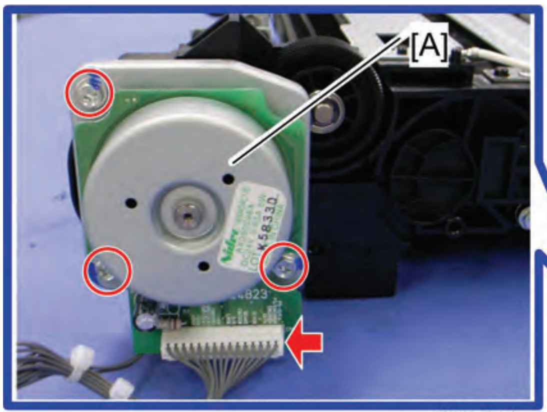
8. Grasp the handles [A], and then pull out the ITB unit fully [B] (x 2, x 1).
9. Remove the ITB unit motor after pulling out the ITB unit from the machine. (☞ "Next procedure")

★ Important

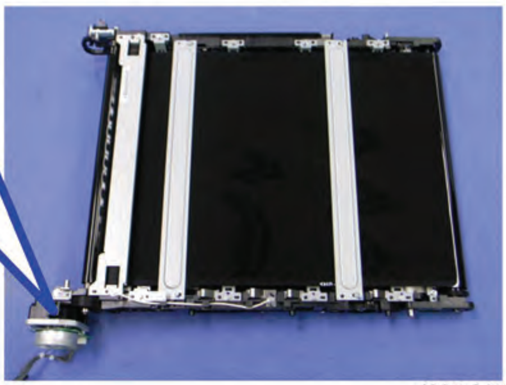
- If it takes much time to reinstall the ITB unit after removing it from the machine, close the paper transfer unit to prevent the drum units from being exposed to light.

4.8.4 ITB UNIT MOTOR

1. ITB cleaning unit (☞p.4-65)
2. ITB unit (☞p.4-66)



d037r214

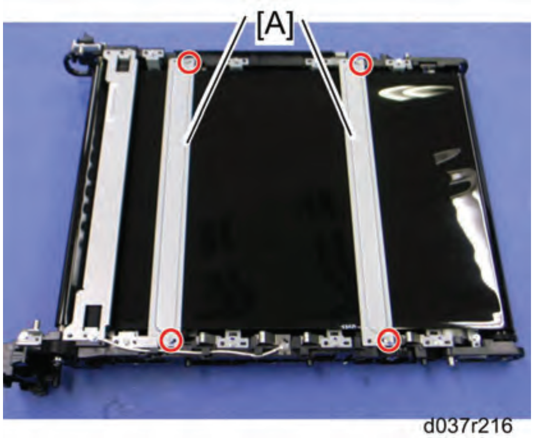


d037r215

3. ITB unit motor [A] (🔩x 3, 🔌x 1)

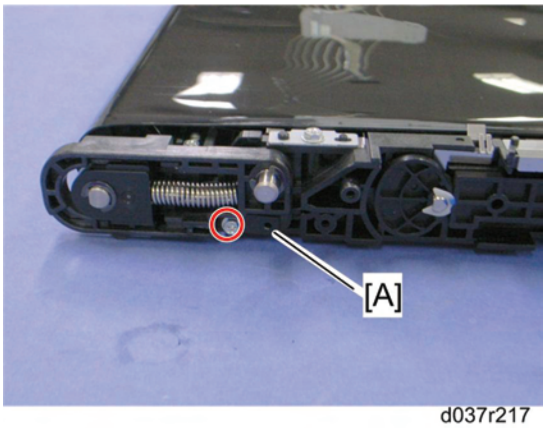
4.8.5 IMAGE TRANSFER BELT

1. ITB cleaning unit (☞p.4-65)
2. ITB unit (☞p.4-66)
3. ITB unit motor (☞p.4-68)



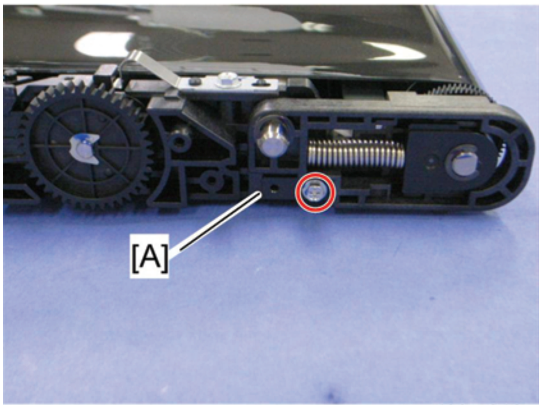
d037r216

4. Two stays [A] (🔩x 2 each)



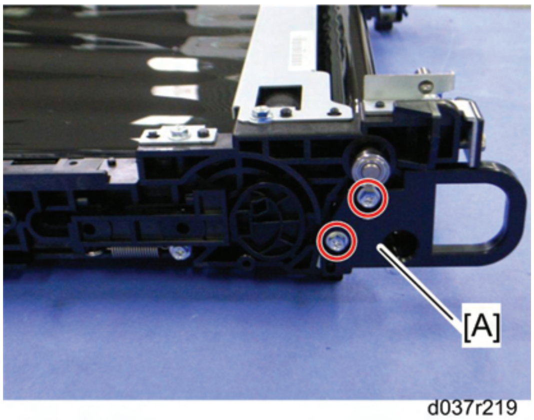
d037r217

5. Front holder bracket [A] (as seen from the front) (🔩x 1: M3x10)

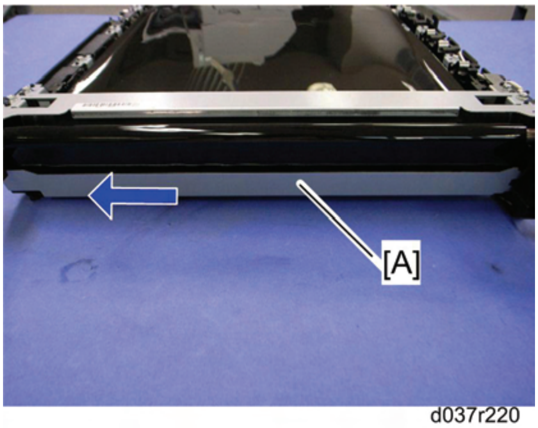


d037r218

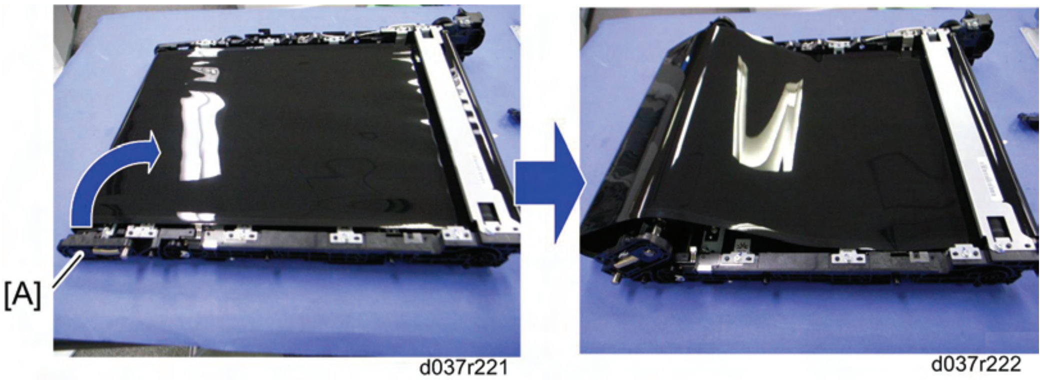
6. Rear holder bracket [A] (as seen from the rear) (🔩x 1: M3x10)



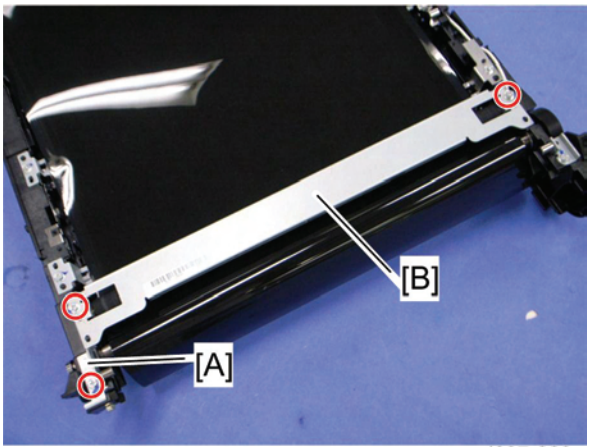
7. Handle [A] (x 2: M3x10)



8. Guide bracket [A]

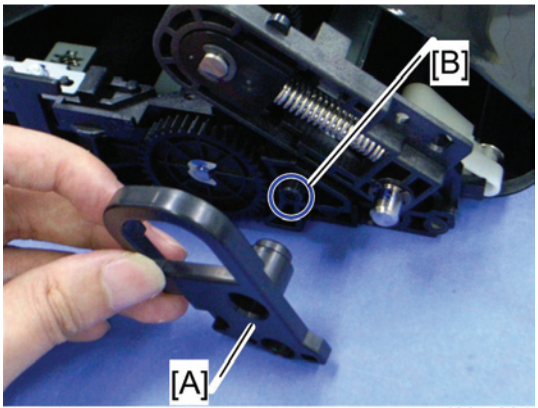


9. Pull the tension roller [A] as shown.



d037r223

10. Front guide pin bracket [A] (🔩x 1)
11. Press roller bracket [B] (🔩x 2)

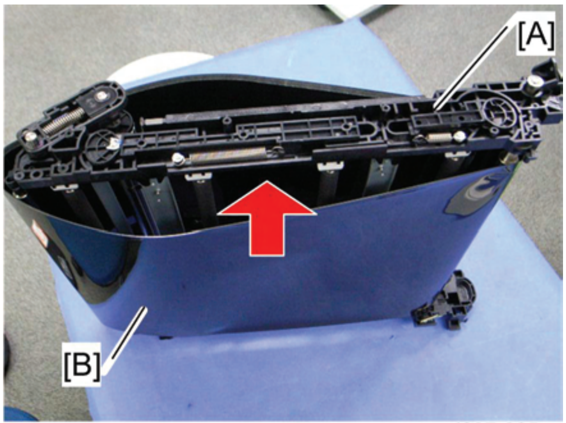


d037r224

12. Attach the handle [A], which was removed in step 7, to the projection [B] on the rear left side (🔩x 1).

Note

- This handle will be used as a stand in later steps.

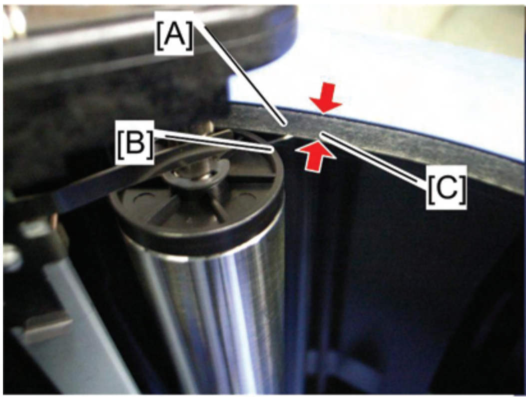


d037r225

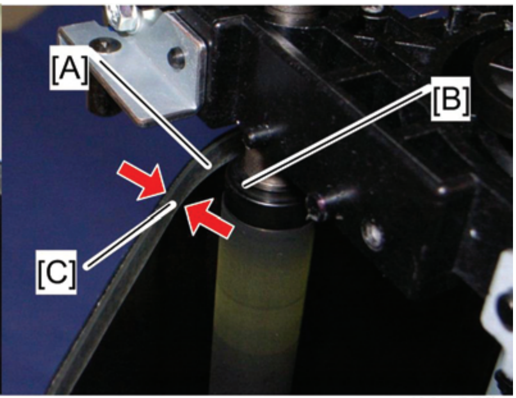
13. Stand the ITB unit [A] as shown above.
14. Image transfer belt [B]

When reinstalling a new image transfer belt

- Reset the PM counter



d037r329

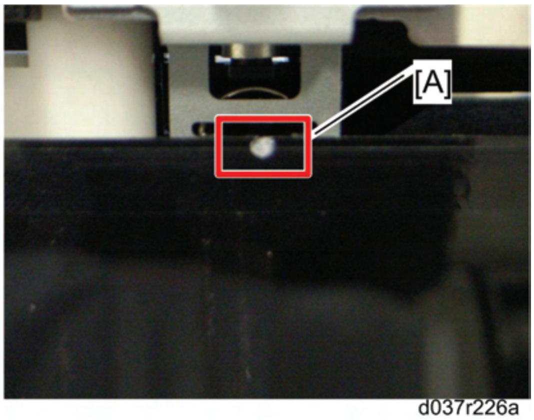


d037r350

- There is a rim [A] at each edge of the transfer belt. The ends of all the rollers ([B] for example) in the transfer belt unit must be between the two rims.

Note

  - There are two rims (width [C]: about 5 mm) at the front and rear edges inside the image transfer belt.

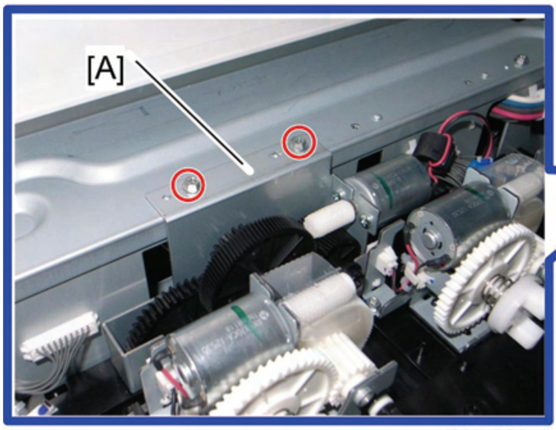


d037r226a

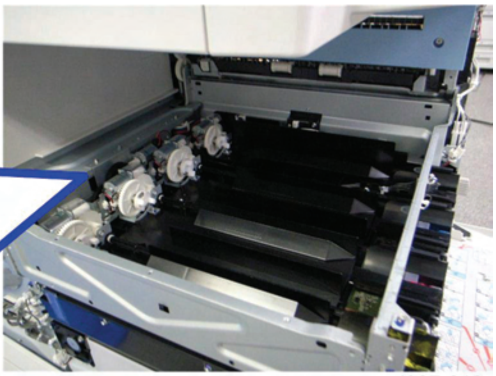
- This belt must be installed the correct way around. When you reinstall the image transfer belt unit, install it with the white mark [A] on the belt at the rear side of the unit.

4.8.6 ITB CONTACT MOTOR

1. Pull out all the toner bottles.
2. Inverter tray (☞p.4-25)
3. Inner tray (☞p.4-25)

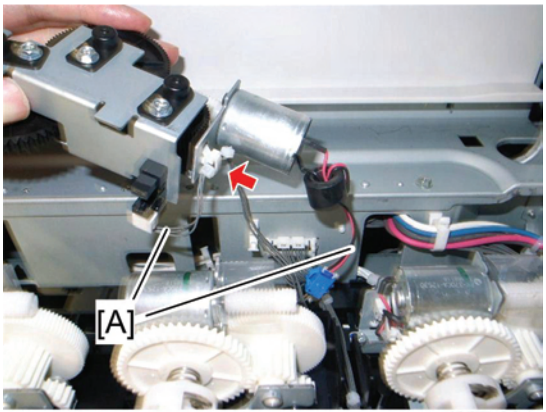


d037r323



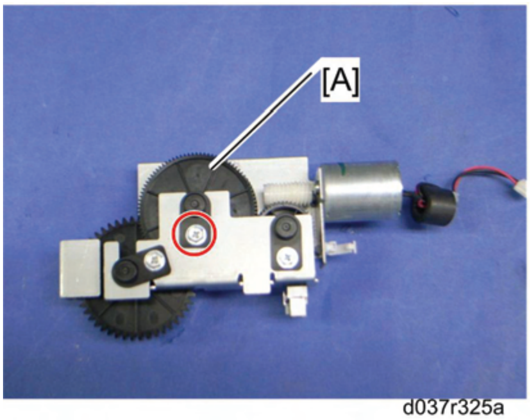
d037r310

4. Take aside the ITB contact motor unit [A] (x 2)

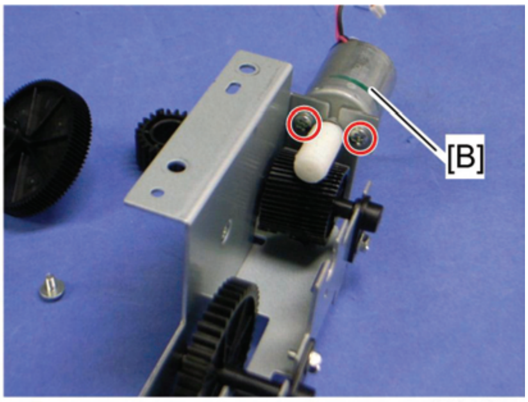


d037r324

5. Disconnect two harnesses [A], and then remove the ITB contact motor unit (x 1)

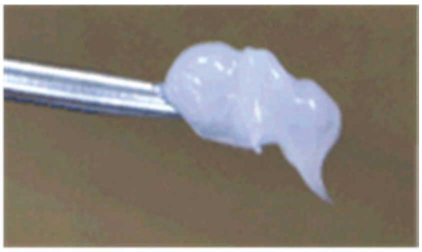


d037r325a



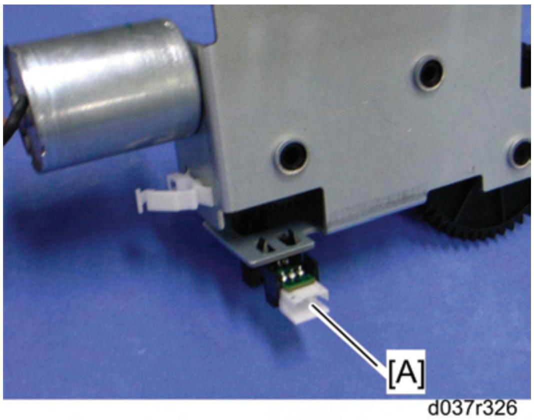
d037r325

6. Gears [A] (x 1)
7. ITB contact motor [B] (x 2)

NOTE
Apply “Silicon Grease G501” to the gear of the motor. The appropriate amount of grease is as shown below.  d037r561 ▪ The flat screwdriver in the photo is a small size.

4.8.7 ITB CONTACT SENSOR

1. ITB contact motor unit (☞p.4-73 "ITB Contact Motor")



2. ITB contact sensor [A] (hooks)

4.9 PAPER TRANSFER

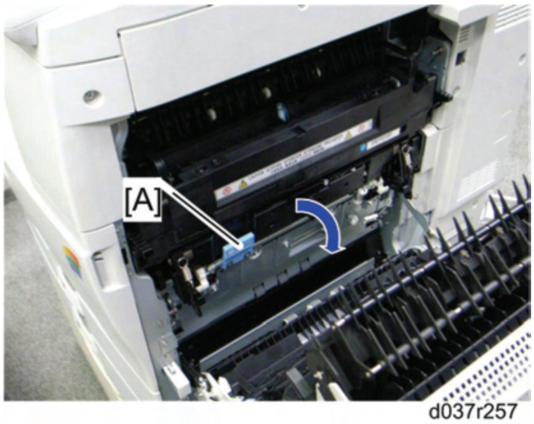
4.9.1 PTR (PAPER TRANSFER ROLLER) UNIT

- If you install a new PTR unit, then set SP 3902-018 to "1" before you start this procedure.

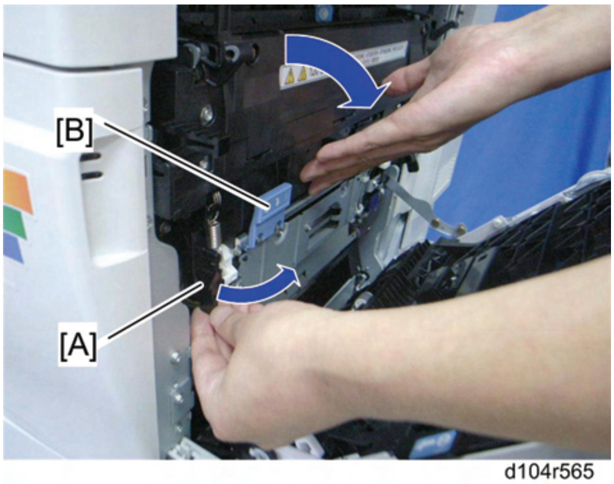
Note

  - If you do this, then the machine will reset the PM counter for the paper transfer unit automatically, after you turn the power on again.

1. Open the duplex unit.



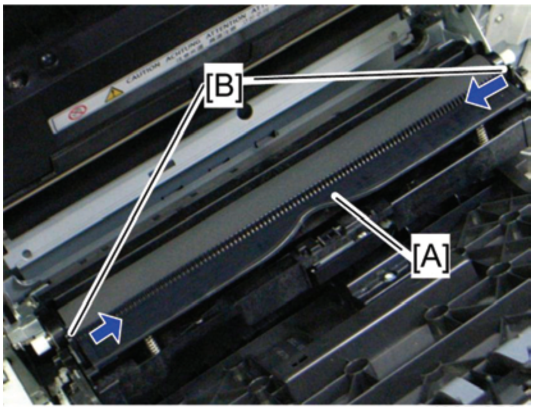
2. Open the paper transfer unit [A].



- If the paper transfer unit cannot be opened, keep your hand supporting the PTR unit as shown above and release very carefully the front tension lever [A] of the PTR unit. In this case, the PTR unit open lever [B] does not work to open the PTR unit.

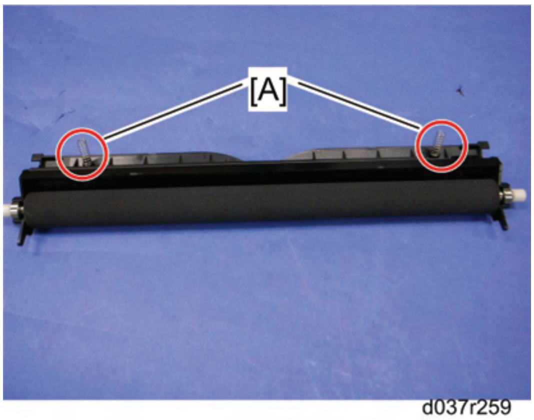
⚠CAUTION

  - The spring tension of the tension lever is very strong. Be very careful to release the tension lever. Otherwise, your hand or fingers may be injured.



d037r258

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

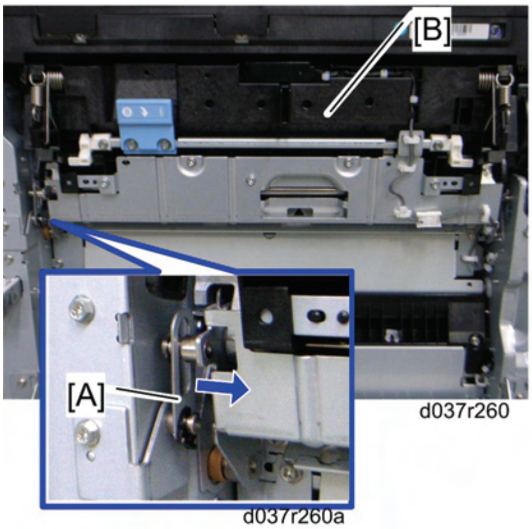


d037r259

4. Remove the two springs [A].
    - Keep these two springs from the old PTR unit and install them in the new PTR unit.

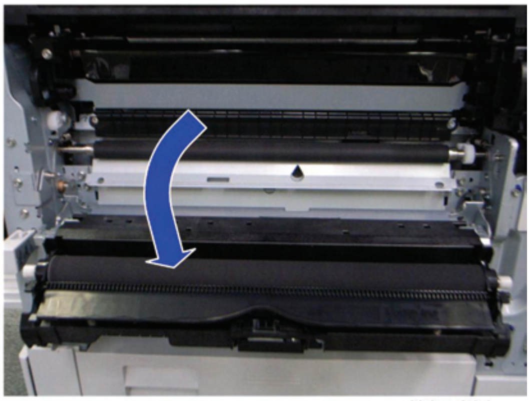
4.9.2 PAPER TRANSFER UNIT FULL-OPEN

1. Duplex unit (☞p.4-131)



d037r260

d037r260a

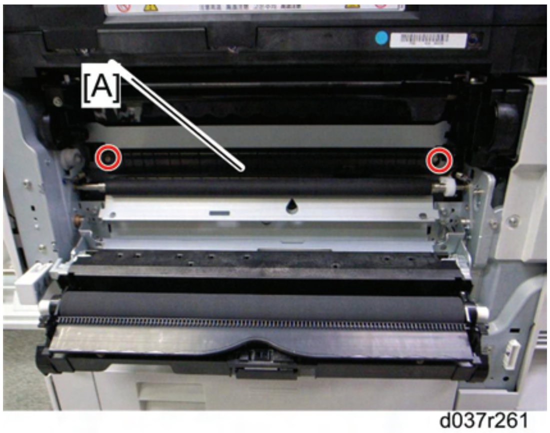


d037r261a

2. Release the arm [A] (x 1).
3. Open the paper transfer unit [B] fully.

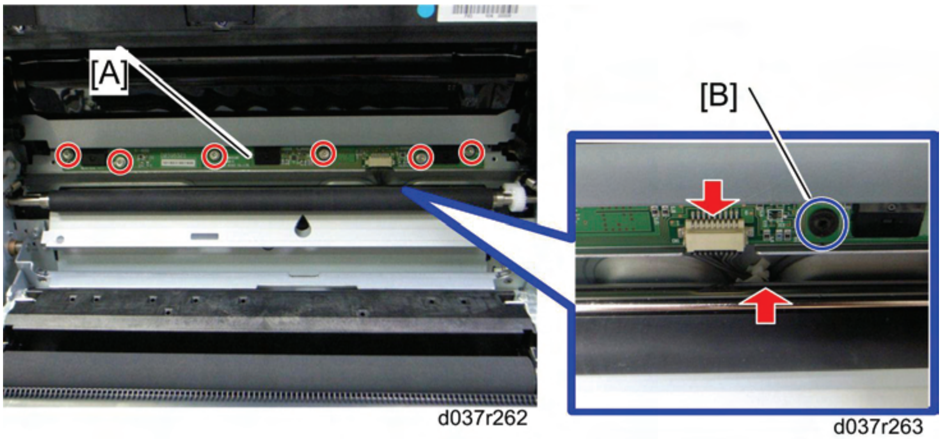
4.9.3 ID SENSOR BOARD

1. Duplex unit (☞p.4-131)
2. Open the paper transfer unit fully (☞p.4-78 "Paper Transfer Unit Full-Open").



d037r261

3. ID sensor cover [A] (x 2)



d037r262 d037r263

4. ID sensor board [A] (x 6, , x 1, x 1)

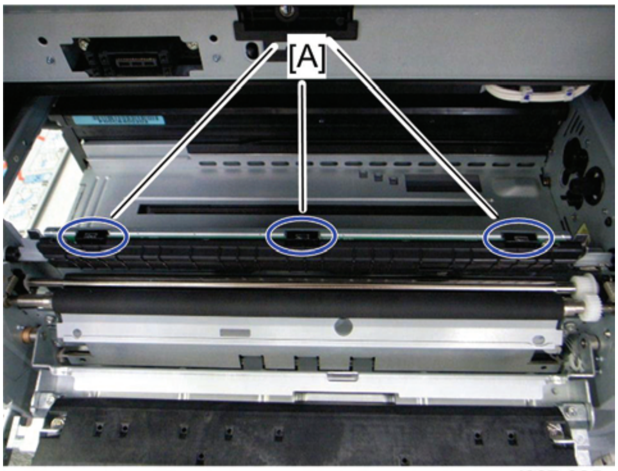
Note

- If the black spacer [B] is stuck to the sensor board as shown above, remove all black spacers. These black spacers should be used when a new ID sensor board is installed.

Cleaning for ID sensors

ID sensors require cleaning maintenance every EM. Do the following steps for ID sensor cleaning.

1. PCDU: K (☞p.4-51)
2. ITB unit (☞p.4-66)



d037r335

3. Clean the ID sensors [A].
   - Use a cloth moistened with alcohol to clean the ID sensors.

Note

- Do not use a dry cloth. Otherwise, the ID sensors may get more dirty due to static electricity.

After installing a new ID sensor unit/board

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

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

OK

SD1803180175B

SP3-362-016: 0.259

SP3-362-013: 0.98

d037r264

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 unit/board.

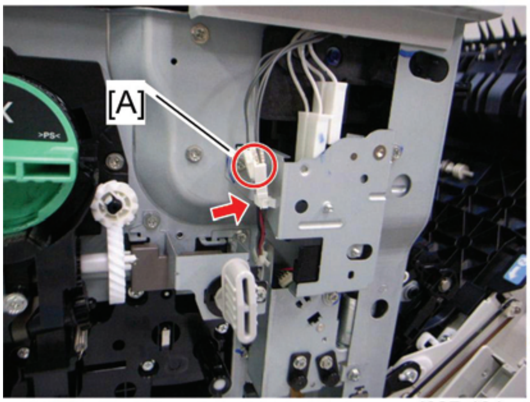
Note

   - For example, input "**0.98**" with SP3-362-013.

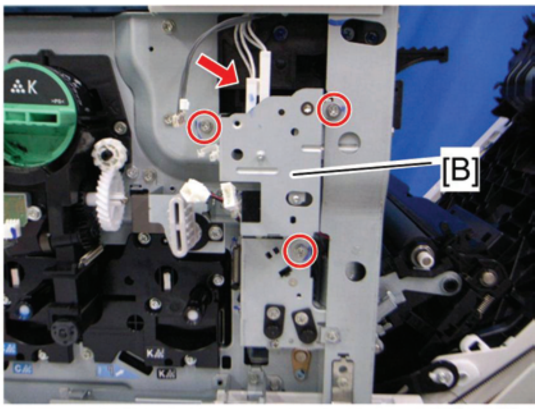
4. Exit the SP mode.

4.9.4 PTR CONTACT MOTOR

1. Open the duplex unit.
2. Open the paper transfer unit (☞p.4-76 "PTR (Paper Transfer Roller) Unit").
3. Inner right cover (☞p.4-22)
4. Inner cover (☞p.4-22)

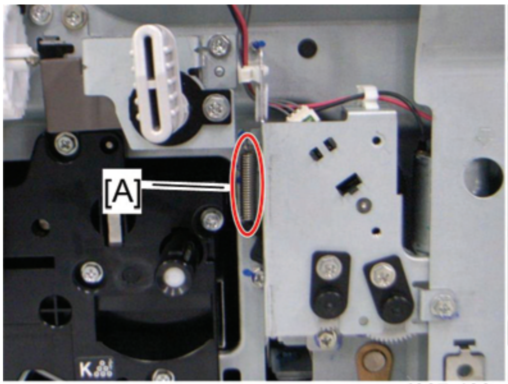


d037r404

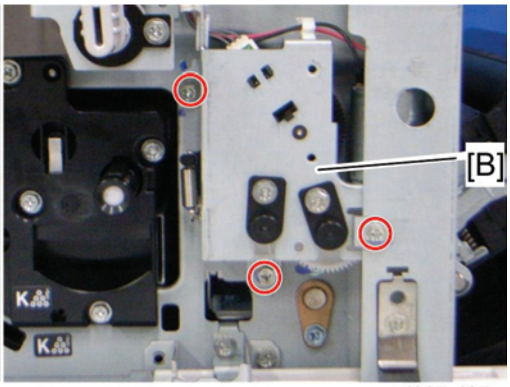


d037r405

5. Disconnect the two harnesses [A] (x 1).
6. Interlock switch bracket [B] (x 3, x all)



d037r406



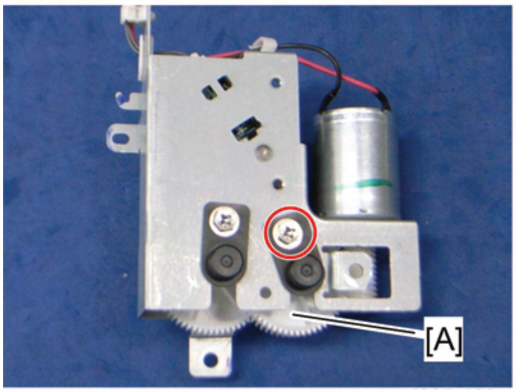
d037r407

7. Spring [A]

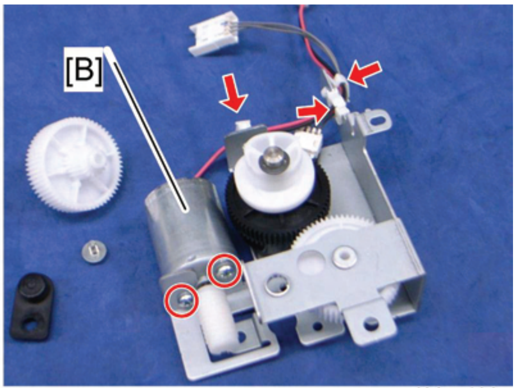
Note

- Do not forget to reinstall the spring [A] when reassembling. Otherwise, SC400 may occur.

8. PTR contact motor bracket [B] (x 3)



d037r408

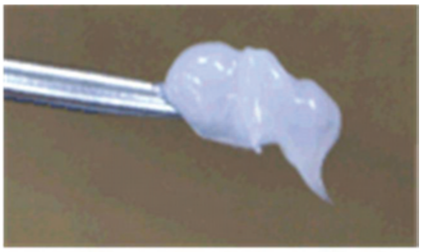


d037r409

9. Gear [A] (x 1, bearing x 1)
10. PTR contact motor [B] (x 2, x 3)

NOTE

Apply “Silicon Grease G501“ to the gear of the motor. The appropriate amount of grease is as shown below.

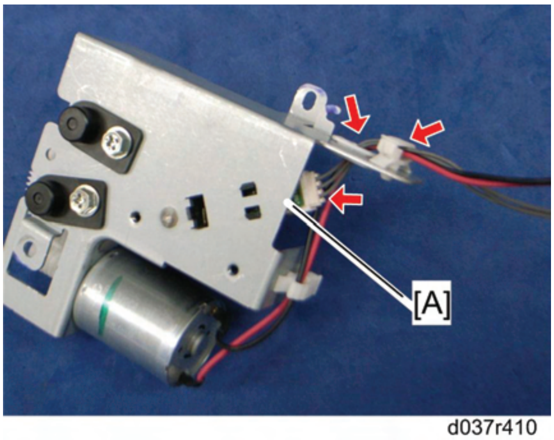


d037r561

- The flat screwdriver in the photo is a small size.

4.9.5 PTR CONTACT SENSOR

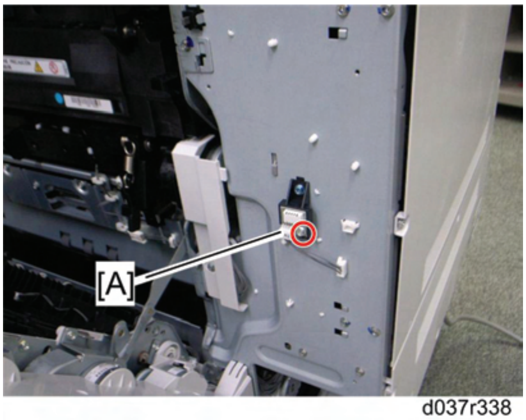
1. PTR contact motor bracket (☞ p.4-80 "PTR Contact Motor")



2. PTR contact sensor [A] (hooks, 📎x 2, 🔌 x 1)

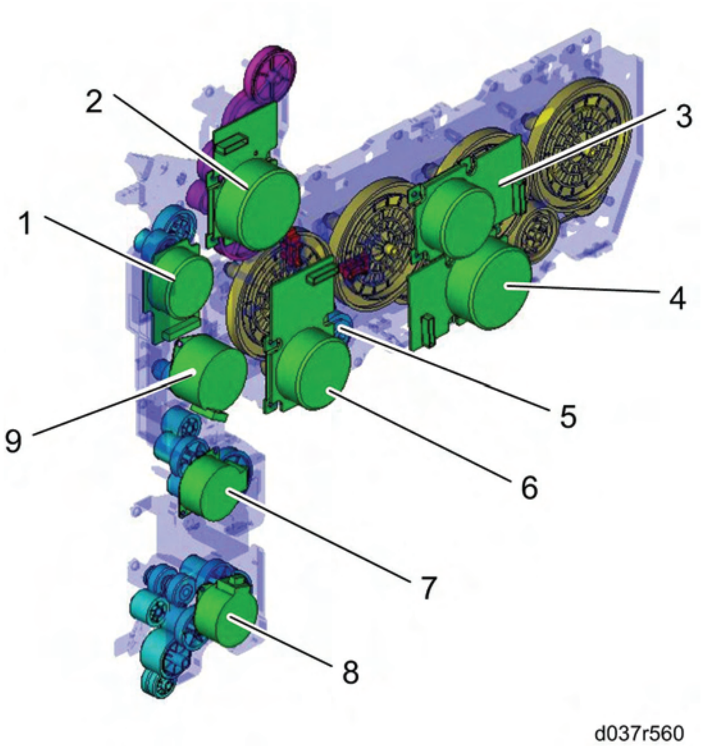
4.9.6 TEMPERATURE AND HUMIDITY SENSOR

1. Right rear cover (☞p.4-20)



2. Temperature and humidity sensor [A] (🔩x 1, 🔌x 1, 📎x 1)

4.10 DRIVE UNIT



The drawing above shows the drive unit layout.

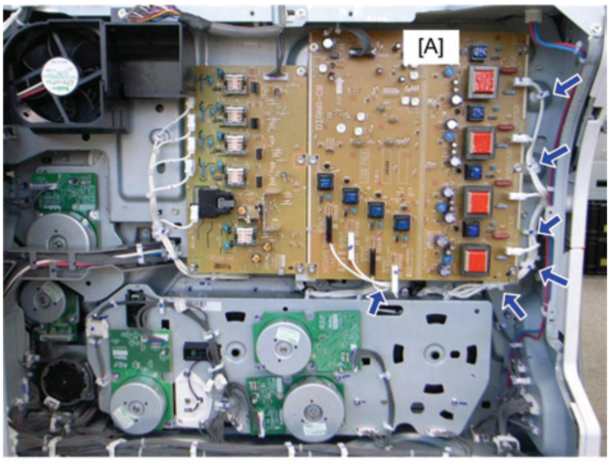
1. ITB unit motor 2. Fusing/paper exit motor 3. Drum motor: CMY 4. Development motor: CMY 5. Development clutch: K	6. Drum/Development motor: K 7. Paper feed motor: T1 8. Paper feed motor: T2 9. Registration motor

There are some motors and clutches that are not shown in the above drawing:

▪ Duplex inverter motor ▪ Duplex Entrance Motor	▪ Duplex Exit Motor ▪ By-pass Motor

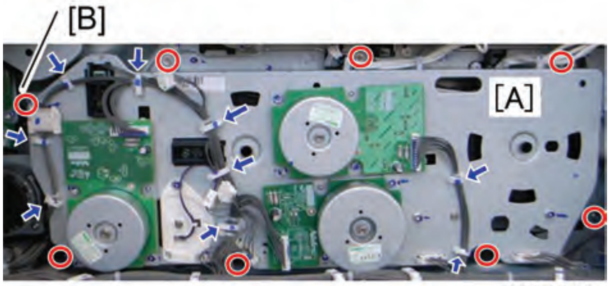
4.10.1 GEAR UNIT

1. Rear cover (☞p.4-18)
2. Rear lower cover (☞p.4-19)
3. Open the controller box (☞p.4-146 "Controller Box")



d037r165

4. Remove all connectors and clamps (blue arrows) on the HVPS: CB board [A].
5. Pull all the PCDUs to the front side. (☞p.4-51)



d037r166

6. Gear unit [A] (x all, x all: blue arrows, x 8)
    - The short screwdriver (190 mm or less in total length) is required to remove the screw [B].

Adjustment after reinstalling the gear unit

Do the following procedures after reinstalling the gear unit.

1. Turn on the main power switch.
2. Enter "System SP" in the SP mode.
3. Do "Drum Phase Adj." with SP1902-001.
4. Check the result of the Drum Phase Adjustment with SP1902-002.

   0: Success, 2: Failure due to no sampling data,

   3: Failure due to insufficient number of pattern detections

   When the result of this adjustment is "2" or "3":

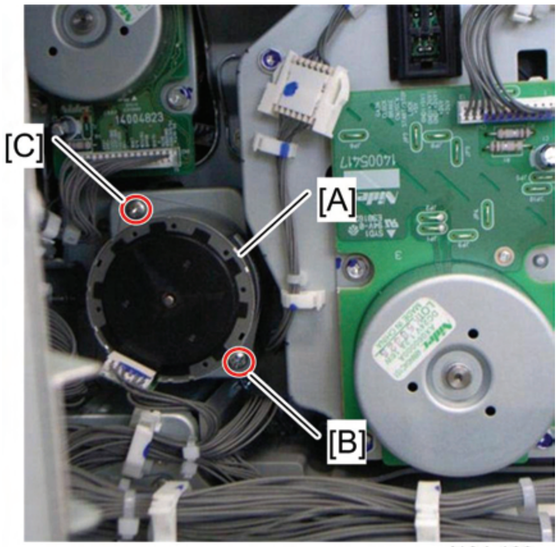
   - Check that the all PCDUs are correctly set and that the ITB unit is correctly set.
   - Do "Drum Phase Adj." again after checking the PCDUs and ITB unit.

   When the result is still "2" or "3" after checking the PCDUs and image transfer belt unit:

   - Check that the gear unit is installed correctly.
5. Exit the SP mode.

4.10.2 REGISTRATION MOTOR

1. Rear cover (☞p.4-18)
2. Rear lower cover (☞p.4-19)
3. Open the controller box (☞p.4-146 "Controller Box")

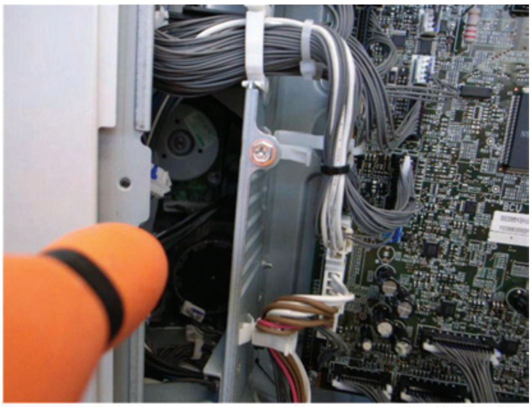


d104r168

4. Registration motor [A] (🔩x 2, 🔌 x 1)
   - The short screwdriver (190 mm or less in total length) is required to remove the screw [B]

↓ Note

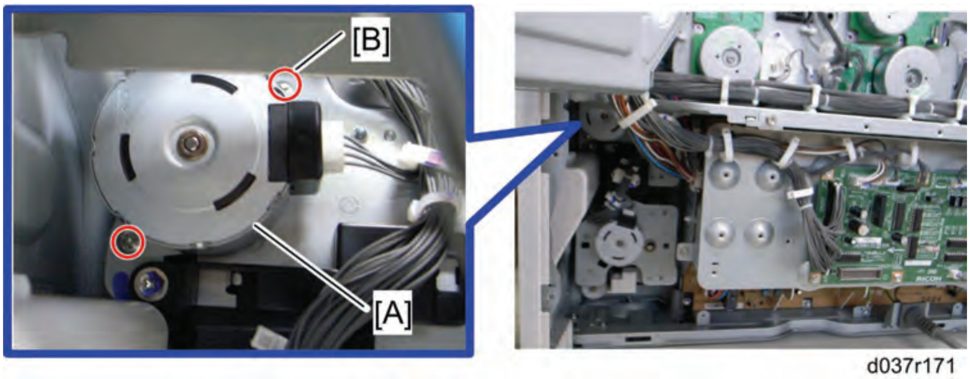
- The picture below shows how to remove the screw [C] of the gear unit. The controller box should be closed at this time.



d037r167

4.10.3 PAPER FEED MOTOR: T1

1. Rear cover (☞p.4-18)
2. Rear lower cover (☞p.4-19)
3. Open the controller box (☞p.4-146 "Controller Box")

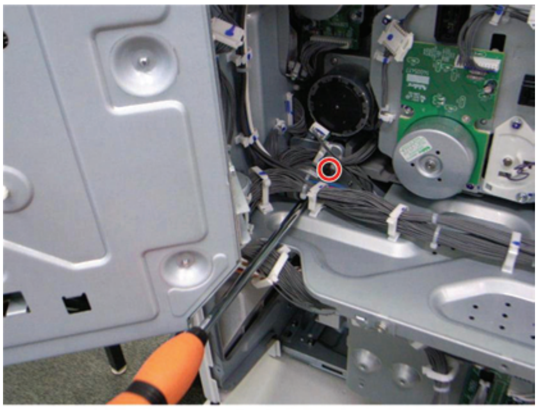


d037r171

4. Paper feed motor: T1 [A] (x 1, x 2)

Note

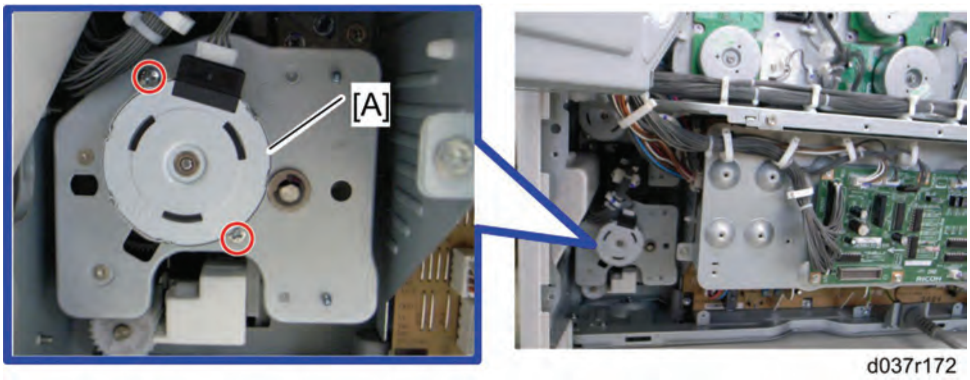
- The picture below shows how to remove the screw [B] of the paper feed motor T1.



d037r173

4.10.4 PAPER FEED MOTOR: T2

1. Rear lower cover (☞p.4-19)



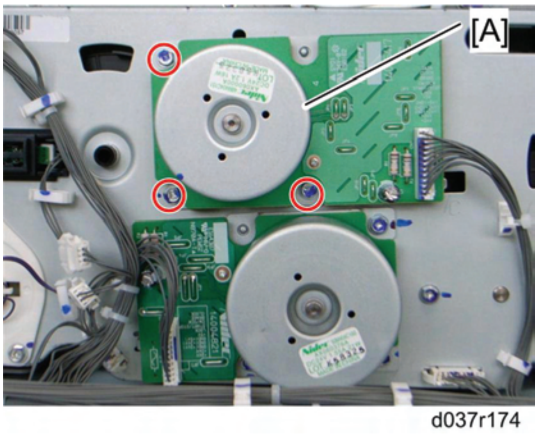
2. Paper feed motor: T2 [A] (🔌 x 1, 🔩 x 2)

4.10.5 DRUM MOTOR: CMY

★ Important

- Do not remove the PCDUs when you replace the drum motor-CMY.

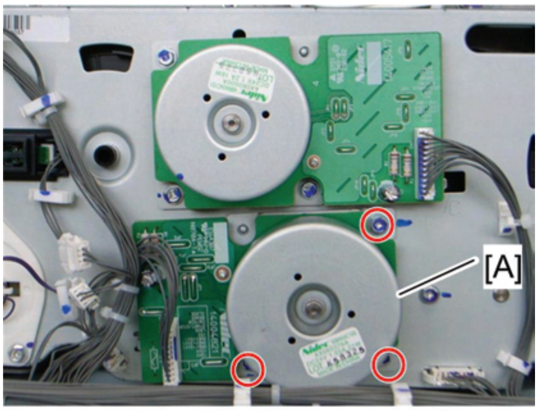
1. Rear cover (☞p.4-18)
2. Rear lower cover (☞p.4-19)
3. Open the controller box (☞p.4-146 "Controller Box")



4. Drum motor: CMY [A] (🔩 x 3, 🔌 x 1)

4.10.6 DEVELOPMENT MOTOR: CMY

1. Rear cover (☞p.4-18)
2. Rear lower cover (☞p.4-19)
3. Open the controller box (☞p.4-146 "Controller Box")

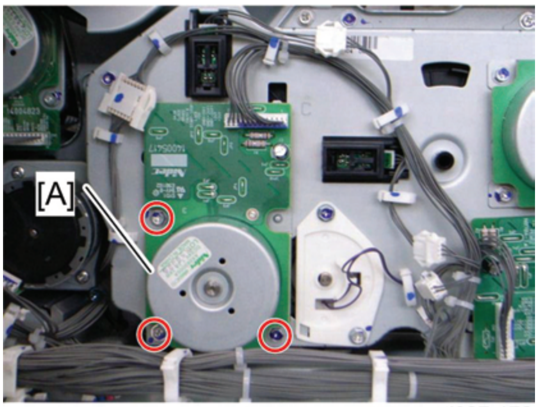


d037r175

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

4.10.7 DRUM/DEVELOPMENT MOTOR: K

1. Rear cover (☞p.4-18)
2. Rear lower cover (☞p.4-19)
3. Open the controller box (☞p.4-146 "Controller Box")

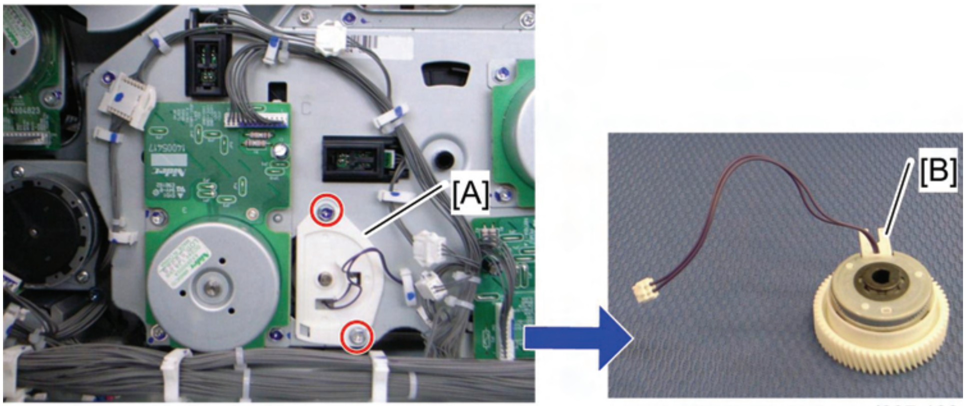


d037r176

4. Drum/Development motor: K [A] (🔩x 3, 🔌x 1)

4.10.8 DEVELOPMENT CLUTCH: K

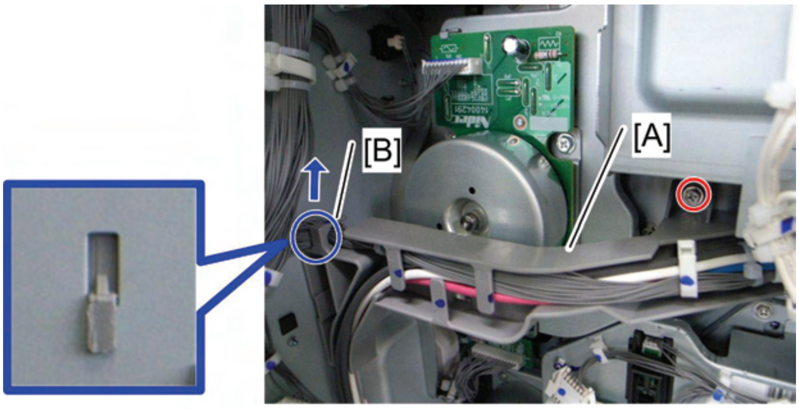
1. Rear cover (☞p.4-18)
2. Rear lower cover (☞p.4-19)
3. Open the controller box (☞p.4-146 "Controller Box")
4. Drum/Development Motor: K (☞p.4-89)



5. Remove the bracket with the development clutch: K [A] (x 2, x 1, x 1)
6. Remove the development clutch: K [B] from the bracket.

4.10.9 FUSING/PAPER EXIT MOTOR

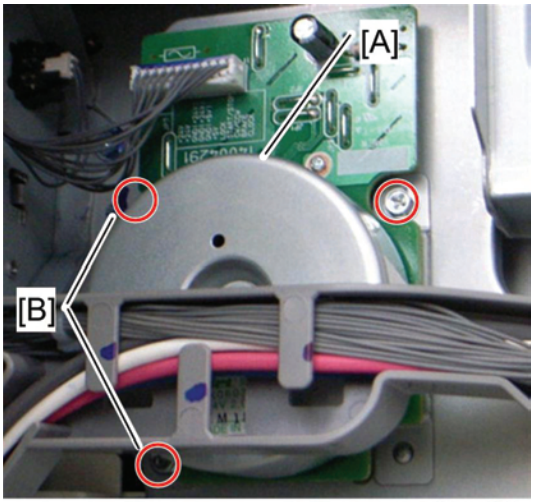
1. Rear cover (☞p.4-18)
2. Rear lower cover (☞p.4-19)
3. Open the controller box (☞p.4-146 "Controller Box")



4. Loosen the stay [A] (x 1, hook [B] x 1)

Note

- The hook [B] is installed as shown above. Do not pull the stay by force, or the hook might be broken.



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

Note

- The picture below shows how to remove the screw [B] of the fusing/paper exit motor.

d037r185

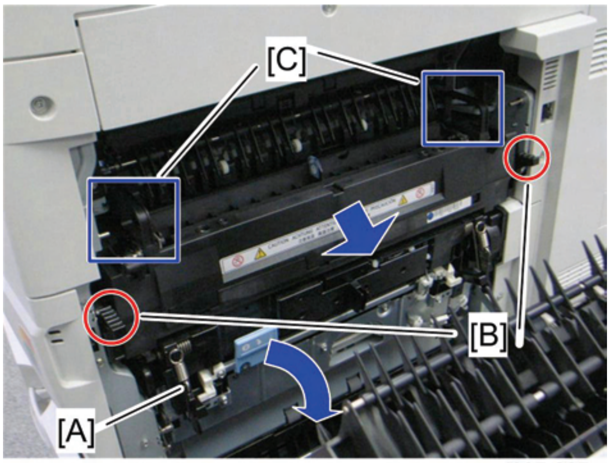
4.11 FUSING

4.11.1 FUSING UNIT

⚠CAUTION

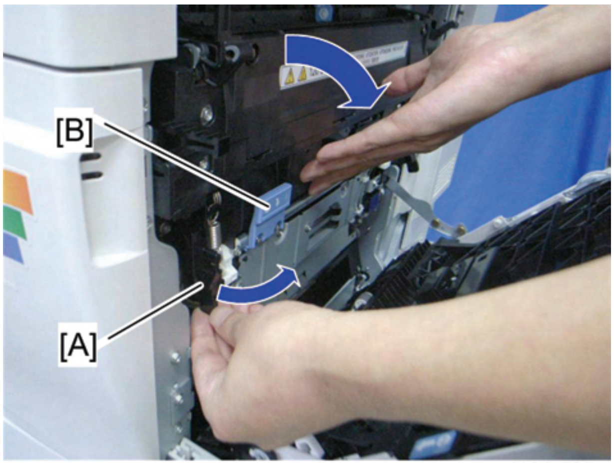
- Turn off the main switch and wait until the fusing unit cools down before beginning any of the procedures in this section. The fusing unit can cause serious burns.

1. Open the duplex unit.



d037r227

2. Open the paper transfer unit [A]
3. Release the lock levers [B].
4. Hold the fusing unit handles [C], and then pull out the fusing unit.



d104r565

If the fusing unit is stuck to the PTR unit and cannot be removed from the machine, keep your hand supporting the PTR unit as shown above and release very carefully the front tension lever [A] of the PTR unit. In this case, the PTR unit open lever [B] does not work to open the PTR unit.

⚠CAUTION

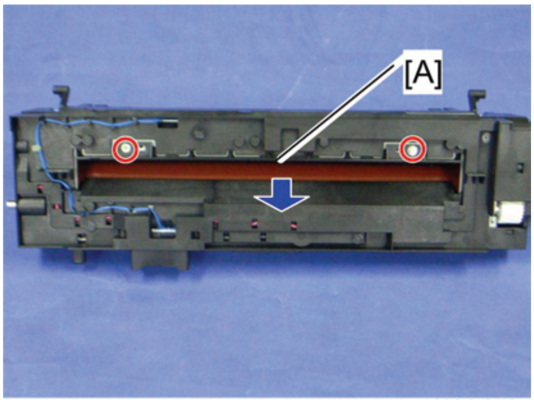
- The spring tension of the tension lever is very strong. Be very careful to release the tension lever. Otherwise, your hand or fingers may be injured.

When installing the fusing unit

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

4.11.2 ENTRANCE GUIDE PLATE

1. Fusing unit (☛p.4-93)

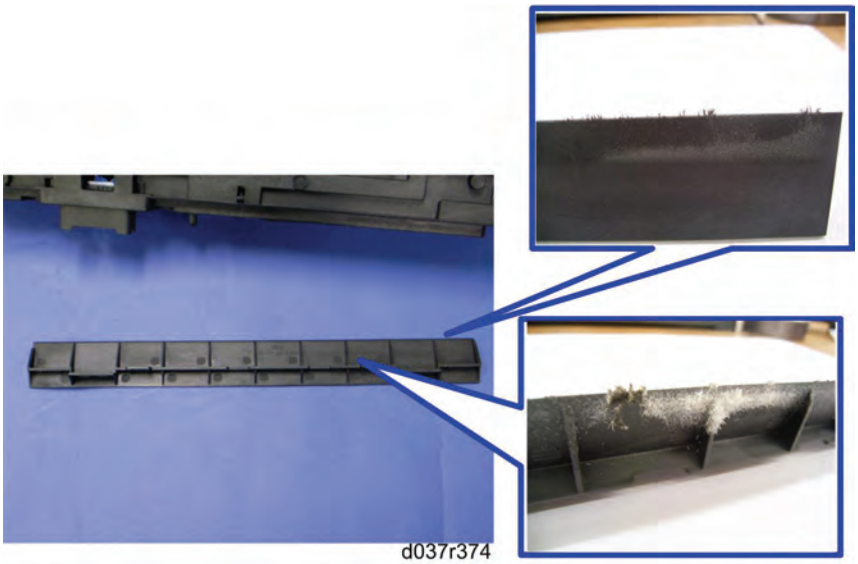


d104r373

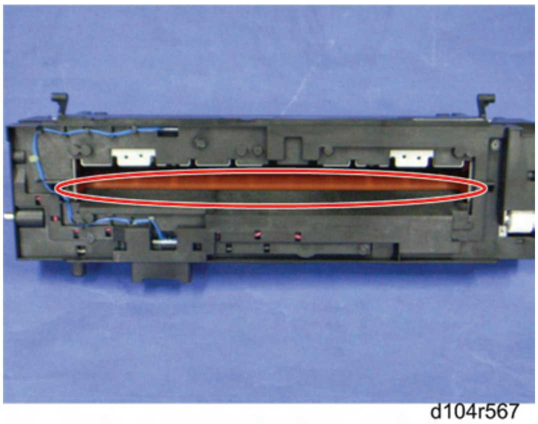
2. Entrance Guide Plate [A] (🔩 x 2)

Cleaning Requirement

The entrance guide plate requires cleaning maintenance at every 60 K interval. Clean the entrance guide plate with a cloth moistened with alcohol at the following points.



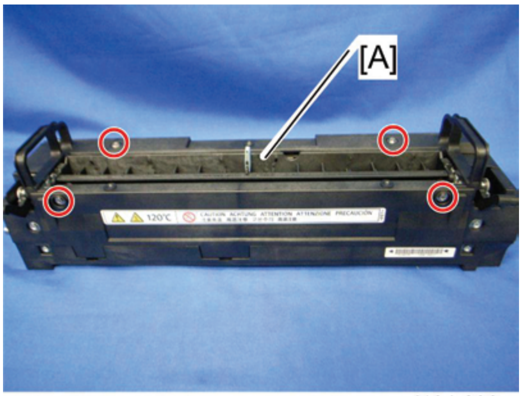
d037r374



d104r567

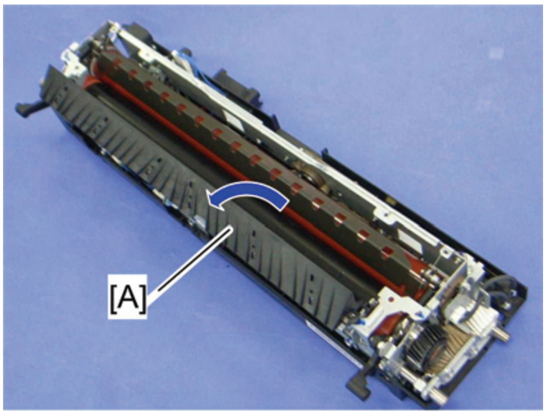
4.11.3 STRIPPER PLATE

1. Fusing unit (☞p.4-93)



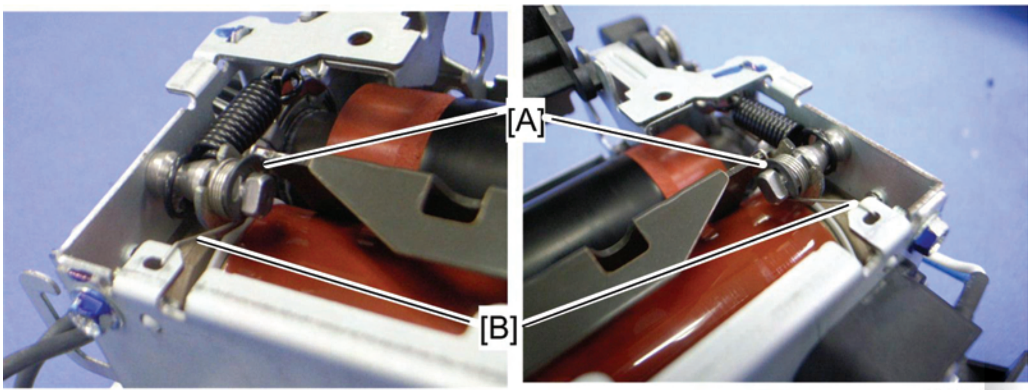
d104r236

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



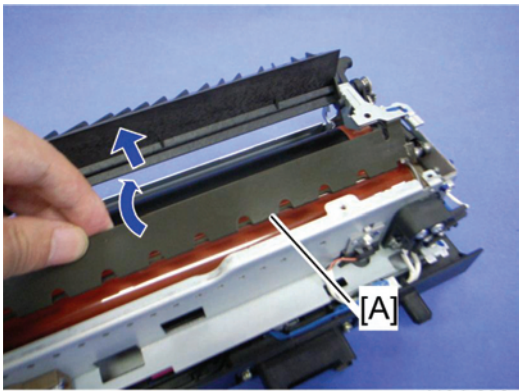
d104r376

3. Open the exit guide plate [A].



d104r375

4. Remove the e-rings [A] at the front and rear side, and then springs [B] at the front and rear side.

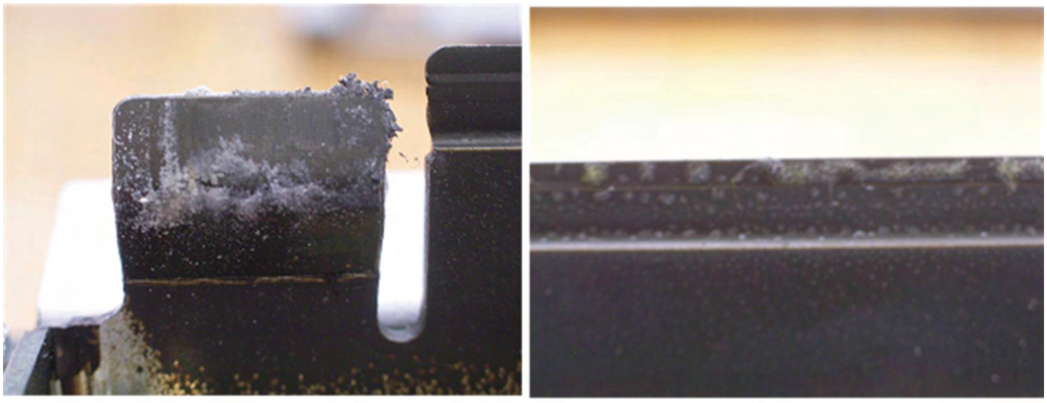


d104r239

5. Turn the stripper plate [A], and then remove it.

Cleaning Requirement

The stripper plate requires cleaning maintenance at every 60 K interval. Clean the stripper plate with a cloth moistened with alcohol at the following points.

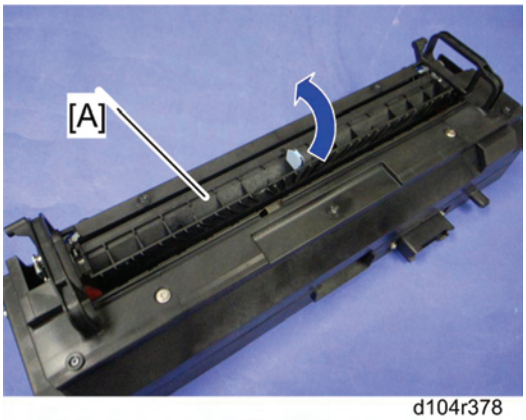


d037r377

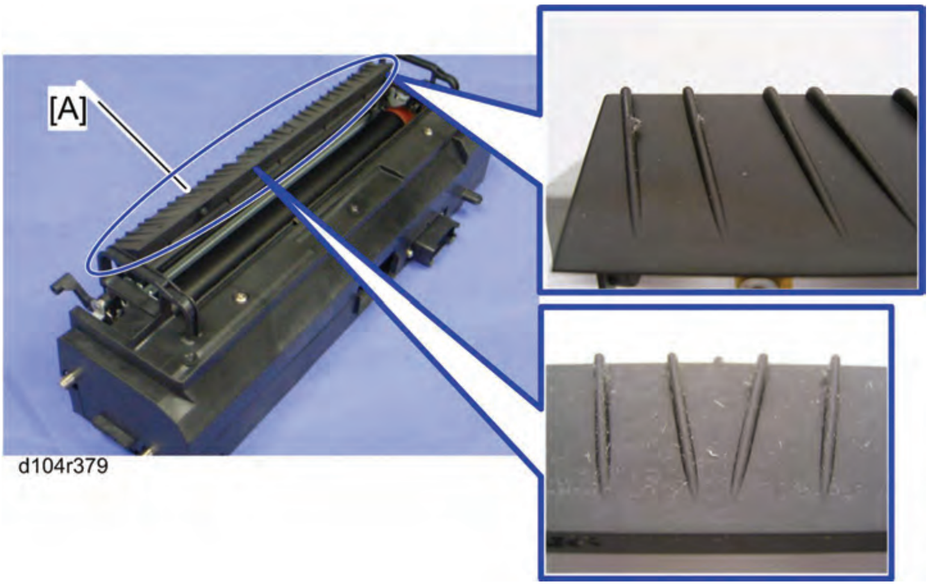
4.11.4 EXIT GUIDE PLATE CLEANING PROCEDURE

The exit guide plate requires cleaning maintenance at every 60 K interval.

1. Fusing unit (☛p.4-93)



2. Open the exit guide plate [A].

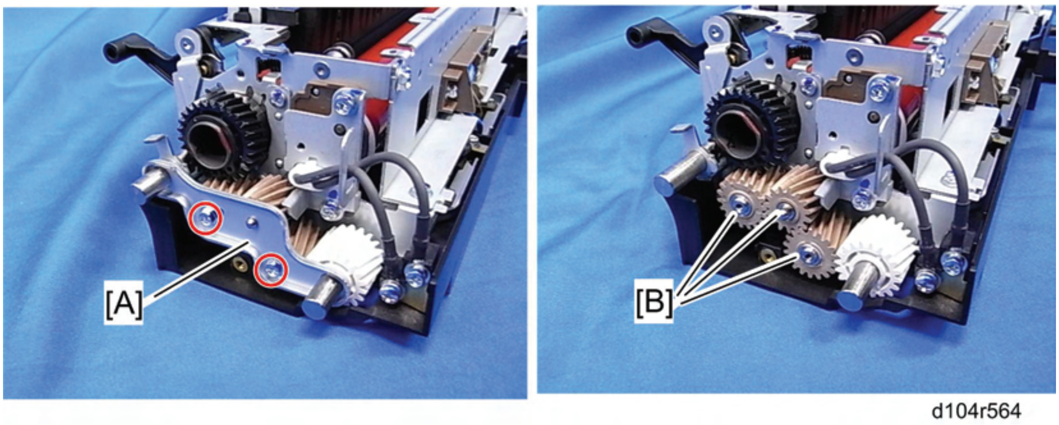


3. Clean the exit guide plate [A] with a cloth moistened with alcohol.

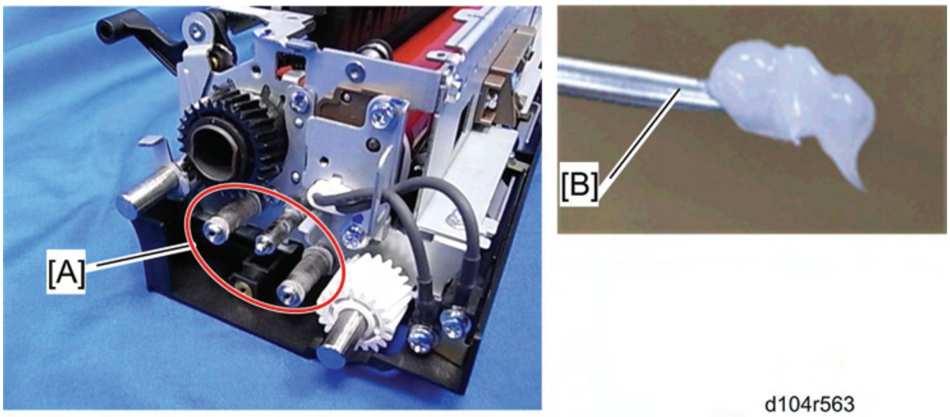
4.11.5 FUSING GEAR SHAFTS LUBRICATION PROCEDURE

The fusing gear shafts require cleaning maintenance (if it is dirty) at every 60 K interval.

1. Fusing unit (☞p.4-93)
2. Fusing upper cover (☞p.4-95)



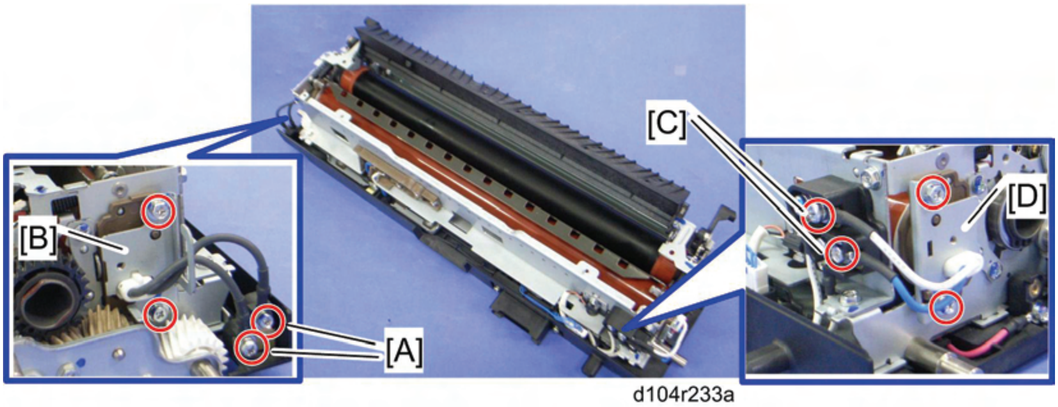
3. Rear stay [A] (🔩 x 2)
4. Fusing idle gears [B]



5. Apply "Barrierta S552R" to the gear shafts [A] of the fusing unit. The appropriate amount of grease is as shown above. The flat screwdriver [B] in the photo is a small size.

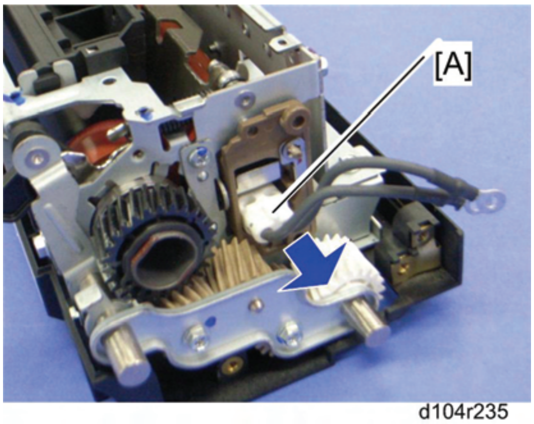
4.11.6 HEATING ROLLER FUSING LAMP

1. Fusing unit (☞p.4-93)
2. Fusing upper cover (☞ p.4-95 "Stripper Plate")



d104r233a

3. Remove the cords [A] from the rear stay (🔩 x 2).
4. Rear lamp stay [B] (🔩 x 2)
5. Remove the cords [C] from the front stay (🔩 x 2).
6. Front lamp stay [D] (🔩 x 2)

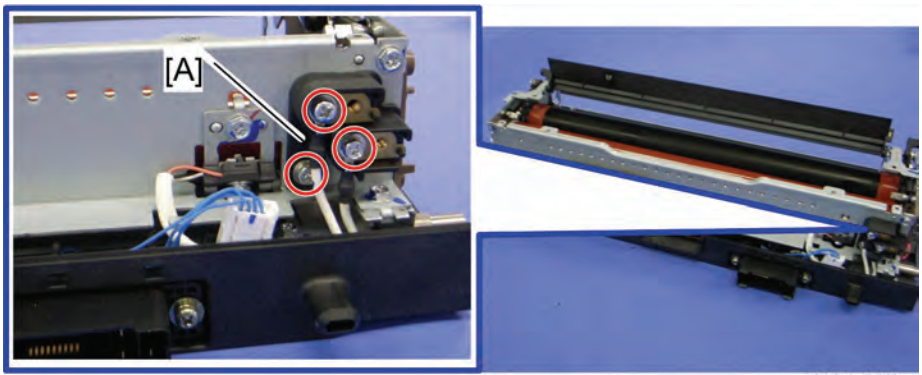


d104r235

7. Heating roller fusing lamp [A]

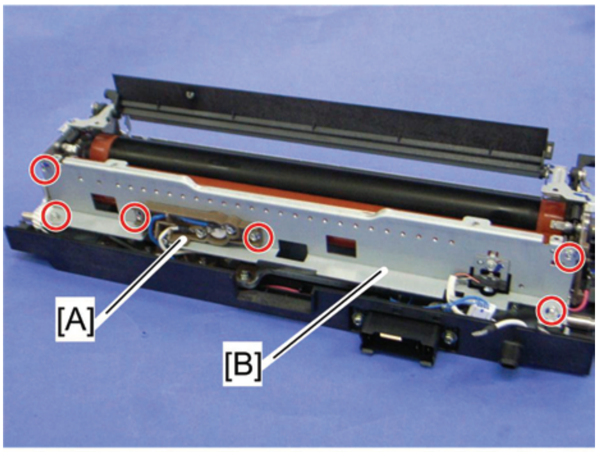
4.11.7 HEATING ROLLER UNIT

1. Fusing unit (☛p.4-93)
2. Fusing upper cover (☛ p.4-95 "Stripper Plate")
3. Heating roller fusing lamp (☛p.4-99)



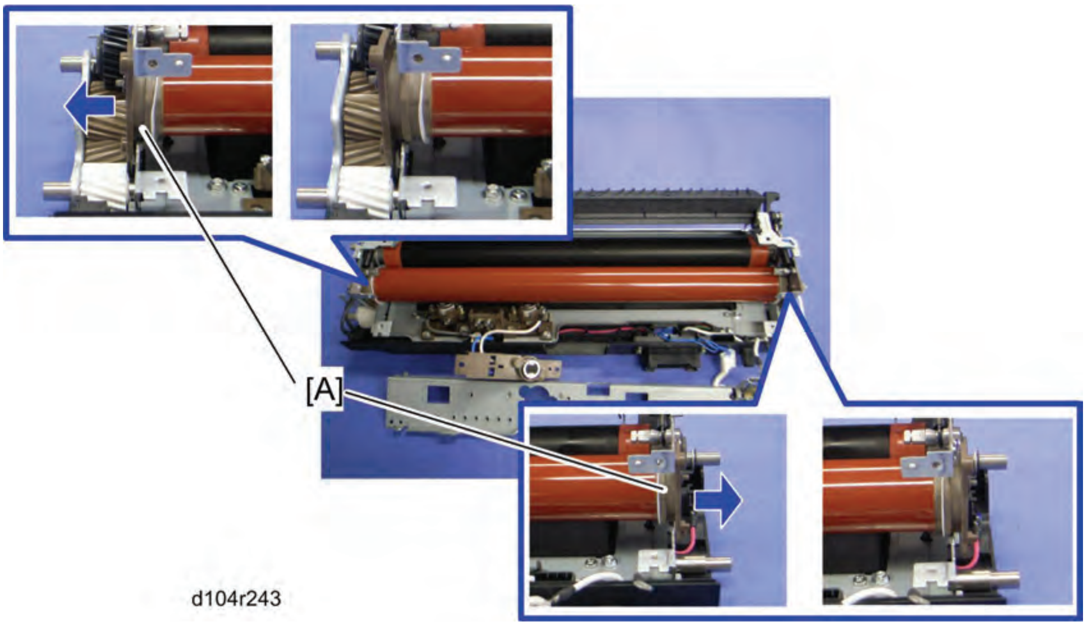
d104r237

4. Terminal base [A] (🔩 x 3)

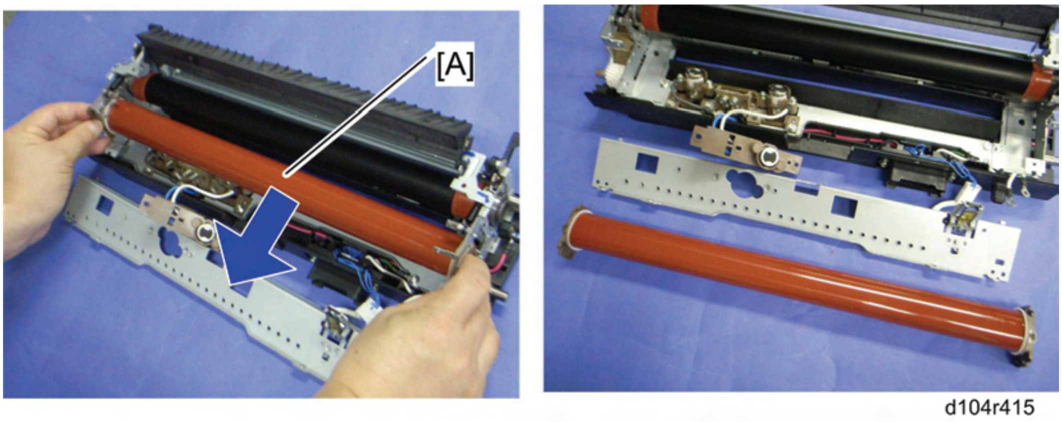


d104r238

5. Thermostat base [A] (🔩 x 2)
6. Left frame [B] (🔩 x 4)
   - Some cables are still connected to the fusing unit at this time. Do not put any tension to the connected cables during this procedure.

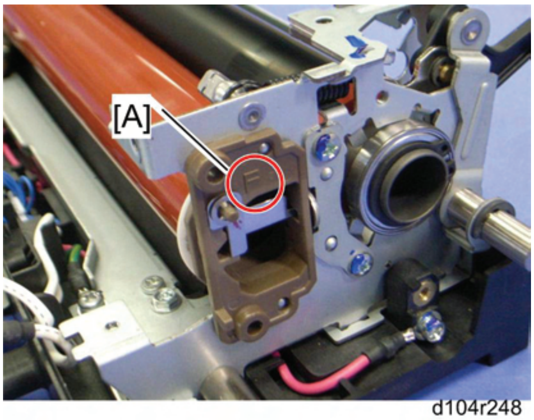


7. Slide the front and rear flanges [A] to the outer sides to detach both flanges from the front and rear heating roller brackets.



8. Hold the both flange at the front and rear side of the heating roller unit [A], and then pull the heating roller unit [A].

When reinstalling the heating roller unit



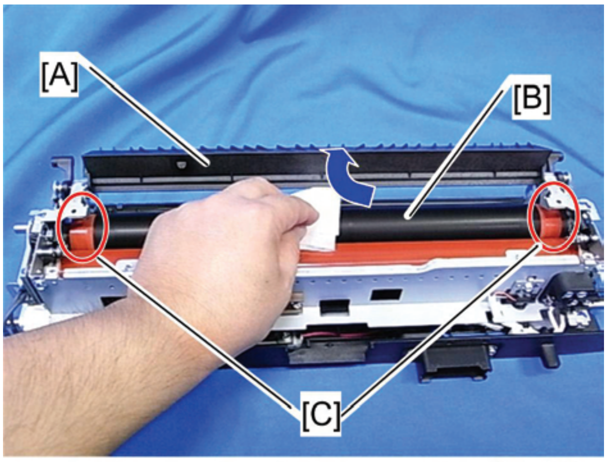
Make sure that the flange with mark “F” [A] is placed to the front side of the fusing unit when reinstalling the heating roller unit.

4.11.8 PRESSURE ROLLER

Cleaning Procedure

The pressure roller requires cleaning maintenance (if it is dirty) at every 60 K interval.

1. Fusing unit (☞p.4-93)
2. Fusing upper cover (☞ p.4-95 "Stripper Plate")

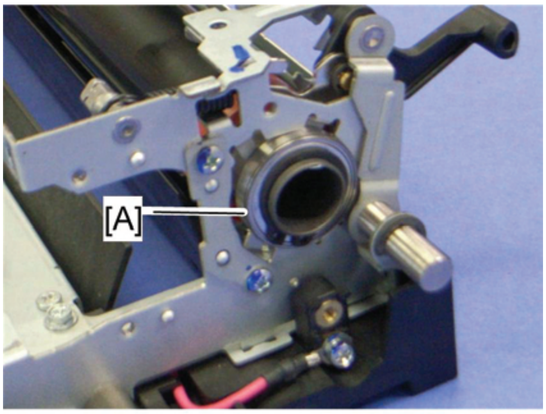


d104r562

3. Open the exit guide plate [A]
4. Clean the pressure roller [B] with a dry cloth.
    - Clean the both ends [C] of the pressure roller as well as the center area.

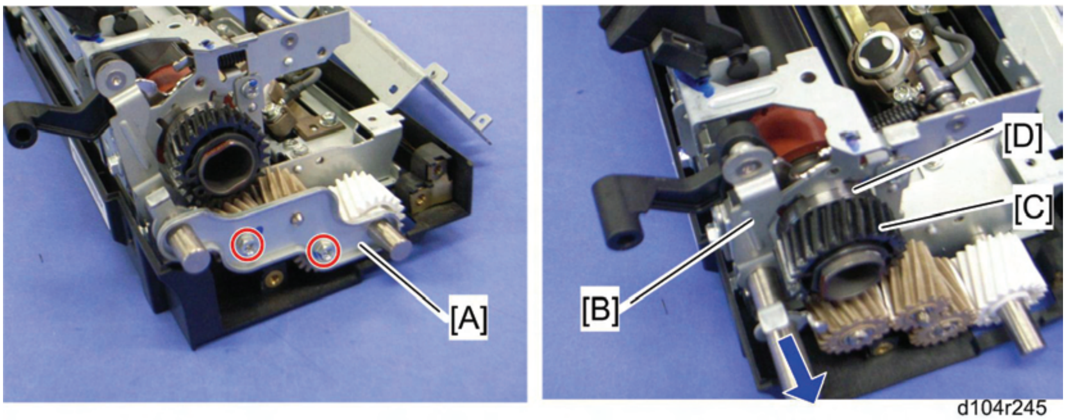
Replacement Procedure

1. Heating roller unit (☞p.4-100)



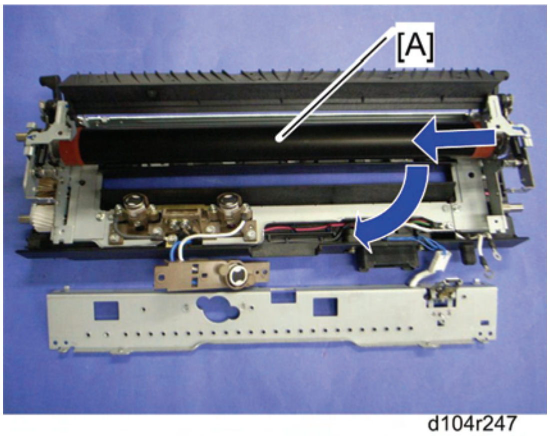
d104r240

2. Bearing [A] at the front end of the pressure roller (C-ring x 1)



d104r245

3. Rear stay [A] (🔩 x 2)
4. Pressure lever [B] (spring x 1)
5. Pressure roller gear [C] (C-ring x 1)
6. Bearing [D] at the rear end of the pressure roller

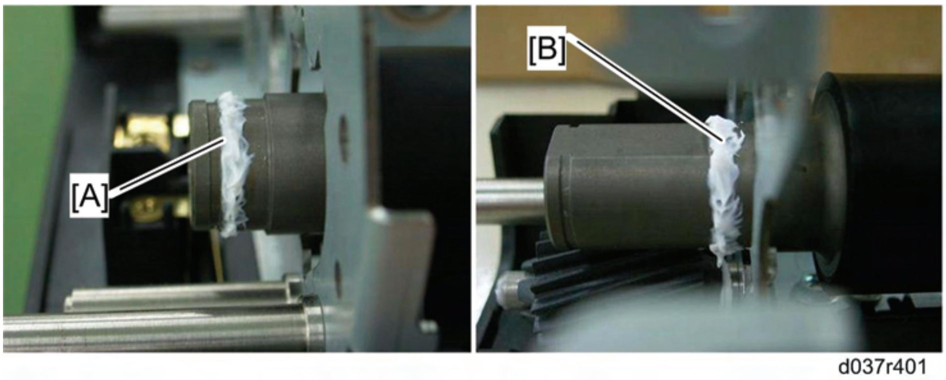


d104r247

7. Pressure roller [A]

When reassembling the pressure roller

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

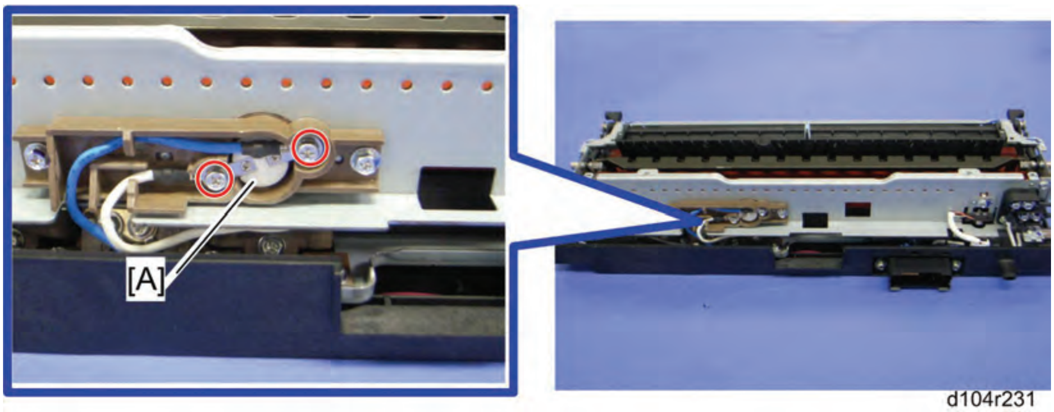


- Apply "Barrierta S552R" to the front edge [A] and rear edge [B] of the pressure roller as shown above.

4.11.9 HEATING ROLLER THERMOSTATS

Side Heating Roller Thermostat

1. Fusing upper cover (☞ p.4-95 "Stripper Plate")



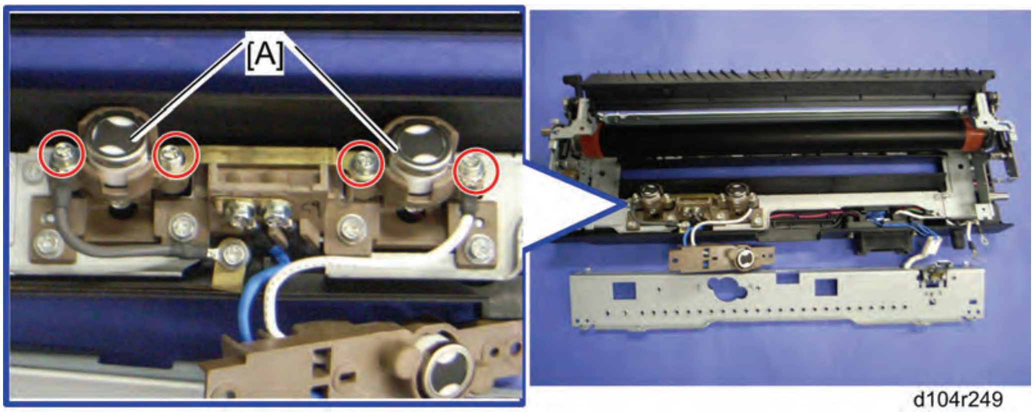
2. Side heating roller thermostat [A] (x 2)

Note

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

Lower Heating Roller Thermostats

1. Heating roller unit (☞ p.4-100)



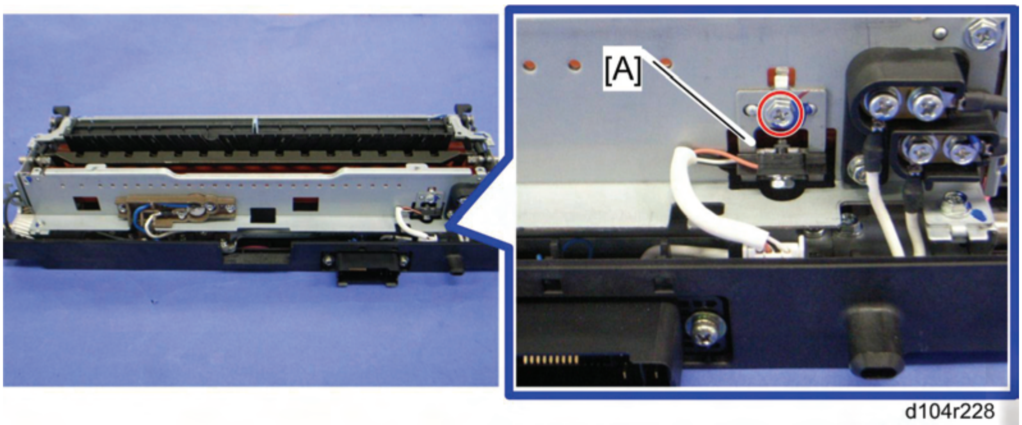
1. Lower heating roller thermostats [A] (🔩 x 2 each)

↓ Note

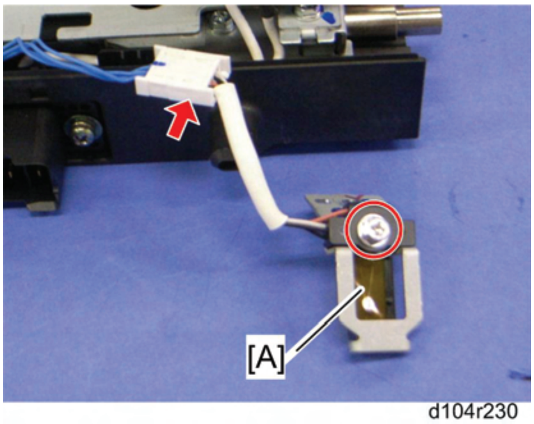
- Do not re-use a thermostat that is already opened. Safety is not guaranteed if you do this.

4.11.10 HEATING ROLLER THERMISTOR

1. Fusing upper cover (☞ p.4-95 "Stripper Plate")



2. Heating roller thermistor bracket [A] (🔩 x 1)



d104r230

3. Heating roller thermistor [A] (🔩 x 1, 🔌 x 1)

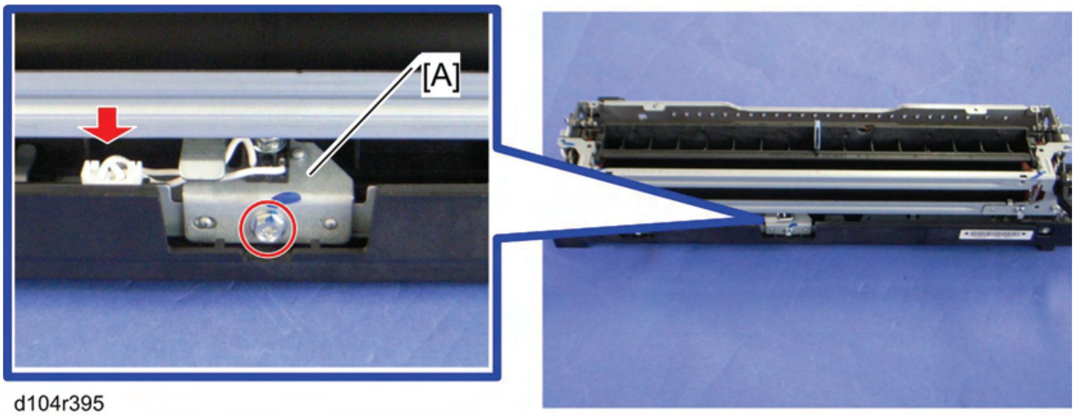
Cleaning Requirement

The heating roller thermistor requires cleaning maintenance at every 60 K interval. Clean the heating roller thermistor with a dry cloth.

4.11.11 PRESSURE ROLLER THERMISTOR

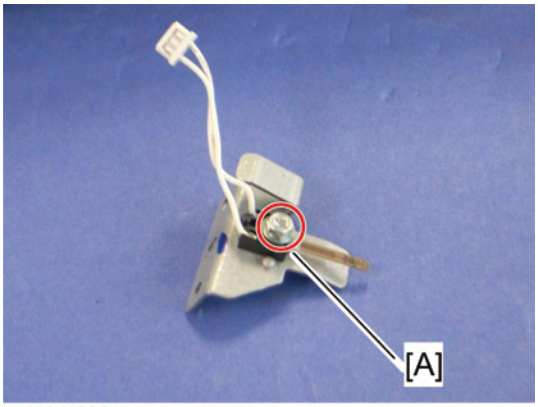
Pressure Roller Thermistor: Center

1. Fusing unit (☞p.4-93)
2. Fusing upper cover (☞p.4-95 "Stripper Plate")



d104r395

3. Thermistor center assembly [A] (🔩 x 1, 🔌 x 1)

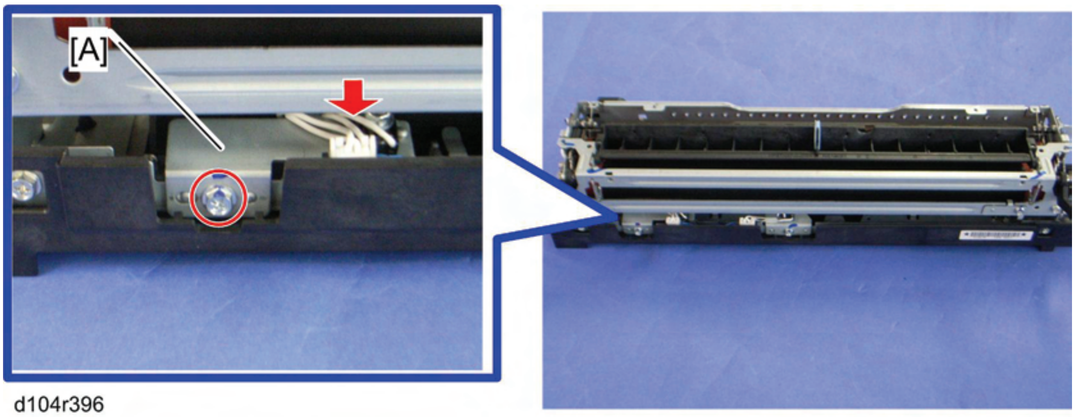


d104r398

4. Pressure roller thermistor: Center [A] (🔩x 1)

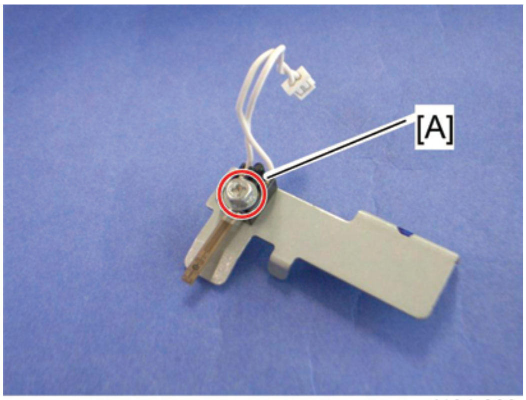
Pressure Roller Thermistor: End

1. Fusing unit (☞p.4-93)
2. Fusing upper cover (☞p.4-95 "Stripper Plate")



d104r396

3. Thermistor end assembly [A] (🔩x 1, 🔌x 1)



d104r399

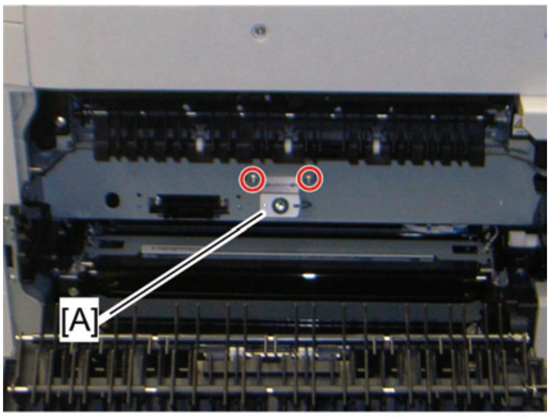
4. Pressure roller thermistor: End [A] (🔩x 1)

Cleaning Requirement

The pressure roller thermistors (center and end) require cleaning maintenance at every 60 K interval. Clean the pressure roller thermistors (center and end) with a dry cloth.

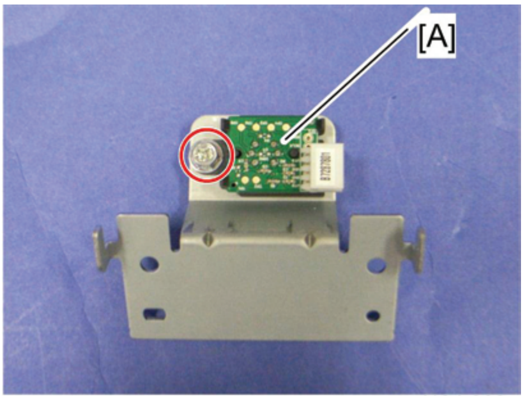
4.11.12 THERMOPILE

1. Fusing unit (☛p.4-93)



d104r381

2. Thermopile base [A] (🔩 x 2, 🔌 x 1)



d104r382

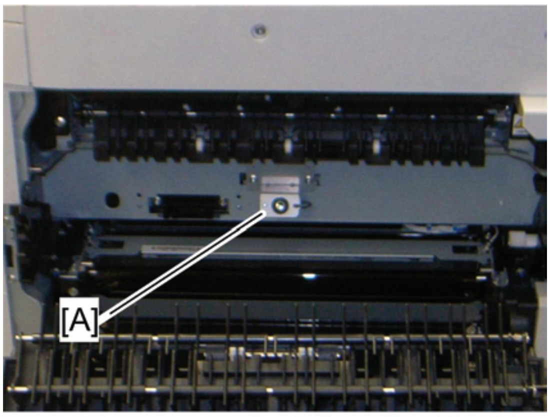
3. Thermopile [A] (🔩 x 1)

When cleaning the lens of the thermopile

⚠CAUTION

- Do this cleaning procedure after the fusing unit has completely cooled down. Otherwise, you may get a serious burn.

1. Fusing unit (☛p.4-93)

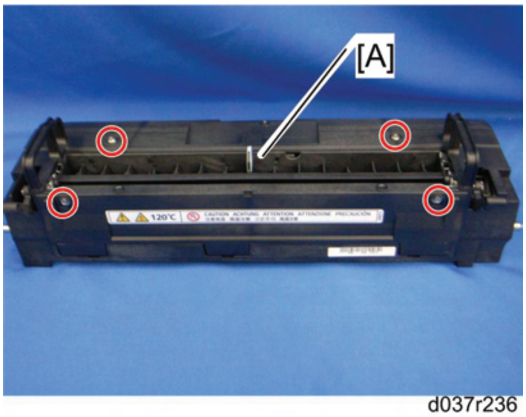


d104r381a

2. Clean the thermopile lens [A] with a dry cloth.

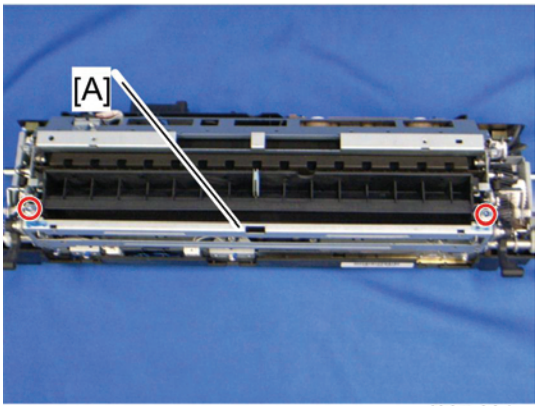
4.11.13 CLEANING UNIT (OPTION) INSTALLATION PROCEDURE

1. Fusing unit (☞p.4-93)



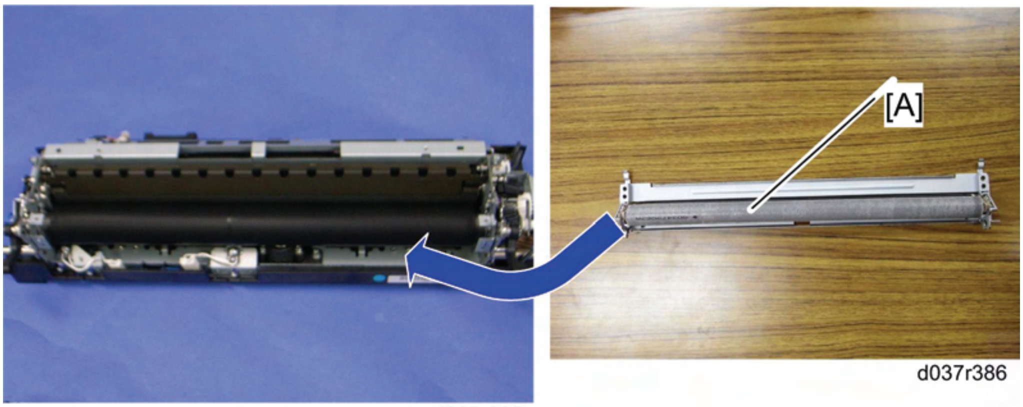
d037r236

2. Fusing upper cover [A] (🔩 x 4)



d037r384

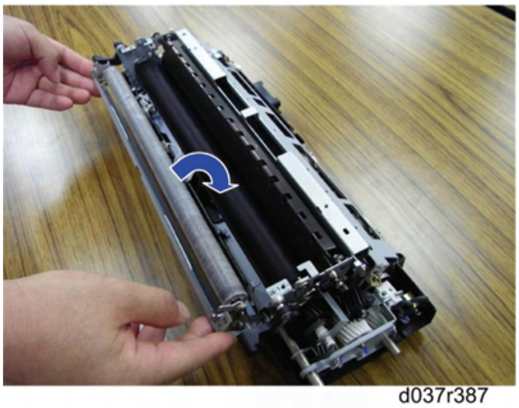
3. Top right frame [A] (🔩 x 2)



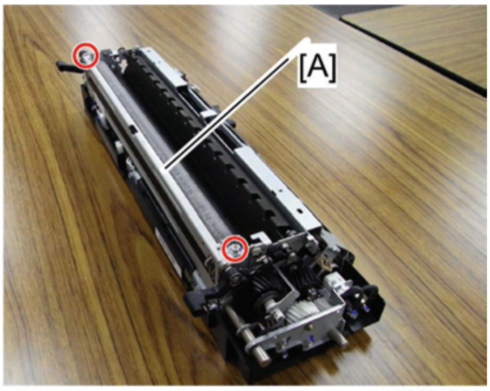
d037r385

d037r386

4. Install the cleaning unit [A] in the fusing unit.



d037r387

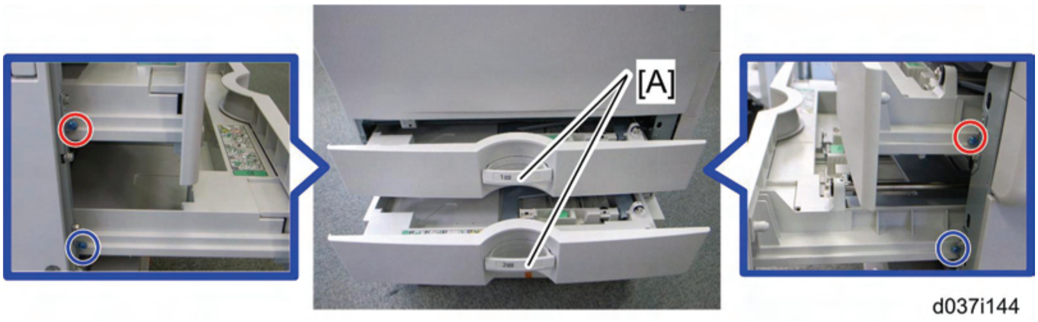


d037r388

5. Secure the cleaning unit [A] (🔩 x 2)
6. Reassemble the fusing unit.

4.12 PAPER FEED

4.12.1 PAPER TRAY

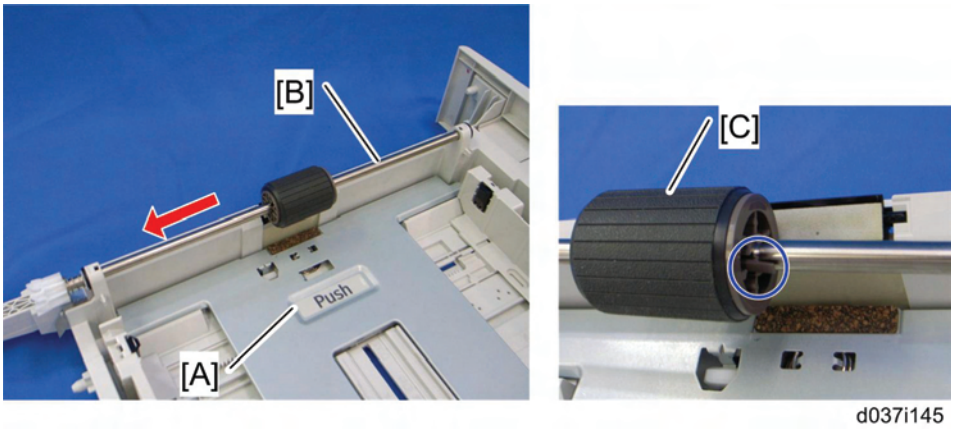


1. Pull paper tray 1 or 2 [A] part of the way out.
2. Remove two screws from both tray guides.
3. Pull out paper tray 1 or 2 [A].

4.12.2 FEED ROLLER

Tray 1 and Tray 2

1. Paper tray 1 or 2 (☞p.4-114)



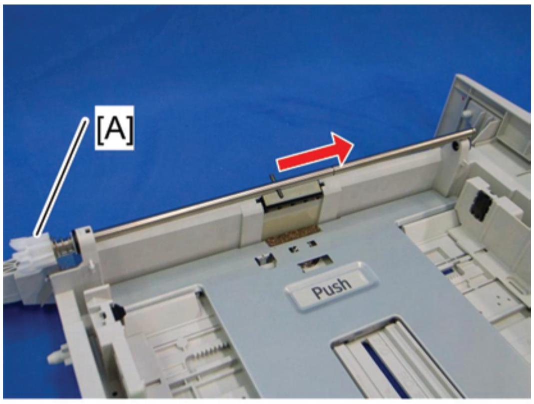
2. Press down the bottom plate [A].
3. Slide the feed roller shaft [B] to the rear side (⚙x 1).
4. Feed roller [C] (hook x 1)

When reinstalling the feed roller

Do not touch the feed roller with your bare hands when replacing it. If you do, clean the feed roller with a damp cloth or alcohol.

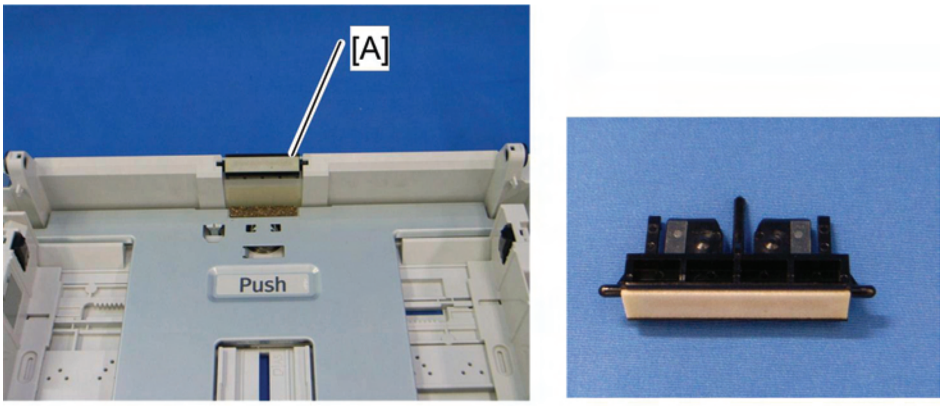
4.12.3 FRICTION PAD

1. Paper tray 1 or 2 (☞p.4-114)
2. Feed roller (☞p.4-114)



d037i146

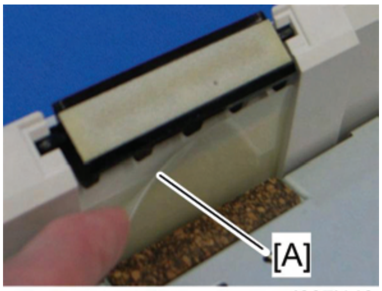
3. Remove the coupling gear [A] (pin x 1, spring x 1, x 1).
4. Slide the feed roller shaft to the front side, and then remove it.



d037i147

5. Friction pad [A] (hooks, spring x 1)

When reinstalling the friction pad



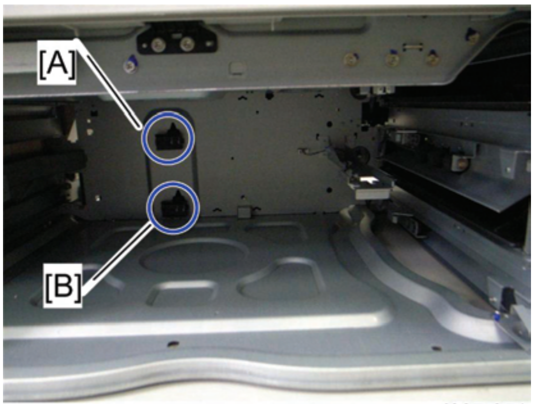
d037i148

Make sure that the mylar [A] does not go under the friction pad when reinstalling the friction pad.

Do not touch the friction pad with your bare hands, when replacing it. If you do, clean the friction pad with a damp cloth or alcohol.

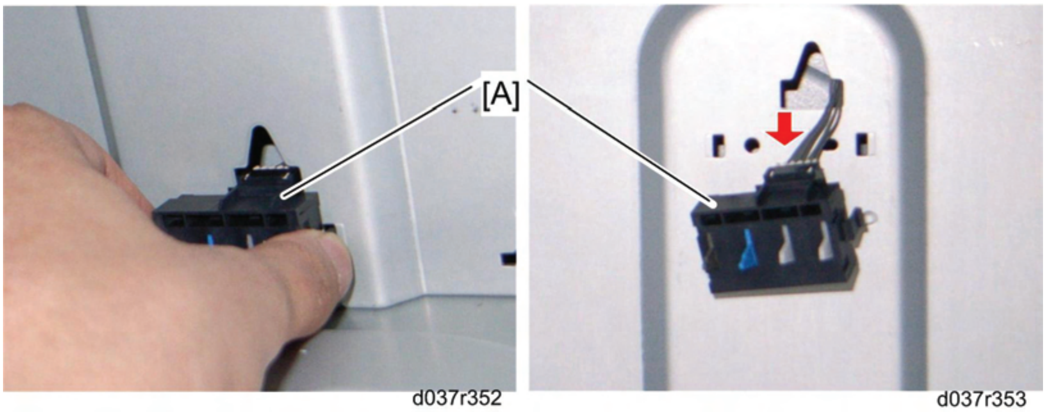
4.12.4 PAPER SIZE SWITCH

1. Paper tray 1 and 2 (☞p.4-114)



d037r351

- Paper size switch: T1 [A]
- Paper size switch: T2 [B]



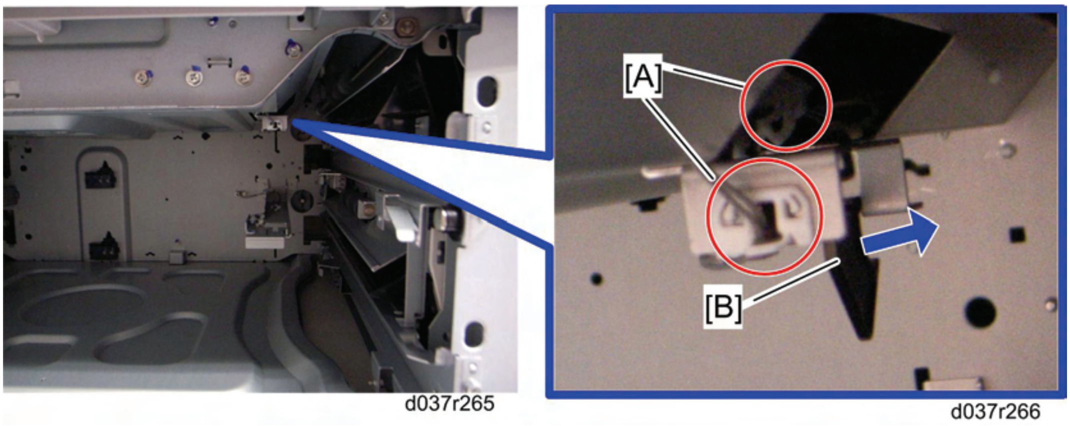
d037r352 d037r353

2. Paper size switch [A] (hooks, 🔌 x 1)

4.12.5 PAPER END SENSOR

Paper End Sensor: T1

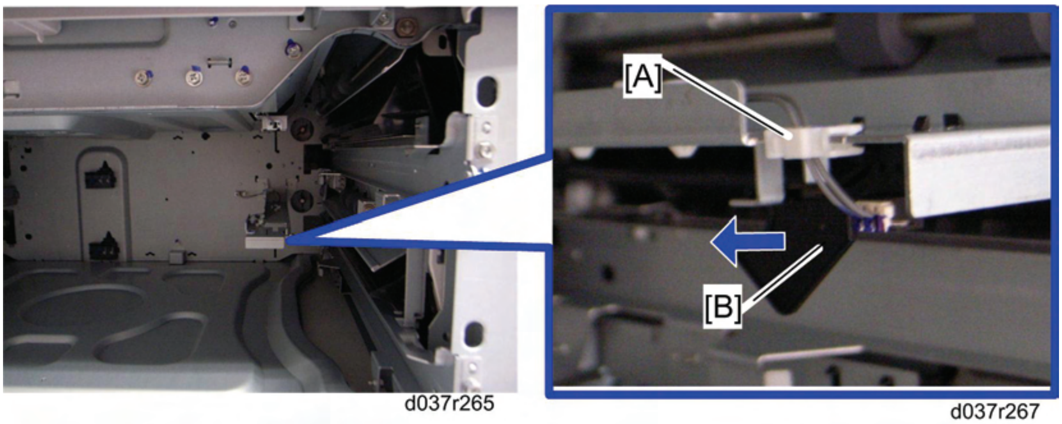
1. Paper tray 1 and 2 (☛p.4-114)



2. Release the two clamps [A].
3. Paper end sensor: T1 [B] (hooks, 🔌 x 1)

Paper End Sensor: T2

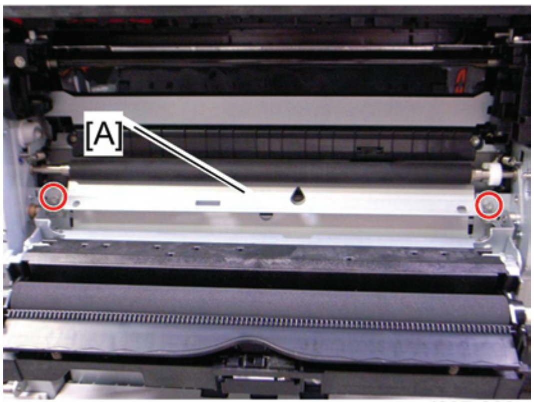
1. Paper tray 1 and 2 (☛p.4-114)



2. Release the clamp [A].
3. Paper end sensor: T2 [B] (hooks, 🔌 x 1)

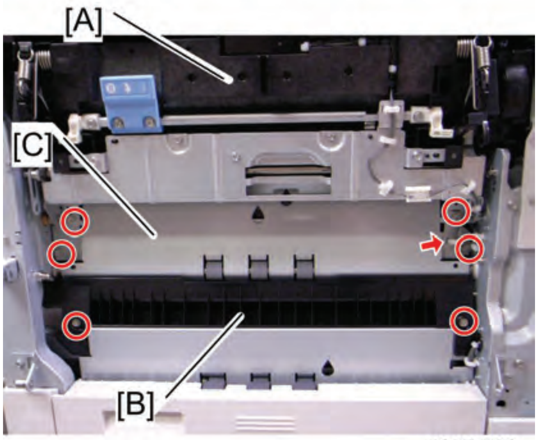
4.12.6 REGISTRATION SENSOR

1. Duplex unit (☞p.4-131)
2. Open the paper transfer unit to the fully-open position (☞p.4-78).



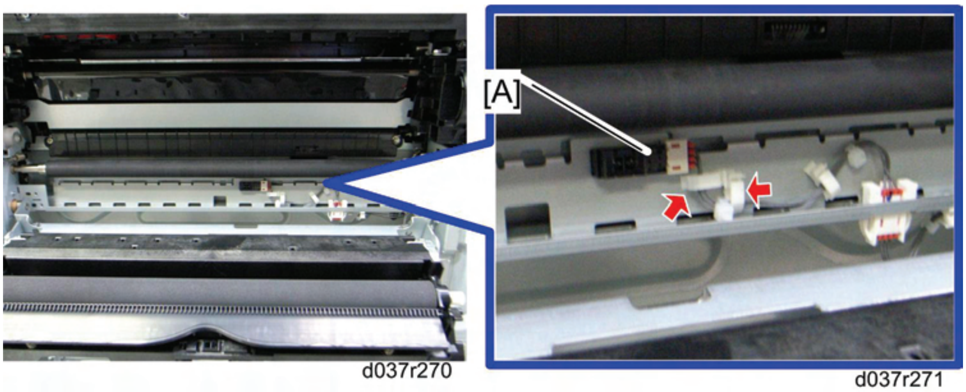
d037r268

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



d037r269

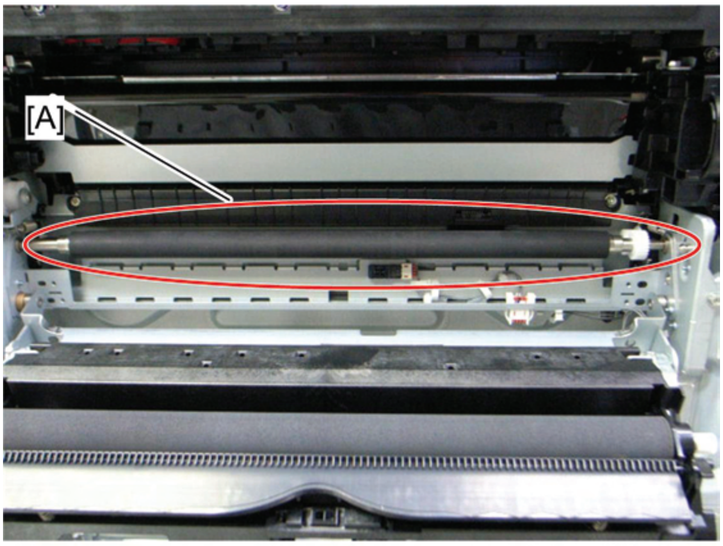
4. Close the paper transfer unit [A].
5. Relay guide plate [B] (🔩x 2)
6. Upper vertical transport guide [C] (🗜x 1, 🔩 x 4)



d037r270 d037r271

7. Registration sensor [A] (🗜 x 2, hooks, 🔌x 1)

Cleaning the registration roller



d037r270a

Clean the registration roller and registration idle roller [A] with a damp cloth every 60 K (total count).

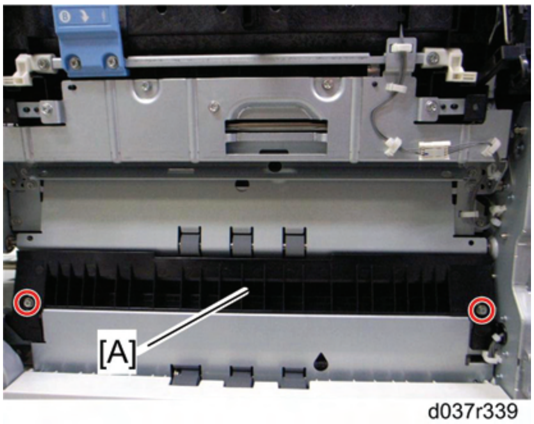
Note

- Never use alcohol to clean the registration roller.

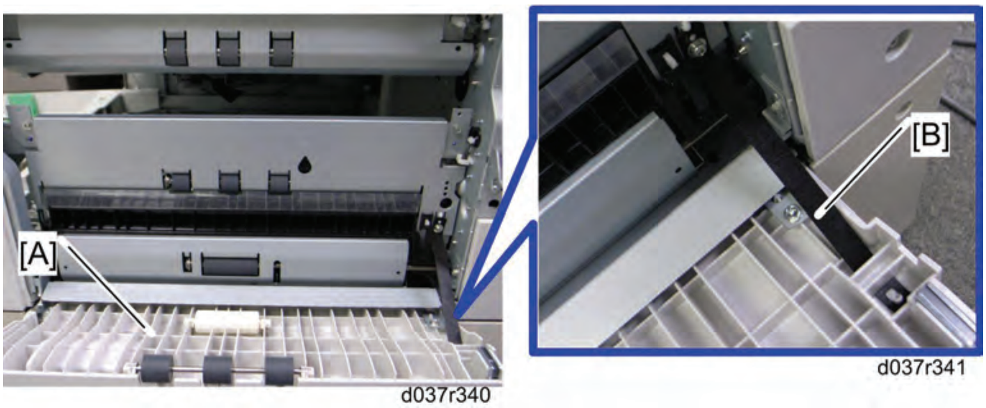
4.12.7 VERTICAL TRANSPORT SENSOR

Vertical Transport Sensor 1

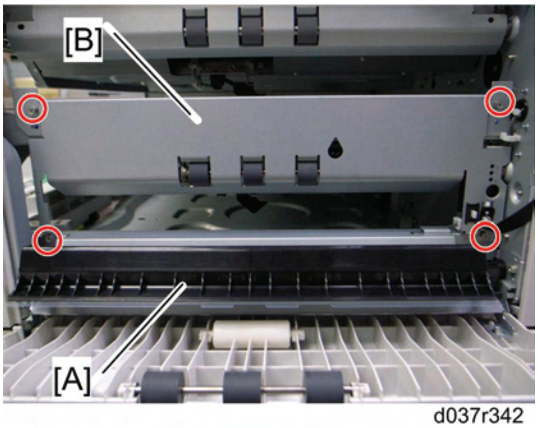
1. Duplex unit (☞p.4-131)



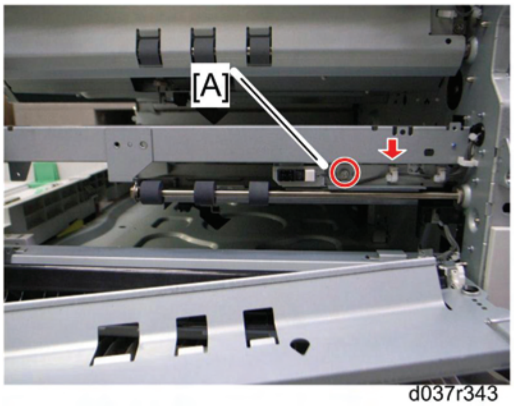
2. Middle guide plate [A] (🔩x 2)



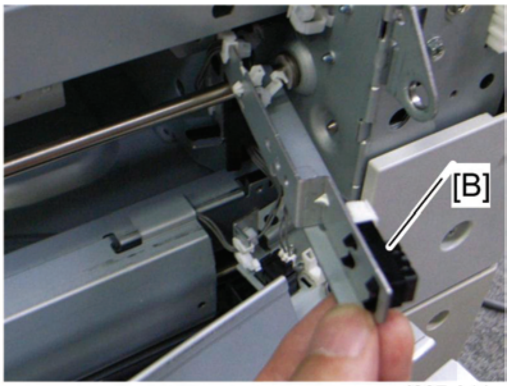
3. Open the lower right door [A].
4. Release the belt [B].



5. Open the lower guide plate [A]
6. Middle guide bracket [B] (🔩x 4, 🗜x 2, 🔌x 1)



d037r343

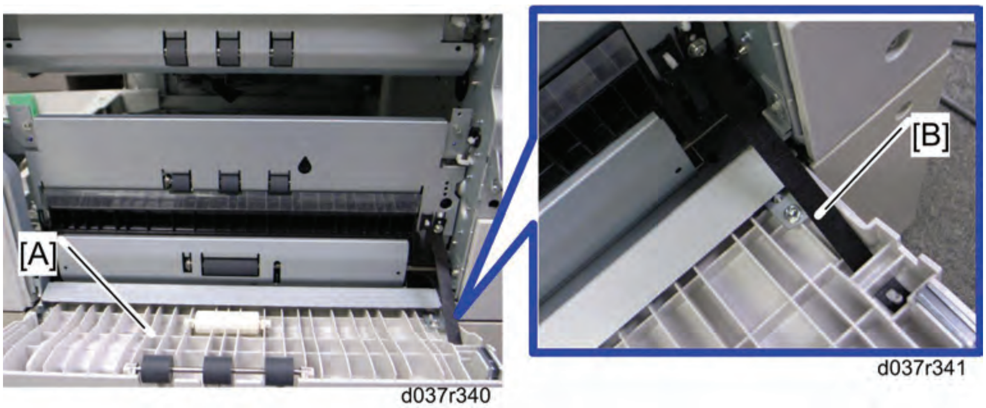


d037r344

7. Sensor bracket [A] (x 1, x 1)
8. Vertical transport sensor 1 [B] (x 1, hooks)

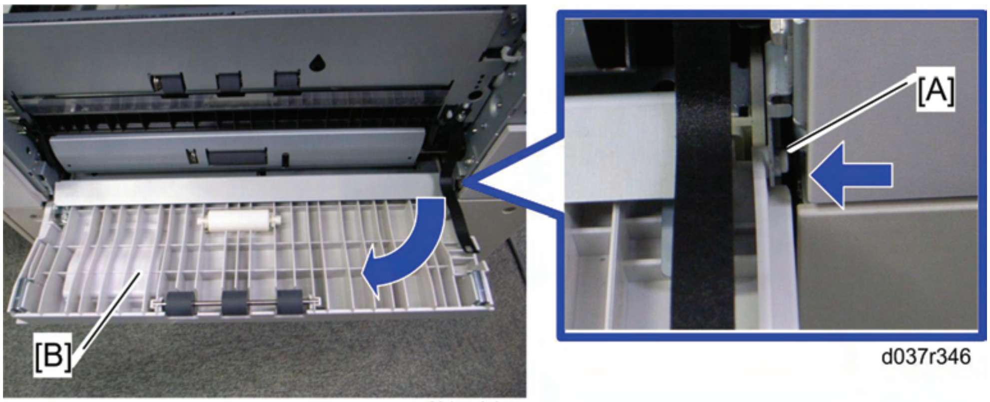
Vertical Transport Sensor 2

1. Duplex unit (☞p.4-131)



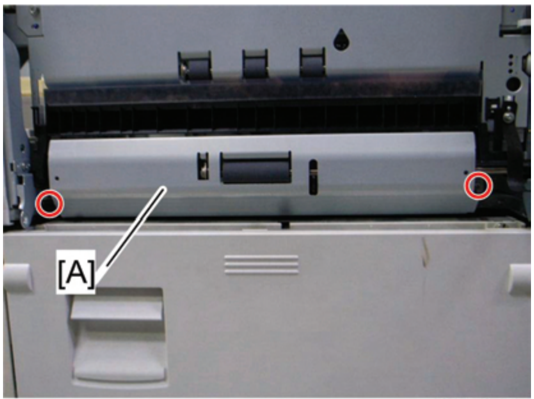
d037r340 d037r341

2. Open the lower right door [A].
3. Release the belt [B].



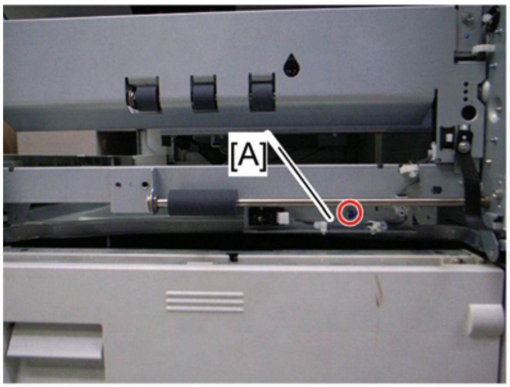
d037r345 d037r346

4. Release the rear pivot [A], and then remove the lower right door [B].

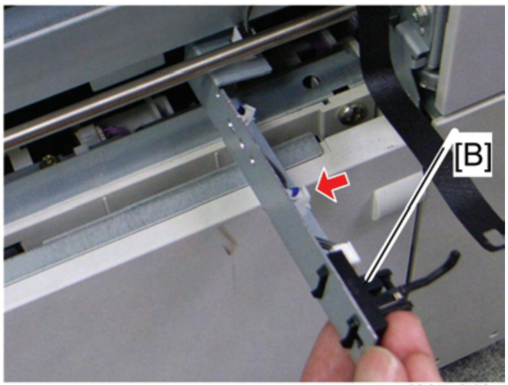


d037r347

5. Lower guide bracket [A] (x 2)



d037r348



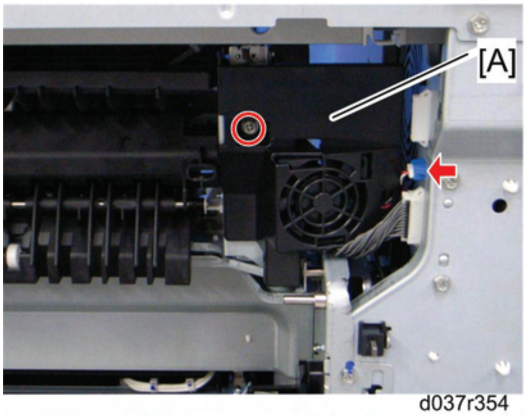
d037r349

6. Sensor bracket [A] (x 1)
7. Vertical transport sensor 2 [B] (hooks, x 1)

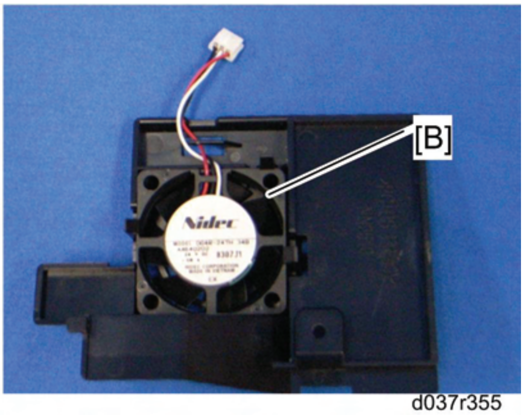
4.13 PAPER EXIT

4.13.1 JUNCTION GATE SOLENOID FAN

1. Right upper cover (☞p.4-23)
2. Right rear cover (☞p.4-20)



d037r354



d037r355

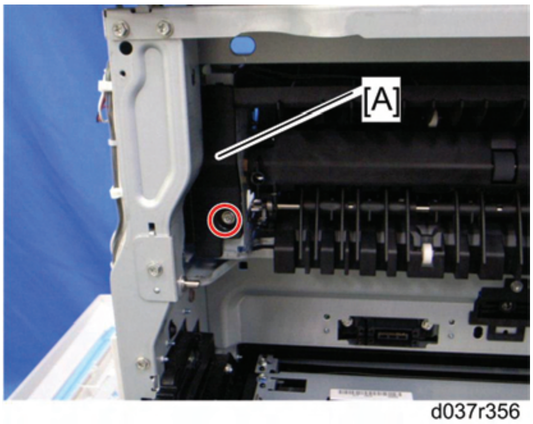
3. Fan base [A] (🔩x 1, 🔌x 1)
4. Junction gate solenoid fan [B] (hooks)

When installing the junction gate solenoid fan

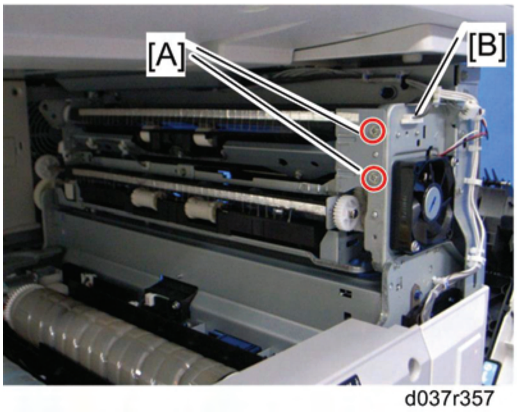
Make sure that the junction gate solenoid fan is installed with its decal facing to the left side.

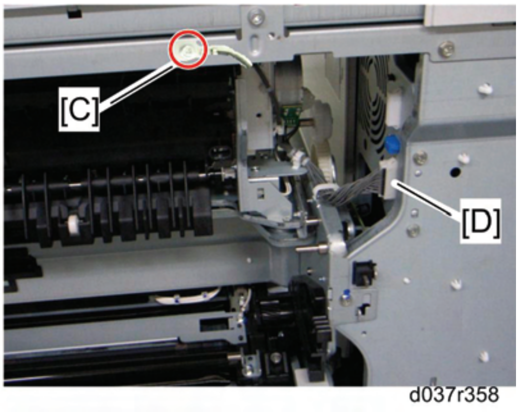
4.13.2 PAPER EXIT UNIT

1. Fusing Unit (☞p.4-93)
2. Front right cover (☞p.4-23)
3. Junction gate solenoid fan base (☞p.4-123 "Junction Gate Solenoid Fan")
4. Paper exit cover (☞p.4-24)
5. Inner Tray (☞p.4-25)

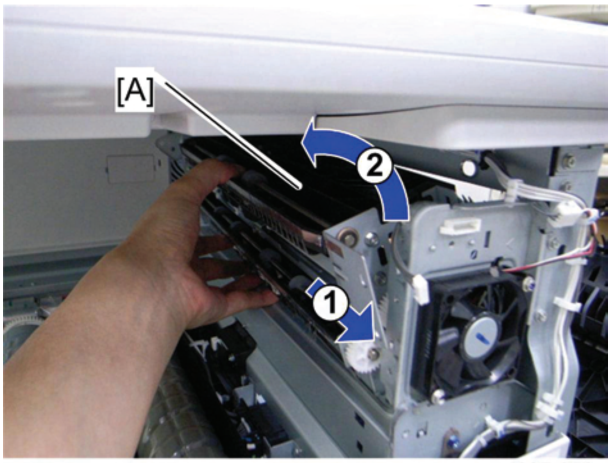


6. Front harness cover [A] (🔩 x 1)





7. Remove or disconnect the following:
   - Two screws [A] at the front side
   - Front harness [B]
   - Ground cable [C] (🔩x 1)
   - Rear harness [D]

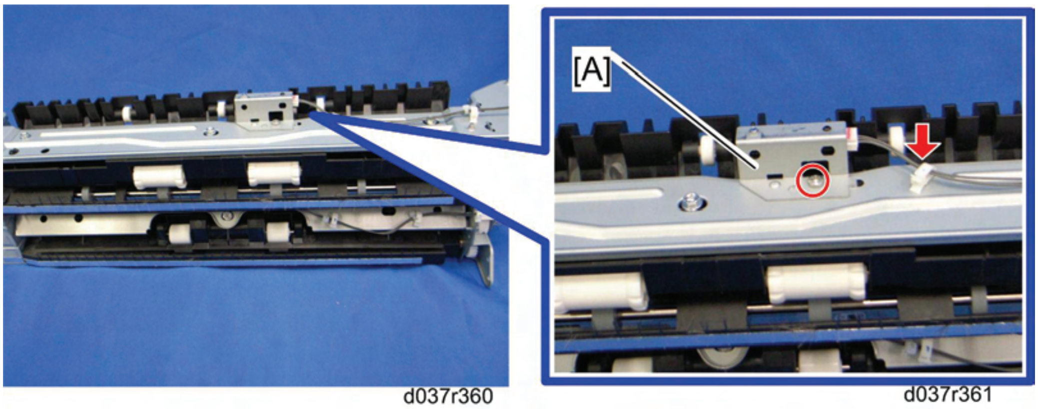


d037r359

8. Paper exit unit [A]

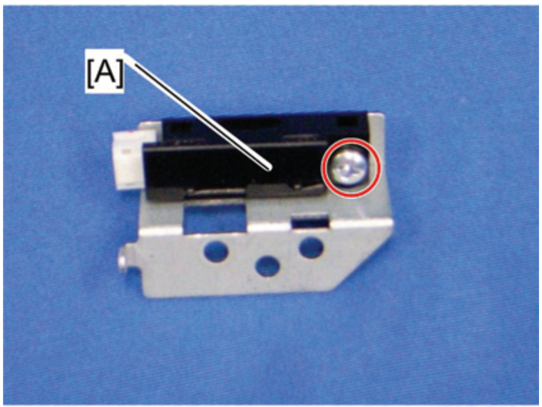
4.13.3 FUSING EXIT SENSOR

1. Paper exit unit (☛p.4-124)



d037r360 d037r361

2. Sensor assembly [A] (🔩 x 1, 📎x 1, 🔌x 1)

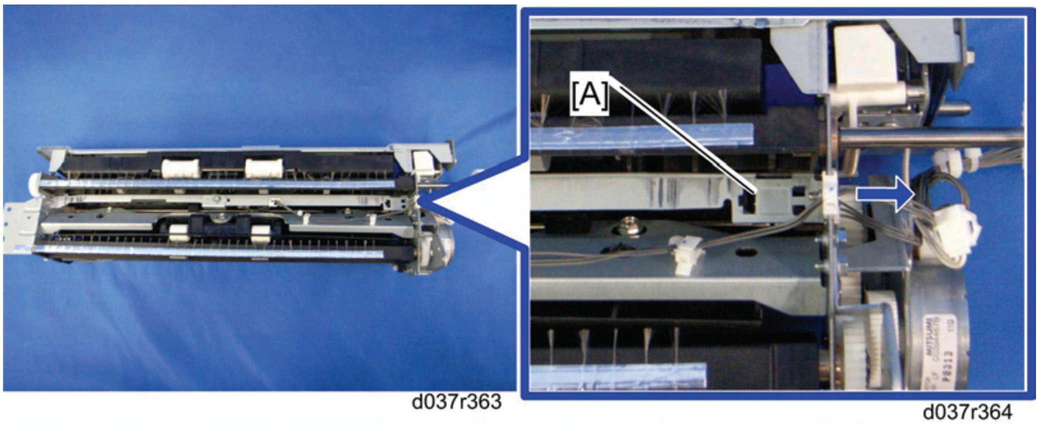


d037r362

3. Fusing exit sensor [A] (🔩x 1)

4.13.4 PAPER EXIT SENSOR

1. Paper exit unit (☞p.4-124)

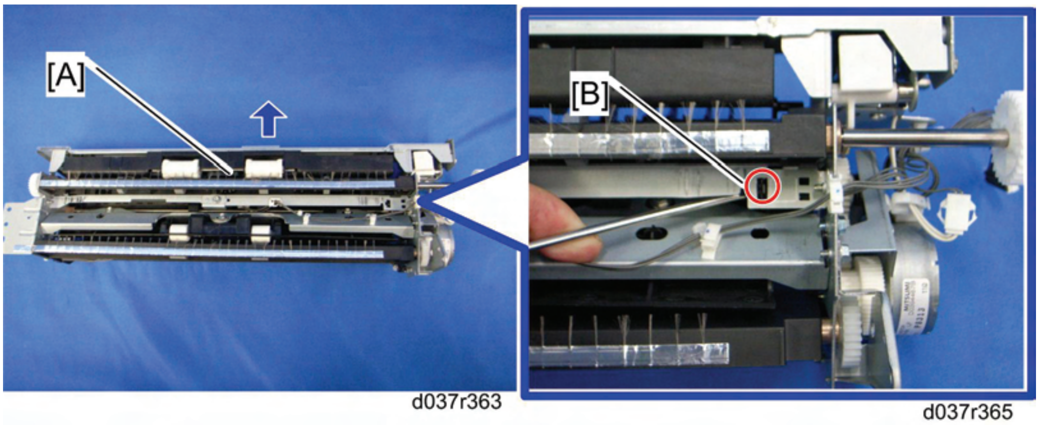


d037r363

d037r364

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

When installing the paper exit sensor



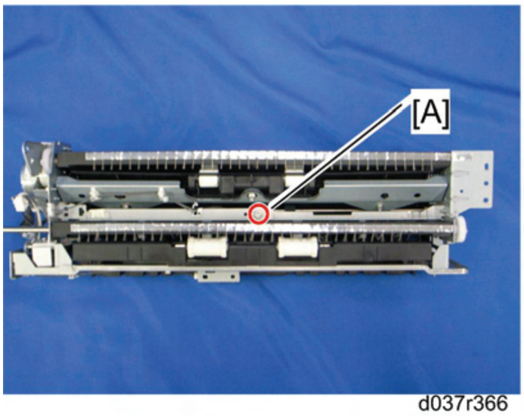
d037r363

d037r365

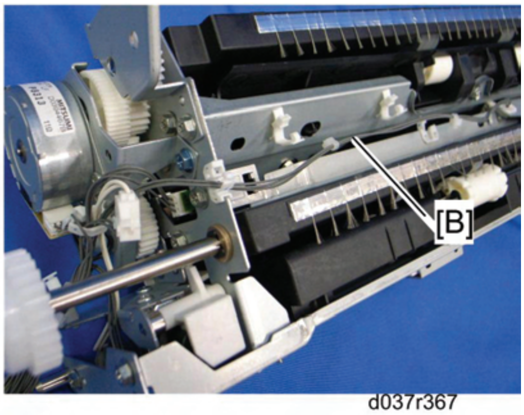
- Stand the paper exit unit so that [A] is facing up. Otherwise, the paper exit sensor feeler interrupts the installation of the paper exit sensor.
- Insert the hook [B] first.

4.13.5 INVERTER SENSOR

1. Paper exit unit (☞p.4-124)

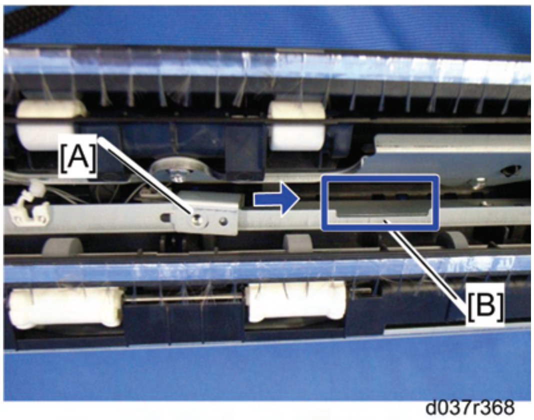


d037r366



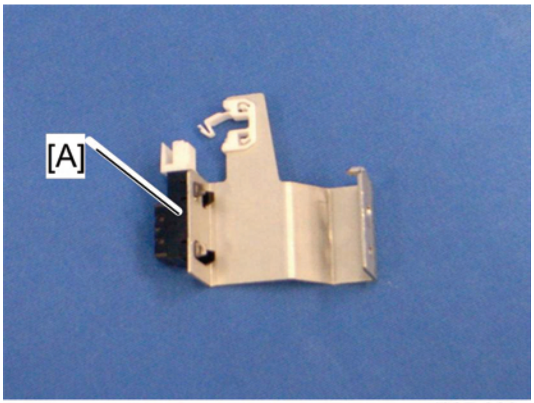
d037r367

2. Remove the screw [A].
3. Release all clamps that clamp the harness [B].



d037r368

4. Move the sensor assembly [A] to the cutout [B], and then remove it (🗜x1, 🔌 x 1)

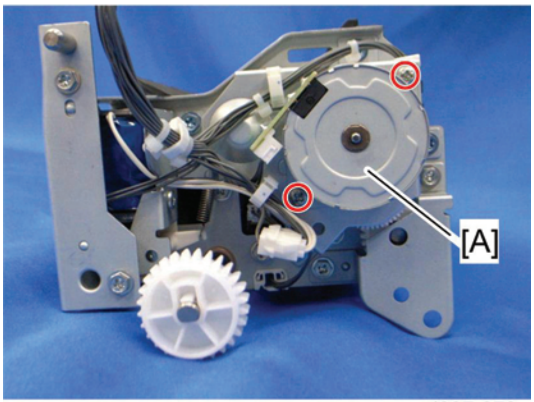


d037r369

5. Inverter sensor [A] (hooks)

4.13.6 INVERTER MOTOR

1. Paper exit unit (☞p.4-124)

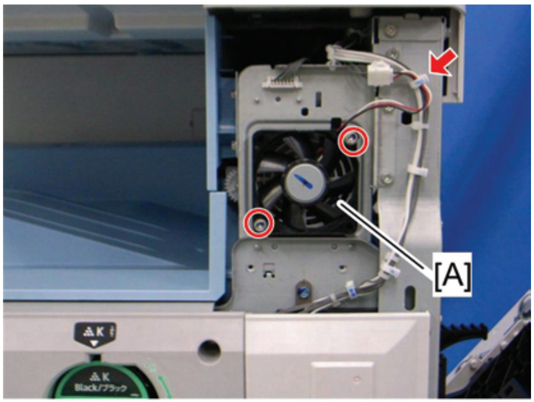


d037r370

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

4.13.7 FUSING FRONT FAN

1. Front right cover (☞p.4-23)

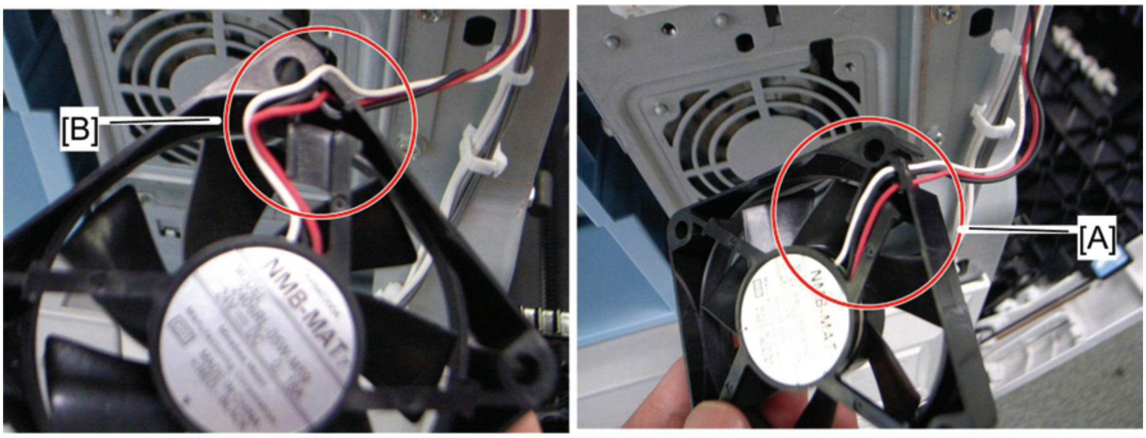


d037r371

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

When installing the fusing front fan

Make sure that the fusing front fan is installed with its decal facing to the rear side.

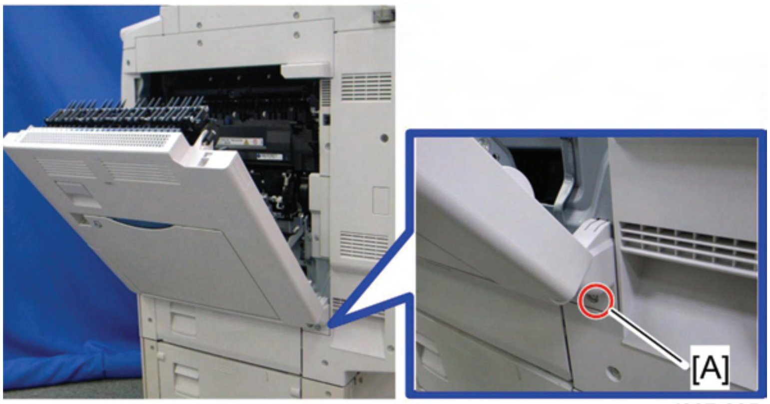


d037r514

Make sure that harnesses are correctly set [A] along the guide on the fan frame without slack [B]. Otherwise, the some of the wires could be pinched and damaged or cut between the fan frame and the frame of the main machine. SC533 can be issued if the harnesses are broken.

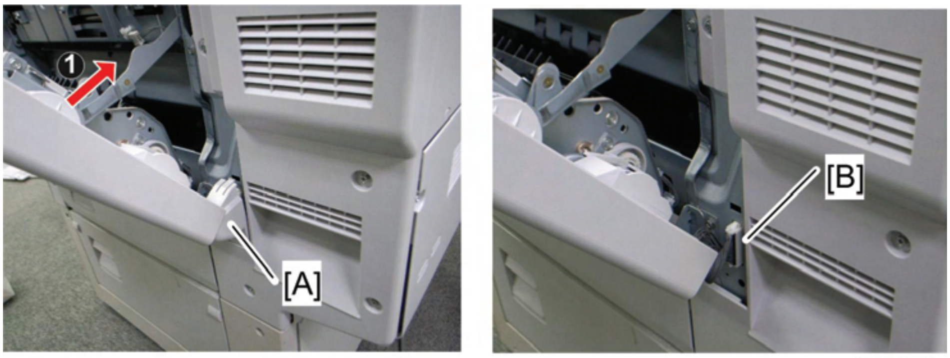
4.14 DUPLEX UNIT

4.14.1 DUPLEX UNIT



d037r295

1. Remove the screw [A].
2. Open the duplex unit.

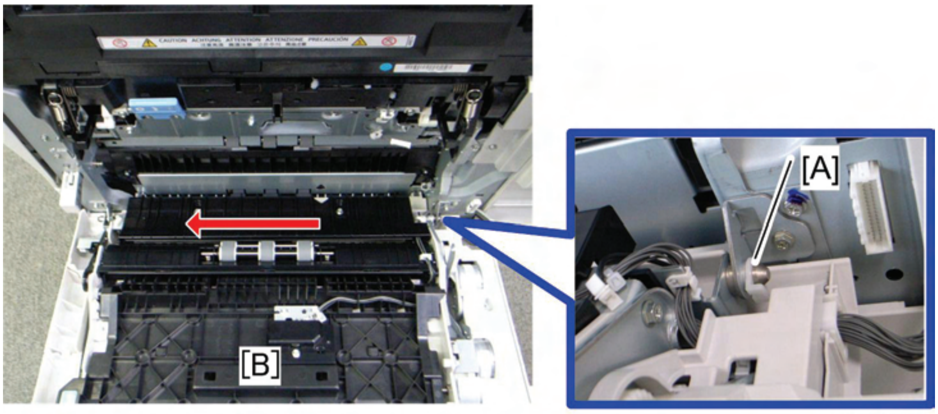


d037r296

3. Move the duplex unit in the direction shown by ❶, and remove the hook [A].
4. Disconnect the harness [B].

d037r297

5. Release the front and rear arms [A], [B] (x 1 each).

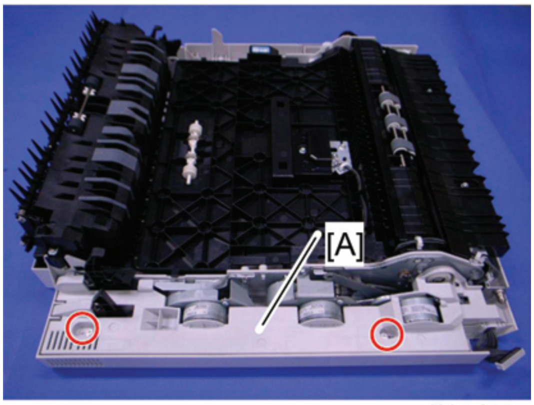


d037r298

6. Remove the clip [A].
7. Slide the duplex unit [B] to the front side, and then remove it.

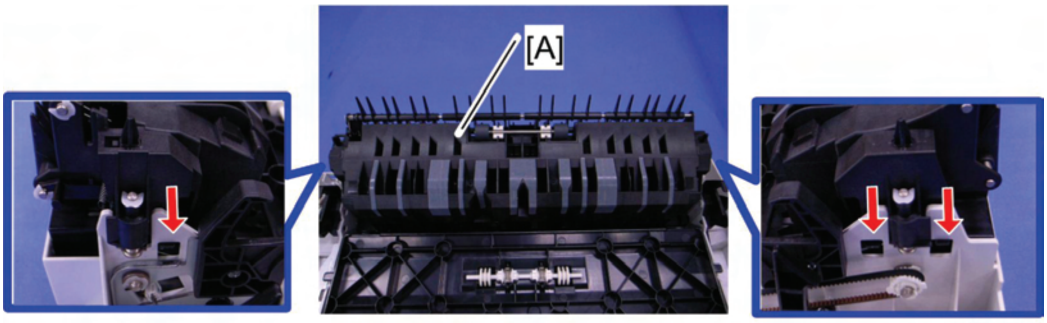
4.14.2 DUPLEX ENTRANCE SENSOR

1. Duplex unit (☞p.4-131)



d037r275

2. Duplex inner cover [A] (🔩 x 2)

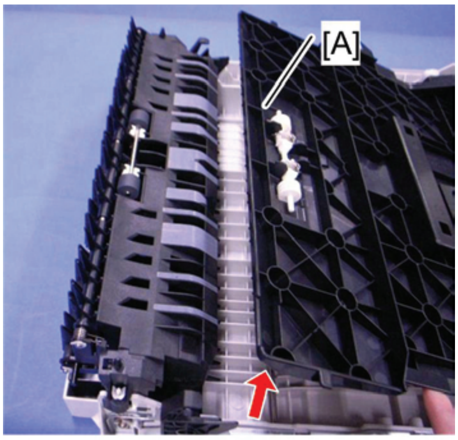


d037r276

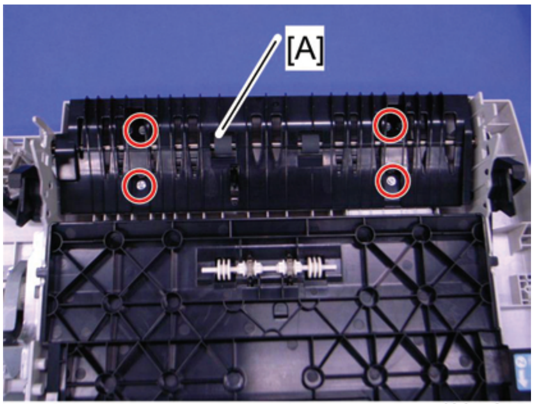
3. Duplex entrance guide unit [A] (hook x 3)

Note

- Lift up the duplex guide plate [A] first when reinstalling the duplex entrance guide unit.

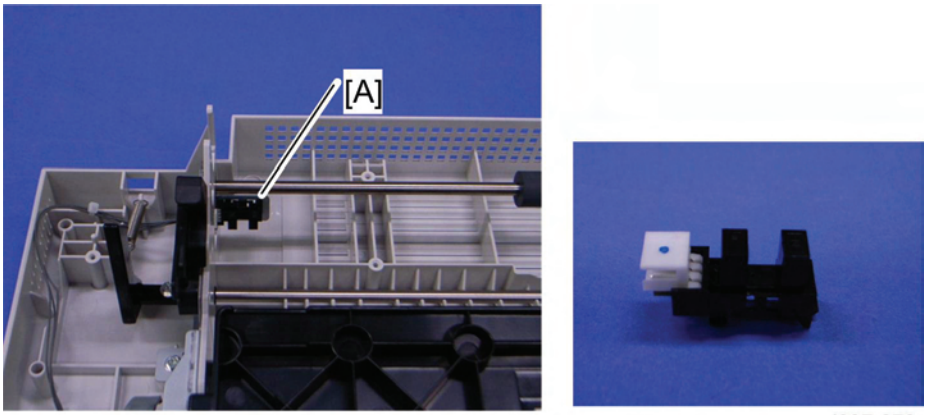


d037r287



d037r277

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

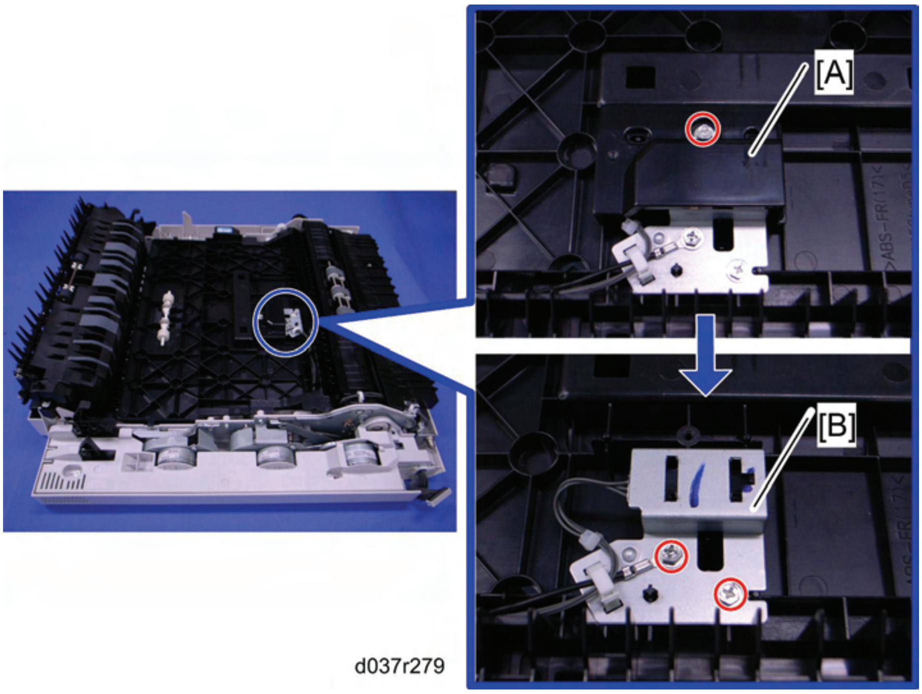


d037r278

5. Duplex entrance sensor [A] (hook)

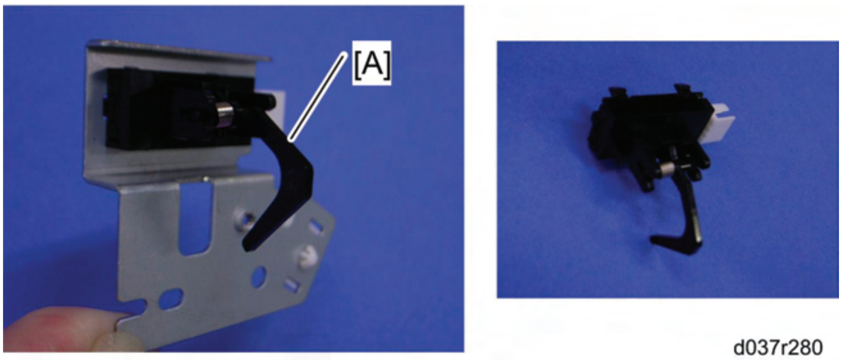
4.14.3 DUPLEX EXIT SENSOR

1. Pull out the 1st tray.
2. Duplex unit (☞p.4-131)



d037r279

3. Duplex exit sensor assembly cover [A] (🔩x 1)
4. Duplex exit sensor assembly [B] (🔩x 1, ground screw x 1, 📎 x 1, 🔌x 1)

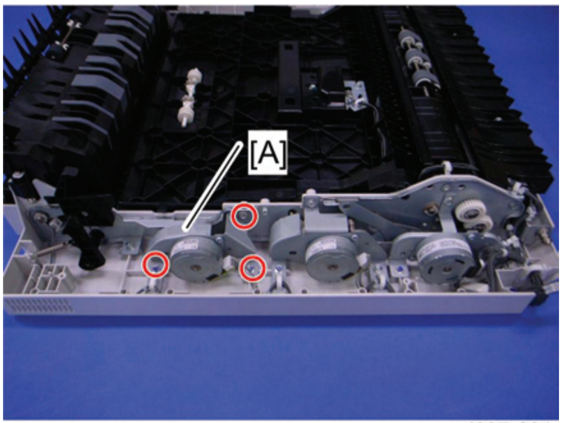


d037r280

5. Duplex exit sensor [A] (hook)

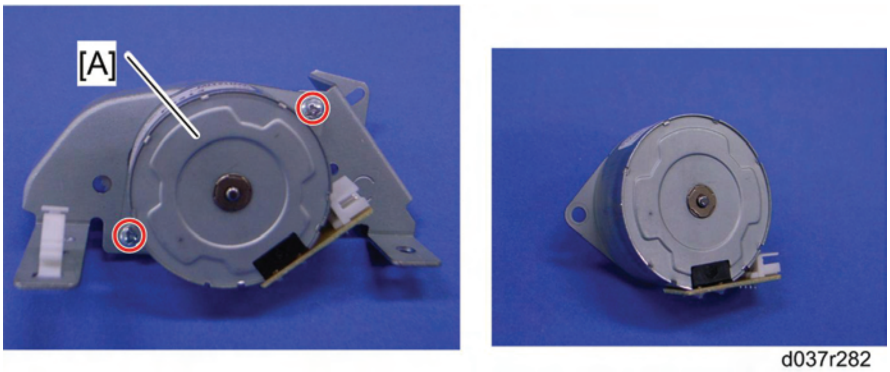
4.14.4 DUPLEX ENTRANCE MOTOR

1. Duplex unit (☞p.4-131)
2. Duplex inner cover (☞p.4-132 "Duplex Entrance Sensor")



d037r281

3. Duplex entrance motor with the bracket [A] (x 3, x1, x 1)

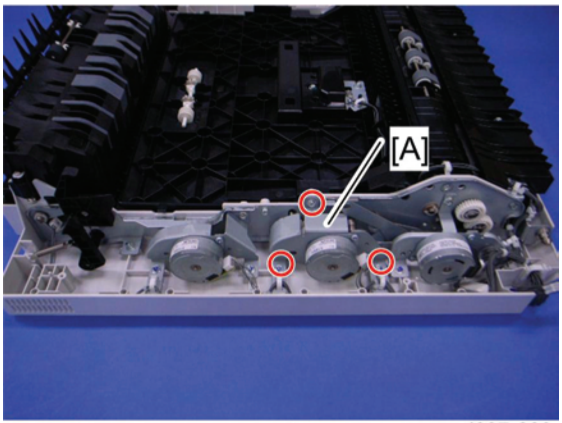


d037r282

4. Separate the duplex entrance motor [A] from the bracket (x 2)

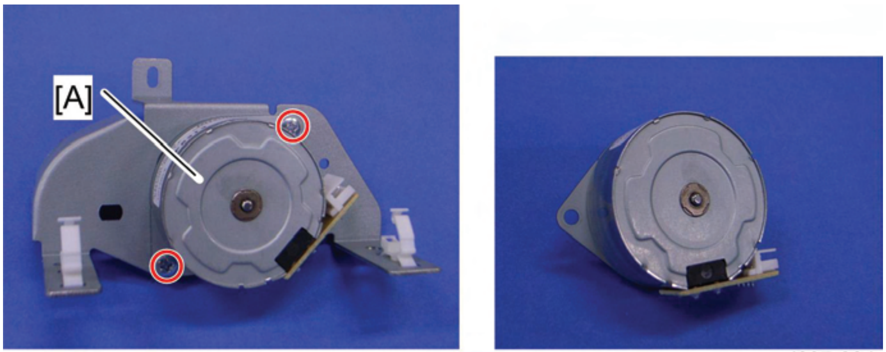
4.14.5 DUPLEX EXIT MOTOR

1. Duplex unit (☞p.4-131)
2. Duplex inner cover (☞p.4-132 "Duplex Entrance Sensor")



d037r283

3. Duplex exit motor with the bracket [A] (x 3, x 2, x 1)

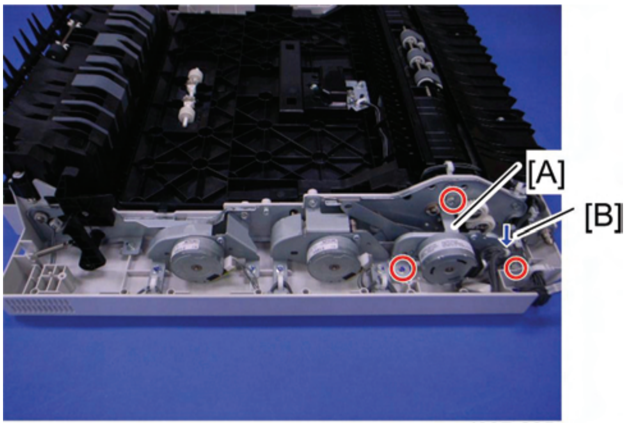


d037r284

4. Separate the duplex exit motor [A] from the bracket (x 2)

4.14.6 BY-PASS MOTOR

1. Duplex unit (☞p.4-131)
2. Duplex inner cover (☞p.4-132 "Duplex Entrance Sensor")

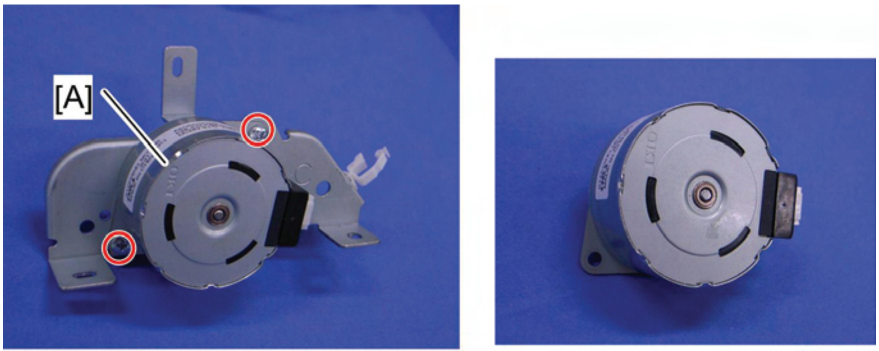


d037r285

3. By-pass motor with the bracket [A] (x 3, x 2, x 1)

Note

- Remove the clamp [B] from the bracket to disconnect the harness.

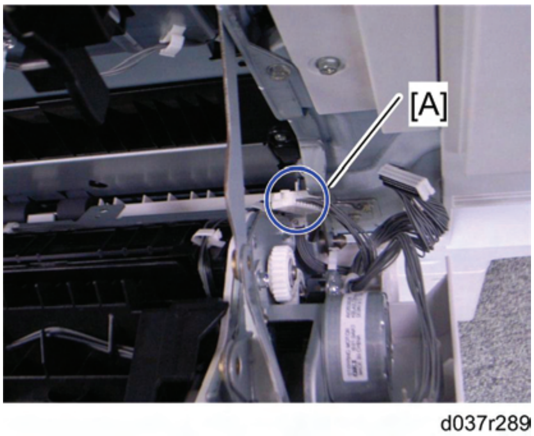


d037r286

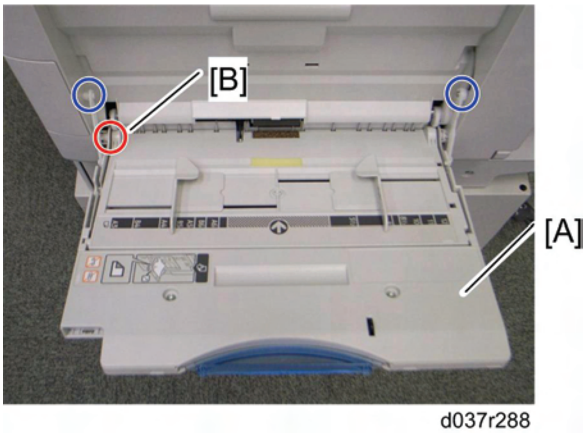
4. By-pass motor [A] (x 2)

4.14.7 BY-PASS TRAY UNIT

1. Duplex unit (☛p.4-131)
2. Duplex inner cover (☛p.4-132 "Duplex Entrance Sensor")
3. Reinstall the duplex unit once, and open it.



4. Disconnect the harness [A].
5. Close the duplex unit.



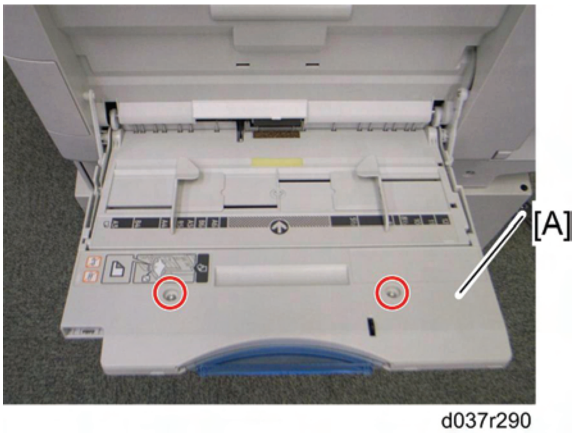
6. Open the by-pass tray unit [A]
7. By-pass tray unit (🔩x 2, hook [B]).

Note

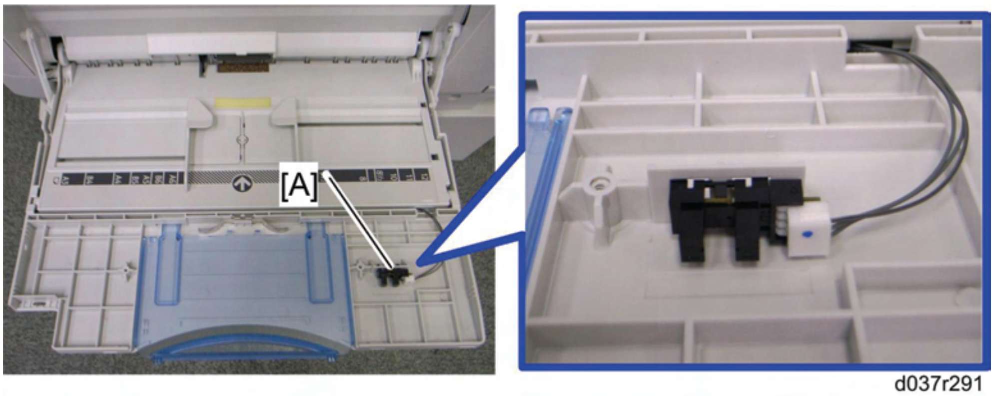
- Use a flat-head screw driver or similar tool to push the hook [B] down.

4.14.8 BY-PASS PAPER LENGTH SENSOR

1. Open the by-pass tray unit.



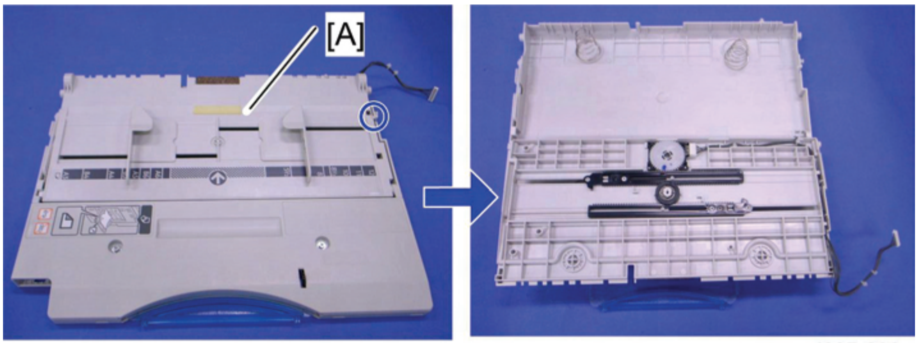
2. By-pass tray right cover [A] (🔩 x 2)



3. By-pass paper length sensor [A] (🔌 x 1)

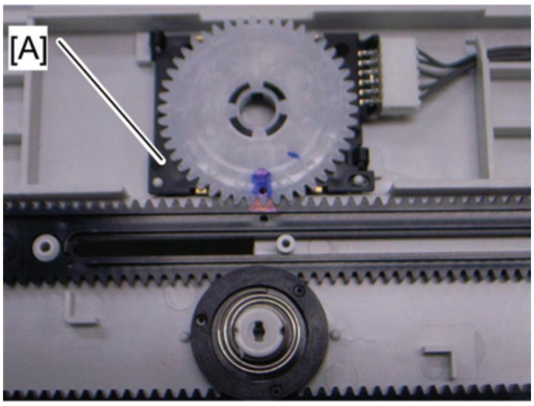
4.14.9 BY-PASS PAPER SIZE SENSOR

1. By-pass tray unit (☞p.4-138)



d037r292

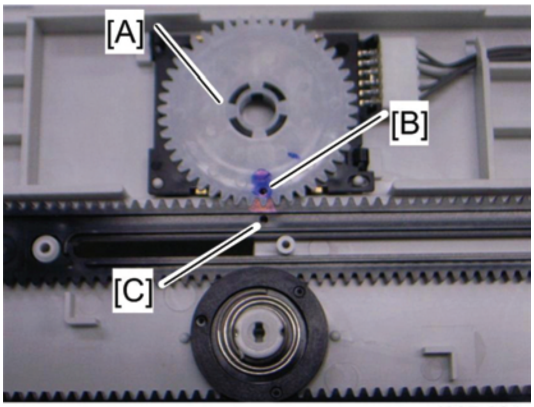
2. By-pass tray cover [A] (hook x 1)



d037r293

3. By-pass paper size sensor [A] (🔌 x 1)

When reinstalling the by-pass paper size sensor



d037r294

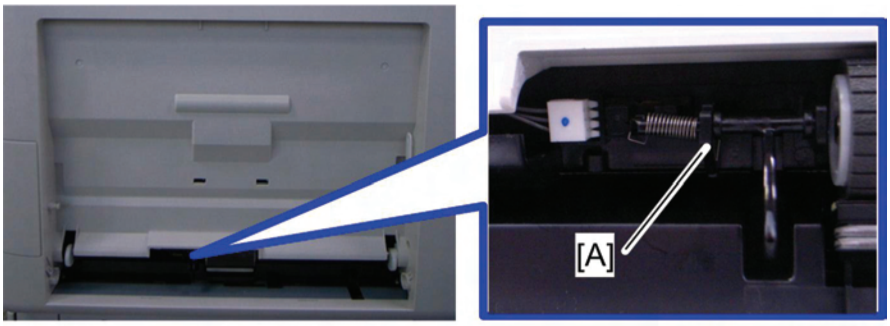
1. Adjust the projection [A] of the left side fence bar (it must be centered).
2. Install the by-pass paper size detection switch so that the hole [B] in this switch faces the projection [C] of the left side fence bar.
3. Reassemble the copier.
4. Plug in and turn on the main power switch.
5. Check this switch operation with SP5803-046 (By-Pass Size Detection SW < Input Check).

- Display on the LCD -

Paper Size	Display	Paper Size	Display
A3 SEF	00001001	A5 SEF	00001110
B4 SEF	00001011	B6 SEF	00001100
A4 SEF	00000011	A6 SEF	00001101
B5 SEF	00000111	Smaller A6 SEF	00001101

4.14.10 BY-PASS PAPER END SENSOR

1. By-pass tray unit (☞p.4-138)



d037r300

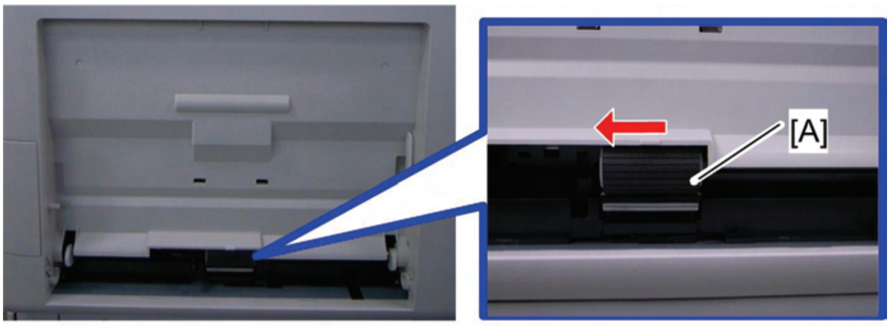
2. By-pass paper end sensor [A] (🔌 x 1, hook)

Reinstalling the By-pass Paper End Sensor

- Reinstall the right hook first and then the left hook using a flat-head screw driver or similar tool.

4.14.11 BY-PASS FEED ROLLER

1. By-pass tray unit (☞p.4-138)

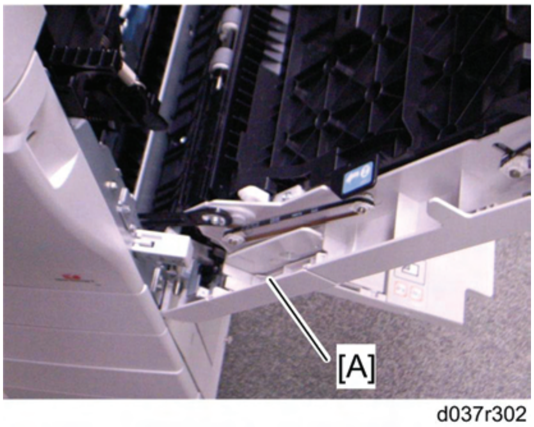


d037r301

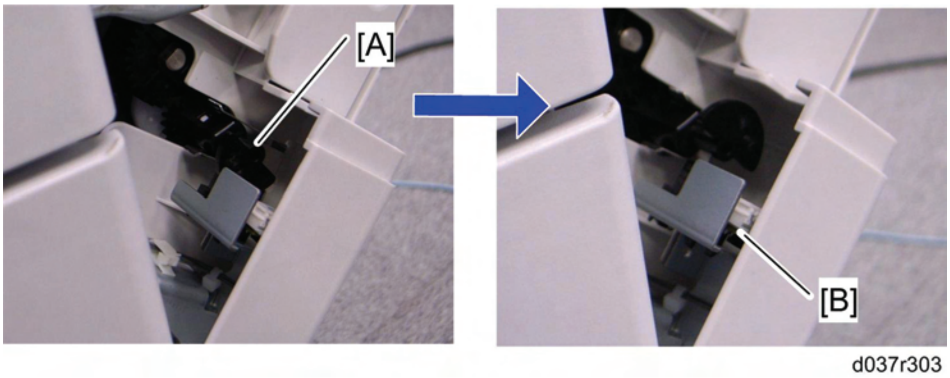
2. By-pass feed roller [A] (hook)

4.14.12 BY-PASS TRAY HP SENSOR

1. Open the by-pass tray unit.
2. Open the duplex unit.



3. Remove the hand holder [A].

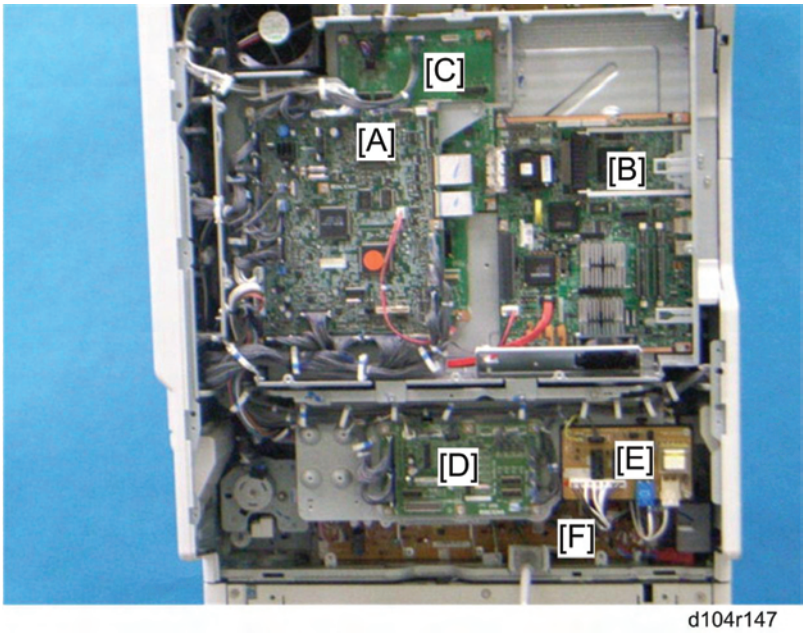


4. Rotate the actuator [A] counter clockwise as shown above.
5. By-pass tray HP sensor [B] (hook).

4.15 ELECTRICAL COMPONENTS

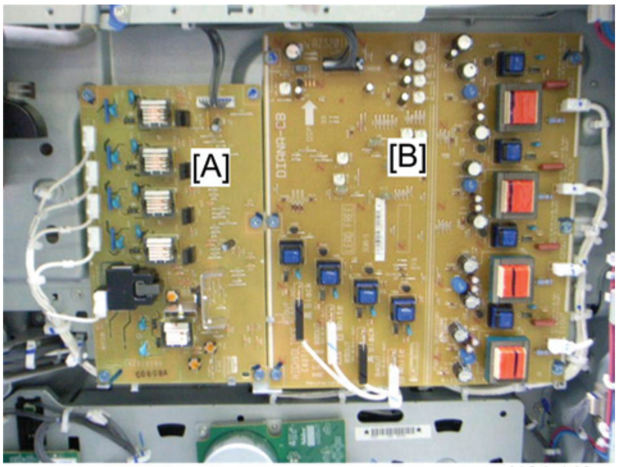
4.15.1 BOARDS

Controller Box Closed



[A]	BCU
[B]	Controller Board
[C]	IPU
[D]	DRB
[E]	SDVDB (Shut Down and Voltage Detection Board)
[F]	PSU

Controller Box Open

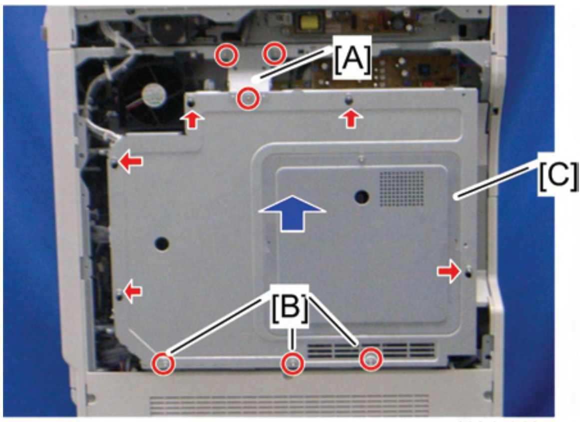


d104r148

[A]	HVPS: TTS Board
[B]	HVPS: CB Board

4.15.2 CONTROLLER BOX COVER

1. Rear cover (☞p.4-18)



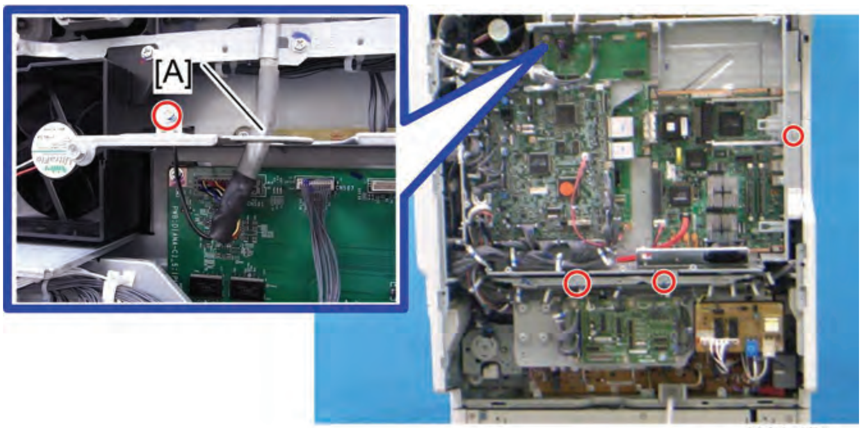
d104r149

2. Remove the scanner cable bracket [A] (🔩 x 3)
3. Loosen the five screws pointed by the arrow marks in the picture above.
4. Remove the three screws [B] at the bottom of the controller box.
5. Slid up the controller box cover [C], and then remove it.

4.15.3 CONTROLLER BOX

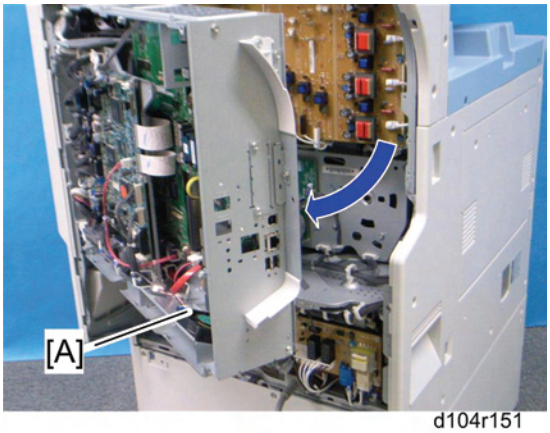
Opening the controller box

1. Rear cover (☞p.4-18)
2. Rear lower cover (☞ p.4-19)
3. Controller box cover (☞p.4-145)



d104r150

4. Remove the three screws and disconnect the scanner cable [A] (ground screw x 1)

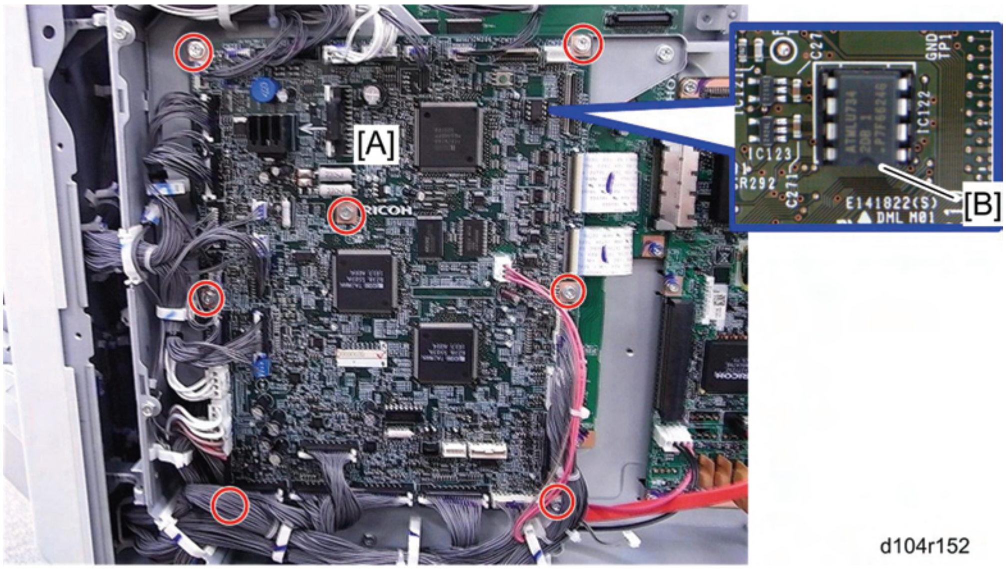


d104r151

5. Open the controller box [A].

4.15.4 BCU

1. Rear cover (☞p.4-18)
2. Controller box cover (☞p.4-145)



3. BCU [A] (x 7, x All)

Note

- Make sure the NVRAM is correctly installed on the BCU. Insert the NVRAM in the NVRAM slot with the "half-moon" pointing [B] to the downward side.

When installing the new BCU

1. Remove the NVRAM from the old BCU.
2. Install the NVRAM on the new BCU after you replace the BCU.
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.

Note

- Make sure you print out the SMC reports ("SP Mode Data" and "Logging Data") before you replace the NVRAM.

⚠CAUTION

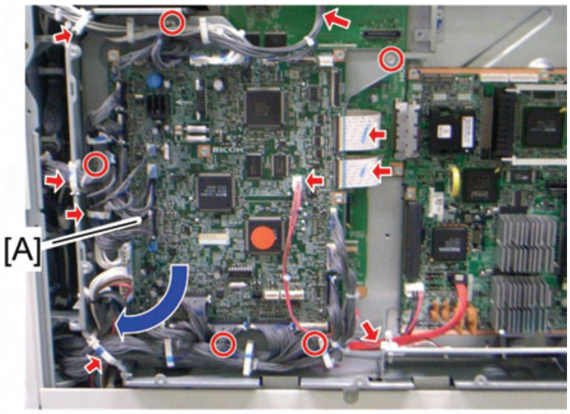
- Keep NVRAM away from any objects that can cause static electricity. Static electricity can damage NVRAM data.

4.15.5 HDD

Note

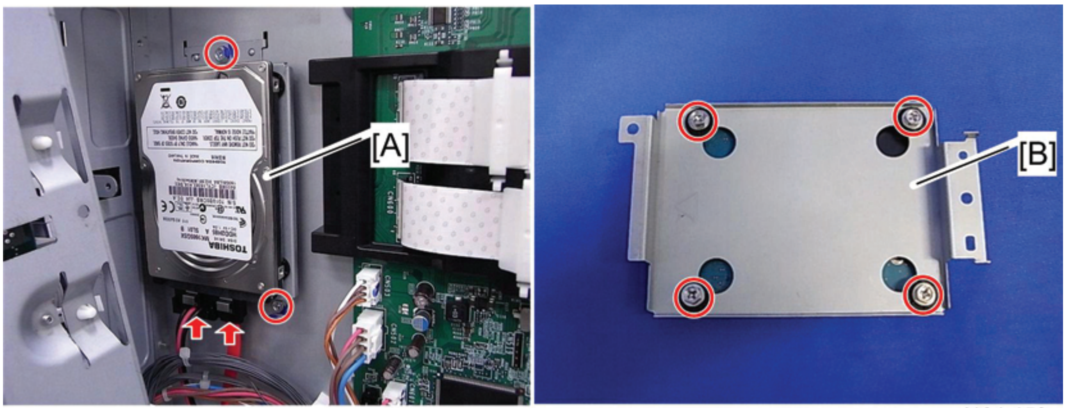
- Copy the address book data to an SD card from the HDD with SP5846-051 before replacing the HDD if possible.

1. Rear cover (☛p.4-18)
2. Controller box cover (☛p.4-145)



d104r156

3. Open the BCU bracket [A] (🔩x 5, ⎍ x 4, ⊐ x 3, flat cable x 2).



d104r158

4. HDD with bracket [A] (🔩 x 2, ⊐ x 2).
5. HDD bracket [B] (🔩 x 4)
6. HDD

After installing a new HDD

1. Do SP5832-001 to format the HDD.
2. Do SP5853-001 to copy the preset stamp data from the firmware to the HDD.
3. Do SP5846-052 to copy back the address book to the hard disk from the SD card to which you have already copied the address book data if possible.
4. Do SP5-878-001 to install the DataOverwriteSecurity application.

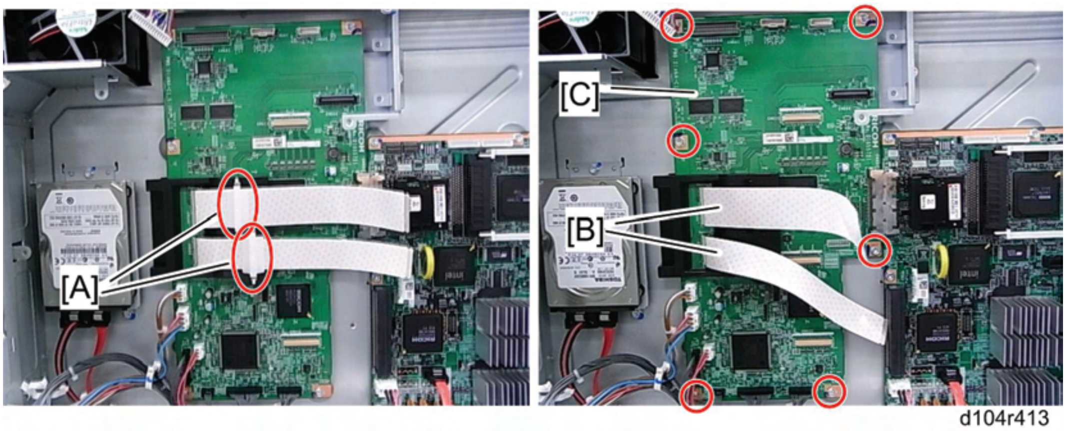
5. Do SP5878-002 to install the HDD Encryption application.
6. Turn off the machine.

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.

4.15.6 IPU BOARD

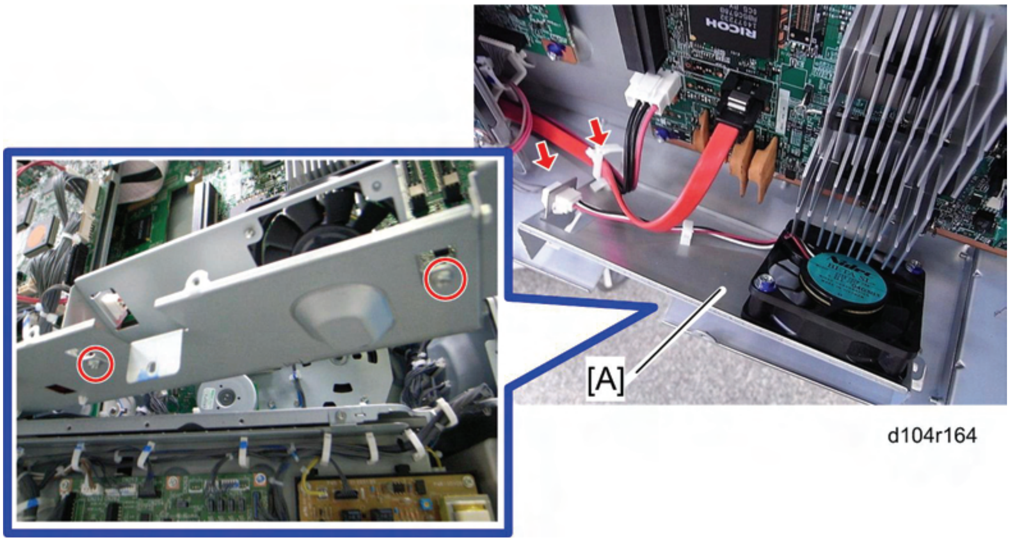
1. Rear cover (☛p.4-18)
2. Controller box cover (☛p.4-145)
3. Open the BCU bracket (☛ p.4-148 "HDD")



4. Flat cable holders [A]
5. Flat cables [B]
6. IPU board [C] (🔩 x 6, 🔌 x all)

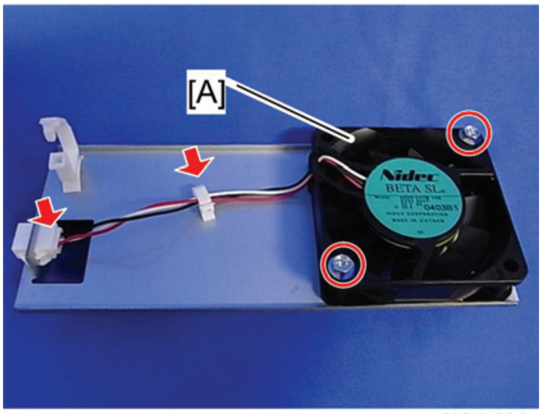
4.15.7 CONTROLLER BOX FAN

1. Rear cover (☞p.4-18)
2. Open the controller box (☞p.4-146 "Controller Box").



d104r164

3. Controller box fan with bracket [A] (🔩 x 2, 🔌 x 1, 📎 x 1)



d104r414

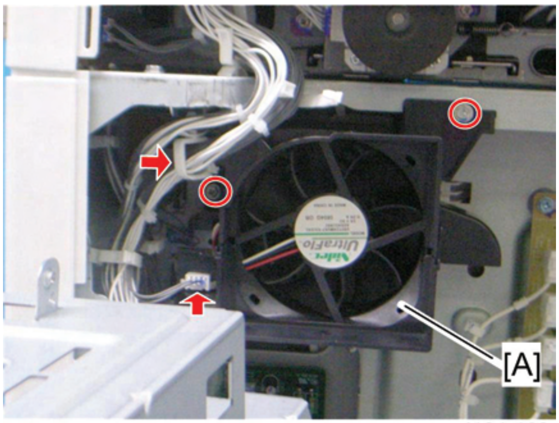
4. Controller box fan [A] (🔩 x 2, 📎 x 1, 🔌 x 1)

When installing the controller box fan

Make sure that the controller box fan is installed with its decal facing upward.

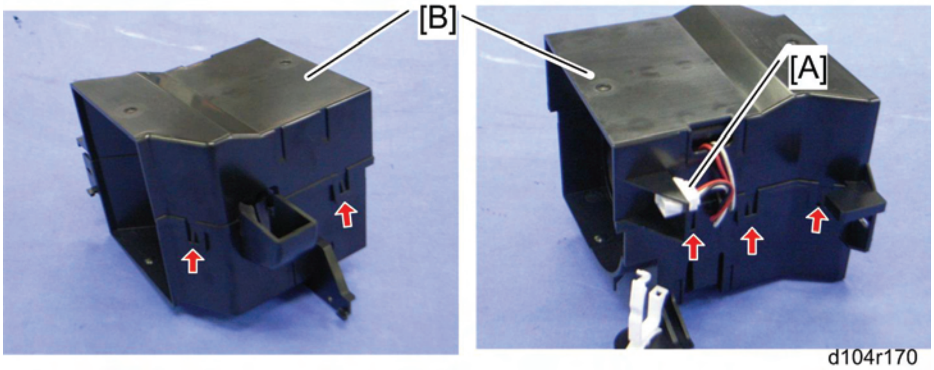
4.15.8 FUSING REAR FAN

1. Rear cover (☞p.4-18)
2. Open the controller box (☞p.4-146 "Controller Box").



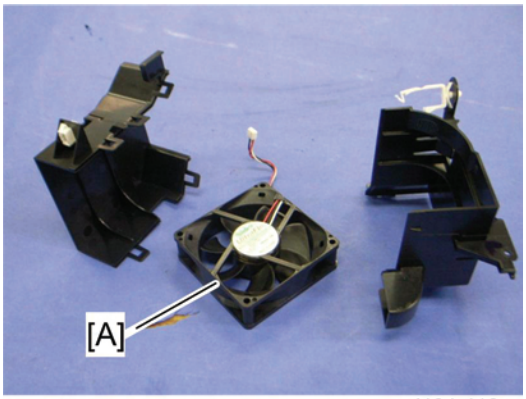
d104r169

3. Fusing rear fan with the bracket [A] (🔩x 2, 🔌x 1, 📎x 1)



d104r170

4. Disconnect the connector [A].
5. Remove the bottom bracket [B] (hook x 5).



d104r416

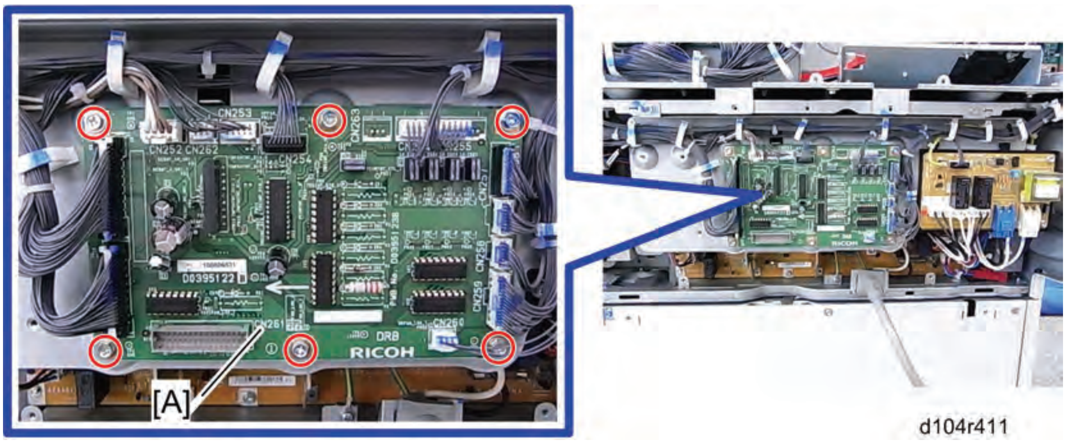
6. Fusing rear fan [A]

When installing the fusing rear fan

Make sure that the fusing rear fan is installed with its decal facing to the rear side.

4.15.9 DRB

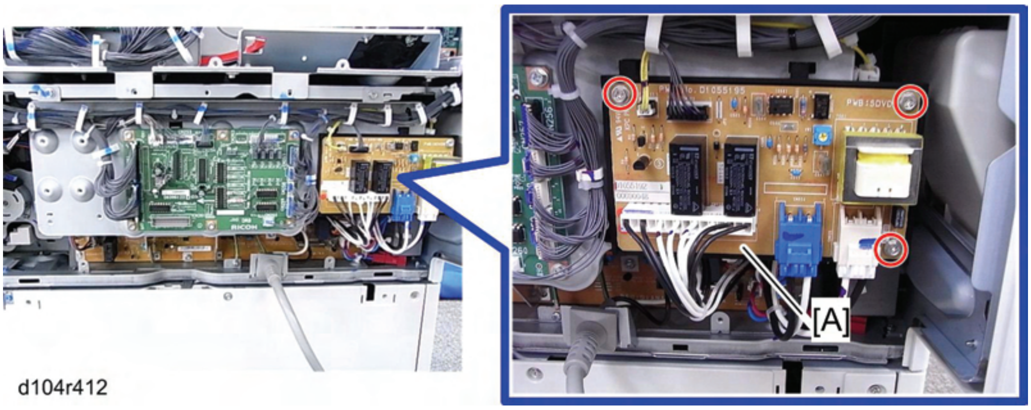
1. Rear cover (☛p.4-18)
2. Rear lower cover (☛ p.4-19)



3. DRB [A] (🔩 x 6, 🔌 x all)

4.15.10 SDVDB

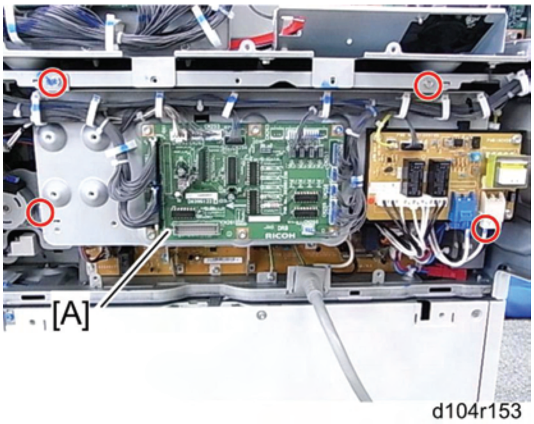
1. Rear cover (☛p.4-18)
2. Rear lower cover (☛ p.4-19)



3. SDVDB [A] (🔩 x 3, 🔌 x 5)

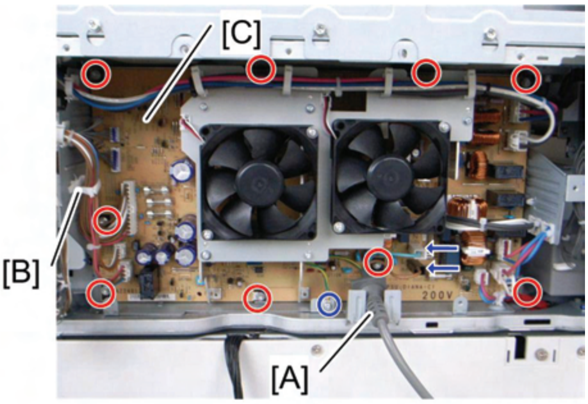
4.15.11 PSU

1. Rear cover (☞p.4-18)
2. Rear lower cover (☞ p.4-19)



d104r153

3. DRB with the bracket [A] (🔩x 4, 🔌x all, 🗜x all)

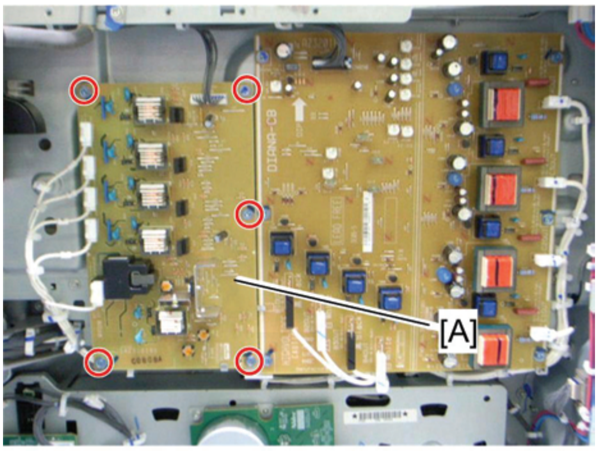


d037r154

4. Power cord [A] (Blue: ground screw x 1, 🔌x 2)
5. Remove the clamp [B] from the bracket.
6. PSU board [C] (🔩x 9, 🗜x All, 🔌x All)

4.15.12 HVPS: TTS BOARD

1. Rear cover (☛p.4-18)
2. Open the controller box (☛p.4-146 "Controller Box")

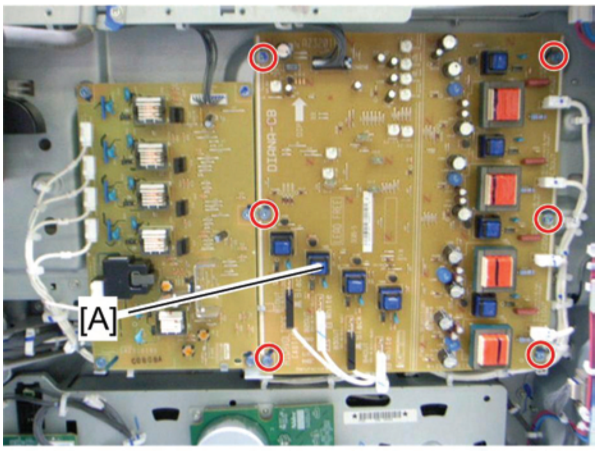


d104r155

3. HVPS: TTS board [B] (🔩x 5, 🔌x all)

4.15.13 HVPS: CB BOARD

1. Rear cover (☛p.4-18)
2. Open the controller box (☛p.4-146 "Controller Box")

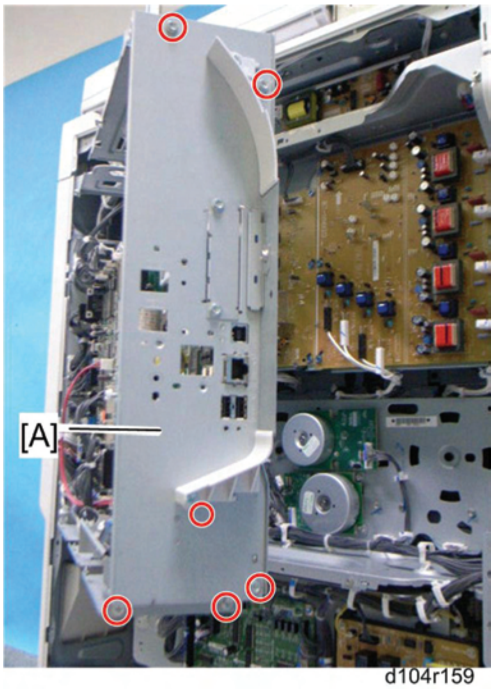


d104r155a

3. HVPS: CB board [A] (🔩x 6, All 🔌 s)

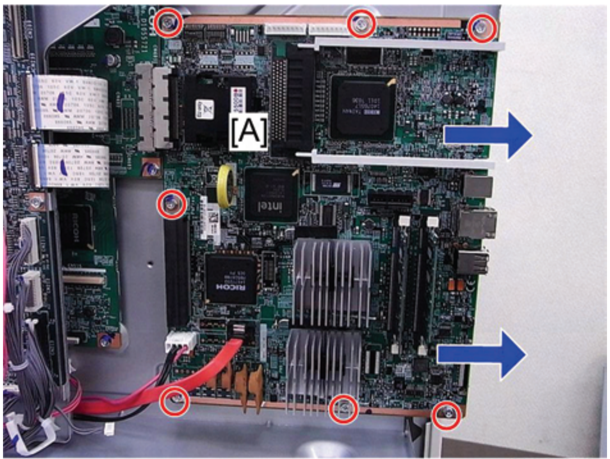
4.15.14 CONTROLLER BOARD

1. Rear cover (☞p.4-18)
2. Open the controller box (☞p.4-146 "Controller Box")
3. Controller box fan bracket (☞ p.4-150 "Controller Box Fan")



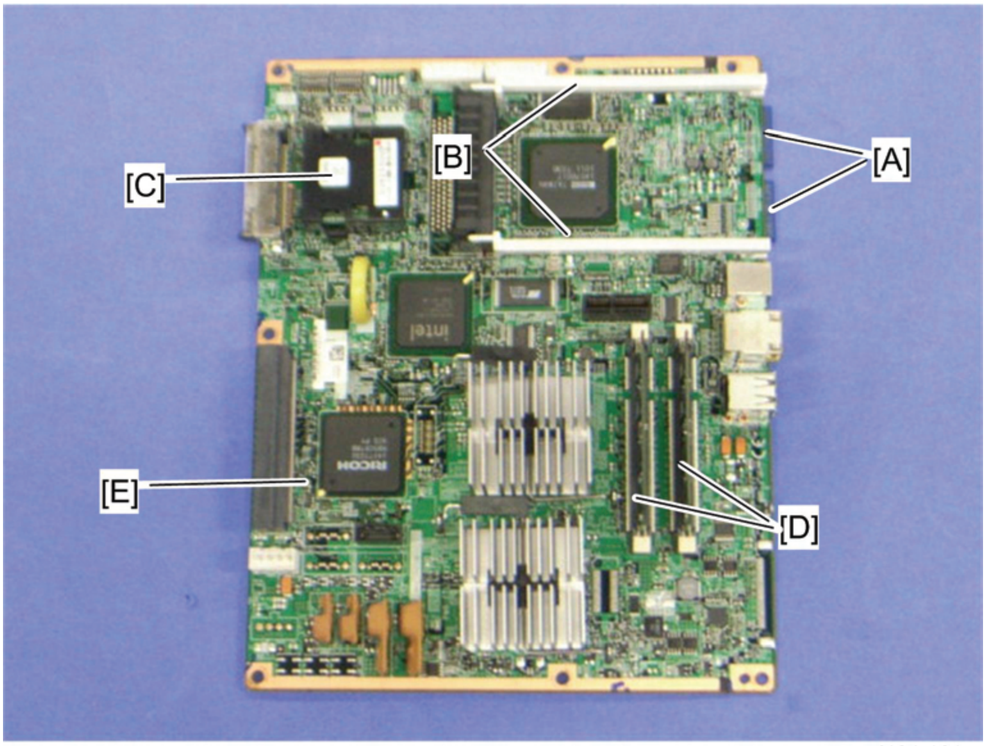
d104r159

4. Controller box left bracket [A] (🔩x 6)



d104r162

5. Controller board assembly [A] (🔩 x 7, 🔌x 2)



d104r161

6. Remove the SD cards [A], interface rails [B], NVRAM [C] and RAM-DIMMs [D].
7. Controller board [E]

When installing a new controller board

1. Install the NVRAM from the old controller board on a new controller board.
2. Install the new controller board in the machine.
3. Disconnect the cables of the HDD from the controller board.

Important

- Disconnecting the cables of the HDD is very important. Otherwise, the HDD is automatically formatted and all data in the HDD is lost due to the security limitation.

4. Reassemble the machine.
5. Turn on the main power of the machine.
6. Turn off the main power of the machine, and then connect the cables of the HDD again.

Note

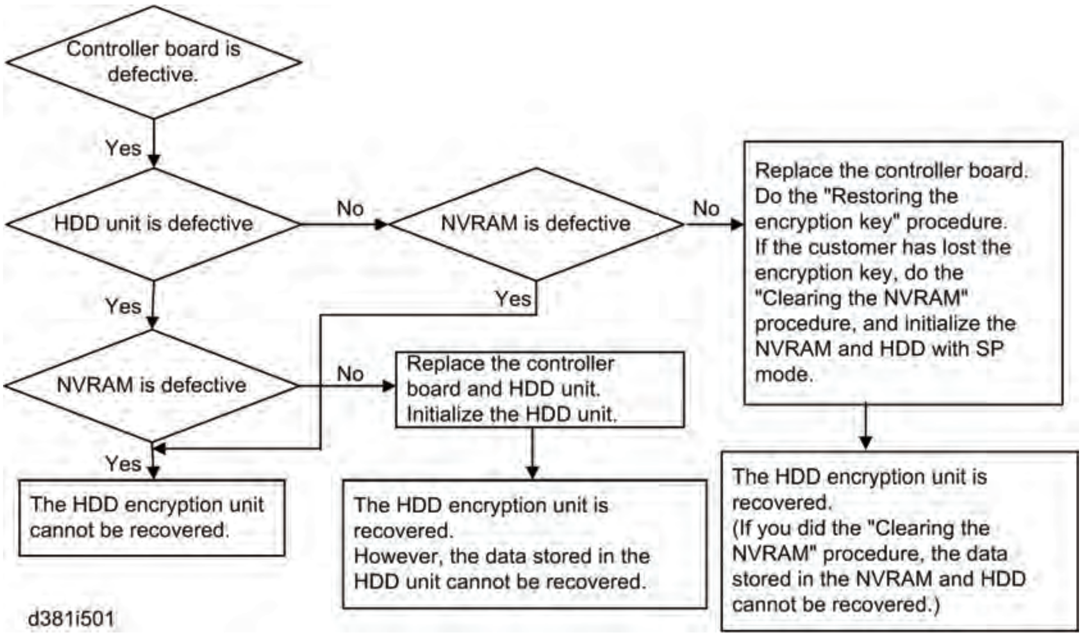
- Make sure you print out the SMC reports ("SP Mode Data" and "Logging Data") before you replace the NVRAM.

⚠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.

HDD Encryption Recovery from a Device Problem

The flowchart below shows the recovery possibility of the HDD encryption if one of devices related with the HDD encryption is defective.



Restoring the Encryption key

When replacing the controller board for a model in which the HDD encryption unit has been installed, updating the encryption key is required.

1. Prepare an SD card which is initialized.
2. Make the "restore_key" folder in the SD card.
3. Make an "nvram_key.txt" file in the "restore_key" folder in the SD card.
4. Ask an administrator to input the encryption key (this has been printed out earlier by the user) into the "nvram_key.txt" file.
5. Remove only the HDD (☛p.4-148 "HDD").
6. Turn on the main power switch.
7. Confirm that the prompt on the LCD tells you to install the SD card (storing the encryption key) in the machine.
8. Turn off the main power switch.
9. Remove the SD slot cover (🔩 x 1).
10. Insert the SD card that contains the encryption key into SD slot 2.
11. Turn on the main power switch, and the machine automatically restores the encryption key in the flash memory on the controller board.
12. Turn off the main power switch after the machine has returned to normal status.
13. Remove the SD card from SD slot 2, and then attach the SD slot cover (🔩 x 1).
14. Reinstall the HDD.

Clearing the NVRAM

When replacing the controller board and a customer has lost the encryption key, clearing the NVRAM is required to recover the HDD encryption unit.

1. Prepare an SD card which is initialized.
2. Make the "restore_key" folder in the SD card.
3. Make an "nvram_key.txt" file in the "restore_key" folder in the SD card.
4. Input "nvclear" into the "nvram_key.txt" file.
5. Turn on the main power switch.
6. Confirm that the prompt on the LCD tells you to install the SD card (storing the encryption key) in the machine.
7. Turn off the main power switch.
8. Insert the SD card that contains "nvclear" into SD slot 2.
9. Turn on the main power switch, and the machine automatically restores the encryption key in the flash memory on the controller board.
10. Turn off the main power switch after the machine has returned to normal status.
11. Remove the SD card from slot 2.
12. Turn on the main power switch.
13. Initialize the NVRAM (SP5801-001) and HDD unit (SP5832-001) with SP mode.
14. The user must enable the HDD encryption unit with a user tool.

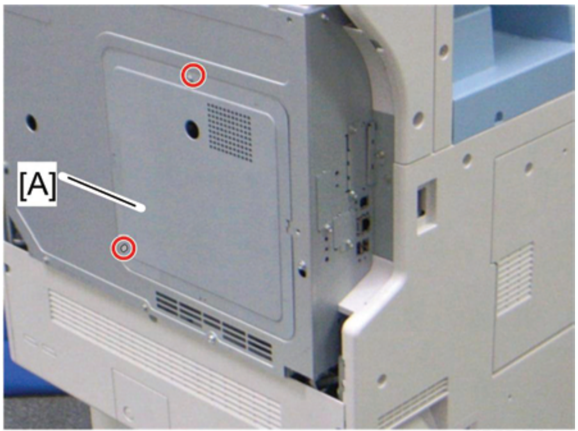
4.15.15 NVRAM REPLACEMENT PROCEDURE

NVRAM on the BCU

1. Make sure that you have the SMC report (factory settings). This report comes with the machine (☞p.2-18 "Initialize the Developer").
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. Copy the data from the SD card to the NVRAM (☞ SP5-825-001) if you have successfully copied them to the SD card.
11. Turn the main switch off. Then remove the SD card from SD card slot 2.
12. Turn the main switch on.
13. Specify the SP and UP mode settings.
14. Do the process control self-check.
15. Do ACC for the copier application program.
16. Do ACC for the printer application program.

NVRAM on the Controller

1. Make sure that you have the SMC report (factory settings). This report comes with the machine (☛p.2-18 "Initialize the Developer").
2. Output the SMC data (☛ SP5-990-001) if possible.
3. Turn the main switch off. Then unplug the power cord.
4. Remove the rear cover (☛p.4-18)



d555r504

5. Remove the controller cover [A] (🔩 x 2).
6. Disconnect the cables of the HDD from the controller board.

★ Important

- Disconnecting the cables of the HDD is very important. Otherwise, the HDD is automatically formatted and all data in the HDD is lost due to the security limitation.

7. Install a New NVRAM on the controller. Then reassemble the machine.
8. Remove the SD slot cover (🔩 x 1).
9. Remove the Security SD from SD slot 1.
10. Install a new Security SD in SD slot 1.
11. Turn the main switch on.
12. SC995-02 occurs.
13. Turn the machine off.
14. Connect the cables of the HDD to the controller board.
15. Reassemble the machine, and then turn on the machine.
16. Do the process control self-check.
17. Do ACC for the copier application program.
18. Do ACC for the printer application program.
19. Do SP5-878-001 to install the DataOverwriteSecurity application.
20. Do SP5878-002 to install the HDD Encryption application.

Merge all applications in a one SD card in SD slot 1 if necessary (☛p.2-94 "SD Card Appli Move").

SYSTEM MAINTENANCE

REVISION HISTORY		
Page	Date	Added/Updated/New
		None

5. SYSTEM MAINTENANCE

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 copier to process the data.

5.1.1 SP TABLES

There are most commonly used SP codes in the "Main SP Tables - 1 to - 9" of "Main Chapters".

See "Appendices" for the following information:

- System SP Tables (all SP codes)
- Printer SP Tables
- Scanner SP Tables

5.1.2 TYPES OF SP MODES

- System SP: SP modes related to the engine functions
- Printer SP: SP modes related to the controller functions
- Scanner SP: SP modes related to the scanner functions
- Fax SP: SP modes related to the fax functions

Select one of the Service Program modes (System, Printer, Scanner, or Fax) from the touch panel as shown in the diagram below after you access the SP mode. This section explains the functions of the System/Printer/Scanner SP modes. Refer to the Fax service manual for the Fax SP modes.

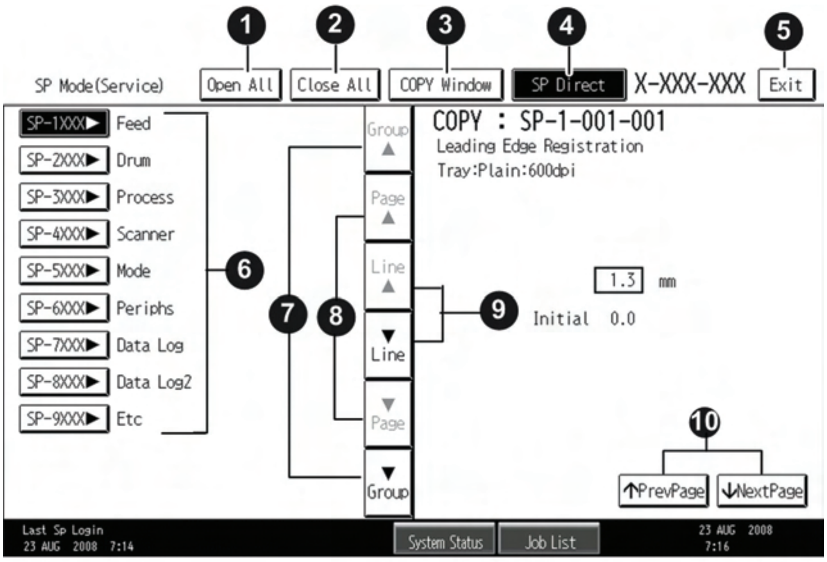
Last Sp Login
23 AUG 2008 7:14

23 AUG 2008
7:16

d037s910

SP Mode Button Summary

Here is a short summary of the touch-panel buttons.



COPY : SP-1-001-001
Leading Edge Registration
Tray:Plain:600dpi

1.3 mm
Initial 0.0

d037s911

❶	Opens all SP groups and sublevels.
❷	Closes all open groups and sublevels and restores the initial SP mode display.
❸	Opens the copy window (copy mode) so you can make test copies. Press SP Mode (highlighted) in the copy window to return to the SP mode screen,
❹	Enter the SP code directly with the number keys if you know the SP number. Then press#. (The required SP Mode number will be highlighted when pressing#. If not, just press the required SP Mode number.)
❺	Press two times to leave the SP mode and return to the copy window to resume normal operation.
❻	Press any Class 1 number to open a list of Class 2 SP modes.
❼	Press to scroll the show to the previous or next group.
❽	Press to scroll to the previous or next display in segments the size of the screen display (page).
❾	Press to scroll the show the previous or next line (line by line).
❿	Press to move the highlight on the left to the previous or next selection in the list.

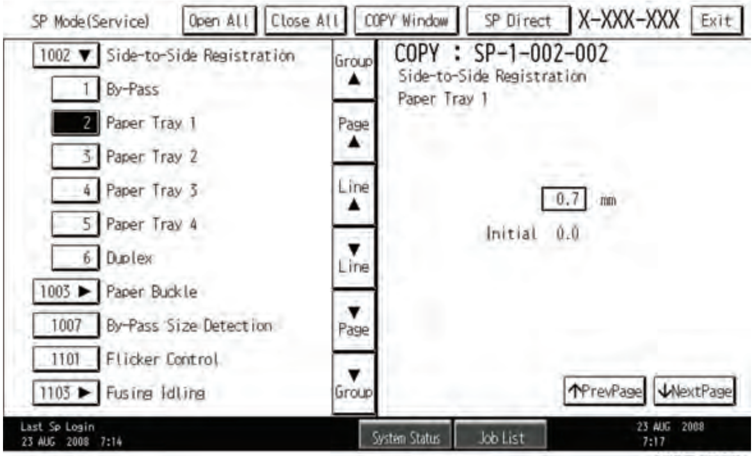
Switching Between SP Mode and Copy Mode for Test Printing

1. In the SP mode, select the test print. Then press "Copy Window".
2. Use the copy window (copier mode), to select the appropriate settings (paper size, etc.) for the test print.
3. Press Start ⊙ to start the test print.
4. Press SP Mode (highlighted) to return to the SP mode screen and repeat from step 1.

Selecting the Program Number

Program numbers have two or three levels.

1. Refer to the Service Tables to find the SP that you want to adjust before you begin.
2. Press the Group number on the left side SP Mode window that contains the SP that you want to adjust.
3. Use the scrolling buttons in the center of the SP mode window to show the SP number that you want to open. Then press that number to expand the list.
4. Use the center touch-panel buttons to scroll to the number and title of the item that you want to set and press it. The small entry box on the right activates and shows the below default or the current settings.



1002 ▼ Side-to-Side Registration
1 By-Pass
2 Paper Tray 1
3 Paper Tray 2
4 Paper Tray 3
5 Paper Tray 4
6 Duplex
1003 ▶ Paper Buckle
1007 By-Pass Size Detection
1101 Flicker Control
1103 ▶ Fusing Idling

COPY : SP-1-002-002
Side-to-Side Registration
Paper Tray 1

0.7 mm
Initial 0.0

Last Sp Login
23 AUG 2008 7:14

23 AUG 2008
7:17

d037s912

Note

- Refer to the SP Tables for the range of allowed settings.

5. Do this procedure to enter a setting:
   - Press ± to toggle between plus and minus and use the keypad to enter the appropriate number. The number you enter writes over the previous setting.
   - Press # to enter the setting. (The value is not registered if you enter a number that is out of range.)
   - Press "Yes" when you are prompted to complete the selection.
6. If you need to perform a test print, press Copy Window to open the copy window and select the settings for the test print. Press Start ⊙ and then press SP Mode (highlighted) in the copy window to return to the SP mode display.

7. Press Exit two times to return to the copy window when you are finished.

Service Mode Lock/Unlock

At locations where the machine contains sensitive data, the customer engineer cannot operate the machine until the Administrator turns the service mode lock off. This function makes sure that work on the machine is always done with the permission of the Administrator.

1. If you cannot go into the SP mode, ask the Administrator to log in with the User Tool and then set "Service Mode Lock" to OFF after he or she logs in:
   User Tools > System Settings > Administrator Tools > Service Mode Lock > OFF
   - This unlocks the machine and lets you get access to all the SP codes.
   - The CE can service the machine and turn the machine off and on. It is not necessary to ask the Administrator to log in again each time the machine is turned on.
1. Go into the SP mode and set SP5169 to "1" if you must use the printer bit switches.
2. After machine servicing is completed:
   - Change SP5169 from "1" to "0".
   - Turn the machine off and on. Tell the administrator that you have completed servicing the machine.
   - The Administrator will then set the "Service Mode Lock" to ON.

5.1.3 REMARKS

Display on the Control Panel Screen

The maximum number of characters which can show on the control panel screen is limited to 30 characters. For this reason, some of the SP modes shown on the screen need to be abbreviated. The following are abbreviations used for the SP modes for which the full description is over 30 characters.

Paper Weight
Thin paper: 52-59 g/m^2 (14-16lb. Bond)
Plain Paper1: 60-74 g/m^2 (16-20lb. Bond)
Plain Paper2: 75-81 g/m^2 (20lb. Bond)
Middle Thick: 82-105 g/m^2 (20-28lb. Bond)
Thick Paper 1: 106-169 g/m^2 (28lb. Bond-90lb. Index)
Thick Paper 2: 170-210 g/m^2 (65lb. Cover-54lb. Bond)
Thick Paper 3: 211-256 g/m^2 (65lb. Cover-54lb. Bond)

Paper Type
N: Normal paper
MTH: Middle thick paper
TH: Thick paper

Paper Feed Station
P: Paper tray
B: By-pass table

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]: Full Color mode
[FC, K], [FC, Y], [FC, M], or [FC, C]: Black, Yellow, Magenta, or Cyan in full color mode

Print Mode
S: Simplex
D: Duplex

Process Speed
L: Low speed (60 mm/s)
M: Middle speed (120 mm/s)

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. Refer to the factory setting sheets enclosed. You can find it under the jammed paper removal decal.)

DFU: Design/Factory Use only

Do not touch these SP modes in the field.

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. If you do a RAM clear, this SP mode will be reset to the default value. "ENG" and "CTL" show which NVRAM contains the data.

- ENG: NVRAM on the BCU board
- CTL: NVRAM on the controller board

The settings of each SP mode are explained in the right-hand column of the SP table in the following way.

[Adjustable range / **Default setting** / Step] Alphanumeric

↓ Note

  - If "Alphanumeric" is written to the right of the bracket as shown above, the setting of the SP mode shows 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.

SSP: This denotes a "Special Service Program" mode setting.

5.2 MAIN SP TABLES-1

5.2.1 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:600dpi	*ENG	[–9 to 9 / **0.0** / 0.1 mm/step]
002	Tray:Thick1:600dpi	*ENG	
003	Tray:M-Thick:600dpi	*ENG	
004	By-pass:Plain:600dpi	*ENG	
005	By-pass:Thick1:600dpi	*ENG	
006	By-pass:Thick2:600dpi	*ENG	
007	By-pass:Thick3:600dpi	*ENG	
008	By-pass: M-Thick:600dpi	*ENG	
009	Duplex:Plain:600dpi	*ENG	
010	Duplex:M-Thick:600dpi	*ENG	
011	Tray:Thick1:1200dpi	*ENG	[–9 to 9 / **0.0** / 0.1 mm/step]
012	Tray:M-Thick:1200dpi	*ENG	
013	By-pass:Plain:1200dpi	*ENG	
014	By-pass:Plain:1200dpi	*ENG	
015	By-pass:Thick1:1200dpi	*ENG	
016	By-pass:Thick2:1200dpi	*ENG	

017	By-pass:Thick3:1200dpi	*ENG	
018	By-pass:M-Thick:1200dpi	*ENG	
019	Duplex:Plain:1200dpi	*ENG	
020	Duplex:M-Thick:1200dpi	*ENG	

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: M-Thick: Middle Thick		
	Adjusts the amount of paper buckle at the registration roller by changing the paper feed timing.		
001	Tray1:Plain:600dpi	*ENG	[–5 to 5 / **2** / 1 mm/step]
002	Tray1:Thick1:600dpi	*ENG	
003	Tray1:M-Thick:600dpi	*ENG	
004	Tray234:Plain:600dpi	*ENG	[–5 to 5 / **0** / 1 mm/step]
005	Tray234:Thick1:600dpi	*ENG	
006	Tray234:M-Thick:600dpi	*ENG	

007	By-pass:Plain:600dpi	*ENG	
008	By-pass:Thick1:600dpi	*ENG	
009	By-pass:Thick2:600dpi	*ENG	
010	By-pass:Thick3:600dpi	*ENG	
011	By-pass:M-Thick:600dpi	*ENG	
012	Duplex:Plain:600dpi	*ENG	
013	Duplex:M-Thick:600dpi	*ENG	
014	Tray1:Plain:1200dpi	*ENG	[–5 to 5 / **2** / 1 mm/step]
015	Tray1:Thick1:1200dpi	*ENG	
016	Tray1:M-Thick:1200dpi	*ENG	
017	Tray234:Plain:1200dpi	*ENG	[–5 to 5 / **0** / 1 mm/step]
018	Tray234:Thick1:1200dpi	*ENG	
019	Tray234:M-Thick:1200dpi	*ENG	
020	By-pass:Plain:1200dpi	*ENG	
021	By-pass:Thick1:1200dpi	*ENG	
022	By-pass:Thick2:1200dpi	*ENG	
023	By-pass:Thick3:1200dpi	*ENG	
024	By-pass:M-Thick:1200dpi	*ENG	
025	Duplex:Plain:1200dpi	*ENG	
026	Duplex:M-Thick:1200dpi	*ENG	

1007	**[By-Pass Size Detection]** By-Pass Size Detection Display		
001	0:LT SEF/ 1:LG	*ENG	-
	Enables or disables the automatic paper size detection function of the by-pass tray. This SP determines what paper size the machine detects if the detected size is less than 8.5". 0: LT SEF (default), 1: LG		

1101	[Reload Permit Setting]		
	Specifies the settings of the reload permit for cold temperature in color mode. Destination: NA; North America, TWN; Taiwan, EU; Europe, AA; Asia Pasific		
001	Pre-rotation Start Temp.	*ENG	[0 to 75 / **50** / 1 deg/step]
	Specifies the pre-rotation start temperature.		
002	Reload Target Temp.:Center	*ENG	[135 to 145 / **135** / 1 deg/step]
	Specifies the reload target temperature of the heating roller.		
003	Reload Target Temp.:Press	*ENG	[0 to 200 / **20** / 1 deg/step]
	Specifies the reload target temperature of the pressure roller.		
004	Temp.:Delta:Cold: Center	*ENG	[0 to 100 / **10** / 1 deg/step]
	Specifies the temperature correction of the heating roller (center) when the fusing unit is determined as cold state.		
005	Temp.:Delta:Cold:End	*ENG	[0 to 100 / **45** / 1 deg/step]
	Specifies the temperature correction of the heating roller (end) when the fusing unit is determined as cold state.		
006	Temp.:Delta:Cold: Press	*ENG	[0 to 100 / **0** / 1 deg/step]
	Specifies the temperature correction of the pressure roller when the fusing unit is determined as cold state.		

007	Rotation Time:Cold	*ENG	[0 to 200 / **2** / 1 sec/step]
	Specifies the threshold time for the fusing unit heating when the fusing unit is determined as cold state.		
008	Temp.:Delta:Warm: Center	*ENG	[0 to 100 / **NA: 10, EU/AA: 5** / 1 deg/step]
	Specifies the temperature correction of the heating roller (center) when the fusing unit is determined as warm state.		
009	Temp.:Delta:Warm:End	*ENG	[40 to 200 / **NA: 45, EU/AA: 35** / 1 deg/step]
	Specifies the temperature correction of the heating roller (end) when the fusing unit is determined as warm state.		
010	Temp.:Delta:Warm:Press	*ENG	[0 to 200 / **0** / 1 deg/step]
	Specifies the temperature correction of the pressure roller when the fusing unit is determined as warm state.		
011	Time:Warm	*ENG	[0 to 100 / **2** / 1 sec/step]
	Specifies the threshold time for the fusing unit heating when the fusing unit is determined as warm state.		
012	Temp.:Delta:Hot: Center	*ENG	[0 to 100 / **NA: 10, EU/AA: 5** / 1 deg/step]
	Specifies the temperature correction of the heating roller (center) when the fusing unit is determined as hot state.		
013	Temp.:Delta:Hot:End	*ENG	[0 to 100 / **NA: 45, EU/AA: 35** / 1 deg/step]
	Specifies the temperature correction of the heating roller (end) when the fusing unit is determined as hot state.		
014	Temp.:Delta:Hot:Press	*ENG	[0 to 200 / **0** / 1 deg/step]
	Specifies the temperature correction of the pressure roller when the fusing unit is determined as hot state.		
015	Time:Hot	*ENG	[0 to 200 / **2** / 1 sec/step]
	Specifies the threshold time for the fusing unit heating when the fusing unit is		

	determined as hot state.		
016	Temp.:Delta:Cold:BW:Center	*ENG	[0 to 100 / **NA: 10, EU/AA: 5** / 1 deg/step]
	Specifies the temperature correction of the heating roller (center) in the black and white mode when the fusing unit is determined as cold state.		
017	Temp.:Delta:Cold:BW:End	*ENG	[0 to 100 / **NA: 45, EU/AA: 35** / 1 deg/step]
	Specifies the temperature correction of the heating roller (end) in the black and white mode when the fusing unit is determined as cold state.		
018	Temp.Delta:Cold:BW:Press	*ENG	[0 to 200 / **0** / 1 deg/step]
	Specifies the temperature correction of the pressure roller in the black and white mode when the fusing unit is determined as cold state.		
019	Rotation Time:BW:Cold	*ENG	[0 to 200 / **2** / 1 sec/step]
	Specifies the threshold time for the fusing unit heating in black and white mode when the fusing unit is determined as cold state.		
020	Temp.:Delta:Warm:BW:Center	*ENG	[0 to 100 / **10** / 1 deg/step]
	Specifies the temperature correction of the heating roller (center) in the black and white mode when the fusing unit is determined as warm state.		
021	Temp.:Delta:Warm:BW:End	*ENG	[0 to 100 / **45** / 1 deg/step]
	Specifies the temperature correction of the heating roller (end) in the black and white mode when the fusing unit is determined as warm state.		
022	Temp.Delta:Warm:BW:Press	*ENG	[0 to 200 / **0** / 1 deg/step]
	Specifies the temperature correction of the pressure roller in the black and white mode when the fusing unit is determined as warm state.		
023	Rotation Time:BW:Warm	*ENG	[0 to 200 / **2** / 1 sec/step]
	Specifies the threshold time for the fusing unit heating in black and white mode when the fusing unit is determined as warm state.		
024	Temp.:Delta:Hot:BW:Center	*ENG	[0 to 100 / **10** / 1 deg/step]
	Specifies the temperature correction of the heating roller (center) in the black and		

	white mode when the fusing unit is determined as hot state.		
025	Temp.:Delta:Hot:BW: End	*ENG	[0 to 100 / **45** / 1 deg/step]
	Specifies the temperature correction of the heating roller (end) in the black and white mode when the fusing unit is determined as hot state.		
026	Temp.:Delta:Hot:BW: Press	*ENG	[0 to 200 / **0** / 1 deg/step]
	Specifies the temperature correction of the pressure roller in the black and white mode when the fusing unit is determined as hot state.		
027	Rotation Time:BW:Hot	*ENG	[0 to 200 / **2** / 1 sec/step]
	Specifies the threshold time for the fusing unit heating in black and white mode when the fusing unit is determined as hot state.		
030	Flicker Control	*ENG	[0 or 1 / **0** / -]
101	Temp.:Delta:Cold: BW2:Center	*ENG	[0 to 100 / **65** / 1 deg/step]
102	Temp.:Delta:Cold: BW2:End	*ENG	[0 to 100 / **80** / 1 deg/step]
103	Temp.:Delta:Cold: BW2:Press	*ENG	[0 to 200 / **0** / 1 deg/step]
104	Rotation Time: BW2:Cold	*ENG	[0 to 200 / **2** / 1 sec/step]
105	Temp.:Delta:Warm: BW2:Center	*ENG	[0 to 100 / **65** / 1 deg/step]
106	Temp.:Delta:Warm: BW2:End	*ENG	[0 to 100 / **80** / 1 deg/step]
107	Temp.:Delta:Warm: BW2:Press	*ENG	[0 to 200 / **0** / 1 deg/step]
108	Rotation Time: BW2:Warm	*ENG	[0 to 200 / **2** / 1 sec/step]
109	Temp.:Delta:Hot: BW2:Center	*ENG	[0 to 100 / **65** / 1 deg/step]
110	Temp.:Delta:Hot: BW2:End	*ENG	[0 to 100 / **80** / 1 deg/step]
111	Temp.:Delta:Hot: BW2:Press	*ENG	[0 to 200 / **0** / 1 deg/step]
112	Rotation Time: BW2:Hot	*ENG	[0 to 200 / **2** / 1 sec/step]

1102	[Feed Permit Setting]		
	Specified the settings of the paper feeding timing. Destination: NA; North America, TWN; Taiwan, EU; Europe, AA; Asia Pasific		
001	Temp.:Lower Delta:Center	*ENG	[0 to 100 / **NA: 30, EU/AA: 25** / 1 deg/step]
002	Temp.:Lower Delta:End	*ENG	[0 to 100 / **NA: 65, EU/AA: 55** / 1 deg/step]
003	Temp.:Upper Delta:Center	*ENG	[0 to 50 / **NA: 15, EU/AA: 25** / 1 deg/step]
004	Temp.:Upper Delta:End	*ENG	[0 to 50 / **15** / 1 deg/step]
005	Temp.:Lower Delta:Press	*ENG	[0 to 200 / **65** / 1 deg/step]
006	Rotation Time	*ENG	[0 to 200 / **0** / 1 sec/step]
007	Temp.:Lower Delta:Center:Sp.1	*ENG	[0 to 100 / **35** / 1 deg/step]
008	Temp.:Lower Delta:End:Sp.1	*ENG	[0 to 100 / **35** / 1 deg/step]
009	Temp.:Upper Delta:Center:Sp.1	*ENG	[0 to 50 / **15** / 1 deg/step]
010	Temp.:Upper Delta:End:Sp.1	*ENG	[0 to 50 / **15** / 1 deg/step]
011	Temp.:Lower Delta:Press:Sp.1	*ENG	[0 to 200 / **30** / 1 deg/step]
012	Rotation Time:Sp.1	*ENG	[0 to 200 / **0** / 1 sec/step]
013	Temp.:Lower Delta:Center:Sp.2	*ENG	[0 to 100 / **30** / 1 deg/step]
014	Temp.:Lower Delta:End:Sp.2	*ENG	[0 to 100 / **30** / 1 deg/step]

015	Temp.:Upper Delta:Center:Sp.2	*ENG	[0 to 50 / **20** / 1 deg/step]
016	Temp.:Upper Delta:End:Sp.2	*ENG	[0 to 50 / **20** / 1 deg/step]
017	Temp.:Lower Delta:Press:Sp.2	*ENG	[0 to 200 / **60** / 1 deg/step]
018	Rotation Time:Sp2	*ENG	[0 to 200 / **0** / 1 sec/step]
019	Feed Permit Time	*ENG	[0 to 200 / **60** / 1 sec/step]
020	Temp.:Lower Delta:Center:Sp.3	*ENG	[0 to 100 / **25** / 1 deg/step]
021	Temp.:Lower Delta:End:Sp.3	*ENG	[0 to 100 / **25** / 1 deg/step]
022	Temp.:Upper Delta:Center:Sp.3	*ENG	[0 to 50 / **10** / 1 deg/step]
023	Temp.:Upper Delta:End:Sp.3	*ENG	[0 to 50 / **10** / 1 deg/step]
024	Temp.:Lower Delta:Press:Sp.3	*ENG	[0 to 200 / **30** / 1 deg/step]
025	Rotation Time:Sp3	*ENG	[0 to 200 / **0** / 1 sec/step]

1105	[Print Target Temp]		
	(Printing Mode, Roller Type, [Color], Simplex/Duplex) Roller Type –> Center and Ends: Heating roller, Pressure –> Pressure roller Paper Type -> Plain, Thin, Thick, OHP, Middle Thick, Special Destination: NA; North America, TWN; Taiwan, EU; Europe, AA; Asia Pasific		
001	Plain1:FC:Center	*ENG	[100 to 160 / **NA: 150, EU/AA: 141** / 1 deg/step]
	Specifies the heating roller target temperature for the ready condition in full color printing.		

002	Plain1:FC:Press	*ENG	[0 to 200 / **100** / 1 deg/step]
	Specifies the pressure roller target temperature for the ready condition in full color printing..		
003	Plain1:BW:Center	*ENG	[100 to 160 / **NA: 140, EU/AA: 131** / 1 deg/step]
	Specifies the heating roller target temperature for the ready condition in BW printing.		
004	Plain1:BW:Press	*ENG	[0 to 200 / **100** / 1 deg/step]
	Specifies the pressure roller target temperature for the ready condition in BW printing.		
005	Plain2:FC:Center	*ENG	[100 to 160 / **NA: 155, EU/AA: 146** / 1 deg/step]
	Specifies the heating roller target temperature for the ready condition in full color printing.		
006	Plain2:FC:Press	*ENG	[0 to 200 / **120** / 1 deg/step]
	Specifies the pressure roller target temperature for the ready condition in full coloe printing.		
007	Plain2:BW:Center	*ENG	[100 to 160 / **NA: 145, EU/AA: 136** / 1 deg/step]
	Specifies the heating roller target temperature for the ready condition in BW printing.		
008	Plain2:BW:Press	*ENG	[0 to 200 / **100** / 1 deg/step]
	Specifies the pressure roller target temperature for the ready condition in BW printing.		
009	Thin:FC:Center	*ENG	[100 to 160 / **145** / 1 deg/step]
010	Thin:FC:Press	*ENG	[0 to 200 / **100** / 1 deg/step]
011	Thin:BW:Center	*ENG	[100 to 160 / **135** / 1 deg/step]
012	Thin:BW:Press	*ENG	[0 to 200 / **100** / 1 deg/step]

013	M-thick:FC:Center	*ENG	[100 to 170 / **160** / 1 deg/step]
014	M-thick:FC:Press	*ENG	[0 to 200 / **100** / 1 deg/step]
015	M-thick:BW:Center	*ENG	[100 to 170 / **150** / 1 deg/step]
016	M-thick:BW:Press	*ENG	[0 to 200 / **100** / 1 deg/step]
017	Thick1:FC:Center	*ENG	[100 to 200 / **155** / 1 deg/step]
018	Thick1:FC:Press	*ENG	[0 to 200 / **100** / 1 deg/step]
019	Thick1:BW:Center	*ENG	[100 to 200 / **165** / 1 deg/step]
020	Thick1:BW:Press	*ENG	[0 to 200 / **100** / 1 deg/step]
021	Thick2:FC:Center	*ENG	[100 to 200 / **165** / 1 deg/step]
022	Thick2:FC:Press	*ENG	[0 to 200 / **100** / 1 deg/step]
023	Thick2:BW:Center	*ENG	[100 to 200 / **155** / 1 deg/step]
024	Thick2:BW:Press	*ENG	[0 to 200 / **100** / 1 deg/step]
025	Thick3:FC:Center	*ENG	[100 to 200 / **170** / 1 deg/step]
026	Thick3:FC:Press	*ENG	[0 to 200 / **100** / 1 deg/step]
027	Thick3:BW:Center	*ENG	[100 to 200 / **160** / 1 deg/step]
028	Thick3:BW:Press	*ENG	[0 to 200 / **100** / 1 deg/step]
029	Special1:FC:Center	*ENG	[100 to 170 / **160** / 1 deg/step]
030	Special1:FC:Press	*ENG	[0 to 200 / **100** / 1 deg/step]
031	Special1:BW:Center	*ENG	[100 to 170 / **150** / 1 deg/step]
032	Special1:BW:Press	*ENG	[0 to 200 / **100** / 1 deg/step]
033	Special2:FC:Center	*ENG	[100 to 175 / **165** / 1 deg/step]
034	Special2:FC:Press	*ENG	[0 to 200 / **100** / 1 deg/step]
035	Special2:BW:Center	*ENG	[100 to 175 / **155** / 1 deg/step]
036	Special2:BW:Press	*ENG	[0 to 200 / **100** / 1 deg/step]

037	Special3:FC:Center	*ENG	[100 to 175 / **155** / 1 deg/step]
038	Special3:FC:Press	*ENG	[0 to 200 / **100** / 1 deg/step]
039	Special3:BW:Center	*ENG	[100 to 175 / **145** / 1 deg/step]
040	Special3:BW:Press	*ENG	[0 to 200 / **100** / 1 deg/step]
041	Envelop:Center	*ENG	[100 to 200 / **175** / 1 deg/step]
042	Envelop:Press	*ENG	[0 to 200 / **100** / 1 deg/step]
101	Plain1:FC:Center:Low Speed	*ENG	[100 to 200 / **125** / 1 deg/step]
102	Plain1:FC:Press:Low Speed	*ENG	[0 to 200 / **100** / 1 deg/step]
103	Plain1:BW:Center:Low Speed	*ENG	[100 to 200 / **120** / 1 deg/step]
104	Plain1:BW:Press:Low Speed	*ENG	[0 to 200 / **100** / 1 deg/step]
105	Plain2:FC:Center:Low Speed	*ENG	[100 to 200 / **130** / 1 deg/step]
106	Plain2:FC:Press:Low Speed	*ENG	[0 to 200 / **100** / 1 deg/step]
107	Plain2:BW:Center:Low Speed	*ENG	[100 to 200 / **125** / 1 deg/step]
108	Plain2:BW:Press:Low Speed	*ENG	[0 to 200 / **100** / 1 deg/step]
109	Thin:FC:Center:Low Speed	*ENG	[100 to 200 / **125** / 1 deg/step]
110	Thin:FC:Press:Low Speed	*ENG	[0 to 200 / **100** / 1 deg/step]
111	Thin:BW:Center:Low Speed	*ENG	[100 to 200 / **120** / 1 deg/step]
112	Thin:BW:Press:Low	*ENG	[0 to 200 / **100** / 1 deg/step]

	Speed		
113	M-Thick:FC:Center:Low Speed	*ENG	[100 to 200 / **135** / 1 deg/step]
114	M-Thick:FC:Press:Low Speed	*ENG	[0 to 200 / **100** / 1 deg/step]
115	M-Thick:BW:Center:Low Speed	*ENG	[100 to 200 / **130** / 1 deg/step]
116	M-Thick:BW:Press:Low Speed	*ENG	[0 to 200 / **100** / 1 deg/step]
117	Special1:FC:Center:Low Speed	*ENG	[100 to 200 / **135** / 1 deg/step]
118	Special1:FC:Press:Low Speed	*ENG	[0 to 200 / **100** / 1 deg/step]
119	Special1:BW:Center:Low Speed	*ENG	[100 to 200 / **130** / 1 deg/step]
120	Special1:BW:Press:Low Speed	*ENG	[0 to 200 / **100** / 1 deg/step]
121	Special2:FC:Center:Low Speed	*ENG	[100 to 200 / **140** / 1 deg/step]
122	Special2:FC:Press:Low Speed	*ENG	[0 to 200 / **100** / 1 deg/step]
123	Special2:BW:Center:Low Speed	*ENG	[100 to 200 / **135** / 1 deg/step]
124	Special2:BW:Press:Low Speed	*ENG	[0 to 200 / **100** / 1 deg/step]
125	Special3:FC:Center:Low Speed	*ENG	[100 to 200 / **130** / 1 deg/step]
126	Special3:FC:Press:Low Speed	*ENG	[0 to 200 / **100** / 1 deg/step]

127	Special3:BW:Center:Low Speed	*ENG	[100 to 200 / **125** / 1 deg/step]
128	Special3:BW:Press:Low Speed	*ENG	[0 to 200 / **100** / 1 deg/step]
131	OHP:Center	*ENG	[100 to 200 / **165** / 1 deg/step]
132	OHP:Press	*ENG	[0 to 200 / **100** / 1 deg/step]
133	Envelop:Center:Low Speed	*ENG	[100 to 200 / **160** / 1 deg/step]
134	Envelop:Press:Low Speed	*ENG	[0 to 200 / **100** / 1 deg/step]
135	Plain1:Grossy:Center	*ENG	[100 to 200 / **130** / 1 deg/step]
136	Plain1:Grossy:Press	*ENG	[0 to 200 / **100** / 1 deg/step]
137	Plain2:Grossy:Center	*ENG	[120 to 200 / **135** / 1 deg/step]
138	Plain2:Grossy:Press	*ENG	[0 to 200 / **100** / 1 deg/step]
139	M-thick:Grossy:Center	*ENG	[120 to 200 / **140** / 1 deg/step]
140	M-thick:Grossy:Press	*ENG	[0 to 200 / **100** / 1 deg/step]
141	Special4:FC:Center	*ENG	[120 to 200 / **155** / 1 deg/step]
142	Special4:FC:Press	*ENG	[0 to 200 / **100** / 1 deg/step]
143	Special4:BW:Center	*ENG	[100 to 200 / **145** / 1 deg/step]
144	Special4:BW:Press	*ENG	[0 to 200 / **100** / 1 deg/step]
145	Special5:FC:Center	*ENG	[100 to 200 / **165** / 1 deg/step]
146	Special5:FC:Press	*ENG	[0 to 200 / **100** / 1 deg/step]
147	Special5:BW:Center	*ENG	[100 to 200 / **155** / 1 deg/step]
148	Special5:BW:Press	*ENG	[0 to 200 / **100** / 1 deg/step]
149	Special6:FC:Center	*ENG	[100 to 200 / **150** / 1 deg/step]

150	Special6:FC:Press	*ENG	[0 to 200 / **100** / 1 deg/step]
151	Special6:BW:Center	*ENG	[100 to 200 / **140** / 1 deg/step]
152	Special6:BW:Press	*ENG	[0 to 200 / **100** / 1 deg/step]
153	Envelop:Center:Thick1	*ENG	[100 to 200 / **150** / 1 deg/step]
154	Envelop:Press:Thick1	*ENG	[0 to 200 / **165** / 1 deg/step]
155	Envelop:Center:Thick2	*ENG	[100 to 200 / **165** / 1 deg/step]
156	Envelop:Press:Thick2	*ENG	[0 to 200 / **100** / 1 deg/step]
157	Envelop:Center:Thick3	*ENG	[100 to 200 / **170** / 1 deg/step]
158	Envelop:Press:Thick3	*ENG	[0 to 200 / **100** / 1 deg/step]

1106	**[Fusing Temp. Display]** Fusing Temperature Display (Heating or Pressure)		
	Displays the current temperature of the heating and pressure rollers.		
001	Center	-	[–10 to 250 / **0** / 1 deg/step]
002	End	-	[–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 Center	-	[–10 to 250 / **0** / 1 deg/step]
005	Thermister Atmosphere	-	[–10 to 250 / **0** / 1 deg/step]
	The pressure roller has no lamp.		

1107	[Standby Target Temp. Setting]		
001	Stanby/Preheat1: Center	*ENG	[100 to 150 / **135** / 1 deg/step]
	Specifies the temperature of the heating roller for the ready or energy save 1 mode.		
002	Stanby/Preheat1: Press	*ENG	[0 to 200 / **0** / 1 deg/step]
	Specifies the temperature of the pressure roller for the ready or energy save 1		

	mode.		
003	Preheat2: Center	*ENG	[0 to 200 / **130** / 1 deg/step]
	Specifies the temperature of the heating roller for the energy save 2 mode.		
004	Preheat2:Press	*ENG	[0 to 200 / **0** / 1 deg/step]
	Specifies the temperature of the pressure roller for the energy save 2 mode.		
005	Low Power:Center	*ENG	[0 to 200 / **0** / 1 deg/step]
	Specifies the temperature of the heating roller for the low power mode.		
006	Low Power:Press	*ENG	[0 to 200 / **0** / 1 deg/step]
	Specifies the temperature of the pressure roller for the low power mode.		
007	Print Ready:Center	*ENG	[120 to 150 / **130** / 1 deg/step]
	Specifies the temperature of the heating roller for the print ready condition.		
008	Print Ready:Press	*ENG	[0 to 200 / **10** / 1 deg/step]
	Specifies the temperature of the pressure roller for the print ready condition.		

1108	[After Reload/Job Target Temp.]		
001	Center	*ENG	[120 to 150 / **130** / 1 deg/step]
	Specifies the temperature of the heating roller after re-load or job.		
002	Press	*ENG	[0 to 200 / **5** / 1 deg/step]
	Specifies the temperature of the pressure roller after re-load or job.		

1111	[Environment Correction:Fusing]		
001	Temp.: Threshold: Low	*ENG	[0 to 100 / **17** / 1 deg/step]
	Specifies the threshold temperature for low temperature. If the fusing temperature is 17°C or less, the machine executes the fusing mode for low temperature.		
002	Temp.: Threshold: High	*ENG	[0 to 100 / **30** / 1 deg/step]
	Sepcifies the threshold temperature for high temperature. If the fusing temperature is 30°C or more, the machine executes the fusing mode for high temperature.		
003	Low Temp. Correction	*ENG	[0 to 15 / **5** / 1 deg/step]
	Specifies the additional temperature for the target temperature. If the fusing temperature is in low temperature condition, this temperature is added to the taraget temperature.		
004	High Temp. Correction	*ENG	[0 to 15 / **0** / 1 deg/step]
	Specifies the additional temperature for the target temperature. If the fusing temperature is in high temperature condition, this temperature is added to the taraget temperature.		
005	Job Low Temp. Correction	*ENG	[0 to 100 / **5** / 0.1 deg/step]
006	Job High Temp. Correction	*ENG	[0 to 100 / **0** / 0.1 deg/step]
007	Job Low Temp. Correction:Sp.	*ENG	[0 to 100 / **10** / 0.1 deg/step]
008	Job High Temp. Correction:Sp.	*ENG	[0 to 100 / **0** / 0.1 deg/step]

1112	[Image Process Temp. Correction]		
	These SPs are used for the fusing temperature control for variable job images. This control saves the power comsumption when the machine copies or prints a job text image in black and white mode.		
001	Temp.:Normal:Center:Level1	*ENG	[-10 to 10 / **0** / 1 /step]
	Specifies the subtractive temperature level 1 of the fusing temperature control for variable job images.		
002	Temp.:Normal:Center:Level2	*ENG	[-25 to 10 / **-10** / 1 /step]
	Specifies the subtractive temperature level 2 of the fusing temperature control for variable job images.		
003-006	[Envir. Correct:Fusing]		
003	Low Temp. Correction	*ENG	[0 to 15 / **5** / 1 deg/step]
	Specifies the temperature correction in the low temperature condition.		
004	High Temp. Correction	*ENG	[0 to 15 / **5** / 1 deg/step]
	Specifies the temperature correction in the high temperature condition.		
005	Offset Temp:Low	*ENG	[0 to 15 / **6.5** / 0.1 deg/step]
	Specifies the temperature correction of the paper feeding taraget in the low temperature condition.		
006	Offset Temp:High	*ENG	[0 to 15 / **5** / 0.1 deg/step]
	Specifies the temperature correction of the paper feeding taraget in the high temperature condition.		

1113	[Curl Correction]		
001	Execute Pattern	*ENG	[0 to 2 / **0** / 1 /step] 0: Off, 1: On
	Selects the curl correction type.		
002	Humidity:Threshold:M-humid	*ENG	[0 to 100 / **65** / 1 %/step]
	Specifies the threshold between low and middle humidity.		
003	Humidity:Threshold:H-humid	*ENG	[0 to 100 / **80** / 1 %/step]
	Specifies the threshold between middle and high humidity.		
004	Permit Temp.:Delta:Press:M-humid	*ENG	[0 to 200 / **100** / 1 deg/step]
	Specifies the threshold temperature for the curl control in middle humidity.		
005	Permit Temp.:Delta:Press:H-humid	*ENG	[0 to 200 / **100** / 1 deg/step]
	Specifies the threshold temperature for the curl control in high humidity.		
006	[Stand-by Mode Setting]		
	P-Roll Thresh AF Job	*ENG	[0 to 160 / **100** / 1 deg/step]
008	CPM:M-humid	*ENG	[0 to 100 / **80** / 1 %/step]
	Specifies the CPM ratio of the decurl control against to the normal operation in middle humidity.		
009	CPM:H-humid	*ENG	[0 to 100 / **65** / 1 %/step]
	Specifies the CPM ratio of the decurl control against to the normal operation in high humidity.		

1115	[Target Temp. Correction]		
001	Temp.:Delta:End	*ENG	[-10 to 100 / **0** / 1 deg/step]
	Specifies the different temperature between end and center of the heating roller.		

1132	[Maximum Duty Switch]		
001	Control Method Switch	*ENG	[0 to 2 / **0** / 1 /step] 0: Fixed Duty, 1: Power Control
	Selects the heater control method. Use "1: Power Contro" if hot offset occurs after power-on and input voltage is relatively hight.		

1141	[Fusing SC Issue Time Info]		
001	SC Number	*ENG	Displays the issued SC number.
002	SC Cause	*ENG	[0 to 9 / **-** / 1/step]
	Shows the SC cause 0: Timeout 1, 1: Timeout 2, 2: Timeout 3, 4 to 9: Not used		
101	Htg Roller:Ctr Diff1	*ENG	[-20 to 260 / - / 1 deg/step]
	Displays the calculated temperature at the center of the heating roller when an SC was issued.		
104	Htg Roller:End Diff1	*ENG	[-100 to 260 / - / 1 deg/step]
	Displays the calculated temperature at the end of the heating roller when an SC was issued.		
105	Htg Roller:End Det1	*ENG	[-10 to 260 / - / 1 deg/step]
	Displays the detected temperature at the end of the heating roller when an SC was issued.		

106	Htg Roller:End Corr1	*ENG	[-10 to 260 / - / 1 deg/step]
	Displays the ambient temperature at the end of the heating roller when an SC was issued.		
107	Press Roller Temp Value1	*ENG	[-10 to 260 / - / 1 deg/step]
	Displays the temperature at the pressure roller when an SC was issued.		
108	Press Roller:End Temp Value1	*ENG	[-10 to 260 / - / 1 deg/step]
	Displays the temperature at the end of the pressure roller when an SC was issued.		
151	Htg Roller:Ctr Diff2	*ENG	[-200 to 260 / - / 1 deg/step]
	SPs from -151 to -157 show previous fusing SC information.		
152	Htg Rolloer:Ctr Det2	*ENG	[-10 to 260 / - / 1 deg/step]
153	Htg Roller:Ctr Corr2	*ENG	
154	Htg Roller:End Diff2	*ENG	
155	Htg Roller:End Det2	*ENG	
156	Htg Roller:End Corr2	*ENG	
157	Press Roller Temp Value2	*ENG	
201	Htg Roller:Ctr Diff3	*ENG	[-20 to 260 / - / 1 deg/step]
	SPs from -201 to -207 show fusing SC information before previous fusing SC.		
202	Htg Rolloer:Ctr Det3	*ENG	[-10 to 260 / - / 1 deg/step]
203	Htg Roller:Ctr Corr3	*ENG	
204	Htg Roller:End Diff3	*ENG	
205	Htg Roller:End Det3	*ENG	
206	Htg Roller:End Corr3	*ENG	
207	Press Roller Temp Value3	*ENG	

1142	[Fusing Jam Detection]		
001	SC Display	*ENG	[0 or 1 / **0** / -] 0: ON, 1: OFF
	Enables or disables the fusing consecutive jam (three times) SC detection.		

1153	[Low Temp. Start Up]		
001	Temp.:Threshold Value1	* ENG	[-10 to 100 / **5** / 1°C./step]
	Sepcifies the threshold temperature 1 for the warming up in the low temperature condition.		
002	Temp.:Threshold Value2	* ENG	[-10 to 100 / **15** / 1°C./step]
	Sepcifies the threshold temperature 2 for the warming up in the low temperature condition.		
003	Temp.:Target	* ENG	[0 to 100 / **100** / 1°C./step]
	Sepcifies the target temperature for the warming up in the low temperature condition.		
005	Temp.: Rotation Threshold Value1	* ENG	[-10 to 100 / **30** / 1°C./step]
	Sepcifies the threshold temperature 1 for the warming up rotation in the low temperature condition.		
010	Time:Heat Storage Devision1	* ENG	[0 to 250 / **60** / 1 sec./step]
	Sepcifies the execution time 1 for the warming up in the low temperature condition.		
011	Time:Heat Storage Devision2	* ENG	[0 to 250 / **30** / 1 sec../step]
	Sepcifies the execution time 2 for the warming up in the low temperature condition.		

1801	**[Motor Speed Adjust]**		
001	Regist Mot:60:Thick	*ENG	[–4 to 4 / **0.3** / 0.05 %/step]
002	Regist Mot:120	*ENG	
003	Bk OpcDevMot:120	*ENG	[–4 to 4 / **–0.1** / 0.01 %/step]
004	Bk OpcDevMot:60:Thick	*ENG	[–4 to 4 / **–0.4** / 0.01 %/step]
005	Color OpcMot:120	*ENG	[–15 to 15 / **0** / 1 %/step]
006	Color OpcMot:60	*ENG	
007	Fusing Mot:120	*ENG	[–6 to 6 / **-0.4** / 0.01 %/step]
008	Fusing Mot:60:Thick	*ENG	[–6 to 6 / **-0.05** / 0.01 %/step]
009	Transfer Mot:120	*ENG	[–4 to 4 / **0** / 0.01 %/step]
010	TransferMot:60:Thick	*ENG	[–4 to 4 / **0** / 0.01 %/step]
011	Feed1:CW60:Thick	*ENG	[–2 to 2 / **0.3** / 0.05 %/step]
012	Feed1:CW120	*ENG	
013	Feed1:CCW60:Thick	*ENG	
014	Feed1:CCW120	*ENG	
015	Feed12:CW60:Thick	*ENG	
016	Feed12:CW120	*ENG	
017	Feed12:CCW60:Thick	*ENG	
018	Feed12:CCW120	*ENG	
019	By-pass:60:Thick	*ENG	
020	By-pass:120	*ENG	
021	Inverter:CW60:Thick	*ENG	[–2 to 2 / **0** / 0.05 %/step]
022	Inverter:CW120	*ENG	
023	Inverter:CCW60:Thick	*ENG	
024	Inverter:CCW120	*ENG	

025	Duplex Entrance:60	*ENG	[–2 to 2 / **0.3** / 0.05 %/step]
026	Duplex Entrance:120	*ENG	
027	Duplex Exit:60	*ENG	
028	Duplex Exit:120	*ENG	
029	R-Tray Exit Motor	*ENG	[–2 to 2 / **0** / 0.05 %/step]
030	Fine Adj. Control	*ENG	[0 to 1 / **1** /1]
031	Offset:120:Color	*ENG	[-7 to 7 / **0** /1step]
032	Offset:60:Color	*ENG	
033	Regist Mot:60:1200dpi	*ENG	[–4 to 4 / **0.3** / 0.05 %/step]
034	Feed1:CW60:1200dpi	*ENG	[–2 to 2 / **0.3** / 0.05 %/step]
035	Feed1:CCW60:1200dpi	*ENG	
036	Feed2:CW60:1200dpi	*ENG	
037	Feed2:CCW60:1200dpi	*ENG	
038	By-pass:60:1200dpi	*ENG	
039	Inverter:CW60:1200dpi	*ENG	[–2 to 2 / **0** / 0.05 %/step]
040	Inverter:CCW60:1200dpi	*ENG	
041	FusingMot:60:1200dpi	*ENG	[–6 to 6 / -**0.05** / 0.01 %/step]
042	BkOpcDevMot:60:1200dpi	*ENG	[–4 to 4 / -**0.4** / 0.01 %/step]
043	TransferMot:60:1200dpi	*ENG	[–4 to 4 / **0** / 0.01 %/step]

1803	**[Sub Mag ADJ]**		
	These SPs can adjust the sub-scan magnification error. However, first read the "Sub-scan Magnification Error" in the "Troubleshooting Guide" (Main Chapters) to execute these SPs. **NEVER EXECUTE** these SPs before reading the "Sub-scan Magnification Error". Otherwise, color registration errors occur on outputs and this cannot be recovered by the line position adjustment.		
001	Plain:600dpi:input	*ENG	[-1 to 1 / **0** / 0.1 %/step]
002	Plain:1200dpi:input	*ENG	
003	Thick:input	*ENG	
004	Plain:600dpi:result	*ENG	[0 to 1 / **0** / 1 /step] 0: Success, 1: Failure
005	Plain:1200dpi:result	*ENG	
006	Thick:result	*ENG	

5.3 MAIN SP TABLES-2

5.3.1 SP2-XXX (DRUM)

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)
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]

2101	**[Color Regist Adjust]**		
	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 optics housing unit. For details, see "Laser Optics Housing Unit" in the "Replacement and Adjustment" section. The value should be provided with the new laser optics housing unit.		
001	Bk: Main Scan: Dot	*ENG	[–512 to 511 / **0** / 1 dot/step]
002	C Main Scan: Dot	*ENG	
003	M Main Scan: Dot	*ENG	
004	Y Main Scan: Dot	*ENG	
013	Bk: Sub Scan: Line	*ENG	[–16384 to 16383 / **0** / 1 line/step]
014	C: Sub Scan: Line	*ENG	
015	M: Sub Scan: Line	*ENG	
016	Y: Sub Scan: Line	*ENG	

2102	**[Magnification Adjust]**		
	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:High Spd	*ENG	[0 to 560 / **280** / 1 /step]
003	Main Mag.: Bk:Low Spd	*ENG	

004	Main Mag.: C:High Spd	*ENG	
006	Main Mag.: C:Low Spd	*ENG	
007	Main Mag.: M:High Spd	*ENG	
009	Main Mag.: M:Low Spd	*ENG	
010	Main Mag.: Y:High Spd	*ENG	
012	Main Mag.: Y:Low Spd	*ENG	

2103	**[Erase Margin Adjust]** (Area, Paper Size)		
	Adjusts the erase margin by deleting image data at the margins.		
001	Lead Edge	*ENG	[0 to 9.9 / **4.2** / 0.1 mm/step]
002	Trailing Edge	*ENG	
003	Left	*ENG	[0 to 9.9 / **2** / 0.1 mm/step]
004	Right	*ENG	
006	Duplex Trail. L Size	*ENG	[0 to 4 / **1** / 0.1 mm/step]
007	Duplex Trail. M Size	*ENG	[0 to 4 / **0.8** / 0.1 mm/step]
008	Duplex Trail. S Size	*ENG	[0 to 4 / **0.6** / 0.1 mm/step]
009	Duplex Left Edge	*ENG	[0 to 4 / **0.3** / 0.1 mm/step]
010	Duplex Right Edge	*ENG	
011	Duplex Trail. L Size:Thick	*ENG	[0 to 4 / **1** / 0.1 mm/step]
012	Duplex Trail. M Size:Thick	*ENG	[0 to 4 / **0.8** / 0.1 mm/step]
013	Duplex Trail. S Size:Thick	*ENG	[0 to 4 / **0.6** / 0.1 mm/step]
014	Duplex Left Edge:Thick	*ENG	[0 to 4 / **0.3** / 0.1 mm/step]
015	Duplex Right Edge:Thick	*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	Bk	*ENG	[80 to 120 / **100** / 1 %/step]
002	C	*ENG	
003	M	*ENG	
004	Y	*ENG	

2109	**[Test Pattern]**		
	Generates the test pattern using "COPY Window" tab in the LCD.		
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 16: Hound’s Tooth Check (Horizontal) 17: Band (Horizontal) 18: Band (Vertical) 19: Checker Flag Pattern 20: Grayscale Vertical Margin 21: Grayscale Horizontal Margin 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.
007	Density: C	-	

008	Density: M	-	[0 to 15 / **15** / 1 /step] 0: Lightest density 15: Darkest density
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.

2112	**[TM/P 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. These SPs must be used when a new laser optics housing unit is installed, see "Laser Optics Housing Unit" in the "Replacement and Adjustment" section.		
001	Pulse: C	*ENG	[–75 to 75 / **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. These SPs must be used when a new laser optics housing unit is installed. For details, see "Laser Optics Housing Unit" in the "Replacement and Adjustment" section.
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	**[P-Sensor Test]**		
	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	*ENG	[0 to 1024 / **0** / 1/step]
[TM-Sensor Test]			
005	PWM: Front	*ENG	
006	PWM: Center	*ENG	
007	PWM: Rear	*ENG	

2141	**[P-Sensor Test]**
	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	*ENG	[0 to 5.5 / **0** / 0.01V/step]
[TM-Sensor Test]			
005	Average: Front	*ENG	
006	Average: Center	*ENG	
007	Average: Rear	*ENG	

2142	**[P-Sensor Test]**		
	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	*ENG	[0 to 5.5 / **0** / 0.01V/step]
[TM-Sensor Test]			
005	Maximum: Front	*ENG	
006	Maximum: Center	*ENG	
007	Maximum: Rear	*ENG	

2143	**[P-Sensor Test]**		
	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	*ENG	[0 to 5.5 / **0** / 0.01V/step]
[TM-Sensor Test]			
005	Minimum: Front	*ENG	
006	Minimum: Center	*ENG	
007	Minimum: Rear	*ENG	

2144	**[P-Sensor Test]**		
	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:	*ENG	[0 to 5.5 / **0** / 0.01V/step]
[TM-Sensor Test]			
005	Maximum 2: Front	*ENG	
006	Maximum 2: Center	*ENG	
007	Maximum 2: Rear	*ENG	

2145	**[P-Sensor Test]**		
	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	*ENG	[0 to 5.5 / **0** / 0.01V/step]
[TM-Sensor Test]			
005	Minimum 2: Front	*ENG	
006	Minimum 2: Center	*ENG	
007	Minimum 2: Rear	*ENG	

2193	**[MUSIC Condition]** Line Position Adjustment: Condition Setting		
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 / **300** / 1 page/step]
	Adjusts the threshold of the line position adjustment for BW and color printing mode during job.		

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	Date	*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 Counter: 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 Counter: M	*ENG	
012	Error Counter: Y	*ENG	

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. For details, see "Laser Unit" in the "Replacement and Adjustment" section.		
001	C:Skew Motor	*ENG	-
002	M:Skew Motor	*ENG	
003	Y:Skew Motor	*ENG	

2241	**[Ambient Temp/Hum:Display]** Displays the environment temperature and humidity.		
001	Temperature	-	[–5 to 45 / - / 0.1deg/step]
002	Relative Humidity	-	[0 to 100 / - / 0.1 %RH/step]
003	Absolute Humidity	-	[0 to 100 / - / 0.1 g/m^3/step]

2326	**[Transfer Roller CL: Bias]** Transfer Roller Cleaning: Bias Adjustment		
001	Positive:befor and after JOB	*ENG	[0 to 2100 / **250** / 10 V /step]
	Adjusts the positive voltage of the paper transfer roller for cleaning the paper transfer roller.		
002	Negative:befor and after JOB	*ENG	[10 to 400 / **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 400 / **100** / 10 %/step]

2351	**[Common: BW: Bias]** Image Transfer Belt: B/W: Bias Adjustment Normal: 120 mm/sec, Low: 60 mm/sec		
001	Image Transfer:Normal Speed	*ENG	[0 to 60 / **25** / 1 µA]
	Adjusts the current for the image transfer belt in B/W mode for plain paper.		
003	Image Transfer:Low Speed	*ENG	[0 to 60 / **13** / 1 µA]
	Adjusts the current for the image transfer belt in B/W mode for thick 1 paper.		

2357	**[Common: FC: Bias]** Image Transfer Belt: Full Color: Bias Adjustment Normal: 120 mm/sec, Low: 60 mm/sec		
001	Image Transfer: Normal Spd:Bk	*ENG	[0 to 60 / **23** / 1 µA]
	Adjusts the current for the image transfer belt for Black in full color mode for plain paper.		
002	Image Transfer:: Normal Spd:C	*ENG	[0 to 60 / **22** / 1 µA]
	Adjusts the current for the image transfer belt for Magenta in full color mode for plain paper.		
003	Image Transfer: Normal Spd:M	*ENG	[0 to 60 / **25** / 1 µA]
	Adjusts the current for the image transfer belt for Cyan in full color mode for plain paper.		
004	Image Transfer: Normal Spd:Y	*ENG	[0 to 60 / **29** / 1 µA]
	Adjusts the current for the image transfer belt for Yellow in full color mode for plain paper.		
009	Image Transfer: Low Speed:Bk	*ENG	[0 to 60 / **13** / 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 60 / **12** / 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 60 / **13** / 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 60 / **14** / 1 μA]
	Adjusts the current for the image transfer belt for Yellow in full color mode for thick 1 paper.		

2403	**[Plain: Bias: BW]**		
	Adjusts the current for the paper transfer roller for plain paper in black-and-white mode. Normal: 120 mm/sec, Low: 60mm/sec		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 200 / **20** / 1 –μA /step]
002	Paper Transfer: Normal: 2nd	*ENG	[0 to 200 / **23** / 1 –μA /step]
003	Paper Transfer: Low: 1st	*ENG	[0 to 200 / **12** / 1 –μA /step]
004	Paper Transfer: Low: 2nd	*ENG	

2407	**[Plain: Bias: FC]**		
	Adjusts the current for the paper transfer roller for plain paper in full color mode. Normal: 120 mm/sec, Low: 60mm/sec		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 200 / **25** / 1 –μA /step]
002	Paper Transfer: Normal: 2nd	*ENG	[0 to 200 / **28** / 1 –μA /step]
003	Paper Transfer: Low: 1st	*ENG	[0 to 200 / **13** / 1 –μA /step]
004	Paper Transfer: Low: 2nd	*ENG	[0 to 200 / **14** / 1 –μA /step]

2411	**[Plain-T:SizeCorrect:BW]**
	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: 120 mm/sec, Low: 60mm/sec

001	Paper Transfer: Normal: 1st: S1	*ENG	[100 to 4000 / **100** / 5%/step] S1 size > 290 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 4000 / **140** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)
006	Paper Transfer: Normal: 2nd: S2	*ENG	[100 to 4000 / **165** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)
007	Paper Transfer: Low: 1st: S2	*ENG	[100 to 4000 / **150** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)
008	Paper Transfer: Low : 2nd:S2	*ENG	[100 to 4000 / **190** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)
009	Paper Transfer: Normal: 1st: S3	*ENG	[100 to 4000 / **175** / 5%/step] 250 mm > S3 size > 194 mm (Paper width)
010	Paper Transfer: Normal: 2nd: S3	*ENG	[100 to 4000 / **230** / 5%/step] 250 mm > S3 size > 194 mm (Paper width)
011	Paper Transfer: Low: 1st: S3	*ENG	[100 to 4000 / **190** / 5%/step] 250 mm > S3 size > 194 mm (Paper width)
012	Paper Transfer: Low 2nd:S3	*ENG	[100 to 4000 / **290** / 5%/step] 250 mm > S3 size > 194 mm (Paper width)

013	Paper Transfer: Normal: 1st: S4	*ENG	[100 to 4000 / **190** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)
014	Paper Transfer: Normal: 2nd: S4	*ENG	[100 to 4000 / **285** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)
015	PaperTransfer: Low:1st:S4	*ENG	[100 to 4000 / **210** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)
016	Paper Transfer: Low 2nd: S4	*ENG	[100 to 4000 / **360** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)
017	Paper Transfer: Normal: 1st: S5	*ENG	[100 to 4000 / **200** / 5%/step] 150 mm > S5 size (Paper width)
018	Paper Transfer: Normal: 2nd: S5	*ENG	[100 to 4000 / **340** / 5%/step] 150 mm > S5 size (Paper width)
019	Paper Transfer: Low: 1st: S5	*ENG	[100 to 4000 / **210** / 5%/step] 150 mm > S5 size (Paper width)
020	Paper Transfer: Low 2nd: S5	*ENG	[100 to 4000 / **420** / 5%/step] 150 mm > S5 size (Paper width)

2412	**[Plain-T:SizeCorrect:FC]**		
	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: 120 mm/sec, Low: 60mm/sec		
001	Paper Transfer: Normal: 1st: S1	*ENG	[100 to 4000 / **100** / 5%/step] S1 size > 290 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 4000 / **130** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)
006	Paper Transfer: Normal: 2nd: S2	*ENG	[100 to 4000 / **160** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)
007	Paper Transfer: Low: 1st: S2	*ENG	[100 to 4000 / **140** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)
008	Paper Transfer: Low : 2nd:S2	*ENG	[100 to 4000 / **215** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)
009	Paper Transfer: Normal: 1st: S3	*ENG	[100 to 4000 / **160** / 5%/step] 250 mm > S3 size > 194 mm (Paper width)
010	Paper Transfer: Normal: 2nd: S3	*ENG	[100 to 4000 / **215** / 5%/step] 250 mm > S3 size > 194 mm (Paper width)
011	Paper Transfer: Low: 1st: S3	*ENG	[100 to 4000 / **175** / 5%/step] 250 mm > S3 size > 194 mm (Paper width)
012	Paper Transfer: Low 2nd:S3	*ENG	[100 to 4000 / **320** / 5%/step] 250 mm > S3 size > 194 mm (Paper width)
013	Paper Transfer: Normal: 1st: S4	*ENG	[100 to 4000 / **190** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)
014	Paper Transfer: Normal: 2nd: S4	*ENG	[100 to 4000 / **285** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)

015	Paper Transfer: Low: 1st: S4	*ENG	[100 to 4000 / **190** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)
016	Paper Transfer: Low: 2st Side: S4	*ENG	[100 to 4000 / **465** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)
017	Paper Transfer: Normal: 1st: S5	*ENG	[100 to 4000 / **220** / 5%/step] 150 mm > S5 size (Paper width)
018	Paper Transfer: Normal: 2nd: S5	*ENG	[100 to 4000 / **355** / 5%/step] 150 mm > S5 size (Paper width)
019	Paper Transfer: Low: 1st: S5	*ENG	[100 to 4000 / **230** / 5%/step] 150 mm > S5 size (Paper width)
020	Paper Transfer: Low 2nd: S5	*ENG	[100 to 4000 / **565** / 5%/step] 150 mm > S5 size (Paper width)

2453	**[Thin: Bias: BW]**		
	Adjusts the current for the paper transfer roller for thin paper in black-and-white mode. Normal: 120 mm/sec, Low: 60 mm/sec		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 200 / **20** / 1 –µA /step]
003	Paper Transfer: Low: 1st	*ENG	[0 to 250 / **12** / 1 –µA /step]

2457	**[Thin: Bias: FC]**		
	Adjusts the current for the paper transfer roller for thin paper in full color mode. Normal: 120 mm/sec, Low: 60 mm/sec		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 200 / **25** / 1 –µA /step]
003	Paper Transfer: Low: 1st	*ENG	[0 to 200 / **13** / 1 –µA /step]

2482	**[Gloss: Bias: BW]**		
001	Paper Transfer: 1st	*ENG	[0 to 200 / **15** / 1 –µA /step]
	Adjusts the transfer current of the paper transfer roller for the 1st side of gloss paper in black and white mode.		

2483	**[Gloss: Bias: FC]**		
001	Paper Transfer: 1st	*ENG	[0 to 200 / **15** / 1 –µA /step]
	Adjusts the transfer current of the paper transfer roller for the 1st side of gloss paper in full color mode.		

2502	**[Thick 1: Bias: BW]**		
	Adjusts the current for the paper transfer roller for thick 1 paper in black-and-white mode. Thick: 60 mm/sec		
001	Paper Transfer: 1st	*ENG	[0 to 200 / **15** / 1 –µA /step]
002	Paper Transfer: 2nd	*ENG	Not used

2507	**[Thick 1: Bias: FC]**		
	Adjusts the current for the paper transfer roller for thick 1 paper in full color mode. Thick: 60 mm/sec		
001	Paper Transfer: 1st	*ENG	[0 to 200 / **15** / 1 –µA /step]
002	Paper Transfer: 2nd	*ENG	Not used

2511	**[Thick-T:Size Correct:BW]**		
	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2502 and SP2507 are multiplied by these SP values. Thick: 60 mm/sec		
001	Paper Transfer: 1st: S1	*ENG	[100 to 4000 / **100** / 5%/step] S1 size > 290 mm (Paper width)
002	Paper Transfer: 2nd: S1	*ENG	Not used
005	Paper Transfer: 1st: S2	*ENG	[100 to 4000 / **125** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)
006	Paper Transfer: 2nd: S2	*ENG	Not used
009	Paper Transfer: 1st: S3	*ENG	[100 to 4000 / **150** / 5%/step] 250 mm > S3 size > 194 mm (Paper width)
010	Paper Transfer: 2nd: S3	*ENG	Not used
013	Paper Transfer: 1st: S4	*ENG	[100 to 4000 / **275** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)
014	Paper Transfer: 2nd: S4	*ENG	Not used
017	Paper Transfer: 1st: S5	*ENG	[100 to 4000 / **400** / 5%/step] 150 mm > S5 size (Paper width)
018	Paper Transfer: 2nd: S5	*ENG	Not used

2512	**[Thick-T:Size Correct:FC]**		
	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2502 and SP2507 are multiplied by these SP values. Thick: 60 mm/sec		
001	Paper Transfer: 1st: S1	*ENG	[100 to 4000 / **100** / 5%/step]

			S1 size > 290 mm (Paper width)
002	Paper Transfer: 2nd: S1	*ENG	Not used
005	Paper Transfer: 1st: S2	*ENG	[100 to 4000 / **110** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)
006	Paper Transfer: 2nd: S2	*ENG	Not used
009	Paper Transfer: 1st: S3	*ENG	[100 to 4000 / **115** / 5%/step] 250 mm > S3 size > 194 mm (Paper width)
010	Paper Transfer: 2nd: S3	*ENG	Not used
013	Paper Transfer: 1st: S4	*ENG	[100 to 4000 / **405** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)
014	Paper Transfer: 2nd: S4	*ENG	Not used
017	Paper Transfer: 1st: S5	*ENG	[100 to 4000 / **690** / 5%/step] 150 mm > S5 size (Paper width)
018	Paper Transfer:: 2nd: S5	*ENG	Not used

2553	**[Thick 2: Bias: BW]**		
	Adjusts the current for the paper transfer roller for thick2 paper in black-and-white mode. Thick: 60 mm/sec		
001	Paper Transfer: 1st	*ENG	[0 to 200 / **10** / 1 –μA /step]
002	Paper Transfer: 2nd	*ENG	Not used

2558	**[Thick 2: Bias: FC]**		
	Adjusts the current for the paper transfer roller for thick2 paper in full color mode. Thick: 60 mm/sec		
001	Paper Transfer: 1st	*ENG	[0 to 200 / **13** / 1 –µA /step]
002	Paper Transfer: 2nd	*ENG	Not used

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 200 / NA: **15**, EU/AA: **13** / 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 200 / NA: **24**, EU/AA: **20** / 1 –µA /step]

2630	**[OHP: Env. Correct Table]**		
002	Paper Transfer: BW: 1st	*ENG	[1 to 50 / **NA: 39, EU/AA: 26** / 1 /step]
003	Paper Transfer: FC: 1st	*ENG	[1 to 50 / **NA: 7, EU/AA: 47** / 1 /step]

2651	**[Thick 3: Bias: BW]**		
	Adjusts the current for the paper transfer roller for thick paper 3 in black-and-white mode. Thick: 60 mm/sec		
001	Paper Transfer: 1st	*ENG	[0 to 200 / **10** / 1 –µA /step]
002	Paper Transfer: 2nd	*ENG	Not used

2652	**[Thick 3: Bias: FC]**		
	Adjusts the current for the paper transfer roller for thick paper 3 in full color mode. Thick: 60 mm/sec		
001	Paper Transfer: 1st	*ENG	[0 to 200 / **13** / 1 –µA /step]
002	Paper Transfer: 2nd	*ENG	Not used

2703	**[M-Thick:Bias:BW]** Middle Thick: Bias: BW Normal: 120mm/sec, Low: 60mm/sec		
	Adjusts the current for the paper transfer roller for middle thick in black-and-white mode.		
001	Paper Transfer:Normal:1st	*ENG	[0 to 200 / **20** / 1 -µA /step]
002	Paper Transfer:Normal:2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	[0 to 200 / **11** / 1 -µA /step]
004	Paper Transfer: Low: 2nd	*ENG	[0 to 200 / **13** / 1 -µA /step]

2707	**[M-Thick:Bias:FC]** Middle Thick: Bias: BW Normal: 120mm/sec, Low: 60mm/sec		
	Adjusts the current for the paper transfer roller for middle thick in full color mode.		
001	Paper Transfer:Normal:1st	*ENG	[0 to 200 / **25** / 1 -µA /step]
002	Paper Transfer:Normal:2nd	*ENG	[0 to 200 / **28** / 1 -µA /step]
003	Paper Transfer: Low: 1st	*ENG	[0 to 200 / **11**/ 1 -µA /step]
004	Paper Transfer: Low: 2nd	*ENG	[0 to 200 / **14** / 1 -µA /step]

2753	**[SP 1: Bias: BW]**		
	Adjusts the current for the paper transfer roller for special paper 1 in black-and-white mode. Normal: 120mm/sec, Low: 60mm/sec		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 200 / **20** / 1 –µA /step]
002	Paper Transfer: Normal: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	[0 to 200 / **11** / 1 –µA /step]
004	Paper Transfer: Low: 2nd	*ENG	[0 to 200 / **13** / 1 –µA /step]

2757	**[SP 1: Bias: FC]**		
	Adjusts the current for the paper transfer roller for special paper 1 in full color mode. Normal: 120mm/sec, Low: 60mm/sec		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 200 / **25** / 1 –µA /step]
002	Paper Transfer: Normal: 2nd	*ENG	[0 to 200 / **28** / 1 –µA /step]
003	Paper Transfer: Low: 1st	*ENG	[0 to 200 / **11** / 1 –µA /step]
004	Paper Transfer: Low: 2nd	*ENG	[0 to 200 / **14** / 1 –µA /step]

2761	**[SP1,2,3-T:Size Correct:BW]**		
	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2753 and SP2757 are multiplied by these SP values. Normal: 120mm/sec, Low: 60mm/sec		
001	Paper Transfer: Normal: 1st: S1	*ENG	[100 to 4000 / **100** / 5%/step] S1 size > 290 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 4000 / **140** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)
006	Paper Transfer: Normal: 2nd: S2	*ENG	[100 to 4000 / **165** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)
007	Paper Transfer:Low:1st:S2	*ENG	[100 to 4000 / **150** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)
008	Paper Transfer:Low:2nd:S2	*ENG	[100 to 4000 / **190** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)
009	Paper Transfer: Normal: 1st: S3	*ENG	[100 to 4000 / **175** / 5%/step] 250 mm > S2 size > 194 mm (Paper width)
010	Paper Transfer: Normal: 2nd: S3	*ENG	[100 to 4000 / **230** / 5%/step] 250 mm > S2 size > 194 mm (Paper width)
011	PaperTransfer:Low:1st:S3	*ENG	[100 to 4000 / **190** / 5%/step] 250 mm > S2 size > 194 mm (Paper width)
012	PaperTransfer:Low:2nd:S3	*ENG	[100 to 4000 / **290** / 5%/step] 250 mm > S2 size > 194 mm (Paper width)
013	Paper Transfer: Normal: 1st: S4	*ENG	[100 to 4000 / **190** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)
014	Paper Transfer: Normal: 2nd: S4	*ENG	[100 to 4000 / **285** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)

015	PaperTransfer:Low:1st:S4	*ENG	[100 to 4000 / **210** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)
016	PaperTransfer:Low:2nd:S4	*ENG	[100 to 4000 / **360** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)
017	Paper Transfer: Normal: 1st: S5	*ENG	[100 to 4000 / **200** / 5%/step] 150 mm > S5 size (Paper width)
018	Paper Transfer: Normal: 2nd: S5	*ENG	[100 to 4000 / **340** / 5%/step] 150 mm > S5 size (Paper width)
019	PaperTransfer:Low:1st:S5	*ENG	[100 to 4000 / **210** / 5%/step] 150 mm > S5 size (Paper width)
020	PaperTransfer:Low:2nd:S5	*ENG	[100 to 4000 / **420** / 5%/step] 150 mm > S5 size (Paper width)

2762	**[SP1,2,3-T:Size Correct:FC]**		
	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2753 and SP2757 are multiplied by these SP values. Normal: 120 mm/sec, Low: 60 mm/sec		
001	Paper Transfer: Normal: 1st: S1	*ENG	[100 to 4000 / **100** / 5%/step] S1 size > 290 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 4000 / **130** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)

006	Paper Transfer: Normal: 2nd: S2	*ENG	[100 to 4000 / **160** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)
007	Paper Transfer:Low:1st:S2	*ENG	[100 to 4000 / **140** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)
008	Paper Transfer:Low:2nd:S2	*ENG	[100 to 4000 / **215** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)
009	Paper Transfer: Normal: 1st: S3	*ENG	[100 to 4000 / **160** / 5%/step] 250 mm > S2 size > 194 mm (Paper width)
010	Paper Transfer: Normal: 2nd: S3	*ENG	[100 to 4000 / **215** / 5%/step] 250 mm > S2 size > 194 mm (Paper width)
011	PaperTransfer:Low:1st:S3	*ENG	[100 to 4000 / **175** / 5%/step] 250 mm > S2 size > 194 mm (Paper width)
012	PaperTransfer:Low:2nd:S3	*ENG	[100 to 4000 / **320** / 5%/step] 250 mm > S2 size > 194 mm (Paper width)
013	Paper Transfer: Normal: 1st: S4	*ENG	[100 to 4000 / **190** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)
014	Paper Transfer: Normal: 2nd: S4	*ENG	[100 to 4000 / **285** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)
015	PaperTransfer:Low:1st:S4	*ENG	[100 to 4000 / **190** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)

016	PaperTransfer:Low:2nd:S4	*ENG	[100 to 4000 / **465** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)
017	Paper Transfer: Normal: 1st: S5	*ENG	[100 to 4000 / **220** / 5%/step] 150 mm > S5 size (Paper width)
018	Paper Transfer: Normal: 2nd: S5	*ENG	[100 to 4000 / **355** / 5%/step] 150 mm > S5 size (Paper width)
019	PaperTransfer:Low:1st:S5	*ENG	[100 to 4000 / **230** / 5%/step] 150 mm > S5 size (Paper width)
020	PaperTransfer:Low:2nd:S5	*ENG	[100 to 4000 / **565** / 5%/step] 150 mm > S5 size (Paper width)

2783	**[SP 4: Bias: BW]**		
	Adjusts the current for the paper transfer roller for special paper 1 in black-and-white mode. Normal: 120 mm/sec, Low: 60 mm/sec		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 200 / **15** / 1 –μA /step]

2787	**[SP 4: Bias: FC]**		
	Adjusts the current for the paper transfer roller for special paper 1 in full color mode. Normal: 120 mm/sec, Low: 60 mm/sec		
001	Paper Transfer	*ENG	[0 to 200 / **15** / 1 –μA /step]

2791	**[SP4,5,6-T:Size Correct:BW]**		
	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2783 and SP2787 are multiplied by these SP values. Normal: 120 mm/sec, Low: 60 mm/sec		
001	Paper Transfer: S1	*ENG	[100 to 4000 / **100** / 5%/step] S1 size > 290 mm (Paper width)
005	Paper Transfer: S2	*ENG	[100 to 4000 / **125** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)
009	Paper Transfer: S3	*ENG	[100 to 4000 / **150** / 5%/step] 250 mm > S2 size > 194 mm (Paper width)
013	Paper Transfer: S4	*ENG	[100 to 4000 / **275** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)
017	Paper Transfer: S5	*ENG	[100 to 4000 / **400** / 5%/step] 150 mm > S5 size (Paper width)

2792	**[SP4,5,6-T:Size Correct:FC]**		
	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2783 and SP2787 are multiplied by these SP values. Normal: 120 mm/sec, Low: 60 mm/sec		
001	Paper Transfer: S1	*ENG	[100 to 4000 / **100** / 5%/step] S1 size > 290 mm (Paper width)
005	Paper Transfer: S2	*ENG	[100 to 4000 / **110** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)
009	Paper Transfer: S3	*ENG	[100 to 4000 / **115** / 5%/step] 250 mm > S2 size > 194 mm (Paper width)
013	Paper Transfer: S4	*ENG	[100 to 4000 / **405** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)
017	Paper Transfer: S5	*ENG	[100 to 4000 / **690** / 5%/step] 150 mm > S5 size (Paper width)

2803	**[SP 2: Bias: BW]**		
	Adjusts the current for the paper transfer roller for special paper 2 in black-and-white mode. Normal: 120mm/sec, Low: 60mm/sec		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 200 / **20** / 1 –µA /step]
002	Paper Transfer: Normal: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	[0 to 200 / **11** / 1 –µA /step]
004	Paper Transfer: Low: 2nd	*ENG	[0 to 200 / **13** / 1 –µA /step]

2807	**[SP2: Bias: FC]**		
	Adjusts the current for the paper transfer roller for special paper 2 in full color mode. Normal: 120mm/sec, Low: 60mm/sec		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 200 / **25** / 1 –µA /step]
002	Paper Transfer: Normal: 2nd	*ENG	[0 to 200 / **28** / 1 –µA /step]
003	Paper Transfer: Low: 1st	*ENG	[0 to 200 / **11** / 1 –µA /step]
004	Paper Transfer: Low: 2nd	*ENG	[0 to 200 / **14** / 1 –µA /step]

2833	**[SP 5: Bias: BW]**		
	Adjusts the current for the paper transfer roller for special paper 5 in black-and-white mode. Normal: 120mm/sec, Low: 60mm/sec		
001	Paper Transfer	*ENG	[0 to 200 / **15** / 1 –µA /step]

2837	**[SP 5: Bias: FC]**		
	Adjusts the current for the paper transfer roller for special paper 5 in full color mode. Normal: 120 mm/sec, Low: 60 mm/sec		
001	Paper Transfer	*ENG	[0 to 200 / **15** / 1 –µA /step]

2852	**[SP3: Bias: BW]**		
	Adjusts the current for the paper transfer roller for special paper 3 in black-and-white mode. Normal: 120mm/sec, Low: 60mm/sec		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 200 / **20** / 1 –µA /step]
002	Paper Transfer: Normal: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	[0 to 200 / **11** / 1 –µA /step]
004	Paper Transfer: Low: 2nd	*ENG	[0 to 200 / **13** / 1 –µA /step]

2857	**[Special 3: Bias: FC]**		
	Adjusts the current for the paper transfer roller for special paper 3 in full color mode. Normal: 120mm/sec, Low: 60mm/sec		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 200 / **25** / 1 –µA /step]
002	Paper Transfer: Normal: 2nd	*ENG	[0 to 200 / **28** / 1 –µA /step]
003	Paper Transfer: Low: 1st	*ENG	[0 to 200 / **11** / 1 –µA /step]
004	Paper Transfer: Low: 2nd	*ENG	[0 to 200 / **14** / 1 –µA /step]

2883	**[SP 6: Bias: BW]**		
	Adjusts the current for the paper transfer roller for special paper 6 in black-and-white mode. Normal: 120mm/sec, Low: 60mm/sec		
001	Paper Transfer	*ENG	[0 to 200 / **15** / 1 –µA /step]

2887	**[SP 6: Bias: FC]**		
	Adjusts the current for the paper transfer roller for special paper 6 in full color mode. Normal: 120mm/sec, Low: 60mm/sec		
001	Paper Transfer	*ENG	[0 to 200 / **15** / 1 –µA /step]

2940	**[Charge Bias On Timing]**		
001	T1:Standard Speed **DFU**	*ENG	[-500 to 1000 / **0** / 10 msec /step]
002	T1:Low Speed	*ENG	[-500 to 1000 / **-80** / -80 msec /step]
	If a horizontal white band at 40 mm from the leading edge occurs in the low speed mode, change this setting from "-80" to "**-500**". [Side Effect]: "580 msec" is added to the first copy/ print time when using the low speed mode.		

5.4 MAIN SP TABLES-3

5.4.1 SP3-XXX (PROCESS)

3011	**[Process Cont. Manual Execution]**		
001	Normal Procon	-	Executes the normal process control manually (potential control). Check the result with SP3-325-001 after executing this SP.
002	Toner Density Adjst	-	Executes the toner density adjustment manually. Check the result with SP3-325-001 after executing this SP.
003	Procon BF-ACC	-	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	-	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	-	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	-	Executes the TD sensor initialization for each color.
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	-	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]**		
001-005	**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 / **30** / 1 sec/step]
002	Agitation Time: C	*ENG	
003	Agitation Time: M	*ENG	
004	Agitation Time: Y	*ENG	
005-	Sets the execution flag of the developer initialization for each color.		

008			
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 Off	*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	AutoControl Prohibition Set	*ENG	[0 or 1 / **0** / 1/step] Alphanumeric 0: Permit 1: Forbid
	Enables or disables the automatic process control at power-on or door opening.		
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	P-Pattern Selection	*ENG	[0 to 2 / **2** / 1/step] 0: FIXED 1: INITIALIZED 2: CALCULATED

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
002	NE Detection	*ENG	[0 or 1 / **0** / 1/step] 0: ALL (Calculation and TE sensor) 1: TE Sensor

3101	**[Toner End/Near End]**		
	Displays the amount of each color toner.		
001	Toner Replenishment: Bk	*ENG	[1 to 600 / **235** / 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 / **5** / 1 g/step]
014	Near End Thresh: C	*ENG	[0 to 600 / **0** / 1 g/step]
015	Near End Thresh: M	*ENG	
016	Near End Thresh: Y	*ENG	
021	Delta Vt Threshold	*ENG	[0 to 5 / **0.5** / 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 / **0.05** / 0.001 mg/cm^2/step]
041	Pixel M/A: C	*ENG	
042	Pixel M/A: M	*ENG	
043	Pixel M/A: Y	*ENG	[0 to 1 / **0.6** / 0.001 mg/cm^2/step]
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 / **0.5** / 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 mohno off time.		
046	Mohno Off Time: Bk	*ENG	[0 to 0 x FFFFFFFF / **0** / 1 sec/step]
047	Mohno Off Time: C	*ENG	
048	Mohno Off Time: M	*ENG	
049	Mohno 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	[1 to 600 / **57** / 1 g/step]
051	TE Sn Detect Thresh:C	*ENG	
052	TE Sn Detect Thresh:M	*ENG	

053	TE Sn Detect Thresh: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	

3221	**[Vtcnt: Display/Set]**		
	Displays or adjusts the current Vtcnt value for each color.		
001	Current: Bk	*ENG	[2 to 5 / **4** / 0.01 V/step]
002	Current: C	*ENG	
003	Current: M	*ENG	
004	Current: Y	*ENG	
005-008	Displays or adjusts the Vtcnt value for each color at developer initialization.		
005	Initial: Bk	*ENG	[2 to 5 / **4** / 0.01 V/step]
006	Initial: C	*ENG	

007	Initial: M	*ENG	
008	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.		
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.		
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]** 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 / **7** / 0.1 wt%/step]
010	Upper: TC	*ENG	Adjusts the upper limit of the toner concentration. [1 to 15 / **8.5** / 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 / **3.5** / 0.1 wt%/step]
015	TD Thresh M/L	*ENG	[1 to 10 / **3.5** / 0.1 wt%/step]
016	UpperTC:K	*ENG	[1 to 15 / **8.5** / 0.1 wt%/step] Adjusts the upper limit of the toner concentration for each color.
017	UpperTC:C	*ENG	
018	UpperTC:M	*ENG	
019	UpperTC:Y	*ENG	

3224	**[Vtref Correct: Pixel]**		
	Adjusts the coefficient of Vtref correction for each coverage and color.		
001	Low Coverage Coeff. Bk	*ENG	[0 to 5 / **0.2** / 0.1 /step]
002	Low Coverage Coeff.C	*ENG	
003	Low Coverage Coeffi.M	*ENG	
004	Low Coverage Coeff. Y	*ENG	
005	High Coverage Coeff, Bk	*ENG	[0 to 5 / **0.3** / 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 / **60** / 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 / **8.5** / 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 Threshold:M	*ENG	[0 to 255 / **50** / 1 time/step]
017	High Coverage: Threshold:H	*ENG	Adjusts the threshold of the high coverage. [0 to 100 / **20** / 1 %/step]
018	High Coverage: Threshold:L	*ENG	
019	Process Control Thresh:H	*ENG	[0 to 255 / **14** / 1 time/step]

020	Process Control Thresh:L	*ENG	
021	Initial ProCon Thresh	*ENG	[0 to 255 / **6** / 1 time/step]
022	High Coverage Thresh:LS	*ENG	[0 to 100 / **10** / 1 %/step]
023	Process Control Thresh:LS	*ENG	[0 to 255 / **4** / 1 time/step]

3236	**[Toner Supply Consum.: Display]**		
	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.		
001	Agitation Time	*ENG	[0 to 200 / **5** / 1 sec/step]

3238	**[Vt Target: Setting]**		
	Displays the Vt target value at developer initialization.		
001	Bk	*ENG	[0 to 5 / **2.7** / 0.01 V/step]
002	C	*ENG	
003	M	*ENG	
004	Y	*ENG	

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 / **140** / 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	

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 / **10** / 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	**[ID/TM Sensor All]**		
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]**		
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	[0 to 50 / **0** / 0.1 mA/step]
006	Ifsg TM (Center)	*ENG	
007	Ifsg TM (Rear)	*ENG	

3324	**[Vsg Adjustment: Set]**		
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 999 / **999** / 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	

3363	**[ID Pattern Timing Setting]**		
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 / **400** / 1 msec/step]

003	Delay Time	*ENG	Adjusts the processing timing for the process control pattern. [0 to 2500 / **1335** / 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]

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 / **0** / 1 msec/step]
006	Minimum Supply Time: C	*ENG	
007	Minimum Supply Time: M	*ENG	
008	Minimum Supply Time: Y	*ENG	

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 / **0.45** / 0.001 mg/cm^2/step]
002	Maximum M/A: C	*ENG	[0 to 1 / **0.445** / 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 / **100** / 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 / **0.5** / 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 / **2** / 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 or copying.		
001	During Job	*ENG	[0 to 100 / **5** / 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	Date	*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 / **250** / 1 page/step]
002	Job End: Process Control: FC	*ENG	[0 to 2000 / **100** / 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]** 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 / **49** / 1 cm^2/m/step]
015	Refresh Threshold: C	*ENG	[0 to 255 / **25** / 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	
023	Toner Consumption Pattern Area	*ENG	[10 to 2550 / **280** / 10 cm^2/step]
024	Supply Coefficient	*ENG	[0 to 2.55 / **1** / 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 / **30** / 1%/step]
027	Job End Length	*ENG	[0 to 100 / **19** / 1mm/step]
028	Job End Supply Amt	*ENG	[0 to 1 / **0.45** / 0.001 mg/cm^2/step]
029	Refresh:Page Thresh	*ENG	[0 to 1000 / **0** / 1 page/step]
030	Mode Counter:Bk	*ENG	
031	Mode Counter:FC	*ENG	

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 / **40** / 1°C/step]

3518	**[Image Adj. Execution Flag] DFU**		
001	Toner End Recovery: Bk	*ENG	[0 or 1 / **0** / 1/step]

002	Toner End Recovery: C	*ENG	0: OFF. 1: ON
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	[0 to 2 / **0** / 1/step] 0: OFF. 1: ON (once), 2: ON (twice)
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]**		
001	Temperature: High	*ENG	Specifies the idle rotation times of the ITB after the process control. [0 or 3 / **0** / 1 revolution/step]
002	Temperature: Medium	*ENG	
003	Temperature: Low	*ENG	
004	Temp.: L: Power 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 / **30** / 1 deg/step]
006	Temp. Range Thresh:T1	*ENG	[0 or 15 / **15** / 1 deg/step]
010	Temp. Thresh:High	*ENG	[0 or 50 / **30** / 1 deg/step]
011	Temp. Thresh:Low	*ENG	[0 or 50 / **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. Change Thresh	*ENG	[0 to 99 / **10** / 1°C/step]
004	Relative Humidity Range	*ENG	[0 to 99 / **50** / 1 %RH/step]
005	Absolute Humidity Range	*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. Change Thresh	*ENG	[0 to 99 / **10** / 1°C/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 / **0.9** / 0.01 mg/cm^2/kV /step]
002	C (Current)	*ENG	Displays the current development gamma for C/M/Y. [0 to 5 / **0.8** / 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 / **0.9** / 0.01 mg/cm^2/kV /step]
006	C (Target Display)	*ENG	Displays the target development gamma for C/M/Y. [0 to 5 / **0.8** / 0.01 mg/cm^2/kV /step]
007	M (Target Display)	*ENG	
008	Y (Target Display)	*ENG	
009	Bk (Standard Target Set)	*ENG	Displays the standard target development gamma for each color. [0 to 5 / **0.9** / 0.01 mg/cm^2/kV /step]

010	C (Standard Target Set)	*ENG	[0 to 5 / **0.8** / 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 / **0.1** / 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 / **15** / 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 / - / 1 V/step]
002	C	*ENG	
003	M	*ENG	
004	Y	*ENG	

3621	**[Dev. DC Control:Display]** Normal: 120 mm/sec, Low: 70 mm/sec Displays the development DC bias adjusted with the process control for each line speed and color.		
001	Normal Speed:Bk	*ENG	[0 to 700 / **550** / 1 -V/step]
002	Normal Speed:C	*ENG	
003	Normal Speed:M	*ENG	
004	Normal 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]** Normal: 120 mm/sec, Low: 60 mm/sec Displays the charge DC voltage adjusted with the process control for each line speed and color.		
001	Normal Speed:Bk	*ENG	[0 to 2000 / **690** / 1 -V/step]
002	Normal Speed:C	*ENG	
003	Normal Speed:M	*ENG	
004	Normal 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]** Normal: 120 mm/sec		
	Displays the charge AC voltage adjusted with the process control for each color.		
001	Normal Speed:Bk	*ENG	[0 to 3 / **1.75** / 0.01 kV/step]
002	Normal Speed:C	*ENG	
003	Normal Speed:M	*ENG	
004	Normal Speed:Y	*ENG	

3651	**[LD Power Control: Display]** Normal: 120 mm/sec, Low: 60 mm/sec		
	Displays the LD power adjusted for each environment.		
001	Normal Speed:Bk	*ENG	[0 to 200 / **100** / 1 %/step]
002	Normal Speed:C	*ENG	
003	Normal Speed:M	*ENG	
004	Normal Speed:Y	*ENG	
009	Low Speed:Bk	*ENG	
010	Low Speed:C	*ENG	
011	Low Speed:M	*ENG	
012	Low Speed:Y	*ENG	

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	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]

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	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]

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 / **2.1** / 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	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]

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	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]

3800	**[Toner Collection Bttl Full]**		
	Displays/ adjusts the PCDU toner collection bottle detection settings.		
001	Condition	*CTL	[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	*CTL	Not used [0 to 50 / **-** / 1 /step]
003	Print Page AF Near Full	*CTL	Not used [0 to 2000 / **0** / 1 sheet/step]
004	Pixel Count AF Near Full	*CTL	Not used [0 to 200000 / **-** / 1 cm^2/step]
005	Pixel Count AF Replacement	*CTL	Not used Displays the pixel counter after replacement of toner collection bottle. [0 to 200000 / **-** / 1 cm^2/step]
008	Coefficient	*ENG	[0.1 to 1 / **1** / 0.1 /step]
	Adjusts the toner amount between near full and full. (0.1 indicates 10%.)		
011	Alarm Setting	*ENG	Enables or disables the calling for @Remote. [0 or 1 / **1** / -] 0: Enable @Remote calling 1: Disable @Remote calling
	NOTE: If the PCDU toner collection bottle has been replaced before the machine detects used toner near full when this setting is set to "0", the machine cannot detect toner collection bottle near full. In that case, set SP3-902-017 to "1".		
012	Day Thresh:NF	*ENG	[1 to 30 / **10** / 1 day/step]
	Sets the threshold days for the near-full display. The near-full of the PCDU toner collection bottle is displayed after the toner collection full sensor has detected		

	the actuator in the PCDU toner collection bottle.		
013	Total Collected Toner	*ENG	Displays the total amount from the near full detection. [0 to 999999999 / **1** / 1]
014	Full Detection Date	*ENG	Displays the date of the near full detection for the PCDU toner collection bottle.

3810	**[ITB T-Collection Bttl Full]**		
001	Condition	*CTL	[0 to 4 / **0** / 1 /step]
	Displays the current condition of the ITB toner collection bottle. 0: Factory default, 1: Before near full, 2; Near full, 3: Full, 4: Reserved		
002	Detection Times	*CTL	Not used [0 to 50 / **-** / 1 /step]
003	Print Page AF Near Full	*CTL	Not used [0 to 2000 / **0** / 1 sheet/step]
004	Pixel Count AF Near Full	*CTL	Not used [0 to 200000 / **-** / 1 cm^2/step]
005	Pixel Count AF Replacement	*CTL	Not used Displays the pixel counter after replacement of toner collection bottle. [0 to 200000 / **-** / 1 cm^2/step]
008	Coefficient	*ENG	[0.1 to 1 / **1** / 0.1 /step]
	Adjusts the toner amount between near full and full. (0.1 indicates 10%.)		
011	Alarm Setting	*ENG	Enables or disables the calling for @Remote. [0 or 1 / **1** / -] 0: Enable @Remote calling 1: Disable @Remote calling
	NOTE: If the toner collection bottle has been replaced before the machine detects		

	used toner near full when this setting is set to "0", the machine cannot detect toner collection bottle near full. In that case, set SP3-902-017 to "1".		
012	Day Thresh:NF	*ENG	[1 to 30 / **10** / 1 day/step]
	Sets the threshold days for the near-full display. The near-full of the IT toner collection bottle is displayed after the toner collection full sensor has detected the actuator in the ITB toner collection bottle.		
013	Total Collected Toner	*ENG	Displays the total amount from the near full detection. [0 to 999999999 / **1** / 1]
014	Full Detection Date	*ENG	Displays the date of the near full detection fot the ITB toner collection bottle.

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. The use of these counters is explained in the PM section and in the relevant parts of section 3 (Replacement and Adjustment).		
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. 3902-017: This is for the image transfer belt cleaning unit.
014	Fusing Unit	*ENG	
015	Fusing Pad	*ENG	
016	Fusing Belt	*ENG	
017	ITB Cleaning Unit	*ENG	
018	PTR Unit	*ENG	[0 or 1 / **0** / -] 0: OFF, 1: ON
019	PCU Toner Collection Bottle	*ENG	
020	ITB Toner Collection Bottle	*ENG	

5.5 MAIN SP TABLES-4

5.5.1 SP4-XXX (SCANNER)

4008	**[Sub Scan Mag. Adjustment]**		
	Adjusts the sub-scan magnification by changing the scanner motor speed.		
001	SScan Mag.Adjust	*ENG	[-1.0 to 1.0 / **0** / 0.1%/step] **FA**

4010	**[L-Edge Regist Adjustment]**		
	Adjusts the leading edge registration by changing the scanning start timing in the sub-scan direction.		
001	LE Regist Adjust	*ENG	[-2.0 to 2.0 / **0** / 0.1 mm/step] **FA**

4011	**[S-to-S Regist Adjustment]**		
	Adjusts the side-to-side registration by changing the scanning start timing in the main scan direction.		
001	StoS Rgst Adjust	*ENG	[-2.5 to 2.5 / **0** / 0.1 mm/step] **FA**

4012	**[Scanner Erase Margin: Scale]** Scanner: Erase Margin: Scale		
	Sets the blank margin at each side for erasing the original shadow caused by the gap between the original and the scale.		
001	Book: Leading Edge	*ENG	[0 to 3.0 / **0** / 0.1 mm/step] **FA**
002	Book: Trailing Edge		
003	Book: Left		
004	Book: Right		
005	ADF: Leading Edge	*ENG	[0 to 3.0 / **0** / 0.1 mm/step] **FA**
007	ADF: Left		

008	ADF: Right		

4013	**[Scanner Free Run]**		
	Performs the scanner free run with the exposure lamp on or off in the following mode. Full color mode / Full Size / A3 or DLT		
001	Lamp: OFF	*ENG	[0 or 1 / **0** / -] 0: OFF, 1: ON
002	Lamp: ON		

4014	**[Scan]**		
	Execute the scanner free fun with each mode.		
001	HP Detection Enable	-	Scanner free run with HP sensor check.
002	HP Detection Disable	-	Scanner free run without HP sensor check.

4020	**[Dust Check]**		
001	Detection: ON/OFF	*ENG	Turns the ADF scan glass dust check on/off. [0 or 1 / **1** / 1 /step] 0: OFF, 1: ON
002	Dust Detection: Level	*ENG	Selects the detect level. [0 to 8 / **4** / 1 /step] 0: lowest detection level 8: highest detection level

003	Correction Level	*ENG	Selects the level of the sub scan line correction when using the ARDF. [0 to 4 / **0** / 1 /step] 0: Off 1: Weakest 2: Weak 3: Strong 4: Strongest

4301	**[APS Operation Check]**		
	Displays a code that represents the original size detected by the original sensors. (See "Input Check Table".)		
001	APS Operation Check	-	-

4303	**[APS Min Size]**		
	Specifies the result of the detection when the outputs from the original sensors are all OFF.		
001	APS Min. Size	*ENG	[0 to 1 / **0** / 1 /step] 0: No Original 1: A5-Lengthwise (16K SEF if 4305 is set to 3)

4305	**[8K/16K Detection]**	*ENG	[0 to 3 / **0** / 1 /step] 0: Normal Detection (the machine detects A4/LT size as A4 or LT, depending on the paper size setting) 1: A4-Sideways LT-Lengthwise 2: LT-Sideways A4-Lengthwise 3: 8K 16K
001	This program enables the machine to automatically recognize the 8K/16K size.		

4308	**[Scan Size Detection]**		
001	Detect: ON/OFF	*ENG	[0 or 1 / **0** / 1 /step] 0: ON, 1: OFF

4309	**[Scan Size Detect Setting] DFU**		
001	Original Density Thresh	*ENG	[0 to 255 / **32** / 1 digit /step]
002	Detection Time	*ENG	[20 to 100 / **60** / 20 msec /step]
003	Lamp ON:Delay Time	*ENG	[0 to 200 / **40** / 20 msec /step]

4400	**[Scanner Erase Margin]**	*ENG	
	Set the Mask for Original. These SPs set the area to be masked during platen (book) mode scanning.		
001	Book: Leading Edge	[0 to 3.0 / **0** / 0.1 mm/step]	
002	Book: Trailing Edge		
003	Book: Left		
004	Book: Right		
005	ADF: Leading Edge		
007	ADF: Left		
008	ADF: Right		

4417	**[IPU Test Pattern]** Selects the IPU test pattern.	
001	Test Pattern Selection	[0 to 24 / **0** / 1/step]
	0: Scanned image 1: Gradation main scan A 2: Gradation main scan B 3: Gradation main scan C 4: Gradation main scan D 5: Gradation sub scan (1) 6: Grid pattern 7: Slant grid pattern 8: Gradation RGBCMYK 9: UCR pattern 10: Color patch 16 (1) 11: Color patch 16 (2) 12: Color patch 64	13: Grid pattern CMYK 14: Color patch CMYK 15: Gray pattern (1) 16: Gray pattern (2) 17: Gray Pattern (3) 18: Shading pattern 19: Thin line pattern 20: Scanned + Grid pattern 21: Scanned + Gray scale 22: Scanned + Color patch 23: Scanned + Slant Grid C 24: Scanned + Slant Grid D

4429	**[Illegal Copy Output]**		
001	Copy	*ENG	[0 to 3 / **3** / 1 /step]
002	Scanner		
003	Fax		

4440	**[Saturation Adjustment]** Adjusts the level of saturation for copying.		
001	-	*ENG	[0 to 5 / **3** / 1 /step] 0: High 1: Lowest 2: Lower 3: Default 4: Higher

System Maintenance

			5: Highest

4450	**[Scan Image Path Selection]**	
001	Black Subtraction ON/OFF	[0 or 1 / **1** / **-**] 0: OFF, 1: ON
	Uses or does not use the black reduction image path.	
002	SH ON/OFF	[0 or 1 / **0** / 1 /step] 0: ON, 1: OFF
	Uses or does not use the shading image path.	

4460	**[Digital AE Set] DFU**		
	Specifies the level of deleting the background in the ADS mode. You can adjust its level for each scanning method (platen, ADF).		
001	Lower Limit	*ENG	[0 to 1023 / **364** / 4 digit/step]
002	Background Level	*ENG	[512 to 1532 / **932** / 1 digit/step]

4501	**[ACC Target Density]**		
	Selects the ACC target.		
001	Copy: Bk: Text	*ENG	[0 to 10 / **5** / 1 /step] 10: Darkest density
002	Copy: C: Text	*ENG	
003	Copy: M: Text	*ENG	
004	Copy: Y: Text	*ENG	
005	Copy: Bk: Photo	*ENG	
006	Copy: C: Photo	*ENG	
007	Copy: M: Photo	*ENG	
008	Copy: Y: Photo	*ENG	

4505	**[ACC Correction:Bright]**		
	Adjusts the offset correction for light areas of the ACC pattern.		
001	Master:K	*ENG	[-128 to 127 / **0** / 1 /step]
002	Master:C	*ENG	
003	Master:M	*ENG	
004	Master:Y	*ENG	
005	Slave:K	*ENG	Reserved
006	Slave:C	*ENG	
007	Slave:M	*ENG	
008	Slave:Y	*ENG	

4506	**[ACC Correction: Dark]**		
	Adjusts the offset correction for dark areas of the ACC pattern.		
001	Master:K	*ENG	[-128 to 127 / **0** / 1 /step]
002	Master:C	*ENG	
003	Master:M	*ENG	
004	Master:Y	*ENG	
005	Slave:K	*ENG	Reserved
006	Slave:C	*ENG	
007	Slave:M	*ENG	
008	Slave:Y	*ENG	

4550	**[Scanner Appl.:Text/Chart]**
4551	**[Scanner Appl.: Text]**

4552	**[Scanner Appl.:Txt Dropout]**		
4553	**[Scanner Appl.:Text/Photo]**		
4554	**[Scanner Appl.: Photo]**		
4565	**[Scanner Appl.: GrayScale]**		
4570	**[Scan Appl.: Color: Text-Photo]**		
4571	**[Scan Appl.: Color: Glossy Photo]**		
4572	**[Scan Appl.: Color: AutoColor]**		
-005	MTF: 0 (Off), 1-15 (Strong)	*ENG	[0 to 15 / **8** / 1 /step] 0: MTF Off
	Sets the MTF level (Modulation Transfer Function) designed to improve image contrast. Set higher for stronger effect, lower for weaker effect.		
-006	Smoothing: 0 (x1), 1-7 (Strong)	*ENG	[0 to 7 / **4** / 1 /step]
	Use to remove "jaggies" if they appear. Set higher for smoother images.		
-007	Brightness: 1–255	*ENG	[1 to 255 / **128** / 1 /step]
	Set higher for darker, set lower for lighter.		
-008	Contrast: 1–255	*ENG	[1 to 255 / **128** / 1 /step]
	Set higher for more contrast, set lower for less contrast.		
-009	I-Dot Erase :0 (x1) 1-7 (Strong)	*ENG	[0 to 7 / **0** / 1 /step]
	Sets the erasure level of Irregular Dots. Set higher for stronger effect, lower for weaker effect. 0: Not activated		

4580	**[FAX Appl.: Text/Chart]**		
4582	**[FAX Appl.: Text/Photo]**		
4583	**[FAX Appl.: Photo]**		
-005	MTF: 0 (Off), 1-15 (Strong)	*ENG	[0 to 15 / **8** / 1 /step] 0: MTF Off

	Sets the MTF level (Modulation Transfer Function) designed to improve image contrast. Set higher for stronger effect, lower for weaker effect.		
-006	Smoothing: 0 (x1), 1-7 (Strong)	*ENG	[0 to 7 / **4** / 1 /step]
	Use to remove "jaggies" if they appear. Set higher for smoother images.		
-007	Brightness: 1–255	*ENG	[1 to 255 / **128** / 1 /step]
	Set higher for darker, set lower for lighter.		
-008	Contrast: 1–255	*ENG	[1 to 255 / **128** / 1 /step]
	Set higher for more contrast, set lower for less contrast.		
-009	I-Dot Erase:0 (x1), 1-7 (Strong)	*ENG	[0 to 7 / **0** / 1 /step]
	Selects the contrast level for B/W the Text mode. Sets the erasure level of Irregular Dots. Set higher for stronger effect, lower for weaker effect. 0: Not activated		
-010	Texture Erase:0 (Fix), 1-2	*ENG	[0 to 2 / **0** / 1 /step]
	Sets the erasure level of textures. Set higher for stronger effect, lower for weaker effect. This SP (suffix "-010") only exists in SP4580, 4582 and 4583. 0: Not activated		

4581	**[FAX Appl.: Text]**		
4584	**[FAX Appl.: Original 1]**		
4585	**[FAX Appl.: Original 2]**		
-005	MTF: 0 (Off), 1-15 (Strong)	*ENG	[0 to 15 / **8** / 1 /step] 0: MTF Off
	Sets the MTF level (Modulation Transfer Function) designed to improve image contrast. Set higher for stronger effect, lower for weaker effect.		
-006	Smoothing: 0 (x1), 1-7 (Strong)	*ENG	[0 to 7 / **4** / 1 /step]
	Use to remove "jaggies" if they appear. Set higher for smoother images.		
-007	Brightness: 1–255	*ENG	[1 to 255 / **128** / 1 /step]
	Set higher for darker, set lower for lighter.		

-008	Contrast: 1–255	*ENG	[1 to 255 / **128** / 1 /step]
	Set higher for more contrast, set lower for less contrast.		
-009	I-Dot Erase:0 (x1), 1-7 (Strong)	*ENG	[0 to 7 / **0** / 1 /step]
	Selects the contrast level for B/W the Text mode. Sets the erasure level of Irregular Dots. Set higher for stronger effect, lower for weaker effect. 0: Not activated		

4647	**[Scanner Hard Error]**		
	Displays the result of the SBU connection check.		
001	Power-ON	-	[0 to 65535 / **0** / 1 /step] 0: OK, Other: SBU connection check failure If the SBU connection check fails, SC144 occurs.

4688	**[DF: Density Adjustment]**		
	Adjusts the white shading parameter when scanning an image with the ARDF. Adjusts the density level if the ID of outputs made in the DF and Platen mode is different.		
001	-	*ENG	[50 to 150 / **107** / 1%/ step]

4802	**[DF Shading FreeRun]**		
001	Lamp OFF	-	Executes the scanner free run of shading movement with exposure lamp on or off. Press "OFF" to stop this free run. Otherwise, the free run lasts.
002	Lamp ON		

4804	**[Home Position Opetation]**		
001	-	-	Executes the scanner HP detection.

4806	**[Carriage Move]**		
001	-	-	Moves the carriage from the scanner home position. Dust may fall through the DF exposure glass. Therefore, do this SP when you transport the machine a long distance.

4807	**[SBU Test Pattern Change]**		
001	-	-	[0 to 255 / **0** / 1 /step]
	Selects the SBU test pattern. 0: Normal output 1: Fixed value output 2: Main scan gradation 3: Sub scan gradation 4: Grid pattern		

4902	**[ACC Data Display]**		
	This SP outputs the final data read at the end of ACC execution. A zero is returned if there was an error reading the data. [0 to 255 / **0** / 1 /step]		
001	R DATA1	*ENG	Photo C Patch Level 1 (8-bit)
002	G DATA1	*ENG	Photo M Patch Level 1 (8-bit)
003	B DATA1	*ENG	Photo Y Patch Level 1 (8-bit)
004	R DATA2	*ENG	Photo C Patch Level 17 (8-bit)
005	G DATA2	*ENG	Photo M Patch Level 17(8-bit)
006	B DATA2	*ENG	Photo Y Patch Level 17 (8-bit)

4904	**[IPU Board Test]**		
001	Test1	-	Bit0: TAURUS register Bit1: ORION register Bit2: LUPUS register Bit3 to 11: Not used Bit12: Ri20 Bit13 to 15: Not used 0: OK, 1: Error
	Performs a write and read check of the ASICs on the BCU board and displays the result.		
002	Test2	-	Bit0: Image path from SBU to TAURUS Bit1: Image path from TAURUS to ORION Bit2: Image path from ORION to TAURUS Bit3: Image path from TAURUS to LUPUS Bit4 to 11: Not used Bit12: Image path from LUPUS to Ri20 Bit13: Image path from Ri20 to GAVD Bit14 and 15: Not used 0: OK, 1: Error
	Performs an image path check on the BCU board and displays the result.		

4918	**[Man Gamma Adj]**		
009	-	-	Adjusts the manual gamma for Copy/Photo or Copy/Text with the soft keys on the operation panel.

4993	**[High Light Correction]**		
001	Sensitivity Selection	*ENG	Selects the Highlight correction level. [0 to 9 / **4** / 1 /step] 0: weakest sensitivity 9: strongest sensitivity
002	Range Selection	*ENG	Selects the range level of Highlight correction. [0 to 9 / **4** / 1 /step] 0: weakest skew correction, 9: strongest skew correction

4994	**[Text/Photo Detection Level Adj.]**		
	Selects the definition level between Text and Photo for high compression PDF.		
001	High Compression PDF	*ENG	[0 to 2 / **1** / 1 /step] 0: Text priority 1: Normal 2: Photo priority

4996	**[White Paper Detect Level]**		
	Selects the threshold level of the original background density. Increasing this threshold level machine easily judge that an original is white.		
001	-	*ENG	[0 to 6 / **3** / 1 /step] 0: lightest 6: Darkest

5.6 MAIN SP TABLES-5

5.6.1 SP5-XXX (MODE)

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 / **0** / -] 0: Developments 1: Prints

5047	**[Paper Display]**		
	Turns on or off the printed paper display on the LCD.		
001	Backing Paper	*CTL	[0 or 1 / **0** / -] 0: OFF, 1: ON

5051	**[Toner Refill Detection Display]**		
	Enables or disables the toner refill detection display.		
5051 1	-	*CTL	[0 or 1 / **0** / -] Alphanumeric 0: ON 1: OFF

5055	**[Display IP Address]**		
	Display or does not display the IP address on the LCD.		
001	-	*CTL	[0 or 1 / **0** / -] 0: OFF 1: ON

5056	**[Coverage Counter Display]**		
	Display or does not display the coverage counter on the LCD.		
001	-	*CTL	[0 or 1 / **0** / -] 0: Not display, 1: Display

5061	**[Toner Remaining Icon Display Change]**		
	Display or does not display the remaining toner display icon on the LCD.		
001	-	*CTL	[0 or 1 / **0** / -] 0: Not display, 1: Display

5062	**[Parts PM System Setting]**		
	Display or does not display the PM part yield on the LCD.		
001	PCU:Bk	*CTL	[0 or 1 / **0** / -] **0:** Not display, 1: Display
002	PCU:M	*CTL	
003	PCU:C	*CTL	
004	PCU:Y	*CTL	
005	Dev Unit:Bk	*CTL	
006	Dev Unit:M	*CTL	
007	Dev Unit:C	*CTL	
008	Dev Unit:Y	*CTL	
009	Fusing Unit	*CTL	

010	Fusing Roller	*CTL	
011	Fusing Belt	*CTL	
012	PCU Toner Collection Bottle	*CTL	

5066	**[Parts PM Menu Display Setting] Not used**		
001	-	*CTL	[0 or 1 / **0** / -] **0:** Not display, 1: Display

5067	**[Parts PM System Setting]** Selects the service maintenance or user maintenance for each PM parts. If the user service is selected, PM alart is displayed on the LCD.		
001	PCU:Bk	*CTL	**[0: Service]** or [1: User]
002	PCU:M	*CTL	
003	PCU:C	*CTL	
004	PCU:Y	*CTL	
005	Dev Unit:Bk	*CTL	**[0: Service]** or [1: User]
006	Dev Unit:M	*CTL	
007	Dev Unit:C	*CTL	
008	Dev Unit:Y	*CTL	
009	Fusing Unit	*CTL	**[0: Service]** or [1: User]
010	Fusing Roller	*CTL	
011	Fusing Belt	*CTL	
012	PCU Toner Collection Bottle	*CTL	

5104	**[A3/DLT Double Count] SSP**		
001	PCU:Bk	*CTL	[0 to 2 / **0** / 1/step] 0: No 1: Yes 2: Yes except By-pass
	Specifies whether the counter is doubled for A3/DLT. "Yes" counts except from the bypass tray. When "Yes" is selected, A3 and DLT paper are counted twice, that is A4 x2 and LT x2 respectively.		

5113	**[Optional Counter Type]**		
001	Default Optional Counter Type	*CTL	This program specifies the counter type. **0**: **None**, 1: Key card (RK 3, 4) 2: Key card (down), 3: Prepaid card 4: Coin rack, 5: MF key card 8: Key counter + Vendor 9: Bar-code Printer
002	External Optional Counter Type	*CTL	This program specifies the external counter type. **0**: **None** 1: Expansion Device 1 2: Expansion Device 2 3: Expansion Device 3

5114	**[Optional Counter I/F]**		
001	MF Key Card Extension	*CTL	[**0: Not installed/** 1: Installed (scanning accounting)]

5118	**[Disable Copying]**	*CTL	[**0**: Not disabled/ 1: Disabled]
001	This program disables copying.		

5120	**[Mode Clear Opt. Counter Removal]**	*CTL	[**0**: **Yes (removed)**/ 1: Standby (installed but not used)/ 2: No (not removed)]
001	This program updates the information on the optional counter. When you install or remove an optional counter, check the settings.		

5121	**[Counter Up Timing]**	*CTL	[**0: Feed**/ 1: Exit]
001	This program specifies when the counter goes up. The settings refer to "paper feed" and "paper exit" respectively.		

5126	**[F Size Original Setting]**	*ENG	[0 to 2 / **0** / 1 /step] 0: 8 1/2" x 13" (Foolscap) 1: 8 1/4" x 13" (Folio) 2: 8" x 13" (F)
001	Selects F size original setting.		

5127	**[APS Mode]**	*CTL	[**0**: Not disabled/ 1: Disabled]
001	This program disables the APS.		

5150	**[By-Pass Length Setting]**	*CTL	[**0**: OFF/ 1: ON]
001	Determines whether the transfer sheet from the by-pass tray is used or not. Normally the paper length for sub scanning paper from the by-pass tray is limited to 600 mm, but this can be extended with this SP to 1260 mm.		

5162	**[App. Switch Method]**	*CTL	[**0**: Soft Key Set/ 1: Hard Key Set]
001	This program specifies the switch that selects an application program.		

5167	**[Fax Printing Mode at Optional Counter Off]**		
	Enables or disables the automatic print out without an accounting device. This SP is used when the receiving fax is accounted by an external accounting device.		
001	Fax Printing Mode at Optional Counter Off	*CTL	[0 or 1 / **0** / -] 0: Automatic printing 1: No automatic printing

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

5181	**[Size Adjust]**		
	Adjusts the paper size for each tray.		
001	Tray 1:1	*ENG	[0 to 1 / **0 (EU/ASIA), 1 (NA)** / 1 /step] 0: A4 LEF, 1: LT LEF
002	Tray 1: 2	*ENG	[0 or 1 / **0 (EU/ASIA), 1 (NA)** / -] 0: A3, 1: DLT
003	Tray 1: 3	*ENG	[0 or 1 / **0 (EU/ASIA), 1 (NA)** / -] 0: B4, 1: LG
004	Tray 1: 4	*ENG	[0 or 1 / **0 (EU/ASIA), 1 (NA)** / -] 0: B5 LEF, 1: Exe LEF
005	Tray 2: 1	*ENG	[0 or 1 / **0 (EU/ASIA), 1 (NA)** / -] 0: A4 LEF, 1: LT LEF
006	Tray 2: 2	*ENG	[0 or 1 / **0 (EU/ASIA), 1 (NA)** / -] 0: A3, 1: DLT

007	Tray 2: 3	*ENG	[0 or 1 / **0 (EU/ASIA), 1 (NA)** / -] 0: B4, 1: LG
008	Tray 2: 4	*ENG	[0 or 1 / **0 (EU/ASIA), 1 (NA)** / -] 0: B5 LEF, 1: Exe LEF
009	Tray 3: 1	*ENG	[0 or 1 / **0 (EU/ASIA), 1 (NA)** / -] 0: A4 LEF, 1: LT LEF
010	Tray 3: 2	*ENG	[0 or 1 / **0 (EU/ASIA), 1 (NA)** / -] 0: A3, 1: DLT
011	Tray 3: 3	*ENG	[0 or 1 / **0 (EU/ASIA), 1 (NA)** / -] 0: B4, 1: LG
012	Tray 3: 4	*ENG	[0 or 1 / **0 (EU/ASIA), 1 (NA)** / -] 0: B5 LEF, 1: Exe LEF
013	Tray 4: 1	*ENG	[0 to 2 / **0 (EU/ASIA), 1 (NA)** / -] 0: A4LEF, 1: LTLEF
014	Tray 4: 2	*ENG	[0 or 1 / **0 (EU/ASIA), 1 (NA)** / -] 0: A3, 1: DLT
015	Tray 4: 3	*ENG	[0 or 1 / **0 (EU/ASIA), 1 (NA)** / -] 0: B4, 1: LG
016	Tray 4: 4	*ENG	[0 or 1 / **0 (EU/ASIA), 1 (NA)** / -] 0: B5 LEF, 1: Exe LEF

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

5188	**[Copy NV Version]**		
	Displays the version number of the NVRAM on the controller board.		
001	-	*CTL	-

5196	**[90 degree rotation (copy)]**		
001	-		Not used

5212	**[Page Numbering]**	*CTL		
	This program adjusts the position of the second side page numbers. A "– value" moves the page number positions to the left edge. A "+ value" moves the page number positions to the right edge.			
003	Duplex Printout Right/Left Position			[–10 to 10 / **0** / 1 mm/step]
004	Duplex Printout High/Low Position			

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)		
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".		

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.

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 999 / **60** / 1 min.]
005	Counter Clear Time	*CTL	**Not Used**

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.		
001	Copy	*CTL	Determines whether certification is required before a user can use the copy applications. [0 to 1 / **0** /1] 0: On, 1: Off
002	Color Security Setting	*CTL	-
	Enables or disables the color copy limitation for each copy mode when the user authentication is "ON". 0: Enable (default), 1: Disable Bit0: B/W mode Bit1: Mono color mode Bit2: Two colors mode Bit3: Full color mode Bit4: Automatic color mode Bit5 to 7: Reserved		
011	Document Server	*CTL	Determines whether certification is required before a user can use the document server. [0 to 1 / **0** /1] 0: On, 1: Off
021	Fax	*CTL	Determines whether certification is required before a user can use the fax application. [0 to 1 / **0** /1] 0: On, 1: Off

031	Scanner	*CTL	Determines whether certification is required before a user can use the scan applications. [0 to 1 / **0** /1] 0: On, 1: Off
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
002	Panel Disp	*CTL	Determines whether an error code appears on the operation panel after a user authentication failure occurs. [0 to 1 / **1** / 1] 1: On, 0: Off

5490	**[MF Key Card (Japan only)]**		
001	Job Permit Setting	*CTL	Sets up operation of the machine with a keycard. [0 to 1 / **0** / 1]

			0: Disabled. Cancels operation without a user code. 1: Enabled. Allows operation without a user code.
002	Count Mode Setting	*CTL	-

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**
002	Original Count Alarm	*CTL	[0 or 1 / **1** / -] 0: No alarm sounds 1: Alarm sounds after the number of originals passing through the ARDF > 10,000

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	
002	Staple Supply Alarm	0: Off, **1**: On	
003	Toner 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]	
132	Interval :A3		
133	Interval :A4		
134	Interval :A5		
141	Interval :B4		
142	Interval :B5		
160	Interval :DLT		
164	Interval :LG		
166	Interval :LT		
172	Interval :HLT		

5508*	**[CC Call]**	*CTL	-
001*	Jam Remains	0: Disable, **1**: Enable	
	Enables/disables initiating a call for an unattended paper jam.		
002*	Continuous Jams	0: Disable, **1**: Enable	
	Enables/disables initiating a call for consecutive paper jams.		

003*	Continuous Door Open	0: Disable, **1**: Enable
	Enables/disables initiating a call when the front door remains open.	
011*	Jam Detection: Time Length	[3 to 30 / **10** / 1 minute /step]
	Sets the time a jam must remain before it becomes an "unattended paper jam".	
012*	Jam Detection: Continuous Count	[2 to 10 / **5** / 1 /step]
	Sets the number of consecutive paper jams required to initiate a call.	
013*	Door Open: Time Length	[3 to 30 / **10** / 1 /step]
	Sets the length of time the door remains open before the machine initiates a call.	

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	
003	Service Parts End Call	
004	User Call	
006	Communication Test Call	[0 or 1 / **1** / -] 0: Off 1: On
007	Machine Information Notice	
008	Alarm Notice	
009	Non Genuin Tonner Alarm	
010	Supply Automatic Ordering Call	
011	Supply Manegement Report Call	
012	Jam/Door Open Call	

5610	**[Base Gamma Cntl P: Command]**	
004	Recall Factory Setting	-
	Recalls the factory settings of the base gamma control points.	
005	Restore Factory Setting	-
	Overwrites the current values onto the factory settings of the base gamma control points.	
006	Restore Prev. Setting	-
	Recalls the previous settings of the base gamma control points.	

5611	**[Toner Color in 2C]**		
001	B-C	*ENG	[0 to 128 / **100** / 1 /step] 128: Darkest density
	Adjusts the Cyan correction value of the blue signal in two-color mode.		
002	B-M	*ENG	[0 to 128 / **100** / 1 /step] 128: Darkest density
	Adjusts the Magenta correction value of the blue signal in two-color mode.		
003	G-C	*ENG	[0 to 128 / **100** / 1 /step] 128: Darkest density
	Adjusts the Cyan correction value of the blue signal in two-color mode.		
004	G-Y	*ENG	[0 to 128 / **100** / 1 /step] 128: Darkest density
	Adjusts the Yellow correction value of the blue signal in two-color mode.		
005	R-M	*ENG	[0 to 128 / **100** / 1 /step] 128: Darkest density
	Adjusts the Magenta correction value of the blue signal in two-color mode.		
006	R-Y	*ENG	[0 to 128 / **100** / 1 /step]

			128: Darkest density
	Adjusts the Yellow correction value of the blue signal in two-color mode.		

5618	**[Color Mode Display Selection]**		
001	-	*CTL	[0 or 1 / **1** / -] 0: ACS, Colour, Black & White, Two Colour, Single colour 1: ACD, Full Colour, Black & White
	Selects the color selection display on the LCD.		

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 (SP8-581, 582, 583, 584, and 586) 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.
006	Copier application	Initializes all copier application settings.
007	Fax application	Initializes the fax reset time, job login ID, all TX/RX settings, local storage file numbers, and off-hook timer.

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
009	Scanner application	Initializes the scanner defaults for the scanner and all the scanner SP modes.
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)
012	R-FAX	Initializes the job login ID, SmartDeviceMonitor for Admin, job history, and local storage file numbers.
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.
020	Web Uapli	Initializes the web user application 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]**		
001	TIMES	-	Displays the read times of RFID.
002	NOT 0	-	
003	RET.	-	
004	EXE.ALL		
005	EXE.K		
006	EXE.M		
007	EXE.C		
008	EXE.Y		

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	-	-	Inputs the serial number.

5812	**[Service Tel. No. Setting]**		
001	Service	*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).		
003	Supply	*CTL	-
	Use this to input the telephone number of your supplier for consumables. Enter the number and press #.		
004	Operation	*CTL	-
	Use this to input the telephone number of your sales agency. Enter the number and press #.		

5816	**[Remote Service]**	*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	RCG – C Registed
	This SP displays the Embedded RC Gate installation end flag. 0: Installation not completed 1: Installation completed
022	RCG – C Regist Detail
	This SP displays the Embedded RC Gate installation status. 0: RCG device not registered 1: RCG device registered 2: Device registered
023	Connect Type (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
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

<table>
<tr><td></td><td colspan="2">report.</td></tr>
<tr><td rowspan="2">064</td><td colspan="2">Proxy Port Number</td></tr>
<tr><td colspan="2">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.</td></tr>
<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="6">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>
</table>

	4	The period of the certification has expired and new request for an update is being sent to the GW URL.
	11	A rescue update for certification has been issued and a rescue certification setting is in progress for the rescue GW connection.
	12	The rescue certification setting is completed and the GW URL is being notified of the certification update request.
	13	The notification of the request for certification update has completed successfully, and the system is waiting for the certification update request from the rescue GW URL.
	14	The notification of the certification request has been received from the rescue GW controller, and the certification is being stored.
	15	The certification has been stored, and the GW URL is being notified of the successful completion of this event.
	16	The storing of the certification has failed, and the GW URL is being notified of the failure of this event.
	17	The certification update request has been received from the GW URL, the GW URL was notified of the results of the update after it was completed, but a certification error has been received, and the rescue certification is being recorded.
	18	The rescue certification of No. 17 has been recorded, and the GW URL is being notified of the failure of the certification update.
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.
084	Non-HDD Firm Up	This setting determines if the firmware can be updated, even without the HDD installed. 0: Not allowed update 1: Allowed update
085	Firm Up User Check	This SP setting determines if the operator can confirm the previous version of the firmware before the firmware update execution. If the option to confirm the previous version is selected, a notification is sent to the system manager and the firmware update is done with the firmware files from the URL.
086	Firmware Size	Allows the service technician to confirm the size of the firmware data files during the firmware update execution.
087	CERT: Macro Ver.	Displays the macro version of the @Remote certification.
088	CERT: PAC Ver.	Displays the PAC version of the @Remote certification.
089	CERT: ID2 Code	Displays ID2 for the @Remote certification. Spaces are displayed as underscores (_). Asteriskes (*) indicate that no @Remote certification exists. "000000___________" indicates "Common certification".

090	CERT: Subject	Displays the common name of the @Remote certification subject. CN = the following 17 bytes. Spaces are displayed as underscores (_). Asterisks (*) indicate that no @Remote certification exists. "000000___________" indicates "Common certification".
091	CERT: Serial No.	Displays serial number for the @Remote certification. Asterisks (*) indicate that no @Remote certification exists.
092	CERT: Issuer	Displays the common name of the issuer of the @Remote certification. CN = the following 30 bytes. Asteriskes () indicate that no @Remote certification exists.
093	CERT: Valid Start	Displays the start time of the period for which the current @Remote certification is enabled.
094	CERT: Valid End	Displays the end time of the period for which the current @Remote certification is enabled.
150	Selection Country	
	Not used	
151	Line Type Automatic Judgment	
	Not used	
152	Line Type Judgment Result	
	Not used	
153	Selection Dial/Push	
	Not used	
154	Outside Line/Outgoing Number	
	▪ **Not used**	
156	Dial Up User Name	

	▪ **Not used**		
157	Dial Up Password		
	▪ **Not used**		
161	Local Phone Number		
	Not used		
162	Connection Timing Adjustment: Incoming		
	Not used		
163	Access Point		
	Not used		
164	Line Connecting		
	Not used		
173	Modem Serial Number	**Not used**	
174	Retransmission Limit		
	Not used		
187	FAX TX Priority	-	
	Not used		
200	Manual Polling	-	**Not used**
201	Regist: Status		
	Displays a number that indicates the status of the @Remote service device. 0: Neither the @Remote device nor Embedded RCG Gate is set. 1: The Embedded RCG Gate is being set. Only Box registration is completed. In this status, @Remote device cannot communicate with this device. 2: The Embedded RCG Gate is set. In this status, the @Remote device cannot communicate with this device. 3: The @Remote device is being set. In this status the Embedded RCG Gate cannot be set. 4: The @Remote module has not started.		

202	Letter Number	Allows entry of the request number needed for the Embedded RCG Gate.
203	Confirm Execute	Executes the confirmation request to the @Remote Gateway.
204	Confirm Result	
	Displays a number that indicates the result of the confirmation executed with SP5816-203. 0: Succeeded 1: Confirmation number error 2: Registration in progress 3: Proxy error (proxy enabled) 4: Proxy error (proxy disabled) 5: Proxy error (Illegal user name or password) 6: Communication error 7: Certification update error 8: Other error 9: Confirmation executing	
205	Confirm Place	
	Displays the result of the notification sent to the device from the Gateway in answer to the confirmation request. Displayed only when the result is registered at the Gateway.	
206	Register Execute	Executes "Embedded RCG Registration".
207	Register Result	
	Displays a number that indicates the registration result. 0: Succeeded 2: Registration in progress 3: Proxy error (proxy enabled) 4: Proxy error (proxy disabled) 5: Proxy error (Illegal user name or password) 6: Communication error 7: Certification update error 8: Other error	

	9: Registration executing		
208	Error Code		
	Displays a number that describes the error code that was issued when either SP5816-204 or SP5816-207 was executed.		
	Cause	**Code**	**Meaning**
	Illegal Modem Parameter	-11001	Chat parameter error
		-11002	Chat execution error
		-11003	Unexpected error
	Operation Error, Incorrect Setting	-12002	Inquiry, registration attempted without acquiring device status.
		-12003	Attempted registration without execution of an inquiry and no previous registration.
		-12004	Attempted setting with illegal entries for certification and ID2.
		-12005	@Remote communication is prohibited. The device has an Embedded RC gate-related problem.
		-12006	A confirmation request was made after the confirmation had been already completed.
		-12007	The request number used at registration was different from the one used at confirmation.
		-12008	Update certification failed because mainframe was in use.
	Error Caused by Response from GW URL	-2385	Attempted dial up overseas without the correct international prefix for the telephone number.
		-2387	Not supported at the Service Center

		-2389	Database out of service
		-2390	Program out of service
		-2391	Two registrations for same device
		-2392	Parameter error
		-2393	RCG device not managed
		-2394	Device not managed
		-2395	Box ID for RCG device is illegal
		-2396	Device ID for RCG device is illegal
		-2397	Incorrect ID2 format
		-2398	Incorrect request number format
209	Instl Clear	Releases the machine from its Embedded RCG Gate setup. **NOTE:** Turn off and on the main power switch after this setting has been changed.	
250	CommLog Print	Prints the communication log.	

5821	**[Remote Service 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 Data 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 Data 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.
002	HDD Formatting (IMH)	
003	HDD Formatting (Thumbnail)	
004	HDD Formatting (Job Log)	
005	HDD Formatting (Printer Fonts)	
006	HDD Formatting (User Info)	
007	Mail RX Data	
008	Mail TX Data	
009	HDD Formatting (Data for a Design)	
010	HDD Formatting (Log)	
011	HDD Formatting (Ridoc I/F)	

5836	**[Capture Settings]**	*CTL
001	Capture Function (0:Off 1:On)	**0**: Disable, 1: Enable
	With this function disabled, the settings related to the capture feature cannot be initialized, displayed, or selected.	
002	Panel Setting	**0**: Displayed, 1: Not displayed
	Displays or does not display the capture function buttons.	
	5836-71 to 5836-76, Copier and Printer Document Reduction The following 6 SP modes set the default reduction for stored documents sent to the document management server via the MLB. Enabled only when optional MLB (Media Link Board) is installed.	
071	Reduction for Copy Color	0: 1to-1, 1: 1/2, **2: 1/3**, 3: 1/4
072	Reduction for Copy B&W Text	**0: 1to-1**, 1: 1/2, 2: 1/3, 3: 1/4
073	Reduction for Copy B&W Other	**0: 1to-1**, 1: 1/2, 2: 1/3, 3: 1/4
074	Reduction for Printer Color	0: 1to-1, 1: 1/2, **2: 1/3**, 3: 1/4
075	Reduction for Printer B&W	**0: 1to-1**, 1: 1/2, 2: 1/3, 3: 1/4
076	Reduction for Printer B&W HQ	**0: 1to-1**, 1: 1/2, 2: 1/3, 3: 1/4
5836-81 to 5836-86, Stored document format The following 6 SP modes set Sets the default format for stored documents sent to the document management server via the MLB. Enabled only when optional MLB (Media Link Board) is installed.		
081	Format for Copy Color	**0: JFIF/JPEG**, 1: TIFF/MMR, 2: TIFF/MH, 3: TIFF/MR Note ▪ This SP is not used in this model.
082	Format for Copy B&W Text	0: JFIF/JPEG, **1: TIFF/MMR**, 2: TIFF/MH, 3: TIFF/MR
083	Format for Copy B&W Other	0: JFIF/JPEG, **1: TIFF/MMR**, 2: TIFF/MH, 3: TIFF/MR

084	Format for Printer Color	**0: JFIF/JPEG**, 1: TIFF/MMR, 2: TIFF/MH, 3: TIFF/MR Note ▪ This SP is not used in this model.	
085	Format for Printer B&W	0: JFIF/JPEG, **1: TIFF/MMR**, 2: TIFF/MH, 3: TIFF/MR	
086	Format for Printer B&W HQ	0: JFIF/JPEG, 1: TIFF/MMR, **2: TIFF/MH**, 3: TIFF/MR	
091	Default for JPEG	[5 to 95 / **50** / 1 /step]	
	Sets the JPEG format default for documents sent to the document management server via the MLB with JPEG selected as the format. Enabled only when optional MLB (Media Link Board) is installed.		
101	Primary srv IP address	Sets the IP address for the primary capture server. This is basically adjusted by the remote system.	
102	Primary srv scheme	This is basically adjusted by the remote system.	
103	Primary srv port number	This is basically adjusted by the remote system.	
104	Primary srv URL path	This is basically adjusted by the remote system.	
111	Secondary srv IP address	Sets the IP address for the secondary capture server. This is basically adjusted by the remote system.	
112	Secondary srv scheme	This is basically adjusted by the remote system.	
113	Secondary srv port number	This is basically adjusted by the remote system.	
114	Secondary srv URL path	This is basically adjusted by the remote system.	
120	Default Reso Rate Switch	This is basically adjusted by the remote system.	

121	Reso: Copy (Color)	[0 to 3 / **2** / 1/step]	
	Selects the resolution for color copy mode. This is basically adjusted by the remote system. 0: 600dpi/ 1: 300dpi/ 2: 150dpi/ 3: 75dpi		
122	Reso: Copy (Mono)	[0 to 5 / **3** / 1/step]	
	Selects the resolution for BW copy mode. This is basically adjusted by the remote system. 0: 600dpi/ 1: 400dpi/ 2: 300dpi/ 3: 200dpi/ 4: 150dpi/ 5: 100dpi		
123	Reso: Print (Color)	This is basically adjusted by the remote system. [0 to 3 / **2** / 1/step]	
	Selects the resolution for color print mode. This is basically adjusted by the remote system. 0: 600dpi/ 1: 300dpi/ 2: 150dpi/ 3: 75dpi		
124	Reso: Print (Mono)	This is basically adjusted by the remote system. [0 to 5 / **3** / 1/step]	
	Selects the resolution for BW print mode. This is basically adjusted by the remote system. 0: 600dpi/ 1: 400dpi/ 2: 300dpi/ 3: 200dpi/ 4: 150dpi/ 5: 100dpi		

5840	**[IEEE 802.11]**		
006	Channel MAX	*CTL	[1 to 11 or 13 / **11 or 13** / 1 /step] Europe/Asia: 1 to 13 NA/ Asia: 1 to 11
	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. Note ▪ Do not change the setting.		

007	Channel MIN	*CTL	[1 to 11 or 13 / **1** / 1 /step] Europe: 1 to 13 NA/ Asia: 1 to 11
	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. Note ▪ Do not change the setting.		
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)
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)
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.

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.
044	11g Slot Time	*CTL	Selects the slot time for IEEE802.11. [0 to 1 / **0** / 1] 0: 20 μm, 1: 9 μm
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.

5841	**[Supply Name Setting]**		
001	Toner Name Setting: Black	*CTL	Specifies supply names. These appear on the screen when the user presses the Inquiry button in the user tools screen.
002	Toner Name Setting: Cyan		
003	Toner Name Setting: Yellow		
004	Toner Name Setting: Magenta		
007	OrgStamp		
011	Staple Std1		
012	Staple Std2		
013	Staple Std3		
014	Staple Std4		

5844	**[USB]**		
001	Transfer Rate	*CTL	0x01: Full speed **0x04: Auto Change**
	Adjusts the USB transfer rate.		
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]**	*CTL	-
	Provides items for delivery server settings.		
001	FTP Port No.	[0 to 65535 / **3670** / 1 /step]	
	Sets the FTP port number used when image files to the Scan Router Server.		
002	IP Address (Primary)	Range: **000.000.000.000** to 255.255.255.255	
	Use this SP to set the Scan Router Server address. The IP address under the transfer tab can be referenced by the initial system setting.		
006	Delivery Error Display Time	[0 to 999 / **300** / 1 second /step]	
	Use this setting to determine the length of time the prompt message is displayed when a test error occurs during document transfer with the NetFile application and an external device.		
008	IP Address (Secondary)	Range: **000.000.000.000** to 255.255.255.255	
	Specifies the IP address assigned to the computer designated to function as the secondary delivery server of Scan Router. This SP allows only the setting of the IP address without reference to the DNS setting.		

009	Delivery Server Model	[0 to 4/ **0** / 1 /step]
	Allows changing the model of the delivery server registered by the I/O device. 0: Unknown 1: SG1 Provided 2: SG1 Package 3: SG2 Provided 4: SG2 Package	
010	Delivery Svr Capability	[0 to 255 / **0** / 1 /step]
	Changes the capability of the registered that the I/O device registered.	
	Bit7 = 1 Comment information exits	
	Bit6 = 1 Direct specification of mail address possible	
	Bit5 = 1 Mail RX confirmation setting possible	
	Bit4 = 1 Address book automatic update function exists	
	Bit3 = 1 Fax RX delivery function exists	
	Bit2 = 1 Sender password function exists	
	Bit1 = 1 Function to link MK-1 user and Sender exists	
	Bit0 = 1 Sender specification required (if set to 1, Bit6 is set to "0")	
011	Delivery Svr Capability (Ext)	[0 to 255 / **0** / 1 /step]
	Changes the capability of the registered that the I/O device registered.	
	Bit7 = 1 Address book usage limitation (Limitation for each authorized user) Bit6 = 1 RDH authorization link Bit5 to 0: Not used	
022	Rapid Sending Control	
	Enables or disables the prevention function for the continuous data sending error. [0 to 1 / **0** / -] 0: Disable, 1: Enable	

5846	**[UCS Settings]**	*CTL	-
001	Machine ID (For Delivery Server)		Displays ID
	Displays the unique device ID in use by the delivery server directory. The value is only displayed and cannot be changed. This ID is created from the NIC MAC or IEEE 1394 EUI. The ID is displayed as either 6-byle or 8-byte binary.		
002	Machine ID Clear (For Delivery Server)		Clears ID
	Clears the unique ID of the device used as the name in the file transfer directory. Execute this SP if the connection of the device to the delivery server is unstable. After clearing the ID, the ID will be established again automatically by cycling the machine off and on.		
003	Maximum Entries		[2000 to 20000/ **2000** /1 /step]
	Changes the maximum number of entries that UCS can handle. If a value smaller than the present value is set, the UCS managed data is cleared, and the data (excluding user code information) is displayed.		
006	Delivery Server Retry Timer		[0 to 255 / **0** / 1 /step]
	Sets the interval for retry attempts when the delivery server fails to acquire the delivery server address book.		
007	Delivery Server Retry Times		[0 to 255 / **0** / 1 /step]
	Sets the number of retry attempts when the delivery server fails to acquire the delivery server address book.		
008	Delivery Server Maximum Entries		[2000 to 50000 / **2000** / 1/step]
	Sets the maximum number account entries of the delivery server user information managed by UCS.		
010	LDAP Search Timeout		[1 to 255 / **60** / 1 /step]
	Sets the length of the timeout for the search of the LDAP server.		
020	WSD Maximum Entries		

040	Addr Book Migration (SD => HDD)	
	Not used in this machine.	
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.
048	Initialize Delivery Addr Book	Clears the distribution address book information, except 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.	
091	FTP Auth Port Setting	Specifies the FTP port for getting a distribution server address book that is used in the identification mode. [0 to 65535 / **3671** / 1 /step]
094	Encryption Stat	Shows the status of the encryption function for the address book data.

5847	**[Rep Resolution Reduction]**	*CTL	-
	SP5847-1 through SP5847-8 changes the default settings of image data transferred externally by the Net File page reference function. [0 to 5 / **2** / 1 /step] SP5847-21 sets the default for JPEG image quality of image files handled by NetFile. "Net files" are jobs to be printed from the document server using a PC and the DeskTopBinder software.		
001	Rate for Copy Color	0: 1x 1: 1/2x **2: 1/3x** 3: 1/4x 4: 1/6x 5: 1/8x	
002	Rate for Copy B&W Text		
003	Rate for Copy B&W Other		
004	Rate for Printer Color		
005	Rate for Printer B&W		

021	Network Quality Default for JPEG
	Sets the default value for the quality of JPEG images sent as NetFile pages. This function is available only with the MLB (Media Link Board) option installed. [5 to 95 / **50** / 1 /step]

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.		
002	Access Ctrl: Repository (only Lower 4 bits)	0000: No access control 0001: Denies access to DeskTop Binder. **0010**: No writing control	
003	Access Ctrl: Doc. Svr. Print (Lower 4 bits)	Switches access control on and off. **0000**: No access control 0001: Denies access to DeskTop Binder.	
004	Access Ctrl: user Directory (only Lower 4 bits)		
007	Access Ctrl: Comm. Log Fax (Lower 4 bits)		
009	Access Ctrl: Job Ctrl (Lower 4 bits)		
011	Access Ctrl: Device management (Lower 4 bits)		
021	Access Ctrl: Delivery (Lower 4 bits)		
022	Access Ctrl: uadministration (Lower 4bits)		
100	Repository: Download Image Max. Size	Specifies the max size of the image data that the machine can download.	

		[1 to 1024 / **1024** / 1 MB /step]

5849	**[Installation Date]**	*CTL	-
5849 1	Display	The "Counter Clear Day" has been changed to "Installation Date" or "Inst. Date".	
5849 2	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]

5853	**[Stamp Data Download]**
	Use this SP to download the fixed stamp data stored in the firmware of the ROM and copy it to the HDD. This SP can be executed as many times as required. This SP must be executed after replacing or formatting the hard disks. Note ▪ This SP can be executed only with the hard disks installed.

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 copier 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	**-**
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

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).

5875	**[SC Auto Reboot]**		
001	Reboot Setting	*CTL	Enables or disables the automatic reboot function when an SC error occurs. [0 or 1/ **0** / –] 0: The machine reboots automatically when the machine issues an SC error and logs the SC error code. If the same SC occurs again, the machine does not reboot. 1: The machine does not reboot when an SC error occurs. The reboot is not executed for Type A or C SC codes.

002	Reboot Type	*CTL	Selects the reboot method for SC. [0 or 1 / **0** / -] 0: Manual reboot, 1: Automatic reboot

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.

5881	**[Fixed Phrase Block Erasing]**		
001	-	*ENG	Deletes the fixed phrase.

5884	**[Plain 1/2 Setting]**		
	Select the paper type (plain 1 or plain 2) for each tray.		
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	

5885	**[Set WIM Function]** Web Image Monitor Settings		
	Close or disclose the functions of web image monitor.		
020	Document Server ACC Ctrl	*CTL	0: OFF, 1: ON Bit Meaning 0: Forbid all document server access (1) 1: Forbid user mode access (1) 2: Forbid print function (1) 3: Forbid fax TX (1) 4: Forbid scan sending (1) 5: Forbid downloading (1) 6: Forbid delete (1) 7: Reserved
050	DocSvr Format	*CTL	Selects the display type for the document box list. [0 to 2 / **0** / 1] 0: Thumbnail, 1: Icon, 2: Details
051	DocSvr Trans	*CTL	Sets the number of documents to be displayed in the document box list. [5 to 20 / **10** / 1]
100	Set Signature	*CTL	[0 to 2 / **0** / 1/step] 0: Signature for each e-mail 1: Signature for all e-mails 2: No signature
	Selects whether the signature is added to the scanned documents with the WIM when they are transmitted by an e-mail.		
101	Set Encryption	*CTL	Determines whether the scanned documents with the WIM are encrypted when they are transmitted by an e-mail. [0 or 1 / **0** / 1] 0: Not encrypted, 1:Encryption
200	Detect Mem Leak	*CTL	Not used

201	DocSur Timeout	*CTL	Not used

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)

5894	**[External Counter Setting]**		
	-		
001	Switch Charge Mode	*ENG	[0 to 2 / **0** / 1/step]

5896	**[Copy/PrinterPriority]**		
001	-		[0 or 1 / **0** / -]
	Selects the priority memory type. The larger memory is used for the selected mode (copy or printer). 0: Copy priority, 1: Printer priority		

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 the "Original Type" key and "#" key at the same time. When the setting is completed, the beeper sounds five times.

5913	**[Switchover Permission Time]**		
002	Print Application Timer	*CTL	[3 to 30 / **3** / 1 second /step]
	Sets the amount of time to elapse while the machine is in standby mode (and the operation panel keys have not been used) before another application can gain control of the display.		

5967	**[Copy Server Set Function]**	*CTL	**0**: ON, 1: OFF
001	Enables and disables the document server. This is a security measure that prevents image data from being left in the temporary area of the HDD. After changing this setting, you must switch the main switch off and on to enable the new setting.		

5974	**[Cherry Server]**		
	Specifies which version of ScanRouter, "Lite" or "Full", is installed.		
001	Cherry Server	*CTL	[0 or 1 / **0** / –] 0: Lite, 1: Full

5985	**[Device Setting]**	
	The NIC and USB support features are built into the GW controller. Use this SP to enable and disable these features. In order to use the NIC and USB functions built into the controller board, these SP codes must be set to "1".	
001	On Board NIC	[0 to 2 / **0** / 1 /step] 0: Disable, 1: Enable, 2: Function limitation When the "Function limitation" is set, "On board NIC" is limited only for the NRS or LDAP/NT authentication. ↓ Note ▪ Other network applications than NRS or LDAP/NT authentication are not available when this SP is set to "2". Even though you can change the initial settings of those network applications, the settings do not work.
002	On Board USB	[0 or 1 / **0** / 1/step] 0: Disable, 1: Enable

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)	-	
003	User Program	-	
004	Logging Data	-	
005	Diagnostic Report	-	

006	Non-Default	-	
007	NIB Summary	-	
008	Capture Log	-	
021	Copier User Program	-	
022	Scanner SP	-	
023	Scanner User Program	-	

001		This SP detects that a mechanical counter device is removed. If it is detected, SC610 occurs.

5997	**[Fusing Cont mode]**		
001	fast/silent	-	[0 or 1 / **1** / -] 0: Off, 1: On
	Turns on or off the fusing unit preceding mode. The machine turns on the fusing unit first by default after power-on or recovery from the energy save mode. If a customer does not want the fusing unit to rotate before sending a job to the machine, change this setting to "0". In this case, the first print time or recovery time may be little bit longer than before.		

5.7 MAIN SP TABLES-6

5.7.1 SP6-XXX (PERIPHERALS)

6006	**[ADF Adjustment]**		
	Adjusts the side-to-side and leading registration of originals with the ARDF.		
001	S-to-S Registration 1st	*ENG	[-3.0 to 3.0 / **0** / 0.1 mm/step]
002	S-to-S Registration 2nd		
003	Leading Edge Registration		[-5.0 to 5.0 / **0** / 0.1 mm/step]
	Adjusts the amount of paper buckle to correct original skew for the front and rear sides.		
005	Buckle: Duplex: 1st	*ENG	[-5.0 to 5.0 / **0** / 0.1 mm/step]
006	Buckle: Duplex: 2nd		
	Adjusts the erase margin at the original trailing edge.		
007	Trailing Edge Erase	*ENG	[-5.0 to 5.0 / **0** / 0.1 mm/step]

6007	**[ADF INPUT Check]**
	Displays the signals received from the sensors and switches of the ARDF. Only Bit 0 is used for ADF input check (☛ "Iutput Check Table" in this section").

6008	**[ADF OUTPUT Check]**
	Activates the electrical components for functional check. It is not possible to activate more than one component at the same time (☛ "Output Check Table" in this section")

6009	**[ADF Free Run]**		
	Performs a DF free run in simplex, duplex mode or stamp mode.		
002	Free Run Duplex Mode	-	

6010	**[Stamp Position Adj.]** Fax Stamp Position Adjustment		
	Adjusts the horizontal position of the stamp on the scanned originals.		
001	-	*ENG	[-5.0 to 5.0 / **0** / 1 mm/step]

6016	**[Original Size Detection Priority]** Original Size Detection Priority			
	Specifies the original size for a size detected by the original sensor, since original sensors cannot recognize all sizes.			
001	-	*ENG	[0 or 1 / **0** / -] 0: Setting 1 1: Setting 2	
		NA	Setting 1	Setting 2
			DLT SEF	Folio SEF 11" x 15"
			LG SEF	Foolscap SEF
			LT SEF	US EXE 8" x 10"
			LT LEF	US EXE LEF
		EU/ ASIA	DLT SEF	8K 267 x 390 mm
			LT SEF	16K 195 x 267 mm
			LT LEF	16K 267 x 195 mm

6017	**[DF Magnification Adj.]** DF Magnification Adjustment		
	Adjusts the magnification in the sub-scan direction for the ARDF.		
001	-	*CTL	[-5.0 to 5.0 / **0** / 0.1 %/step]

6101	**[Staple Position Adjustment]**		
	Adjusts the staple position for finisher. + Value: Moves the staple position to the rear side. - Value: Moves the staple position to the front side.		
001	-	ENG	[-2 to 2 / **0** / 0.2mm/step]

6102	**[Punch Position Adjustment]**		
	Adjusts the punching position in the sub scan direction.		
001	Leading Edge Adjustment	ENG	[-1.5 to 1.5 / **0** / 0.1mm/step]

6103	**[Jogger Position Adjustment]**		
	Adjusts the jogger position		
001	-	ENG	[-4 to 4 / **0** / 0.1mm/step]

6104	**[Punch Position Adjustment]**		
	Adjusts the punching position in the main scan direction.		
001	Side-to-Side Adjustment	ENG	[-2.0 to 2.0 / **0** / 0.2mm/step]

6120	**[Finisher Input Check] Finisher (D429)**
	Displays the signals received from sensors and switches of the finisher. (☞ "Iutput Check Table" in this section")

6121	**[Finisher Output Check] Finisher (D429)**
	Displays the signals received from sensors and switches of the finisher. (☞ "Output Check Table" in this section")

5.8 MAIN SP TABLES-7

5.8.1 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		

7502	**[Total Paper Jam Counter]**		
	Displays the total number of jams detected.		
001	-	* CTL	[0 to 9999 / **0** / 1 sheet/step]

7503	**[Total Original Jam Counter]**		
	Displays the total number of original jams.		
001	-	*CTL	[0 to 9999 / **0** / 1 original/step]

7504	**[Paper Jam Location]** ON: On check, OFF: Off Check		
	Displays the number of jams according to the location where jams were detected. **NOTE:** The LCT is counted as the 3rd feed station.		
001	At Power On	*CTL	For details, ☛ p.6-137 "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	
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	1-Bin Exit Sensor	*CTL	For details, ☛ p.6-137 "Jam Detection"
051	SEF Sensor 1	*CTL	

052	SEF Sensor 2	*CTL	
053	Bank SEF Sensor 1	*CTL	
057	Regist Sensor	*CTL	
059	Fusing Exit Sensor	*CTL	
060	Exit Sensor	*CTL	
065	Duplex Exit Sensor	*CTL	
068	1-Bin Exit: ON	*CTL	
240	Finisher Entrance	*CTL	For details, ☛ p.6-137 "Jam Detection"
241	Finisher Shift Tray Exit	*CTL	
242	Finisher Staple	*CTL	
243	Finisher Exit	*CTL	
244	Finisher Drive Motor	*CTL	
245	Finisher Tray Lift Motor	*CTL	
246	Finisher Jogger Motor	*CTL	
247	Finisher Shift Motor	*CTL	
248	Finisher Staple Motor	*CTL	
249	Finisher Exit Motor	*CTL	
250	Finisher Entrance	*CTL	
251	Finisher Proof Exit	*CTL	

7505	**[Original Jam Detection]**		
	Displays the total number of original jams by location.		
001	At Power On	*CTL	For details, ☛ p.6-137 "Jam Detection"
003	Skew Correction: ON		
004	Registration: ON		
005	Paper Exit: ON		
053	Skew Correction: OFF		
054	Registration: OFF		
055	Paper Exit: OFF		

7506	**[Jam Count by Paper Size]**		
	Displays the number of jams according to the paper size.		
005	A4 LEF	*CTL	[0 to 9999 / **0** / 1 sheet/step]
006	A5 LEF		
014	B5 LEF		
038	LT LEF		
044	HLT LEF		
132	A3 SEF		
133	A4 SEF		
134	A5 SEF		
141	B4 SEF		
142	B5 SEF		
160	DLT 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		

7508	**[Original Jam History]**		
	Displays the 10 most recently detected original 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		

7624	**[Parts PM Use Setting]**		
001	PCU:Bk	*CTL	[0 or 1 / **1** / -] 0: No (Not PM maintenance) 1: Yes (PM maintenance)
002	PCU:M	*CTL	
003	PCU:C	*CTL	
004	PCU:Y	*CTL	
005	Dev Unit:Bk	*CTL	
006	Dev Unit:M	*CTL	
007	Dev Unit:C	*CTL	
008	Dev Unit:Y	*CTL	
009	Image Transfer Belt	*CTL	
010	ITB Cleaning Unit	*CTL	
011	Fusing Unit	*CTL	
012	PTR Unit	*CTL	
013	PCU Toner Collection Bottle	*CTL	

7801	**[ROM No./Firmware Version]**		
255	-	*CTL	Displays all versions and ROM numbers in the machine.

7803	**[PM Counter Display]**
	(Page, Unit, [Color])
-001 to -021	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 21.
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
010	Page: Developer: Bk
011	Page: Developer: C
012	Page: Developer: M
013	Page: Developer: Y
014	Page: ITB Unit
015	Page: ITB Cleaning Unit

016	Page: Fusing Unit
017	Page:Fusing Pad
018	Page: Fusing Belt
019	Page:PTR Unit
020	Page:ITB T-Collect Bottle
021	Page:PCU 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 48) and is reset to "0". The total number of revolutions made with the last unit replaced can be checked with SP7-906-31 to 48.
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 Pad
047	Rotation: Fusing Belt
048	Rotation: PTR Unit
-049 to -050	[0 to 999999999 / - / 1 mg/step] Displays the total amount of each toner collection bottle.
049	Amount:ITB T-Collect Bottle
050	Amount:PCU 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
069	Rotation (%): Developer: Bk
070	Rotation (%): Developer: C
071	Rotation (%): Developer: M

072	Rotation (%): Developer: Y		
073	Rotation (%): ITB Unit		
074	Rotation (%): ITB Cleaning Unit		
075	Rotation (%): Fusing Unit		
076	Rotation (%): Fusing Pad		
077	Rotation (%): Fusing Belt		
078	Rotation (%):PTR Unit		
-079 to -080	[0 to 255 / - / 1 %/step] Displays how much of the unit's expected lifetime has been used up.		
079	Amt(%):ITB T-Collect Bottle		
080	Amt(%):PCU 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		
099	Page (%): Developer: Bk		

100	Page (%): Developer: C	*ENG	[0 to 255 / - / 1 %/step]
101	Page (%): Developer: M		
102	Page (%): Developer: Y		
103	Page (%): ITB Unit		
104	Page (%): ITB Cleaning Unit		
105	Page (%): Fusing Unit		
106	Page (%): Fusing Pad		
107	Page (%): Fusing Belt		
108	Page (%): PTR Unit		

7804	**[PM Counter Reset]** PM Counter Clear
	(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
012	Developer: Bk
013	Developer: C
014	Developer: M
015	Developer: Y
016	Developer: All
017	ITB Unit
018	ITB Cleaning Unit
019	Fusing Unit
020	Fusing Pad
021	Fusing Belt
022	PTR Unit
023	ITB T-Collect Bottle
024	PCU T-Collect Bottle
100	All

7807	**[SC/Jam Counter Reset]**		
	Clears the counters related to SC codes and paper jams.		
001	-	*CTL	-

7826	**[MF Error Counter] Japan Only**		
001	Error Total	*CTL	-
002	Error Staple	*CTL	-

7827	**[MF Error Counter Clear] Japan Only**		
	-	*CTL	**-**

7832	**[Self-Diagnose Result Display]**		
	Displays the result of the diagnostics.		
001	-	*CTL	-

7835	**[ACC Counter]**		
001	Copy ACC	-	Displays the ACC exectuion times for each mode.
002	Printer ACC	--	

7836	**Total Memory Size** (CTL)		
	Displays the memory capacity of the controller system.		
001	-	*CTL	-

7852	**[DF Glass Dust Check]**		
	Counts the number of occurrences (0 to 65,535) when dust was detected on the scanning glass of the ADF or resets the dust detection counter. Counting is done only if SP4-020-1 (ADF Scan Glass Dust Check) is switched on.		
001	Dust Detection Counter	*CTL	[0 to 65535 / - / 1 /step]
002	Dust Detection Clear Counter	*CTL	

7853	**[Replacement Counter]**		
	Displays the PM parts replacement number.		
001	PCU: Bk	*CTL	[0 to 255 / - / 1 /step]
002	PCU: C	*CTL	
003	PCU: M	*CTL	
004	PCU: Y	*CTL	
005	Development Unit: Bk	*CTL	

006	Development Unit: C	*CTL	
007	Development Unit: M	*CTL	
008	Development Unit: Y	*CTL	
009	Developer: Bk	*CTL	
010	Developer: C	*CTL	
011	Developer: M	*CTL	
012	Developer: Y	*CTL	
013	ITB Unit	*CTL	
014	ITB Cleaning Unit	*CTL	
015	Fusing Unit	*CTL	
016	Fusing Pad	*CTL	
017	Fusing Belt	*CTL	
018	PTR Unit	*CTL	[0 to 255 / - / 1 /step]
019	ITB T-Collect Bottle	*CTL	
020	PCU T-Collect Bottle	*CTL	

7855	**[Coverage Range]**
	Sets the color coverage threshold. Coverage rate = Coverage per page / A4 full coverage (dots) x 100 There are three coverage counters: Color 1, Color 2, and Color 3 ▪ [A] 5% (default) is adjustable with SP7855-001. ▪ [B] 20% (default) is adjustable with SP7855-002. Note ▪ The setting value [B] must be set larger than [A]. The total numbers of printouts (BW printing plus color printing) for each coverage range are displayed with the following SPs. ▪ Color1 counter: SP8601-021 ▪ Color2 counter: SP8601-022 ▪ Color3 counter: SP8601-023

001	Coverage Range 1	*CTL	[1 to 200 / **5** /1]
002	Coverage Range 2	*CTL	[1 to 200 / **20** /1]

7906	**[Prev. Unit PM Counter]**	
	(Page or Rotations, Unit, [Color]), Dev.: Development Unit	*ENG
-001 to -020	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	
009	Page: Developer: Bk	
010	Page: Developer: C	
011	Page: Developer: M	
012	Page: Developer: Y	
013	Page: ITB Unit	
014	Page: ITB Cleaning Unit	
015	Page: Fusing Unit	
016	Page: Fusing Pad	
017	Page: Fusing Belt	
018	Page: PTR Unit	
019	Page:ITB T-Collect Bottle	

020	Page:PCU T-Collect Bottle
-031 to -050	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
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 Pad
047	Rotation: Fusing Belt
048	Rotation: PTR Unit
049	Rotation:ITB T-Collect Bottle
050	Rotation:PCU T-Collect Bottle
-061 to -080	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
069	Rotation %: Developer: Bk
070	Rotation %: Developer: C
071	Rotation %: Developer: M
072	Rotation %: Developer: Y
073	Rotation %: ITB Unit
074	Rotation %: ITB Cleaning Unit
075	Rotation %: Fusing Unit
076	Rotation %: Fusing Pad
077	Rotation %: Fusing Belt
078	Rotation %: PTR Unit
079	Rotation %:ITB T-Collect Bottle
080	Rotation %:PCU 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
099	Page (%): Developer: Bk
100	Page (%): Developer: C
101	Page (%): Developer: M
102	Page (%): Developer: Y
103	Page (%): ITB Unit
104	Page (%): ITB Cleaning Unit
105	Page (%): Fusing Unit
106	Page (%): Fusing Pad
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	*EGN	
003	Brand ID	*EGN	
004	Area ID	*EGN	
005	Product ID	*EGN	

006	Color ID	*EGN	
007	Maintenance ID	*EGN	
008	New Product Information	*EGN	
009	Recycle Counter	*EGN	
010	Date	*EGN	
011	Serial No.	*EGN	
012	Toner Remaining	*EGN	
013	EDP Code	*EGN	-
014	End History	*EGN	
015	Refill Information	*EGN	
016	Attachment: Total Counter	*EGN	
017	Attachment: Color Counter	*EGN	
018	End: Total Counter	*EGN	
019	End: Color Counter	*EGN	
020	Attachment Date	*EGN	
021	End Date	*EGN	

7932	**[Toner Bottle M]**		
	Displays the toner bottle information for M.		
001	Machine Serial ID	*ENG	-
002	Cartridge Ver	*EGN	
003	Brand ID	*EGN	
004	Area ID	*EGN	
005	Product ID	*EGN	
006	Color ID	*EGN	

007	Maintenance ID	*EGN	
008	New Product Information	*EGN	
009	Recycle Counter	*EGN	
010	Date	*EGN	
011	Serial No.	*EGN	
012	Toner Remaining	*EGN	
013	EDP Code	*EGN	-
014	End History	*EGN	
015	Refill Information	*EGN	
016	Attachment: Total Counter	*EGN	
017	Attachment: Color Counter	*EGN	
018	End: Total Counter	*EGN	
019	End: Color Counter	*EGN	
020	Attachment Date	*EGN	
021	End Date		

7933	**[Toner Bottle C]**		
	Displays the toner bottle information for C.		
001	Machine Serial ID	*ENG	-
002	Cartridge Ver	*EGN	
003	Brand ID	*EGN	
004	Area ID	*EGN	
005	Product ID	*EGN	
006	Color ID	*EGN	
007	Maintenance ID	*EGN	

008	New Product Information	*EGN	
009	Recycle Counter	*EGN	
010	Date	*EGN	
011	Serial No.	*EGN	
012	Toner Remaining	*EGN	
013	EDP Code	*EGN	-
014	End History	*EGN	
015	Refill Information	*EGN	
016	Attachment: Total Counter	*EGN	
017	Attachment: Color Counter	*EGN	
018	End: Total Counter	*EGN	
019	End: Color Counter	*EGN	
020	Attachment Date	*EGN	
021	End Date	*EGN	

7934	**[Toner Bottle Y]**		
	Displays the toner bottle information for Y.		
001	Machine Serial ID	*ENG	-
002	Cartridge Ver	*EGN	
003	Brand ID	*EGN	
004	Area ID	*EGN	
005	Product ID	*EGN	
006	Color ID	*EGN	
007	Maintenance ID	*EGN	
008	New Product Information	*EGN	

009	Recycle Counter	*EGN	
010	Date	*EGN	
011	Serial No.	*EGN	-
012	Toner Remaining	*EGN	
013	EDP Code	*EGN	
014	End History	*EGN	
015	Refill Information	*EGN	
016	Attachment: Total Counter	*EGN	
017	Attachment: Color Counter	*EGN	
018	End: Total Counter	*EGN	
019	End: Color Counter	*EGN	
020	Attachment Date	*EGN	
021	End Date	*EGN	

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

014	Attachment Date		information log 4 for M.
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	*EGN	
003	PTR Unit	*EGN	
004	Fusing Unit	*EGN	
005	Fusing Pad	*EGN	
006	Fusing Belt	*EGN	
013	PCU: Bk	*EGN	
014	PCU: C	*EGN	
015	PCU: M	*EGN	
016	PCU: Y	*EGN	
017	Development Unit:Bk	*EGN	-
018	Development Unit:C	*EGN	
019	Development Unit:M	*EGN	
020	Development Unit:Y	*EGN	
021	Developer:Bk	*EGN	
022	Developer:C	*EGN	
023	Developer:M	*EGN	
024	Developer:Y	*EGN	

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		
009	Page: Developer: Bk		
010	Page: Developer: C		
011	Page: Developer: M		
012	Page: Developer: Y		
013	Page: ITB Unit		
014	Page: ITB Cleaning Unit		
015	Page: Fusing Unit		
016	Page: Fusing Pad		
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 Pad
047	Rotation: Fusing Belt
048	Rotation:PTR Unit
049	Rotation:ITB T-Collect Bottle
050	Rotation:PCU T-Collect Bottle

7952	**[PM Yield Setting]**		
	Adjusts the unit yield of each PM unit.		
001	Rotation: ITB Unit	*EGN	[0 to 999999999 / **172177000** / 1000 mm/step]
002	Rotation: ITB Cleaning Unit	*EGN	[0 to 999999999 / **129133000** / 1 mm/step]
003	Rotation: Fusing Unit	*EGN	[0 to 999999999 / **87264000** / 1000 mm/step]
004	Rotation: Fusing Roller	*EGN	

005	Rotation: Fusing Belt	*EGN	
006	Rotation:PTR Unit	*EGN	[0 to 999999999 / **172177000** / 1000 mm/step]
007	Amount:ITB T-Collect Bottle	*EGN	[0 to 999999999 / **300000** / 1000 mg/step]
008	Amount:PCU T-Collect Bottle		
011	Page: ITB Unit	*EGN	[0 to 999999 / **240000** / 1000 sheet/step]
012	Page: ITB Cleaning Unit	*EGN	[0 to 999999 / **180000** / 1 sheet/step]
013	Page: Fusing Unit	*EGN	[0 to 999999 / **144000** / 1 sheet/step]
014	Page: Fusing Pad	*EGN	
015	Page: Fusing Belt	*EGN	
016	Page: PTR Unit	*EGN	[0 to 999999 / **240000** / 1 sheet/step]
021	Day Threshold: PCU: Bk	*EGN	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	*EGN	
023	Day Threshold: PCU: M	*EGN	
024	Day Threshold: PCU: Y	*EGN	
025	Day Threshold: Development Unit: Bk	*EGN	
026	Day Threshold: Development Unit: C	*EGN	
027	Day Threshold: Development Unit: M	*EGN	
028	Day Threshold: Development Unit: Y	*EGN	
029	Day Threshold: Developer: Bk	*EGN	Adjusts the threshold day of the near end for each PM unit.

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030	Day Threshold: Developer: C	*EGN	[1 to 30 / **15** / 1 day/step] These threshold days are used for @Remote alarms.
031	Day Threshold: Developer: M	*EGN	
032	Day Threshold: Developer: Y	*EGN	
033	Day Threshold: ITB Unit	*EGN	
034	Day Threshold: ITB Cleaning Unit	*EGN	
035	Day Threshold: Fusing Unit	*EGN	
036	Day Threshold: Fusing Roller	*EGN	
037	Day Threshold: Fusing Belt	*EGN	
038	Rotation: PCU: Bk	*EGN	[0 to 999999999 / **0** / 1 mm/step]
039	Rotation: PCU: C		
040	Rotation: PCU: M		
041	Rotation: PCU: Y		
042	Rotation: Development Unit: Bk	*EGN	[0 to 999999999 / **0** / 1 mm/step]
043	Rotation: Development Unit: C	*EGN	
044	Rotation: Development Unit: M	*EGN	
045	Rotation: Development Unit: Y	*EGN	
046	Rotation: Developer: Bk	*EGN	[0 to 999999999 / **0** / 1 mm/step]
047	Rotation: Developer: C		

048	Rotation: Developer: M		
049	Rotation: Developer: Y		
050	Page: PCU: Bk	*EGN	[0 to 999999 / **0** / 1 sheet/step]
051	Page: PCU: C		
052	Page: PCU: M		
053	Page: PCU: Y		
054	Page: Development Unit: Bk	*EGN	[0 to 999999 / **0** / 1 sheet/step]
055	Page: Development Unit: C		
056	Page: Development Unit: M		
057	Page: Development Unit: Y		
058	Page: Developer: Bk	*EGN	[0 to 999999 / **0** / 1 sheet/step]
059	Page: Developer: C		
060	Page: Developer: M		
061	Page: Developer: Y		
062	Day Threshold:PTR Unit	*EGN	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:ITB T-Collect Bttl		
064	Day Thresh:PCU 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	*CTL	[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	*CTL	[0 to 99999999 / - / 1 mm/step]
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	-

5.9 MAIN SP TABLES-8

5.9.1 INPUT AND OUTPUT CHECK TABLES

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

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5803	**Description**	**Reading**	
		0	**1**
5803 1	C-Dev. Mtr:LOCK	Normal	Lock
5803 2	C-Drum Mtr:LOCK	Normal	Lock
5803 3	Bk-Drum/Dev. Mtr:LOCK	Normal	Lock
5803 4	ITB Mtr:LOCK	Normal	Lock
5803 5	Fusing/P-Exit Mtr:LOCK	Normal	Lock
5803 6	Electrical FAN:LOCK	Normal	Lock
5803 7	Fusing Fan:LOCK	Normal	Lock
5803 8	Dev. Front Fan:LOCK	Normal	Lock
5803 9	Dev. Rear Fan:LOCK	Normal	Lock
5803 10	Fusing Exit Fan:LOCK	Normal	Lock
5803 11	LD Unit FAN:LOCK	Normal	Lock
5803 12	Jun. Gate SOL Fan:LOCK	Normal	Lock
5803 13	Fusing:New Detection	New	Not new

5803 14	Fusing:Area Detection	-	-
5803 15	Zero Cross	Not detected	Detected
5803 16	Regist Sensor	Paper detected	No paper detected
5803 17	Drum Phase Sn:Bk	Actuator not detected	Actuator detected
5803 18	Drum Phase Sn:Color	Actuator not detected	Actuator detected
5803 19	Inverter Sensor	Inverter gate open	Inverter gate close
5803 20	Duplex Exit Sensor	Paper detected	No paper detected
5803 21	Duplex Entrance Sensor	Paper detected	No paper detected
5803 22	ID/MUSIC Sn Shutter HP Sn (PTR Contact Sensor)	HP	Not HP
5803 23	HVPS:CB	-	-
5803 24	HVPS:T	-	-
5803 25	Right Door Open SW	Door close	Door open
5803 26	Right Lower Cover OP SW	Cover close	Cover open
5803 27	Mechanical Counter:Bk	Not set	Set
5803 28	Mechanical Counter:FC	Not set	Set
5803 29	Key Counter Set Sensor	Set	Not set
5803 30	Key Card Set Sensor	Set	Not set
5803 31	Toner End Sensor: K	End	Not end
5803 32	Toner End Sensor: C	End	Not end
5803 33	Toner End Sensor: M	End	Not end
5803 34	Toner End Sensor: Y	End	Not end
5803 35	Fusing Entrance Sensor	Paper detected	No paper detected
5803 36	Fusing Exit Sensor	Paper detected	No paper detected

5803 37	Paper Exit Sensor	Paper detected	No paper detected
5803 38	ITB Contact HP Sensor	HP (Contact)	Not HP (not contact)
5803 39	ITB T-Collect Bttl:Set SW	Set	Not set
5803 40	PCU T-Collect Bttl:Set SW	Set	Not set
5803 41	PCU T-Collect Bttl Full Sn	Full	Not full
5803 42	Vertical Transport 1 Sn	Paper detected	No paper detected
5803 43	Vertical Transport 2 Sn	Paper detected	No paper detected
5803 44	Tray1 Size Detection SW	See "Table 1" below.	
5803 45	Tray2 Size Detection SW	See "Table 1" below.	
5803 46	Bypass Size Detection SW	See "Table 2" below.	
5803 47	Bypass Length Detection Sn	Detected	Not detect
5803 48	Bypass HP Sensor	HP	Not HP
5803 49	Tray1 Paper End Sensor	Not end	End
5803 50	Tray2 Paper End Sensor	Not end	End
5803 51	Bypass Paper End Sensor	Not end	End
5803 52	Tray1 Set SW	Set	Not set
5803 53	Tray2 Set SW	Set	Not set
5803 54	Interlock SW 1	Door close	Door open
5803 55	Interlock SW 2	Door close	Door open
5803 56	DIP SW	-	-
5803 57	BCU Version	-	-
5803 58	PCU T-Collect Motor Set	Not set	Set
5803 59	Reserve Fan:LOCK	Lock	Normal
5803 70	R-Tray Paper Exit Sensor	Paper detected	No paper detected

5803 71	R-Tray Set Sensor	Set	Not set
5803 72	1-Bin:Transport Sensor	Paper detected	No paper detected
5803 73	1-Bin:Paper Sensor	Paper detected	No paper detected
5803 74	1-Bin Set Detection	Set	Not set
5803 75	Shift Tray:Half Turn Sn	Not HP	HP
5803 76	Shift Tray Set Detection	Not set	Set
5803 77	1T PFU:Size Sensors	See "Table 4".	
5803 78	1T PFU:Paper Lift Sn	Not upper limit	Upper limit
5803 79	1T PFU:Paper Height Sn	-	-
5803 80	1T PFU:Right Cover SW	Open	Close
5803 81	1T PFU:Set Detection	Not set	Set
5803 82	1T PFU:Paper End Sn	Not end	End
5803 83	2T PFU:Upper Size Sns	See "Table 4" below.	
5803 84	2T PFU:Lower Size Sns		
5803 85	2T PFU:Upper Paper Lift Sn	Not upper limit	Upper limit
5803 86	2T PFU:Lower Paper Lift Sn	Not upper limit	Upper limit
5803 87	2T PFU:Upper Paper Height Sn	-	-
5803 88	2T PFU:Lower Paper Height Sn	-	-
5803 89	2T PFU:Right Cover SW	Open	Close
5803 90	2T PFU:Upper PE Sn	Not end	End
5803 91	2T PFU:Lower PE Sn	Not end	End
5803 92	2T PFU:V-Transport Sn	Paper detected	No paper detected
5803 94	LD OFF Check:Factory	-	-

5803 200	Scanner HP Sensor	Not HP	HP
5803 201	Platen Cover Sensor	Open	Close

Table 1: Paper Size Switch (Tray 1/ 2):

Switch 1 is used for tray set detection.

0: Pushed, 1: Not pushed

Models		**Bit**		
North America	**Europe/Asia**	**2**	**1**	**0**
11" x 17" SEF*[1] (A3 SEF)	A3 SEF*[1] (11" x 17" SEF)	1	0	0
8.5" x 14" SEF *[2] (B4 SEF)	B4 SEF *[2] (8.5" x 14" SEF)	0	0	0
A4 SEF	A4 SEF	0	1	1
8.5" x 11" SEF	8.5" x 11" SEF	1	1	1
B5 SEF	B5 SEF	1	1	0
11" x 81/2" LEF*[3] (A4 LEF)	A4 LEF*[3] (11" x 81/2" LEF)	0	0	1
10.5" x 7.25" LEF*[4] (B5 LEF)	B5 LEF*[4] (10.5" x 7.25" LEF)	0	1	0
A5 LEF	A5 LEF	1	0	1

*1: The machine detects either 11" x 17" SEF or A3 SEF, depending on the setting of SP 5-181-002 (Tray 1) or SP 5-181-006 (Tray 2).

*2: The machine detects either 8.5" x 14" SEF or B4 SEF, depending on the setting of SP 5-181-003 (Tray 1) or SP 5-181-007 (Tray 2).

*3: The machine detects either 11" x 81/2" LEF or A4 LEF, depending on the setting of SP 5-181-001 (Tray 1) or SP 5-181-005 (Tray 2).

*4: The machine detects either B5 LEF or 10.5" x 7.25" LEF, depending on the setting of SP 5-181-004 (Tray 1) or SP 5-181-008 (Tray 2).

Table 2: Paper Size (By-pass Table):

0: ON, 1: OFF

By-pass Paper Size Sensor				Length Sensor	NA	EU/ASIA
bit3	**Bit2**	**Bit1**	**Bit0**			
1	1	0	0	1	HLT SEF	B6 SEF
1	1	1	1	1	HLT SEF	A5 SEF
1	1	1	0	1	HLT SEF	A5 SEF
0	0	1	1	0	LT/LG SEF*1	A4 SEF
0	0	1	1	1	LT/LG SEF*1	A5 LEF
1	0	0	1	0	DLT SEF	A3 SEF
1	0	0	1	1	LT LEF	A4 LEF

*1: The paper size (LT or LG) can be selected with SP1-007-001.

Table 3: APS Original Size Detection:

Original Size		Width Sensor			Length Sensor		SP4-301 display
Metric version	Inch version	W1	W2	W3	L1	L2	
A3	11" x 17"	O	O	O	O	O	00000011
B4	10" x 14"	O	O	X	O	O	00000011
F4 8.5" x 13", 8.25" x 13", or 8" x 13" SP 5126 controls the size that is detected	8.5" x 14"	O	X	X	O	O	00000011
A4 LEF	8.5" x 11"	O	O	O	X	X	00000000
B5 LEF	-	O	O	X	X	X	00000000
A4 SEF	11" x 8.5"	O	X	X	O	X	00000010
B5 SEF	-	X	X	X	O	X	00000010
A5 LEF/ SEF	5.5" x 8.5", 8.5" x 5.5"	X	X	X	X	X	00000000

Table 4: Paper Size Switch (Tray 3/ 4):

"Bit 0" is used for tray set detection. 0: Set, 1: Not set

0: Not Interrupted, 1: Interrupted

Models		**Bit**			
North America	**Europe/Asia**	**3**	**2**	**1**	**0**
11" x 17" SEF*[1] (A3 SEF)	A3 SEF*[1] (11" x 17" SEF)	0	1	1	0
8.5" x 14" SEF *[2] (B4 SEF)	B4 SEF *[2] (8.5" x 14" SEF)	1	1	1	0
A4 SEF	A4 SEF	1	0	0	0
B5 SEF	B5 SEF	0	0	1	1
8.5" x 11" SEF	8.5" x 11" SEF	0	0	0	0
11" x 81/2" LEF*[3] (A4 LEF)	A4 LEF*[3] (11" x 81/2" LEF)	1	1	0	1
10.5" x 7.25" LEF*[4] (B5 LEF)	B5 LEF*[4] (10.5" x 7.25" LEF)	1	0	1	0
A5 LEF	A5 LEF	0	1	0	0
A5 SEF	A5 SEF	1	1	0	1

*1: The machine detects either 11" x 17" SEF or A3 SEF, depending on the setting of SP 5-181-010 (Tray 3) or SP 5-181-014 (Tray 4).

*2: The machine detects either 8.5" x 14" SEF or B4 SEF, depending on the setting of SP 5-181-011 (Tray 3) or SP 5-181-015 (Tray 4).

*3: The machine detects either 11" x 81/2" LEF or A4 LEF, depending on the setting of SP 5-181-009 (Tray 3) or SP 5-181-013 (Tray 4).

*4: The machine detects either B5 LEF or 10.5" x 7.25" LEF, depending on the setting of SP 5-181-012 (Tray 3) or SP 5-181-016 (Tray 4).

ARDF (D366)

6007	Description	Reading	
		0	1
6007 1	Original Length Sn1 (B5 Sn)	Paper not detected	Paper detected
6007 2	Original Length Sn2 (A4 Sn)	Paper not detected	Paper detected
6007 3	Original Length Sn3 (LG Sn)	Paper not detected	Paper detected
6007 4	Original Width Sn:S	Paper not detected	Paper detected
6007 5	Original Width Sn:M	Paper not detected	Paper detected
6007 6	Original Width Sn:L	Paper not detected	Paper detected
6007 7	Original Width Sn:LL	Paper not detected	Paper detected
6007 9	Original Set Sn	Paper not detected	Paper detected
6007 10	Trailing Edge Sn	Paper not detected	Paper detected
6007 11	Skew Correction Sn	Paper not detected	Paper detected
6007 13	Registration Sn	Paper not detected	Paper detected
6007 14	Exit Sn	Paper not detected	Paper detected
6007 15	Feed Cover SW	ADF cover close	ADF cover open
6007 16	Lift Up Sn	HP	Not HP

Internal Finisher (D429)

6120	Description	Reading	
		0	1
6120 1	Staple Slide HP Sensor	Not HP	HP
6120 2	Punch Slide HP Sensor	Not HP	HP
6120 3	Staple HP Sensor	Not HP	HP
6120 4	Paper T-Edge Sensor	Paper not detected	Paper detected
6120 5	Pick Roller Lift Sensor	Up	Down
6120 6	Paper Detection Sensor	Paper not detected	Paper detected
6120 7	Belt Roller Lift Sensor	Down	Up
6120 8	Entrance Sensor	Paper not detected	Paper detected
6120 9	Rear Jogger HP Sensor	HP	Not HP
6120 10	Front Jogger HP Sensor	HP	Not HP
6120 11	Fan Lock Signal	Normal	Lock
6120 12	Finisher Open Switch	Close	Open
6120 13	Punch Unit:Area Detect2	See "Table 5" below.	
6120 14	Punch Unit:Area Detect1		
6120 15	Paper Stack Sensor 2	HP	Not HP
6120 16	Paper Stack Sensor 1	HP	Not HP
6120 17	Punch Position Sensor	Not HP	HP
6120 18	Paper Width Sensor:A3	Paper not detected	Paper detected
6120 19	Paper Width Sensor:LD	Paper not detected	Paper detected
6120 20	Paper Width Sensor:B4	Paper not detected	Paper detected
6120 21	Paper Width Sensor:A4	Paper not detected	Paper detected

6120 22	Paper Width Sensor:16K	Paper not detected	Paper detected
6120 23	Paper Width Sensor:B5	Paper not detected	Paper detected
6120 24	Punch Hopper Full Sensor	Full	Not full
6120 25	Tray Upper Sensor	Upper	Not upper
6120 26	Relay Sensor	Paper not detected	Paper detected
6120 27	Tray Lower Sensor	Lower	Not lower
6120 28	Jogger HP Sensor	Not HP	HP
6120 29	Punch HP Sensor	Not rear	Rear Position
6120 30	Stapler Safety Sensor	No staple	Staple detected
6120 31	Staple Empty Sensor	No staple	Staple detected
6120 32	Punch Unit Sensor	Not set	Set

Table 5: Area Display:

The bit 0 of these SPs shows the punch unit type.

2: 2 Holes, 2/3: 2/3 Holes, 4 (EU): 4 Holes Europe,

4 (Scan.): 4 Holes Scandinavia

SP		2	2/3	4 (EU)	4 (Scan.)
6120-013	Punch Unit:Area Detect2	0	0	1	1
6120-014	Punch Unit:Area Detect2	0	1	0	1

Output Check Table

Copier

5804	**Display**	**Description**
5804 1	Paper Feed M1:CW:190mm/s	-
5804 2	Paper Feed M1:CW:120mm/s	-
5804 3	Paper Feed M1:CW:60mm/s	-
5804 4	P-Feed M1:CW:60mm/s:Thick	-
5804 5	Paper Feed M1:CCW:190mm/s	-
5804 6	Paper Feed M1:CCW:120mm/s	-
5804 7	Paper Feed M1:CCW:60mm/s	-
5804 8	P-Feed M1:CCW:60mm/s:Thick	-
5804 9	Paper Feed M2:CW:190mm/s	-
5804 10	Paper Feed M2:CW:120mm/s	-
5804 11	Paper Feed M2:CW:60mm/s	-
5804 12	P-Feed M2:CW:60mm/s:Thick	-
5804 13	Paper Feed M2:CCW:190mm/s	-
5804 14	Paper Feed M2:CCW:120mm/s	-
5804 15	Paper Feed M2:CCW:60mm/s	-
5804 16	P-Feed M2:CCW:60mm/s:Thick	-
5804 17	Bypass M:CW:190mm/s	-
5804 18	Bypass M:CW:120mm/s	-
5804 19	Bypass M:CW:60mm/s:400mA	-
5804 20	Bypass M:CW:60mm/s:300mA	-
5804 21	Bypass M:CCW:190mm/s	-

5804 22	Bypass M:CCW:120mm/s	-
5804 23	Bypass M:CCW:60mm/s	-
5804 24	Registration M:120mm/s	-
5804 25	Registration M:60mm/s	-
5804 26	Regist M:60mm/s:Thick	-
5804 27	Inverter M:CW:280mm/s	-
5804 29	Inverter M:CW:120mm/s	-
5804 31	Inverter M:CW:60mm/s	-
5804 33	Inverter M:280mm/s	-
5804 35	Inverter M:120mm/s	-
5804 37	Inverter M:60mm/s	-
5804 39	Duplex Exit M:280mm/s	-
5804 40	Duplex Exit M:120mm/s	-
5804 41	Duplex Exit M:60mm/s	-
5804 42	Duplex Ent. M:280mm/s	-
5804 43	Duplex Ent. M:120mm/s	-
5804 44	Duplex Ent. M:60mm/s	-
5804 45	Color Dev. M:120mm/s	-
5804 46	Color Dev. M:60mm/s	-
5804 47	Color Drum. M:120mm/s	-
5804 48	Color Drum. M:60mm/s	-
5804 49	Bk Drum M:120mm/s	-
5804 50	Bk Drum M:60mm/s	-
5804 51	ITB Motor:120mm/s	-
5804 52	ITB Motor:60mm/s	-

5804 53	Fusing/P-Exit M:120mm/s	-
5804 54	Fusing/P-Exit M:60mm/s	-
5804 55	Electrical FAN:H	-
5804 56	Electrical FAN:L	-
5804 57	Fusing Fan:H	-
5804 58	Fusing Fan:L	-
5804 59	Dev. Front FAN:H	-
5804 60	Dev. Front FAN:L	-
5804 61	Dev. Rear FAN:H	-
5804 62	Dev. Rear FAN:L	-
5804 63	Fusing Exit Fan:H	-
5804 64	Fusing Exit Fan:L	-
5804 65	LD Unit Fan:H	-
5804 67	PSU Fan:H	-
5804 69	Junc. Gate SOL Fan:H	-
5804 70	Junc. Gate SOL Fan:L	-
5804 71	Toner Supply M:Bk	-
5804 72	Toner Supply M:C	-
5804 73	Toner Supply M:M	-
5804 74	Toner Supply M:Y	-
5804 75	PCU T-Collect Motor	-
5804 76	ID/MUSIC Sn Shutter Motor	PTR Contact Motor
5804 77	ITB Contact Motor	-
5804 78	Bk Dev. Clutch	-
5804 79	Junction Gate SOL	-

5804 80	PWM:Potential Sn:Bk	-
5804 81	PWM:Potential Sn:C	-
5804 82	PWM:Potential Sn:M	-
5804 83	PWM:Potential Sn:Y	-
5804 84	HVPS:Charge AC:Bk:H	-
5804 85	HVPS:Charge AC:Bk:L	-
5804 86	HVPS:Charge AC:C:H	-
5804 87	HVPS:Charge AC:C:L	-
5804 88	HVPS:Charge AC:M:H	-
5804 89	HVPS:Charge AC:M:L	-
5804 90	HVPS:Charge AC:Y:H	-
5804 91	HVPS:Charge AC:Y:L	-
5804 92	HVPS:Charge DC:Bk	-
5804 93	HVPS:Charge DC:C	-
5804 94	HVPS:Charge DC:M	-
5804 95	HVPS:Charge DC:Y	-
5804 96	HVPS:Dev. Bias:Bk	-
5804 97	HVPS:Dev. Bias:C	-
5804 98	HVPS:Dev. Bias:M	-
5804 99	HVPS:Dev. Bias:Y	-
5804 100	HVPS:PTR Bias:- PWM	-
5804 101	HVPS:PTR Bias:+ PWM	-
5804 102	HVPS:ITR Bias:Bk	-
5804 103	HVPS:ITR Bias:Bk	-
5804 104	HVPS:ITR Bias:Bk	-

5804 105	HVPS:ITR Bias:Bk	-
5804 106	MUSIC Sensor:R:PWM	-
5804 107	MUSIC Sensor:C:PWM	-
5804 108	MUSIC Sensor:F:PWM	-
5804 109	Reserve Fan:H	-
5804 110	Reserve Fan:LOCK	-
5804 111	Toner End Sn Power	-
5804 120	R-Tray M:280mm/s	-
5804 121	R-Tray M:120mm/s	-
5804 122	R-Tray SOL	-
5804 123	Shift Motor	-
5804 124	1T PFU:Tray Lift M	-
5804 125	1T PFU:Paper Feed M	-
5804 126	1T PFU:Paper Feed CL	-
5804 127	2T PFU:Relay CL	-
5804 128	2T PFU:Upper Feed CL	-
5804 129	2T PFU:Lower Feed CL	-
5804 130	2T PFU:P-Feed M:190mm/s	-
5804 131	2T PFU:P-Feed M:120mm/s	-
5804 132	2T PFU:P-Feed M:60mm/s	-
5804 133	2T PFU:Upper Tray Lift M	-
5804 134	2T PFU:Lower Tray Lift M	-
5804 192	RFID ON/OFF: Bk	-
5804 193	RFID ON/OFF: C	-
5804 194	RFID ON/OFF: M	-

5804 195	RFID ON/OFF: Y	-
5804 196	RFID COM ON: Bk	-
5804 197	RFID COM ON: C	-
5804 198	RFID COM ON: M	-
5804 199	RFID COM ON: Y	-
5804 202	Scanner Lamp	-
5804 210	Polygon Motor	-
5804 216	LD1: Bk	-
5804 218	LD1: M	
5804 220	LD1: C	-
5804 222	LD1: Y	-

Internal Finisher (D429)

6121	**Description**	**Description**
6121 1	Transport Motor	-
6121 2	Front Jogger Motor	-
6121 3	Rear Jogger Motor	-
6121 4	Stapler Slide Motor	-
6121 5	Stuck Feed-out Motor	-
6121 6	Pick Roller Lift Motor	-
6121 7	Staple Motor	-
6121 8	Tray Lift Motor	-
6121 9	Paper Detection SOL	-
6121 10	Paddle Rotation SOL	-
6121 11	Belt Roller SOL	-
6121 12	Junction Gate SOL	-
6121 13	Fan Motor	-
6120 14	Punch Motor	-
6120 15	Punch Slide Motor	-
6120 16	Inverter Roller SOL	-

ARDF (D366)

6008	Display	Description
6008 3	Feed Motor: Forward	Feed Motor-Forward rotation
6008 4	Feed Motor: Reverse	Feed Motor-Reverse rotation
6008 5	Transport Motor: Forward	Transport Motor- Forward rotation
6008 6	Transport Motor: Forward	Transport Motor- Forward rotation
6008 9	Feed Clutch	-
6008 10	Pick-up Solenoid	-
6008 11	Junction Gate Solenoid	-
6008 12	Stamp Solenoid	Stamp Solenoid

5.10 MAIN SP TABLES-9

5.10.1 PRINTER SERVICE MODE

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 MFP 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 (☞p.5-273 "Card Save Function").		
	bit 5	DFU	-	-
	bit 6	DFU	-	-
	bit 7	**[RPCS,PCL]: Printable area frame border**	0: Disable	1: Enable
		Enable: The machine prints all RPCS and PCL jobs with a border on the edges of the printable area.		

1001	Bit Switch			
002	Bit Switch 2		0	1
	bit 0	DFU	-	-
	bit 1	DFU	-	-
	bit 2	**Applying a collation Type**	Shift Collate	Normal Collate
		A collation type (shift or normal) will be applied to all jobs that do not already have a 'Collate Type' configured. Note ▪ If #5-0 is enabled, this Bit Switch has no effect.		
	bit 3	**[PCL5e/c,PS]: PDL Auto Switching**	0: Enable	1: Disable
		Disable: The MFPs 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**		0	1
	bit 0	DFU	-	-
bit 1	DFU	-	-	
bit 2	DFU	-	-	
bit 3	**IPDS print-side reversal**	0: Disable	1: Enable	
		If enabled, the simplex pages of IPDS jobs will be printed on the front side because of printing on the back side of the page. This might reduce printing speed.		
bit 4	DFU	-	-	
bit 5	DFU	-	-	
bit 6	DFU	-	-	
bit 7	DFU	-	-	

1001	Bit Switch			
005	Bit Switch 5		0	1
	bit 0	**Show "Collate Type", "Staple Type" and "Punch Type" buttons on the operation panel.**	Disable	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 the function, 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	DFU	-	-
	bit 3	**[PS] PS Criteria**	Pattern3	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.**	Disable (100)	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	**Face-up output**	Disable	Enable
		Enable: All print jobs will be output face-up in the destination tray.		
	bit 6	**Method for determining the image**	0: Disable	1: Enable

		rotation for the edge to bind on.		
		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)

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	DFU	-	-
	bit 1	DFU	-	-
	bit 2	DFU	-	-
	bit 3	**[PCL,PS]: Allow BW jobs to print without requiring User Code**	Disable	Enable
		Enable: BW jobs submitted without a user code will be printed even if usercode authentication is enabled. Note ▪ Color jobs will not be printed without a valid user code.		
	bit 4	DFU	-	-
	bit 5	DFU	-	-
	bit 6	DFU	-	-
	bit 7	DFU	-	-

1001	Bit Switch			
005	Bit Switch 9		0	1
	bit 0	**PDL Auto Detection timeout of jobs submitted via USB or Parallel Port (IEEE 1284).**	"Disabled (Immediately)"	"Enabled (10 seconds)"
		To be used if PDL auto-detection fails. A failure of PDL autodetection doesn't necessarily mean that the job can't be printed. This bit switch tells the device whether to time-out immediately (default) upon failure or to wait 10 seconds.		
	bit 1	DFU	-	-
	bit 2	**Job Cancel**	Disabled (Not	Enabled (Cancelled)

			cancelled)	
		If this bit switch, all jobs will be cancelled after a jam occurs. Note: If this bitsw is enabled, printing under the following conditions might result in problems: - Job submission via USB or Parallel Port - Spool printing (WIM >Configuration > Device Settings > System)		
	bit 3	**PCL/PS bypass tray paper rotation (SEF/LEF)**	0: Disable	1: Enable
		This bitsw causes the device to revert to the behavior of previous generations. It only takes effect if "Bypass Tray Setting Priority" = "Driver/Command". Previous spec (bitsw=1): If a standard sized paper mismatch occurred in the bypass tray, the MFP always prompted for SEF paper. If this bitsw=0 (default) then in the event of a standard sized paper mismatch, the MFP will always prompt for paper of the rotation (SEF/LEF) determined by the MFP bypass tray paper setting or by the bypass tray sensor.		
	Bit 4 to 7	DFU	-	-

1003	[Clear Setting]
1003 1	Initialize Printer System
	Initializes settings in the "System" menu of the user mode.
1003 3	Delete Program

1004	[Print Summary]
1004 1	Print Summary
	Prints the service summary sheet (a summary of all the controller settings).

1005	[Display Version]
1005 1	Disp. Version
	Displays the version of the controller firmware.

1006	[Sample/Locked Print]	*CTL	**0**: Linked, 1: On
1006 1	Enables and disables the document server. When you select "0," the document server is enabled or disabled in accordance with Copy Service Mode SP5-967. When you select "1," the document server is enabled regardless of Copy Service Mode SP5-967.		

1101	[Data Recall]		
	Recalls a set of gamma settings. This can be either a) the factory setting, b) the previous setting, or c) the current setting.		
1101 1	Factory	*CTL	
1101 2	Previous		
1101 3	Current		
1101 4	ACC		

1102	[Resolution Setting]
	Selects the printing mode (resolution) for the printer gamma adjustment.
1102 1	**2400x600 Photo**, 1800x600 Photo, 600 x 600 Photo, 2400x600 Text, 1800x600, Text, 600x600 Text

1103	[Test Page]
	Prints the test page to check the color balance before and after the gamma adjustment.
1103 1	Color Gray Scale

1103 2	Color Pattern

1104	[Gamma Adjustment]		
	Adjusts the printer gamma for the mode selected in the "Mode Selection" menu.		
1104 1	Black: Highlight	*CTL	[0 to 30 / **15** / 1/step]
1104 2	Black: Shadow		
1104 3	Black: Middle		
1104 4	Black: IDmax		
1104 21	Cyan: Highlight		
1104 22	Cyan: Shadow		
1104 23	Cyan: Middle		
1104 24	Cyan: IDmax		
1104 41	Magenta: Highlight	*CTL	[0 to 30 / **15** / 1/step]
1104 42	Magenta: Shadow		
1104 43	Magenta: Middle		
1104 44	Magenta: IDmax		
1104 61	Yellow: Highlight		
1104 62	Yellow: Shadow		
1104 63	Yellow: Middle		
1104 64	Yellow: IDmax		

1105	[Save Tone Control Value]
	Stores the print gamma adjusted with the "Gamma Adj." menu item as the current setting. Before the machine stores the new "current setting", it moves the data currently stored as the "current setting" to the "previous setting" memory storage location.
1105 1	Save Tone Control Value

1106	[Toner Limit]		
	Adjusts the maximum toner amount for image development.		
1106 1	Toner Limit Value	*CTL	[100 to 400 / **260** / 1 %/step]

5.10.2 SCANNER SP MODE

SP1-xxx (System and Others)

1001	**[Scan Nv Version]**		
1001 5	-	*CTL	-

1004	**[Compression Type]**		
	Selects the compression type for binary picture processing.		
1004 1	Compression Type	*CTL	[1 to 3 / **1** / 1/step] 1: MH, 2: MR, 3: MMR

1005	**[Erase margin]**		
	Creates an erase margin for all edges of the scanned image. If the machine has scanned the edge of the original, create a margin. This SP is activated only when the machine uses TWAIN scanning.		
1005 1	Range from 0 to 5 mm	*CTL	[0 to 5 / **0** / 1 mm/step]

1009	**[Remote scan disable]**	*CTL	[0 or 1 / **0** / -] 0: enable, 1: disable
1009 1	Enable or disable remote scan.		

1010	**[Non Display Clear Light PDF]**	*CTL	[0 or 1 / **0** / -] 0: Display, 1: No display
1010 1	Enable or disable remote scan.		

1011	**[Org count Disp]**	*CTL	[0 or 1 / **0** / -]
1011 1	Selects the original counter display. 0: Displays remaining memory for the original scanning.		

	1: Displays original counter.

1012	**[UserInfo release]**	*CTL	[0 or 1 / **1** / -] 0: No, 1: Yes
1012 1	Clear the following settings: Address, Sender, Text / Subject, Filename		

1013	**[Multimedia Function Setting]**	*CTL	[0 or 1 / **0** / -] 0: OFF, 1: ON
1013 1	On or off multimedia function		

SP2-XXX (Scanning-image quality)

2021	**[Compression Level (Grayscale)]** Selects the compression ratio for grayscale processing mode (JPEG) for the three settings that can be selected at the operation panel.		
2021 1	Comp 1: 5-95	*CTL	[5 to 95 / **20** / 1 /step]
2021 2	Comp 2: 5-95		[5 to 95 / **40** / 1 /step]
2021 3	Comp 3: 5-95		[5 to 95 / **65** / 1 /step]
2021 4	Comp 4: 5-95		[5 to 95 / **80** / 1 /step]
2021 5	Comp 5: 5-95		[5 to 95 / **95** / 1 /step]

2024	**[Compression ratio of ClearLight PDF]** Selects the compression ratio for clearlight PDF for the two settings that can be selected at the operation panel.		
2024 1	Compression Ratio (Normal)	*CTL	[5 to 95 / **25** / 1 /step]
2024 2	Compression Ratio (High)		[5 to 95 / **20** / 1 /step]

5.11 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 on the left rear side of the controller box.

5.11.1 TYPE OF FIRMWARE

Type of firmware	**Function**	**Location of firmware**	**Message shown**
Engine	Printer engine control	BCU Flash ROM	Engine
System/Copy Application	Operating system	Flash ROM on the controller board	System/Copy
Printer Application	Feature application	Flash ROM on the controller board	Printer
Scanner Application	Feature application	Flash ROM on the controller board	Scanner
Fax Application	Feature application	Flash ROM on the controller board	Fax
NIB	Network Interface	Flash ROM on the controller board	Network Support
Operation Panel	Panel control	Operation Panel	Lcdc.
Fax FCU	Fax control	FCU	GWFCU-4(ww)-1-1
Remote Fax	Fax control	Flash ROM on the controller board	Remote Fax
Language	Language firmware Two languages can be selected from 16 languages.	Operation Panel	Language 1
			Language 2
WebDocBox	Document server application	Flash ROM on the controller board	Web Uapl

WebSys	Web Service application	Flash ROM on the controller board	Web Support
PS/ PDF	Page description language (PostScript3)	PS3 SD card	PS3/ PDF
PictBridge	PictBridge control	PictBridge SD card	PctBrgd
ARDF	ARDF control	ARDF	ADF
Finisher (D429)	Finisher control	Finisher (D429)	Finisher
Java VM	SDK application	Java VM SD card	SDK
Data Overwrite Security	Security application	Security SD card	HDD Format Option

5.11.2 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, touch the appropriate button on the soft touch-screen of the LCD, or, press the appropriate number key on the 10-key pad of the operation panel. For example, when "Exit (0)" shows on the screen you can touch the Exit button on the screen, or, press the ⓪ button on the operation panel of the copier.
- 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.

5.11.3 UPDATING FIRMWARE

Preparation

- If the SD card is blank, copy the entire "romdata" folder onto the SD card.
- If the card already contains the "romdata" folder, copy the "D104" folder onto the card.

If the card already contains folders up to "D104", copy the necessary firmware files (e.g. D104xxxx.fwu) into this folder.

Note

  - Do not put multiple machine firmware programs on the same SD card. Copy the only model firmware you want.

Updating Procedure

1. Turn the main power switch off.
2. Remove the slot cover (🔩 x 1).
3. Remove the Java VM card from SD slot 2
4. Insert the SD card into SD slot 2. Make sure the label on the SD card faces the rear side of the machine.
5. Slowly push the SD card into the slot so it locks in place. You will hear it click. Make sure the SD card locks in place.

   Note

   - To remove the SD, push it in to unlock the spring lock. Then release it so it pops out of the slot.
6. Disconnect the network cable from the copier if the machine is connected to a network.
7. Switch the main power switch on. After about 45 seconds, the initial version update screen appears on the LCD in English.
8. On the screen, touch the button or press the corresponding number key on the operation panel to select the item in the menu that you want to update.

ROM/NEW	What it means
ROM:	Tells you the number of the module and name of the version currently installed. The first line is the module number, the second line the version name.
NEW:	Tells you the number of the module and name version on the SD card. The first line is the module number, the second line the version name.

Note

- Controller, engine and operation panel firmware cannot be updated at the same time. It is recommended to update firmware modules one by one.

9. Touch "UpDate (#)" (or#) to start the update.

Note

- The progress bar does not show for the operation panel firmware after you touch "OpPanel". The power on key flashes on and off at 0.5 s intervals when the LCDC firmware is updating. The power key flashes on and off at 3 s intervals when the update is finished.

10. The "Update is Done" message appears on the operation panel after completing the updating. The message differs depending on the firmware that has been updated.
11. Switch the copier main power switch off when you see the "Update is Done" message or follow the procedure that is displayed on the operation panel.
12. Press in the SD card to release it. Then remove it from the slot.
13. Install the Java card in SD slot 2, and then attach the SD slot cover (x 1).
14. Switch the copier on for normal operation.

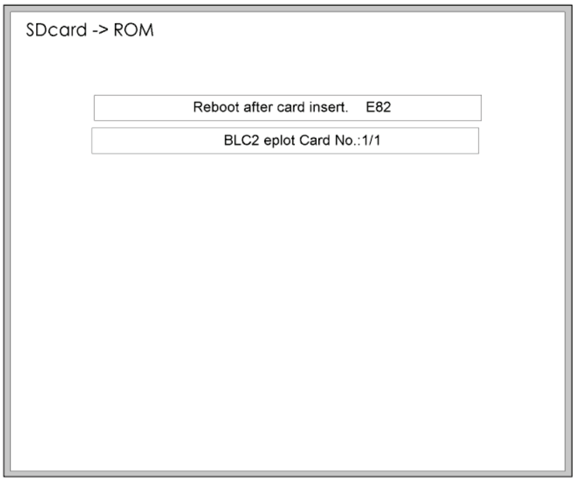
Error Messages

An error message shows in the first line if an error occurs during the download.

The error code consists of the letter "E" and a number. The example above shows error "E24" displayed. For details, refer to the Error Message Table. (☛ "Handling Firmware Update Error")

Firmware Update Error

If a firmware update error occurs, this means the update was cancelled during the update because the module selected for update was not on the SD card.



SDcard -> ROM

Reboot after card insert.   E82

BLC2 eplot Card No.:1/1

Recovery after Power Loss

If the ROM update is interrupted as a result of accidental loss of power while the firmware is updating, then the correct operation of the machine cannot be guaranteed after the machine is switched on again. If the ROM update does not complete successfully for any reason, then in order to ensure the correct operation of the machine, the ROM update error will continue to show until the ROM is updated successfully.

In this case, insert the card again and switch on the machine to continue the firmware download automatically from the card without the menu display.

5.11.4 UPDATING THE LCDC FOR THE OPERATION PANEL

Do the following procedure to update the LCDC (LCD Control Board).

1. Turn the copier main switch off.
2. Remove the SD slot cover (🔩 x 1).
3. Remove the Java VM card from SD slot 2.
4. Insert the SD card into SD slot 2.
5. Switch the copier main switch on.
6. The initial screen opens in English after about 45 seconds.
7. Touch "Ope Panel.xx".
8. "xx" differs depending on the destination.
9. Touch "UpDate(#) or (#) to start the update.
10. Downloading starts after about 9 seconds.
11. The operation panel goes off and the main power on key flashes in red at 0.5 s intervals when the data is downloading. The same key starts flashing in green at 1 s intervals when the update is finished.
12. Press the "Exit" button.
13. Switch the copier main power switch off and remove the SD card from SD slot 2
14. Install the Java VM card in SD slot 2.
15. Attach the SD slot cover (🔩 x 1).
16. Switch the copier on.
17. Then turn the copier off and on again.

5.11.5 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.
35	Module mismatch – Module on SD card is not for this	SD update data is incorrect. The data on the SD card is for another machine. Acquire correct

	machine	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 board.
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.
49	Firmware update is prohibited	Set the setting of "Update Firmware" under the "Administrator Tools" to "Do not Prohibit". (Administrator Tools > Extended Security > Update Firmware)
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.

5.11.6 JAVA VM UPDATING PROCEDURE

1. Turn the main power off, then remove the SD slot cover (🔩 x 1), and remove the Java VM card from SD slot 2.
2. Insert the Java VM card to the SD card writer that is connected to PC.
3. Make sure which drive is assigned for the SD card.
4. Decompress the downloaded update file, then two files exist that one file is ".exe" file extension and the other is ".bat" file extension.
5. Double click the ".bat" file then command prompt screen is appeared.
6. The first command line is shown as
   "Please input drive letter of SD card [a – x]:"
   Then enter the SD card drive name, and press "Enter" key.
7. "Press any key to continue…" is appeared, then press "Enter" key again. The updating to the SD card starts.
8. "Press any key to continue…" is appeared again, then press "Enter" key. The command prompt screen is disappeared automatically if the updating is successful.
9. Remove the Java VM card from the SD card writer after going off the access lamp on the SD card writer.
10. Insert the Java VM card in the SD slot 2 of the machine and turn the main power on.

5.11.7 APP2ME UPDATING PROCEDURE

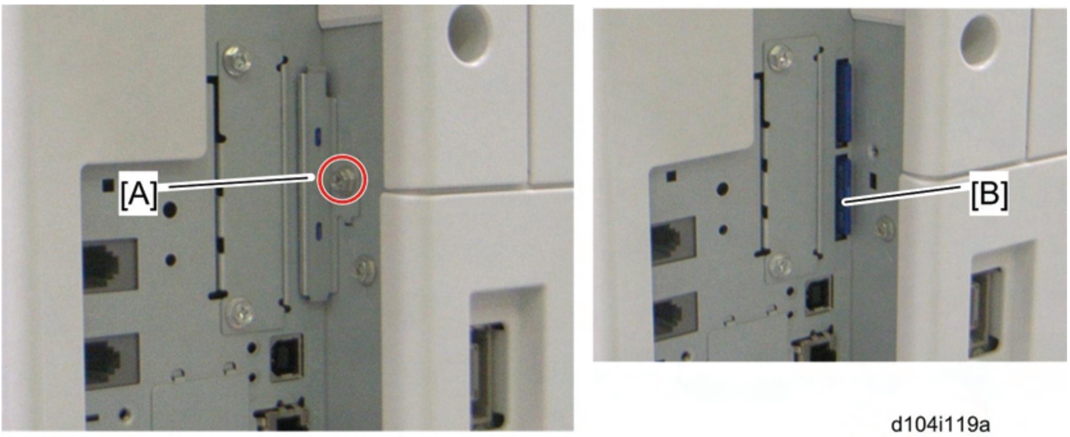
Follow this procedure to update App2Me if a new version is available.

1. Push the [User/Tools] key on the operation panel.
2. If an administrator setting is registered for the machine, Step 3 and Step 4 are required. Otherwise, skip to step 5.
3. Push [Login/Logout] on the operation panel.
4. Login with the administrator user name and password.
5. Touch "Extended Feature Settings" twice on the LCD.
6. Touch each of the applications until the status changes to "Stop".
7. Turn the machine off.
8. Remove the SD slot cover (🔩 x 1), and then remove the Java VM card from SD slot 2.
9. Prepare the newer App2Me file from the Firmware Download Center, and then unzip the zip file. (The folder name is "337051920".)

d377i501

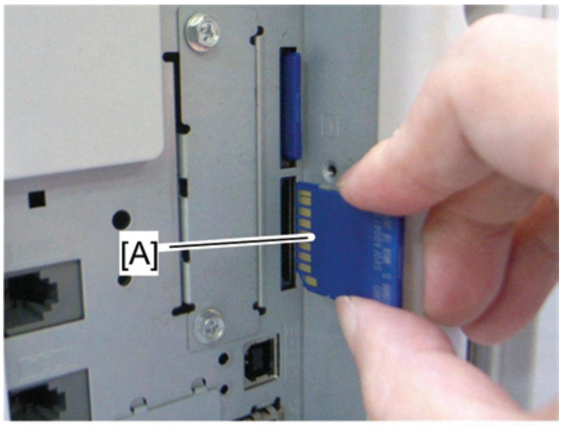
10. Copy the App2Me Provider folder into the specified path for the VM card. The path is: "SD_Card Drive¥ sdk¥dsdk¥dist¥337051920"
11. Turn the SD card label face to the rear of the machine, and then push it slowly into SD slot 2 (lower slot) until you hear a click.
12. Attach the SD slot cover (🔩 x 1).
13. Turn the main power switch on.
14. Press [User Tools] on the operation panel.
15. Touch the "Extended Feature Settings" button twice.
16. Touch the "Extended Feature Info" tab on the LCD.
17. Touch the "App2Me" line.
18. Set the setting of the "Auto Start" to "On".
19. Touch the "Exit" button.
20. Exit the [User Tools/Counter] settings.

5.11.8 BROWER UNIT UPDATING PROCEDURE



d104i119a

1. Remove the SD slot cover [A] for SD cards (🔩 x 1).
2. Remove the VM card [B] from the SD slot 2.



d104i204

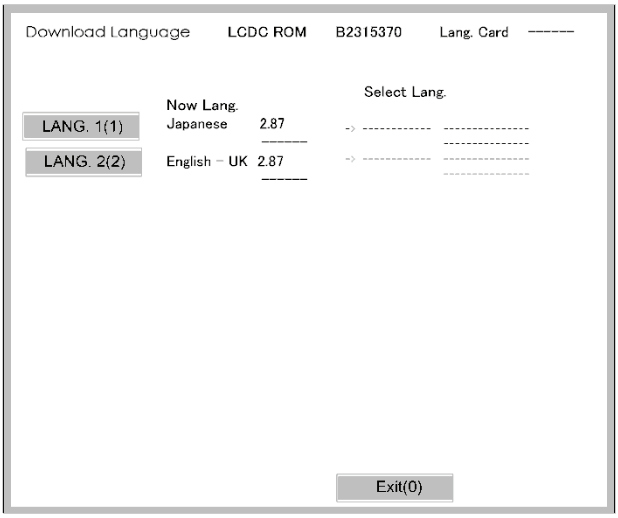
3. Turn the SD-card label face of the latest version Brower Unit [A] to the front of the machine. Then push it slowly into SD slot 2 until you hear a click.
4. Plug in and turn on the main power switch.
5. Push the "User Tools" key.
   - If an administrator setting is registered for the machine, step 5 and 6 are required. Otherwise, skip to step 7
6. Push the "Login/ Logout" key.
7. Login with the administrator user name and password.
8. Touch "Extended Feature Settings" twice on the LCD.
9. Touch "Uninstall" on the LCD.
10. Touch the "Browser" line
11. Confirmation message appears on the LCD.
12. Touch "Yes" to proceed.

13. Reconfirmation message appears on the LCD.
14. Touch "Yes" to uninstall the browser unit.
15. You will see "Uninstalling the extended feature... Please wait.", and then "Completed".
16. Touch "Exit" to go back to the setting screen.
17. Exit "User/Tools" setting, and then turn off the main power switch.
18. Remove the SD card from SD card slot 2.
19. Overwrite the updated program in the "sdk" folder of the browser unit application with PC.
20. Do the "Installation Procedure" to install the browser unit.
21. Remove the SD card of the latest version Brower Unit from SD slot 2.
22. Reinstall the VM card in the SD slot 2.
23. Attach the SD slot cover [A] (🔩 x 1).

5.12 INSTALLING ANOTHER LANGUAGE

Many languages are available. But you can only switch between two languages at a time. Do the following procedure to select the two languages you want. You can select both of the languages you want from the user interface on the operation panel.

1. Switch the copier main power switch off.
2. Remove the SD slot cover (🔩x 1).
3. Insert the SD card with the language data into SD Card Slot 2.
4. Switch the copier main power switch on. The initial screen opens after about 45 seconds.
5. Touch "Language Data (2)" on the screen (or press ②).



Download Language LCDC ROM B2315370 Lang. Card ------

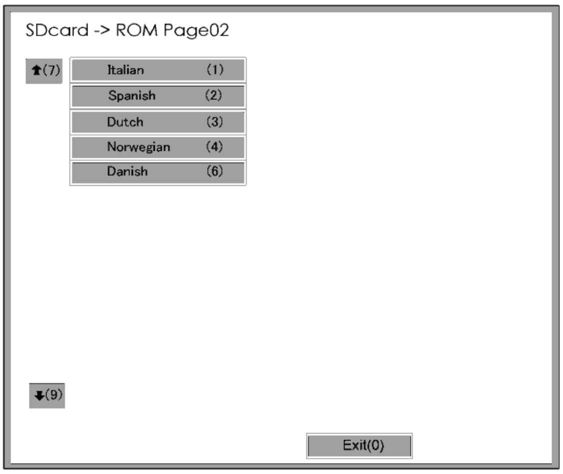
Now Lang.
Japanese 2.87 ------
English – UK 2.87 ------

Select Lang.
-> ------------ ---------------
-> ------------ ---------------

6. Touch "LANG. 1(1)" or "LANG. 2(2)"

Key	What it does
LANG. 1(1)	Touch this button on the screen (or press ① on the 10-key pad) to open the next screen so you can select the 1st language.
LANG. 1(2)	Touch this button on the screen (or press ② on the 10-key pad) to open the next screen so you can select the 2nd language.
Exit(0)	Touch this key on the screen (or press ⓪ on the 10-key pad) to quit the update procedure and return to normal screen.

7. Touch "LANG 1(1)" to select the 1st Language. Touch "LANG (2)" to select the 2nd Language.



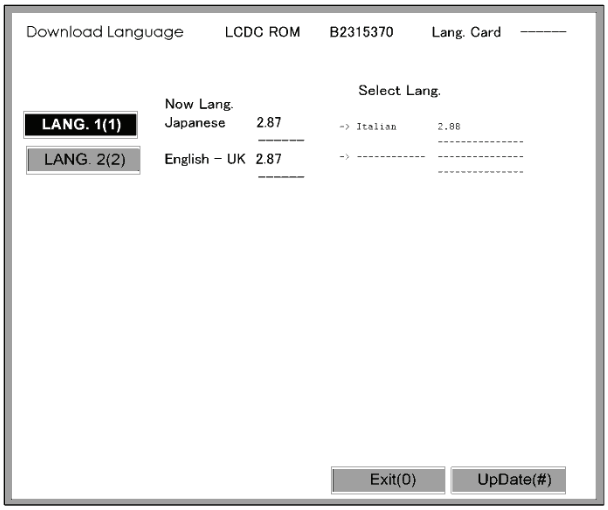
8. Touch the appropriate button on the screen (or press the number on the 10-keypad) to select a language as the 1st (or 2nd) language.
   - If a language is already selected, it will show in reverse.
   - Touching "Exit (0)" returns you to the previous screen.
9. If you do not see the language that you want to select, touch " ↑ (7)" or " ↓ (9)" on the screen (or press ⑦ or ⑨) to show more choices.

   The Download Screen opens after you select a language.

   The 1st or 2nd language selected for updating shows.

   The following show to right of the selection:
   - 1. The first column shows the language currently selected.
   - 2. The 2nd column shows the language selected to replace that language.

   The example below shows that the download will replace "Japanese" with "Italian" as the 1st language.


Download Language LCDC ROM B2315370 Lang. Card ------

Now Lang. / Select Lang.

LANG. 1(1) Japanese 2.87 -> Italian 2.88

LANG. 2(2) English – UK 2.87 -> ------------

10. Touch "Update(#)" on the screen (or press #) to start the download.

   Another screen with a progress bar does not show when the language is downloading.

   The following occur at the time the language is downloading:
   - The operation panel switches off.

- The LED on the power on key flashes rapidly.

11. After the message of installation completed has shown on the LCD, switch the copier main power switch off. Then remove the SD card from the slot.
12. Switch the copier main power switch on to resume normal operation.

5.13 REBOOT/SYSTEM SETTING RESET

5.13.1 SOFTWARE RESET

You can reboot the software with one of the following two procedures:

1. Turn the main power switch off and on.
2. Press and hold down ◯ (#) together for over 10 seconds. When the machine beeps once, release both buttons. After “Now loading. Please wait” shows for a few seconds, the copy window will open. The machine is ready for normal operation.

5.13.2 SYSTEM SETTINGS AND COPY SETTING RESET

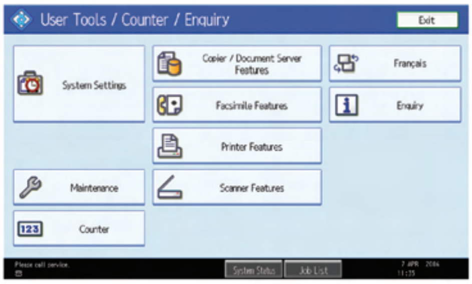
System Setting Reset

The system settings in the UP mode can be reset to their defaults. Use the following procedure.

1. Press User Tools/Counter [◈/123].
2. Hold down (#) and then press System Settings.

Note

- You must press (#) first.



3. Press yes when the message prompts you to confirm that you want to reset the system settings.
4. Press exit when the message tells you that the settings have been reset.

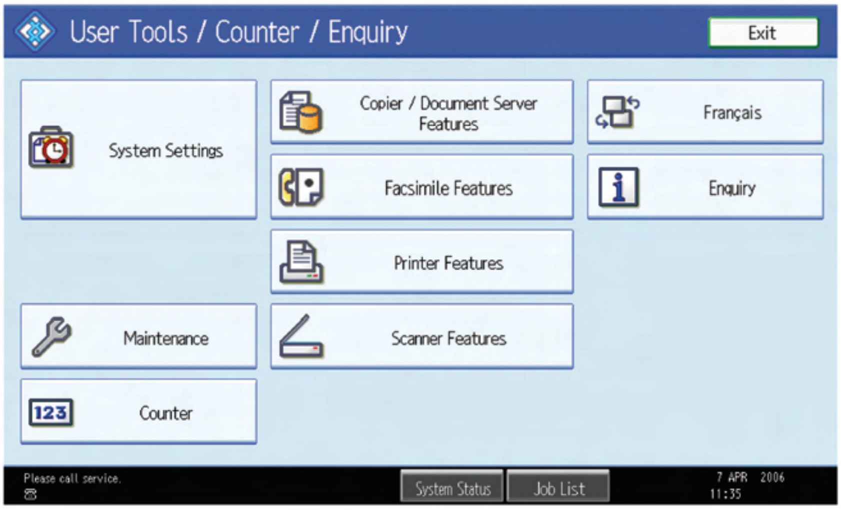
Copier Setting Reset

Use the following procedure to reset the copy settings in the UP mode to their defaults.

1. Press User Tools/Counter.
2. Hold down # and then press Copier/Document Server Settings.

Note

- You must press # first.



3. Press "Yes" when the message prompts you to confirm that you want to reset the Copier Document Server settings.
4. Press exit when the message tells you that the settings have been reset.

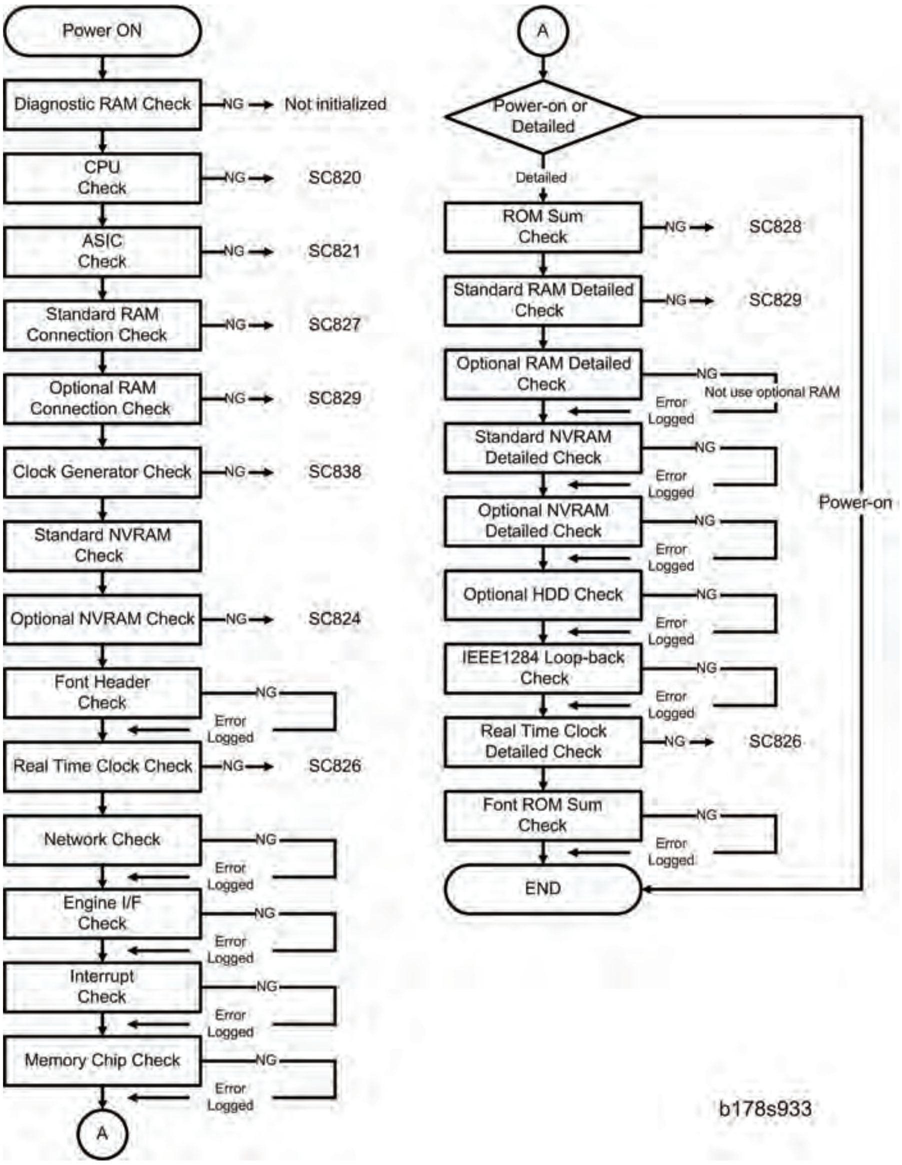
5.14 CONTROLLER SELF-DIAGNOSTICS

5.14.1 OVERVIEW

There are three 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.



5.15 SD CARD APPLI MOVE

5.15.1 OVERVIEW

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

Slot 1 and Slot 2 are used to store application programs. However, more than two optional applications are supplied for this machine. In that case, 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.

- PostScript3 cannot be moved to the other SD card.
- 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.

Outline of SD Card Appli Move:

1. Choose a SD card with enough space.

   Note

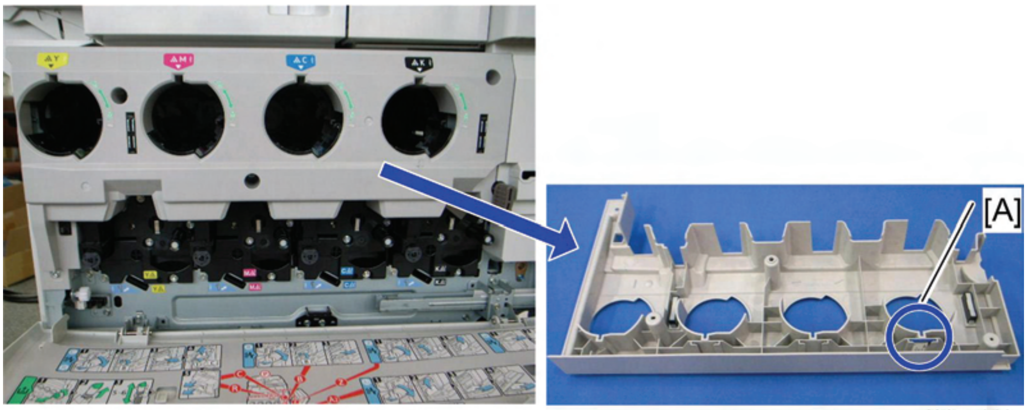
   - Do not use an SD card if it has been used on a computer. Normal operation is not guaranteed when such an SD card is used.

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 data necessary 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.



d037s118

4. Remove the inner cover (☛ p.4-22 "Inner Cover").
5. Keep the SD card in the place [A] inside the inner cover 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.

5.15.2 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 into this SD card.
3. Insert the SD card (having stored the application program) to 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.

5.15.3 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).

★ Importan

- 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) to 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.

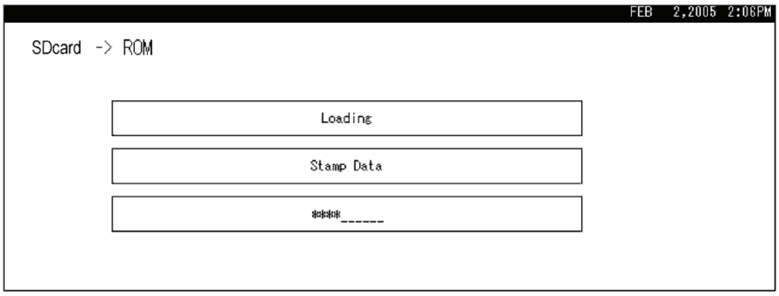
5.16 DOWNLOADING STAMP DATA

The stamp data should be downloaded from the controller firmware to the hard disks at the following times:

- After the hard disks have been replaced.

The print data contains the controller software. Execute SP 5853 to download the fixed stamp data required by the hard disks.

1. Enter the SP mode.
2. Select SP5853 and then press “EXECUTE”. The following screen opens while the stamp data is downloading.



FEB 2,2005 2:06PM

SDcard -> ROM

Loading

Stamp Data

****______

The download is finished when the message prompts you to close.

Completed. You have to reboot.

NOTE: Automatic reset in some cases

3. Press the “Exit” button. Then turn the copier off and on again.

5.17 NVRAM DATA UPLOAD/DOWNLOAD

5.17.1 UPLOADING CONTENT OF NVRAM TO AN SD CARD

Do the following procedure to upload SP code settings from NVRAM to an SD card.

Note

- This data should always be uploaded to an SD card before the NVRAM is replaced.
- Make sure that the write protection of an SD card is unlocked

1. Do SP5990-001 (SMC Print) before you switch the machine off. You will need a record of the NVRAM settings if the upload fails.
2. Switch the copier main power switch off.
3. Remove the SD slot cover (🔩 x 1).
4. Insert the SD card into SD card slot 2. Then switch the copier on.
5. Execute SP5824-001 (NVRAM Data Upload) and then press the "Execute" key.
6. The following files are copied to an NVRAM folder on the SD card when the upload procedure is finished. The file is saved to the path and the following filename:

   NVRAM¥<serial number>.NV

   Here is an example with Serial Number "K5000017114":

   NVRAM¥K5000017114.NV
7. In order to prevent an error during the download, be sure to mark the SD card that holds the uploaded data with the number of the machine from which the data was uploaded.

   Note

   - You can upload NVRAM data from more than one machine to the same SD card.

5.17.2 DOWNLOADING AN SD CARD TO NVRAM

Do the following procedure to download SP data from an SD card to the NVRAM in the machine.

- The NVRAM data download may fail if the SD card with the NVRAM data is damaged, or if the connection between the controller and BCU is defective.
- Do the download procedure again if the download fails.
- Do the following procedure if the second attempt fails:
- Enter the NVRAM data manually using the SMC print you created before uploading the NVRAM data.

1. Switch the copier main power switch off.
2. Remove the SD slot cover (🔩 x 1).
3. Insert the SD card with the NVRAM data into SD Card Slot 2.
4. Switch the copier main power switch on.
5. Do SP5825-001 (NVRAM Data Download) and press the "Execute" key.

   Note

   - The serial number of the file on the SD card must match the serial number of the machine for the NVRAM data to download successfully. The download fails if the serial numbers do not match.

This procedure does not download the following data to the NVRAM:

- Total Count
- C/O, P/O Count

5.18 ADDRESS BOOK UPLOAD/DOWNLOAD

5.18.1 INFORMATION LIST

The following information is possible to be uploaded and downloaded.

Information

- Registration No.
- User Code
- E-mail
- Protection Code
- Fax Destination
- Fax Option
- Group Name
- Key Display
- Select Title
- Folder
- Local Authentication
- Folder Authentication
- Account ACL
- New Document Initial ACL
- LDAP Authentication

5.18.2 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 at the left rear side of the machine (🔩 x 1).
5. Install the SD card into the 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 form the SD card slot 2.
11. Install the SD slot cover.

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.

5.18.3 UPLOAD

1. Turn off the main power switch of the main machine.
2. Remove the SD slot cover 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 form the SD card slot 2.
9. Install the SD slot cover.

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.

5.19 USING THE DEBUG LOG

5.19.1 OVERVIEW

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:

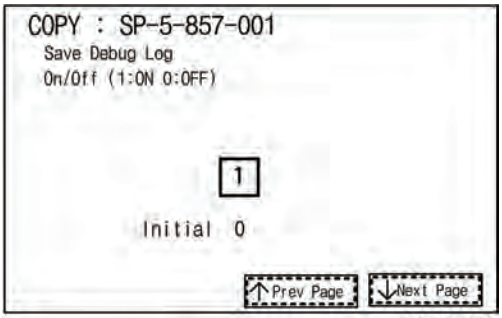
- Switching on the debug feature so error information is saved directly to the HDD for later retrieval.
- Copying the error information from the HDD to an SD card.

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.

5.19.2 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.
   - Enter "System SP".
   - On the LCD panel, open SP5857.
2. Under "5857 Save Debug Log", touch "1 On/Off".

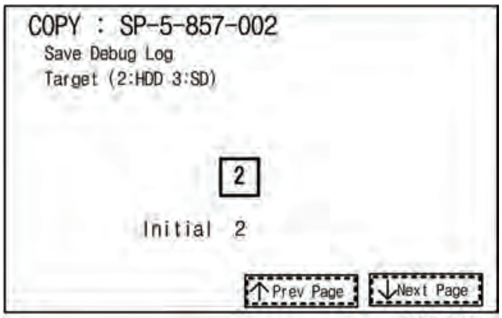

COPY : SP-5-857-001
Save Debug Log
On/Off (1:ON 0:OFF)
1
Initial 0

b178s001

3. On the control panel keypad, press "1". Then press #. 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.


COPY : SP-5-857-002
Save Debug Log
Target (2:HDD 3:SD)
2
Initial 2

b178s002

4. Select the target destination where the debug information will be saved. Under "5857 Save Debug Log", touch "2 Target", enter "2" with the operation panel key to select the hard disk as the target destination. Then press #.

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 touch "5858" and specify the events that you want to record in the debug log. SP5858 (Debug Save When) provides the following items for selection.

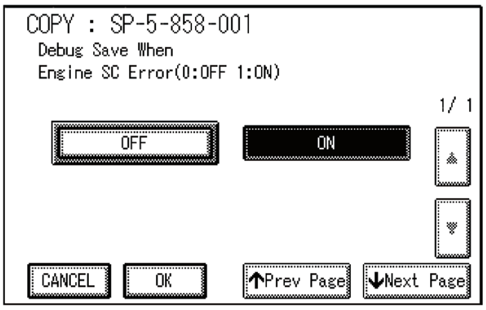
1	Engine SC Error	Saves data when an engine-related SC code is generated.
2	Controller SC Error	Saves debug data when a controller-related SC Code is generated.
3	Any SC Error	Saves data only for the SC code that you specify by entering code number.
4	Jam	Saves data for jams.

Note

- More than one event can be selected.

Example 1: To Select Items 1, 2, 4

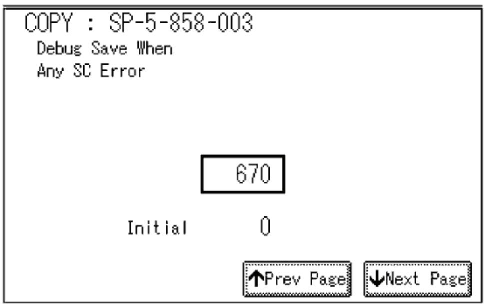
Touch the appropriate items(s). Press "ON" for each selection. This example shows "Engine SC Error" selected.



COPY : SP-5-858-001
Debug Save When
Engine SC Error(0:OFF 1:ON)

Example 2: To Specify an SC Code

Touch "3 Any SC Error", enter the 3-digit SC code number with the control panel number keys. Then press #. This example shows an entry for SC670.



COPY : SP-5-858-003
Debug Save When
Any SC Error

670

Initial 0

Note

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

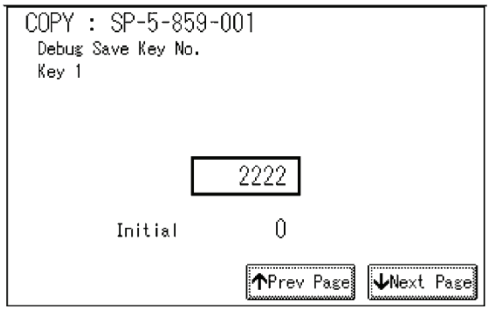
6. Select one or more memory modules for reading and recording debug information. Touch "5859".

   Under "5859" press the necessary key item for the module that you want to record. Enter the appropriate 4-digit number. Then press #.

   Note

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

   The example below shows "Key 1" with "2222" entered.



COPY : SP-5-859-001
Debug Save Key No.
Key 1
2222
Initial 0

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.	Copy	Printer	Scanner	Web
1	2222 (SCS)			
2	14000 (SRM)			
3	256 (IMH)			
4	1000 (ECS)			
5	1025 (MCS)			
6	4848 (COPY)	4400 (GPS)	5375 (Scan)	5682 (NFA)
7	2224 (BCU)	4500 (PDL)	5682 (NFA)	6600 (WebDB)
8		4600 (GPS-PM)	3000 (UCS)	3300 (PTS)
9		2000 (NCS)	2000 (NCS)	6666 (WebSys)

10		2224 (BCU)	4126 (DCS)	2000 (NCS)

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)

1. 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:

- Note that the number entries for Keys 1 to 5 are the same for the Copy, Printer, Scanner, and Web memory modules.
- 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.
- You cannot mix settings for the groups (COPY, PRINTER, etc.) for 006 to 010. For example, if you want to create a PRINTER debug log you must select the settings from the 9 available selections for the "PRINTER" column only.
- One area of the disk is reserved to store the debug log. The size of this area is limited to 4 MB.

5.19.3 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 slot 2 (service slot) of the copier.
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.

5.19.4 RECORDING ERRORS MANUALLY

SC errors and jams only are recorded to the debug log automatically. Please instruct the user to do the following immediately after occurrence to save the debug data for any other errors that occur while the customer engineer is not on site. Such problems also include a controller or panel freeze.

Note

- You must previously switch on the Save Debug Feature (SP5857-001) and select the hard disk as the save destination (SP5857-002) if you want to use this feature.

1. Press (Clear Modes).on the operation panel when the error occurs.
2. On the control panel, enter "01". Then hold down for at least 3 seconds until the machine beeps and then release it. This saves the debug log to the hard disk for later retrieval with an SD card by the service representatives.
3. Switch the machine off and on to resume operation.
   The debug information for the error is saved on the hard disk. This lets the service representative retrieve it on their next visit by copying it from the HDD to an SD card.

5.20 CARD SAVE FUNCTION

5.20.1 OVERVIEW

Card Save:

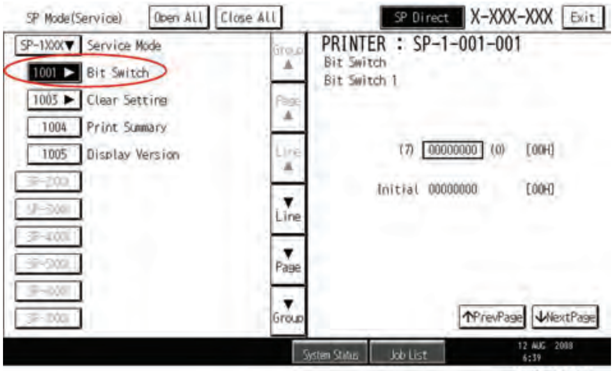
- The Card Save function is used to save print jobs received by the printer on an SD card with no print output. Card Save mode is toggled using printer Bit Switch #1 bit number 4. Card Save will remain enabled until the SD card becomes full, or until all file names have been used.
- Captures are stored on the SD card in the folder /prt/cardsave. File names are assigned sequentially from PRT00000.prn to PRT99999.prn. An additional file PRT.CTL will be created. This file contains a list of all files created on the card by the card save function.
- Previously stored files on the SD card can be overwritten or left intact. Card Save SD has “Add” and “New” menu items.
  - **Card Save (Add):** Appends files to the SD Card. Does not overwrite existing files. If the card becomes full or if all file names are used, an error will be displayed on the operation panel. Subsequent jobs will not be stored.
  - **Card Save (New):** Overwrites files in the card's /prt/cardsave directory.

Limitation:

- Card Save cannot be used with PJL Status Readback commands. PJL Status Readbacks will not work. In addition they will cause the Card Save to fail.

5.20.2 PROCEDURE

1. Turn the main power switch OFF.
2. Insert the SD card into slot 2. Then turn the power ON.
3. Enter SP mode.
4. Select the “Printer SP”.
5. Select SP-1001 "Bit Switch”.



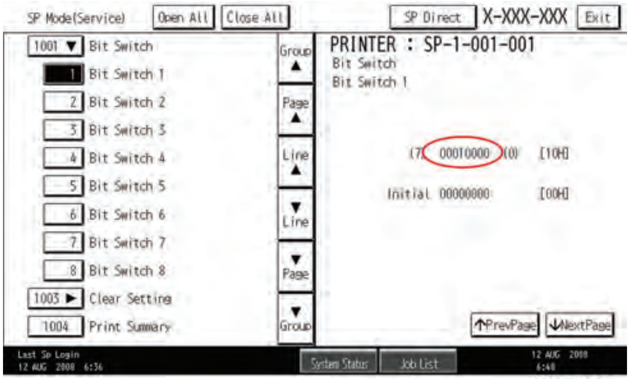
PRINTER : SP-1-001-001
Bit Switch
Bit Switch 1

(7) 00000000 (0) [00H]

Initial 00000000 [00H]

d037t100

6. Select “Bit Switch 1 Settings” and use the numeric keypad to turn bit 4 ON and then press the “#” button to register the change. The result should look like: **00010000**. By doing this, Card Save option will appear in the “List/Test Print” menu.



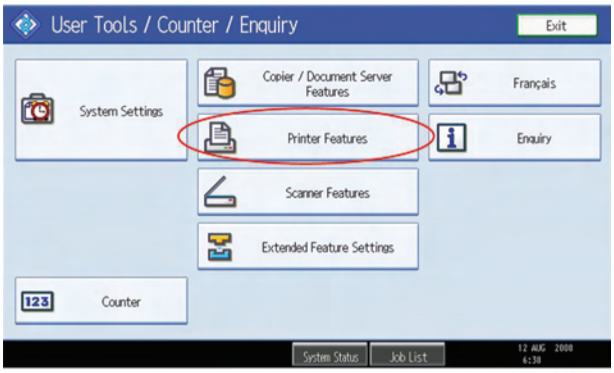
PRINTER : SP-1-001-001
Bit Switch
Bit Switch 1

(7) 00010000 (0) [10H]

Initial 00000000 [00H]

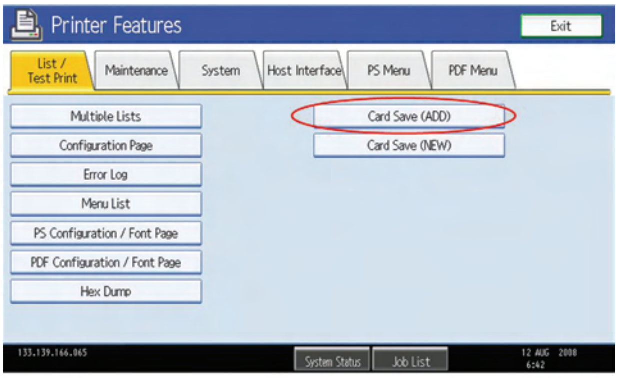
d037t103

7. Press “Exit” to exit SP Mode.
8. Press the “User Tools/Counter” button.
9. Select “Printer Features”.



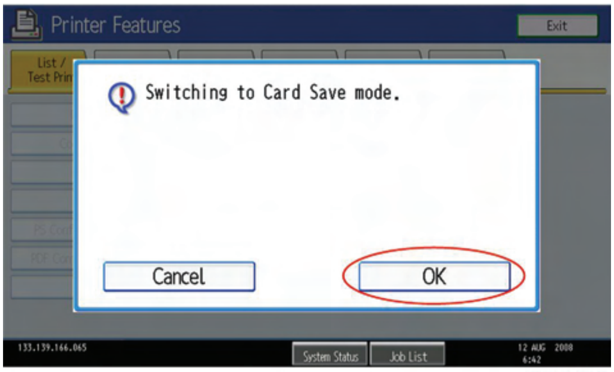
d037t101

10. Card Save (Add) and Card Save (New) should be displayed on the screen. Select Card Save (Add) or Card Save (New).



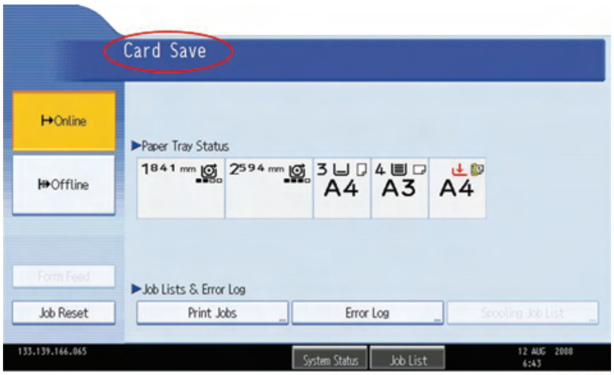
d037t104

11. Press “OK” and then exit the “User Tools/Counter” menu.


Switching to Card Save mode.

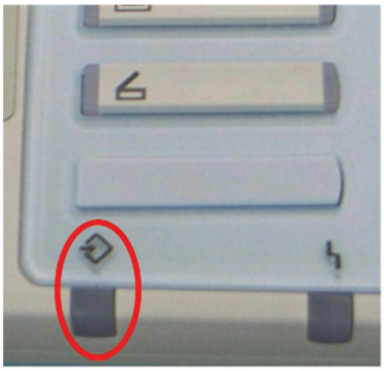
d037t105

12. Press the “Printer” button.
13. Card Save should be displayed in the top left of the display panel.



d037t106

14. Send a job to the printer. The Communicating light should start blinking as shown below.



d037t108

15. As soon as the printer receives the data, it will be stored on the SD card automatically with no print output. Nothing is displayed on the screen, indicating that a Card Save operation was successful.
16. Press “Offline” and then the “Clear/Stop” button to exit Card Save mode.

d037t106a

17. Change the Bit Switch Settings back to the default **00000000**. Press the “#” button in the numeric keypad to register the changes.
18. Remove the SD card after the main power switch is turned off.

Error Messages

Card Save error messages:

- **Init error:** A card save process (i.e. card detection, change to kernel mode) failed to initialize.
- **Card not found:** Card cannot be detected in the slot.
- **No memory:** Insufficient working memory to process the job.
- **Write error:** Failed to write to the card.
- **Other error:** An unknown error occurred.

If an error occurs, pressing “OK” will cause the device to discard the job and return to the ready state.

TROUBLESHOOTING

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

6. TROUBLESHOOTING

6.1 SC TABLES

6.1.1 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.

SC Code Classification

The table shows the classification of the SC codes:

Class 1	Section	SC Code	Detailed section
1XX	Scanning	100 -	Scanner
		190 -	Unique for a specific model
2XX	Laser exposure	200 -	Polygon motor
		220 -	Synchronization control
		230 -	FGATE signal related
		240 -	LD control
		280 -	Unique for a specific model
3XX	Image development 1	300 -	Charge
		330 -	Drum potential
		350 -	Development
		380 -	Unique for a specific model
4XX	Image development 2	400 -	Image transfer
		420 -	Paper separation
		430 -	Cleaning
		440 -	Around drum

Class 1	Section	SC Code	Detailed section
		460 -	Unit
		480 -	Others
5XX	Paper feed / Fusing	500 -	Paper feed
		515 -	Duplex
		520 -	Paper transport
5XX	Paper feed / Fusing	530 -	Fan motor
		540 -	Fusing
		560 -	Others
		570 -	Unique for a specific model
6XX	Communication	600 -	Electrical counters
		620 -	Mechanical counters
		630 -	Account control
		640 -	CSS
		650 -	Network
		670 -	Internal data processing
		680 -	Unique for a specific model
7XX	Peripherals	700 -	Original handling
		720 -	Two-tray finisher
		740 -	Booklet finisher
8XX	Controller	800 -	Error after ready condition
		820 -	Diagnostics error
		860 -	Hard disk
		880 -	Unique for a specific model

Class 1	Section	SC Code	Detailed section
9XX	Others	900 -	Counter
		920 -	Memory
		990 -	Others

6.1.2 SC1XX: SCANNING

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
101	D	Exposure lamp error
		The peak white level is less than 64/255 digits (8 bits) when scanning the shading plate.
		▪ Exposure lamp defective ▪ Lamp stabilizer defective ▪ Exposure lamp connector defective ▪ Standard white plate dirty ▪ Scanner mirror or scanner lens out of position or dirty
		1. Check and clean the scanner mirror(s) and scanner lens. 2. Check and clean the shading plate. 3. Replace the exposure lamp. 4. Replace the lamp stabilizer. 5. Replace the scanner mirror(s) or scanner lens.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
120	D	Scanner home position error 1
		The scanner home position sensor does not detect the “OFF” condition during operation.
		▪ Scanner motor driver defective ▪ Scanner motor defective ▪ Harness between BCU and scanner motor disconnected

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
		▪ Scanner HP sensor defective ▪ Harness between BCU and HP sensor disconnected
		1. Check the cable connection between the BCU and scanner motor. 2. Check the cable connection between the BCU and HP sensor. 3. Replace the scanner motor. 4. Replace the scanner HP sensor.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
121	D	Scanner home position error 2
		The scanner home position sensor does not detect the “ON” condition during operation.
		▪ Scanner motor driver defective ▪ Scanner motor defective ▪ Harness between BCU and scanner motor disconnected ▪ Scanner HP sensor defective ▪ Harness between BCU and HP sensor disconnected
		1. Check the cable connection between the BCU board and scanner motor. 2. Check the cable connection between the BCU and HP sensor. 3. Replace the scanner motor. 4. Replace the scanner HP sensor.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
141	D	Black level detection error
		The black level cannot be adjusted within the target value during the zero clamp.
		▪ Harness disconnected ▪ Defective SBU
		1. Check the cable connection 2. Replace the SBU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
142	D	White level detection error
		The white level cannot be adjusted within the target during auto gain control.
		▪ Dirty exposure glass or optics section ▪ SBU board defective ▪ Exposure lamp defective ▪ Lamp stabilizer defective ▪ Scanner motor defective
		1. Clean the exposure glass, white plate, mirrors, and lens. 2. Check if the exposure lamp is lit during initialization. 3. Check the harness connection between SBU and BCU. 4. Replace the exposure lamp. 5. Replace the scanner motor. 6. Replace the SBU board.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
144	D	SBU communication error
		The SBU connection cannot be detected at power on or recovery from the energy save mode.
		▪ Defective SBU ▪ Defective harness ▪ Defective detection port on the BCU
		1. Replace the harness. 2. Replace the SBU. 3. Replace the BCU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
161	D	IPU error
-001	D	The error result of self-diagnostic by the ASIC on the IPU is detected.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
		▪ Defective IPU or BCU ▪ Defective connection between IPU (or BCU) and SBU
		1. Check the connection between IPU and SBU. 2. Replace the IPU board. 3. Replace the BCU.
-002	D	An error is detected during an access to the IPU.
		▪ Defective IPU or BCU
		1. Replace the IPU board. 2. Replace the BCU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
165	D	Copy Data Security Unit error
		▪ The copy data security board is not detected when the copy data security function is set "ON" with the initial setting. ▪ A device check error occurs when the copy data security function is set "ON" with the initial setting.
		▪ Incorrect installation of the copy data security board ▪ Defective copy data security board
		1. Reinstall the copy data security board. 2. Replace the copy data security board.

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.

6.1.3 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 polygon motor. 2. Replace the laser unit. 3. Replace the harness. 4. Replace the IPU board. 5. 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 polygon motor. 3. Replace the IPU board. 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 polygon motor. 3. Replace the IPU board. 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 LDB 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 IPU board. 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 IPU 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
241	C	LD error: Y
-	-	The BCU 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 IPU 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.

6.1.4 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 [C]
314	D	AC charge output error [M]
315	D	AC charge output error [Y]
-	-	The measured voltage is not proper when BCU measures the charge output for each color.
		▪ Disconnected or broken high voltage cable ▪ Defective or not installed PCDU ▪ Defective HVPS-CB board
		1. Check or replace the connectors. 2. Replace the PCDU for the affected color. 3. Replace the HVPS-CB board.

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 development unit. 2. Replace the development unit. 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 development unit for damage. 2. Check the drawer connector of the PCDU. 3. Replace the development unit. 4. 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 development unit. 4. 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: 2.7V) ± 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.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
		▪ 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 development unit. 3. 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

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
		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.

6.1.5 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
		▪ Check the harness of the ID sensor. ▪ Clean or replace the ID sensor. ▪ Note ▪ After replacing the ID sensor, input the ID sensor correction coefficient with SP3362-013 and -016. For details, refer to "ID sensor board" in the Replacement and Adjustment section. ▪ Check the spring at the PTR unit contact lever. (See “PTR Unit Contact Motor” in the chapter “Replacement and Adjustment”.) ▪ Replace the BCU. ▪ Replace the ITB unit.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
441	D	ITB unit motor error
		The motor LOCK signal is not detected for more than two seconds while the motor START signal is on.
		▪ Motor overload ▪ Defective ITB unit motor ▪ Defective or disconnected connector
		Check the operation of the ITB unit motor with SP5804-051. No operation: 1. Check the harness of the ITB unit motor. 2. Check if the cleaning blade of the ITB cleaning unit is rolled up. 3. Replace the ITB unit motor. 4. 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 SP5804-077. 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 SP5804-076. 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)
491	D	High voltage power: Drum/ development bias output error
		An error signal is detected for 0.2 seconds when charging the drum or development.
		▪ High voltage leak ▪ Broken harness ▪ Defective drum unit or development unit ▪ Defective HVPS-CB board
		1. Check or replace the harness. 2. Replace the drum unit or paper transfer unit. 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-TTS 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-TTS board.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
495	D	PCDU toner collection motor error
		The machine detects that the PCDU toner collection bottle is not set for one second when the PCDU toner collection motor is turned off.
		▪ PCDU toner collection bottle motor damaged ▪ Disconnect or defective harness ▪ Defective DRB board ▪ Defective BCU
		1. Check or replace the harness. 2. Replace the PCDU toner collection bottle motor. 3. Replace the DRB board 4. Replace the BCU 5. Check and retry the connecting procedure.

6.1.6 SC5XX: PAPER FEED AND FUSING

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
503	B	3rd paper tray lift motor malfunction (optional Paper Tray Unit)
504	B	4th paper tray lift motor malfunction (optional Paper Tray Unit)
-	-	The paper lift sensor did not activate within 18 sec. (for PTU) or 8 sec. (for LCT) 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)
506	B	Paper tray feed motor lock (optional Paper Tray Unit)
		A motor lock signal is not detected for more than 1.5 s at power-on or the lock signal is not detected for more than 1.0 s during rotation.
		▪ An obstruction (jammed paper, paper scraps, etc.) has blocked the feed motor drive and caused an overload. ▪ Paper tray feed motor connection loose, disconnected, or damaged ▪ Paper tray feed motor defective
		1. Check or replace the harness. 2. Replace the feed motor. 3. Replace the BCU

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
508	B	By-pass bottom plate error
		The signal from the by-pass tray HP sensor does not change for 1.0 second after the by-pass motor has rotated counterclockwise. If this condition occurs three consecutive times, the SC is generated.
		▪ Disconnect or defective harness of the by-pass motor ▪ Defective or disconnected connection for the by-pass motor. ▪ Defective by-pass motor ▪ Disconnect or defective harness of the by-pass HP sensor ▪ Defective or disconnected connection for the by-pass HP sensor. ▪ Defective by-pass HP sensor
		Check the operation of the by-pass motor with SP5804-023. No operation: 1. Check the harness connection of the by-pass tray and duplex unit. 2. Replace the by-pass motor. Operation: Check the operation of the by-pass HP sensor with SP5803-048 while the by-pass motor is rotating. No change of Bit 0 1. Check the harness connection of the by-pass HP sensor. 2. Replace the by-pass HP sensor.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
530	D	Ventilation fan: front error
531	D	Ventilation fan: rear error
		The motor lock signal error is detected for 10 seconds after the motor lock signal was first detected.
		▪ Defective ventilation fan: front or rear ▪ Disconnected or defective harness ▪ Defective DRB ▪ Defective BCU
		1. Check or replace the harness. 2. Replace the ventilation fan: front (SC530) or rear (SC531). 3. Replace the DRB. 4. 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 drive board ▪ Defective BCU
		1. Check or replace the harness. 2. Replace the laser unit fan. 3. Replace the laser unit fan motor. 4. Replace the DRB. 5. Replace the BCU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
533	D	Fusing front fan error
		The motor lock signal error is detected for 10 seconds after the motor lock signal was first detected.
		▪ Defective fusing front fan ▪ Disconnected or defective harness ▪ Defective DRB ▪ Defective BCU
		1. Check or replace the harness. 2. Replace the fusing front fan. 3. Replace the DRB. 4. Replace the BCU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
534	D	Fusing rear fan error
		The motor lock signal error is detected for 10 seconds after the motor lock signal was first detected.
		▪ Defective fusing rear fan ▪ Disconnected or defective harness ▪ Defective DRB ▪ Defective BCU
		1. Check or replace the harness. 2. Replace the fusing rear fan. 3. Replace the DRB. 4. Replace the BCU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
535	D	Controller box fan error
		The motor lock signal error is detected for 10 seconds after the motor lock signal was first detected.
		▪ Defective controller box fan ▪ Disconnected or defective harness ▪ Defective BCU
		1. Check or replace the harness. 2. Replace the controller box fan. 3. Replace the BCU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
536	D	Junction gate solenoid fan error
		The motor lock signal error is detected for 10 seconds after the motor lock signal was first detected.
		▪ Defective junction gate solenoid fan ▪ Disconnected or defective harness ▪ Defective BCU
		1. Check or replace the harness. 2. Replace the junction gate solenoid 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 error 1
		The temperature detected by the thermopile does not reach 0°C for 3 seconds.
		▪ Loose connection of the thermopile ▪ Defective thermopile
		1. Check that the thermopile is firmly connected. 2. Replace the thermopile.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
542	A	Heating roller warm-up error 1
		▪ The heating roller temperature does not reach 50°C for 4 seconds after the heating lamp on. ▪ The heating roller temperature does not reach the ready temperature for 43 seconds after the fusing unit has rotated. ▪ The heating roller temperature does not reach 100°C for 24 seconds in the low temperature condition after the heating lamp on.
		▪ Dirty or defective thermopile ▪ Defective thermopile. ▪ Trash on the surface of the thermopile lens. ▪ Defective thermostat ▪ Broken harness of thermostat ▪ 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 harness of thermostat or thermostat. 6. 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 230°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 fusing control system
		1. Replace the PSU. 2. Replace the BCU.

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 37 seconds.
		▪ Broken heating roller thermostat ▪ Broken heating roller fusing lamp
		1. Replace the heating roller thermostats. 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 2 seconds even though the heater relay is on after turning on the main power or closing the front door. ▪ The detection error occurs twice or more in the 11 zero cross signal detections. This error is defined when the detected zero cross signal is less than 45.
		▪ Defective fusing lamp relay ▪ Defective fusing lamp relay circuit ▪ 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 150 seconds when the machine's inside temperature is 5°C or more. ▪ The temperature measured by the heating roller thermistor (end) is -5°C or less for 8 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 for 65 seconds after the fusing unit has rotated. ▪ The heating roller temperature does not reach 100°C for 25 seconds in the low temperature condition 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 PSU. 2. 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 PSU ▪ Defective BCU ▪ Defective fusing control system
		1. Replace the PSU. 2. 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 130 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 SP1142-001 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 45 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 PSU. 2. 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 fusing control system
		1. Replace the PSU. 2. Replace the BCU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
571	A	Pressure roller thermister error 4
		The temperature measured by the pressure roller thermistor (end) does not reach 0 °C for 45 seconds.
		▪ Loose connection of pressure roller thermistor (end) ▪ Defective pressure roller thermistor (end)
		1. Check that the pressure roller thermistor (end) is firmly connected. 2. Replace the pressure roller thermistor (end).

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
573	A	Pressure roller overheat 4 (software error)
		The detected pressure roller temperature stays at 230°C or more for 1 second.
		▪ Defective PSU ▪ Defective BCU
		1. Replace the PSU. 2. Replace the BCU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
574	A	Pressure roller overheat 4 (hardware error)
		The pressure roller thermistor (end) detects 250°C or more.
		▪ Defective PSU ▪ Defective BCU ▪ Defective fusing control system
		1. Replace the PSU. 2. Replace the BCU.

6.1.7 SC6XX: DEVICE COMMUNICATION

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
610	D	Mechanical counter error: K
611	D	Mechanical counter error: FC
-	-	This SC is only for NA models. The machine detects the mechanical counter error when SP5987-001 is set to "1".
		▪ Disconnected mechanical counter ▪ Defective mechanical counter ▪ Defective BCU
		1. Check or replace the mechanical counter. 2. Replace the BCU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
620	D	ARDF communication error
		After the ARDF is detected, the break signal occurs or communication timeout occurs.
		▪ Incorrect installation of ARDF ▪ ARDF defective ▪ IPU defective ▪ External noise
		1. Check the cable connection of the ARDF. 2. Shut out the external noise. 3. Replace the ARDF. 4. Replace the IPU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
621	D	Finisher communication error
-	-	While the BCU communicates with an optional unit, an SC code is displayed if one of following conditions occurs. ▪ The BCU receives the break signal which is generated by the peripherals only just after the main switch is turned on. ▪ When the BCU does not receive an OK signal from a peripheral 100ms after sending a command to it. The BCU resends the command. The BCU does not receive an OK signal after sending the command 3 times.
		▪ Cable problems ▪ BCU problems ▪ PSU problems in the machine ▪ Main board problems in the peripherals ▪ Defective main board of peripherals. ▪ Disconnected peripherals.
		1. Check if the cables of peripherals are correctly connected. 2. Replace the PSU if no power is supplied to peripherals. 3. Replace the main board of peripherals. 4. Replace the BCU.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
632	CTL B	Counter device error 1
		After 3 attempts to send a data frame to the optional counter device via the serial communication line, no ACK signal was received within 100 ms.
		▪ Serial line between the optional counter device, the relay board and copier control board is disconnected or damaged ▪ Make sure that SP5113 is set to enable the optional counter device.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
633	CTL B	Counter device error 2
		After 3 attempts to send a data frame to the optional counter device via the serial communication line, no ACK signal was received within 100 ms.
		▪ Serial line between the optional counter device, the relay board and copier control board is disconnected or damaged ▪ Make sure that SP5113 is set to enable the optional counter device.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
634	CTL B	Counter device error 3
		A backup RAM error was returned by the counter device.
		▪ Counter device control board defective ▪ Backup battery of counter device defective

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
635	CTL B	Counter device error 4
		A backup battery error was returned by the counter device.
		▪ Counter device control board defective ▪ Backup battery of counter device defective

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
636	CTL	SD Card Error
01	D	Expanded authentication module error
		There is no expanded authentication module in the machine. The SD card or the file of the expanded authentication module is broken.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
		There is no DESS module in the machine.
		▪ No expanded authentication module ▪ Defective SD card ▪ No DESS module
		1. Install the expanded authentication module. 2. Install the SD card. 3. Install the DESS module.
02	D	Version error
		The version of the expanded authentication module is not correct.
		▪ Incorrect module version
		1. Install the correct file of the expanded authentication module.

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 board 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)
650	CTL B	Communication error of the remote service modem (RCG-M)
-001	-	Authentication error
		The authentication for the RCG-M fails at a dial up connection.
		▪ Incorrect SP settings ▪ Disconnected telephone line ▪ Disconnected modem board Disconnected Local Area Network card
		Check and set the correct user name (SP5816-156) and password (SP5816-157).
-004	-	Incorrect modem setting
		Dial up fails due to the incorrect modem setting.
		Same as -001
		Check and set the correct AT command (SP5819-160).
-005	-	Communication line error
		The supplied voltage is not sufficient due to the defective communication line or defective connection.
		Same as -001
		Consult with the user's local telephone company.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
651	CTL C	Incorrect dial up connection
		-001: Program parameter error
		-002: Program execution error
		An unexpected error occurs when the modem (RCG-M) tries to call the

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
		center with a dial up connection.
		▪ Caused by a software bug
		No action required because this SC does not interfere with operation of the machine.

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)
672	CTL D	Controller-to-operation panel communication error at startup
		After powering on the machine, the communication circuit between the controller and the operation panel is not opened, or communication with controller is interrupted after a normal startup.
		▪ Controller stall ▪ Controller board installed incorrectly ▪ Controller board defective ▪ Operation panel connector loose or defective
		1. Check the harness connection. 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 receptor.
		▪ Noise ▪ No memory chip on the toner cartridge ▪ Defective RFID reader and writer ▪ Disconnected RFID controller board I/F
		1. Turn the main power off and on. 2. Replace the toner cartridge. 3. Replace the RFID controller board.
061-164		Retry of RFID communication fails three times after the machine has detected the RFID communication error.
		▪ Defective RFID reader and writer ▪ No memory chip on the toner cartridge ▪ Noise
		1. Replace the toner cartridge.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
		2. Turn the main power off and on. 3. Replace the RFID-R/W controller 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
		1. Replace the development unit. 2. 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 IPU. 3. Replace the HDD. 4. Update the firmware of the BCU. 5. Replace the BCU. 6. Replace the controller board.

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 board.

6.1.8 SC7XX: PERIPHERALS

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
730	B	Shift tray motor error
		The shift tray HP sensor does not activate within 1.86 seconds after the shift tray motor starts to move at power on or copying. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.
		▪ Defective shift tray motor ▪ Defective shift tray HP sensor.
		Replace the shift tray motor.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
740	D	Finisher stapler motor error
		The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.
		▪ Staple jam ▪ Motor overload ▪ Defective stapler motor ▪ Defective stapler safety sensor
		1. Check the connections and cables for the components mentioned above. 2. Replace the stapler unit 3. Replace the finisher main board.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
742	D	Finisher stapler movement motor error
		▪ Motor overload ▪ Loose connection of the stapler unit HP sensor ▪ Loose connection of the stapler unit movement motor ▪ Defective stapler unit HP sensor ▪ Defective stapler movement motor
		1. Check the connection of the stapler movement motor. 2. Check the connection of the stapler unit HP sensor. 3. Replace the stapler unit HP sensor. 4. Replace the stapler unit movement motor.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
750	D	Finisher: Tray lift motor error
		▪ Motor overload ▪ Loose connection of the tray lift motor ▪ Defective tray lift motor
		1. Check the connections to the tray lift motor. 2. Replace the tray lift motor.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
760	D	Finisher punch motor error
		The punch HP sensor is not activated within the specified time after the punch motor turned on. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.
		▪ Punch HP sensor disconnected, defective ▪ Punch motor disconnected or defective ▪ Punch motor overload due to obstruction
		1. Check the connections and cables for the punch motor and HP

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
		sensor. 2. Check for blockages in the punch motor mechanism. 3. Replace the punch slider unit. 4. Replace the punch unit. 5. Replace the finisher main board.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
763	B	Finisher: Punch registration motor error
		The punch unit moves but is not detected at the home position within the specified time. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.
		▪ Motor harness disconnected, loose, defective ▪ Defective registration motor
		1. Check the connections to the punch registration motor. 2. Replace the punch unit slider. 3. Replace the punch unit.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
787	D	Finisher: Paper edge detection sensor error
		The machine does not detect correct voltage from the paper edge detection sensor.
		▪ Defective connector ▪ Defective paper edge detection sensor. ▪ Defective DA or AD converter.
		1. Replace the punch slider unit. 2. Replace the punch unit.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
788	D	Finisher: Paper size sensor error without side tray
789	B	Finisher: Paper size sensor error with side tray
		The machine does not detect correct voltage from the paper size sensors.
		▪ Defective connector ▪ Defective paper size sensors ▪ Defective DA or AD converter.
		1. Replace the punch slider unit. 2. Replace the punch unit.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
790	D	Finisher: Front jogger motor error without side tray
793	B	Finisher: Front jogger motor error with side tray
		The machine does not detect a correct signal from the front jogger fence HP sensor at power-on. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.
		▪ Defective front jogger motor ▪ Loosen connection ▪ Motor overload ▪ Defective front jogger fence HP sensor
		1. Replace the front jogger fence HP sensor. 2. Replace the front jogger motor.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
791	D	Finisher: Rear jogger motor error without side tray
794	B	Finisher: Rear jogger motor error with side tray
		The machine does not detect a correct signal from the rear jogger fence HP sensor at power-on. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.
		▪ Defective rear jogger motor ▪ Loosen connection ▪ Motor overload ▪ Defective rear jogger fence HP sensor
		1. Replace the rear jogger fence HP sensor. 2. Replace the rear jogger motor.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
792	D	Pick-up roller contact motor error without side tray
795	B	Pick-up roller contact motor error with side tray
		The machine does not detect a correct signal from the pick-up roller HP sensor at power-on. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.
		▪ Defective pick-up roller contact motor ▪ Loosen connection ▪ Motor overload ▪ Defective pick-up roller HP sensor
		1. Replace the pick-up contact motor. 2. Replace the pick-up roller HP sensor.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
796	B	Belt roller solenoid error
		▪ Disconnected harness ▪ Defective belt roller position sensor ▪ Defective belt roller solenoid
		1. Check the harness connection. 2. Replace the belt roller position sensor. 3. Replace the belt roller solenoid.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
797	D	NVRAM data error
		▪ Defective NVRAM on the main board of the internal finisher
		1. Check the harness connection. 2. Replace the main board.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
798	D	Front Fan error
		The machine detects the fan lock signal (ON) consecutively 200 ms.
		▪ Front fan damaged ▪ Disconnect or defective the harness ▪ Front fan overload
		1. Check or replace the harness. 2. Replace the front fan.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
799	D	Output tray motor error
		▪ Output tray motor damaged ▪ Output tray motor overload ▪ Loose connection of the output tray motor ▪ Defective output tray motor
		Replace the output tray unit.

6.1.9 SC8XX: OVERALL SYSTEM

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
816	CTL D	Energy saving I/O sub-system error
		The energy saving I/O sub-system detects an error.
		▪ Controller board defective
		Replace the controller board.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
817	CTL D	Monitor Error
		This is a file detection and electronic file signature check error when the boot loader attempts to read the self-diagnostic module, system kernel, or root system files from the OS Flash ROM, or the items on the SD card in the controller slot are false or corrupted.
		▪ OS Flash ROM data defective; change the controller firmware ▪ SD card data defective; use another SD card

<table>
<tr><th>No.</th><th>Type</th><th colspan="2">Details (Symptom, Possible Cause, Troubleshooting Procedures)</th></tr>
<tr><td rowspan="2">819</td><td rowspan="2">CTL
C</td><td colspan="2">Fatal kernel error</td></tr>
<tr><td colspan="2">Due to a control error, a RAM overflow occurred during system processing. One of the following messages was displayed on the operation panel.</td></tr>
<tr><td colspan="2">[0x5032]</td><td>HAIC-P2 error</td><td rowspan="4">▪ System program defective
▪ Controller board defective
▪ Optional board defective
1. Replace controller firmware</td></tr>
<tr><td colspan="2">[0x696e]</td><td>init died</td></tr>
<tr><td colspan="2">[0x766d]</td><td>vm_pageout: VM is full</td></tr>
<tr><td colspan="2">[554C]</td><td>USB error</td></tr>
</table>

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
820	CTL D	Self-diagnostics error: CPU [XXXX]: Detailed error code
[0001] to [06FF] [0801] to [4005]		CPU error During the self-diagnostic, the controller CPU detects an error. There are 47 types of error code (0001 to 4005) depending on the cause of the 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
[0702] [0709] [070A]		CPU/Memory Error
		▪ System firmware problem ▪ Defective RAM-DIMM ▪ Defective controller
		1. Reinstall the controller system software. 2. Replace the RAM-DIMM. 3. Replace the controller.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
821	CTL D	Self-diagnostics error: ASIC [XXXX]: Detailed error code
[0B00]		ASIC error
		The write-&-verify check error has occurred in the ASIC.
		▪ Defective ASIC device
		Replace the controller.
[0B06]		ASIC detection error
		The I/O ASIC for system control is not detected.
		▪ Defective ASIC ▪ Defective North Bridge and PCI I/F
		Replace the controller board.
[0D05]		Self-diagnosis error: ASIC
		The CPU checks if the ASIC timer works correctly compared with the CPU timer. If the ASIC timer does not function in the specified range, this SC code is displayed.
		▪ System firmware problem ▪ Defective RAM-DIMM ▪ Defective controller
		1. Reinstall the controller system firmware. 2. Replace the RAM-DIMM. 3. Replace the controller board.
[50A1]		Video bridge device (ASIC) error 1
		The CPU does not detect the video bridge device.
		▪ Defective I/F between the video bridge device and controller
		Replace the controller board.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
[50A2]		Video bridge device (ASIC) register error 1
		The CPU detects the video bridge device, but detects error data from the video bridge device.
		▪ Defective I/F between the video bridge device and controller
		Replace the controller board.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
822	CTL B	Self-diagnostic error: HDD (Hard Disk Drive) [XXXX]: Detailed error code
[3003]		Timeout error
[3004]		Command error
-	-	When the main switch is turned on or starting the self-diagnostic, the HDD stays busy for the specified time or more.
-	-	▪ Loose connection ▪ Defective HDD ▪ Defective controller
-	-	1. Check that the HDD is correctly connected to the controller. 2. Replace the HDD. 3. Replace the controller.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
823	CTL B	Self-diagnostic error: NIB [XXXX]: Detailed error code
[6101]		MAC address check sum error The result of the MAC address check sum does not match the check sum stored in ROM.
[6104]		PHY IC error The PHY IC on the controller cannot be correctly recognized.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
[6105]		PHY IC loop-back error An error occurred during the loop-back test for the PHY IC on the controller.
-		Replace the controller.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
824	CTL D	[1401] Self-diagnosis error: Standard NVRAM The controller cannot recognize the standard NVRAM installed or detects that the NVRAM is defective.
		▪ Loose connection ▪ Defective standard NVRAM ▪ Defective controller
		1. Check the standard NVRAM is firmly inserted into the socket. 2. Replace the NVRAM. 3. Replace the controller board.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
826	CTL D	Self-diagnostic Error: RTC/optional NVRAM
[1501]		The one second counted by the RTC is different from the one second counted by the CPU on the controller.
		▪ Defective the RTC device
		Replace the RTC device..
[15FF]		The RTC device is not detected.
		▪ Defective RTC device ▪ NVRAM without RTC installed ▪ Discharged backup battery
		Replace the NVRAM with another NVRAM with an RTC device.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
827	CTL D	Self-diagnostic error: Standard SDRAM DIMM [XXXX]: Detailed error code
[0201]		Verification error
		Error detected during a write/verify check for the standard RAM (SDRAM DIMM).
		▪ Loose connection ▪ Defective SDRAM DIMM ▪ Defective controller
		1. Turn the main switch off and on. 2. Replace the SDRAM DIMM. 3. Replace the controller.
[0202]		Resident memory error
		The SPD values in all RAM DIMM are incorrect or unreadable.
		▪ Defective RAM DIMM ▪ Defective SPD ROM on RAM DIMM ▪ Defective 12C bus
		1. Replace the RAM DIMM.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
828	CTL D	Self-diagnostic error: ROM [XXXX]: Detailed error code
[0101]		Check sum error 1 ▪ The boot monitor and OS program stored in the ROM DIMM is checked. If the check sum of the program is incorrect, this SC code is displayed.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
829	CTL B	Self-diagnosis error: optional RAM [XXXX]: Detailed error code
[0401]		Verification error (Slot 1) The data stored in the optional RAM in Slot 1 does not match the data when reading.
		▪ Not specified RAM DIMM installed ▪ Defective RAM DIMM
		1. Replace the RAM DIMM. 2. Replace the controller board.

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 BCU.
[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 BCU.
[50B1]		Could not initialize or read the bus connection.
		▪ Check for loose connections at the mother board.
		Replace the mother 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)
838	CTL D	Self-diagnostic Error: Clock Generator
[2701]		A verify error occurred when setting data is read from the clock generator on the controller.
		▪ Defective clock generator ▪ Defective controller board
		Replace the controller board.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
839	CTL C	USB NAND Flash ROM error
[9101]		The ID of the USB NAND Flash ROM cannot be read.
		▪ Defective controller board
		Replace the controller board.
[9110]		The USB NAND Flash ROM is disconnected.
		▪ Defective controller board
		Replace the controller board.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
851	CTL B	IEEE1394 interface error
		The 1394 interface is unusable.
		▪ Defective IEEE1394 ▪ Defective controller.
		1. Turn the main switch off and on. 2. Replace the IEEE1394 interface board. 3. Replace the controller.

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/Bluetooth card not detected
		The wireless LAN/Bluetooth 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/Bluetooth card error
		An error is detected in the wireless LAN/Bluetooth card.
		▪ Loose connection ▪ Defective wireless LAN/Bluetooth card
		1. Check the connection. 2. Replace the wireless LAN/Bluetooth card.

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.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)	
		[30]	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. 1. 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)
862	CTL D	Bad sector number error
		The number of bad sectors in the HDD (image data area) goes over 101.
		▪ Defective HDD
		1. Format the HDD with SP5-832-002. 2. Replace the HDD.

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 (☛ "Address Book Upload/Download" in the Appendices) and Initialize the address book data (SP5-846-046) 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 (SP5-832-007). 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 (SP5-832-008). 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 (D362).
		▪ DataOverwriteSecurity Unit (SD card) not installed ▪ Defective HDD
		1. Install the DataOverwriteSecurity Unit (D362). 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 (D362).
		▪ 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 with SP5832-004.
	-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 with SP5832-004. 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 with SP5832-004.

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 with SP5832-004.
-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 (D362) is installed and activated.
		▪ Defective SD card (D362) ▪ SD card (D362) not installed
		1. Replace the NVRAM and then install the new SD card (D362). 2. Check and reinstall the SD card (D362).

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)
880	CTL D	File format converter error
		The file format converter does not respond.
		- Defective file format converter
		Replace the file format converter.

6.1.10 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 LCD (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
		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 board with the correct type.
-004		▪ Incorrect model controller installed.
		Replace the controller board 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. For a fax operation problem, simplify the nesting of the fax group addresses.

No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
		4. 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 the setting of SP5875-001. If the setting is set to "1 (OFF)", change it to "0 (OFF)". 2. Check if the RAM-DIMM and ROM-DIMM are correctly connected. 3. Reinstall the controller system firmware. 4. Replace the controller.

Note 1

If a problem always occurs in a specific condition (for example. printer driver setting, image file), the problem may be caused by a software error. In this case, the following data and information needs to be sent back to your product specialist. Please understand that it may take some time to get a reply on how to solve the problem, because in some cases the design staff in Japan must analyze the data.

- Symptom / Possible Causes / Action taken
- Summary sheet (SP mode “Printer SP”, SP1-004 [Print Summary])
- SMC - All (SP5-990-001)
- SMC - Logging (SP5-990-004)
- Printer driver settings used when the problem occurs
- All data displayed on the screen (SC code, error code, and program address where the problem is logged.)
- Image file which causes the problem, if possible

6.2 PROCESS CONTROL ERROR CONDITIONS

6.2.1 DEVELOPER INITIALIZATION RESULT

Displayed number shows results of each developer initialization result.

0000 = YMCK

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 less than 0.7V when Vcnt is 4.3V.	1. Defective TD sensor
7	Vcnt error 1	Vcnt is more 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 less than 0.7V when Vcnt is 4.3V and Vcnt is more than 4.7V when Vcnt is Vt target ±0.2V.	1. Defective TD sensor

No.	Result	Description	Possible Causes/Action
9	Vcnt error 3	Vcnt is Vt target ± over 0.2V.	1. Defective TD sensor 2. Vt target settings are not correct. 3. Toner density error

Note

- The machine starts developer initialization after you set “**1**” 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.

6.2.2 PROCESS CONTROL SELF-CHECK RESULT

Displayed number shows results of each Process Control Self-Check.

00000000 = YYMMCCKK

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.	-
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 hopper unit. Vt maximum error and an image is O.K: 1. Replace the development unit. 2. Replace the BCU board. Vt minimum error: 1. Replace the development unit. 2. Replace the BCU board.

No.	Result	Description	Possible Causes/Action
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 BCU board. ▪ Solid image is O.K. 1. Replace the ID sensors. 2. Replace the BCU 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 error 54 is displayed.	▪ ID sensor pattern density is too high or low.
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 hopper unit.
57	Vk error: Maximum	Vk is out of range. 300 < Vk	▪ ID sensor pattern density is too low. ▪ Hardware defective. Same as 53
58	Vk error: Minimum	Vk is out of range. Vk < –300	▪ ID sensor pattern density is too high. ▪ Background dirty ▪ Hardware defective Same as 53
59	Sampling data error during	Not enough data can be sampled during the	▪ ID sensor pattern density is too high or low.

Trouble - shooting

No.	Result	Description	Possible Causes/Action
	gamma correction	gamma correction.	▪ Hardware defective Same as 53
99	Unexpected error	Process control fails.	▪ Power Failure Check the power source.

Vsg Adjustment Result

Displayed number shows results of each sensor check.

000 = FCR

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 sensors (toner, dust, or foreign material) ▪ Dirty image transfer belt ▪ Scratched image transfer belt ▪ Defective ID sensors ▪ Poor connection ▪ Defective BCU 1. Clean the ID sensors. 2. Check the ITB cleaning unit. Clean or replace the image transfer belt. 3. Replace the image transfer belt. 4. Replace the ID sensors. 5. Check the connection. 6. Replace the BCU board.
3	ID sensor output error	ID sensor output is more than "Voffset Threshold" (SP3-324-004)	▪ Defective ID sensors ▪ Poor connection ▪ Defective BCU 1. Replace the ID sensors. 2. Check the connection. 3. Replace the BCU board.
9	Vsg Adjustment error	Vsg adjustment has not been completed.	▪ Other cases Retry SP3-321-010.

6.2.3 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.	-
5-9	Not used	-	-

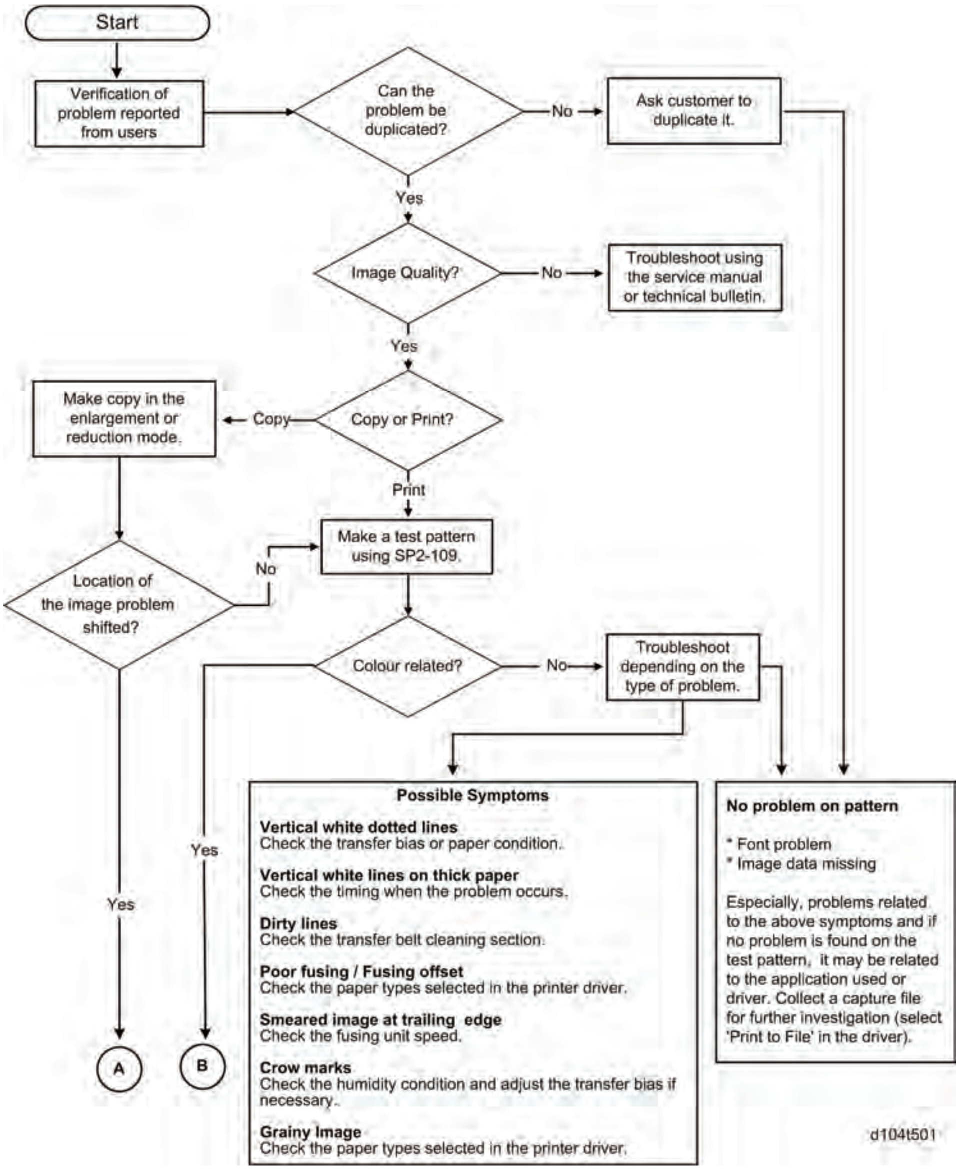
Note

- For details, see the "Troubleshooting Guide - Line Position Adjustment" section.

6.3 TROUBLESHOOTING GUIDE

6.3.1 IMAGE QUALITY

The following work-flow shows the basic troubleshooting steps for the image quality problems on this product.



Possible Symptoms

Vertical white dotted lines
Check the transfer bias or paper condition.

Vertical white lines on thick paper
Check the timing when the problem occurs.

Dirty lines
Check the transfer belt cleaning section.

Poor fusing / Fusing offset
Check the paper types selected in the printer driver.

Smeared image at trailing edge
Check the fusing unit speed.

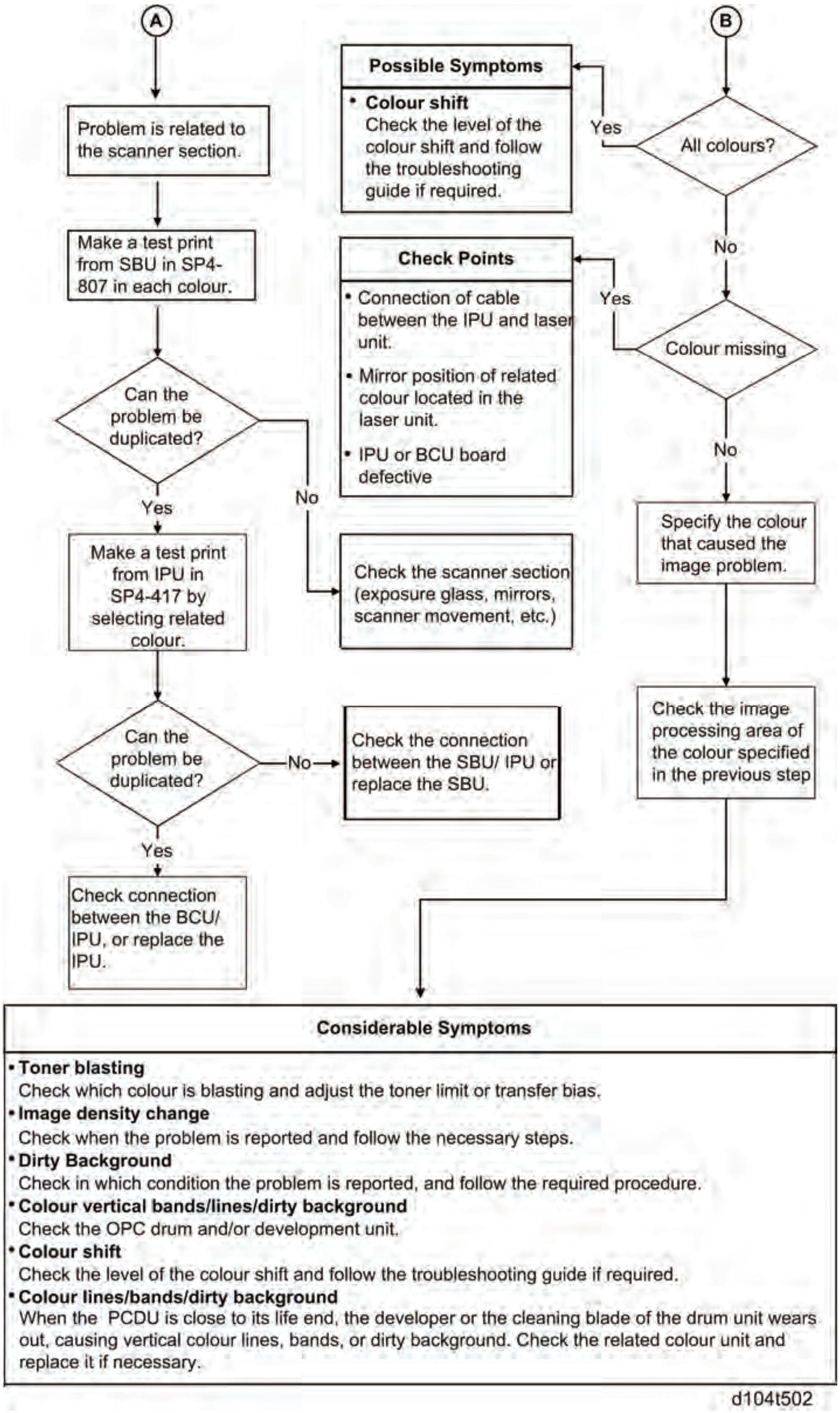
Crow marks
Check the humidity condition and adjust the transfer bias if necessary.

Grainy Image
Check the paper types selected in the printer driver.

No problem on pattern

- Font problem
- Image data missing

Especially, problems related to the above symptoms and if no problem is found on the test pattern, it may be related to the application used or driver. Collect a capture file for further investigation (select 'Print to File' in the driver).



Considerable Symptoms

- **Toner blasting**
  Check which colour is blasting and adjust the toner limit or transfer bias.
- **Image density change**
  Check when the problem is reported and follow the necessary steps.
- **Dirty Background**
  Check in which condition the problem is reported, and follow the required procedure.
- **Colour vertical bands/lines/dirty background**
  Check the OPC drum and/or development unit.
- **Colour shift**
  Check the level of the colour shift and follow the troubleshooting guide if required.
- **Colour lines/bands/dirty background**
  When the PCDU is close to its life end, the developer or the cleaning blade of the drum unit wears out, causing vertical colour lines, bands, or dirty background. Check the related colour unit and replace it if necessary.

6.3.2 LINE POSITION ADJUSTMENT

When there are color registration errors on the output, do the line position adjustment as follows.

Note

- Use A3/DLT size paper for this adjustment.

Test

1. Do SP2-111-003 (Mode c: rough adjustment).
2. Use SP2-194-007 to check if the result of the line position adjustment is correct (0: Completed successfully, 1: Not completed). If the result is "1", refer to 'Countermeasure list for color registration errors'.
3. Do SP2-111-001 (Mode a: fine adjustment twice).
4. Use SP2-194-007 to check if the result of the line position adjustment is correct (0: Completed successfully, 1: Not completed). If the result is "1", refer to 'Countermeasure list for color registration errors'.
5. Put some A3/DLT paper on the by-pass tray.

   Note

   - When you print a test pattern, use the by-pass tray to feed the paper.
6. Print out test pattern "7" with SP2-109-003.
7. Check the printed output with a loupe.
8. If there are no color registration errors on the output, the line position adjustment is correctly done. If not, refer to the countermeasure list for color registration errors.

Countermeasure list for color registration errors

After Executing SP2-111-003

- Result: "1" in SP2-194-007
- Result: "2" or "3" (Line pattern detection failure) in SP2-194-010, -011, -012

Test pattern check	Possible cause/Countermeasure
White image, Abnormal image, Low density	▪ Defective image processing unit ▪ Low density of test pattern ▪ Defective controller 1. Replace the high voltage power supply unit. 2. Do the forced process control (SP3-011-001) or supply some toner (SP3-015-xxx).

Test pattern check	Possible cause/Countermeasure
	3. Replace the BCU.
Normal image, but with color registration errors	▪ Defective ID sensors ▪ Defective BCU 1. Replace the ID sensor. 2. Replace the BCU.

After Executing SP2-111-003

- Result: "1" in SP2-194-007
- One of results: "4" (Out of adjustable range) in SP2-194-010, -011, -012.

Test pattern check	Possible cause/Countermeasure
The main scan registrations of M, C, Y are shifted by more than ±15 mm from the main scan registration of K.	▪ Defective laser unit ▪ Defective BCU 1. Replace the laser unit. 2. Replace the BCU.
The sub scan registrations of M, C, Y are shifted by more than ±20 mm from the sub scan registration of K.	▪ Defective image transfer belt ▪ Defective drive units ▪ Defective BCU 1. Replace the image transfer belt. 2. Replace the drum motor. 3. Replace the BCU.
The main scan registration is shifted by more than ±0.66 mm, but only at the central area of the image on the output.	▪ Defective ID sensor at center ▪ Deformed center area on the image transfer belt ▪ Defective BCU 1. Replace the ID sensor. 2. Replace the image transfer belt. 3. Replace the BCU.
The skew for M, C, Y is more than ±0.75 mm from the main scan registration of K	▪ Defective PCU ▪ Defective laser unit ▪ Defective BCU 1. Reinstall or replace the BCU. 2. Replace the laser unit. 3. Replace the BCU.

Test pattern check	Possible cause/Countermeasure
Others	▪ Skew correction upper limit error ▪ Defective BCU ▪ Defective laser unit 1. Replace the BCU. 2. Replace the laser unit.

After Executing SP2-111-003

- Result: "1" in SP2-194-007
- Result: "0" in SP2-194-010, -011, -012.

Test pattern check	Possible cause/Countermeasure
	Do SP2-111-001 or -002.

After Executing SP2-111-001

- Result: "1" in SP2-194-007
- Result: "2" or "3" (Line pattern detection failure) in SP2-194-010, -011, -012

Test pattern check	Possible cause/Countermeasure
White image, Abnormal image, Low density	▪ Defective image processing unit ▪ Low density of test pattern ▪ Defective BCU 1. Replace the high voltage power supply unit. 2. Do the forced process control (SP3-011-001) or supply some toner (SP3-015-xxx). 3. Replace the BCU.
Normal image, but with color registration errors	▪ Defective ID sensor ▪ Defective BCU 1. Replace the ID sensor. 2. Replace the BCU.

After Executing SP2-111-001

- Result: "1" in SP2-194-007
- Result: "4" (Out of adjustable range) in SP2-194-010, -011, -012

Test pattern check	Possible cause/Countermeasure
Low image density on the output	▪ Low pattern density Do the forced process control (SP3-011-001) or supply some toner (SP3-015-xxx).
The main scan registrations of M, C, Y are shifted by more than ±1.4 mm from the main scan registration of K.	▪ No defective component ▪ Defective laser optics housing unit ▪ Defective BCU 1. Do SP2-111-003 again. 2. Replace the laser unit. 3. Replace the BCU.
The sub scan registrations of M, C, Y are shifted by more than ±1.4mm from the sub scan registration of K.	▪ No defective component ▪ Defective image transfer belt ▪ Defective drive units ▪ Defective BCU 1. Do SP2-111-003 again. 2. Replace the image transfer belt. 3. Replace the drum motor. 4. Replace the BCU.
The main scan registration is shifted by more than ±0.66 mm, but only at the central area of the image on the output.	▪ Defective ID sensor at center ▪ Deformed center area on the image transfer belt ▪ Defective BCU 1. Replace the ID sensor. 2. Replace the image transfer belt. 3. Replace the BCU.
The skew for M, C, Y is more than ± 0.75 mm from the main scan registration of K. – at the end of the scan line?	▪ Defective PCDU ▪ Defective laser unit ▪ Defective BCU 1. Reinstall or replace the PCDU. 2. Replace the laser unit. 3. Replace the BCU.
Others	▪ Skew correction upper limit error ▪ Defective BCU ▪ Defective laser unit 1. Replace the BCU. 2. Replace the laser unit.

After Executing SP2-111-001

- Result: "0" in SP2-194-007
- Result: No color registration errors in SP2-194-010, -011, -012

Test pattern check	Possible cause/Countermeasure
The main scan registration of K is shifted.	▪ Abnormal SP setting value of main scan: K Adjust the value with SP2-101-001.
The main scan length of K is shifted.	▪ Abnormal SP setting value of main scan length detection: K Adjust the value with SP2-102-001 and -003. **Note:** The setting value of these SPs should be same.

After Executing SP2-111-001

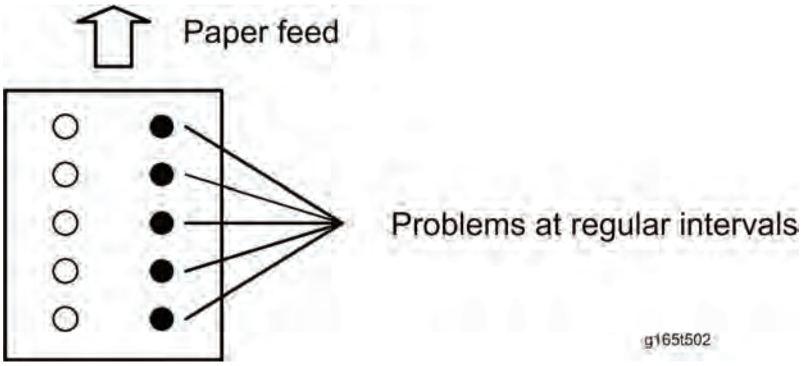
- Result: "0" in SP2-194-007
- Result: Color registration errors in SP2-194-010, -011, -012

Test pattern check	Possible cause/Countermeasure
Low image density on the output	▪ Low pattern density Do the forced process control (SP3-011-001) or supply some toner (SP3-015-xxx).
The main scan registration is shifted, but only at the central area of the image on the output.	▪ Defective ID sensor at center ▪ Deformed center area on the image transfer belt ▪ Defective BCU 1. Replace the ID sensor. 2. Replace the image transfer belt. 3. Replace the BCU.
The main scan registrations of M, C, Y are shifted.	▪ Defective laser optics housing unit ▪ Defective ID sensor ▪ Defective BCU ▪ Incorrect SP value 1. Replace the laser optics housing unit. 2. Replace the ID sensor.

Test pattern check	Possible cause/Countermeasure
	3. Replace the BCU. 4. Adjust the value with SP2-182-004 to -021.
The sub scan registrations of M, C, Y are shifted.	▪ Defective image transfer belt ▪ Defective drive units ▪ Defective ID sensor ▪ Defective BCU ▪ Incorrect SP value 1. Replace the image transfer belt. 2. Replace the ID sensor. 3. Replace the drum motor. 4. Replace the BCU. 5. Adjust the value with SP2-182-022 to -039.
The skew of M, C, Y is different.	▪ Defective PCDU ▪ Defective laser optics housing unit ▪ Defective BCU 1. Reinstall or replace the PCDU. 2. Replace the laser optics housing unit. 3. Replace the BCU.
The sub scan lines are shifted. Shifted lines appear cyclically.	▪ Defective PCDU ▪ Defective drive unit ▪ Drum phase adjustment error 1. Do SP1-902-001 (Drum phase adjustment); see Replacement and Adjustment – Drive Unit – Gear Unit for details. 2. Reinstall or replace the PCDU. 3. Check or replace the drive unit.

6.3.3 IMAGE PROBLEMS AT REGULAR INTERVALS

If a defect occurs in the image at one of these intervals, the related component may be defective.



- Development roller: 32 mm
- PTR (Paper Transfer Roller): 75.0 mm
- Drum: 94.2 mm
- Fusing belt: 157.1 mm

6.3.4 SUB-SCAN MAGNIFICATION ERROR

If a sub-scan magnification error of an image occurs on an output, follow the procedure below to adjust the sub-scan magnification.

Sub-scan Magnification Adjustment Procedure

1. Adjust the sub-scan magnification for each paper type and print mode with the following SPs.

   ★ Important

     - Input the same value in these SP settings. Otherwise, color registration errors occur on outputs and this cannot be recovered by the line position adjustment.

   - SP1-803-001: Plain paper/ 600 dpi Input
   - SP1-803-002: Plain paper/ 1200 dpi Input
   - SP1-803-003: Thick paper Input
2. Turn the main power of the machine off and on.
3. Check if all settings of the following SPs are "0" (success).
   - SP1-803-004: Plain paper/ 600 dpi Result
   - SP1-803-005: Plain paper/ 1200 dpi Result
   - SP1-803-006: Thick paper Result

   ★ Important

     - If one of the settings of SP1-803-004 to 006 is "1" (error), return to step 1 and then input a value which is closer to "0" compared with the previously input value.

    - For example, if "+0.9" is input in the settings of SP1-803-001 to 003 and an error occurs, input "+0.8" or less with SP1-803-001 to 003.
    - For example, if "-0.9" is input in the settings of SP1-803-001 to 003 and an error occurs, input "-0.8" or more with SP1-803-001 to 003.
  - If an error still remains, refer to "Motor Speed Adjustment".

4. Execute the line position adjustment (rough) with SP2-111-003.
5. Execute the line position adjustment (fine) with SP2-111-001.
6. Make sample copies and check if the outputs are satisfactory.

Motor Speed Adjustment

If "Sub-scan Magnification Adjustment Procedure" does not solve the sub-scan magnification error, the setting of the motor speed adjustment may be out of adjustable range. Check the following three points.

1. An error ("1") occurs in SP1-803-**004**.
   [Setting values of the following SPs + input value with SP1-803-001] > motor speed adjustable range
   e.g.) 3.5 (SP1-801-002) + 1 (SP1-803-001 to -003) = 4.5
   In this case, "4.5" is over the maximum adjustable value ("4") of the SP1-801-002. As a result, the result of the motor speed adjustment issues "1" (error).
   - Adjust the settings of the SP1-830-001 to -003 so that the total value (motor speed setting value + input value) is within the adjustable range for each motor described below.

SP No.	Max.	Min.	Title
SP1-801-002	4	-4	Regist Mot:120 (0.3 default)
SP1-801-003	4	-4	Bk OpcDevMot:120 (-0.1 default)
SP1-801-007	6	-6	Fusing Mot:120 (0.1 default)
SP1-801-009	4	-4	Transfer Mot:120 (0 default)
SP1-801-012	2	-2	Feed1:CW120 (0.3 default)
SP1-801-014	2	-2	Feed1:CCW120 (0.3 default)
SP1-801-016	2	-2	Feed2:CW120 (0.3 default)

SP No.	Max.	Min.	Title
SP1-801-018	2	-2	Feed2:CCW120 (0.3 default)
SP1-801-020	2	-2	By-pass:120 (0.3 default)
SP1-801-022	2	-2	Inverter:CW120 (0 default)
SP1-801-024	2	-2	Inverter:CCW120 (0 default)
SP1-801-026	2	-2	Duplex Entrance:120 (0.3 default)
SP1-801-028	2	-2	Duplex Exit:120 (0.3 default)

2. An error ("1") occurs in SP1-803-**005**.
   [Setting values of the following SPs + input value with SP1-803-001] > motor speed adjustable range
   e.g.) 1.5 (SP1-801-025) + 1 (SP1-803-001 to -003) = 2.5
   In this case, "2.5" is over the maximum adjustable value ("2") of the SP1-801-025. As a result, the result of the motor speed adjustment issues "1" (error).
   - Adjust the settings of SP1-830-001 to -003 so that the total value (motor speed setting value + input value) is within the adjustable range for each motor described below.

SP No.	Max.	Min.	Title
SP1-801-025	2	-2	Duplex Entrance:60
SP1-801-027	2	-2	Duplex Exit:60
SP1-801-033	4	-4	Regist Mot:60:1200dpi
SP1-801-034	2	-2	Feed1:CW60:1200dpi
SP1-801-035	2	-2	Feed1:CCW60:1200dpi
SP1-801-036	2	-2	Feed2:CW60:1200dpi
SP1-801-037	2	-2	Feed2:CCW60:1200dpi
SP1-801-038	2	-2	By-pass:60:1200dpi
SP1-801-039	2	-2	Inverter:CW60:1200dpi
SP1-801-040	2	-2	Inverter:CCW60:1200dpi

SP No.	Max.	Min.	Title
SP1-801-041	6	-6	FusingMot:60:1200dpi
SP1-801-042	4	-4	BkOpcDevMot:60:1200dpi
SP1-801-043	4	-4	TransferMot:60:1200dpi

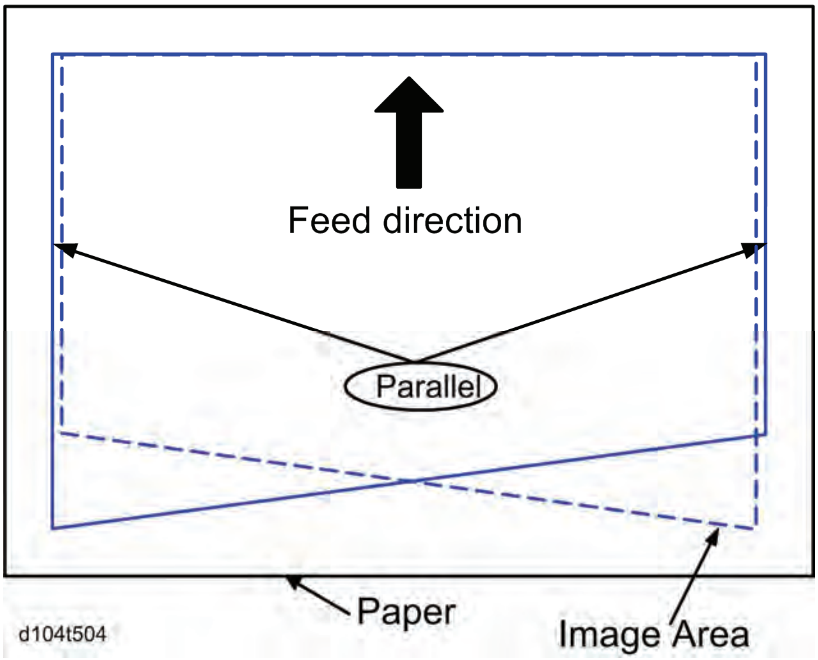
3. An error ("1") occurs in the SP1-803-**006**.
   [Setting values of the following SPs + input value with SP1-803-001] > motor speed adjustable range
   e.g.) 3.5 (SP1-801-001) + 1 (SP1-803-001 to -003) = 4.5
   In this case, "4.5" is over the maximum adjustable value ("4") of the SP1-801-025. As a result, the result of the motor speed adjustment issues "1" (error).
   - Adjust the settings of SP1-830-001 to -003 so that the total value (motor speed setting value + input value) is within the adjustable range for each motor described below.

SP No.	Max.	Min.	Title
SP1-801-001	4	-4	Regist Mot:60:Thick
SP1-801-004	4	-4	Bk OpcDevMot:60:Thick
SP1-801-008	6	-6	Fusing Mot:60:Thick
SP1-801-010	4	-4	TransferMot:60:Thick
SP1-801-011	2	-2	Feed1:CW60:Thick
SP1-801-013	2	-2	Feed1:CCW60:Thick
SP1-801-015	2	-2	Feed2:CW60:Thick
SP1-801-017	2	-2	Feed2:CCW60:Thick
SP1-801-019	2	-2	By-pass:60:Thick
SP1-801-021	2	-2	Inverter:CW60:Thick
SP1-801-023	2	-2	Inverter:CCW60:Thick

6.3.5 TRAPEZOID IMAGE ADJUSTMENT

Before Adjusting the Trapezoid Image

1. Enter SP2-109 and print out the test pattern 14 (Trimming Area).



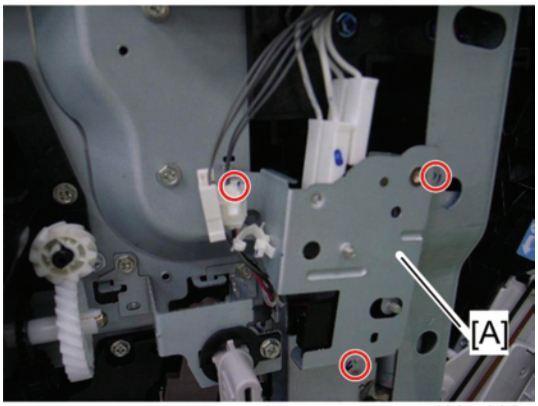
2. Make sure the horizontal lines are parallel.

   "Parallel": The gap between horizontal lines is 1.8 mm or less.

3. If the lines are not parallel, check the following and apply corrections as necessary:
   - Make sure that the side fences of the tray are set neatly against the sides of the paper.
   - Make sure that the PTR unit is connected to the bracket correctly.
   - Make sure that the shafts of the duplex unit are not bent nor damaged.

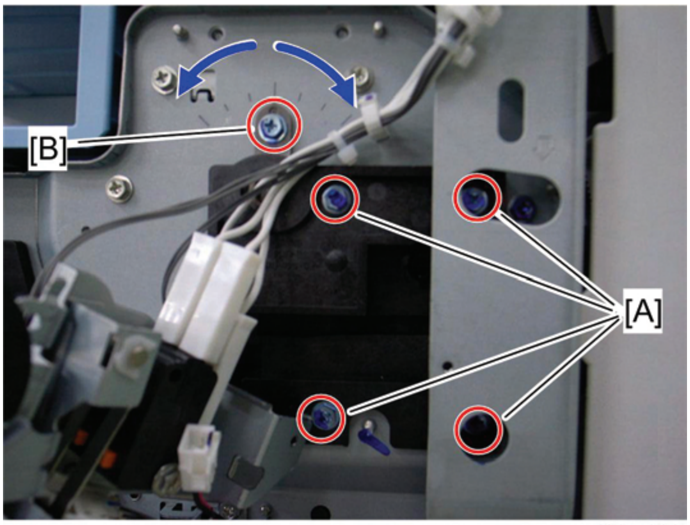
Adjusting the Trapezoid Image

1. Remove the following items:
   - Fusing unit (☛p.4-93)
   - Front right cover (☛p.4-23)
   - PCDU toner collection bottle (☛p.4-15)
   - Inner cover (☛p.4-22)
   - Inner right cover (☛p.4-22)



d037r392

2. Remove the interlock switch bracket [A] (🔩 x 3, 🔌 x 1, 📎 x 2).

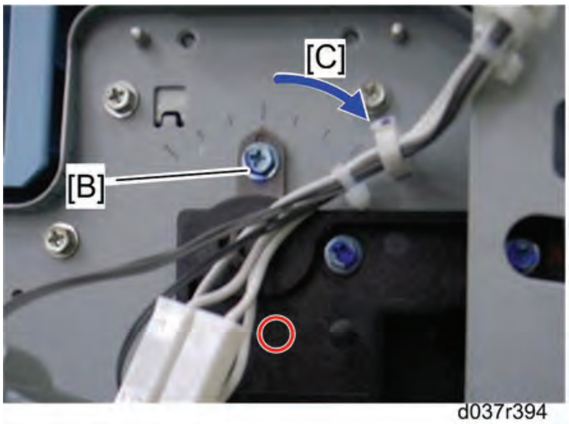


d037r393

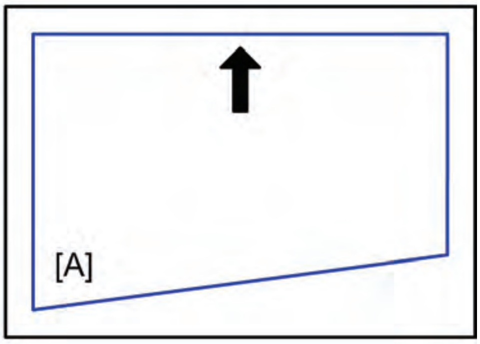
3. Loosen the four screws [A] on the front fusing guide.
4. Remove the screw [B] on the adjustor lever.

Note

- This screw is not necessary after tightening the front fusing guide.



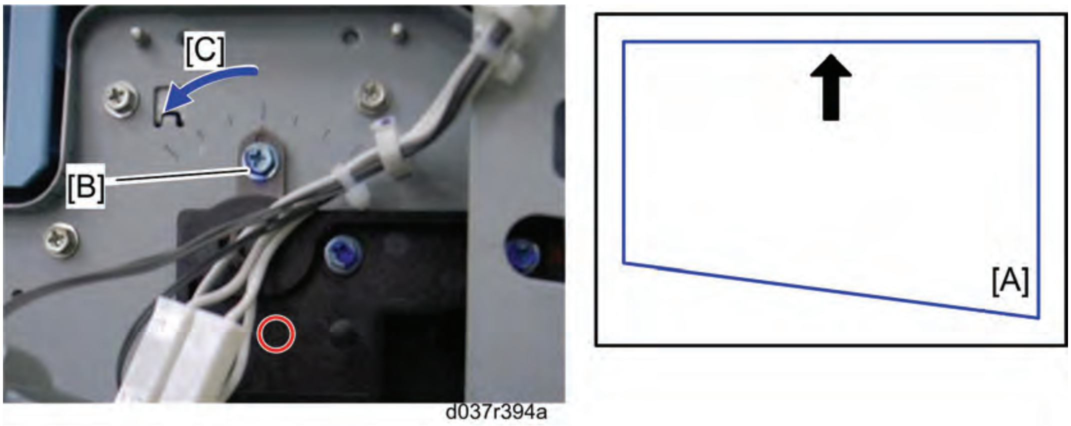
d037r394



5. If the horizontal lines slope down to the left [A], move the front fusing guide upward. To do this, turn the adjustor lever [B] of the fusing front guide clockwise [C].

Note

- One step of the adjustor lever moves the front fusing guide by 1 mm.



6. If the horizontal lines slope down to the right [A], move the fusing front guide downward. To do this, turn the adjustor lever [B] of the front fusing guide counterclockwise [C].

Note

- One step of the adjustor lever moves the front fusing guide by 1 mm.

7. Retighten the four screws for the front fusing guide.
8. Print out the test pattern and check the image quality.
9. If the symptom still occurs, repeat the above steps.

6.3.6 LOUD SQUEAKING NOISE FROM PCDU

Symptom:

A loud squeaking noise can be heard when two of the following conditions are met:

- High image coverage
- High original-to-copy ratio (1-to-x)
- Printing at half speed

Cause:

Normally, silica inside the toner is deposited on the drum surface over a long period of time, some of which is removed by the cleaning blade. However, when two or more of the conditions above are met, the rate of deposit accelerates, and eventually the blade cannot run across the drum surface smoothly.

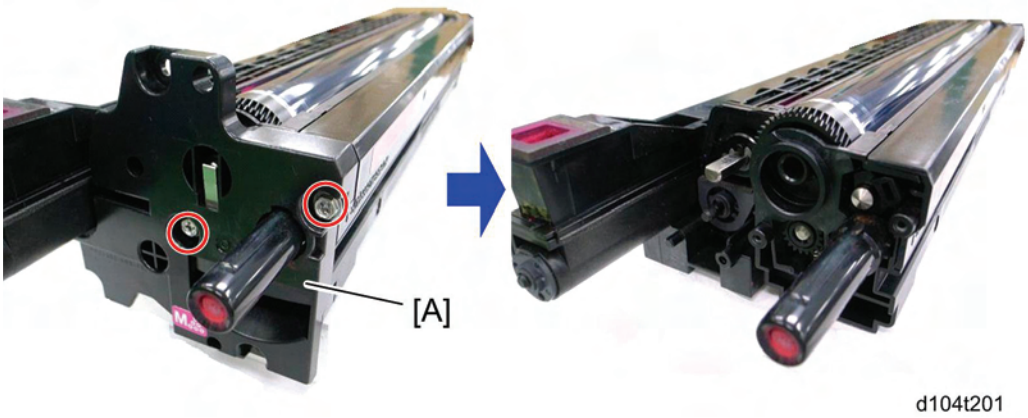
Solution:

If this problem is reported, replace the standard spring with the modified spring (P/N AA063690).

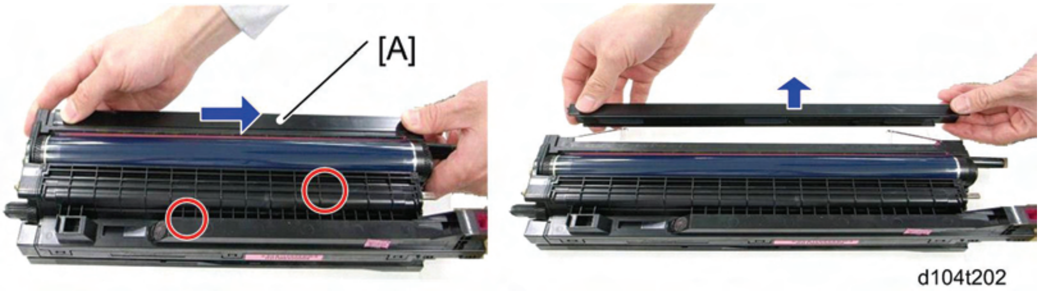
Side Effect:

The part life of the PCU may be shortened.

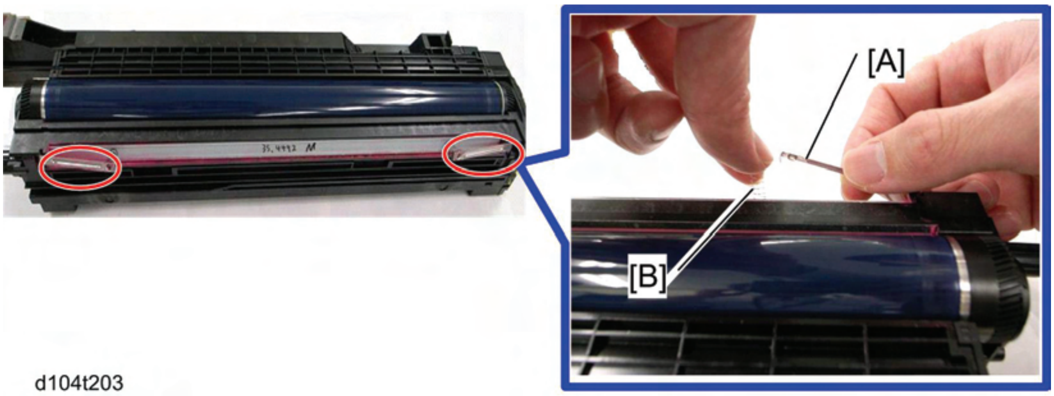
Replacement Procedure



1. Remove the front cover [A] from the PCDU (🔩 x 2).



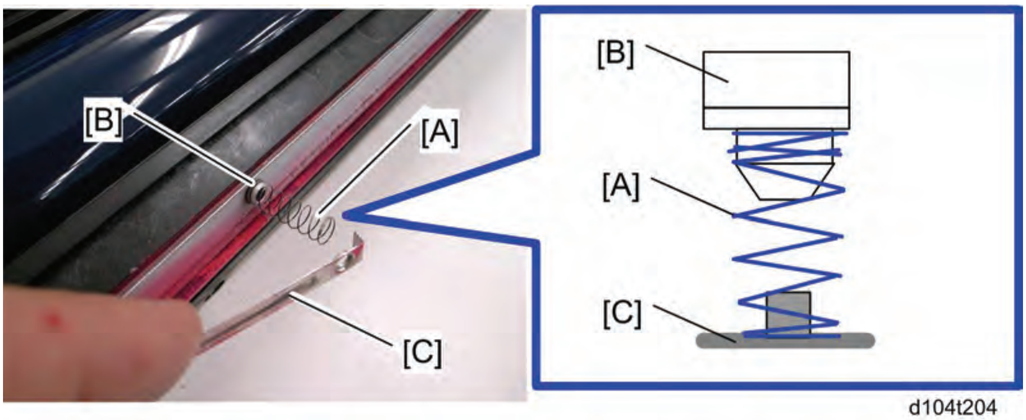
2. Slide the upper cover [A] of the drum unit as shown and remove it.



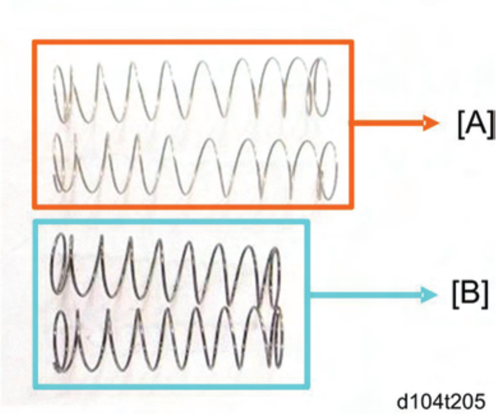
3. Carefully lift up the metal plate [A], and then remove the spring [B] at the front side and rear side.

   ★ Important

   - Be careful not to bend the metal plate.



4. Attach the modified spring [A] to the boss [B] on the lubricant holder.
5. Install the metal plate [C] in the spring [A] so that the modified spring is kept between the boss [B] on the lubricant holder and the metal plate.



- [A]: Standard spring (P/N: AA063887)
- [B]: Modified spring (P/N: AA063690)

The modified spring [B] is black, and about 3 mm shorter than the old spring.

6. Reattach the upper cover of the drum unit.
7. Reattach the front cover to the PCDU (🔩x 2), and then reinstall the PCDU in the machine.

6.3.7 LOUD NOISE FROM THE PAPER TRAY

Symptom:

A loud vibration can be heard while the paper is being fed from the paper tray.

Cause:

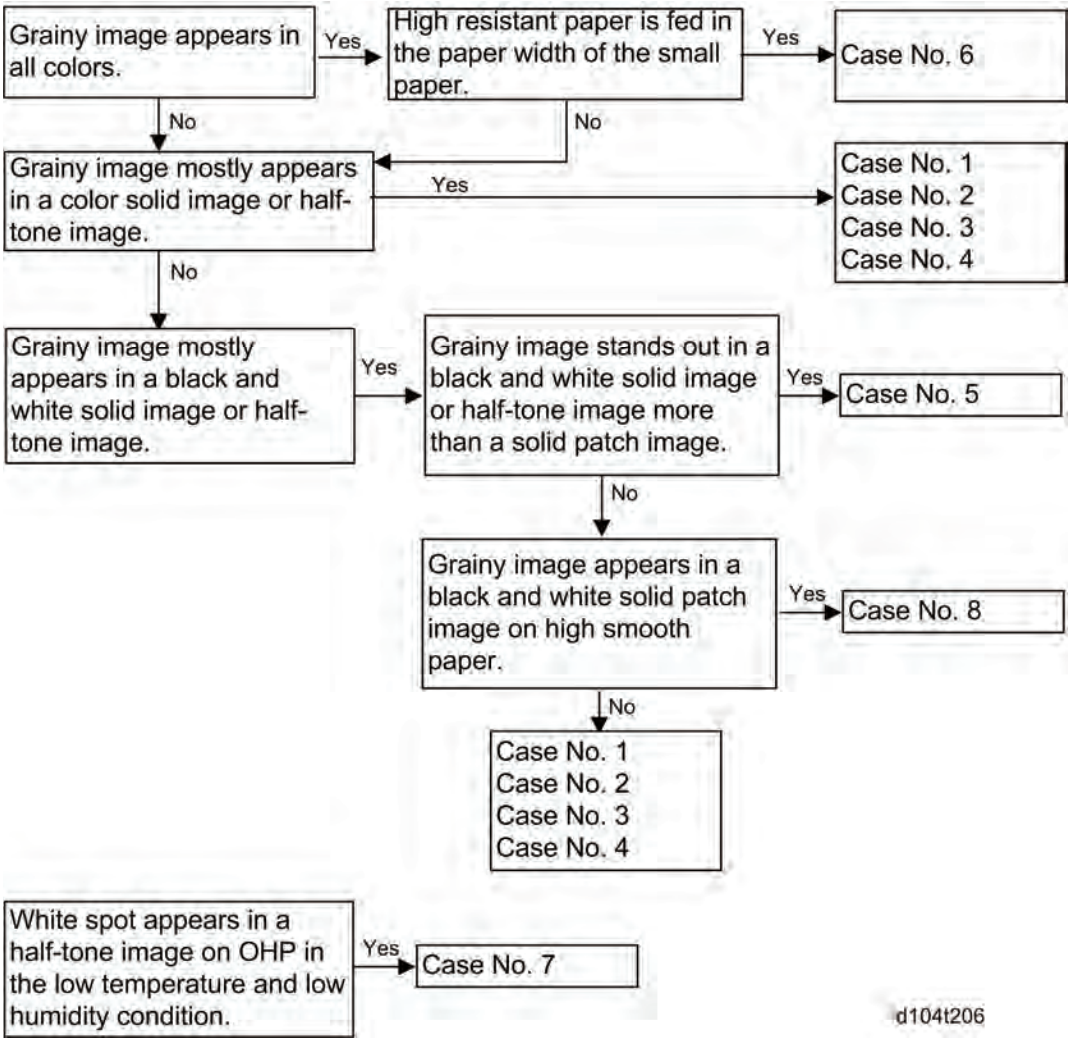
The excessive pressure between the feed roller and friction pad of the paper tray causes a loud vibration due to the incorrect position of the maylar at the friction pad.

Solution:

Reinstall the friction pad in the correct position. For details, see "Friction Pad" in the section "Replacement and Adjustment".

6.3.8 GRAINY IMAGE

If grainy images are reported from the field, use the following flowchart to take action in response to the eight conditions.



Possible Cause List

Cause 1: Grainy Image on Rough Surface Paper

When the surface of the paper is relatively rough, the strength of the electrical field between the ITB and the "sunken" areas in the paper weakens, causing low image density only in these areas.

Action Procedure

1. If the grainy images only appear in black image areas with Printer Full Color mode, select "CMY+K" with the PCL printer driver. For details, see "Action 1" described below.
2. Change the paper transfer bias. For details, see "Action 2A" described below.
3. Increase the amount of the toner per area (M/A). For details, see "Action 3" described below.
4. Ask a customer to change paper from high resistant paper to more smooth paper.

Cause 2: Grainy Image on Humid Paper

The surface resistance of paper such as humid paper is low, and the electrical field for the paper transfer is weak.

Action Procedure

1. Ask a customer to keep paper in dry condition.
2. Turn on the tray heater if it has already been installed or ask a customer to install the optional tray heater.
3. If the grainy images only appear in black image areas with Printer Full Color mode, select "CMY+K" with the PCL printer driver. For details, see "Action 1" described below.
4. Change the paper transfer bias. For details, see "Action 2A" described below.
5. Increase the amount of the toner per area (M/A). For details, see "Action 3" described below.

Cause 3: Grainy Image on 2nd Side of Paper

This may be caused by the resistance value difference from 1st side and 2nd side paper. The resistance of the 2nd side paper is changed after the paper has passed the fusing unit. As a result, the resistance of 2nd side paper which has passed the fusing unit is out of the range for the standard resistance of paper.

Action Procedure

1. If the grainy images only appear in black image areas with Printer Full Color mode, select "CMY+K" with the PCL printer driver. For details, see "Action 1" described below.
2. Change the paper transfer bias. For details, see "Action 2B" described below.
3. Increase the amount of the toner per area (M/A). For details, see "Action 3" described below.
4. Ask a customer to change paper from rough surface paper to more smooth paper.

Cause 4: Grainy Image on Small Size Paper

The transfer current tends to leak at the non paper area of the paper transfer roller. As a result, insufficient transfer current causes a grainy image when using small size paper in the high temperature and high humidity condition.

Action Procedure

1. If the grainy images only appear in black image areas with Printer Full Color mode, select "CMY+K" with the PCL printer driver. For details, see "Action 1" described below.
2. Use the A4 LEF paper. If A4 LEF paper does not solve the grainy image, check the other causes (Cause 1, 2 and 3)
3. Change the paper size correction coefficient. For details, see "Action 4" described below.
4. Increase the amount of the toner per area (M/A). For details, see "Action 3" described below.
5. Ask a customer to change paper from high resistant paper to more smooth paper.

Cause 5: Blur Uneven Black Image

The resistance difference between the image transfer roller and image transfer belt causes the blur uneven black image when printing a high coverage image. This symptom tends to occur especially just after initial machine installation.

Action Procedure

1. Leave a machine for several hours if this symptom appears just after initial machine installation.
2. If the grainy images only appear in black image areas with Printer Full Color mode, select "CMY+K" with the PCL printer driver. For details, see "Action 1" described below.
3. Decrease the target development gamma. For details, see "Action 5" described below.
4. Decrease the image transfer roller current for black and paper transfer roller current. For details, see "Action 6" described below.

Cause 6: Grainy Image on High Resistance Small Paper

The transfer current tends to leak at the non paper area of the paper transfer roller. As a result, insufficient transfer current causes a grainy image when using high resistance paper such as photo paper and OHP.

Action Procedure

1. Change the feeding direction from SEF to LEF.
2. Change the paper size correction coefficient. For details, see "Action 4" described below.

Cause 7: Grainy Image on OHP

The grainy image, which includes white dots, occurs when using OHP in the low temperature and low humidity condition.

Action Procedure

- Change the environmental correction table of the paper transfer roller for OHP. For details, see "Action 8" described below.

Cause 8: Bk Grainy Image on High Smoothness Paper The black solid image may become grainy on the high smoothness paper when the black solid area is printed in the full color printing mode. This is because the transfer current for the full color printing is excessive for the high smoothness paper. (Basically the transfer current for the monochrome printing is lower than the transfer current for the full color printing.)
Action Procedure ▪ Select "CMY+K" with the PCL printer driver. For details, see "Action 1" described below.

Action List

Action 1
With this setting for PCL, all BW images are printed using process black, including text.

Action Procedure

- Select "CMY+K" with the PCL printer driver. (Print Quality -> Color: Manual -> Gray reproduction -> CMY+K)

Action 2A
Changing the PTR current for each paper type can solve the grainy image for the 1st side of paper.

Action Procedure

1. Increase the PTR current for the 1st side of paper in steps of 2 µA until +6 µA from the default value.
    - B/W mode/ Normal speed: SP2-403-001
    - B/W mode/ Low speed: SP2-403-003
    - Full Color mode/ Normal speed: SP2-407-001
    - Full Color mode/ Low speed: SP2-407-003
2. If the grainy images get worse, decrease the PTR current in steps of 2 µA until -6 µA from the default value.

3. If the grainy images only occur when using a specific type of paper, set the Paper Type setting to one of the Special Paper settings as follows.

   - If the current Paper Type setting is one of the following, change it to Special Paper 1.

   - Plain Paper 1, Plain Paper 2, Middle Thick, Thin Paper, Coated Paper: Gloss
     Select Special Paper 1, then adjust the settings of the following SP modes:
     - B/W mode/ Normal speed: SP2-753-001
     - B/W mode/ Low speed: SP2-753-003
     - Full Color mode/ Normal speed: SP2-757-001
       Full Color mode/ Low speed: SP2-757-003

   - If the current Paper Type setting is one of the following, change it to Special Paper 4.

   - Thick Paper 1, Thick Paper 2, Thick Paper 3
     Select Special Paper 4, then adjust the settings of the following SP modes:
     - B/W mode: SP2-783-001
     - Full Color mode: SP2-787-001

Action 2B
Changing the PTR current for each paper type can solve the grainy image for the 2nd side of paper.

Action Procedure

1. Increase the PTR current for the 2nd side of paper in steps of 2 μA until +6 μA from the default value.
   - B/W mode/ Normal speed: SP2-403-002
   - B/W mode/ Low speed: SP2-403-004
   - Full Color mode/ Normal speed: SP2-407-002
   - Full Color mode/ Low speed: SP2-407-004
2. If the grainy images get worse, decrease the PTR current in steps of 2 μA until -6 μA from the default value.
3. If the grainy images only occur when using a specific type of paper, set the Paper Type setting to one of the Special Paper settings as follows.

   - If the current Paper Type setting is one of the following, change it to Special Paper 1.

   - Plain Paper 1, Plain Paper 2, Middle Thick, Thin Paper, Coated Paper: Gloss
     Select Special Paper 1, then adjust the settings of the following SP modes:
     - B/W mode/ Normal speed: SP2-753-002
     - B/W mode/ Low speed: SP2-753-004
     - Full Color mode/ Normal speed: SP2-757-002
       Full Color mode/ Low speed: SP2-757-004

- If the current Paper Type setting is one of the following, change it to Special Paper 4.

- Thick Paper 1, Thick Paper 2, Thick Paper 3

  Select Special Paper 4, then adjust the settings of the following SP modes:

  - B/W mode: SP2-783-001
  - Full Color mode: SP2-787-001

Note

- Basically, there are different setting values for 1st side and 2nd side of thick paper when using the by-pass printing mode. When using thick paper in the by-pass printing mode, adjust the PTR current of Special Paper 4 for the 2nd side of thick paper. Always use the adjusted setting of Special Paper 4 when the 2nd side of thick paper is fed from the by-pass tray.

Action 3
Increase the amount of the toner per area (M/A). However, too much toner may cause the toner blasting.

Action Procedure

1. Set the following SP modes to the values highlighted in bold.
   - Set the setting of SP3-501-001 to **0.500** mg/cm^2 for Maximum M/A: Bk.
   - Set the setting of SP3-501-002 to **0.495** mg/cm^2 for Maximum M/A: C.
   - Set the setting of SP3-501-003 to **0.495** mg/cm^2 for Maximum M/A: M.
   - Set the setting of SP3-501-004 to **0.495** mg/cm^2 for Maximum M/A: Y.
2. Execute Process Control with SP3-011-001.

Action 4
Changing the correction value of the PTR current for each paper size can solve the grainy image.

The paper size correction coefficient setting for non-special paper types is applied to several different paper types at once. This can create side effects for paper types on which the symptom is not occurring. Therefore, if you only want to change the setting for one type, use the Special Paper settings.

Action Procedure

1. Increase the correction value of the PTR current for each paper size in steps of 10% against the default setting for each SP mode until +30% against the default setting of each SP mode.

- If the current Paper Type setting is one of the following, change it to Special Paper 1, 2 or 3.

- Plain Paper 1, Plain Paper 2, Middle Thick, Thin Paper, Coated Paper: Gloss
  Select Special Paper 1, 2 or 3, then adjust the settings of the following SP modes:
  - B/W mode for Plain Paper: SP2-411-001 to -020
  - Full Color mode for Plain Paper: SP2-412-001 to -020

- If the current Paper Type setting is one of the following, change it to Special Paper 4, 5 or 6.

- Thick Paper 1, Thick Paper 2, Thick Paper 3
  Select Special Paper 4, 5 or 6, then adjust the settings of the following SP modes:
  - B/W mode for Thick Paper: SP2-511-001 to -017
  - Full Color mode for Thick Paper: SP2-512-001 to -017.

2. If the grainy images get worse, decrease the correction value of the PTR current for each paper size in steps of -10% against the default setting for each SP mode until -30% against the default setting of each SP mode.

If the special paper setting which is proper for this action procedure has already been used for the other paper setting, change the following SPs of non-special paper types.

- B/W mode for Special 1, 2 and 3: SP2-761-005 to -020
- Full Color mode for Special 1, 2 and 3: SP2-762-005 to -020
- B/W mode for Special 4, 5 and 6: SP2-791-005 to -020
- Full Color mode for Special 4, 5 and 6: SP2-792-005 to -020

Action 5
Decreasing the target gamma for the developer can solve the grainy image.

Action Procedure

1. Change the setting of SP3-611-009 from "0.90" to "**0.85"**.
2. Execute the SP3-011-001.

Action 6
Decreasing the transfer current values for the ITB roller and PTR can solve the grainy image in the BW printing mode. However, decreasing the transfer current of the ITB roller affects other settings (paper type and size) and may cause a light toner image for some paper type and size.

Action Procedure

Change the settings of SP2-351-001 by -2 μA or SP2-351-003 by -1 μA.

1. Decrease the transfer current of the PTR for each paper type by 1 μA until -4 μA from the default setting.
   - B/W mode/ Normal or low speed for Plain Paper: SP2-403-001 to -004
   - B/W mode/ Normal or low speed for Thin Paper: SP2-453-001 and -003
   - B/W mode/ Low speed for Glossy Paper: SP2-482-001
   - B/W mode/ Low speed for Thick 1: SP2-502-001
   - B/W mode/ Low speed for Thick 2: SP 2-553-001
   - B/W mode/ Low speed for OHP: SP 2-603-001
   - B/W mode/ Low speed for Thick 3: SP 2-651-001
   - B/W mode/ Normal or low speed for Middle Thick Paper: SP2-703-001 to -004
   - B/W mode/ Normal or low speed for Special 1 Paper: SP2-753-001 to -004
   - B/W mode/ Normal or low speed for Special 2 Paper: SP2-803-001 to -004
   - B/W mode/ Normal or low speed for Special 3 Paper: SP2-852-001 to -004
   - B/W mode/ Low speed for Special 4 Paper: SP2-783-001
   - B/W mode/ Low speed for Special 5 Paper: SP2-833-001
   - B/W mode/ Low speed for Special 6 Paper: SP2-883-001

   If the result of step 2 is not satisfactory, change the settings of SP2-351-001 by -2 μA or SP2-351-003 by -1 μA again and then decrease the transfer current of the PTR for each paper type by 1 μA until -4 μA from the default setting again.

Action 7
Increasing the transfer current for the PTR can solve the grainy image on small size paper. Use Special 4, Special 5 or Special 6 for the small size paper setting. It is because the adjusted transfer current for small size paper is very different from the transfer current for normal paper.

Action Procedure

1. Increase the settings of the PTR transfer current corrections for each paper size until a grainy image on small size paper is solved.
    - B/W mode: SP2-791-005 to -017
    - Full color mode: SP2-791-005 to -017

Action 8
Increasing the transfer current for the PTR can solve the grainy image on OHP in the full color printing.

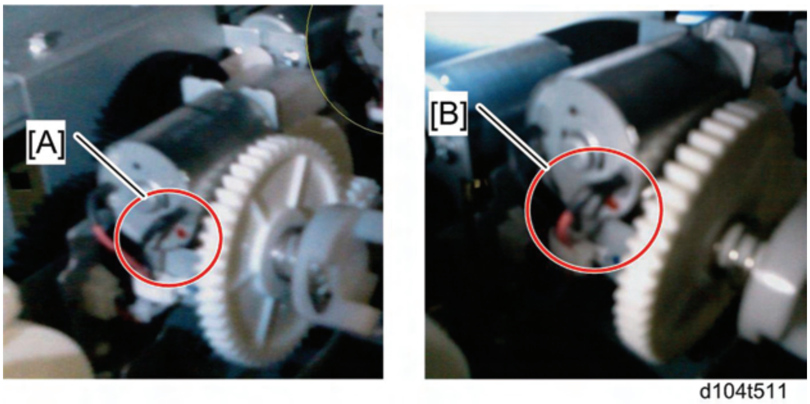
Action Procedure

1. Change the setting of SP2-608-001 from 20 µA to **18 µA**.
2. Change the setting of SP2-630-003 from 47 to **11**.
3. If the result of steps 1 and 2 are not satisfactory, decrease the setting of SP2-608-001 by 1 µA until a grainy image on OHP in the full color printing.

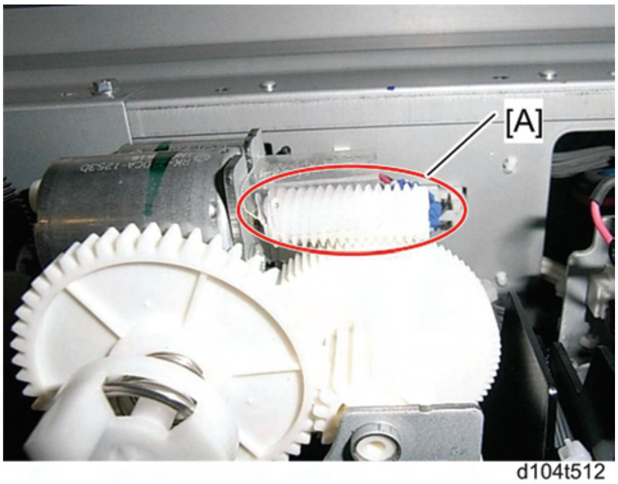
6.3.9 TONER SUPPLY ERROR

If the toner end message is displayed even though the toner bottle still has toner in itself, check the following points.

1. Check if the setting of SP3044-001 to -004 is set to "4".
2. Check if the toner supply motor for each color works correctly with SP5804-071 to -074.
   - Replace the toner supply motor with a new motor if it is defective.



3. Check if the red mark is painted besides the black cord of the toner supply motor. The left picture [A] shows a correct motor and right picture [B] shows a malfunction motor.
   - Replace the toner supply motor with a new motor if the red mark is painted besides the red cord of the toner supply motor.



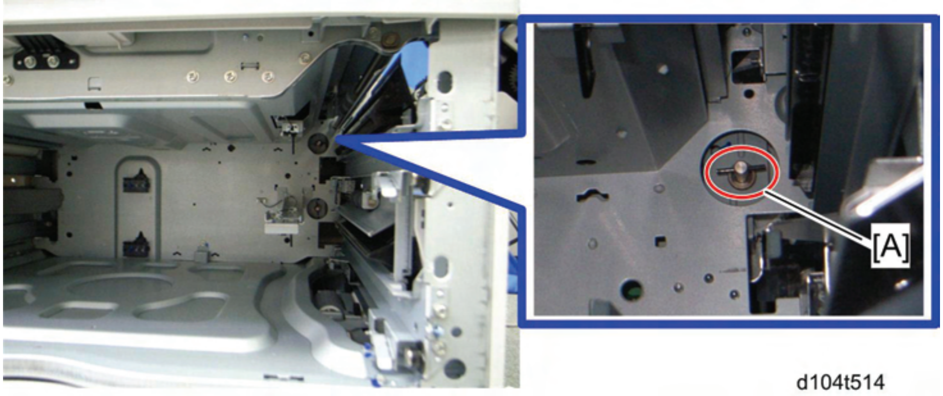
4. Check if the gear [A] of the toner supply motor is attached to the motor shaft.
   - Replace the toner supply motor with a new motor if the gear of the toner supply motor is not attached to the motor shaft.
5. Check if the toner supply drive shaft is correctly installed.
   - Install the tone supply drive shaft correctly if not.

6.3.10 PAPER JAM TROUBLESHOOTING

This explains the troubleshooting for each paper jam code; Jam code 3, 4, 8, 11, 12, 17, 19, 51, 52 and 59. Refer to the following troubleshooting procedure corresponding to the paper jam code.

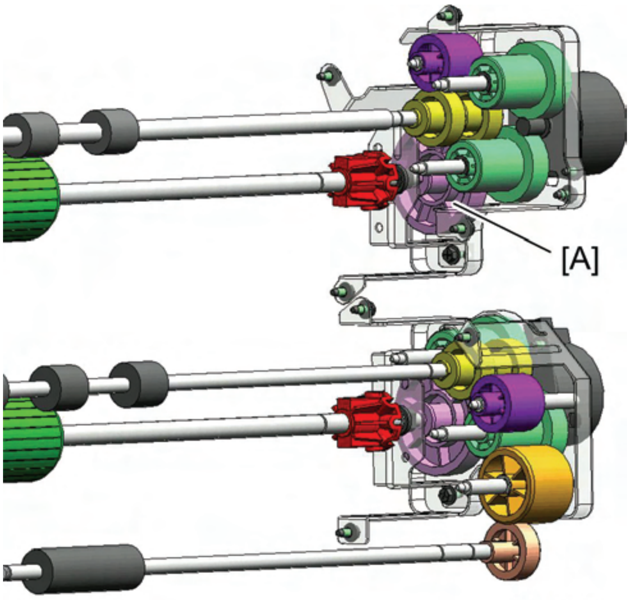
Jam 3: Paper is not fed from Tray 1.

1. Pull out the tray 1 and tray 2 from the machine (x 2 each).
2. Turn on the paper feed motor using SP5-804-005 (Output check: Paper Feed M1:CCW:190mm/s).



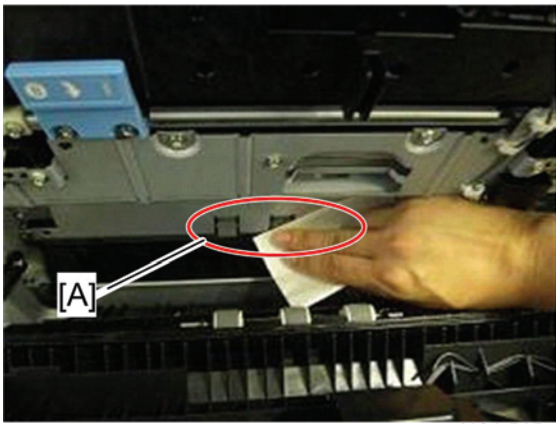
d104t514

3. Check if the feed roller shaft [A] for the tray 1 rotates.



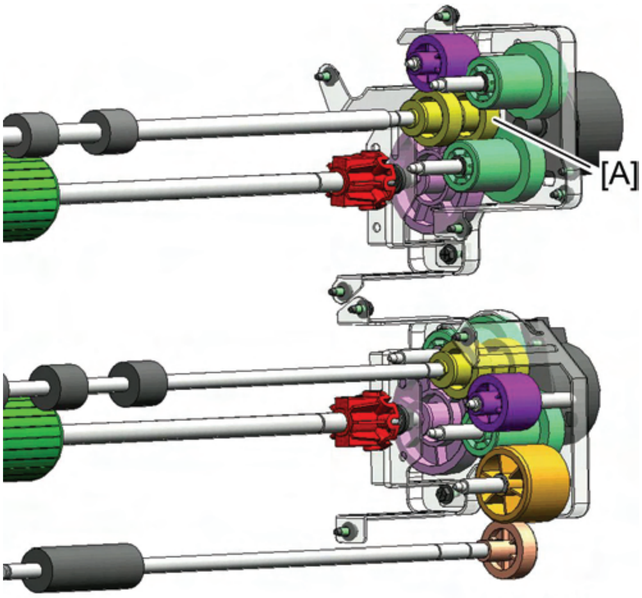
d104t513

4. Replace the one-way clutch [A] with P/N D1051164 if the feed roller shaft does not rotate.



d104t515

5. Open the duplex unit with the paper feed motor rotating.
6. Press the surface of the vertical transport roller [A] for the tray 1 gently with a small piece of paper, as shown above.

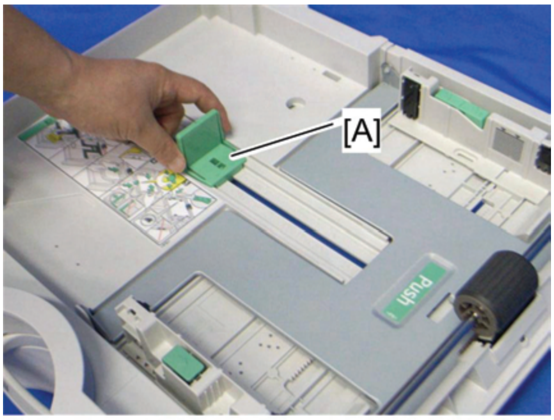


d104t516

7. Replace the one-way clutch [A] with P/N D1051166 if the roller stops easily.
8. Ask a customer to fix the end fence and side fences in the tray 1 with the end fence stopper and screws installed in the tray 1.
    - For details about fixing the end fence of the paper tray, see "Fixing the End Fence of the Paper Tray" described below.
9. Instruct the customer to press down the paper stack until the bottom plate of the tray 1 is locked when loading paper in the paper tray.

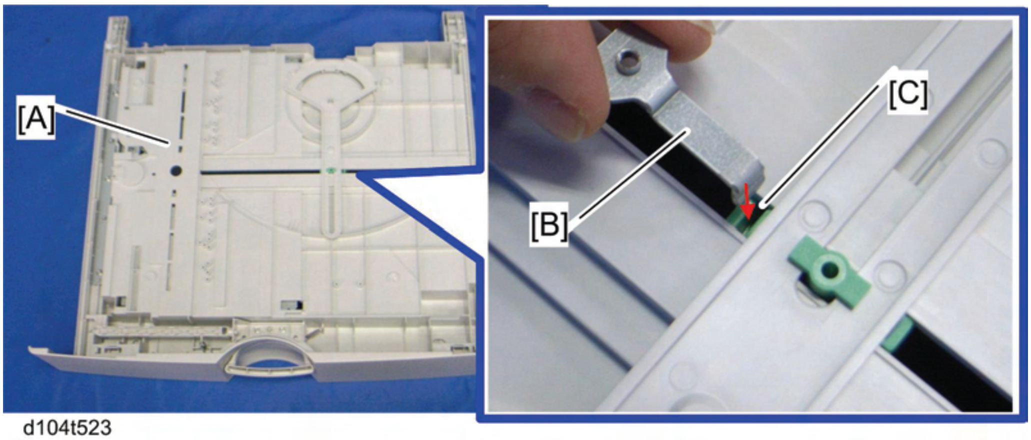
Fixing the End Fence of the Paper Tray

1. Pull out the paper tray from the machine.



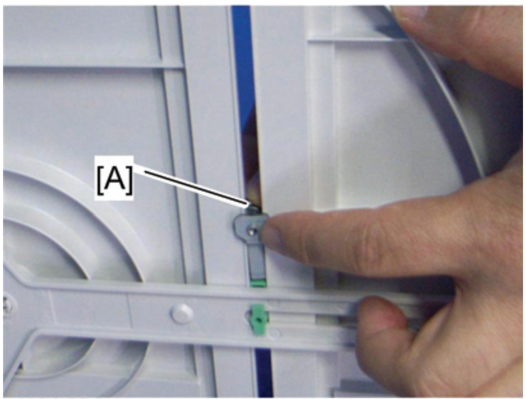
d104t522

2. Hold the sides of the end fence [A], and then move it to the position as shown above.



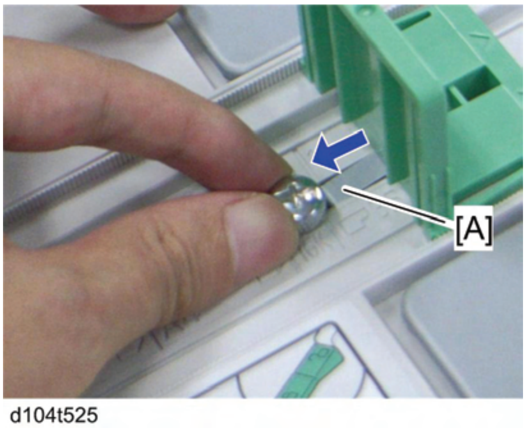
d104t523

3. Turn over the paper tray [A].
4. Install the end fence stopper [B] in the notch [C] of the end fence.



d104t524

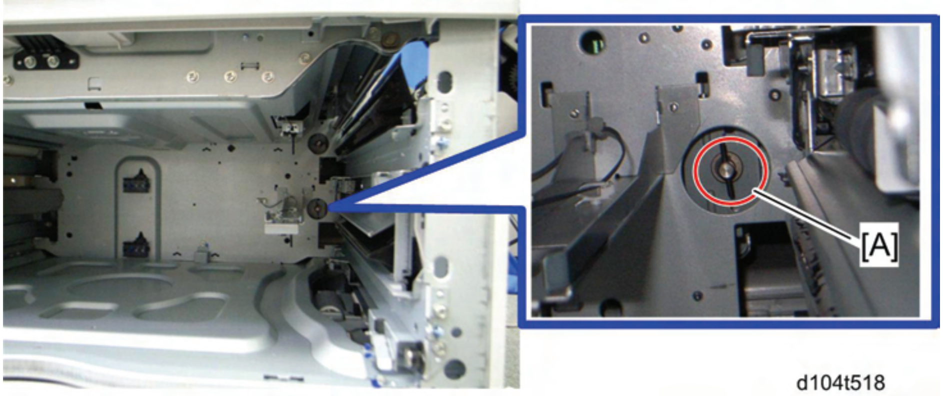
5. Install the screw [A] loosely in the end fence stopper.
6. Turn over the paper tray, and then adjust the end fence for the paper size to be used.



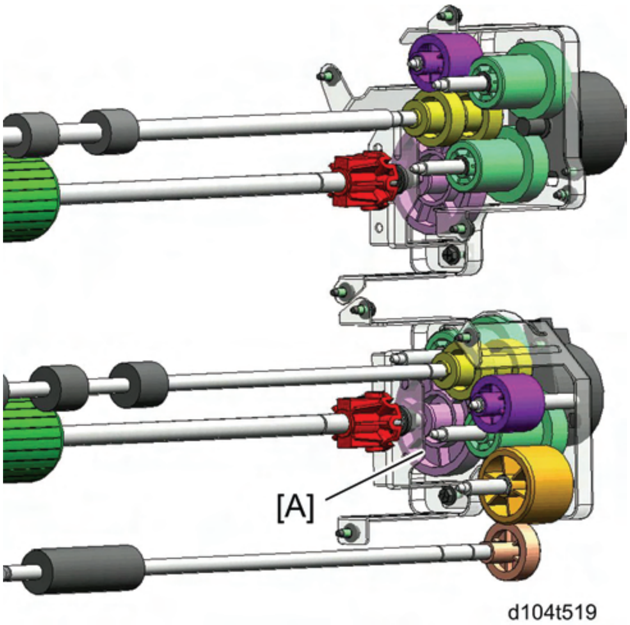
7. Pull the end fence stopper [A], and then tighten the screw.
8. Make sure that the end fence is firmly fixed.

Jam 4: Paper is not fed from Tray 2.

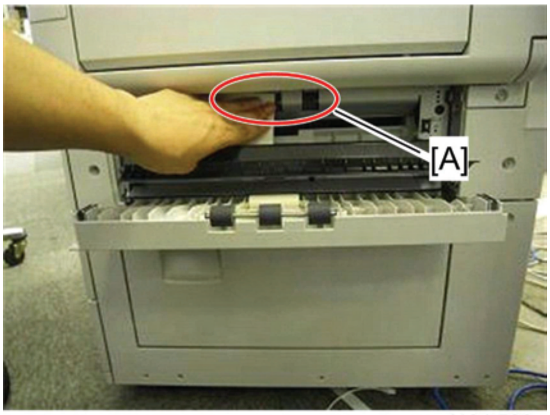
1. Pull out the tray 1 and tray 2 from the machine (🔩 x 2 each).
2. Turn on the paper feed motor using SP5-804-013 (Output check: Paper Feed M2:CCW:190mm/s).



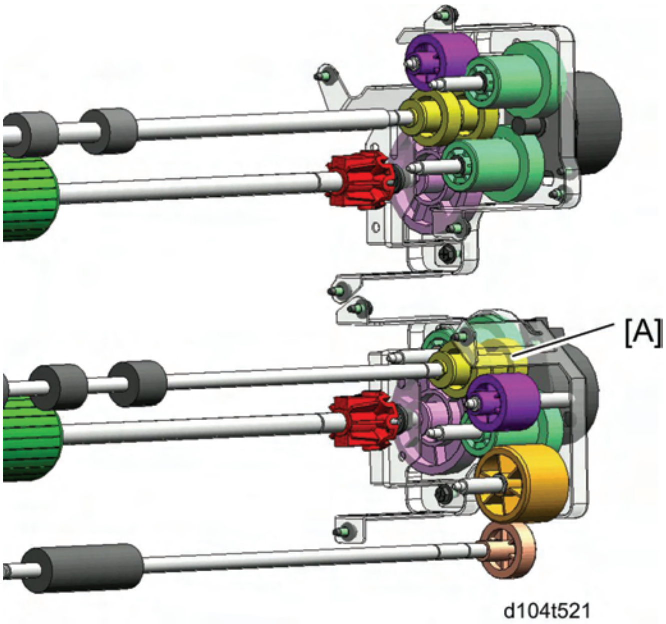
3. Check if the feed roller shaft [A] for the tray 2 rotates.



4. Replace the one-way clutch [A] with P/N D1051164 if the feed roller shaft does not rotate.



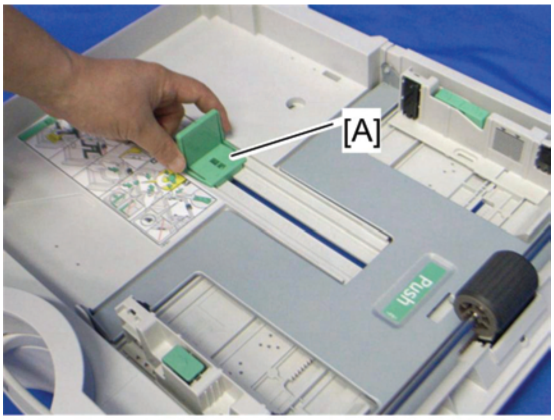
5. Open the lower right door with the paper feed motor rotating.
6. Press the surface of the vertical transport roller [A] for the tray 2 gently with a small piece of paper, as shown above.



7. Replace the one-way clutch [A] with P/N D1051166 if the roller stops easily.
8. Ask a customer to fix the end fence and side fences in the tray 1 with the end fence stopper and screws installed in the tray 1.
    - For details about fixing the end fence of the paper tray, see "Fixing the End Fence of the Paper Tray" described below.
9. Instruct the customer to press down the paper stack until the bottom plate of the tray 1 is locked when loading paper in the paper tray.

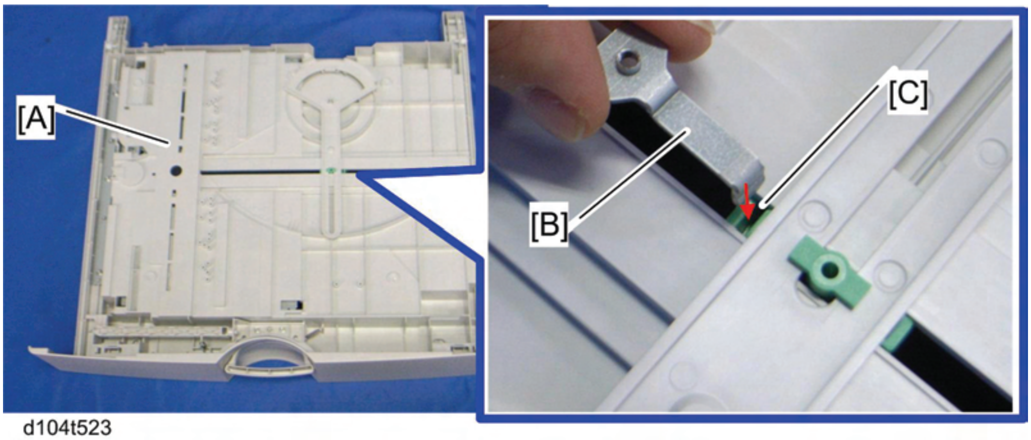
Fixing the End Fence of the Paper Tray

1. Pull out the paper tray from the machine.



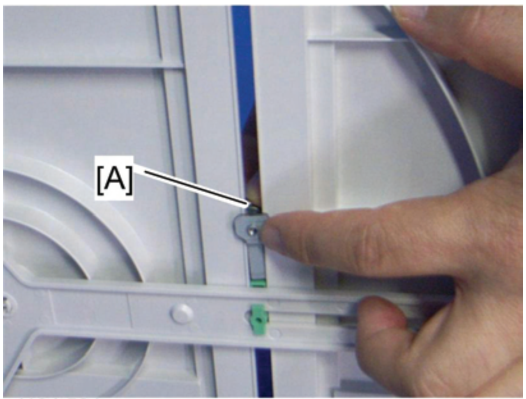
d104t522

2. Hold the sides of the end fence [A], and then move it to the position as shown above.



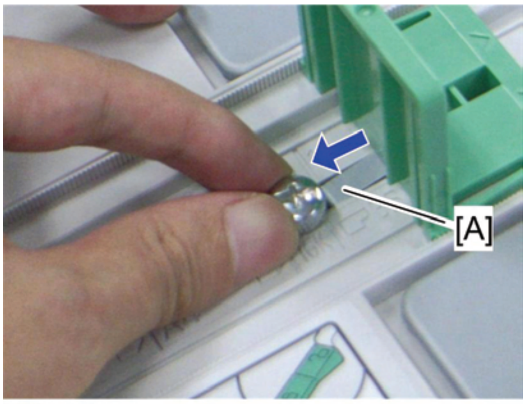
d104t523

3. Turn over the paper tray [A].
4. Install the end fence stopper [B] in the notch [C] of the end fence.



d104t524

5. Install the screw [A] loosely in the end fence stopper.
6. Turn over the paper tray, and then adjust the end fence for the paper size to be used.

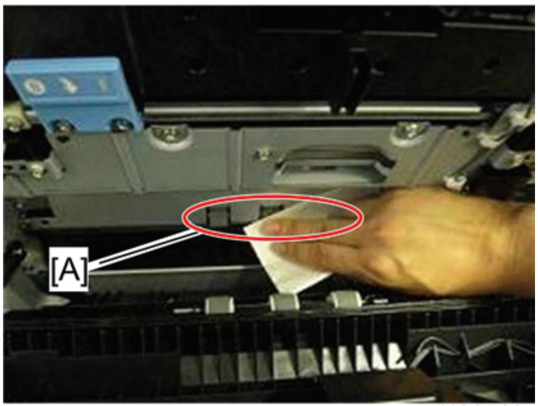


d104t525

7. Pull the end fence stopper [A], and then tighten the screw.
8. Make sure that the end fence is firmly fixed.

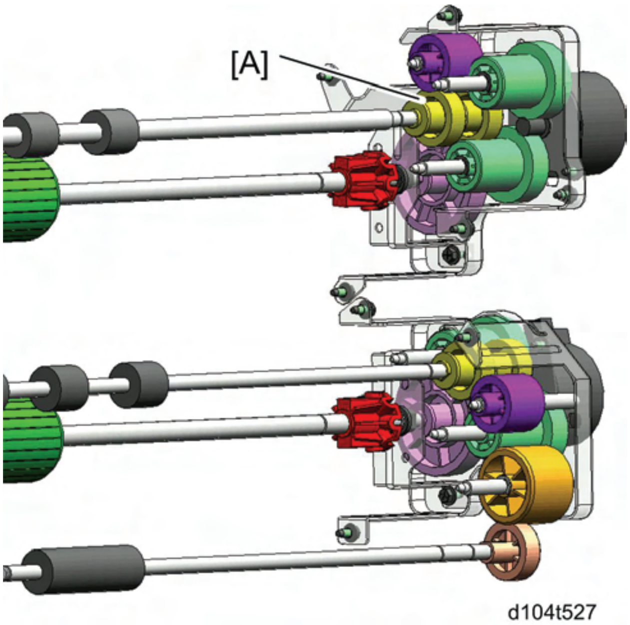
Jam 8: Paper is not fed from the by-pass tray.

1. Remove the paper from the trays 1 and 2.
2. Open the duplex unit.
3. Turn on the paper feed motor on using SP5-804-001 (Output check: Paper Feed M2:CW:190mm/s).



d104t526

4. Press the surface of the vertical transport roller [A] for the tray 1 gently with a small piece of paper, as shown above.

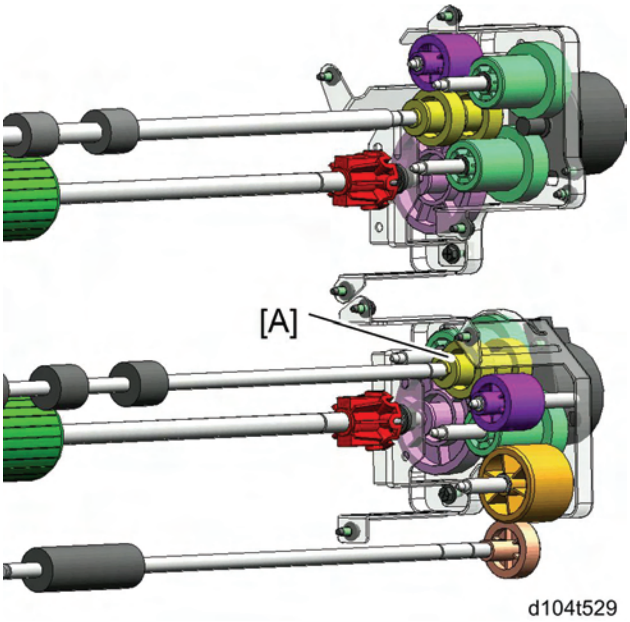


5. Replace the one-way clutch [A] with P/N D1051166 if the roller stops easily.

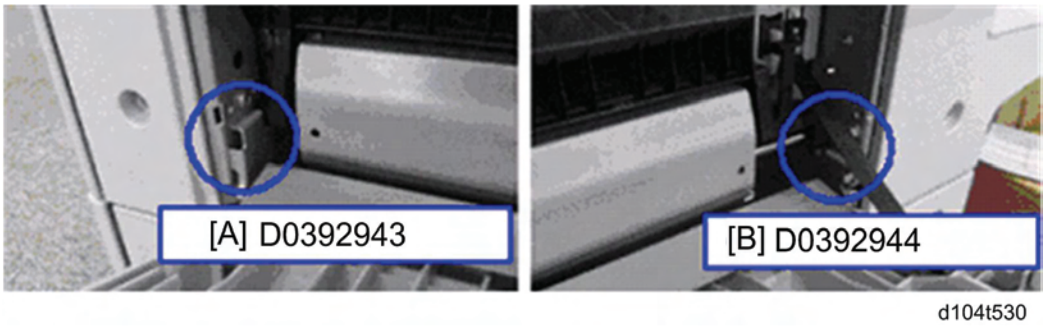
Jam 11: Vertical transport sensor 1 does not detect paper from the tray 1.

1. Remove the paper from the trays 1 and 2.
2. Open the lower right door.
3. Turn on the paper feed motor on using SP5-804-009 (Output check: Paper Feed M2:CW:190mm/s).

4. Press the surface of the vertical transport roller [A] for the tray 2 gently with a small piece of paper, as shown above.



5. Replace the one-way clutch with P/N D1051166 if the roller stops easily.

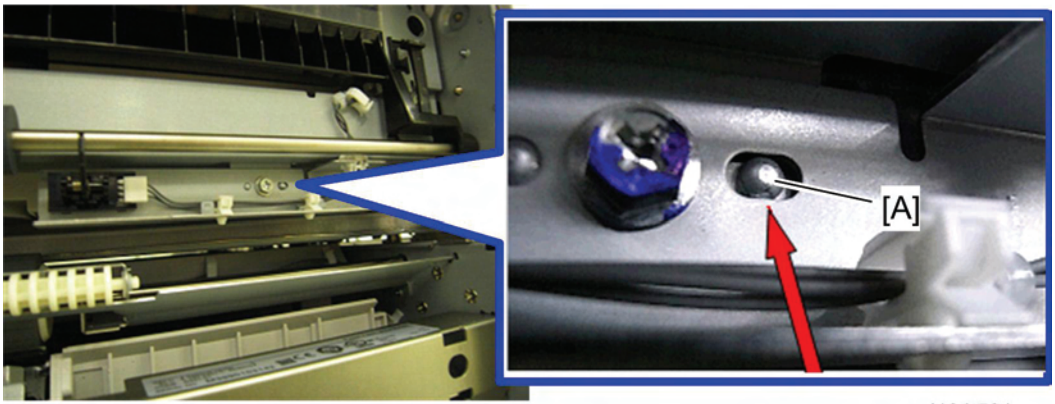


6. If Jam 11 still occurs, replace the brackets [A] [B] for the vertical transport covers (Front: P/N D0392943, Rear: P/N D0392944).

Jam 12: Vertical transport sensor 2 does not detect paper from Tray 2.

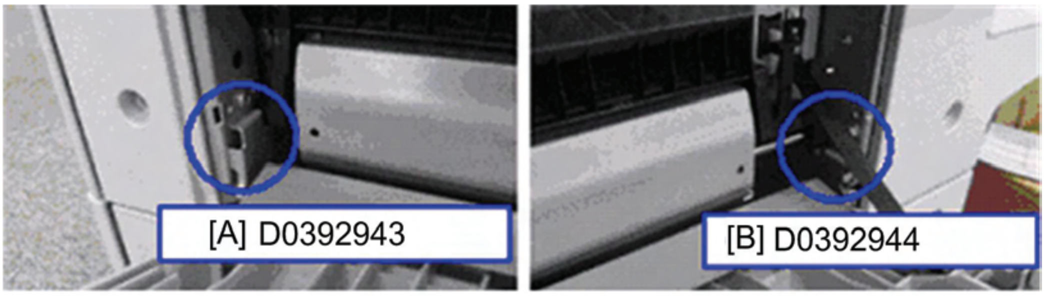
1. Remove the lower guide bracket (☛p.4-120 "

2. Vertical Transport Sensor ")



d104t531

3. Press down on the vertical transport sensor bracket in the area around the emboss (bead) [A] as shown above.
4. If there is a gap between this area of the bracket and the frame underneath it, replace the bracket with P/N D0392929.

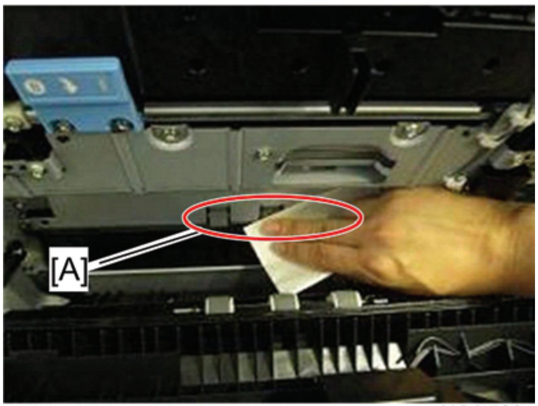


d104t530

5. If Jam 11 still occurs, replace the brackets [A] [B] for the vertical transport covers (Front: P/N D0392943, Rear: P/N D0392944).

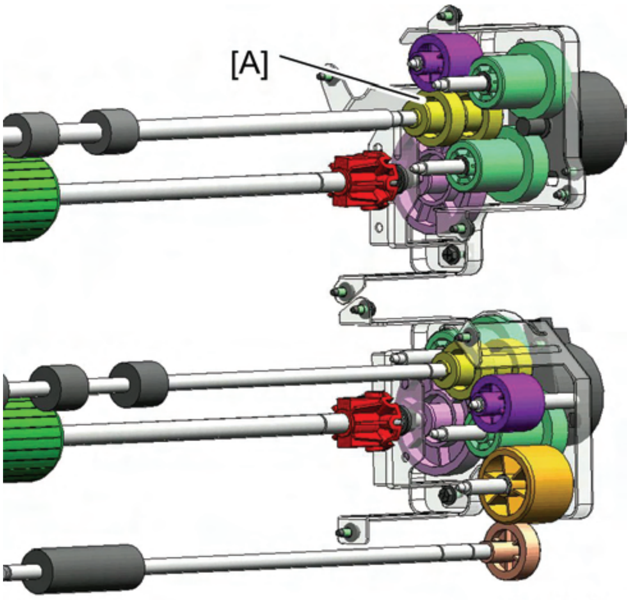
Jam 17: Registration sensor does not detect paper.

1. Remove the paper from the trays 1 and 2.
2. Open the duplex unit.
3. Turn on the paper feed motor using SP5-804-001 (Output check: Paper Feed M2:CW:190mm/s).



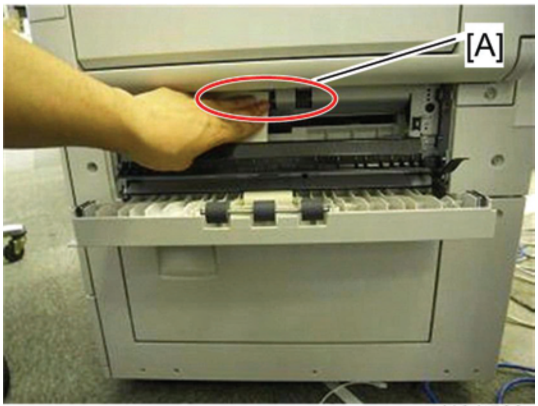
d104t526

4. Press the surface of the vertical transport roller [A] for the tray 1 gently with a small piece of paper, as shown above.



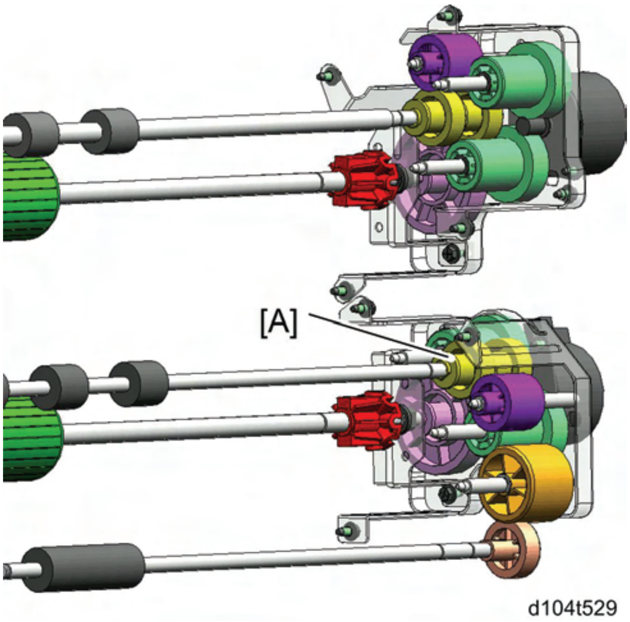
d104t527

5. Replace the one-way clutch [A] with P/N D1051166 if the roller stops easily.
6. If Jam 17 still occurs, turn on the paper feed motor using SP5-804-009 (Output check: Paper Feed M2:CW:190mm/s).



d104t528

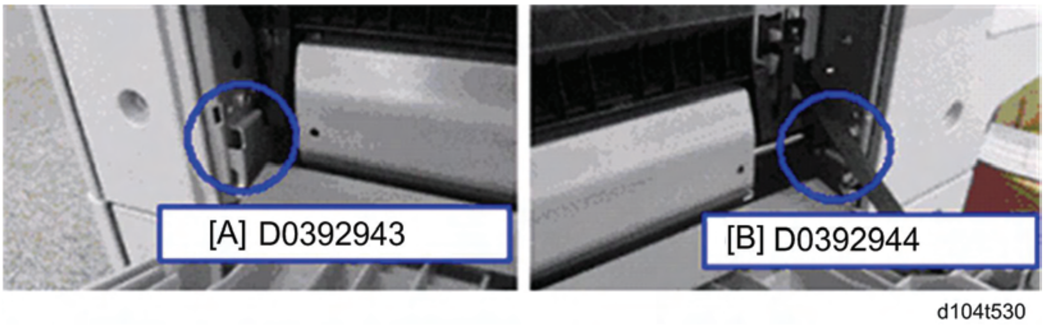
7. Press the surface of the vertical transport roller [A] for the tray 2 gently with a small piece of paper, as shown above.



8. Replace the one-way clutch [A] with P/N D1051166 if the roller stops easily.

Jam 51/ Jam 52: Vertical transport sensor 1/2 does not turn off.

1. Open the lower right door.



2. Replace the brackets for the vertical transport covers (Front: P/N D0392943, Rear: P/N D0392944).

Jam 59: Fusing exit sensor does not turn off.

If Jam 59 occurs frequently, replace the fusing exit sensor bracket (D0394952) (☛p.4-126 "Fusing Exit Sensor").

6.3.11 NO FEED PAPER JAM FROM PFU

Symptom:

A non-feed paper jam occurs when the machine tries to feed relatively heavy weight paper from the PFU.

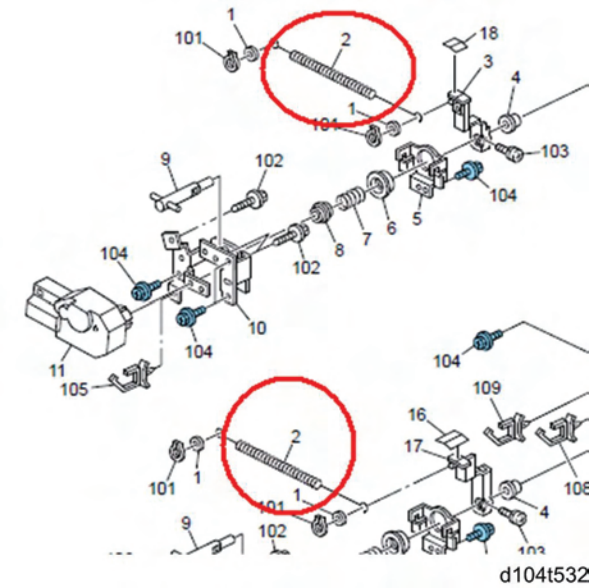
Cause:

There is not enough pressure on the top sheet of paper stack to separate it from the other sheets.

Solution:

1. Instruct a customer to adjust the amount of paper stuck in the PFU when using heavy weight paper types.

   If the customer wants to use the heavy weight paper in the full load condition, try step 2.



2. Replace the pressure tension springs (P/N D3312773) as shown above with special springs (P/N D3312774) (☞"Lift Motors" under the chapter Replacement and Adjustment" of the PFU service manual).

Side Effect:

These "special springs" will increase the paper feed pressure. Therefore, if a customer uses thin paper types after installing "special springs", multi-feeds may occur.

6.3.12 SETTING FOR SPECIAL PAPER 4, 5 AND 6 MODE

Default Settings for Special Paper Modes

	Paper Transfer Current	Fusing Temperature	
		600 dpi	1200 dpi
Special Paper 1	Same as Middle Thick	Same as Middle Thick (155°C)	Same as Middle Thick (130°C)
Special Paper 2	Same as Middle Thick	160°C	135°C
Special Paper 3	Same as Middle Thick	150°C	125°C
Special Paper 4	Same as Thick Paper 1	Same as Thick Paper 1 (150°C)	-
Special Paper 5	Same as Thick Paper 1	Same as Thick Paper 1 (160°C)	-
Special Paper 6	Same as Thick Paper 1	145°C	-

- **Special Paper 1-3** are designed for plain paper and Middle Thick paper types.
- **Special Paper 4-6** are designed for paper types equivalent to Thick paper 1 or thicker.
- **Special Paper 2-3** and 5-6 are intended to solve specific types of image problems, and **Special Paper 1 and 4** are intended to be used as a customized mode if modes 2-6 are ineffective.

Special Paper 1:

Use this mode if the issue occurs only with a specific type of Plain Paper of Middle Thick Paper, and you need to change (customize) the paper transfer current and/or fusing temperature settings. The default settings for this mode are exactly the same as those for Middle Thick.

Special Paper 2:

Use this mode if poor fusing occurs only with a specific type of Plain Paper or Middle Thick Paper.

Special Paper 3:

Use this mode if blistered images occur only with a specific type of Plain Paper of Middle Thick Paper.

Special Paper 4:

Use this mode if the issue occurs only with a specific type of Thick Paper, and you need to change (customize) the paper transfer current and/or fusing temperature settings. The default settings for this mode are exactly the same as those for Thick Paper 1.

Special Paper 5:

Use this mode if poor fusing occurs only with a specific type of Thick Paper.

Special Paper 6:

Use this mode if blistered images occur only with a specific type of Thick Paper.

How to select the proper Special Paper mode

With this model, you cannot select Special Paper 4, 5, and 6 from the operation panel or inside the printer driver. Therefore, if you want to use these modes, select the following instead:

Copy Mode

1. In User Tools, set the "Paper Type" and "Paper Thickness" for the target tray as follows:

Equivalent to	Paper Type	Paper Thickness
Special Paper 1	Special Paper 1	Plain Paper or Middle Thick
Special Paper 2	Special Paper 2	Plain Paper or Middle Thick
Special Paper 3	Special Paper 3	Plain Paper or Middle Thick
Special Paper 4	Special Paper 1	Thick Paper 1, 2 or 3
Special Paper 5	Special Paper 2	Thick Paper 1, 2 or 3
Special Paper 6	Special Paper 3	Thick Paper 1, 2 or 3

2. Select the target tray and make copies.

Printer Mode

Refer to the following table of recommended settings.

System Setting (Tray Paper Setting)			
	Paper Tray	Paper Type	Paper Thickness
Special Paper 1 to 3	Tray 1 to 4	Special Paper 1 to 3	Plain Paper or Middle Thick
	Bypass Tray (Driver/Command Priority)	Any setting	Any setting
	Bypass Tray (Machine Setting Priority)	Special Paper 1 to 3	Plain Paper or Middle Thick
Special Paper 4 to 6	Tray 1 to 2	Special Paper 4 to 6	Thick Paper 1, 2 or 3
	Tray 3 to 4		
	Bypass Tray		

Printer Driver Setting			
	Paper Tray	Paper Source Tray	Paper Type
Special Paper 1 to 3	Tray 1 to 4	Target Tray	Special Paper 1 to 3
	Bypass Tray (Driver/Command Priority)	Bypass Tray	
	Bypass Tray (Machine Setting Priority)		
Special Paper 4 to 6	Tray 1 to 2	Target Tray	None
	Tray 3 to 4	Not Available (Tray 3 and 4 do not have thick paper capability.)	
	Bypass Tray	Bypass Tray	None

Special Paper 1 to 3

Paper Trays (Trays 1– 4)

1. In User Tools, set the "Paper Type" and "Paper Thickness" for the target tray.

Equivalent to	Paper Type	Paper Thickness
Special Paper 1	Special Paper 1	Plain Paper or Middle Thick
Special Paper 2	Special Paper 2	Plain Paper or Middle Thick
Special Paper 3	Special Paper 3	Plain Paper or Middle Thick

2. Inside the printer driver, set the "Paper Source Tray" and "Paper Type" to the same tray and paper type that you selected in Step 1 above.

Bypass Tray

"Driver/Command" Priority (default)

- Inside the printer driver, set the "Paper Source Tray" to the bypass tray, and the "Paper Type" to Special Paper 1, 2, or 3.

  ↓ Note

  - The machine will ignore the "Paper Type" setting in User Tools.

"Machine Setting" Priority

1. In User Tools, set the "Paper Type" and "Paper Thickness" for the bypass tray.

Equivalent to	Paper Type	Paper Thickness
Special Paper 1	Special Paper 1	Plain Paper or Middle Thick
Special Paper 2	Special Paper 2	Plain Paper or Middle Thick
Special Paper 3	Special Paper 3	Plain Paper or Middle Thick

2. Inside the printer driver, set the "Paper Source Tray" to the bypass tray, and the "Paper Type" to the same paper type that you selected in Step 1 above.

Special Paper 4 to 6

1. In User Tools, set the "Paper Type" and "Paper Thickness" for the target tray.

Equivalent to	Paper Type	Paper Thickness
Special Paper 4	Special Paper 1	Thick Paper 1, 2 or 3
Special Paper 5	Special Paper 2	Thick Paper 1, 2 or 3
Special Paper 6	Special Paper 3	Thick Paper 1, 2 or 3

2. Inside the printer driver, set the "Paper Source Tray" to the target tray (from Step 1 above), and Paper Type to "None".

SP Modes for Setting the Paper Type

RTR Current (μA) = RTR standard current (μA) x Paper size correction co-efficient (%) x X

Plain Paper

Mode	Resolution (Process Speed)	Print side	RTR standard current (μA)	Paper size correction co-efficient (%)
BW	600dpi (120mm/s)	Face side	2-403-001	2-411-005(S2),009(S3),013(S4),017(S5)
		Back side	2-403-002	2-411-006(S2),010(S3),014(S4),018(S5)
	1200dpi (60mm/s)	Face side	2-403-003	2-411-007(S2),011(S3),015(S4),019(S5)
		Back side	2-403-004	2-411-008(S2),012(S3),016(S4),020(S5)
Color	600dpi (120mm/s)	Face side	2-407-001	2-412-005(S2),009(S3),013(S4),017(S5)
		Back side	2-407-002	2-412-006(S2),010(S3),014(S4),018(S5)
	1200dpi (60mm/s)	Face side	2-407-003	2-412-007(S2),011(S3),015(S4),019(S5)
		Back side	2-407-004	2-412-008(S2),012(S3),016(S4),020(S5)

Middle Thick

Mode	Resolution (Process Speed)	Print side	RTR standard current (μA)	Paper size correction co-efficient (%)
BW	600dpi (120mm/s)	Face side	2-703-001	Common with the Plain Paper 1
		Back side	2-703-002	
	1200dpi (60mm/s)	Face side	2-703-003	
		Back side	2-703-004	
Color	600dpi (120mm/s)	Face side	2-707-001	Common with the Plain Paper 1
		Back side	2-707-002	
	1200dpi (60mm/s)	Face side	2-707-003	
		Back side	2-707-004	

Thin Paper

Mode	Resolution (Process Speed)	Print side	RTR standard current (μA)	Paper size correction co-efficient (%)
BW	600dpi (120mm/s)	Face side Only	2-453-001	Common with the Plain Paper 1
	1200dpi (60mm/s)	Face side Only	2-453-003	
Color	600dpi (120mm/s)	Face side Only	2-457-001	Common with the Plain Paper 1
	1200dpi (60mm/s)	Face side	2-457-003	

		Only		

Coated Paper Gloss

Mode	Resolution (Process Speed)	Print side	RTR standard current (μA)	Paper size correction co-efficient (%)
BW	60mm/s Only	Face side Only	2-482-001	Common with the Plain Paper 1
Color	60mm/s Only	Face side Only	2-483-001	

Thick Paper 1

Mode	Resolution (Process Speed)	Print side	RTR standard current (μA)	Paper size correction co-efficient (%)
BW	60mm/s Only	Face side Only	2-502-001	2-511-005(S2), 009(S3), 013(S4), 017(S5)
Color	60mm/s Only	Face side Only	2-507-001	2-512-005(S2), 009(S3), 013(S4), 017(S5)

Thick Paper 2

Mode	Resolution (Process Speed)	Print side	RTR standard current (μA)	Paper size correction co-efficient (%)
BW	60mm/s Only	Face side Only	2-553-001	Common with the Thick Paper 1
Color	60mm/s Only	Face side Only	2-558-001	

Thick Paper 3

Mode	Resolution (Process Speed)	Print side	RTR standard current (μA)	Paper size correction co-efficient (%)
BW	60mm/s Only	Face side Only	2-651-001	Common with the Thick Paper 1
Color	60mm/s Only	Face side Only	2-652-001	

OHP

Mode	Resolution (Process Speed)	Print side	RTR standard current (μA)	Paper size correction co-efficient (%)
BW	60mm/s Only	Face side Only	2-603-001	Common with the Thickl Paper 1
Color	60mm/s Only	Face side Only	2-608-001	

Special Paper 1

Mode	Resolution (Process Speed)	Print side	RTR standard current (μA)	Paper size correction co-efficient (%)
BW	600dpi (120mm/s)	Face side	2-753-001	2-761-005(S2), 009(S3), 013(S4), 017(S5)
		Back side	2-753-002	2-761-006(S2), 010(S3), 014(S4), 018(S5)
	1200dpi (60mm/s)	Face side	2-753-003	2-761-007(S2), 011(S3), 015(S4), 019(S5)
		Back side	2-753-004	2-761-008(S2), 012(S3), 016(S4), 020(S5)
Color	600dpi (120mm/s)	Face side	2-757-001	2-762-005(S2), 009(S3), 013(S4), 017(S5)
		Back side	2-757-002	2-762-006(S2), 010(S3), 014(S4), 018(S5)
	1200dpi (60mm/s)	Face side	2-757-003	2-762-007(S2), 011(S3), 015(S4), 019(S5)

		Back side	2-757-004	2-762-008(S2), 012(S3), 016(S4), 020(S5)

Special Paper 2

Mode	Resolution (Process Speed)	Print side	RTR standard current (μA)	Paper size correction co-efficient (%)
BW	600dpi (120mm/s)	Face side	2-803-001	Common with the Special Paper 1
		Back side	2-803-002	
	1200dpi (60mm/s)	Face side	2-803-003	
		Back side	2-803-004	
Color	600dpi (120mm/s)	Face side	2-807-001	Common with the Special Paper 1
		Back side	2-807-002	
	1200dpi (60mm/s)	Face side	2-807-003	
		Back side	2-807-004	

Special Paper 3

Mode	Resolution (Process Speed)	Print side	RTR standard current (μA)	Paper size correction co-efficient (%)
BW	600dpi (120mm/s)	Face side	2-852-001	Common with the Special Paper 1
	1200dpi (60mm/s)	Face side	2-852-003	
Color	600dpi (120mm/s)	Face side	2-857-001	
	1200dpi (60mm/s)	Face side	2-857-003	

Special Paper 4

Mode	Resolution (Process Speed)	Print side	RTR standard current (μA)	Paper size correction co-efficient (%)
BW	60mm/s Only	Face side Only	2-783-001	2-791-005(S2), 009(S3), 013(S4), 017(S5)
Color	60mm/s Only	Face side Only	2-787-001	2-792-005(S2), 009(S3), 013(S4), 017(S5)

Special Paper 5

Mode	Resolution (Process Speed)	Print side	RTR standard current (µA)	Paper size correction co-efficient (%)
BW	60mm/s Only	Face side Only	2-833-001	Common with the Special Paper 4
Color	60mm/s Only	Face side Only	2-837-001	

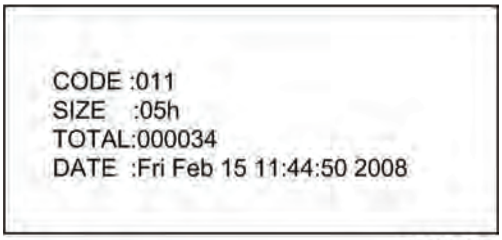
Special Paper 6

Mode	Resolution (Process Speed)	Print side	RTR standard current (µA)	Paper size correction co-efficient (%)
BW	60mm/s Only	Face side Only	2-883-001	Common with the Special Paper 4
Color	60mm/s Only	Face side Only	2-887-001	

6.4 JAM DETECTION

6.4.1 PAPER JAM DISPLAY

SP7-507 shows the paper jam history.



```
CODE :011
SIZE   :05h
TOTAL:000034
DATE  :Fri Feb 15 11:44:50 2008
```

d037t503

- **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.

Paper Size Code

Size Code	Paper Size	Size Code	Paper Size
05	A4 LEF	141	B4 SEF
06	A5 LEF	142	B5 SEF
14	B5 LEF	160	DLT SEF
38	LT LEF	164	LG SEF
44	HLT LEF	166	LT SEF
132	A3 SEF	172	HLT SEF
133	A4 SEF	255	Others
134	A5 SEF	-	-

6.4.2 JAM CODES AND DISPLAY CODES

Mainframe

SP7-504 shows how many jams occurred at each location.

Jam Code SP	Display	Description	LCD Display
7504 1	At Power On	Paper is stack at power-on.	☛ Note
7504 3	Tray 1: ON	Paper is not fed from tray 1.	A2
7504 4	Tray 2: ON	Paper is not fed from tray 2.	A1
7504 5	Tray 3: ON	Paper is not fed from tray 3 (one-tray paper feed unit).	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.	A2
7504 9	Duplex: ON	Paper is jammed at the duplex unit.	Z
7504 11	Vertical Transport 1: ON	Vertical transport sensor 1 does not detect paper from tray 1.	A1
7504 12	Vertical Transport 2: ON	Vertical transport sensor 2 does not detect paper from tray 2.	Y
7504 17	Registration: ON	Registration sensor does not detect paper.	A2
7504 18	Fusing Entrance: 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 21	Relay Exit: ON	Tray exit sensor (bridge unit) does not detect paper.	D

Jam Code SP	Display	Description	LCD Display
7504 24	Inverter Sn: ON	Inverter sensor does not detect paper.	C
7504 25	Duplex Exit: ON	Duplex exit sensor does not detect paper.	Z
7504 27	Duplex Entrance: ON	Duplex entrance sensor does not detect paper.	Z
7504 28	1-Bin Exit Sensor	1-bin tray exit sensor does not detect paper.	C
7504 29	R-tray Paper Exit: ON	Paper exit sensor of the side tray does not detect paper.	C
7504 51	Vertical Transport Sensor1	Vertical transport sensor 1 does not turn off.	A1, A2
7504 52	Vertical Transport Sensor2	Vertical transport sensor 2 does not turn off.	Y
7504 53	Vertical Transport Sensor3	Vertical transport sensor 3 does not turn off.	Y
7504 57	Registration Sensor	Registration sensor does not turn off.	B
7504 58	Fusing Entrance Sensor	Fusing entrance sensor does not turn off.	C
7504 59	Fusing Exit Sensor	Fusing exit sensor does not turn off.	C
7504 60	Exit Sensor	Paper exit sensor does not turn off.	C
7504 64	Inverter Sensor	Inverter sensor does not turn off.	C
7504 65	Duplex Exit Sensor	Duplex exit sensor does not turn off.	Z
7504 67	Duplex Entrance Sensor	Duplex entrance sensor does not turn off.	Z
7504 68	1-Bin Exit: ON	1-bin tray exit sensor does not turn off.	R
7504 69	R-tray Paper Exit Sensor	Paper exit sensor of the side tray does not turn off.	W

Jam Code SP	Display	Description	LCD Display
7504 230	FIN:Paper Exit Error	The machine does not get paper exit data from the internal finisher.	R1, R2
7504 231	FIN:Command Error	The machine gets a command error from the internal finisher.	R1, R2
7504 240	Fin. Entrance: ON	Entrance sensor of the internal finisher does not detect paper.	C, R1, R2
7504 241	Fin. Entrance Sensor	Entrance sensor of the internal finisher does not turn off.	R1, R2
7504 242	Feed-Out Belt Motor	The mainframe detects the lock signal from the paper transport motor of the internal finisher.	R1, R2
7504 243	Stapler Motor	The mainframe detects the lock signal from the staple motor of the internal finisher.	R1, R2
7504 244	Jogger Motor	The mainframe detects the lock signal from the front or rear jogger motor of the internal finisher.	R1, R2
7504 245	Pick-Up Roller Lift Motor	The mainframe detects the lock signal from the pick-up roller contact motor of the internal finisher.	R1, R2
7504 246	Stapler Unit Drive Motor	The mainframe detects the lock signal from the stapler unit movement motor of the punch unit.	R1, R2
7504 247	Output Tray Motor	The mainframe detects the lock signal from the feed motor of the internal finisher.	R1, R2
7504 248	Belt Lift Solenoid	The mainframe detects the belt lift solenoid error from the internal finisher.	R1, R2
7504 249	Finisher Fan	The mainframe detects the finisher fan	R1, R2

Trouble - shooting

Jam Code SP	Display	Description	LCD Display
		error from the internal finisher.	
7504 250	Punch Motor	The mainframe detects the lock signal from the punch motor.	R1, R2
7504 251	Finisher Proof Exit	The mainframe detects the lock signal from the registration motor of the punch unit.	R1, R2
7504 252	FIN:Stapler Position Error	The stapler unit stays on the jogger end fence so that stapling is disabled.	R1, R2
7504 253	FIN:Job Data Error	Unexpected job data is sent to the internal finisher from the mainframe.	R1, R2

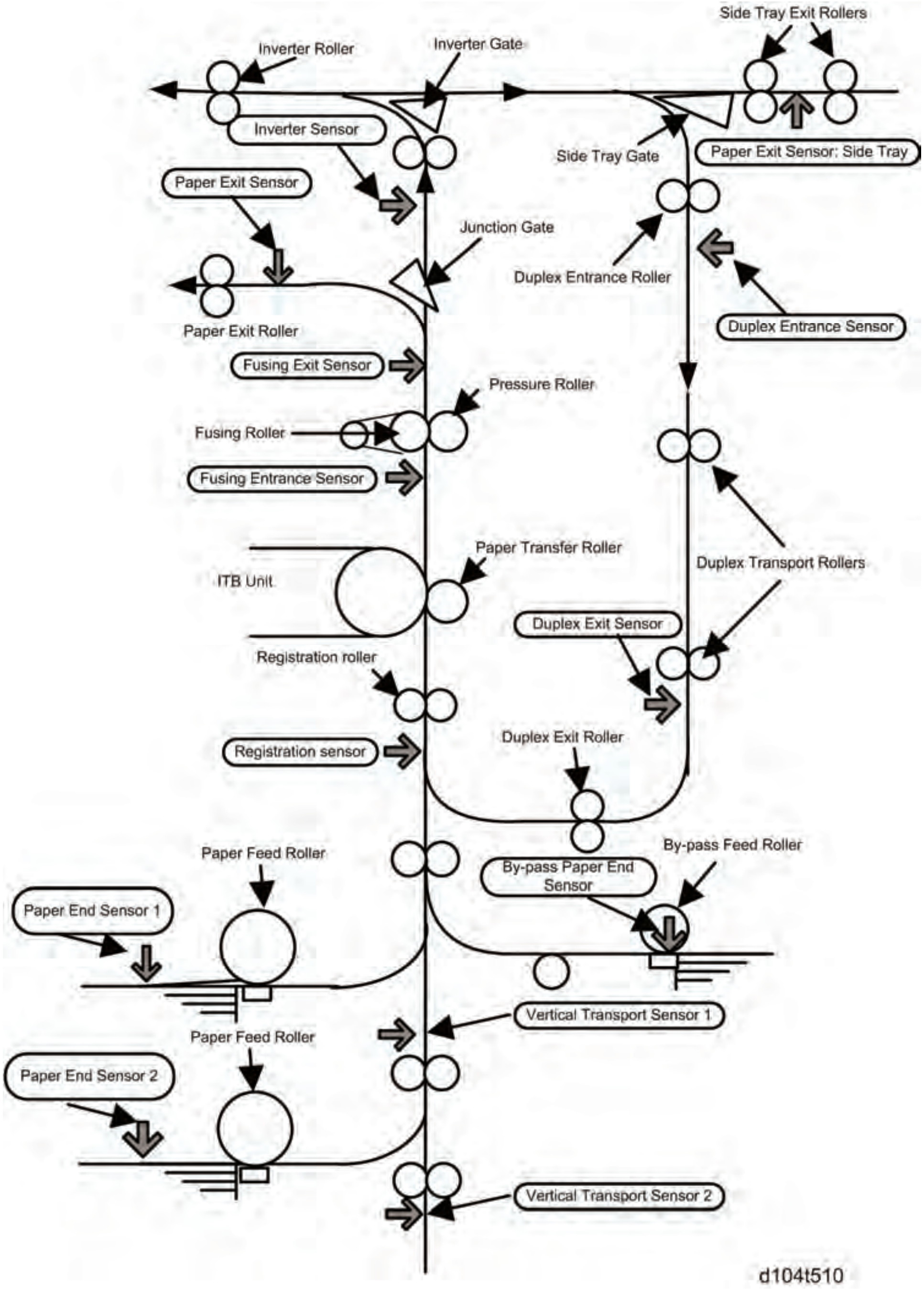
Note

- The jam location display depends on where a paper jam is detected at power-on.

ARDF (Original Jam)

Jam Code SP	Display	Description	LCD Display
7505 1	At Power On	Original is stack at power-on.	P
7505 3	Skew Correction: ON	Skew correction sensor does not detect paper.	P
7505 4	Registration: ON	Registration sensor does not detect paper.	P
7505 5	Paper Exit: ON	Exit Sensor does not detect paper.	P
7505 53	Skew Correction: OFF	Skew correction sensor does not turn off.	P
7505 54	Registration: OFF	Registration sensor does not turn off.	P
7505 55	Paper Exit: OFF	Exit Sensor does not turn off.	P

Sensor Locations



6.5 ELECTRICAL COMPONENT DEFECTS

6.5.1 SENSORS

Note

- The CN numbers in the following table are the connector numbers on the BCU.

No.	Sensor Name/ Sensor Board Name	Active	CN	Condition	Symptom
SW4	Duplex Unit Open Switch	L	CN232/2	Open	"Open Cover" is displayed.
				Shorted	"Open cover" cannot be detected.
S5	ID Sensor: Front	A	CN214/8, 9	Open/ Shorted	SC400
	ID Sensor: Center	A	CN214/6, 7	Open/ Shorted	SC400
	ID Sensor: Rear	A	CN214/2, 3	Open/ Shorted	SC400
S19	PTR Contact Sensor	H	CN232/4	Open/ Shorted	SC452
S6	Registration Sensor	L	CN214/11	Open	Jam A2 (Jam17)
				Shorted	Jam B (Jam57)
S35	Drum Phase Sensor: K	H	CN220/2	Open/ Shorted	SC380/SC396
S36	Drum Phase Sensor: CMY	H	CN220/17	Open/ Shorted	SC381/SC397
S21 S22 S23 S24	Toner End Sensor - Y Toner End Sensor - M Toner End Sensor - C	L	CN234/14, 17, 20, 23	Open	Toner end cannot be detected.
				Shorted	Toner end is detected when there is enough

No.	Sensor Name/ Sensor Board Name	Active	CN	Condition	Symptom
	Toner End Sensor - K				toner.
S12	ITB Rotation Sensor	H/L	CN219/20	Open/ Shorted	SC443
S10	Vertical Transport Sensor 1	L	CN219/10	Open	Jam A1 (Jam11)
				Shorted	Jam A1, A2 (Jam51)
S8 S9	Paper End Sensor 1, 2	L	CN214/17, 19	Open	Paper end is not detected when there is no paper in the paper tray.
				Shorted	Paper end is detected when there is paper in the paper tray.
S11	Vertical Transport Sensor 2	L	CN219/15	Open	Jam Y (Jam12)
				Shorted	Jam Y (Jam52)
SW6	Tray 1 Paper Size Switch	L	CN211/11, 12, 13, 15	Open/ Shorted	Paper size error
				Shorted	Tray 1 is detected when tray 1 is not set.
S13	By-pass Paper Size Sensor	L	CN221/9, 10, 12, 13	Open/ Shorted	Paper size error
S15	By-pass Paper End Sensor	L	CN221/18	Open	Paper on the by-pass tray is not detected when paper is set.
				Shorted	Paper on the by-pass tray is detected when paper is not set.
S14	By-pass Paper Length Sensor	L	CN221/15	Open	Paper size error
				Shorted	

No.	Sensor Name/ Sensor Board Name	Active	CN	Condition	Symptom
S16	By-pass HP Sensor	H	CN221/21	Open/ Shorted	SC508
S7	Fusing Entrance Sensor	L	CN214/14	Open	Jam B (Jam18)
				Shorted	Jam C (Jam58)
S17	Duplex Entrance Sensor	L	CN221/24	Open	Jam Z (Jam27)
				Shorted	Jam Z (Jam67)
S18	Duplex Exit Sensor	L	CN221/27	Open	Jam Z (Jam25)
				Shorted	Jam Z (Jam65)
S34	TD Sensor - K	A	CN212/B9, B11	Open/ Shorted	SC372
S32	TD Sensor - M	A	CN212/A9, A11	Open/ Shorted	SC373
S33	TD Sensor - C	A	CN212/B3, B5	Open/ Shorted	SC374
S31	TD Sensor - Y	A	CN212/A3, A5	Open/ Shorted	SC375
S26	Fusing Exit Sensor	L	CN227/18	Open	Jam C (Jam19)
				Shorted	Jam C (Jam59)
S30	PCDU Toner Collection Bottle Full Sensor	H	CN211/9	Open	Used toner near full indicated when it is not near full.
				Shorted	Used toner near full cannot be detected when the waste toner bottle is nearly full.
SW5	PCDU Toner Collection Bottle Set	L	CN211/7	Open	Toner collection bottle is not detected when

No.	Sensor Name/ Sensor Board Name	Active	CN	Condition	Symptom
	Switch				the waste toner bottle is set.
				Shorted	Toner collection bottle is detected when the waste toner bottle is not set.
S29	ITB Toner Collection Bottle Full Sensor	H	CN211/4	Open	Used toner near full indicated when it is not near full.
				Shorted	Used toner near full cannot be detected when the waste toner bottle is nearly full.
SW7	Tray 2 Paper Size Switch	L	CN211/16, 17, 18, 20	Open/ Shorted	Paper size error
				Shorted	Tray 2 is detected when the tray 2 is not set.
S37	Temperature/ Humidity Sensor	A	CN222/15, 17	Open/ Shorted	Printed image has some problems such as rough image, dirty background, weak image or poor fusing.
S28	Thermopile	A	CN237/14	Open/ Shorted	SC541
TH1	Heating Roller Thermistor	A	CN233/4	Open/ Shorted	SC551
TH2	Pressure Roller Thermistor 1 (Center)	A	CN233/11	Open/ Shorted	SC561
TH3	Pressure Roller Thermistor 2 (Ends)	A	CN233/9	Open/ Shorted	SC571

No.	Sensor Name/ Sensor Board Name	Active	CN	Condition	Symptom
S27	Paper Exit Sensor	L	CN227/21	Open	Jam C (Jam20)
				Shorted	Jam C (Jam60)
S1	Original Length Sensor 1	A	CN206/2	Open/ Shorted	Original paper size cannot be detected.
S2	Original Length Sensor 2	A	CN206/5	Open/ Shorted	Original paper size cannot be detected.
S3	Scanner HP Sensor	H	CN205/2	Open	SC120
				Shorted	SC121
S4	Platen Cover Sensor	L	CN205/5	Open/ Shorted	Platen cover open cannot be detected.
S20	ITB Contact Sensor	L	CN234/5	Open/ Shorted	SC442
S25	Inverter Sensor	L	CN227/15	Open	Jam C (Jam 24)
				Shorted	Jam C (Jam64)
SW2	Right Lower Door Open Switch	L	CN219/13	Open	"Open Cover" is displayed.
				Shorted	"Open cover" cannot be detected.

6.5.2 BLOWN FUSE CONDITIONS

Power Supply Unit

Fuse	Rating		Symptom when turning on the main switch
	120V	220V - 240V	
FU101	15A/125V	8A/250V	The controller works, but SC547 is issued. (5V power to the fusing unit is not supplied.)
FU102	10A/125V	5A/250V	No response. (5V power to the PSU is not supplied.)
FU103	2A/250V	2A/250V	AC power to the scanner heater and tray heater is not supplied.
FU5	5A/250V	5A/250V	5V power to the BCU is not supplied.
FU6	5A/250V	5A/250V	5VS power to the controller is not supplied.
FU7	10A/125V	10A/250V	24VS power to the BCU is not supplied.
FU8	10A/125V	10A/250V	24VS power to the BCU is not supplied.
FU9	10A/125V	10A/250V	24V power to the DRB and controller is not supplied.

⚠**CAUTION**

- For continued protection against risk of fire, replace only with same type and rating of fuse.

6.6 SCANNER TEST MODE

6.6.1 SBU TEST MODE

Output the SBU test pattern with SP4-807-001 to make sure the scanner SBU control operates correctly. The SBU test pattern prints out after you have set the SP mode settings and pressed the start key.

- The CCD on the SBU board may be defective if the copy is abnormal and the SBU test pattern is normal.
- The followings can be the cause if the copy is normal and the SBU test pattern is abnormal:
  - The harness may not be correctly connected between the SBU and the IPU.
  - The IPU or SBU board may be defective.

6.6.2 IPU TEST MODE

You can check the IPU board with the SP mode menu, SP4-904-1.
If no error is detected, the test ends. Then the completion code shows in the operation panel display. If an error is detected, the test is interrupted. Then an error code shows. The table below lists the completion and error codes.

SP4-904-1 Register Access

There are 16 bits switches in this SP. Each bit indicates a different CPU. The error result is displayed on the operation panel as a decimal number.
0: Normal, 1: Error

SP4-904-2 Image Path

There are 16 bits switches in this SP. Each bit indicates a different CPU path. The error result is displayed on the operation panel as a decimal number.

0: Normal, 1: Error

Errors may be caused by the following problems:

1. Short circuit on the signal lines
   - When the IPU board is installed, a pin or two on the ASIC is damaged.
   - Some conductive matter or object is trapped among the pins.
   - Condensation
2. Destruction of circuit elements
   - Over current or a defective element breaks the circuit.
3. Abnormal power supply

   •The required voltage is not supplied to the devices.
4. Overheat/overcooling
   - The environment is inappropriate for the board (the scanner unit).
5. Static electricity
   - Static electricity of a high voltage occurs during the test.
6. Others
   - The scanner and IPU are incorrectly connected.

When you have completed a check, turn the main switch off and on before you do another check. When you have completed all necessary checks, turn the main switch off and on.

ENERGY SAVING

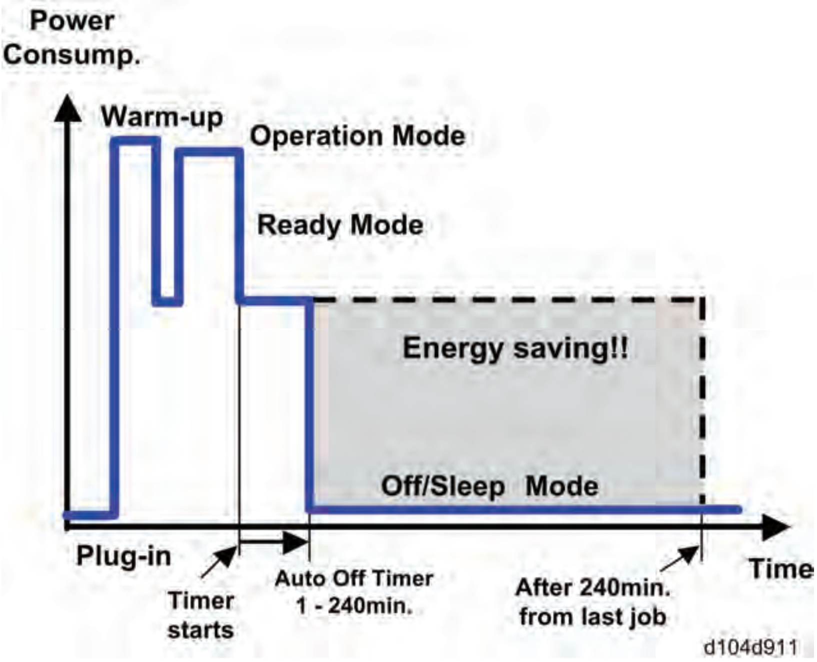
REVISION HISTORY		
Page	**Date**	**Added/Updated/New**
		None

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)

- Auto off timer (1 – 240 min): Off/Sleep Mode

Default settings: 1 min.

Return to Stand-by Mode

Off/Sleep Mode

Recovery time.

DI-C1.5: Min. 10 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 (Not used in this model)
- 8941-004: Low power mode (Not used in this model)
- 8941-005: Off/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.

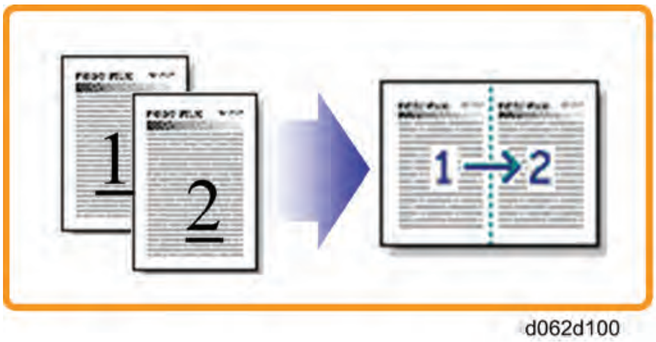
Machine Date	Power Consumption (W): Data: a	SP8941: Machine Status	Start Time: (min.) Data: b	End Time: (min.) Data: c	Time Differences (Data:b - Data: c) (min.) Data: d	Power Consumption (Data:a x Data:d) (Wmin.) Data: e
Operating mode	1081.8	001: Operating Time	21089.0	21386.0	297.0	321294.6
Ready mode (stand by)	214.0	002: Standby Time	306163.0	308046.0	1883.0	402962.0
Energy mode (Panel off)	214.0	003: Energy Save Time	71386.0	75111.0	3725.0	797150.0
Low power mode	153.0	004: Low power Time	154084.0	156340.0	2256.0	345168.0
Off/Sleep mode	7.0	005: Off mode Time	508776.0	520377.0	11601.0	81207.0
Total Time of Data: d (min.)					19762.0	
Total Time of Data: d/60min. (Hour)					329.37	
Total Power Consumption of Data: e (Wmin.)						1947781.60
Total Power Consumption of Data: e /60min./1000W (KWH)						32.46

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!

2. Combine mode:

Reduce paper volume in half!

3. Duplex + Combine:

d062d101

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

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.

Recommendation

Please explain the above features to the customers, so that they can reduce their paper usage.

Model DI-C1.5

- Total counter: SP 8581-001
- Duplex counter: SP 8411-001
- Single-sided with combine mode: SP 8421-004
- Duplex with combine mode: SP 8421-005

The following table shows paper savings and how the counters increase for some simple examples of single-sided and duplex jobs

Duplex mode:

Originals	Simplex Sheet used	Duplex Sheets used	**Paper Saved**	Total counter SP8501-001	Duplex counter SP8411-001
1	1	1	**0**	1	0
2	2	1	**1**	2	1
3	3	2	**1**	3	1
4	4	2	**2**	4	2
5	5	3	**2**	5	2
10	10	5	**5**	10	5
20	20	10	**10**	20	10

If combine mode is used, the total and duplex counters work in the same way as explained previously. The following table shows paper savings and how the counters increase for some simple examples of duplex/combine jobs.

2 in 1 mode:

Originals	Simplex Sheet used	Duplex Sheets used	**Paper Saved**	Total counter SP8501-001	Duplex counter SP8421-004
1	1	1	**0**	1	1
2	2	1	**1**	1	1
3	3	2	**1**	2	2
4	4	2	**2**	2	2
5	5	3	**2**	3	2
10	10	5	**5**	5	5
20	20	10	**10**	10	10

Duplex + 2 in 1 mode:

Originals	Simplex Sheet used	Duplex Sheets used	Paper Saved	Total counter SP8501-001	Duplex counter SP8421-005
1	1	1	0	1	1
2	2	1	1	1	1
3	3	1	2	2	2
4	4	1	3	2	2
5	5	2	3	3	3
6	6	2	4	3	3
7	7	2	5	4	4
8	8	2	6	4	4
9	9	3	6	5	5
10	10	3	7	5	5
11	11	3	8	6	6
12	12	3	9	6	6

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WARNING

The Service Manual contains information regarding service techniques, procedures, processes and spare parts of office equipment distributed by Ricoh Americas Corporation. Users of this manual should be either service trained or certified by successfully completing a Ricoh Technical Training Program.

Untrained and uncertified users utilizing information contained in this service manual to repair or modify Ricoh equipment risk personal injury, damage to property or loss of warranty protection.

Ricoh Americas Corporation

LEGEND

PRODUCT CODE	COMPANY			
	GESTETNER	LANIER	RICOH	SAVIN
D104	MP C2051	LD 620C	Aficio MP C2051	C9120
D106	MP C2551	LD 625C	Aficio MP C2551	C9125

DOCUMENTATION HISTORY

REV. NO.	DATE	COMMENTS
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D104/D106

SERVICE MANUAL APPENDICES

D104/D106 APPENDICES

TABLE OF CONTENTS

APPENDIX:

SPECIFICATIONS

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

1. APPENDIX: SPECIFICATIONS

1.1 GENERAL SPECIFICATIONS

1.1.1 COPIER

Configuration:	Desktop
Print Process:	Laser beam scanning & Dry electrostatic transfer system 4 drums tandem method
Resolution:	Scan: 600 dpi Print: 600 dpi/ 1200 dpi
Gradation:	Scan: 8 bits/pixel each for RGB/ 600 dpi 1 bit/pixel Print: 600dpi / 4 bits/pixel
Original type:	Sheets, book, objects
Maximum original size:	A3/11" x 17"
Copy speed:	ADF 1 to 1, LT/ A4 LEF **Thin (59 g/m^2 or less)** C1.5a: 20 cpm (color/black & white) C1.5c: 25 cpm (color/black & white) **Plain 1 (74 g/m^2 or less)/ 2 (81 g/m^2 or less)** C1.5a: 20 cpm (color/black & white) C1.5c: 25 cpm (color/black & white) **Middle Thick (105 g/m^2 or less)** C1.5a: 20 cpm (color/black & white) C1.5c: 25 cpm (color/black & white) **Thick 1 (169 g/m^2 or less)** C1.5a: 12.5 cpm (color/black & white) C1.5c: 12.5 cpm (color/black & white) **Thick 2 (210 g/m^2 or less)** C1.5a: 12.5 cpm (color/black & white) C1.5c: 12.5 cpm (color/black & white) **Thick 3 (256 g/m^2 or less)**

<table>
<tr><td></td><td colspan="3">C1.5a: 12.5 cpm (color/black & white)
C1.5c: 12.5 cpm (color/black & white)
OHP, Glossy (1200 dpi)
C1.5a: 12.5 cpm (color/black & white)
C1.5c: 12.5 cpm (color/black & white)</td></tr>
<tr><td>First copy (normal mode):</td><td colspan="3">Color:
9.2 seconds or less (A4/LT LEF)
Black & white:
6.4 seconds or less (A4/LT LEF) for NA model
6.3 seconds or less (A4/LT LEF) for EU/AA model</td></tr>
<tr><td>Warm-up time:</td><td colspan="3">Less than 22 seconds (20°C)</td></tr>
<tr><td>Print Paper Capacity: (80 g/m^2, 20 lb)</td><td colspan="3">Standard tray: 250 sheets x 2 + 100
By-pass tray: 100 sheets (Plain), 40 sheets (Thick 1: 106 - 169g/m^2), 20 sheets (Thick 2/3: 170 - 256 g/m^2), 35 sheets (Postcard)
Optional paper feed tray: 500 sheets x 2</td></tr>
<tr><td rowspan="5">Print Paper Size:</td><td colspan="3">(Refer to "Supported Paper Sizes".)</td></tr>
<tr><td>-</td><td>Minimum</td><td>Maximum</td></tr>
<tr><td>Tray 1/ Tray 2</td><td>A5 (LEF)/ 8.5" x 11"</td><td>A3/11" x 17"</td></tr>
<tr><td>By-pass</td><td>90 x 148 mm</td><td>305 x 600 mm</td></tr>
<tr><td>Optional Tray</td><td>A5 (LEF)/ 8.5" x 11"</td><td>A3/11" x 17"</td></tr>
<tr><td>Printing Paper Weight:</td><td colspan="3">Standard tray 1: 60 to 256 g/m^2 (16 to 68 lb.)
Standard tray 2: 60 to 169 g/m^2 (16 to 45 lb.)
Optional paper tray: 60 to 105 g/m^2 (16 to 28 lb.)
By-pass tray: 52 to 256 g/m^2 (14 to 68 lb.)
Duplex unit: 60 to 105 g/m^2 (16 to 28 lb.)</td></tr>
</table>

Output Paper Capacity:	Standard exit tray: 500 sheets or more (face down)*1 Shift tray: 250 sheets (80 g/m^2) 1-bin tray: 100 (80 g/m^2) Side tray: 50 (80 g/m^2) Internal finisher 500 (80 g/m^2) *1: T6200, A4 LEF	
Continuous copy:	Up to 999 sheets	
Zoom:	Arbitrary: From 25 to 400% (1% step)	
	NA	Europe
	25%	25%
	50%	50%
	65%	65%
	73%	71%
	78%	75%
	85%	82%
	93%	93%
	100%	100%
	121%	115%
	129%	122%
	155%	141%
	200%	200%
	400%	400%

Memory:	Standard: 1.5 GB		
Power Source:	120 V - 127 V, 60 Hz: 12A or more (for North America) 220 V - 240 V, 50/60 Hz: 8A or more (for Europe/ASIA)		
Power Consumption:	-	120V	220 - 240V
	Maximum	1600 W or less	1680 W or less
	Sleep Mode	2.0 W or less	2.0 W or less
(*1) The complete system consists of mainframe, ARDF, finisher, and LCT. The above measurements were made in accordance with Ricoh standard methodology.			
Dimensions (W x D x H): Copier: 587 x 676 x 725 mm (23.1" x 26.7" x 28.5") Copier + PFU + Right tray + Internal finisher: 1009 x 676 x 1117 mm (39.7" x 26.7" x 44.0")			
Weight:	Less than 85 kg (187 lb.) [without ARDF excluding toner] Less than 100 kg (220 lb.) [with ARDF excluding toner]		

1.1.2 PRINTER

Printer Languages:	PCL 5c/6 (standard) Adobe PostScript 3 (optional) PDF Direct (optional) PictBridge (optional)
Resolution and Gradation:	PCL 5c/6: 300 x 300 dpi : Available only in B/W mode 600 x 600 dpi : Fast (1 bit), Standard (2 bits), Fine (4 bit) PS3: 600 x 600 dpi : Fast (1 bit), Standard (2 bits), Fine (4 bit) 1200 dpi x 1200 dpi
Printing speed:	C1.5a: 20 ppm in Plain/Middle Thick mode 12.5 ppm in Thick/OHP mode (depending on paper type) C1.5c: 25 ppm in Plain/Middle Thick mode 12.5 ppm in Thick/OHP mode (depending on paper type)
Resident Fonts:	PCL 5c/6 (Standard): 45 Compatible fonts 13 International fonts Adobe PostScript 3 (Optional): 136 fonts (24 Type 2 fonts, 112 Type 14 fonts)
Host Interfaces:	USB2.0: Standard Ethernet (100 Base-TX/10 Base-T): Standard Gigabit Ethernet (1000 Base-T): Optional IEEE1284 parallel x 1: Optional IEEE802.11a/g, g (Wireless LAN): Optional
Network Protocols:	TCP/IP (IPv4, IPv6), IPX/SPX, AppleTalk (Auto Switching)
HDD	160 GB (standard)

1.1.3 SCANNER

Standard Scanner Resolution:	Main scan/Sub scan 600 dpi
Available scanning Resolution Range:	Twain Mode: 100 to1200 dpi Delivery Mode: 100/200/300/400/600 dpi
Grayscales:	1 bit or 8 bits/pixel
Scanning Throughput (ARDF mode):	Scan to E-mail / Folder: BW: 44 ipm (A4LEF / BW Text (Print) / 200dpi /Compression: On (MH)) FC: 44 ipm (A4LEF / FC Text / Photo / 200dpi / Compression: Standard)
Interface:	Ethernet (100 Base-TX/10 Base-T/1000 Base-T for TCP/IP), Wireless LAN, USB2.0/SD Slot
Compression Method:	B&W: TIFF (MH, MR, MMR) Gray Scale, Full Color: JPEG

1.2 SUPPORTED PAPER SIZES

1.2.1 PAPER FEED

North America

BT: By-pass Tray, T1/2: Tray 1/2 (standard), T3/4: Tray 3/4 (option), DU: Duplex Unit

Paper	Size (W x L)	BT	T1/2	T3/4	DU
A3 W	12" x 18"	M	-	-	-
A3 SEF	297 x 420mm	M	S^1	S^1	M
A4 SEF	210 x 297mm	M	A	A	M
A4 LEF	297 x 210mm	M	S^3	S^3	M
A5 SEF	148 x 210mm	M	-	M	M
A5 LEF	210 x 148mm	M	A	A	M
A6 SEF	105 x 148mm	M	-	-	-
B4 SEF	257 x 364mm	M	S^2	S^2	M
B5 SEF	182 x 257mm	M	A	A	M
B5 LEF	257 x 182mm	M	S^4	S^4	M
B6 SEF	128 x 182mm	M	-	-	-
Ledger	11" x 17"	A	A^1	A^1	M
Letter SEF	8.5" x 11"	A	A	A	M
Letter LEF	11" x 8.5"	A	A^3	A^3	M
Legal SEF	8.5" x 14"	M	A^2	A^2	M
Government Legal SEF	8.25" x 14"	M	M	M	M
Half Letter SEF	5.5" x 8.5"	A	-	-	-

Supported Paper Sizes

Paper	Size (W x L)	BT	T1/2	T3/4	DU
Executive SEF	7.25" x 10.5"	M	M	M	M
Executive LEF	10.5" x 7.25"	M	A[4]	A[4]	M
F SEF	8" x 13"	M	M	M	M
Foolscap SEF	8.5" x 13"	M	M	M	M
Folio SEF	8.25" x 13"	M	M	M	M
	11" x 15"	M	M	M	M
	10" x 14"	M	M	M	M
	8" x 10"	M	M	M	M
8K	267 x 390mm	M	M	M	M
16K SEF	195 x 267mm	M	M	M	M
16K LEF	267 x 195mm	M	M	M	M
Custom		M	M	M	-
Com10 Env.	4.125" x 9.5"	M	-	-	-
Monarch Env.	3.875" x 7.5"	M	-	-	-
C6 Env.	114 x 162mm	M	-	-	-
C5 Env.	162 x 229mm	M	-	-	-
DL Env.	110 x 220mm	M	-	-	-

Remarks:

A	Supported: the sensor detects the paper size.
M	Supported: the user specifies the paper size.
S	Supported: depends on a technician adjustment Paper size which has same superscript number can be changeable with SP setting. (eg. Ledger: A^1 <=> A3 SEF: S^1)
-	Not supported

Europe/ Asia

BT: By-pass Tray, T1/2: Tray 1/2 (standard), T3/4: Tray 3/4 (option), DU: Duplex Unit

Paper	Size (W x L)	BT	T1/2	T3/4	DU
A3 W	12" x 18"	M	-	-	-
A3 SEF	297 x 420mm	A	A^1	S^1	M
A4 SEF	210 x 297mm	A	A	A	M
A4 LEF	297 x 210mm	A	A^3	A^3	M
A5 SEF	148 x 210mm	A	-	A	M
A5 LEF	210 x 148mm	A	A	A	M
A6 SEF	105 x 148mm	M	-	-	-
B4 SEF	257 x 364mm	M	A^2	A^2	M
B5 SEF	182 x 257mm	M	A	A	M
B5 LEF	257 x 182mm	M	A^4	A^4	M
B6 SEF	128 x 182mm	M	-	-	-
Ledger	11" x 17"	M	S^1	S^1	M
Letter SEF	8.5" x 11"	M	A	A	M

Supported Paper Sizes

Paper	Size (W x L)	BT	T1/2	T3/4	DU
Letter LEF	11" x 8.5"	M	S[3]	S[3]	M
Legal SEF	8.5" x 14"	M	S[2]	S[2]	M
Government Legal SEF	8.25" x 14"	M	M	M	M
Half Letter SEF	5.5" x 8.5"	M	-	-	-
Executive SEF	7.25" x 10.5"	M	M	M	M
Executive LEF	10.5" x 7.25"	M	S[4]	S[4]	M
F SEF	8" x 13"	M	M	M	M
Foolscap SEF	8.5" x 13"	M	M	M	M
Folio SEF	8.25" x 13"	M	M	M	M
	11" x 15"	M	M	M	M
	10" x 14"	M	M	M	M
	8" x 10"	M	M	M	M
8K	267 x 390mm	M	M	M	M
16K SEF	195 x 267mm	M	M	M	M
16K LEF	267 x 195mm	M	M	M	M
Custom		M	M	M	-
Com10 Env.	4.125" x 9.5"	M	-	-	-
Monarch Env.	3.875" x 7.5"	M	-	-	-
C6 Env.	114 x 162mm	M	-	-	-
C5 Env.	162 x 229mm	M	-	-	-
DL Env.	110 x 220mm	M	-	-	-

Remarks:

A	Supported: the sensor detects the paper size.
M	Supported: the user specifies the paper size.
S	Supported: depends on a technician adjustment Paper size which has same superscript number can be changeable with SP setting. (eg. Ledger: S^1 <=> A3 SEF: A^1)
-	Not supported

1.2.2 PAPER EXIT

Mainframe and optional trays

Main: Mainframe/ 1-bin: 1-bin tray/ Shift: Shift Tray/ Side: Side Tray

Paper	Size (W x L)	Main	1-bin	Shift	Side
A3 W	12" x 18"	Y	-	-	-
A3 SEF	297 x 420 mm	Y	Y	Y	Y
A4 SEF	210 x 297 mm	Y	Y	Y	Y
A4 LEF	297 x 210 mm	Y	Y	Y	Y
A5 SEF	148 x 210 mm	Y	Y	Y	Y
A5 LEF	210 x 148 mm	Y	Y	Y	Y
A6 SEF	105 x 148 mm	Y	-	Y	-
B4 SEF	257 x 364 mm	Y	Y	Y	Y
B5 SEF	182 x 257 mm	Y	Y	Y	Y
B5 LEF	257 x 182 mm	Y	Y	Y	Y
B6 SEF	128 x 182 mm	Y	-	Y	-
Ledger	11" x 17"	Y	Y	Y	Y

Paper	Size (W x L)	Main	1-bin	Shift	Side
Letter SEF	8.5" x 11"	Y	Y	Y	Y
Letter LEF	11" x 8.5"	Y	Y	Y	Y
Legal SEF	8.5" x 14"	Y	Y	Y	Y
Government Legal SEF	8.25" x 14"	Y	Y	Y	Y
Half Letter SEF	5.5" x 8.5"	Y	Y	Y	Y
Executive SEF	7.25" x 10.5"	Y	Y	Y	Y
Executive LEF	10.5" x 7.25"	Y	Y	Y	Y
F SEF	8" x 13"	Y	Y	Y	Y
Foolscap SEF	8.5" x 13"	Y	Y	Y	Y
Folio SEF	8.25" x 13"	Y	Y	Y	Y
	11" x 15"	Y	Y	Y	Y
	10" x 14"	Y	Y	Y	Y
	8" x 10"	Y	Y	Y	Y
8K	267 x 390 mm	Y	Y	Y	Y
16K SEF	195 x 267 mm	Y	Y	Y	Y
16K LEF	267 x 195 mm	Y	Y	Y	Y
Custom		Y	-	Y	-
Com10 Env.	4.125" x 9.5"	Y	-	Y	-
Monarch Env.	3.875" x 7.5"	Y	-	Y	-
C6 Env.	114 x 162 mm	Y	-	Y	-
C5 Env.	162 x 229 mm	Y	-	Y	-
DL Env.	110 x 220 mm	Y	-	Y	-

Remarks:

Y	Supported
-	Not supported

Internal Finisher

Str: Straight Feed Out/ Inv: Inverter Path/ Srt; Sort/ Stp: Staple/ 2/3P: 2/3 Holes Punch/ 4P: 4 Holes Punch/ S4P: Scandinavia 4 Holes Punch/ RT: Right Tray

Paper	Size (W x L)	Internal finisher						
		Str	Inv	Srt	Stp	2/3P	4P	S4P
A3 W	12" x 18"	-	-	-	-	-	-	-
A3 SEF	297 x 420 mm	Y	Y	10	30	Y	Y	Y
A4 SEF	210 x 297 mm	Y	Y	20	50	Y*	-	Y
A4 LEF	297 x 210 mm	Y	Y	20	50	Y	Y	Y
A5 SEF	148 x 210 mm	Y	Y	-	-	-	-	-
A5 LEF	210 x 148 mm	Y	Y	-	-	-	-	-
A6 SEF	105 x 148 mm	Y	Y	-	-	-	-	-
B4 SEF	257 x 364 mm	Y	Y	10	30	-	-	-
B5 SEF	182 x 257 mm	Y	Y	20	50	-	-	-
B5 LEF	257 x 182 mm	Y	Y	20	50	-	-	-
B6 SEF	128 x 182 mm	Y	Y	-	-	-	-	-
Ledger	11" x 17"	Y	Y	10	30	Y	Y	Y
Letter SEF	8.5" x 11"	Y	Y	20	50	Y*	-	Y
Letter LEF	11" x 8.5"	Y	Y	20	50	Y	Y	Y
Legal SEF	8.5" x 14"	Y	Y	10	30	Y*	-	Y

Paper	Size (W x L)	Internal finisher						
		Str	Inv	Srt	Stp	2/3P	4P	S4P
Government Legal SEF	8.25" x 14"	Y	Y	10	30	-	-	-
Half Letter SEF	5.5" x 8.5"	Y	Y	-	-	-	-	-
Executive SEF	7.25" x 10.5"	Y	Y	20	50	-	-	-
Executive LEF	10.5" x 7.25"	Y	Y	20	50	-	-	-
F SEF	8" x 13"	Y	Y	-	-	-	-	-
Foolscap SEF	8.5" x 13"	Y	Y	10	30	Y*	-	Y
Folio SEF	8.25" x 13"	Y	Y	10	30	-	-	-
	11" x 15"	Y	Y	10	30	-	-	-
	10" x 14"	Y	Y	-	-	-	-	-
	8" x 10"	Y	Y	-	-	-	-	-
8K	267 x 390 mm	Y	Y	10	30	-	-	-
16K SEF	195 x 267 mm	Y	Y	-	-	-	-	-
16K LEF	267 x 195 mm	Y	Y	20	50	-	-	-
Custom		-	-	-	-	-	-	-
Com10 Env.	4.125" x 9.5"	-	-	-	-	-	-	-
Monarch Env.	3.875" x 7.5"	-	-	-	-	-	-	-
C6 Env.	114 x 162 mm	-	-	-	-	-	-	-
C5 Env.	162 x 229 mm	-	-	-	-	-	-	-
DL Env.	110 x 220 mm	-	-	-	-	-	-	-

Remarks:

Y	Supported (*[1]: 2 holes punch only)
30	Output up to 30 sheets
50	Output up to 50 sheets
-	Not supported

1.2.3 PLATEN/ARDF ORIGINAL SIZE DETECTION

Size (width x length) [mm]	Platen	ARDF	Platen	ARDF
	Inches	Inches	Metric	Metric
A3 (297 x 420) L	-	Y	Y*[3]	Y
B4 (257 x 364) L	-	-	Y*[3]	Y
A4 (210 x 297) L	Y*[1]	Y	Y*[3]	Y
A4 (297 x 210) S	Y*[3]	Y	Y*[3]	Y
B5 (182 x 257) L	-	-	Y*[3]	Y
B5 (257 x 182) S	-	-	Y*[3]	Y
A5 (148 x 210) L	-	-	-*[1]	Y
A5 (210 x 148) S	-	-	Y	Y
B6 (128 x 182) L	-	-	-	-
B6 (182 x 128) S	-	-	-	-
11" x 17" (DLT)	Y	Y*[2]	-	Y*[2]
11" x 15"	-	Y*[2]	-	-
10" x 14"	-	Y	-	-
8.5" x 14" (LG)	Y	Y*[2]	-	-

8.5" x 13" (F4)	-	Y*[2]	Y*[4]	Y*[4]
8.25" x 13"	-	-	Y*[4]	Y*[4]
8" x 13"(F)	-	-	Y*[4]	Y*[4]
8.5" x 11" (LT)	Y*[3]	Y*[2]	Y*[3]	Y*[2]
11" x 8.5" (LT)	Y*[3]	Y*[2]	Y*[3]	Y*[2]
8" x 10"	-	Y*[2]	-	-
5.5" x 8.5" (HLT)	-*[1]	Y	-	-
8.5" x 5.5" (HLT)	Y	Y	-	-
8K (267 x 390)	-	-	Y*[3]	Y*[2]
16K L (195 x 267)	-	-	Y*[3]	Y*[2]
16K S (267 x 195)	-	-	Y*[3]	Y*[2]
7.25" x 10.5" (Executive)	-	Y	-	-
10.5" x 7.25" (Executive)	-	Y*[2]	-	-

*1: Use SP4-303 to detect original sizes as A5 lengthwise/HLT when the message “Can-t detect original size” shows.

*2: The machine can detect the paper size depending on the setting of SP6-016-1.

*3: The machine can detect the paper size depending on the setting of SP4-305-1.

*4: The machine can detect the paper size depending on the setting of SP5-126-1.

1.3 SOFTWARE ACCESSORIES

The printer drivers and utility software are provided as following two CD-ROMs

1: Printer Drivers and Utilities CD-ROM

2: Scanner Drivers and Utilities CD-ROM.

An auto-run installer lets you to select the components you want to install.

1.3.1 PRINTER AND LAN FAX DRIVERS

Printer Language	**Windows 2000, XP, Server 2003, Vista, Server 2008, 7**	**MacOS8.6 to 9.x, MacOSX10.1 or later**
PCL5c / PCL6	Yes	No
PS3	Yes	Yes
RPCS	No	No

Note

- The PCL5c/6 and PS3 drivers are provided on the printer drivers CD-ROM
- The PS3 drivers are all genuine Adobe PS drivers, except for Windows 2000/XP/2003/Vista/7. Windows 2000 uses Microsoft PS. A PPD file for each operating system is provided with the driver.
- The PPD installer for Macintosh supports Mac OS X 10.1 or later versions.
- The LAN Fax driver lets you fax documents directly form your PC. Address Book Editor and Cover Sheet Editor are to be installed as well. (These require the optional fax unit.)

1.3.2 SCANNER DRIVER

Printer Language	Windows 2000, XP, Server 2003, Vista, 7	MacOS8.6 to 9.x, MacOSX10.1 or later
Network TWAIN	Yes	No

Note

- The Network TWAIN driver is provided on the scanner drivers CD-ROM.

1.3.3 UTILITY SOFTWARE

Software	Description
Font Manager (2000/XP/Server 2003/7)	A font management utility with screen fonts for the printer This is provided on the printer drivers CD-ROM
Printer Utility for Mac (Mac)	A utility for peer-to-peer printing over a NetBEUI or TCP This software provides several convenient functions for printing from Macintosh clients. This is provided on the scanner drivers CD-ROM

1.4 OPTIONAL EQUIPMENT

1.4.1 ARDF (D541)

Paper Size/Weight:	Simplex	Size	A3 to A5, DLT to HLT
		Weight	40 to 128 g/m^2 (10 to 34 lb.)
	Duplex	Size	A3 to A5, DLT to HLT
		Weight	52 to 105 g/m^2 (14 to 28 lb.)
Table Capacity:	50 sheets (80 g/m^2, 20 lb)		
Original Standard Position:	Rear left corner		
Separation:	Feed belt and separation roller		
Original Transport:	Roller transport		
Original Feed Order:	From the top original		
Supported Magnification Ratios:	Copy	-	32 to 200 %
	Fax	Color	32.6 to 200 %
		Black & white	48.9 to 200 %
Power Source:	DC 24V, 5V from the scanner unit		
Power Consumption:	50 W or less		
Dimensions (W x D x H):	550 mm x 491 mm x 120 mm (21.7" x 19.3" x 4.7")		
Weight:	10 kg (22 lb.)		

1.4.2 PAPER FEED UNIT (D425)

Paper Feed System:	Feed Roller and Friction Pad
Paper Height Detection:	4 steps (100%, 70%, 30%, Near end)
Capacity:	500 sheets
Paper Weight:	80 g/m^2 (21 lb.)
Paper Size:	A3 SEF to A5, DLT SEF to HLT
Power Source:	DC 24V, 5V (from the main frame)
Power Consumption:	15 W
Dimensions (W x D x H):	550 mm x 520 mm x 137 mm (22" x 20.8" x 5.48")
Weight:	Less than 12 kg (26.4 lbs)

1.4.3 PAPER FEED UNIT (D331)

Paper Size:	A5 to A3, $5^{1}/_{2}$" x $8^{1}/_{2}$" SEF to 11" x 17"
Paper Weight:	60 - 105 g/m^2, 16 - 28 lb
Tray Capacity:	500 sheets (80 g/m^2, 20 lb) x 2 trays
Paper Feed System:	Feed roller and friction pad
Paper Height Detection:	4 steps (100%, 70%, 30%, Near end)
Power Source:	▪ 24 Vdc and 5Vdc (from the copier/printer) ▪ 120 Vac (120 V version) from the copier/printer when the optional tray heater is installed ▪ 220 – 240 Vac (230 V version) from the copier/printer when the optional tray heater is installed
Power Consumption:	35 W (Copying/printing)
Weight:	25 kg (55 lb)
Size (W x D x H):	550 mm x 520 mm x 271 mm

1.4.4 INTERNAL FINISHER (D429) AND PUNCH UNIT (D390)

Print Paper Size:	**No punch mode**: A3/11" x 17" to B6/5.5" x 8.5" (SEF) **Punch mode**: **2 holes**: A3, A4 or 11" x 17", 8.5" x 14" (SEF), 8.5" x 13" (SEF), 8.5" x 11" **3 holes**: A3, A4 (LEF) or 11" x 17", 8.5" x 11" (LEF) **4 holes (Europe)**: A3, A4 (LEF) or 11" x 17", 8.5" x 11" (LEF) **4 holes (Scandinavia)**: A3, A4 or 11" x 17", 8.5" x 14" (SEF), 8.5" x 13" (SEF), 8.5" x 11", 7.25" x 10.5" **Staple mode**: A3/11" x 17" to B5/8.5" x 11"
Paper Weight:	No punch mode: 52 to 256 g/m^2 (14 to 68 lb.) Punch mode: 52 to 105 g/m^2 (14 to 28 lb.) Staple mode: 52 to 128 g/m^2 (14 to 34 lb.) Label/Thick paper/OHP cannot be stapled
Tray Capacity:	500 sheets: A4, 8.5" x 11" or less 250 sheets: B4, 8.5" x 14" or more
Staple capacity:	50 sheets: A4, 8.5" x 11" or smaller 30 sheets: B4, 8.5" x 14" or larger
Staple position:	3 positions 1-staple: 2 positions (Top/ Bottom) 2-staples: 1 position
Staple replenishment:	Cartridge (5000 staples)
Power consumption:	50 W + 12 W (Punch Unit)

Dimensions (W x D x H):	**Finisher:** 535 x 525 x 205 mm (21.1" x 20.7" x 8.1") **Punch Unit:** 98 x 500 x 165 mm (3.9" x 19.7" x 6.5")	
Weight:	Without punch unit:	13 kg (28.6 lb.)
	With punch unit:	16.2 Kg (35.6 lb.)

1.4.5 SHIFT TRAY (D428)

Paper Capacity:	250 sheet (A4/ $8_{1/2}$" x $11_{1/2}$" or smaller: 80g/m^2/ 20 lbs)
Paper Size:	Standard sizes A6 SEF to A3, HLT to DLT Non-standard sizes Width: 90 to 305 mm Length: 148 to 600 mm
Paper Weight:	52-256 g/m^2/ 14 - 68 lbs
Power Consumption:	Max 13 W (Power is supplied from the mainframe.)
Dimension (W x D x H):	431 x 477.5 x 107mm (17.2" x 19.1" x 4.3")
Weight:	Approx. 2kg (4.4lbs)

1.4.6 1-BIN TRAY UNIT (D426)

Paper Size:	Standard Size: A3 /DLT to A5/ HLT SEF
Paper Weight:	60 to 105 g/m^2, 16 to 28 lb.
Tray Capacity:	100 sheets (80 g/m^2, 20 lb., A4)
Power Source:	DC 24 V, 5 V (from the copier)
Power Consumption:	Less than 1 W
Weight:	Less than 2kg (4.4lbs)
Size (W x D x H):	455 x 530 x 226mm (18.2" x 21.2" x 9")

1.4.7 SIDE TRAY (D427)

Paper Size:	Standard Size: A3 /DLT to A5/ HLT SEF
Paper Weight:	60 to 105 g/m^2, 16 to 28 lb.
Tray Capacity:	50 sheets (80 g/m^2, 20 lb., A4)
Power Source:	DC 24 V, 5 V (from the copier)
Power Consumption:	Less than 40 W
Weight:	1.5 kg
Size (W x D x H):	480 x 480 x 170mm (19.2"x19.2"x6.8")

1.4.8 ENVELOPE FEEDER EF3010 (D559)

Paper Size:	A3, A4, A5, A6, B4, B5, B6, DLT (11x17), Legal (8.5x14), Foolscap (8.5x13), Letter (8.5x11), GovernmentLG (8.25x14), Folio (8.25x13), F/GL(8x13), Eng Quatro (8x10), Executive(7.25x10.5), Half Letter(5.5x8.5), Com10(4.125x9.5), Monarch(3.875x7.5), C5, C6, DL Env, 11x15, 10x14
Paper Weight:	60 - 256 g/m2/ 14 - 68 Bond lbs.
Tray Capacity:	250 sheets 150 sheets (A5SEF/ A6SEF/ B6SEF/ Half Letter SEF)
Power Source:	-
Power Consumption:	-
Weight:	2 or less kg/ 4.4 or less lbs.
Size (W x D x H):	495.8 × 550 × 94 mm/ 19.5" × 21.7" × 3.7"

APPENDIX:
PREVENTIVE MAINTENANCE TABLES

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

2. APPENDIX: PREVENTIVE MAINTENANCE TABLES

2.1 MAINTENANCE TABLES

2.1.1 PREVENTIVE MAINTENANCE ITEMS

A4 (LT) long-edge feed

5% image coverage ratio

Color ratio: 20%

2 print/job

Environment: Normal temperature and humidity

Yield may change depending on circumstances and print conditions.

Note

- Symbol keys: C: Clean, R: Replace, L: Lubricant, I: Inspect

Mainframe

Item	60K	120K	240K	EM	Remarks
Scanner					
Reflector	C				Optics cloth
1st/2nd/3rd Mirrors	C				Optics cloth
Front and Rear Rails	C				Dry cloth
Exposure Glass	C			C	Dry cloth
ADF Exposure Glass	C			C	Dry cloth
APS Sensor	C				Dry cloth
PCDU					
Drum Unit-K, C, M, Y	R				
PCDU Toner Collection Bottle	R				

Item	60K	120K	240K	EM	Remarks
ITB and PTR unit					
ITB Cleaning Unit	R				
ID Sensors				C	Alcohol
Fusing					
Pressure Roller	C*			C	Alcohol *: Clean it if dirty.
Heating Roller Thermistor	C			C	Dry cloth
Pressure Roller Thermistor	C			C	Dry cloth
Entrance Guide Plate	C			C	Alcohol
Exit Guide Plate	C			C	Alcohol
Stripper Plate	C			C	Alcohol
Thermopile	C			C	Dry cloth
Fusing Gear Shafts	L				S552R
Cleaning Unit (Option)*[NOTE]	C	R			Dry cloth
Others					
Dust Filter		R			

Note

- The cleaning unit prevents the pressure roller from getting dirty due to paper dust.

Item	60K	120K	240K	EM	Remarks
Paper Feed					
Feed Roller: Tray 1/2		R		C	Damp cloth
Friction Pad: Tray 1/2		R		C	Dry cloth
Registration Roller	C*[1]			C	Damp cloth **Never use alcohol.**
Registration Sensor				C	Dry cloth
Vertical Transport Roller				C	Damp cloth
Vertical Transport Sensor				C	Dry cloth
By-pass Feed Roller				C	Damp cloth
By-pass Friction Pad				C	Dry cloth
By-pass HP Sensor				C	Dry cloth
Paper Dust Container				C	Vacuum
Duplex					
Duplex Transport Roller				C	Damp cloth
Duplex Exit Sensor				C	Dry cloth
Paper Exit					
Paper Exit Roller				C	Damp cloth
Inverter Roller				C	Damp cloth
Inverter Relay Roller				C	Damp cloth
Inverter Sensor				C	Dry cloth
Fusing Exit Sensor				C	Dry cloth

*1: The registration roller requires a cleaning maintenance every 60 K (total count).

2.1.2 OTHERS YIELD PARTS

The parts mentioned in these tables have a target yield. However, the total copy/print volume made by the machine will not reach the target yield within the machine’s targeted lifetime if the machine is used under the target usage conditions (ACV, color ratio, P/J, and C/O). So, these parts are categorized not as PM parts but as yield parts (EM parts).

Mainframe

Item	240K	EM	Remarks
PCDU			
Development Unit-K, C, M, Y	R		
ITB and PTR unit			
Image Transfer Belt	R		
PTR unit	R		
Fusing			
Fusing Unit	R		

ARDF (D366)

Item	80K	EM	Remarks
Pick-up Roller	R		Number of originals
Feed Belt	R		Number of originals
Separation Roller	R		Number of originals
Sensors		C	Blower brush
Platen Sheet Cover		C	Damp cloth; alcohol (Replace if required.)
White Plate		C	Dry or damp cloth
Drive Gear		L	Grease G501
Transport Roller		C	Damp cloth; alcohol
Exit Roller		C	Damp cloth; alcohol
Inverter Roller		C	Damp cloth; alcohol
Idle Rollers		C	Damp cloth; alcohol

One-tray Paper Feed Unit (D425)

Item	60K	120K	EM	Remarks
Feed Roller		R	C	Dry cloth
Bottom Plate Pad	C		C	Dry cloth
Paper Feed Guide	C		C	Dry cloth
Friction Pad		R	C	Dry cloth
Paper Feed Clutch		I		

Two-tray Paper Feed Unit (D331)

Item	60K	120K	EM	Remarks
Paper Feed Roller		R	C	Dry cloth
Friction Pad		R	C	Dry cloth
Paper Feed Guides		C	C	Dry cloth
Relay Rollers		C	C	Dry cloth
Bottom Plate Pad		C	C	Dry cloth
Relay Clutch		I		Replace if necessary
Paper Feed Clutch		I		Replace if necessary

1 Bin Tray (D426)

Items	150K	EM	Remarks
Exit Rollers	C	C	Damp or Dry cloth
Idle Rollers	C		Damp or Dry cloth
Tray		C	Damp cloth
Exit Sensor	C	C	Blower brush
Paper Sensor		C	Blower brush
Bearing		C	S552R

Shift Tray (D427)

Items	EM	Remarks
Tray	C	Damp cloth

APPENDIX:

SP MODE TABLES

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

3. APPENDIX: SP MODE TABLES

3.1 SYSTEM SP1-XXX

3.1.1 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:600dpi	*ENG	[–9 to 9 / **0.0** / 0.1 mm/step]
002	Tray:Thick1:600dpi	*ENG	
003	Tray:M-Thick:600dpi	*ENG	
004	By-pass:Plain:600dpi	*ENG	
005	By-pass:Thick1:600dpi	*ENG	
006	By-pass:Thick2:600dpi	*ENG	
007	By-pass:Thick3:600dpi	*ENG	
008	By-pass: M-Thick:600dpi	*ENG	
009	Duplex:Plain:600dpi	*ENG	
010	Duplex:M-Thick:600dpi	*ENG	
011	Tray:Thick1:1200dpi	*ENG	[–9 to 9 / **0.0** / 0.1 mm/step]
012	Tray:M-Thick:1200dpi	*ENG	
013	By-pass:Plain:1200dpi	*ENG	
014	By-pass:Plain:1200dpi	*ENG	

015	By-pass:Thick1:1200dpi	*ENG	
016	By-pass:Thick2:1200dpi	*ENG	
017	By-pass:Thick3:1200dpi	*ENG	
018	By-pass:M-Thick:1200dpi	*ENG	
019	Duplex:Plain:1200dpi	*ENG	
020	Duplex:M-Thick:1200dpi	*ENG	

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: M-Thick: Middle Thick		
	Adjusts the amount of paper buckle at the registration roller by changing the paper feed timing.		
001	Tray1:Plain:600dpi	*ENG	[–5 to 5 / **2** / 1 mm/step]
002	Tray1:Thick1:600dpi	*ENG	
003	Tray1:M-Thick:600dpi	*ENG	
004	Tray234:Plain:600dpi	*ENG	[–5 to 5 / **0** / 1 mm/step]

005	Tray234:Thick1:600dpi	*ENG	
006	Tray234:M-Thick:600dpi	*ENG	
007	By-pass:Plain:600dpi	*ENG	
008	By-pass:Thick1:600dpi	*ENG	
009	By-pass:Thick2:600dpi	*ENG	
010	By-pass:Thick3:600dpi	*ENG	
011	By-pass:M-Thick:600dpi	*ENG	
012	Duplex:Plain:600dpi	*ENG	
013	Duplex:M-Thick:600dpi	*ENG	
014	Tray1:Plain:1200dpi	*ENG	[–5 to 5 / **2** / 1 mm/step]
015	Tray1:Thick1:1200dpi	*ENG	
016	Tray1:M-Thick:1200dpi	*ENG	
017	Tray234:Plain:1200dpi	*ENG	[–5 to 5 / **0** / 1 mm/step]
018	Tray234:Thick1:1200dpi	*ENG	
019	Tray234:M-Thick:1200dpi	*ENG	
020	By-pass:Plain:1200dpi	*ENG	
021	By-pass:Thick1:1200dpi	*ENG	
022	By-pass:Thick2:1200dpi	*ENG	
023	By-pass:Thick3:1200dpi	*ENG	
024	By-pass:M-Thick:1200dpi	*ENG	
025	Duplex:Plain:1200dpi	*ENG	
026	Duplex:M-Thick:1200dpi	*ENG	

1007	**[By-Pass Size Detection]** By-Pass Size Detection Display		
001	0:LT SEF/ 1:LG	*ENG	-
	Enables or disables the automatic paper size detection function of the by-pass tray. This SP determines what paper size the machine detects if the detected size is less than 8.5". 0: LT SEF (default), 1: LG		

1101	**[Reload Permit Setting] DFU**		
	Specifies the settings of the reload permit for cold temperature in color mode. However, these SPs are desgined for the factory use only. Do not change the adjusted setting. Destination: NA; North America, TWN; Taiwan, EU; Europe, AA; Asia Pasific		
001	Pre-rotation Start Temp.	*ENG	[0 to 75 / **50** / 1 deg/step]
	Specifies the pre-rotation start temperature.		
002	Reload Target Temp.:Center	*ENG	[135 to 145 / **135** / 1 deg/step]
	Specifies the reload target temperature of the heating roller.		
003	Reload Target Temp.:Press	*ENG	[0 to 200 / **75** / 1 deg/step]
	Specifies the reload target temperature of the pressure roller.		
004	Temp.:Delta:Cold: Center	*ENG	[0 to 100 / **20** / 1 deg/step]
	Specifies the temperature correction of the heating roller (center) when the fusing unit is determined as cold state.		
005	Temp.:Delta:Cold:End	*ENG	[0 to 100 / **NA: 55, EU/AA: 45** / 1 deg/step]
	Specifies the temperature correction of the heating roller (end) when the fusing unit is determined as cold state.		

006	Temp.:Delta:Cold: Press	*ENG	[0 to 100 / **0** / 1 deg/step]
	Specifies the temperature correction of the pressure roller when the fusing unit is determined as cold state.		
007	Rotation Time:Cold	*ENG	[0 to 200 / **2** / 1 sec/step]
	Specifies the threshold time for the fusing reload when the fusing unit is determined as cold state.		
008	Temp.:Delta:Warm: Center	*ENG	[0 to 100 / **NA: 10, EU/AA: 15** / 1 deg/step]
	Specifies the temperature correction of the heating roller (center) when the fusing unit is determined as warm state.		
009	Temp.:Delta:Warm:End	*ENG	[40 to 200 / **45** / 1 deg/step]
	Specifies the temperature correction of the heating roller (end) when the fusing unit is determined as warm state.		
010	Temp.:Delta:Warm:Press	*ENG	[0 to 200 / **55** / 1 deg/step]
	Specifies the temperature correction of the pressure roller when the fusing unit is determined as warm state.		
011	Time:Warm	*ENG	[0 to 200 / **2** / 1 sec/step]
	Specifies the threshold time for the fusing reload when the fusing unit is determined as warm state.		
012	Temp.:Delta:Hot: Center	*ENG	[0 to 100 / **NA: 10, EU/AA: 15** / 1 deg/step]
	Specifies the temperature correction of the heating roller (center) when the fusing unit is determined as hot state.		
013	Temp.:Delta:Hot:End	*ENG	[0 to 100 / **45** / 1 deg/step]
	Specifies the temperature correction of the heating roller (end) when the fusing unit is determined as hot state.		

014	Temp.:Delta:Hot:Press	*ENG	[0 to 200 / **55** / 1 deg/step]
	Specifies the temperature correction of the pressure roller when the fusing unit is determined as hot state.		
015	Time:Hot	*ENG	[0 to 200 / **2** / 1 sec/step]
	Specifies the threshold time for the fusing unit heating when the fusing unit is determined as hot state.		
016	Temp.:Delta:Cold:BW:Center	*ENG	[0 to 100 / **NA: 20, EU/AA: 15** / 1 deg/step]
	Specifies the temperature correction of the heating roller (center) in the black and white mode when the fusing unit is determined as cold state.		
017	Temp.:Delta:Cold:BW:End	*ENG	[0 to 100 / **NA: 55, EU/AA: 45** / 1 deg/step]
	Specifies the temperature correction of the heating roller (end) in the black and white mode when the fusing unit is determined as cold state.		
018	Temp.Delta:Cold:BW:Press	*ENG	[0 to 200 / **0** / 1 deg/step]
	Specifies the temperature correction of the pressure roller in the black and white mode when the fusing unit is determined as cold state.		
019	Rotation Time:BW:Cold	*ENG	[0 to 200 / **2** / 1 sec/step]
	Specifies the threshold time for the fusing unit heating in black and white mode when the fusing unit is determined as cold state.		
020	Temp.:Delta:Warm:BW:Center	*ENG	[0 to 100 / **10** / 1 deg/step]
	Specifies the temperature correction of the heating roller (center) in the black and white mode when the fusing unit is determined as warm state.		
021	Temp.:Delta:Warm:BW:End	*ENG	[0 to 100 / **45** / 1 deg/step]
	Specifies the temperature correction of the heating roller (end) in the black and white mode when the fusing unit is determined as warm state.		

022	Temp.Delta:Warm:BW:Press	*ENG	[0 to 200 / **55** / 1 deg/step]
	Specifies the temperature correction of the pressure roller in the black and white mode when the fusing unit is determined as warm state.		
023	Rotation Time:BW:Warm	*ENG	[0 to 200 / **2** / 1 sec/step]
	Specifies the threshold time for the fusing unit heating in black and white mode when the fusing unit is determined as warm state.		
024	Temp.:Delta:Hot:BW:Center	*ENG	[0 to 100 / **10** / 1 deg/step]
	Specifies the temperature correction of the heating roller (center) in the black and white mode when the fusing unit is determined as hot state.		
025	Temp.:Delta:Hot:BW: End	*ENG	[0 to 100 / **45** / 1 deg/step]
	Specifies the temperature correction of the heating roller (end) in the black and white mode when the fusing unit is determined as hot state.		
026	Temp.:Delta:Hot:BW: Press	*ENG	[0 to 200 / **55** / 1 deg/step]
	Specifies the temperature correction of the pressure roller in the black and white mode when the fusing unit is determined as hot state.		
027	Rotation Time:BW:Hot	*ENG	[0 to 200 / **2** / 1 sec/step]
	Specifies the threshold time for the fusing unit heating in black and white mode when the fusing unit is determined as hot state.		
030	Flicker Control	*ENG	[0 or 1 / **0** / -]
101	Temp.:Delta:Cold: BW2:Center	*ENG	[0 to 100 / **NA: 20, EU/AA: 15** / 1 deg/step]
102	Temp.:Delta:Cold: BW2:End	*ENG	[0 to 100 / **NA: 55, EU/AA: 45** / 1 deg/step]
103	Temp.:Delta:Cold: BW2:Press	*ENG	[0 to 200 / **0** / 1 deg/step]
104	Rotation Time: BW2:Cold	*ENG	[0 to 200 / **2** / 1 sec/step]

105	Temp.:Delta:Warm: BW2:Center	*ENG	[0 to 100 / **10** / 1 deg/step]
106	Temp.:Delta:Warm: BW2:End	*ENG	[0 to 100 / **45** / 1 deg/step]
107	Temp.:Delta:Warm: BW2:Press	*ENG	[0 to 200 / **55** / 1 deg/step]
108	Rotation Time: BW2:Warm	*ENG	[0 to 200 / **2** / 1 sec/step]
109	Temp.:Delta:Hot: BW2:Center	*ENG	[0 to 100 / **10** / 1 deg/step]
110	Temp.:Delta:Hot: BW2:End	*ENG	[0 to 100 / **45** / 1 deg/step]
111	Temp.:Delta:Hot: BW2:Press	*ENG	[0 to 200 / **55** / 1 deg/step]
112	Rotation Time: BW2:Hot	*ENG	[0 to 200 / **2** / 1 sec/step]

1102	**[Feed Permit Setting]**		
	Specified the settings of the paper feeding timing. Destination: NA; North America, TWN; Taiwan, EU; Europe, AA; Asia Pasific		
-001 to -005	**DFU** These SPs are desgined for the factory use only. Do not change the adjusted setting.		
001	Temp.:Lower Delta:Center	*ENG	[0 to 100 / **NA: 30, EU/AA: 20** / 1 deg/step]
002	Temp.:Lower Delta:End	*ENG	[0 to 100 / **NA: 65, EU/AA: 50** / 1 deg/step]
003	Temp.:Upper Delta:Center	*ENG	[0 to 50 / **NA: 15, EU/AA: 25** / 1 deg/step]
004	Temp.:Upper Delta:End	*ENG	[0 to 50 / **NA: 15, EU/AA: 25** / 1 deg/step]
005	Temp.:Lower Delta:Press	*ENG	[0 to 200 / **60** / 1 deg/step]
006	Rotation Time	*ENG	[0 to 200 / **0** / 1 sec/step]

-007 to -011	**DFU** These SPs are desgined for the factory use only. Do not change the adjusted setting.		
007	Temp.:Lower Delta:Center:Sp.1	*ENG	[0 to 100 / **NA: 20, EU/AA: 11** / 1 deg/step]
008	Temp.:Lower Delta:End:Sp.1	*ENG	[0 to 100 / **NA: 40, EU/AA: 31** / 1 deg/step]
009	Temp.:Upper Delta:Center:Sp.1	*ENG	[0 to 50 / **15** / 1 deg/step]
010	Temp.:Upper Delta:End:Sp.1	*ENG	[0 to 50 / **15** / 1 deg/step]
011	Temp.:Lower Delta:Press:Sp.1	*ENG	[0 to 200 / **60** / 1 deg/step]
012	Rotation Time:Sp.1	*ENG	[0 to 200 / **3** / 1 sec/step]
	Usage Limitation: Use 3 seconds or more for this setting.		
-013 to -017	**DFU** These SPs are desgined for the factory use only. Do not change the adjusted setting.		
013	Temp.:Lower Delta:Center:Sp.2	*ENG	[0 to 100 / **30** / 1 deg/step]
014	Temp.:Lower Delta:End:Sp.2	*ENG	[0 to 100 / **30** / 1 deg/step]
015	Temp.:Upper Delta:Center:Sp.2	*ENG	[0 to 50 / **20** / 1 deg/step]
016	Temp.:Upper Delta:End:Sp.2	*ENG	[0 to 50 / **20** / 1 deg/step]

017	Temp.:Lower Delta:Press:Sp.2	*ENG	[0 to 200 / **60** / 1 deg/step]
018	Rotation Time:Sp2	*ENG	[0 to 200 / **0** / 1 sec/step]
-019 to -024	**DFU** These SPs are desgined for the factory use only. Do not change the adjusted setting.		
019	Feed Permit Time	*ENG	[0 to 200 / **60** / 1 sec/step]
020	Temp.:Lower Delta:Center:Sp.3	*ENG	[0 to 100 / **25** / 1 deg/step]
021	Temp.:Lower Delta:End:Sp.3	*ENG	[0 to 100 / **25** / 1 deg/step]
022	Temp.:Upper Delta:Center:Sp.3	*ENG	[0 to 50 / **10** / 1 deg/step]
023	Temp.:Upper Delta:End:Sp.3	*ENG	[0 to 50 / **10** / 1 deg/step]
024	Temp.:Lower Delta:Press:Sp.3	*ENG	[0 to 200 / **30** / 1 deg/step]
025	Rotation Time:Sp3	*ENG	[0 to 200 / **3** / 1 sec/step]
	Usage Limitation: Use 3 seconds or more for this setting.		

1105	**[Print Target Temp]**		
	(Printing Mode, Roller Type, [Color], Simplex/Duplex) Roller Type –> Center and Ends: Heating roller, Pressure –> Pressure roller Paper Type -> Plain, Thin, Thick, OHP, Middle Thick, Special Destination: NA; North America, TWN; Taiwan, EU; Europe, AA; Asia Pasific		
001	Plain1:FC:Center	*ENG	[100 to 160 / **NA: 150, EU/AA: 141** / 1 deg/step]
	Specifies the heating roller target temperature for the ready condition in full color printing. **Usage Limitation:** +5°C against the default value for each destination is the upper limit for this setting.		
002	Plain1:FC:Press **(DFU)**	*ENG	[0 to 200 / **95** / 1 deg/step]
	Specifies the pressure roller target temperature for the ready condition in full color printing. **DFU:** This SP is desgined for the factory use only. Do not change the adjusted setting.		
003	Plain1:BW:Center	*ENG	[100 to 160 / **NA: 140, EU/AA: 131** / 1 deg/step]
	Specifies the heating roller target temperature for the ready condition in BW printing. **Usage Limitation:** +5°C against the default value for each destination is the upper limit for this setting.		

004	Plain1:BW:Press **(DFU)**	*ENG	[0 to 200 / **95** / 1 deg/step]
	Specifies the pressure roller target temperature for the ready condition in BW printing. **DFU:** This SP is desgined for the factory use only. Do not change the adjusted setting.		
005	Plain2:FC:Center	*ENG	[100 to 160 / **NA: 155, EU/AA: 146** / 1 deg/step]
	Specifies the heating roller target temperature for the ready condition in full color printing. **Usage Limitation:** +5°C against the default value for each destination is the upper limit for this setting.		
006	Plain2:FC:Press **(DFU)**	*ENG	[0 to 200 / **95** / 1 deg/step]
	Specifies the pressure roller target temperature for the ready condition in full coloe printing. **DFU:** This SP is desgined for the factory use only. Do not change the adjusted setting.		
007	Plain2:BW:Center	*ENG	[100 to 160 / **NA: 145, EU/AA: 136** / 1 deg/step]
	Specifies the heating roller target temperature for the ready condition in BW printing. **Usage Limitation:** +5°C against the default value for each destination is the upper limit for this setting.		

008	Plain2:BW:Press **(DFU)**	*ENG	[0 to 200 / **95** / 1 deg/step]
	Specifies the pressure roller target temperature for the ready condition in BW printing. **DFU:** This SP is desgined for the factory use only. Do not change the adjusted setting.		
009	Thin:FC:Center	*ENG	[100 to 160 / **135** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
010	Thin:FC:Press **(DFU)**	*ENG	[0 to 200 / **100** / 1 deg/step]
011	Thin:BW:Center	*ENG	[100 to 160 / **125** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
012	Thin:BW:Press **(DFU)**	*ENG	[0 to 200 / **100** / 1 deg/step]
013	M-thick:FC:Center	*ENG	[100 to 170 / **150** / 1 deg/step]
	Usage Limitation: +10°C against the default value is the upper limit for this setting.		
014	M-thick:FC:Press **(DFU)**	*ENG	[0 to 200 / **120** / 1 deg/step]
015	M-thick:BW:Center	*ENG	[100 to 170 / **140** / 1 deg/step]
	Usage Limitation: +10°C against the default value is the upper limit for this setting.		
016	M-thick:BW:Press **(DFU)**	*ENG	[0 to 200 / **100** / 1 deg/step]
017	Thick1:FC:Center	*ENG	[100 to 200 / **135** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		

018	Thick1:FC:Press **(DFU)**	*ENG	[0 to 200 / **135** / 1 deg/step]
019	Thick1:BW:Center	*ENG	[100 to 200 / **125** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
020	Thick1:BW:Press **(DFU)**	*ENG	[0 to 200 / **110** / 1 deg/step]
021	Thick2:FC:Center	*ENG	[100 to 200 / **145** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
022	Thick2:FC:Press **(DFU)**	*ENG	[0 to 200 / **165** / 1 deg/step]
023	Thick2:BW:Center	*ENG	[100 to 200 / **135** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
024	Thick2:BW:Press **(DFU)**	*ENG	[0 to 200 / **140** / 1 deg/step]
025	Thick3:FC:Center	*ENG	[100 to 200 / **150** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
026	Thick3:FC:Press **(DFU)**	*ENG	[0 to 200 / **178** / 1 deg/step]
027	Thick3:BW:Center	*ENG	[100 to 200 / **140** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
028	Thick3:BW:Press **(DFU)**	*ENG	[0 to 200 / **150** / 1 deg/step]
029	Special1:FC:Center	*ENG	[100 to 170 / **150** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		

030	Special1:FC:Press **(DFU)**	*ENG	[0 to 200 / **150** / 1 deg/step]
031	Special1:BW:Center	*ENG	[100 to 170 / **140** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
032	Special1:BW:Press **(DFU)**	*ENG	[0 to 200 / **100** / 1 deg/step]
033	Special2:FC:Center	*ENG	[100 to 175 / **155** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
034	Special2:FC:Press **(DFU)**	*ENG	[0 to 200 / **160** / 1 deg/step]
035	Special2:BW:Center	*ENG	[100 to 175 / **145** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
036	Special2:BW:Press **(DFU)**	*ENG	[0 to 200 / **100** / 1 deg/step]
037	Special3:FC:Center	*ENG	[100 to 175 / **145** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
038	Special3:FC:Press **(DFU)**	*ENG	[0 to 200 / **100** / 1 deg/step]
039	Special3:BW:Center	*ENG	[100 to 175 / **135** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
040	Special3:BW:Press **(DFU)**	*ENG	[0 to 200 / **100** / 1 deg/step]

041	Envelop:Center	*ENG	[100 to 200 / **150** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
042	Envelop:Press **(DFU)**	*ENG	[0 to 200 / **172** / 1 deg/step]
101	Plain1:FC:Center:Low Speed	*ENG	[100 to 200 / **105** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
102	Plain1:FC:Press:Low Speed **(DFU)**	*ENG	[0 to 200 / **100** / 1 deg/step]
103	Plain1:BW:Center:Low Speed	*ENG	[100 to 200 / **100** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
104	Plain1:BW:Press:Low Speed **(DFU)**	*ENG	[0 to 200 / **100** / 1 deg/step]
105	Plain2:FC:Center:Low Speed	*ENG	[100 to 200 / **110** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
106	Plain2:FC:Press:Low Speed **(DFU)**	*ENG	[0 to 200 / **100** / 1 deg/step]
107	Plain2:BW:Center:Low Speed	*ENG	[100 to 200 / **105** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		

108	Plain2:BW:Press:Low Speed **(DFU)**	*ENG	[0 to 200 / **100** / 1 deg/step]
109	Thin:FC:Center:Low Speed	*ENG	[100 to 200 / **105** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
110	Thin:FC:Press:Low Speed **(DFU)**	*ENG	[0 to 200 / **100** / 1 deg/step]
111	Thin:BW:Center:Low Speed	*ENG	[100 to 200 / **100** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
112	Thin:BW:Press:Low Speed **(DFU)**	*ENG	[0 to 200 / **100** / 1 deg/step]
113	M-Thick:FC:Center:Low Speed	*ENG	[100 to 200 / **115** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
114	M-Thick:FC:Press:Low Speed **(DFU)**	*ENG	[0 to 200 / **100** / 1 deg/step]
115	M-Thick:BW:Center:Low Speed	*ENG	[100 to 200 / **110** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
116	M-Thick:BW:Press:Low Speed **(DFU)**	*ENG	[0 to 200 / **100** / 1 deg/step]

117	Special1:FC:Center:Low Speed	*ENG	[100 to 200 / **115** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
118	Special1:FC:Press:Low Speed **(DFU)**	*ENG	[0 to 200 / **100** / 1 deg/step]
119	Special1:BW:Center:Low Speed	*ENG	[100 to 200 / **110** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
120	Special1:BW:Press:Low Speed **(DFU)**	*ENG	[0 to 200 / **100** / 1 deg/step]
121	Special2:FC:Center:Low Speed	*ENG	[100 to 200 / **120** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
122	Special2:FC:Press:Low Speed **(DFU)**	*ENG	[0 to 200 / **100** / 1 deg/step]
123	Special2:BW:Center:Low Speed	*ENG	[100 to 200 / **115** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
124	Special2:BW:Press:Low Speed **(DFU)**	*ENG	[0 to 200 / **100** / 1 deg/step]
125	Special3:FC:Center:Low Speed	*ENG	[100 to 200 / **110** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		

126	Special3:FC:Press:Low Speed **(DFU)**	*ENG	[0 to 200 / **100** / 1 deg/step]
127	Special3:BW:Center:Low Speed	*ENG	[100 to 200 / **105** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
128	Special3:BW:Press:Low Speed **(DFU)**	*ENG	[0 to 200 / **100** / 1 deg/step]
131	OHP:Center	*ENG	[100 to 200 / **145** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
132	OHP:Press **(DFU)**	*ENG	[0 to 200 / **165** / 1 deg/step]
133	Envelop:Center:Low Speed	*ENG	[100 to 200 / **140** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
134	Envelop:Press:Low Speed **(DFU)**	*ENG	[0 to 200 / **150** / 1 deg/step]
135	Plain1:Grossy:Center	*ENG	[100 to 200 / **110** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
136	Plain1:Grossy:Press **(DFU)**	*ENG	[0 to 200 / **100** / 1 deg/step]
137	Plain2:Grossy:Center	*ENG	[120 to 200 / **115** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		

138	Plain2:Grossy:Press **(DFU)**	*ENG	[0 to 200 / **100** / 1 deg/step]
139	M-thick:Grossy:Center	*ENG	[120 to 200 / **120** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
140	M-thick:Grossy:Press **(DFU)**	*ENG	[0 to 200 / **100** / 1 deg/step]
141	Special4:FC:Center	*ENG	[120 to 200 / **135** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
142	Special4:FC:Press **(DFU)**	*ENG	[0 to 200 / **140** / 1 deg/step]
143	Special4:BW:Center	*ENG	[100 to 200 / **125** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
144	Special4:BW:Press **(DFU)**	*ENG	[0 to 200 / **100** / 1 deg/step]
145	Special5:FC:Center	*ENG	[100 to 200 / **145** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
146	Special5:FC:Press **(DFU)**	*ENG	[0 to 200 / **165** / 1 deg/step]
147	Special5:BW:Center	*ENG	[100 to 200 / **135** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
148	Special5:BW:Press **(DFU)**	*ENG	[0 to 200 / **140** / 1 deg/step]

149	Special6:FC:Center	*ENG	[100 to 200 / **130** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
150	Special6:FC:Press **(DFU)**	*ENG	[0 to 200 / **110** / 1 deg/step]
151	Special6:BW:Center	*ENG	[100 to 200 / **120** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
152	Special6:BW:Press **(DFU)**	*ENG	[0 to 200 / **100** / 1 deg/step]
153	Envelop:Center:Thick1	*ENG	[100 to 200 / **115** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
154	Envelop:Press:Thick1 **(DFU)**	*ENG	[0 to 200 / **135** / 1 deg/step]
155	Envelop:Center:Thick2	*ENG	[100 to 200 / **145** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
156	Envelop:Press:Thick2 **(DFU)**	*ENG	[0 to 200 / **165** / 1 deg/step]
157	Envelop:Center:Thick3	*ENG	[100 to 200 / **150** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
158	Envelop:Press:Thick3 **(DFU)**	*ENG	[0 to 200 / **178** / 1 deg/step]

159	Postcard:Center:Thick1	*ENG	[100 to 200 / **105** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
160	Postcard:Press:Thick1 **(DFU)**	*ENG	[0 to 200 / **100** / 1 deg/step]
161	Postcard:Center:Thick2	*ENG	[100 to 200 / **115** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
162	Postcard:Press:Thick2 **(DFU)**	*ENG	[0 to 200 / **100** / 1 deg/step]
163	Postcard:Center:Thick3	*ENG	[100 to 200 / **120** / 1 deg/step]
	Usage Limitation: +5°C against the default value is the upper limit for this setting.		
164	Postcard:Press:Thick3 **(DFU)**	*ENG	[0 to 200 / **100** / 1 deg/step]

1106	**[Fusing Temp. Display]** Fusing Temperature Display (Heating or Pressure)		
	Displays the current temperature of the heating and pressure rollers.		
001	Center	-	[–10 to 250 / **0** / 1 deg/step]
002	End	-	[–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 Center	-	[–10 to 250 / **0** / 1 deg/step]
005	Thermister Atmosphere	-	[–10 to 250 / **0** / 1 deg/step]
006	Pressure End	-	[–10 to 250 / **0** / 1 deg/step]
	The pressure roller has no lamp.		

1107	**[Standby Target Temp. Setting]**		
001	Stanby/Preheat1: Center	*ENG	[100 to 150 / **135** / 1 deg/step]
	Specifies the temperature of the heating roller for the ready or energy save 1 mode.		
-002 to -006	**DFU** These SPs are desgined for the factory use only. Do not change the adjusted setting.		
002	Stanby/Preheat1: Press	*ENG	[0 to 200 / **0** / 1 deg/step]
	Specifies the temperature of the pressure roller for the ready or energy save 1 mode.		
003	Preheat2: Center	*ENG	[0 to 200 / **130** / 1 deg/step]
	Specifies the temperature of the heating roller for the energy save 2 mode.		
004	Preheat2:Press	*ENG	[0 to 200 / **0** / 1 deg/step]
	Specifies the temperature of the pressure roller for the energy save 2 mode.		
005	Low Power:Center	*ENG	[0 to 200 / **0** / 1 deg/step]
	Specifies the temperature of the heating roller for the low power mode.		
006	Low Power:Press	*ENG	[0 to 200 / **0** / 1 deg/step]
	Specifies the temperature of the pressure roller for the low power mode.		
007	Print Ready:Center	*ENG	[120 to 150 / **130** / 1 deg/step]
	Specifies the temperature of the heating roller for the print ready condition.		
008	Print Ready:Press **(DFU)**	*ENG	[0 to 200 / **10** / 1 deg/step]
	Specifies the temperature of the pressure roller for the print ready condition. **DFU** This SP is desgined for the factory use only. Do not change the adjusted setting.		

1108	**[After Reload/Job Target Temp.]**		
001	Center	*ENG	[120 to 150 / **130** / 1 deg/step]
	Specifies the temperature of the heating roller after re-load or job.		
002	Press **(DFU)**	*ENG	[0 to 200 / **5** / 1 deg/step]
	Specifies the temperature of the pressure roller after re-load or job. **DFU** This SP is desgined for the factory use only. Do not change the adjusted setting.		

1111	**[Environment Correction:Fusing] DFU** These SPs are desgined for the factory use only. Do not change the adjusted setting.		
001	Temp.: Threshold: Low	*ENG	[0 to 100 / **17** / 1 deg/step]
	Specifies the threshold temperature for low temperature. If the fusing temperature is 17°C or less, the machine executes the fusing mode for low temperature.		
002	Temp.: Threshold: High	*ENG	[0 to 100 / **30** / 1 deg/step]
	Sepcifies the threshold temperature for high temperature. If the fusing temperature is 30°C or more, the machine executes the fusing mode for high temperature.		
003	Low Temp. Correction	*ENG	[0 to 15 / **5** / 1 deg/step]
	Specifies the additional temperature for the target temperature. If the fusing temperature is in low temperature condition, this temperature is added to the taraget temperature.		
004	High Temp. Correction	*ENG	[0 to 15 / **0** / 1 deg/step]
	Specifies the additional temperature for the target temperature. If the fusing temperature is in high temperature condition, this temperature is added to the taraget temperature.		

005	Job Low Temp. Correction	*ENG	[0 to 100 / **5** / 0.1 deg/step]
	Specifies the additional temperature for the target temperature when the environmental condition is determined as low temperature.		
006	Job High Temp. Correction	*ENG	[0 to 100 / **0** / 0.1 deg/step]
	Specifies the additional temperature for the target temperature when the environmental condition is determined as high temperature.		
007	Job Low Temp. Correction:Sp.	*ENG	[0 to 100 / **10** / 0.1 deg/step]
008	Job High Temp. Correction:Sp.	*ENG	[0 to 100 / **0** / 0.1 deg/step]

1112	**[Image Process Temp. Correction]**		
	These SPs are used for the fusing temperature control for variable job images. This control saves the power comsumption when the machine copies or prints a job text image in black and white mode.		
001	Temp.:Normal:Center:Level1 **(DFU)**	*ENG	[-10 to 10 / **0** / 1 /step]
	Specifies the subtractive temperature level 1 of the fusing temperature control for variable job images. **DFU** This SP is desgined for the factory use only. Do not change the adjusted setting.		

002	Temp.:Normal:Center:Level2	*ENG	[-25 to 10 / **NA: -10, EU/AA: -12 for C1.5a/ NA: -3, EU/AA: -10 for C1.5c** / 1 /step]
	Specifies the subtractive temperature level 2 of the fusing temperature control for variable job images. **Usage Limitation:** Use 0°C or less for this setting.		
-003 to -006	[Envir. Correct:Fusing] **DFU** These SPs are desgined for the factory use only. Do not change the adjusted setting.		
003	Low Temp. Correction	*ENG	[0 to 15 / **5** / 1 deg/step]
	Specifies the temperature correction in the low temperature condition.		
004	High Temp. Correction	*ENG	[0 to 15 / **5** / 1 deg/step]
	Specifies the temperature correction in the high temperature condition.		
005	Offset Temp:Low	*ENG	[0 to 15 / **6.5** / 0.1 deg/step]
	Specifies the temperature correction of the paper feeding taraget in the low temperature condition.		
006	Offset Temp:High	*ENG	[0 to 15 / **5** / 0.1 deg/step]
	Specifies the temperature correction of the paper feeding taraget in the high temperature condition.		

1113	**[Curl Correction]**		
001	Execute Pattern	*ENG	[0 to 2 / **0** / 1 /step] 0: OFF, 1: ON
	Selects the curl correction type.		
-002 to -006, -008,	**DFU** These SPs are desgined for the factory use only. Do not change the adjusted setting.		

-009			
002	Humidity:Threshold:M-humid	*ENG	[0 to 100 / **65** / 1 %/step]
	Specifies the threshold between low and middle humidity.		
003	Humidity:Threshold:H-humid	*ENG	[0 to 100 / **80** / 1 %/step]
	Specifies the threshold between middle and high humidity.		
004	Permit Temp.:Delta:Press:M-humid	*ENG	[0 to 200 / **100** / 1 deg/step]
	Specifies the threshold temperature for the curl control in middle humidity.		
005	Permit Temp.:Delta:Press: H-humid	*ENG	[0 to 200 / **100** / 1 deg/step]
	Specifies the threshold temperature for the curl control in high humidity.		
006	[Stand-by Mode Setting]		
	P-Roll Thresh AF Job	*ENG	[0 to 160 / **100** / 1 deg/step]
	Specifies the temperature of the pressure roller for the stand-by mode.		
008	CPM:M-humid	*ENG	[0 to 100 / **80** / 1 %/step]
	Specifies the CPM ratio of the decurl control against to the normal operation in middle humidity.		
009	CPM:H-humid	*ENG	[0 to 100 / **65** / 1 %/step]
	Specifies the CPM ratio of the decurl control against to the normal operation in high humidity.		

1114	**[Heat Storage Status] DFU** These SPs are desgined for the factory use only. Do not change the adjusted setting.		
001	Temp.:Threshold: Press	*ENG	[0 to 200 / **80** / 1 deg/step]
	Specifies the threshold temperature of the pressure roller for the heat storage status.		

002	Temp.:Threshold: Atmosphere	*ENG	[0 to 200 / **80** / 1 deg/step]
	Specifies the threshold temperature inside the machine for the heat storage feedback control.		

1115	**[Target Temp. Correction] DFU** This SP is desgined for the factory use only. Do not change the adjusted setting.		
001	Temp.:Delta:End	*ENG	[-10 to 100 / **0** / 1 deg/step]
	Specifies the different temperature between end and center of the heating roller.		

1116	**[Press Temp. FB Control]**		
001	Execution mode	*ENG	[0 to 2 / **1** / 1 /step] 0: OFF, 1: ON: BW, 2: ON: BW/FC
	Selects the heat storage FB control mode. **Usage Limitation:** Use "0: OFF" or "1: ON: BW" only.		
-011 to -106	**DFU** The following SPs below are desgined for the factory use only. Do not change the adjusted setting.		
011	Time Out	*ENG	[0 to 500 / **5** / 1 sec/step]
021	Delay:Standard Speed:FC:1	*ENG	[0 to 20,000 / **0** / 1 msec/step]
022	Delay:Standard Speed:BW:1	*ENG	[0 to 20,000 / **0** / 1 msec/step]
025	Delay:Low Speed:FC:1	*ENG	[0 to 20,000 / **0** / 1 msec/step]
026	Delay:Low Speed:BW:1	*ENG	[0 to 20,000 / **0** / 1 msec/step]
031	Delay:Standard	*ENG	[0 to 20,000 / **0** / 1 msec/step]

	Speed:FC:2		
032	Delay:Standard Speed:BW:2	*ENG	[0 to 20,000 / **0** / 1 msec/step]
035	Delay:Low Speed:FC:2	*ENG	[0 to 20,000 / **0** / 1 msec/step]
036	Delay:Low Speed:FC:2	*ENG	[0 to 20,000 / **0** / 1 msec/step]
041	Press Reference Temp.	*ENG	[0 to 200 / **0** / 1 deg/step]
042	Temp. Correction Lower Limit	*ENG	[-30 to 0 / **-2** / 1 deg/step]
043	Temp. Correction Upper Limit	*ENG	[0 to 30 / **0** / 1 deg/step]
051	Paper Thickness Coefficient:Plain1	*ENG	[0 to 100 / **20** / 1 /step]
052	Paper Thickness Coefficient:Plain2	*ENG	[0 to 100 / **20** / 1 /step]
053	Paper Thickness Coeff.:Thin	*ENG	[0 to 100 / **0** / 1 /step]
054	Paper Thickness Coeff.:M-thick	*ENG	[0 to 100 / **0** / 1 /step]
055	Paper Thickness Coeff.:Thick1	*ENG	[0 to 100 / **0** / 1 /step]
056	Paper Thickness Coeff.:Thick2	*ENG	[0 to 100 / **0** / 1 /step]
057	Paper Thickness Coeff.:Thick3	*ENG	[0 to 100 / **0** / 1 /step]
058	Paper Thickness Coeff.:Special1	*ENG	[0 to 100 / **0** / 1 /step]
059	Paper Thickness Coeff.:Special2	*ENG	[0 to 100 / **0** / 1 /step]

060	Paper Thicknes Coeff.:Special3	*ENG	[0 to 100 / **0** / 1 /step]
061	Paper Thickness Coeff.:Envelop	*ENG	[0 to 100 / **0** / 1 /step]
071	Paper Thickness Coeff.:Plain1:Low Speed	*ENG	[0 to 100 / **0** / 1 /step]
072	Paper Thickness Coeff.:Plain2:Low Speed	*ENG	[0 to 100 / **0** / 1 /step]
073	Paper Thickness Coeff.:Thin:Low Speed	*ENG	[0 to 100 / **0** / 1 /step]
074	Paper Thickness Coeff.:M-thick:Low Speed	*ENG	[0 to 100 / **0** / 1 /step]
075	Paper Thickness Coeff.:Special1:Low Speed	*ENG	[0 to 100 / **0** / 1 /step]
076	Paper Thickness Coeff.:Special2:Low Speed	*ENG	[0 to 100 / **0** / 1 /step]
077	Paper Thickness Coeff.:Special3:Low Speed	*ENG	[0 to 100 / **0** / 1 /step]
078	Paper Thickness Coeff.:Plain1:Glossy	*ENG	[0 to 100 / **0** / 1 /step]
079	Paper Thickness Coeff.:Plain2:Glossy	*ENG	[0 to 100 / **0** / 1 /step]
080	Paper Thickness Coeff.:M-thick:Glossy	*ENG	[0 to 100 / **0** / 1 /step]
081	Paper Thickness Coeff.:OHP	*ENG	[0 to 100 / **0** / 1 /step]

082	Paper Thickness Coeff.:Envelop:Low Speed	*ENG	[0 to 100 / **0** / 1 /step]
101	Paper Thickness Coeff.:Special4	*ENG	[0 to 100 / **200** / 1 /step]
102	Paper Thickness Coeff.:Special5	*ENG	[0 to 100 / **200** / 1 /step]
103	Paper Thicknes Coeff.:Special6	*ENG	[0 to 100 / **NA: 75, EU/AA: 70** / 1 /step]
104	Paper Thickness Coeff.:Envelop:Thick1	*ENG	[0 to 100 / **0** / 1 /step]
105	Paper Thickness Coeff.:Envelop:Thick2	*ENG	[0 to 100 / **0** / 1 /step]
106	Paper Thickness Coeff.:Envelop:Thick3	*ENG	[0 to 100 / **0** / 1 /step]

1117	**[Time Control] DFU** The following SPs below are desgined for the factory use only. Do not change the adjusted setting.		
001	Control Time1	*ENG	[0 to 1000 / **1** / 1 sec./step]
002	Control Time2	*ENG	[0 to 1000 / **29** / 1 sec./step]
003	Temp:Plain:Center1	*ENG	[-35 to 35 / **NA: 0, EU/AA: 9** / 1°C/step]
004	Temp:Plain:Press.1	*ENG	[-35 to 35 / **NA: -2, EU/AA: 9 for C1.5a/ NA: 0, EU/AA: 9 for C1.5c** / 1°C/step]
005	Temp:Plain:Center2	*ENG	[-35 to 35 / **NA: 1, EU/AA: 10** / 1°C/step]
006	Temp:Plain:Press.2	*ENG	[-35 to 35 / **NA: 1, EU/AA: 10** / 1°C/step]
007	Temp:M-Thick:Center1	*ENG	[-35 to 35 / **10** / 1°C/step]
008	Temp:M-Thick:Press.1	*ENG	[-35 to 35 / **10** / 1°C/step]

009	Temp:M-Thick:Center2	*ENG	[-35 to 35 / **10** / 1°C/step]
010	Temp:M-Thick:Press.2	*ENG	[-35 to 35 / **10** / 1°C/step]
011	Temp:Other:Center1	*ENG	[-35 to 35 / **10** / 1°C/step]
012	Temp:Other:Press.1	*ENG	[-35 to 35 / **10** / 1°C/step]
013	Temp:Other.Center2	*ENG	[-35 to 35 / **10** / 1°C/step]
014	Temp:Other:Press.2	*ENG	[-35 to 35 / **10** / 1°C/step]
015	Temp:Plain:BW: Center1	*ENG	[-35 to 35 / **NA: 0, EU/AA: 9** / 1°C/step]
016	Temp:Plain:BW:End1	*ENG	[-35 to 35 / **NA: 0, EU/AA: 9** / 1°C/step]
017	Temp:Plain:Center2	*ENG	[-35 to 35 / **NA: 0, EU/AA: 9** / 1°C/step]
018	Temp:Plain:BW:End2	*ENG	[-35 to 35 / **NA: 0, EU/AA: 9** / 1°C/step]
019	Temp:Other:Center1:LowSpeed	*ENG	[-35 to 35 / **20** / 1°C/step]
020	Temp:Other:End1:LowSpeed	*ENG	[-35 to 35 / **20** / 1°C/step]
021	Temp:Other.Center2:LowSpeed	*ENG	[-35 to 35 / **20** / 1°C/step]
022	Temp:Other:End2:LowSpeed	*ENG	[-35 to 35 / **20** / 1°C/step]
023	Temp:Envelop:Center1	*ENG	[-35 to 35 / **15** / 1°C/step]
024	Temp:Envelop:End1	*ENG	[-35 to 35 / **15** / 1°C/step]
025	Temp:Envelop:Center2	*ENG	[-35 to 35 /**15** / 1°C/step]
026	Temp:Envelop:End2	*ENG	[-35 to 35 / **15** / 1°C/step]

1121	**[Switch:Rotation Start/Stop]**		
001	Time:After Reload	*ENG	[0 to 100 / **100** / 1 sec./step]
	Specifies the interval of the re-load mode.		
-002 to -010	**DFU** The following SPs below are desgined for the factory use only. Do not change the adjusted setting.		

002	Time:After Recovery	*ENG	[0 to 100 / **10** / 1 sec./step]
003	Time:After Job	*ENG	[0 to 100 / **10** / 1 sec./step]
004	Press Temp.:After Reload	*ENG	[0 to 160 / **160** / 1°C/step]
005	End Uniform Start Temp.:B4	*ENG	[0 to 250 / **200** / 1°C/step]
006	End Uniform Start Temp.:B5	*ENG	[0 to 250 / **200** / 1°C /step]
007	End Uniform Start Temp.:A5	*ENG	[0 to 250 / **190** / 1°C /step]
008	Overshoot Prevent Temp.	*ENG	[0 to 250 / **200** / 1°C /step]
009	Overshoot Prevent Time	*ENG	[0 to 100 / **10** / 1 sec./step]
010	Overshoot Prevent Temp.:End	*ENG	[0 to 250 / **200** / 1°C /step]

1122	**[Standby Rotation Setting] DFU** The following SPs below are desgined for the factory use only. Do not change the adjusted setting.		
001	Rotation Interval	*ENG	[0 to 240 / **60** / 1 min./step]
002	Rotation Time	*ENG	[0 to 10000 / **600** / 1 msec/step]

1124	**[CPM Down Setting] DFU**		
	Specifies the settings for the CPM down mode. **DFU** The following SPs below are desgined for the factory use only. Do not change the adjusted setting.		
001	Low:Down Temp.	*ENG	[-50 to 0 / **-20** / 1 deg/step]
	Specifies the CPM down threshold temperature for the low temperature condition. If the fusing temperature decreases -20°C (adjustable) below the target temperature, the machine enters the CPM down mode.		

002	Low:Up Temp.	*ENG	[-50 to 0 / **-15** / 1 deg/step]
	Specifies the CPM up threshold temperature for the low temperature condition. If the fusing temperature increases -15°C (adjustable) below the target temperature, the machine enters the CPM up mode.		
003	Low :1st CPM	*ENG	[10 to 100 / **80** / 5 %/step]
	Specifies the 1st CPM down ration against the normal CPM in the low temperature condition.		
004	Low :2nd CPM	*ENG	[10 to 100 / **65** / 5 %/step]
	Specifies the 2nd CPM down ration against the normal CPM in the low temperature condition.		
005	Low :3rd CPM	*ENG	[10 to 100 / **50** / 5 %/step]
	Specifies the 3rd CPM down ration against the normal CPM in the low temperature condition.		
006	High :1st CPM	*ENG	[10 to 100 / **75** / 5 %/step]
	Specifies the 1st CPM down ration against the normal CPM in the high temperature condition.		
007	High:2nd CPM	*ENG	[10 to 100 / **50** / 5 %/step]
	Specifies the 3rd CPM down ration against the normal CPM in the high temperature condition.		
008	High:3rd CPM	*ENG	[10 to 100 / **25** / 5 %/step]
	Specifies the 1st CPM down ration against the normal CPM in the high temperature condition.		
009	High:1st CPM Down Temp.:A3	*ENG	[100 to 225 / **200** / 1 deg/step]
	Specifies the heating roller temperature for 1st CPM down of A3 paper size.		
010	High:2nd CPM Down Temp.:A3	*ENG	[100 to 225 / **205** / 1 deg/step]
	Specifies the heating roller temperature for 2nd CPM down of A3 paper size.		

011	High:3rd CPM Down Temp.:A3	*ENG	[100 to 225 / **210** / 1 deg/step]
	Specifies the heating roller temperature for 3rd CPM down of A3 paper size.		
012	High:1st CPM Down Temp.:A4	*ENG	[100 to 225 / **175** / 1 deg/step]
	Specifies the heating roller temperature for 1st CPM down of A4 paper size.		
013	High:2nd CPM Down Temp.:A4	*ENG	[100 to 225 / **177** / 1 deg/step]
	Specifies the heating roller temperature for 2nd CPM down of A4 paper size.		
014	High:3rd CPM Down Temp.:A4	*ENG	[100 to 225 / **179** / 1 deg/step]
	Specifies the heating roller temperature for 3rd CPM down of A4 paper size.		
015	High:1st CPM Down Temp.:B5:Press	*ENG	[100 to 225 / **177** / 1 deg/step]
	Specifies the pressure roller temperature for 1st CPM down of B5 paper size.		
016	High:2nd CPM Down Temp.:B5:Press	*ENG	[100 to 225 / **186** / 1 deg/step]
	Specifies the pressure roller temperature for 2nd CPM down of B5 paper size.		
017	High:3rd CPM Down Temp.:B5:Press	*ENG	[100 to 225 / **225** / 1 deg/step]
	Specifies the pressure roller temperature for 3rd CPM down of B5 paper size.		
018	High:1st CPM Down Temp.:A5:Press	*ENG	[100 to 225 / **178** / 1 deg/step]
	Specifies the pressure roller temperature for 1st CPM down of A5 paper size.		
019	High:2nd CPM Down Temp.:A5:Press	*ENG	[100 to 225 / **185** / 1 deg/step]
	Specifies the pressure roller temperature for 2nd CPM down of A5 paper size.		

020	High:3rd CPM Down Temp.:A5:Press	*ENG	[100 to 225 / **225** / 1 deg/step]
	Specifies the pressure roller temperature for 3rd CPM down of A5 paper size.		
021	High:1st CPM Down Temp.:A6:Press	*ENG	[100 to 225 / **191** / 1 deg/step]
	Specifies the pressure roller temperature for 1st CPM down of A6 paper size.		
022	High:2nd CPM Down Temp.:A6:Press	*ENG	[100 to 225 / **225** / 1 deg/step]
	Specifies the pressure roller temperature for 2nd CPM down of A6 paper size.		
023	High:3rd CPM Down Temp.:A6:Press	*ENG	[100 to 225 / **225** / 1 deg/step]
	Specifies the pressure roller temperature for 3rd CPM down of A6 paper size.		
024	Judging Interval	*ENG	[1 to 250 / **10** / 1 sec/step]
	Specifies the interval for CPM down judgement.		
025	High:1st CPM Down Temp.:Env.M-t:Press	*ENG	[100 to 225 / **137** / 1 deg /step]
026	High:2nd CPM Down Temp.:Env.M-t:Press	*ENG	[100 to 225 / **142** / 1 deg /step]
027	High:3rd CPM Down Temp.:Env.M-t:Press	*ENG	[100 to 225 / **187** / 1 deg /step]
028	High:1st CPM Down Temp.:Narrow-Thick:Press	*ENG	[100 to 225 / **125** / 1 deg /step]
029	High:2nd CPM Down Temp.:Narrow-Thick:Press	*ENG	[100 to 225 / **137** / 1 deg /step]
030	High:3rd CPM Down Temp.:Narrow-Thick:Press	*ENG	[100 to 225 / **145** / 1 deg /step]

1131	**[Continues Print Mode Switch]**		
001	Feed Permit Condition	*ENG	[0 to 2 / **0** / 1 /step] 0: Productivity Priority mode 1: Quality Priority mode 1 2: Quality Priority mode 1
	Selects the feed permission type. 0: No paper feed permission 1: Paper feed permission is done when changing the paper size from smaller one to larger one. 2: Paper feed permission is done when changing the paper size from smaller one to larger one and changing the copy/print mode from duplex mode to simplex mode.		

1132	**[Maximum Duty Switch]** **DFU** The following SPs below are desgined for the factory use only. Do not change the adjusted setting.		
001	Control Method Switch	*ENG	[0 or 1 / **1** / 1 /step] 0: FIXED, 1: CONTROL
	Selects the heater control method. Use "1: CONTORL" if hot offset occurs after power-on and input voltage is relatively hight.		
003	[PowerControl] Power Offset	*ENG	[-4 to 4 / **0** / 1 /step]
012	Voltage Detection	*ENG	[0 to 350 / **0** / 1 V/step]
013	[Voltage Detection] Temp.:Threshold Value	*ENG	[0 to 200 / **80** / 1°C/step]

1133	**[Last Paper Heater OFF Control]** **DFU** The following SPs below are desgined for the factory use only. Do not change the adjusted setting.		
001	Heater OFF Time: Normal Speed: FC	*ENG	[0 to 20000 / **2400** / 1 msec./step]
002	Heater OFF Time: Normal Speed: BW	*ENG	[0 to 20000 / **1200** / 1 msec./step]
005	Heater OFF Time:Low Speed:FC	*ENG	[0 to 20000 / **6300** / 1 msec./step]
006	Heater OFF Time:Low Speed:BW	*ENG	[0 to 20000 / **1400** / 1 msec./step]
007	Heater OFF Time: After State Shift	*ENG	[0 to 20000 / **17000** / 1 msec./step]

1141	**[Fusing SC Issue Time Info]** **DFU** The following SPs below are desgined for the factory use only. Do not change the adjusted setting.		
001	SC Number	*ENG	Displays the issued SC number.
002	SC Cause	*ENG	[0 to 9 / **-** / 1/step]
	Shows the SC cause 0: Timeout 1, 1: Timeout 2, 2: Timeout 3, 4 to 9: Not used		
101	Htg Roller:Ctr Diff1	*ENG	[-20 to 260 / - / 1 deg/step]
	Displays the calculated temperature at the center of the heating roller when an SC was issued.		
104	Htg Roller:End Diff1	*ENG	[-100 to 260 / - / 1 deg/step]
	Displays the calculated temperature at the end of the heating roller when an SC was issued.		

105	Htg Roller:End Det1	*ENG	[-10 to 260 / - / 1 deg/step]
	Displays the detected temperature at the end of the heating roller when an SC was issued.		
106	Htg Roller:End Corr1	*ENG	[-10 to 260 / - / 1 deg/step]
	Displays the ambient temperature at the end of the heating roller when an SC was issued.		
107	Press Roller Temp Value1	*ENG	[-10 to 260 / - / 1 deg/step]
	Displays the temperature at the pressure roller when an SC was issued.		
108	Press Roller:End Temp Value1	*ENG	[-10 to 260 / - / 1 deg/step]
	Displays the temperature at the end of the pressure roller when an SC was issued.		
151	Htg Roller:Ctr Diff2	*ENG	[-200 to 260 / - / 1 deg/step]
	SPs from -151 to -157 show previous fusing SC information.		
154	Htg Roller:End Diff2	*ENG	[-10 to 260 / - / 1 deg/step]
155	Htg Roller:End Det2	*ENG	
156	Htg Roller:End Corr2	*ENG	
157	Press Roller Temp Value2	*ENG	
158	Press Roller:End Temp Value2	*ENG	
201	Htg Roller:Ctr Diff3	*ENG	[-20 to 260 / - / 1 deg/step]
	SPs from -201 to -207 show fusing SC information before previous fusing SC.		
204	Htg Roller:End Diff3	*ENG	[-10 to 260 / - / 1 deg/step]
205	Htg Roller:End Det3	*ENG	
206	Htg Roller:End Corr3	*ENG	
207	Press Roller Temp Value3	*ENG	
208	Press Roller.End Temp Value3	*ENG	

1142	**[Fusing Jam Detection]** **DFU** This SP is desgined for the factory use only. Do not change the adjusted setting.		
001	SC Display	*ENG	[0 or 1 / **0** / -] 0: ON, 1: OFF
	Enables or disables the fusing consecutive jam (three times) SC detection.		

1152	**[Fusing Nip Band Check]** **DFU** The following SPs below are desgined for the factory use only. Do not change the adjusted setting.		
001	Execute	-	-
	Executes the nip band measurement between heating roller 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 999 / **600** / 1 sec/step]
	Specifies the fusing rotation time before executing SP1152-001.		
003	Stop Time	* ENG	[0 to 100 / **20** / 1 sec/step]
	Specifies the time for paper staying at the nip.		
004	Feed Time	* ENG	[0 to 10000 / **5000** / 1 msec./step]
	Specifies the feeding time from the tray to the fusing unit at the fusing nip band check.		

1153	**[Low Temp. Start Up]** **DFU** The following SPs below are desgined for the factory use only. Do not change the adjusted setting.		
001	Temp.:Threshold Value1	* ENG	[-10 to 100 / **5** / 1°C./step]
	Sepcifies the threshold temperature 1 for the warming up in the low temperature condition.		
002	Temp.:Threshold Value2	* ENG	[-10 to 100 / **17** / 1°C./step]
	Sepcifies the threshold temperature 2 for the warming up in the low temperature condition.		
003	Temp.:Target	* ENG	[0 to 100 / **100** / 1°C./step]
	Sepcifies the target temperature for the warming up in the low temperature condition.		
005	Temp.: Rotation Threshold Value1	* ENG	[-10 to 100 / **30** / 1°C./step]
	Sepcifies the threshold temperature 1 for the warming up rotation in the low temperature condition.		
010	Time:Heat Storage Devision1	* ENG	[0 to 250 / **60** / 1 sec./step]
	Sepcifies the execution time 1 for the warming up in the low temperature condition.		
011	Time:Heat Storage Devision2	* ENG	[0 to 250 / **30** / 1 sec../step]
	Sepcifies the execution time 2 for the warming up in the low temperature condition.		

1801	**[Motor Speed Adjust]**		
001	Regist Mot:60:Thick	*ENG	[–4 to 4 / **0.3** / 0.05 %/step]
002	Regist Mot:120	*ENG	
003	Bk OpcDevMot:120	*ENG	[–4 to 4 / **–0.1** / 0.01 %/step]
004	Bk OpcDevMot:60:Thick	*ENG	[–4 to 4 / **–0.4** / 0.01 %/step]
005	Color OpcMot:120	*ENG	[–15 to 15 / **0** / 1 %/step]
006	Color OpcMot:60	*ENG	
007	Fusing Mot:120	*ENG	[–6 to 6 / **-0.4** / 0.01 %/step]
008	Fusing Mot:60:Thick	*ENG	[–6 to 6 / **-0.05** / 0.01 %/step]
009	Transfer Mot:120	*ENG	[–4 to 4 / **0** / 0.01 %/step]
010	TransferMot:60:Thick	*ENG	[–4 to 4 / **0** / 0.01 %/step]
011	Feed1:CW60:Thick	*ENG	[–2 to 2 / **0.3** / 0.05 %/step]
012	Feed1:CW120	*ENG	
013	Feed1:CCW60:Thick	*ENG	
014	Feed1:CCW120	*ENG	
015	Feed12:CW60:Thick	*ENG	
016	Feed12:CW120	*ENG	
017	Feed12:CCW60:Thick	*ENG	
018	Feed12:CCW120	*ENG	
019	By-pass:60:Thick	*ENG	
020	By-pass:120	*ENG	
021	Inverter:CW60:Thick	*ENG	[–2 to 2 / **0** / 0.05 %/step]
022	Inverter:CW120	*ENG	
023	Inverter:CCW60:Thick	*ENG	

024	Inverter:CCW120	*ENG	
025	Duplex Entrance:60	*ENG	[–2 to 2 / **0.3** / 0.05 %/step]
026	Duplex Entrance:120	*ENG	
027	Duplex Exit:60	*ENG	
028	Duplex Exit:120	*ENG	
029	R-Tray Exit Motor	*ENG	[–2 to 2 / **0** / 0.05 %/step]
030	Fine Adj. Control	*ENG	[0 to 1 / **1** /1]
031	Offset:120:Color	*ENG	[-7 to 7 / **0** /1step]
032	Offset:60:Color	*ENG	
033	Regist Mot:60:1200dpi	*ENG	[–4 to 4 / **0.3** / 0.05 %/step]
034	Feed1:CW60:1200dpi	*ENG	[–2 to 2 / **0.3** / 0.05 %/step]
035	Feed1:CCW60:1200dpi	*ENG	
036	Feed2:CW60:1200dpi	*ENG	
037	Feed2:CCW60:1200dpi	*ENG	
038	By-pass:60:1200dpi	*ENG	
039	Inverter:CW60:1200dpi	*ENG	[–2 to 2 / **0** / 0.05 %/step]
040	Inverter:CCW60:1200dpi	*ENG	
041	FusingMot:60:1200dpi	*ENG	[–6 to 6 / **-0.05** / 0.01 %/step]
042	BkOpcDevMot:60:1200dpi	*ENG	[–4 to 4 / **-0.4** / 0.01 %/step]
043	TransferMot:60:1200dpi	*ENG	[–4 to 4 / **0** / 0.01 %/step]

1803	**[Sub Mag ADJ]**		
	These SPs can adjust the sub-scan magnification error. However, first read the "Sub-scan Magnification Error" in the "Troubleshooting Guide" (Main Chapters) to execute these SPs. **NEVER EXECUTE** these SPs before reading the "Sub-scan Magnification Error". Otherwise, color registration errors occur on outputs and this cannot be recovered by the line position adjustment.		
001	Plain:600dpi:input	*ENG	[-1 to 1 / **0** / 0.1 %/step]
002	Plain:1200dpi:input	*ENG	
003	Thick:input	*ENG	
004	Plain:600dpi:result	*ENG	[0 to 1 / **0** / 1 /step] 0: Success, 1: Failure
005	Plain:1200dpi:result	*ENG	
006	Thick:result	*ENG	

1902	**[Drum Phase Adj.] DFU**		
001	Execute	-	[0 or 1 / **0** / 1] 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 Execution	*ENG	[0 or 1 / **1** / 1] Turns the automatic drum phase adjustment on or off. 0: Off, 1: On

1907	**[Inverter Timing Adj]**		
001	Inverter Position Adj.	*ENG	[–10 to 10 / **0** / 1 mm/step]
[Feed Timing Adj]			
002	R-Tray J-Gate SOL:ON	*ENG	[–10 to 10 / **0** / 1 mm/step]
003	R-Tray J-Gate SOL:OFF	*ENG	

1950	**[Fan Cooling Time Set] DFU**		
001	Development Fan1	*ENG	[0 to 600 / **0** / 1sec/step]
002	Development Fan2	*ENG	
003	LD Unit Fan	*ENG	
004	Fusing Exit Sn Fan	*ENG	
005	Fusing Exit Fan	*ENG	
006	Electrical Fan	*ENG	
007	PSU Fan	*ENG	
008	Junction Gate SOL Fan	*ENG	

1951	**[Fan Start Time Set]**		
	Adjust the start time for each fan motor after a job end.		
001	Development Fan1		[0 to 900 / **0** / 1 sec/step]
002	Development Fan2	*ENG	
003	Imaging Fan	*ENG	
004	Fusing Exit Sensor Cooling Fan	*ENG	
005	Fusing Exit Fan	*ENG	
006	Electrical Unit Fan	*ENG	

007	PSU Fan	*ENG	
008	Solenoid Cooling Fan	*ENG	

1952	**[Fan Control Off Mode Time Set]**		
001	-	*ENG	[0 to 60 / **0** / 1 min./step]

1953	**[Extra Fan Control]**		
001	State	*ENG	[0 or 1 / **0** / 1 /step] 0: Off, 1: On
	Displays the extra fan cooling is On or Off.		
002	Time: Threshold	*ENG	[0 to 60 / **60** / 1 min./step]
	Specifies the threshold time for the extra fan control.		
003	Rotat: Threshold	*ENG	[0 to 999999999 / **0** / 1 mm/step]
004	Start Date	*ENG	Displays the execution time and date of the extra fan cooling.
005	Time	*ENG	[0 to 7200 / **0** / 1 sec./step:
	Specifies the execution time for the extra fan cooling.		
006	Development Fan1	*ENG	[0 to 7200 / **1** / 1 sec./step] Specifies the exexution time of the extra fan rotation for each fan.
007	Development Fan2	*ENG	
008	Imaging Fan	*ENG	
009	Fusing Exit Sensor Cooling Fan	*ENG	
010	Fusing Exit Fan	*ENG	
011	Electrical Unit Fan	*ENG	

012	PSU Fan	*ENG	
013	Solenoid Cooling Fan	*ENG	

1954	**[Fan Start Time Initial]**		
001	Development Fan1	*ENG	[0 to 600 / **1** /.1 sec. /step] Specifies the initial execution time of the extra fan rotation for each fan.
002	Development Fan2	*ENG	
003	Imaging Fan	*ENG	
004	Fusing Exit Sensor Cooling Fan	*ENG	
005	Fusing Exit Fan	*ENG	
006	Electrical Unit Fan	*ENG	
007	PSU Fan	*ENG	
008	Solenoid Cooling Fan	*ENG	

3.2 SYSTEM SP2XXX

3.2.1 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	
009	Thick 2&FINE: Bk	*ENG	
010	Thick 2&FINE: C	*ENG	
011	Thick 2&FINE: M	*ENG	
012	Thick 2&FINE: 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	
009	Thick 2&FINE: Bk	*ENG	
010	Thick 2&FINE: C	*ENG	
011	Thick 2&FINE: M	*ENG	
012	Thick 2&FINE: Y	*ENG	

2007	**[Charge AC Current: 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 / **610** / 10 µA/step]
002	Environmental Target: C	*ENG	[0 to 3000 / **630**/ 10 µA/step]
003	Environmental Target: M	*ENG	[0 to 3000 / **610** / 10 µA/step]
004	Environmental Target: Y	*ENG	[0 to 3000 / **670** / 10 µA/step]

2008	**[Charge AC Current: 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 / **610** / 10 µA/step]
002	Environmental Target: C	*ENG	[0 to 3000 / **630** / 10 µA/step]
003	Environmental Target: M	*ENG	[0 to 3000 / **610** / 10 µA/step]
004	Environmental Target: Y	*ENG	[0 to 3000 / **660** / 10 µA/step]

2009	**[Charge AC Current: 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 / **610** / 10 μA/step]
002	Environmental Target: C	*ENG	[0 to 3000 / **630** / 10 μA/step]
003	Environmental Target: M	*ENG	[0 to 3000 / **600** / 10 μA/step]
004	Environmental Target: Y	*ENG	[0 to 3000 / **640** / 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	Main Interval: Power ON	*ENG	[0 to 2000 / **500** / 1 page/step]
002	Main Interval: Print	*ENG	
003	Sub: Interval	*ENG	[0 to 500 / **10** / 1 page/step]
004	Sub:Thresh Temp	*ENG	[0 to 99 / **25** / 1 deg/step]
005	Sub:R-Humid Thresh	*ENG	[0 to 99 / **50** / 1 %RH/step]

006	Sub:A-Humid Thresh	*ENG	[0 to 99 / **12** / 1 g/m^3/step]
007	Main:Temp Change Thresh	*ENG	[0 to 99 / **10** / 1 deg/step]
008	Main:RH Change Thresh	*ENG	[0 to 99 / **50** / 1 %RH/step]
009	Main:AH Change Thresh	*ENG	[0 to 99 / **6** / 1 g/m^3/step]
010	Sub:Temp Change Thresh	*ENG	[0 to 20 / **1** / 0.1 deg/step]
011	Sub:RH Change Thresh	*ENG	[0 to 50 / **5** / 1 %RH/step]
012	Sub:AH Change Thresh	*ENG	[0 to 20 / **1** / 0.1 g/m^3/step]
013	Non-use Time	*ENG	[0 to 1440 / **360** / 10 min/step]
014	Correction Coeff.	*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	

2016	**[ZnSt Application Mode]**		
	The drum lubrication mode interrupts the copy/print job to prevent the drum filming or cleaning problem after the high coverage image printing if some conditions are met. The following SPs can be adjusted for the drum lubrication mode.		
001	Temperature Threshold	*ENG	[0 to 50 / **15** / 1 deg/step]
	Specifies the threshold temperature for the low temperature mode of the drum lubrication during the multiple printing job.		
002	Execution Interval: Setting:1	*ENG	[0 to 999 / **0** / 1 page/step]
	Specifies the reference number of the outputs for the high coverage image job in the low speed mode.		

003	Execution Interval: Setting:2	*ENG	[0 to 999 / **0** / 1 page/step]
	Specifies the reference number of the outputs for the high coverage image printing job in the low temperature condition.		
004	Execution Interval: Setting:3	*ENG	[0 to 999 / **0** / 1 page/step]
	Specifies the reference number of the outputs for the low coverage image job.		
005	High Coverage Threshold:1	*ENG	[0 to 100 / **10** / 0.01%/step]
	Specifies the threshold for the high coverage image to the drum lubrication mode handled by the setting 1 (SP2-016-002).		
006	High Coverage Threshold:2	*ENG	[0 to 100 / **20** / 0.01%/step]
	Specifies the threshold for the high coverage image to the drum lubrication mode handled by the setting 2 (SP2-016-003).		
007	High Coverage Threshold:3	*ENG	[0 to 100 / **0.5** / 0.01%/step]
	Specifies the threshold for the low coverage image to the drum lubrication mode handled by the setting 3 (SP2-016-004).		
008	Application Time:1	*ENG	[0 to 99 / **0** / 1 sec./step]
	Specifies the execution time for the drum lubrication mode of the setting 1 (SP2-016-002).		
009	Application Time:2	*ENG	[0 to 99 / **0** / 1 sec./step]
	Specifies the execution time for the drum lubrication mode of the setting 2 (SP2-016-003).		
010	Application Time:3	*ENG	[0 to 99 / **0** / 1 sec./step]
	Specifies the execution time for the drum lubrication mode of the setting 3 (SP2-016-004).		
011	Average Coverage:1:K	*ENG	[0 to 100 / **0.05** / 0.01%/step]
	Displays the average coverage of black color for the setting 1.		
012	Average Coverage:1:M	*ENG	[0 to 100 / **0.05** / 0.01%/step]
	Displays the average coverage of magenta color for the setting 1.		

013	Average Coverage:1:C	*ENG	[0 to 100 / **0.05** / 0.01%/step]
	Displays the average coverage of cyan color for the setting 1.		
014	Average Coverage:1:Y	*ENG	[0 to 100 / **0.05** / 0.01%/step]
	Displays the average coverage of yellow color for the setting 1.		
015	Average Coverage:2:K	*ENG	[0 to 100 / **0.05** / 0.01%/step]
016	Average Coverage:2:M	*ENG	[0 to 100 / **0.05** / 0.01%/step]
017	Average Coverage:2:C	*ENG	[0 to 100 / **0.05** / 0.01%/step]
018	Average Coverage:2:Y	*ENG	[0 to 100 / **0.05** / 0.01%/step]
019	Average Coverage:3:K	*ENG	[0 to 100 / **0.05** / 0.01%/step]
020	Average Coverage:3:M	*ENG	[0 to 100 / **0.05** / 0.01%/step]
021	Average Coverage:3:C	*ENG	[0 to 100 / **0.05** / 0.01%/step]
022	Average Coverage:3:Y	*ENG	[0 to 100 / **0.05** / 0.01%/step]
023	Mode Counter:K	*ENG	[0 to 999 / **-** / 1 page/step]
	Displays the black print counter after the previous drum lubrication.		
024	Mode Counter:CMY	*ENG	[0 to 999 / **-** / 1 page /step]
	Displays the color print counter after the previous drum lubrication.		

2101	**[Color Regist Adjust]**		
	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 optics housing unit. For details, see "Laser Optics Housing Unit" in the "Replacement and Adjustment" section. The value should be provided with the new laser optics housing unit.		
001	Bk: Main Scan: Dot	*ENG	[–512 to 511 / **0** / 1 dot/step]
002	C Main Scan: Dot	*ENG	
003	M Main Scan: Dot	*ENG	

004	Y Main Scan: Dot	*ENG	
013	Bk: Sub Scan: Line	*ENG	[–16384 to 16383 / **0** / 1 line/step]
014	C: Sub Scan: Line	*ENG	
015	M: Sub Scan: Line	*ENG	
016	Y: Sub Scan: Line	*ENG	

2102	**[Magnification Adjust]**		
	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:High Spd	*ENG	[0 to 560 / **280** / 1 /step]
003	Main Mag.: Bk:Low Spd	*ENG	
004	Main Mag.: C:High Spd	*ENG	
006	Main Mag.: C:Low Spd	*ENG	
007	Main Mag.: M:High Spd	*ENG	
009	Main Mag.: M:Low Spd	*ENG	
010	Main Mag.: Y:High Spd	*ENG	
012	Main Mag.: Y:Low Spd	*ENG	

2103	**[Erase Margin Adjust]** (Area, Paper Size)		
	Adjusts the erase margin by deleting image data at the margins.		
001	Lead Edge	*ENG	[0 to 9.9 / **4.2** / 0.1 mm/step]
002	Trailing Edge	*ENG	
003	Left	*ENG	[0 to 9.9 / **2** / 0.1 mm/step]
004	Right	*ENG	
006	Duplex Trail. L Size	*ENG	[0 to 4 / **1** / 0.1 mm/step]

007	Duplex Trail. M Size	*ENG	[0 to 4 / **0.8** / 0.1 mm/step]
008	Duplex Trail. S Size	*ENG	[0 to 4 / **0.6** / 0.1 mm/step]
009	Duplex Left Edge	*ENG	[0 to 4 / **0.3** / 0.1 mm/step]
010	Duplex Right Edge	*ENG	
011	Duplex Trail. L Size:Thick	*ENG	[0 to 4 / **1** / 0.1 mm/step]
012	Duplex Trail. M Size:Thick	*ENG	[0 to 4 / **0.8** / 0.1 mm/step]
013	Duplex Trail. S Size:Thick	*ENG	[0 to 4 / **0.6** / 0.1 mm/step]
014	Duplex Left Edge:Thick	*ENG	[0 to 4 / **0.3** / 0.1 mm/step]
015	Duplex Right Edge:Thick	*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	Bk	*ENG	[80 to 120 / **100** / 1 %/step]
002	C	*ENG	
003	M	*ENG	
004	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. High Speed: 120 mm/sec, Low Speed: 60 mm/sec		
001	Bk: High Speed	*ENG	[50 to 120 / **100** / 1%/step] Decreasing a value makes lines thinner on the output. Increasing a value makes lines
002	C: High Speed	*ENG	
003	M: High Speed	*ENG	

004	Y: High Speed	*ENG	thicker on the output.
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	[0 to 60 / **0** / 1 sec/step]

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 using "COPY Window" tab in the LCD.		
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		12. Independent Pattern (2dot) 13. Independent Pattern (4dot) 14. Trimming Area 16: Hound’s Tooth Check (Horizontal) 17: Band (Horizontal) 18: Band (Vertical) 19: Checker Flag Pattern 20: Grayscale Vertical Margin 21: Grayscale Horizontal Margin

	9: Argyle Pattern Small 10: Argyle Pattern Large 11. Independent Pattern (1dot)		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.

2112	**[TM/P 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. These SPs must be used when a new laser optics housing unit is installed, see "Laser Optics Housing Unit" in the "Replacement and Adjustment" section.		
001	Pulse: C	*ENG	[–75 to 75 / **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. These SPs must be used when a new laser optics housing unit is installed. For details, see "Laser Optics Housing Unit" in the "Replacement and Adjustment" section.
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	**[P-Sensor Test]**		
	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	*ENG	[0 to 1024 / **0** / 1/step]
[TM-Sensor Test]			
005	PWM: Front	*ENG	
006	PWM: Center	*ENG	
007	PWM: Rear	*ENG	

2141	**[P-Sensor Test]**		
	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	*ENG	[0 to 5.5 / **0** / 0.01V/step]
[TM-Sensor Test]			
005	Average: Front	*ENG	
006	Average: Center	*ENG	
007	Average: Rear	*ENG	

2142	**[P-Sensor Test]**		
	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	*ENG	[0 to 5.5 / **0** / 0.01V/step]
[TM-Sensor Test]			

005	Maximum: Front	*ENG	
006	Maximum: Center	*ENG	
007	Maximum: Rear	*ENG	

2143	**[P-Sensor Test]**		
	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	*ENG	[0 to 5.5 / **0** / 0.01V/step]
[TM-Sensor Test]			
005	Minimum: Front	*ENG	
006	Minimum: Center	*ENG	
007	Minimum: Rear	*ENG	

2144	**[P-Sensor Test]**		
	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:	*ENG	[0 to 5.5 / **0** / 0.01V/step]
[TM-Sensor Test]			
005	Maximum 2: Front	*ENG	
006	Maximum 2: Center	*ENG	
007	Maximum 2: Rear	*ENG	

2145	**[P-Sensor Test]**		
	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	*ENG	[0 to 5.5 / **0** / 0.01V/step]
[TM-Sensor Test]			
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 8 areas. Area 1 is at the front side of the machine (left side of the image) and area 8 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: Area0	*ENG	[-256 to 255 / **0** / 1sub-dot/step]
028	Bk: Area1	*ENG	Adjusts the area magnification for LD 0. [–256 to 255 / **0** / 1 sub-dot/step]
029	Bk: Area2	*ENG	
030	Bk: Area3	*ENG	
031	Bk: Area4	*ENG	
032	Bk: Area5	*ENG	
033	Bk: Area6	*ENG	
034	Bk: Area7	*ENG	
035	Bk: Area8	*ENG	

079	C: Area0	*ENG	[-256 to 255 / **0** / 1sub-dot/step]
080	C: Area1	*ENG	Adjusts the area magnification for LD 0. [–255 to 255 / **0** / 1 sub-dot/step]
081	C: Area2	*ENG	
082	C: Area3	*ENG	
083	C: Area4	*ENG	
084	C: Area5	*ENG	
085	C: Area6	*ENG	
086	C: Area7	*ENG	
087	C: Area8	*ENG	
131	M: Area0	*ENG	[-256 to 255 / **0** / 1sub-dot/step]
132	M: Area1	*ENG	Adjusts the area magnification for LD 0. [–256 to 255 / **0** / 1 sub-dot/step]
133	M: Area2	*ENG	
134	M: Area3	*ENG	
135	M: Area4	*ENG	
136	M: Area5	*ENG	
137	M: Area6	*ENG	
138	M: Area7	*ENG	
139	M: Area8	*ENG	
183	Y: Area0	*ENG	[–256 to 255 / **0** / 1 sub-dot/step]
184	Y: Area1	*ENG	Adjusts the area magnification for LD 0. [–256 to 255 / **0** / 1 sub-dot/step]
185	Y: Area2	*ENG	
186	Y: Area3	*ENG	
187	Y: Area4	*ENG	
188	Y: Area5	*ENG	

189	Y: Area6	*ENG	
190	Y: Area7	*ENG	
191	Y: Area8	*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: Area 0	*ENG	This is for the synchronizing detection board. [50 to 150 / **100** / 1 %/step]
002	Bk: Area 1	*ENG	
003	Bk: Area 2	*ENG	
004	Bk: Area 3	*ENG	
005	Bk: Area 4	*ENG	
006	Bk: Area 5	*ENG	
007	Bk: Area 6	*ENG	
008	Bk: Area 7	*ENG	
009	Bk: Area 8	*ENG	
010	Bk: Area 9	*ENG	
011	Bk: Area 10	*ENG	
012	Bk: Area 11	*ENG	
013	Bk: Area 12	*ENG	
014	Bk: Area 13	*ENG	
015	Bk: Area 14	*ENG	

016	Bk: Area 15	*ENG	This is out of the image area. [50 to 150 / **100** / 1 %/step]
033	C: Area 0	*ENG	This is for the synchronizing detection board. [50 to 150 / **100** / 1 %/step]
034	C: Area 1	*ENG	
035	C: Area 2	*ENG	
036	C: Area 3	*ENG	
037	C: Area 4	*ENG	
038	C: Area 5	*ENG	
039	C: Area 6	*ENG	
040	C: Area 7	*ENG	
041	C: Area 8	*ENG	
042	C: Area 9	*ENG	
043	C: Area 10	*ENG	
044	C: Area 11	*ENG	
045	C: Area 12	*ENG	
046	C: Area 13	*ENG	
047	C: Area 14	*ENG	
048	C: Area 15	*ENG	This is out of the image area. [50 to 150 / **100** / 1 %/step]
065	M: Area 0	*ENG	This is for the synchronizing detection board. [50 to 150 / **100** / 1 %/step]
066	M: Area 1	*ENG	[50 to 150 / **100** / 1 %/step]
067	M: Area 2	*ENG	
068	M: Area 3	*ENG	
069	M: Area 4	*ENG	

070	M: Area 5	*ENG	
071	M: Area 6	*ENG	
072	M: Area 7	*ENG	
073	M: Area 8	*ENG	
074	M: Area 9	*ENG	
075	M: Area 10	*ENG	
076	M: Area 11	*ENG	
077	M: Area 12	*ENG	
078	M: Area 13	*ENG	
079	M: Area 14	*ENG	
080	M: Area 15	*ENG	This is out of the image area. [50 to 150 / **100** / 1 %/step]
097	Y: Area 0	*ENG	This is for the synchronizing detection board. [50 to 150 / **100** / 1 %/step]
098	Y: Area 1	*ENG	[50 to 150 / **100** / 1 %/step]
099	Y: Area 2	*ENG	
100	Y: Area 3	*ENG	
101	Y: Area 4	*ENG	
102	Y: Area 5	*ENG	
103	Y: Area 6	*ENG	
104	Y: Area 7	*ENG	
105	Y: Area 8	*ENG	
106	Y: Area 9	*ENG	
107	Y: Area 10	*ENG	

108	Y: Area 11	*ENG	
109	Y: Area 12	*ENG	
110	Y: Area 13	*ENG	
111	Y: Area 14	*ENG	
112	Y: Area 15	*ENG	This is out of the image area.

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	
009	600dpi:Indet.:Bk	*ENG	[10 to 15 / **15** / 1 /step]
010	1200dpi:Indet.:Bk	*ENG	
011	600dpi:Multivalued:Bk (2bit)	*ENG	

2180	**[Line Pos. Adj. Clear] DFU**		
001	Color Regist.	-	
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		
001	Paper Int. Mag: Subdot: Bk	*ENG	[–32768 to 32767 / **0** / 1 pulse/step]
002	Mag.Cor. Subdot: Bk	*ENG	[–32768 to 32767 / **0** / 1 pulse/step]
003	Skew: C	*ENG	[–5000 to 5000 / **0** / 0.001 µm/step]
004	Bent: C	*ENG	
005	M. Scan Shift: Left: C	*ENG	
006	M. Scan Shift: Center: C	*ENG	
007	M. Scan Shift: RIght: C	*ENG	
008	S. Scan Shift: Left: C	*ENG	
009	S. Scan Shift: Center: C	*ENG	
010	S. Scan Shift: RIght: C	*ENG	
011	M. Cor.: Dot: C	*ENG	[–512 to 511 / **0** / 1 dot/step]
012	M. Cor.: Subdot: C	*ENG	[–15 to 15 / **0** / 1 pulse/step]
013	Paper Int. Mag: Subdot: C	*ENG	[–32768 to 32767 / **0** / 1 pulse/step]
014	Mag.Cor. Subdot: C	*ENG	

015	M. Left Mag.: Subdot: C	*ENG	
016	M. Right Mag.: Subdot: C	*ENG	
017	S. Cor.: 600 Line: C	*ENG	[–16384 to 16383 / **0** / 1 line/step]
018	S. Cor.: 600 Subdot: C	*ENG	[–1 to 1 / **0** / 0.001 line/step]
019	S. Cor.: 1200 Line: C	*ENG	[–16384 to 16383 / **0** / 1 line/step]
020	S. Cor.: 1200 Subdot: C	*ENG	[–1 to 1 / **0** / 0.001 line/step]
021	Skew: M	*ENG	[–5000 to 5000 / **0** / 0.001 μm/step]
022	Bent: M	*ENG	
023	M. Scan Shift: Left: M	*ENG	
024	M. Scan Shift: Center: M	*ENG	
025	M. Scan Shift: Right: M	*ENG	
026	S. Scan Shift: Left: M	*ENG	
027	S. Scan Shift: Center: M	*ENG	
028	S. Scan Shift: Right: M	*ENG	
029	M. Cor.: Dot: M	*ENG	[–512 to 511 / **0** / 1 dot/step]
030	M. Cor.: Subdot: M	*ENG	[–15 to 15 / **0** / 1 pulse/step]
031	Paper Int. Mag: Subdot: M	*ENG	[–32768 to 32767 / **0** / 1 pulse/step]
032	Mag.Cor. Subdot: M	*ENG	
033	M. Left Mag.: Subdot: M	*ENG	
034	M. Right Mag.: Subdot: M	*ENG	
035	S. Cor.: 600 Line: M	*ENG	[–16384 to 16383 / **0** / 1 line/step]
036	S. Cor.: 600 Subdot: M	*ENG	[–1 to 1 / **0** / 0.001 line/step]
037	S. Cor.: 1200 Line: M	*ENG	[–16384 to 16383 / **0** / 1 line/step]
038	S. Cor.: 1200 Subdot: M	*ENG	[–1 to 1 / **0** / 0.001 line/step]

039	Skew: Y	*ENG	[–5000 to 5000 / **0** / 0.001 μm/step]
040	Bent: Y	*ENG	
041	M. Scan Shift: Left: Y	*ENG	
042	M. Scan Shift: Center: Y	*ENG	
043	M. Scan Shift: Right: Y	*ENG	
044	S. Scan Shift: Left: Y	*ENG	
045	S. Scan Shift: Center: Y	*ENG	
046	S. Scan Shift: Right: Y	*ENG	
047	M. Cor.: Dot: Y	*ENG	[–512 to 511 / **0** / 1 dot/step]
048	M. Cor.: Subdot: Y	*ENG	[–15 to 15 / **0** / 1 pulse/step]
049	Paper Int. Mag: Subdot: Y	*ENG	[–32768 to 32767 / **0** / 1 pulse/step]
050	Mag.Cor. Subdot: Y	*ENG	
051	M. Left Mag.: Subdot: Y	*ENG	
052	M. Right Mag.: Subdot: Y	*ENG	
053	S. Cor.: 600 Line: Y	*ENG	[–16384 to 16383 / **0** / 1 line/step]
054	S. Cor.: 600 Subdot: Y	*ENG	[–1 to 1 / **0** / 0.001 line/step]
055	S. Cor.: 1200 Line: Y	*ENG	[–16384 to 16383 / **0** / 1 line/step]
056	S. Cor.: 1200 Subdot: Y	*ENG	[–1 to 1 / **0** / 0.001 line/step]
057	S. Cor.: 600 Subdot	*ENG	[–1 to 1 / **0** / 0.001 line/step]
058	Drum Cor.:600:Subdot	*ENG	[–7 to 7 / **0** / 1 /step]
059	S. Cor.:1200 Subdot	*ENG	[–1 to 1 / **0** / 0.001 line/step]
060	Drum Cor.:1200:Subdot	*ENG	[–7 to 7 / **0** / 1 /step]

2182	**[Line Pos. Adj. Offset] DFU** (Color) M. Scan: Main scan, S. Scan: Sub-scan High / Medium: 120 mm/sec, Low: 60 mm/sec		
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 image in the main scan direction.
002	M Magnification	*ENG	
003	Y Magnification	*ENG	
004	M. Scan: High: Dot: C	*ENG	[-512 to 511 / **0** / 1 dot/step]
005	M. Scan: High: Subdot: C	*ENG	[-15 to 15 / **0** / 1 pulse/step]
008	M. Scan: Low: Dot: C	*ENG	[-512 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	[-512 to 511 / **0** / 1 dot/step]
011	M. Scan: High: Subdot: M	*ENG	[-15 to 15 / **0** / 1 pulse/step]
014	M. Scan: Low: Dot: M	*ENG	[-512 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	[-512 to 511 / **0** / 1 dot/step]
017	M. Scan: High: Subdot: Y	*ENG	[-15 to 15 / **0** / 1 pulse/step]
020	M. Scan: Low: Dot: Y	*ENG	[-512 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	[-16384 to 16383 / **0** / 1 line]
023	S. Scan: High: Subdot: C	*ENG	[–1 to 1 / **0** / 0.001 /line]
026	S. Scan: Low: Dot: C	*ENG	[-16384 to 16383 / **0** / 1 line]

027	S. Scan: Low: Subdot: C	*ENG	[–1 to 1 / **0** / 0.001 /line]
028	S. Scan: High: Dot: M	*ENG	[-16384 to 16383 / **0** / 1 line]
029	S. Scan: High: Subdot: M	*ENG	[–1 to 1 / **0** / 0.001 /line]
032	S. Scan: Low: Dot: M	*ENG	[-16384 to 16383 / **0** / 1 line]
033	S. Scan: Low: Subdot: M	*ENG	[–1 to 1 / **0** / 0.001 /line]
034	S. Scan: High: Dot: Y	*ENG	[-16384 to 16383 / **0** / 1 line]
035	S. Scan: High: Subdot: Y	*ENG	[–1 to 1 / **0** / 0.001 /line]
038	S. Scan: Low: Dot: Y	*ENG	[-16384 to 16383 / **0** / 1 line]
039	S. Scan: Low: Subdot: Y	*ENG	[–1 to 1 / **0** / 0.001 /line]
040	C:Skew	*ENG	[-50 to 50 / **0** / 1 µm]
041	M:Skew	*ENG	
042	Y:Skew	*ENG	

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
012	Detection Error Level	*ENG	[0 to 3500 / **200** / 1 µm/step]

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	[0.5 to 3 / **1.4** / 0.1 V/step]
002	ch 0: 2nd	*ENG	
003	ch 0: 3rd	*ENG	
004	ch 0: 4th	*ENG	
005	ch 1: 1st	*ENG	
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 / **200** / 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 / **300** / 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 / **300** / 1 page/step]
	Adjusts the threshold of the line position adjustment for color printing mode during jobs.		
006	Page: Standby: BW + 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 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** / 1deg/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. Section Descriptions" section.		
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.		
011	Temp Change 2	*ENG	[0 to 100 / **10** / 1deg/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.		
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	Date	*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 Counter: 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 Counter: M	*ENG	
012	Error Counter: Y	*ENG	

2197	**[MUSIC Exe Time]**		
	DFU		
001	Execution Time	*ENG	[10 to 40 / **20** / 10 ms/step]
002	TM Sensor Position	*ENG	[48.2 to 500 / **48.2** / 0.1mm/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 / **4** / 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. For details, see "Laser Unit" in the "Replacement and Adjustment" section.		
001	C:Skew Motor	*ENG	-
002	M:Skew Motor	*ENG	
003	Y:Skew Motor	*ENG	

2221	**[LD Power: Fixed] DFU** Adjusts the fixed LD power for each line speed and color. These SPs are activated only when SP3-041-002 is set to "0". Normal: 120 mm/sec, Low: 60 mm/sec		
001	Bk:Normal Spd	*ENG	[0 to 200 / **100** / 1%/step] Increasing this value makes the image density darker.
002	C:Normal Spd	*ENG	
003	M:Normal Spd	*ENG	
004	Y:Normal Spd	*ENG	
009	Bk:Low Spd	*ENG	
010	C:Low Spd	*ENG	
011	M:Low Spd	*ENG	
012	Y:Low Spd	*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. Normal: 120 mm/sec, Low: 60 mm/sec		
001	Plain: Bk	*ENG	[0 to 800 / **450** / 10 –V/step]
002	Plain: M	*ENG	
003	Plain: C	*ENG	
004	Plain: Y	*ENG	
009	Thick 2: Bk	*ENG	
010	Thick 2: M	*ENG	

011	Thick 2: C	*ENG	
012	Thick 2: Y	*ENG	

2241	**[Ambient Temp/Hum:Display]**		
	Displays the environment temperature and humidity.		
001	Temperature	-	[–5 to 45 / - / 0.1deg/step]
002	Relative Humidity	-	[0 to 100 / - / 0.1 %RH/step]
003	Absolute Humidity	-	[0 to 100 / - / 0.1 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 350 / **290** / 1 mm/step] Threshold 1 < paper: Paper is detected as "S1" size.
002	Threshold 2	*ENG	[0 to 350 / **250** / 1 mm/step] Threshold 2 < paper < Threshold 1: Paper is detected as "S2" size.
003	Threshold 3	*ENG	[0 to 350 / **194** / 1 mm/step] Threshold 3 < paper < Threshold 2: Paper is detected as "S3" size.
004	Threshold 4	*ENG	[0 to 350 / **150** / 1 mm/step] Threshold 4 < paper < Threshold 3: Paper is detected as "S4" size. Paper < Threshold 4: Paper is detected as "S5" 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 2100 / **0** / 100V/step]

2316	**[Power ON:Bias] DFU**		
001	Image Transfer	*ENG	[0 to 60 / **5** / 1 μA /step]
	Adjusts the bias of the image transfer roller at power-on or a closed cover.		

2326	**[Transfer Roller CL: Bias] DFU** Transfer Roller Cleaning: Bias Adjustment		
001	Positive:befor and after JOB	*ENG	[0 to 2100 / **250** / 10 V /step]
	Adjusts the positive voltage of the paper transfer roller for cleaning the paper transfer roller.		
002	Negative:befor and after JOB	*ENG	[10 to 400 / **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 400 / **100** / 10 %/step]

2351	**[Common: BW: Bias]** Image Transfer Belt: B/W: Bias Adjustment Normal: 120 mm/sec, Low: 60 mm/sec		
001	Image Transfer:Normal Speed	*ENG	[0 to 60 / **25** / 1 μA]
	Adjusts the current for the image transfer belt in B/W mode for plain paper.		
003	Image Transfer:Low Speed	*ENG	[0 to 60 / **13** / 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 Normal: 120 mm/sec, Low: 60 mm/sec		
001	Image Transfer: Normal Spd:Bk	*ENG	[0 to 60 / **23** / 1 µA]
	Adjusts the current for the image transfer belt for Black in full color mode for plain paper.		
002	Image Transfer:: Normal Spd:C	*ENG	[0 to 60 / **22** / 1 µA]
	Adjusts the current for the image transfer belt for Magenta in full color mode for plain paper.		
003	Image Transfer: Normal Spd:M	*ENG	[0 to 60 / **25** / 1 µA]
	Adjusts the current for the image transfer belt for Cyan in full color mode for plain paper.		
004	Image Transfer: Normal Spd:Y	*ENG	[0 to 60 / **29** / 1 µA]
	Adjusts the current for the image transfer belt for Yellow in full color mode for plain paper.		
009	Image Transfer: Low Speed:Bk	*ENG	[0 to 60 / **13** / 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 60 / **12** / 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 60 / **13** / 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 60 / **14** / 1 µA]
	Adjusts the current for the image transfer belt for Yellow in full color mode for thick 1 paper.		

2360	**[Common: BW Env. Correction Table] DFU**		
001	Image Transfer: Normal	*ENG	[1 to 50 / **42** / 1 /step]
003	Image Transfer: Low	*ENG	[1 to 50 / **38** / 1 /step]
[Common: FC Env. Correction Table] DFU			
004	Image Transfer: Normal Spd:BK	*ENG	[1 to 50 / **25** / 1 /step]
005	Image Transfer: Normal Spd: C	*ENG	[1 to 50 / **46** / 1 /step]
006	Image Transfer: Normal Spd:M	*ENG	[1 to 50 / **43** / 1 /step]
007	Image Transfer:: Normal Spd:Y	*ENG	[1 to 50 / **45** / 1 /step]
012	Image Transfer: Low Speed:Bk	*ENG	[1 to 50 / **26** / 1 /step]
013	Image Transfer: Low Speed:C	*ENG	[1 to 50 / **38** / 1 /step]
014	Image Transfer: Low Speed:M	*ENG	
015	Image Transfer: Low Speed:Y	*ENG	[1 to 50 / **45** / 1 /step]

2403	**[Plain: Bias: BW]**		
	Adjusts the current for the paper transfer roller for plain paper in black-and-white mode. Normal: 120 mm/sec, Low: 60mm/sec		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 200 / **20** / 1 –µA /step]
002	Paper Transfer: Normal: 2nd	*ENG	[0 to 200 / **23** / 1 –µA /step]
003	Paper Transfer: Low: 1st	*ENG	[0 to 200 / **12** / 1 –µA /step]
004	Paper Transfer: Low: 2nd	*ENG	

2407	**[Plain: Bias: FC]**		
	Adjusts the current for the paper transfer roller for plain paper in full color mode. Normal: 120 mm/sec, Low: 60mm/sec		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 200 / **23** / 1 –µA /step]
002	Paper Transfer: Normal: 2nd	*ENG	[0 to 200 / **28** / 1 –µA /step]
003	Paper Transfer: Low: 1st	*ENG	[0 to 200 / **13** / 1 –µA /step]
004	Paper Transfer: Low: 2nd	*ENG	[0 to 200 / **14** / 1 –µA /step]

2411	**[Plain-T:SizeCorrect:BW]**		
	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: 120 mm/sec, Low: 60mm/sec		
001	Paper Transfer: Normal: 1st: S1	*ENG	[100 to 4000 / **100** / 5%/step] S1 size > 290 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 4000 / **140** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)
006	Paper Transfer: Normal: 2nd: S2	*ENG	[100 to 4000 / **165** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)
007	Paper Transfer: Low: 1st: S2	*ENG	[100 to 4000 / **150** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)

008	Paper Transfer: Low : 2nd:S2	*ENG	[100 to 4000 / **190** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)
009	Paper Transfer: Normal: 1st: S3	*ENG	[100 to 4000 / **175** / 5%/step] 250 mm > S3 size > 194 mm (Paper width)
010	Paper Transfer: Normal: 2nd: S3	*ENG	[100 to 4000 / **230** / 5%/step] 250 mm > S3 size > 194 mm (Paper width)
011	Paper Transfer: Low: 1st: S3	*ENG	[100 to 4000 / **190** / 5%/step] 250 mm > S3 size > 194 mm (Paper width)
012	Paper Transfer: Low 2nd:S3	*ENG	[100 to 4000 / **290** / 5%/step] 250 mm > S3 size > 194 mm (Paper width)
013	Paper Transfer: Normal: 1st: S4	*ENG	[100 to 4000 / **190** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)
014	Paper Transfer: Normal: 2nd: S4	*ENG	[100 to 4000 / **285** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)
015	PaperTransfer: Low:1st:S4	*ENG	[100 to 4000 / **210** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)
016	Paper Transfer: Low 2nd: S4	*ENG	[100 to 4000 / **360** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)
017	Paper Transfer: Normal: 1st: S5	*ENG	[100 to 4000 / **200** / 5%/step] 150 mm > S5 size (Paper width)
018	Paper Transfer: Normal: 2nd: S5	*ENG	[100 to 4000 / **340** / 5%/step] 150 mm > S5 size (Paper width)

019	Paper Transfer: Low: 1st: S5	*ENG	[100 to 4000 / **210** / 5%/step] 150 mm > S5 size (Paper width)
020	Paper Transfer: Low 2nd: S5	*ENG	[100 to 4000 / **420** / 5%/step] 150 mm > S5 size (Paper width)

2412	**[Plain-T:SizeCorrect:FC]**		
	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: 120 mm/sec, Low: 60mm/sec		
001	Paper Transfer: Normal: 1st: S1	*ENG	[100 to 4000 / **100** / 5%/step] S1 size > 290 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 4000 / **130** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)
006	Paper Transfer: Normal: 2nd: S2	*ENG	[100 to 4000 / **160** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)
007	Paper Transfer: Low: 1st: S2	*ENG	[100 to 4000 / **140** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)
008	Paper Transfer: Low : 2nd:S2	*ENG	[100 to 4000 / **215** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)

009	Paper Transfer: Normal: 1st: S3	*ENG	[100 to 4000 / **160** / 5%/step] 250 mm > S3 size > 194 mm (Paper width)
010	Paper Transfer: Normal: 2nd: S3	*ENG	[100 to 4000 / **215** / 5%/step] 250 mm > S3 size > 194 mm (Paper width)
011	Paper Transfer: Low: 1st: S3	*ENG	[100 to 4000 / **175** / 5%/step] 250 mm > S3 size > 194 mm (Paper width)
012	Paper Transfer: Low 2nd:S3	*ENG	[100 to 4000 / **320** / 5%/step] 250 mm > S3 size > 194 mm (Paper width)
013	Paper Transfer: Normal: 1st: S4	*ENG	[100 to 4000 / **190** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)
014	Paper Transfer: Normal: 2nd: S4	*ENG	[100 to 4000 / **285** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)
015	Paper Transfer: Low: 1st: S4	*ENG	[100 to 4000 / **190** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)
016	Paper Transfer: Low: 2st Side: S4	*ENG	[100 to 4000 / **465** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)
017	Paper Transfer: Normal: 1st: S5	*ENG	[100 to 4000 / **220** / 5%/step] 150 mm > S5 size (Paper width)

018	Paper Transfer: Normal: 2nd: S5	*ENG	[100 to 4000 / **355** / 5%/step] 150 mm > S5 size (Paper width)
019	Paper Transfer: Low: 1st: S5	*ENG	[100 to 4000 / **230** / 5%/step] 150 mm > S5 size (Paper width)
020	Paper Transfer: Low 2nd: S5	*ENG	[100 to 4000 / **565** / 5%/step] 150 mm > S5 size (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: 120 mm/sec, Low: 60 mm/sec		
001	Paper Transfer: Normal: 1st: S1	*ENG	[1 to 50 / **30** / 1/step] S1 size > 290 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	[1 to 50 / **23** / 1/step] 290 mm > S2 size > 250 mm (Paper width)
006	Paper Transfer: Normal: 2nd: S2	*ENG	[1 to 50 / **9** / 1/step] 290 mm > S2 size > 250 mm (Paper width)
007	Paper Transfer: Low: 1st: S2	*ENG	[1 to 50 / **34** / 1/step] 290 mm > S2 size > 250 mm (Paper width)

008	Paper Transfer: Low : 2nd:S2	*ENG	[1 to 50 / **26** / 1/step] 290 mm > S2 size > 250 mm (Paper width)
009	Paper Transfer: Normal: 1st: S3	*ENG	[1 to 50 / **10** / 1/step] 250 mm > S3 size > 194 mm (Paper width)
010	Paper Transfer: Normal: 2nd: S3	*ENG	[1 to 50 / **15** / 1/step] 250 mm > S3 size > 194 mm (Paper width)
011	Paper Transfer: Low: 1st: S3	*ENG	[1 to 50 / **12** / 1/step] 250 mm > S3 size > 194 mm (Paper width)
012	Paper Transfer: Low 2nd:S3	*ENG	[1 to 50 / **13** / 1/step] 250 mm > S3 size > 194 mm (Paper width)
013	Paper Transfer: Normal: 1st: S4	*ENG	[1 to 50 / **10** / 1/step] 194 mm > S4 size > 150 mm (Paper width)
014	Paper Transfer: Normal: 2nd: S4	*ENG	[1 to 50 / **15** / 1/step] 194 mm > S4 size > 150 mm (Paper width)
015	Paper Transfer: LowSpeed: 1st Side: S4	*ENG	[1 to 50 / **35** / 1/step] 194 mm > S4 size > 150 mm (Paper width)
016	Paper Transfer: Low: 2nd Side: S4	*ENG	[1 to 50 / **13** / 1/step] 194 mm > S4 size > 150 mm (Paper width)

017	Paper Transfer: Normal: 1st: S5	*ENG	[1 to 50 / **29** / 1/step] 150 mm > S5 size (Paper width)
018	Paper Transfer: Normal: 2nd: S5	*ENG	[1 to 50 / **15** / 1/step] 150 mm > S5 size (Paper width)
019	Paper Transfer: Low: 1st: S5	*ENG	[1 to 50 / **41** / 1/step] 150 mm > S5 size (Paper width)
020	Paper Transfer: Low 2nd: S5	*ENG	[1 to 50 / **13** / 1/step] 150 mm > S5 size (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: 120 mm/sec, Low: 60 mm/sec		
001	Paper Transfer: Normal: 1st: S1	*ENG	[1 to 50 / **30** / 1/step] S1 size > 290 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	[1 to 50 / **37** / 1/step] 290 mm > S2 size > 250 mm (Paper width)
006	Paper Transfer: Normal: 2nd: S2	*ENG	[1 to 50 / **16** / 1/step] 290 mm > S2 size > 250 mm (Paper width)

007	Paper Transfer: Low: 1st: S2	*ENG	[1 to 50 / **32** / 1/step] 290 mm > S2 size > 250 mm (Paper width)
008	Paper Transfer: Low : 2nd:S2	*ENG	[1 to 50 / **24** / 1/step] 290 mm > S2 size > 250 mm (Paper width)
009	Paper Transfer: Normal: 1st: S3	*ENG	[1 to 50 / **36** / 1/step] 250 mm > S3 size > 194 mm (Paper width)
010	Paper Transfer: Normal: 2nd: S3	*ENG	[1 to 50 / **9** / 1/step] 250 mm > S3 size > 194 mm (Paper width)
011	Paper Transfer: Low: 1st: S3	*ENG	[1 to 50 / **29** / 1/step] 250 mm > S3 size > 194 mm (Paper width)
012	Paper Transfer: Low 2nd:S3	*ENG	[1 to 50 / **18** / 1/step] 250 mm > S3 size > 194 mm (Paper width)
013	Paper Transfer: Normal: 1st: S4	*ENG	[1 to 50 / **29** / 1/step] 194 mm > S4 size > 150 mm (Paper width)
014	Paper Transfer: Normal: 2nd: S4	*ENG	[1 to 50 / **7** / 1/step] 194 mm > S4 size > 150 mm (Paper width)
015	Paper Transfer: Low: 1st: S4	*ENG	[1 to 50 / **22** / 1/step] 194 mm > S4 size > 150 mm (Paper width)

016	Paper Transfer: Low: 2st: S4	*ENG	[1 to 50 / **4** / 1/step] 194 mm > S4 size > 150 mm (Paper width)
017	Paper Transfer: Normal: 1st: S5	*ENG	[1 to 50 / **12** / 1/step] 150 mm > S5 size (Paper width)
018	Paper Transfer: Normal: 2nd: S5	*ENG	[1 to 50 / **7** / 1/step] 150 mm > S5 size (Paper width)
019	Paper Transfer: Low: 1st: S5	*ENG	[1 to 50 / **27** / 1/step] 150 mm > S5 size (Paper width)
020	Paper Transfer: Low 2nd: S5	*ENG	[1 to 50 / **4** / 1/step] 150 mm > S5 size (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: 120 mm/sec, Low: 60 mm/sec Note ▪ The paper leading edge area can be adjusted with SP2422.		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 400 / **100** / 5%/step]
002	Paper Transfer: Normal: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: 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: 120 mm/sec, Low: 60 mm/sec		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 30 / **0** / 2 mm/step]
002	Paper Transfer: Normal: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: 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: 120 mm/sec, Low: 60 mm/sec Note ▪ The paper trailing edge area can be adjusted with SP2424.		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 400 / **100** / 5%/step]
002	Paper Transfer: Normal: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: 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: 120 mm/sec, Low: 60 mm/sec

001	Paper Transfer: Normal: 1st	*ENG	[-98 to 0 / **0** / 2 mm/step]
002	Paper Transfer: Normal: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: Low: 2nd	*ENG	

2430	**[Plain: Env. Correct Table] DFU**		
003	Paper Transfer: BW: Normal: 1st	*ENG	[1 to 50 / **39** / 1 /step]
004	Paper Transfer: BW: Normal: 2nd	*ENG	[1 to 50 / **26** / 1 /step]
005	Paper Transfer: FC: Normal:1st	*ENG	[1 to 50 / **39** / 1 /step]
006	Paper Transfer: FC: Normal:2nd	*ENG	[1 to 50 / **33** / 1 /step]
009	PaperTransfer:BW:Low:1st	*ENG	[1 to 50 / **25** / 1 /step]
010	Paper Transfer: BW:Low:2nd	*ENG	
011	Paper Transfer: FC: Low:1st	*ENG	[1 to 50 / **45** / 1 /step]
012	Paper Transfer: FC: Low:2nd	*ENG	[1 to 50 / **31** / 1 /step]

2453	**[Thin: Bias: BW]**		
	Adjusts the current for the paper transfer roller for thin paper in black-and-white mode. Normal: 120 mm/sec, Low: 60 mm/sec		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 200 / **20** / 1 –µA /step]
003	Paper Transfer: Low: 1st	*ENG	[0 to 250 / **12** / 1 –µA /step]

2457	**[Thin: Bias: FC]**		
	Adjusts the current for the paper transfer roller for thin paper in full color mode. Normal: 120 mm/sec, Low: 60 mm/sec		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 200 / **23** / 1 –µA /step]
003	Paper Transfer: Low: 1st	*ENG	[0 to 200 / **13** / 1 –µA /step]

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. Normal: 120 mm/sec, Low: 60 mm/sec Note ▪ The paper leading edge area can be adjusted with SP2472.		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 400 / **100** / 5%/step]
003	Paper Transfer: 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. Normal: 120 mm/sec, Low: 60 mm/sec		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 30 / **0** / 2 mm/step]
003	Paper Transfer: 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.

	Normal: 120 mm/sec, Low: 60 mm/sec Note ▪ The paper trailing edge area can be adjusted with SP2474.		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 400 / **100** / 5%/step]
003	Paper Transfer: 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. Normal: 120 mm/sec, Low: 60 mm/sec		
001	Paper Transfer: Normal: 1st	*ENG	[-100 to 0 / **0** / 2 mm/step]
003	Paper Transfer: Low: 1st	*ENG	

2480	**[Thin: Env. Correct Table] DFU**		
003	Paper Transfer: BW: Normal: 1st	*ENG	[1 to 50 / **24** / 1 /step]
005	Paper Transfer: FC: Normal: 1st	*ENG	[1 to 50 / **38** / 1 /step]
009	Paper Transfer: BW: Normal: 1st	*ENG	[1 to 50 / **32** / 1 /step]
011	Paper Transfer: FC: Normal: 1st	*ENG	[1 to 50 / **44** / 1 /step]

2482	**[Gloss: Bias: BW]**		
001	Paper Transfer: 1st	*ENG	[0 to 200 / **15** / 1 –μA /step]
	Adjusts the transfer current of the paper transfer roller for the 1st side of gloss paper in black and white mode.		

2483	**[Gloss: Bias: FC]**		
001	Paper Transfer: 1st	*ENG	[0 to 200 / **15** / 1 –µA /step]
	Adjusts the transfer current of the paper transfer roller for the 1st side of gloss paper in full color mode.		

2485	**[Gross: L-Edge Correct] DFU**		
001	Paper Transfer: 1st	*ENG	[10 to 400 / **100** / 5%/step]

2486	**[Gross: Switch Timing: L-Edge] DFU**		
001	Paper Transfer: 1st	*ENG	[0 to 30 / **0** / 2 mm/step]

2487	**[Gross: T-Edge Correct] DFU**		
001	Paper Transfer: 1st	*ENG	[0 to 400 / **100** / 5 %/step]

2488	**[Gloss:Switch Timing:T-Edge] DFU**		
001	Paper Transfer: 1st	*ENG	[-100 to 0 / **0** / 2 mm/step]

2489	**[Glossy: Env. Correct Table] DFU**		
003	Paper Transfer: BW: 1st	*ENG	[1 to 50 / **17** / 1 /step]
005	Paper Transfer: FC: 1st	*ENG	[1 to 50 / **21** / 1 /step]

2502	**[Thick 1: Bias: BW]** Adjusts the current for the paper transfer roller for thick 1 paper in black-and-white mode. Thick: 60 mm/sec		
001	Paper Transfer: 1st	*ENG	[0 to 200 / **15** / 1 –µA /step]
002	Paper Transfer: 2nd	*ENG	Not used

2507	**[Thick 1: Bias: FC]** Adjusts the current for the paper transfer roller for thick 1 paper in full color mode. Thick: 60 mm/sec		
001	Paper Transfer: 1st	*ENG	[0 to 200 / **15** / 1 –µA /step]
002	Paper Transfer: 2nd	*ENG	Not used

2511	**[Thick-T:Size Correct:BW]** Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2502 and SP2507 are multiplied by these SP values. Thick: 60 mm/sec		
001	Paper Transfer: 1st: S1	*ENG	[100 to 4000 / **100** / 5%/step] S1 size > 290 mm (Paper width)
002	Paper Transfer: 2nd: S1	*ENG	Not used
005	Paper Transfer: 1st: S2	*ENG	[100 to 4000 / **125** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)

006	Paper Transfer: 2nd: S2	*ENG	Not used
009	Paper Transfer: 1st: S3	*ENG	[100 to 4000 / **150** / 5%/step] 250 mm > S3 size > 194 mm (Paper width)
010	Paper Transfer: 2nd: S3	*ENG	Not used
013	Paper Transfer: 1st: S4	*ENG	[100 to 4000 / **275** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)
014	Paper Transfer: 2nd: S4	*ENG	Not used
017	Paper Transfer: 1st: S5	*ENG	[100 to 4000 / **400** / 5%/step] 150 mm > S5 size (Paper width)
018	Paper Transfer: 2nd: S5	*ENG	Not used

2512	**[Thick-T:Size Correct:FC]**		
	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2502 and SP2507 are multiplied by these SP values. Thick: 60 mm/sec		
001	Paper Transfer: 1st: S1	*ENG	[100 to 4000 / **100** / 5%/step] S1 size > 290 mm (Paper width)
002	Paper Transfer: 2nd: S1	*ENG	Not used
005	Paper Transfer: 1st: S2	*ENG	[100 to 4000 / **110** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)
006	Paper Transfer: 2nd: S2	*ENG	Not used
009	Paper Transfer: 1st: S3	*ENG	[100 to 4000 / **115** / 5%/step] 250 mm > S3 size > 194 mm (Paper width)

010	Paper Transfer: 2nd: S3	*ENG	Not used
013	Paper Transfer: 1st: S4	*ENG	[100 to 4000 / **405** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)
014	Paper Transfer: 2nd: S4	*ENG	Not used
017	Paper Transfer: 1st: S5	*ENG	[100 to 4000 / **690** / 5%/step] 150 mm > S5 size (Paper width)
018	Paper Transfer:: 2nd: S5	*ENG	Not used

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. Thick: 60 mm/sec		
001	Paper Transfer: 1st: S1	*ENG	[1 to 50 / **30** / 1/step] S1 size > 290 mm (Paper width)
002	Paper Transfer: 2nd: S1	*ENG	Not used
005	Paper Transfer: 1st: S2	*ENG	[1 to 50 / **36** / 1/step] 290 mm > S2 size > 250 mm (Paper width)
006	Paper Transfer: 2nd: S2	*ENG	Not used
009	Paper Transfer: 1st: S3	*ENG	[1 to 50 / **40** / 1/step] 250 mm > S3 size > 194 mm (Paper width)
010	Paper Transfer: 2nd: S3	*ENG	Not used

013	Paper Transfer: 1st: S4	*ENG	[1 to 50 / **27** / 1/step] 194 mm > S4 size > 150 mm (Paper width)
014	Paper Transfer: 2nd: S4	*ENG	Not used
017	Paper Transfer: 1st: S5	*ENG	[1 to 50 / **20** / 1/step] 150 mm > S5 size (Paper width)
018	Paper Transfer: 2nd: S5	*ENG	Not used

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. Thick: 60 mm/sec		
001	Paper Transfer: 1st: S1	*ENG	[1 to 50 / **30** / 1/step] S1 size > 290 mm (Paper width)
002	Paper Transfer: 2nd: S1	*ENG	Not used
005	Paper Transfer: 1st: S2	*ENG	[1 to 50 / **49** / 1/step] 290 mm > S2 size > 250 mm (Paper width)
006	Paper Transfer: 2nd: S2	*ENG	Not used
009	Paper Transfer: 1st: S3	*ENG	[1 to 50 / **50** / 1/step] 250 mm > S3 size > 194 mm (Paper width)
010	Paper Transfer: 2nd: S3	*ENG	Not used
013	Paper Transfer: 1st: S4	*ENG	[1 to 50 / **35** / 1/step] 194 mm > S4 size > 150 mm (Paper width)

014	Paper Transfer: 2nd: S4	*ENG	Not used
017	Paper Transfer: 1st: S5	*ENG	[1 to 50 / **6** / 1/step] 150 mm > S5 size (Paper width)
018	Paper Transfer: 2nd: S5	*ENG	Not used

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. Thick: 60 mm/sec Note ▪ The paper leading edge area can be adjusted with SP2522.		
001	Paper Transfer: 1st	*ENG	[0 to 400 / **100** / 5%/step]
002	Paper Transfer: 2nd	*ENG	Not used

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. Thick: 60 mm/sec		
001	Paper Transfer: 1st	*ENG	[0 to 30 / **0** / 2 mm/step]
002	Paper Transfer: 2nd	*ENG	Not used

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. Thick: 60 mm/sec Note ▪ The paper trailing edge area can be adjusted with SP2524.		
001	Paper Transfer: 1st	*ENG	[0 to 400 / **100** / 5%/step]
002	Paper Transfer: 2nd	*ENG	Not used

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. Thick: 60 mm/sec		
001	Paper Transfer: 1st	*ENG	[0 to -100 / **0** / 2 mm/step]
002	Paper Transfer: 2nd	*ENG	Not used

2530	**[Thick 1: Env. Correct Table] DFU**		
003	Paper Transfer: BW: 1st	*ENG	[1 to 50 / **17** / 1 /step]
004	Paper Transfer: BW:2nd	*ENG	Not used
005	Paper Transfer: FC: 1st	*ENG	[1 to 50 / **29** / 1 /step]
006	Paper Transfer: FC:2nd	*ENG	Not used

2553	**[Thick 2: Bias: BW]**		
	Adjusts the current for the paper transfer roller for thick2 paper in black-and-white mode. Thick: 60 mm/sec		
001	Paper Transfer: 1st	*ENG	[0 to 200 / **10** / 1 –μA /step]
002	Paper Transfer: 2nd	*ENG	Not used

2558	**[Thick 2: Bias: FC]**		
	Adjusts the current for the paper transfer roller for thick2 paper in full color mode. Thick: 60 mm/sec		
001	Paper Transfer: 1st	*ENG	[0 to 200 / **13** / 1 –μA /step]
002	Paper Transfer: 2nd	*ENG	Not used

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. Thick: 60 mm/sec Note ▪ The paper leading edge area can be adjusted with SP2572.		
001	Paper Transfer: 1st	*ENG	[0 to 400 / **100** / 5%/step]
002	Paper Transfer: 2nd	*ENG	Not used

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. Thick: 60 mm/sec		
001	Paper Transfer: 1st	*ENG	[0 to 30 / **0** / 2mm/step]
002	Paper Transfer: 2nd	*ENG	Not used

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. Thick: 60 mm/sec ↓ Note ▪ The paper trailing edge area can be adjusted with SP2574.		
001	Paper Transfer: 1st	*ENG	[0 to 400 / **100** / 5%/step]
002	Paper Transfer: 2nd	*ENG	Not used

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. Thick: 60 mm/sec		
001	Paper Transfer: 1st	*ENG	[0 to -100 / **0** / 2 mm/step]
002	Paper Transfer: 2nd	*ENG	Not used

2580	**[Thick 2 Env. Correct Table] DFU**		
003	Paper Transfer: BW: 1st	*ENG	[0 to 50 / **36** / 1 /step]
004	Paper Transfer: BW: 2nd	*ENG	Not used
005	Paper Transfer: FC: 1st	*ENG	[0 to 50 / **23** / 1 /step]
006	Paper Transfer: FC: 2nd	*ENG	Not used

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 200 / NA: **15**, EU/AA: **13** / 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 200 / NA: **24**, EU/AA: **20** / 1 –μA /step]

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 400 / **100** / 5%/step]

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 30 / **0** / 2 mm/step]

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 400 / **100** / 5%/step]

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	[–98 to 0 / **0** / 2 mm/step]

2630	**[OHP: Env. Correct Table]**		
002	Paper Transfer: BW: 1st	*ENG	[1 to 50 / **NA: 39, EU/AA: 26** / 1 /step]
003	Paper Transfer: FC: 1st	*ENG	[1 to 50 / **NA: 7, EU/AA: 47** / 1 /step]

2651	**[Thick 3: Bias: BW]**		
	Adjusts the current for the paper transfer roller for thick paper 3 in black-and-white mode. Thick: 60 mm/sec		
001	Paper Transfer: 1st	*ENG	[0 to 200 / **10** / 1 –μA /step]
002	Paper Transfer: 2nd	*ENG	Not used

2652	**[Thick 3: Bias: FC]**		
	Adjusts the current for the paper transfer roller for thick paper 3 in full color mode. Thick: 60 mm/sec		
001	Paper Transfer: 1st	*ENG	[0 to 200 / **13** / 1 –μA /step]
002	Paper Transfer: 2nd	*ENG	Not used

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. SP2651 and SP2652 are multiplied by these SP values. Thick: 60 mm/sec Note ▪ The paper leading edge area can be adjusted with SP2655.		
001	Paper Transfer: 1st	*ENG	[0 to 400 / **100** / 5%/step]
003	Paper Transfer: 2nd	*ENG	Not used

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. Thick: 60 mm/sec		
001	Paper Transfer: 1st	*ENG	[0 to 30 / **0** / 2 mm/step]
003	Paper Transfer: 2nd	*ENG	Not used

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. SP2651 and SP2652 are multiplied by these SP values. Thick: 60 mm/sec Note ▪ The paper trailing edge area can be adjusted with SP2657.		
001	Paper Transfer: 1st	*ENG	[0 to 400 / **100** / 5%/step]
002	Paper Transfer: 2nd	*ENG	Not used

2657	**[Thick 3: TrailingEdge 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. Thick: 60 mm/sec		
001	Paper Transfer: 1st	*ENG	[-98 to 0 / **0** / 2 mm/step]
002	Paper Transfer: 2nd	*ENG	Not used

2660	**[Thick 3: Env. Correct Table] DFU** Thick 3 Paper: MM Environment Coefficient Adjustment Thick: 60 mm/sec		
003	Paper Transfer:BW:1st	*ENG	[1 to 50 / **36** / 1 /step]
004	Paper Transfer:BW:2nd	*ENG	Not used
005	Paper Transfer: FC: 1st	*ENG	[1 to 50 / **23** / 1 /step]
006	Paper Transfer: FC: 2nd	*ENG	Not used

2703	**[M-Thick:Bias:BW]** Middle Thick: Bias: BW Normal: 120mm/sec, Low: 60mm/sec		
	Adjusts the current for the paper transfer roller for middle thick in black-and-white mode.		
001	Paper Transfer:Normal:1st	*ENG	[0 to 200 / **20** / 1 -µA /step]
002	Paper Transfer:Normal:2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	[0 to 200 / **11** / 1 -µA /step]
004	Paper Transfer: Low: 2nd	*ENG	[0 to 200 / **13** / 1 -µA /step]

2707	**[M-Thick:Bias:FC]** Middle Thick: Bias: BW Normal: 120mm/sec, Low: 60mm/sec		
	Adjusts the current for the paper transfer roller for middle thick in full color mode.		
001	Paper Transfer:Normal:1st	*ENG	[0 to 200 / **25** / 1 -µA /step]
002	Paper Transfer:Normal:2nd	*ENG	[0 to 200 / **28** / 1 -µA /step]
003	Paper Transfer: Low: 1st	*ENG	[0 to 200 / **11**/ 1 -µA /step]
004	Paper Transfer: Low: 2nd	*ENG	[0 to 200 / **14** / 1 -µA /step]

2721	**[M-Thick:L-Edge Correct] DFU** Normal: 120mm/sec, Low: 60mm/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:Normal:1st	*ENG	[0 to 400 / **100** / 5 %/step]
002	Paper Transfer:Normal:2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: Low: 2nd	*ENG	

2722	**[M-Thick:SwTiming:L-Edge] DFU** Normal: 120mm/sec, Low: 60mm/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:Normal:1st	*ENG	[0 to 30 / **0** / 2 mm /step]
002	Paper Transfer:Normal:2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: Low: 2nd	*ENG	

2723	**[M-Thick:T-Edge Correct] DFU** Normal: 120mm/sec, Low: 60mm/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:Normal:1st	*ENG	[0 to 400 / **100** / 5 %/step]

002	Paper Transfer:Normal:2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: Low: 2nd	*ENG	

2724	**[M-Thick:SwTiming:T-Edge] DFU** Normal: 120mm/sec, Low: 60mm/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:Normal:1st	*ENG	[0 to -100 / **0** / 2 mm/step]
002	Paper Transfer:Normal:2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: Low: 2nd	*ENG	

2730	**[M-Thick:Env.Correct Table] DFU** Normal: 120mm/sec, Low: 60mm/sec		
003	Paper Transfer:BW:Normal:1st	*ENG	[1 to 50 / **23** / 1 /step]
004	Paper Transfer:BW:Normal:2nd	*ENG	[1 to 50 / **26** / 1 /step]
005	Paper Transfer:FC:Normal:1st	*ENG	[1 to 50 / **38** / 1 /step]
006	Paper Transfer:FC:Normal:2nd	*ENG	[1 to 50 / **33** / 1 /step]
009	Paper Transfer:BW:Low:1st	*ENG	[1 to 50 / **32** / 1 /step]
010	Paper Transfer:BW:Low:2nd	*ENG	[1 to 50 / **21** / 1 /step]
011	Paper Transfer:FC:Low:1st	*ENG	[1 to 50 / **48** / 1 /step]
012	Paper Transfer:FC:Low:2nd	*ENG	[1 to 50 / **28** / 1 /step]

2753	**[SP 1: Bias: BW]**		
	Adjusts the current for the paper transfer roller for special paper 1 in black-and-white mode. Normal: 120mm/sec, Low: 60mm/sec		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 200 / **20** / 1 –μA /step]
002	Paper Transfer: Normal: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	[0 to 200 / **11** / 1 –μA /step]
004	Paper Transfer: Low: 2nd	*ENG	[0 to 200 / **13** / 1 –μA /step]

2757	**[SP 1: Bias: FC]**		
	Adjusts the current for the paper transfer roller for special paper 1 in full color mode. Normal: 120mm/sec, Low: 60mm/sec		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 200 / **25** / 1 –μA /step]
002	Paper Transfer: Normal: 2nd	*ENG	[0 to 200 / **28** / 1 –μA /step]
003	Paper Transfer: Low: 1st	*ENG	[0 to 200 / **11** / 1 –μA /step]
004	Paper Transfer: Low: 2nd	*ENG	[0 to 200 / **14** / 1 –μA /step]

2761	**[SP1,2,3-T:Size Correct:BW]**		
	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2753 and SP2757 are multiplied by these SP values. Normal: 120mm/sec, Low: 60mm/sec		
001	Paper Transfer: Normal: 1st: S1	*ENG	[100 to 4000 / **100** / 5%/step] S1 size > 290 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 4000 / **140** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)
006	Paper Transfer: Normal: 2nd: S2	*ENG	[100 to 4000 / **165** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)
007	Paper Transfer:Low:1st:S2	*ENG	[100 to 4000 / **150** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)
008	Paper Transfer:Low:2nd:S2	*ENG	[100 to 4000 / **190** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)
009	Paper Transfer: Normal: 1st: S3	*ENG	[100 to 4000 / **175** / 5%/step] 250 mm > S2 size > 194 mm (Paper width)
010	Paper Transfer: Normal: 2nd: S3	*ENG	[100 to 4000 / **230** / 5%/step] 250 mm > S2 size > 194 mm (Paper width)
011	PaperTransfer:Low:1st:S3	*ENG	[100 to 4000 / **190** / 5%/step] 250 mm > S2 size > 194 mm (Paper width)
012	PaperTransfer:Low:2nd:S3	*ENG	[100 to 4000 / **290** / 5%/step] 250 mm > S2 size > 194 mm (Paper width)
013	Paper Transfer: Normal: 1st: S4	*ENG	[100 to 4000 / **190** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)

014	Paper Transfer: Normal: 2nd: S4	*ENG	[100 to 4000 / **285** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)
015	PaperTransfer:Low:1st:S4	*ENG	[100 to 4000 / **210** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)
016	PaperTransfer:Low:2nd:S4	*ENG	[100 to 4000 / **360** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)
017	Paper Transfer: Normal: 1st: S5	*ENG	[100 to 4000 / **200** / 5%/step] 150 mm > S5 size (Paper width)
018	Paper Transfer: Normal: 2nd: S5	*ENG	[100 to 4000 / **340** / 5%/step] 150 mm > S5 size (Paper width)
019	PaperTransfer:Low:1st:S5	*ENG	[100 to 4000 / **210** / 5%/step] 150 mm > S5 size (Paper width)
020	PaperTransfer:Low:2nd:S5	*ENG	[100 to 4000 / **420** / 5%/step] 150 mm > S5 size (Paper width)

2762	**[SP1,2,3-T:Size Correct:FC]**		
	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2753 and SP2757 are multiplied by these SP values. Normal: 120 mm/sec, Low: 60 mm/sec		
001	Paper Transfer: Normal: 1st: S1	*ENG	[100 to 4000 / **100** / 5%/step] S1 size > 290 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 4000 / **130** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)
006	Paper Transfer: Normal: 2nd: S2	*ENG	[100 to 4000 / **160** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)
007	Paper Transfer:Low:1st:S2	*ENG	[100 to 4000 / **140** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)
008	Paper Transfer:Low:2nd:S2	*ENG	[100 to 4000 / **215** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)
009	Paper Transfer: Normal: 1st: S3	*ENG	[100 to 4000 / **160** / 5%/step] 250 mm > S2 size > 194 mm (Paper width)
010	Paper Transfer: Normal: 2nd: S3	*ENG	[100 to 4000 / **215** / 5%/step] 250 mm > S2 size > 194 mm (Paper width)
011	PaperTransfer:Low:1st:S3	*ENG	[100 to 4000 / **175** / 5%/step] 250 mm > S2 size > 194 mm (Paper width)
012	PaperTransfer:Low:2nd:S3	*ENG	[100 to 4000 / **320** / 5%/step] 250 mm > S2 size > 194 mm (Paper width)
013	Paper Transfer: Normal: 1st: S4	*ENG	[100 to 4000 / **190** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)

014	Paper Transfer: Normal: 2nd: S4	*ENG	[100 to 4000 / **285** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)
015	PaperTransfer:Low:1st:S4	*ENG	[100 to 4000 / **190** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)
016	PaperTransfer:Low:2nd:S4	*ENG	[100 to 4000 / **465** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)
017	Paper Transfer: Normal: 1st: S5	*ENG	[100 to 4000 / **220** / 5%/step] 150 mm > S5 size (Paper width)
018	Paper Transfer: Normal: 2nd: S5	*ENG	[100 to 4000 / **355** / 5%/step] 150 mm > S5 size (Paper width)
019	PaperTransfer:Low:1st:S5	*ENG	[100 to 4000 / **230** / 5%/step] 150 mm > S5 size (Paper width)
020	PaperTransfer:Low:2nd:S5	*ENG	[100 to 4000 / **565** / 5%/step] 150 mm > S5 size (Paper width)

2763	**[SP1,2,3-T: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. Normal: 120 mm/sec, Low: 60 mm/sec		
001	Paper Transfer: Normal: 1st: S1	*ENG	[1 to 50 / **30** / 1/step] S1 size > 290 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	[1 to 50 / **23** / 1/step] 290 mm > S2 size > 250 mm (Paper width)
006	Paper Transfer: Normal: 2nd: S2	*ENG	[1 to 50 / **9** / 1/step] 290 mm > S2 size > 250 mm (Paper width)
007	Paper Transfer:Low:1st:S2	*ENG	[1 to 50 / **34** / 1/step] 290 mm > S2 size > 250 mm (Paper width)
008	Paper Transfer:Low:2nd:S2	*ENG	[1 to 50 / **26** / 1/step] 290 mm > S2 size > 250 mm (Paper width)
009	Paper Transfer: Normal: 1st: S3	*ENG	[1 to 50 / **10** / 1/step] 250 mm > S2 size > 194 mm (Paper width)
010	Paper Transfer: Normal: 2nd: S3	*ENG	[1 to 50 / **15** / 1/step] 250 mm > S2 size > 194 mm (Paper width)
011	PaperTransfer:Low:1st:S3	*ENG	[1 to 50 / **12** / 1/step] 250 mm > S2 size > 194 mm (Paper width)
012	PaperTransfer:Low:2nd:S3	*ENG	[1 to 50 / **13** / 1/step] 250 mm > S2 size > 194 mm (Paper width)
013	Paper Transfer: Normal: 1st: S4	*ENG	[1 to 50 / **10** / 1/step] 194 mm > S4 size > 150 mm (Paper width)

014	Paper Transfer: Normal: 2nd: S4	*ENG	[1 to 50 / **15** / 1/step] 194 mm > S4 size > 150 mm (Paper width)
015	PaperTransfer:Low:1st:S4	*ENG	[1 to 50 / **35** / 1/step] 194 mm > S4 size > 150 mm (Paper width)
016	PaperTransfer:Low:2nd:S4	*ENG	[1 to 50 / **13** / 1/step] 194 mm > S4 size > 150 mm (Paper width)
017	Paper Transfer: Normal: 1st: S5	*ENG	[1 to 50 / **29** / 1/step] 150 mm > S5 size (Paper width)
018	Paper Transfer: Normal: 2nd: S5	*ENG	[1 to 50 / **15** / 1/step] 150 mm > S5 size (Paper width)
019	PaperTransfer:Low:1st:S5	*ENG	[1 to 50 / **41** / 1/step] 150 mm > S5 size (Paper width)
020	PaperTransfer:Low:2nd:S5	*ENG	[1 to 50 / **13** / 1/step] 150 mm > S5 size (Paper width)

2764	**[SP1,2,3-T: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. Normal: 120 mm/sec, Low: 60 mm/sec		
001	Paper Transfer: Normal: 1st: S1	*ENG	[1 to 50 / **30** / 1/step] S1 size > 290 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	[1 to 50 / **37** / 1/step] 290 mm > S2 size > 250 mm (Paper width)
006	Paper Transfer: Normal: 2nd: S2	*ENG	[1 to 50 / **16** / 1/step] 290 mm > S2 size > 250 mm (Paper width)
007	Paper Transfer:Low:1st:S2	*ENG	[1 to 50 / **32** / 1/step] 290 mm > S2 size > 250 mm (Paper width)
008	Paper Transfer:Low:2nd:S2	*ENG	[1 to 50 / **24** / 1/step] 290 mm > S2 size > 250 mm (Paper width)
009	Paper Transfer: Normal: 1st: S3	*ENG	[1 to 50 / **36** / 1/step] 250 mm > S2 size > 194 mm (Paper width)
010	Paper Transfer: Normal: 2nd: S3	*ENG	[1 to 50 / **9** / 1/step] 250 mm > S2 size > 194 mm (Paper width)
011	PaperTransfer:Low:1st:S3	*ENG	[1 to 50 / **29** / 1/step] 250 mm > S2 size > 194 mm (Paper width)
012	PaperTransfer:Low:2nd:S3	*ENG	[1 to 50 / **18** / 1/step] 250 mm > S2 size > 194 mm (Paper width)
013	Paper Transfer: Normal: 1st: S4	*ENG	[1 to 50 / **29** / 1/step] 194 mm > S4 size > 150 mm (Paper width)

014	Paper Transfer: Normal: 2nd: S4	*ENG	[1 to 50 / **7** / 1/step] 194 mm > S4 size > 150 mm (Paper width)
015	PaperTransfer:Low:1st:S4	*ENG	[1 to 50 / **22** / 1/step] 194 mm > S4 size > 150 mm (Paper width)
016	PaperTransfer:Low:2nd:S4	*ENG	[1 to 50 / **4** / 1/step] 194 mm > S4 size > 150 mm (Paper width)
017	Paper Transfer: Normal: 1st: S5	*ENG	[1 to 50 / **12** / 1/step] 150 mm > S5 size (Paper width)
018	Paper Transfer: Normal: 2nd: S5	*ENG	[1 to 50 / **7** / 1/step] 150 mm > S5 size (Paper width)
019	PaperTransfer:Low:1st:S5	*ENG	[1 to 50 / **27** / 1/step] 150 mm > S5 size (Paper width)
020	PaperTransfer:Low:2nd:S5	*ENG	[1 to 50 / **4** / 1/step] 150 mm > S5 size (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. Normal: 120mm/sec, Low: 60mm/sec Note ▪ The paper leading edge area can be adjusted with SP2772.		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 400 / **100** / 5%/step]
002	Paper Transfer: Normal: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: 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. Normal: 120mm/sec, Low: 60mm/sec		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 30 / **0** / 2 mm/step]
002	Paper Transfer: Normal: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: 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. Normal: 120 mm/sec, Low: 60 mm/sec Note ▪ The paper trailing edge area can be adjusted with SP2774.		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 400 / **100** / 5%/step]
002	Paper Transfer: Normal: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
005	Paper Transfer: 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. Normal: 120mm/sec, Low: 60mm/sec		
001	Paper Transfer: Normal: 1st	*ENG	[-98 to 0 / **0** / 2 mm/step]
002	Paper Transfer: Normal: 2nd	*ENG	

003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: Low: 2nd	*ENG	

2780	**[SP 1: Env. Correct Table] DFU** Normal: 120mm/sec, Low: 60mm/sec		
003	Paper Transfer:BW:Normal:1st	*ENG	[1 to 50 / **23** / 1 /step]
004	Paper Transfer:BW:Normal:2nd	*ENG	[1 to 50 / **26** / 1 /step]
005	Paper Transfer:FC:Normal:1st	*ENG	[1 to 50 / **38** / 1 /step]
006	Paper Transfer:FC:Normal:2nd	*ENG	[1 to 50 / **33** / 1 /step]
009	Paper Transfer:BW:Low:1st	*ENG	[1 to 50 / **32** / 1 /step]
010	Paper Transfer:BW:Low:2nd	*ENG	[1 to 50 / **21** / 1 /step]
011	Paper Transfer:FC:Low:1st	*ENG	[1 to 50 / **48** / 1 /step]
012	Paper Transfer:FC:Low:2nd	*ENG	[1 to 50 / **28** / 1 /step]

2783	**[SP 4: Bias: BW]**		
	Adjusts the current for the paper transfer roller for special paper 1 in black-and-white mode.		
001	Paper Transfer	*ENG	[0 to 200 / **15** / 1 –µA /step]

2787	**[SP 4: Bias: FC]**		
	Adjusts the current for the paper transfer roller for special paper 1 in full color mode.		
001	Paper Transfer	*ENG	[0 to 200 / **15** / 1 –µA /step]

2791	**[SP4,5,6-T:Size Correct:BW]**		
	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2783 and SP2787 are multiplied by these SP values.		
001	Paper Transfer: S1	*ENG	[100 to 4000 / **100** / 5%/step] S1 size > 290 mm (Paper width)
005	Paper Transfer: S2	*ENG	[100 to 4000 / **125** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)
009	Paper Transfer: S3	*ENG	[100 to 4000 / **150** / 5%/step] 250 mm > S2 size > 194 mm (Paper width)
013	Paper Transfer: S4	*ENG	[100 to 4000 / **275** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)
017	Paper Transfer: S5	*ENG	[100 to 4000 / **400** / 5%/step] 150 mm > S5 size (Paper width)

2792	**[SP4,5,6-T:Size Correct:FC]**		
	Adjusts the size correction coefficient for the paper transfer roller current for each paper size. SP2783 and SP2787 are multiplied by these SP values.		
001	Paper Transfer: S1	*ENG	[100 to 4000 / **100** / 5%/step] S1 size > 290 mm (Paper width)
005	Paper Transfer: S2	*ENG	[100 to 4000 / **110** / 5%/step] 290 mm > S2 size > 250 mm (Paper width)
009	Paper Transfer: S3	*ENG	[100 to 4000 / **115** / 5%/step] 250 mm > S2 size > 194 mm (Paper width)

013	Paper Transfer: S4	*ENG	[100 to 4000 / **405** / 5%/step] 194 mm > S4 size > 150 mm (Paper width)
017	Paper Transfer: S5	*ENG	[100 to 4000 / **690** / 5%/step] 150 mm > S5 size (Paper width)

2793	**[SP4,5,6-T:Size Env.Correct:BW] DFU**		
	Adjusts the size correction coefficient table for the paper transfer roller current for each paper size. SP2783 and SP2787 are multiplied by these SP values.		
001	Paper Transfer: S1	*ENG	[1 to 50 / **30** / 1/step] S1 size > 290 mm (Paper width)
005	Paper Transfer: S2	*ENG	[1 to 50 / **36** / 1/step] 290 mm > S2 size > 250 mm (Paper width)
009	Paper Transfer: S3	*ENG	[1 to 50 / **40** / 1/step] 250 mm > S2 size > 194 mm (Paper width)
013	Paper Transfer: S4	*ENG	[1 to 50 / **27** / 1/step] 194 mm > S4 size > 150 mm (Paper width)
017	Paper Transfer: S5	*ENG	[1 to 50 / **20** / 1/step] 150 mm > S5 size (Paper width)

2794	**[SP4,5,6-T:Size Env.Correct:FC] DFU**		
	Adjusts the size correction coefficient table for the paper transfer roller current for each paper size. SP2783 and SP2787 are multiplied by these SP values.		
001	Paper Transfer: S1	*ENG	[1 to 50 / **30** / 1/step] S1 size > 290 mm (Paper width)
005	Paper Transfer: S2	*ENG	[1 to 50 / **49** / 1/step] 290 mm > S2 size > 250 mm (Paper width)
009	Paper Transfer: S3	*ENG	[1 to 50 / **50** / 1/step] 250 mm > S2 size > 194 mm (Paper width)
013	Paper Transfer: S4	*ENG	[1 to 50 / **35** / 1/step] 194 mm > S4 size > 150 mm (Paper width)
017	Paper Transfer: S5	*ENG	[1 to 50 / **6** / 1/step] 150 mm > S5 size (Paper width)

2795	**[SP4: L-Edge Correct] DFU** Special 4 Paper: Leading Edge Correction		
	Adjusts the correction to the paper transfer roller current at the paper leading edge in each mode. SP2783 and SP2787 are multiplied by these SP values. Note ▪ The paper leading edge area can be adjusted with SP2796.		
001	Paper Transfer	*ENG	[0 to 400 / **100** / 5%/step]

2796	**[SP 4: 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 30 / **0** / 2 mm/step]

2797	**[SP4: 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. SP2783 and SP2787 are multiplied by these SP values. Note ▪ The paper trailing edge area can be adjusted with SP2798.		
001	Paper Transfer	*ENG	[0 to 400 / **100** / 5%/step]

2798	**[SP 4: 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.		
001	Paper Transfer	*ENG	[-98 to 0 / **0** / 2 mm/step]

2799	**[SP 4: Env. Correct Table] DFU**		
003	Paper Transfer:BW: 1st	*ENG	[1 to 50 / **17** / 1 /step]
005	Paper Transfer:FC: 1st	*ENG	[1 to 50 / **29** / 1 /step]

2803	**[SP 2: Bias: BW]**
	Adjusts the current for the paper transfer roller for special paper 2 in black-and-white mode. Normal: 120mm/sec, Low: 60mm/sec

001	Paper Transfer: Normal: 1st	*ENG	[0 to 200 / **20** / 1 –μA /step]
002	Paper Transfer: Normal: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	[0 to 200 / **11** / 1 –μA /step]
004	Paper Transfer: Low: 2nd	*ENG	[0 to 200 / **13** / 1 –μA /step]

2807	**[SP2: Bias: FC]**		
	Adjusts the current for the paper transfer roller for special paper 2 in full color mode. Normal: 120mm/sec, Low: 60mm/sec		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 200 / **25** / 1 –μA /step]
002	Paper Transfer: Normal: 2nd	*ENG	[0 to 200 / **28** / 1 –μA /step]
003	Paper Transfer: Low: 1st	*ENG	[0 to 200 / **11** / 1 –μA /step]
004	Paper Transfer: Low: 2nd	*ENG	[0 to 200 / **14** / 1 –μA /step]

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. Normal: 120mm/sec, Low: 60mm/sec Note ▪ The paper leading edge area can be adjusted with SP2822.		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 400 / **100** / 5%/step]
002	Paper Transfer: Normal: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: 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. Normal: 120mm/sec, Low: 60mm/sec		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 30 / **0** / 2 mm/step]
002	Paper Transfer: Normal: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: 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. Normal: 120mm/sec, Low: 60mm/sec Note ▪ The paper trailing edge area can be adjusted with SP2824.		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 400 / **100** / 5%/step]
002	Paper Transfer: Normal: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: 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. Normal: 120mm/sec, Low: 60mm/sec		
001	Paper Transfer: Normal: 1st	*ENG	[-98 to 0 / **0** / 2 mm/step]

002	Paper Transfer: Normal: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: Low: 2nd	*ENG	

2830	**[SP 2: Env. Correct Table] DFU** Normal: 120mm/sec, Low: 60mm/sec		
003	Paper Transfer:BW:Normal:1st	*ENG	[1 to 50 / **23** / 1 /step]
004	Paper Transfer:BW:Normal:1st	*ENG	[1 to 50 / **26** / 1 /step]
005	Paper Transfer:FC:Normal:1st	*ENG	[1 to 50 / **38** / 1 /step]
006	Paper Transfer:FC:Normal:2nd	*ENG	[1 to 50 / **33** / 1 /step]
009	Paper Transfer:BW:Low:1st	*ENG	[1 to 50 / **32** / 1 /step]
010	Paper Transfer:BW:Low:2nd	*ENG	[1 to 50 / **21** / 1 /step]
011	Paper Transfer:FC:Low:1st	*ENG	[1 to 50 / **48** / 1 /step]
012	Paper Transfer:FC:Low:2nd	*ENG	[1 to 50 / **28** / 1 /step]

2833	**[SP 5: Bias: BW]**		
	Adjusts the current for the paper transfer roller for special paper 5 in black-and-white mode.		
001	Paper Transfer	*ENG	[0 to 200 / **15** / 1 –µA /step]

2837	**[SP 5: Bias: FC]**		
	Adjusts the current for the paper transfer roller for special paper 5 in full color mode.		
001	Paper Transfer	*ENG	[0 to 200 / **15** / 1 –µA /step]

2845	**[SP5: L-Edge Correct] DFU** Special 5Paper: Leading Edge Correction		
	Adjusts the correction to the paper transfer roller current at the paper leading edge in each mode. SP2833 and SP2837 are multiplied by these SP values. Note ▪ The paper leading edge area can be adjusted with SP2846.		
001	Paper Transfer	*ENG	[0 to 400 / **100** / 5%/step]

2846	**[SP 5: 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.		
001	Paper Transfer	*ENG	[0 to 30 / **0** / 2 mm/step]

2847	**[SP5: T-Edge Correct] DFU** Special 5 Paper: Trailing Edge Correction		
	Adjusts the correction to the paper transfer roller current for the paper trailing edge in each mode. SP2833 and SP2837 are multiplied by these SP values. Note ▪ The paper trailing edge area can be adjusted with SP2848.		
001	Paper Transfer	*ENG	[0 to 400 / **100** / 5%/step]

2848	**[SP 5: 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.		
001	Paper Transfer	*ENG	[-98 to 0 / **0** / 2 mm/step]

2849	**[SP 5: Env. Correct Table] DFU**		
003	Paper Transfer:BW: 1st	*ENG	[1 to 50 / **17** / 1 /step]
005	Paper Transfer:FC: 1st	*ENG	[1 to 50 / **29** / 1 /step]

2852	**[SP3: Bias: BW]**		
	Adjusts the current for the paper transfer roller for special paper 3 in black-and-white mode. Normal: 120mm/sec, Low: 60mm/sec		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 200 / **20** / 1 –µA /step]
002	Paper Transfer: Normal: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	[0 to 200 / **11** / 1 –µA /step]
004	Paper Transfer: Low: 2nd	*ENG	[0 to 200 / **13** / 1 –µA /step]

2857	**[Special 3: Bias: FC]**		
	Adjusts the current for the paper transfer roller for special paper 3 in full color mode. Normal: 120mm/sec, Low: 60mm/sec		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 200 / **25** / 1 –µA /step]
002	Paper Transfer: Normal: 2nd	*ENG	[0 to 200 / **28** / 1 –µA /step]
003	Paper Transfer: Low: 1st	*ENG	[0 to 200 / **11** / 1 –µA /step]
004	Paper Transfer: Low: 2nd	*ENG	[0 to 200 / **14** / 1 –µA /step]

2871	**[SP 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. Normal: 120mm/sec, Low: 60mm/sec Note ▪ The paper leading edge area can be adjusted with SP2872.		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 400 / **100** / 5% /step]
002	Paper Transfer: Normal: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: 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. Normal: 120mm/sec, Low: 60mm/sec		
001	Paper Transfer: Normal: 1st	*ENG	[0 to 30 / **0** / 2 mm/step]
002	Paper Transfer: Normal: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: Low: 2nd	*ENG	

2873	**[SP 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. Normal: 120mm/sec, Low: 60mm/sec Note ▪ The paper trailing edge area can be adjusted with SP2874.

001	Paper Transfer: Normal: 1st	*ENG	[0 to 400 / **100** / 5%/step]
002	Paper Transfer: Normal: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: Low: 2nd	*ENG	

2874	**[SP 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. Normal: 120mm/sec, Low: 60mm/sec		
001	Paper Transfer: Normal: 1st	*ENG	[-98 to 0 / **0** / 2 mm/step]
002	Paper Transfer: Normal: 2nd	*ENG	
003	Paper Transfer: Low: 1st	*ENG	
004	Paper Transfer: Low: 2nd	*ENG	

2880	**[SP 3: Env. Correct Table] DFU** Normal: 120mm/sec, Low: 60mm/sec		
003	Paper Transfer:BW:Normal:1st	*ENG	[1 to 50 / **23** / 1 /step]
004	Paper Transfer:BW:Normal:1st	*ENG	[1 to 50 / **26** / 1 /step]
005	Paper Transfer:FC:Normal:1st	*ENG	[1 to 50 / **38** / 1 /step]
006	Paper Transfer:FC:Normal:2nd	*ENG	[1 to 50 / **33** / 1 /step]
009	Paper Transfer:BW:Low:1st	*ENG	[1 to 50 / **32** / 1 /step]
010	Paper Transfer:BW:Low:2nd	*ENG	[1 to 50 / **21** / 1 /step]
011	Paper Transfer:FC:Low:1st	*ENG	[1 to 50 / **48** / 1 /step]
012	Paper Transfer:FC:Low:2nd	*ENG	[1 to 50 / **28** / 1 /step]

2883	**[SP 6: Bias: BW]**		
	Adjusts the current for the paper transfer roller for special paper 6 in black-and-white mode.		
001	Paper Transfer	*ENG	[0 to 200 / **15** / 1 –µA /step]

2887	**[SP 6: Bias: FC]**		
	Adjusts the current for the paper transfer roller for special paper 6 in full color mode.		
001	Paper Transfer	*ENG	[0 to 200 / **15** / 1 –µA /step]

2895	**[SP6: L-Edge Correct] DFU** Special 5Paper: Leading Edge Correction		
	Adjusts the correction to the paper transfer roller current at the paper leading edge in each mode. SP2883 and SP2887 are multiplied by these SP values. Note ▪ The paper leading edge area can be adjusted with SP2896.		
001	Paper Transfer	*ENG	[0 to 400 / **100** / 5%/step]

2896	**[SP 6: 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.		
001	Paper Transfer	*ENG	[0 to 30 / **0** / 2 mm/step]

2897	**[SP6: T-Edge Correct] DFU** Special 5 Paper: Trailing Edge Correction		
	Adjusts the correction to the paper transfer roller current for the paper trailing edge in each mode. SP2883 and SP2887 are multiplied by these SP values. Note ▪ The paper trailing edge area can be adjusted with SP2898.		
001	Paper Transfer	*ENG	[0 to 400 / **100** / 5%/step]

2898	**[SP 6: 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.		
001	Paper Transfer	*ENG	[-98 to 0 / **0** / 2 mm/step]

2899	**[SP 6: Env. Correct Table] DFU**		
003	Paper Transfer:BW: 1st	*ENG	[1 to 50 / **17** / 1 /step]
005	Paper Transfer:FC: 1st	*ENG	[1 to 50 / **29** / 1 /step]

2900	**[Drum Idling Time]**		
	Specifies the drum idling time at job end for each line speed.		
001	Normal Speed	*ENG	[0 to 60 / **5** / 1sec /step]
002	Low Speed	*ENG	[0 to 120 / **5** / 1sec /step]

2901	**[Fus.Reload:DrumIdleTimeOffset] DFU** Adjusts the drum idling time for each coverage at the re-load temperature in the half speed mode.		
001	Coverage:0-6%	*ENG	[-60 to 300 / **0** / 1 sec/step]
002	Coverage:6-10%	*ENG	[-60 to 300 / **0** / 1 sec/step]
003	Coverage:10-20%	*ENG	[-60 to 300 / **0** / 1 sec/step]
004	Coverage:20-40%	*ENG	[-60 to 300 / **0** / 1 sec/step]
005	Coverage:40%over	*ENG	[-60 to 300 / **0** / 1 sec/step]

2902	**[OPC Drum Rev Time] DFU** Adjusts the time for how long the drum motor reverses after job end.		
001	All: BW	*ENG	[0 to 200 / **60** / 10 msec/step]
002	All: FC	*ENG	[0 to 200 / **50** / 10 msec/step]
003	DevRev: FC	*ENG	[0 to 200 / **70** / 10 msec/step]
004	DevRev: Bk	*ENG	[0 to 200 / **200** / 10 msec/step]
005	All	*ENG	[0 to 400000 / **0** / 10/step]
006	K	*ENG	[0 to 999999999 / - / 1/step]
007	C	*ENG	
008	M	*ENG	
009	Y	*ENG	

2903	**[Brake Time] DFU** Adjusts the time when the image transfer belt motor and drum motors reverses from normal rotation after job end.		
001	Bk OPC Drum & Intermediate Transfer	*ENG	[290 to 5000 / **290** / 10 msec/step]
002	FC OPC Drum	*ENG	
003	FC Development	*ENG	

2904	**[ImageTrunsferRevTime] DFU** Adjusts the time for how long the image transfer belt motor reverses after job end.		
003	All	*ENG	[0 to 200 / **50** / 10 msec/step]

2906	**[Drum Stop Angle] DFU**		
001	Color	*ENG	[0 to 359 / **0** / 1 deg/step]
002	Bk	*ENG	

2908	**[GainAdj:TransferM] DFU** Gain Adjustment of Image Transfer Belt Motor		
001	120 mm/sec	*ENG	[0 or 1 / **0** / 1/step] 0: GAIN: High speed 1: GAIN: Low speed
002	60 mm/sec	*ENG	[0 or 1 / **1** / 1/step] 0: GAIN: High speed 1: GAIN: Low speed

2915	**[GainAdj:BkOpcDevM] DFU**		
001	120 mm/sec	*ENG	[0 or 1 / **0** / 1/step] 0: GAIN: High speed 1: GAIN: Low speed
002	60 mm/sec	*ENG	[0 or 1 / **1** / 1/step] 0: GAIN: High speed 1: GAIN: Low speed

2916	**[GainAdj:ColorOpcM] DFU**		
001	120 mm/sec	*ENG	[0 or 1 / **0** / 1/step] 0: GAIN: High speed 1: GAIN: Low speed
002	60 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 10 / **0** / 1 /step]
	Displays the detection times of SC443.		

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. This SP affects SP2931 to SP2939.		
001	Bias	*ENG	[0 to 7000 / **6000** / 10 –V/step]

2931	**[Transfer Roller CL:Timing]**		
001	T15:Standard Speed	*ENG	[-1000 to 1000 / **0** / 10 msec /step]
	Specifies the timing for the transfer roller cleaning after job end in the normal speed mode.		
003	T15:Low Speed	*ENG	[-2000 to 2000 / **0** / 10 msec /step]
	Specifies the timing for the transfer roller cleaning after job end in the low speed mode.		

2940	**[Charge Bias On Timing]**		
001	T1:Standard Speed **DFU**	*ENG	[-500 to 1000 / **0** / 10 msec /step]
002	T1:Low Speed	*ENG	[-500 to 1000 / **-80** / -80 msec /step]
	If a horizontal white band at 40 mm from the leading edge occurs in the low speed mode, change this setting from "-80" to "**-500**". [Side Effect]: "580 msec" is added to the first copy/ print time when using the low speed mode.		

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

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

2971	**[BW Non-Image:Bias ON]**		
001	T1 BW:Bias On:Normal	*ENG	[–360 to 80 / **0** / 10 msec/step]
	Adjusts the timing for the non-image area bias of the image transfer roller in the normal speed.		
003	T1 BW:Bias On:Low	*ENG	[–780 to 210 / **0** / 10 msec/step]
	Adjusts the timing for the non-image area bias of the image transfer roller in the low speed.		

2972	**[BW Image Request Timing] DFU**		
001	Fwait:K:Standard Speed	*ENG	[0 to 3000 / **0** / 10 msec /step]
002	Fwait:K:Low Speed	*ENG	[0 to 3000 / **0** / 10 msec /step]

2973	**[Forced Process Down Threshold]**		
001	-	*ENG	[0 to 5000 / **0** / 1 page/step]
	Specifies the threshold pages for the forced processing stop at a continuous printing job. 0: No forced processing stop (default)		

2974	**[FC Image Request Timing]**		
001	Fwait:Y:Standard Speed	*ENG	[0 to 3000 / **0** / 10 msec/step]
003	Fwait:Y:Low Speed	*ENG	[0 to 3000 / **0** / 10 msec/step]

2990	**[Print Duty Control]**		
001	Duty Control State	*ENG	[0 or 1 / **0** / 1 /step] 0: No limit, 1: Limit
	Limit or does not limit the duty control for a continuous printing job.		
002	Duty Control Thresh Time	*ENG	[0 to 195 / **100** / 10 min./step]
	Specifies the judgment time for the duty control for a continuous printing job.		
003	Duty Control Thresh	*ENG	[0 to 999999999 / **0** / 1 mm/step]
	Specifies the threshold for the duty control for a continuous printing job. 0: No duty control (default)		
004	Forced CPM Down Thresh: No Duty Control	*ENG	[0 to 5000 / **0** / 1 page/step]
	Specifies the threshold page for the forced processing stop without the duty limit.		
005	Drum Stop Time: No Duty Control	*ENG	[300 to 1500 / **500** / 10 msec/step]
	Specifies the drum brake time without the duty limit.		
006	ITB Stop Time: No Duty Control	*ENG	[300 to 1500 / **500** / 10 msec/step]
	Specifies the ITB brake time without the duty limit.		
007	Forced CPM Down Thresh: Duty Control	*ENG	[0 to 5000 / **1** / 1 page/step]
	Specifies the threshold page for the forced processing stop with the duty limit.		
008	Drum Stop Time: Duty Control	*ENG	[300 to 1500 / **1500** / 10 msec/step]
	Specifies the drum brake time with the duty limit.		

009	ITB Stop Time: Duty Control	*ENG	[300 to 1500 / **1500** / 10 msec/step]
	Specifies the ITB brake time with the duty limit.		
010	Duty Control: Start Time	*ENG	-
	Displays the execution time of the duty limit control.		
011	FC Development Stop Time: No Duty Control	*ENG	[290 to 5000 / **290** / 10 msec/step]
	Specifies the development stop time without the duty limit.		
012	FC Development Stop Time: Duty Control	*ENG	[290 to 5000 / **1550** / 10 msec/step]
	Specifies the development stop time with the duty limit.		
013	Duty Control Time	*ENG	[0 to 300 / **30** / 1 min/step]
	Specifies the duty control time.		

3.3 SYSTEM SP3XXX

3.3.1 SP3-XXX (PROCESS)

3011	**[Process Cont. Manual Execution]**		
001	Normal Procon	-	Executes the normal process control manually (potential control). Check the result with SP3-325-001 after executing this SP.
002	Toner Density Adjst	-	Executes the toner density adjustment manually. Check the result with SP3-325-001 after executing this SP.
003	Procon BF-ACC	-	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	-	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	-	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	-	Executes the TD sensor initialization for each color.
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	-	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]**		
001- 005	**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 / **30** / 1 sec/step]
002	Agitation Time: C	*ENG	
003	Agitation Time: M	*ENG	
004	Agitation Time: Y	*ENG	
005-	Sets the execution flag of the developer initialization for each color.		

008			
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 Off	*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	AutoControl Prohibition Set	*ENG	[0 or 1 / **0** / 1/step] Alphanumeric 0: Permit 1: Forbid
	Enables or disables the automatic process control at power-on or door opening.		
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	P-Pattern Selection	*ENG	[0 to 2 / **2** / 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 / **10** / 1 µA/step]
	Adjusts the image transfer belt bias for Black.		
014	T1 Bias: C	*ENG	[0 to 80 / **10** / 1 µA/step]
	Adjusts the image transfer belt bias for Magenta.		
015	T1 Bias: M	*ENG	[0 to 80 / **10** / 1 µA/step]
	Adjusts the image transfer belt bias for Cyan.		
016	T1 Bias: Y	*ENG	[0 to 80 / **10** / 1 µA/step]
	Adjusts the image transfer belt bias for Yellow.		
017	Developer Agitation Time	*ENG	[0 to 250 / **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)
002	C	*ENG	
003	M	*ENG	

004	Y	*ENG	2: PID (Vtref_Control) 3: MBD (Vtref_Fixed) 4: MBD (Vtref_Control)

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
002	NE Detection	*ENG	[0 or 1 / **0** / 1/step] 0: ALL (Calculation and TE sensor) 1: TE Sensor

3101	**[Toner End/Near End]**		
	Displays the amount of each color toner.		
001	Toner Replenishment: Bk	*ENG	[1 to 600 / **235** / 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 / **13** / 1 g/step]
014	Near End Thresh: C	*ENG	[0 to 600 / **3** / 1 g/step]
015	Near End Thresh: M	*ENG	
016	Near End Thresh: Y	*ENG	
021	Delta Vt Threshold	*ENG	[0 to 5 / **0.5** / 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 / **0.05** / 0.001 mg/cm^2/step]
041	Pixel M/A: C	*ENG	
042	Pixel M/A: M	*ENG	
043	Pixel M/A: Y	*ENG	[0 to 1 / **0.6** / 0.001 mg/cm^2/step]
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 / **0.5** / 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 mohno off time.		
046	Mohno Off Time: Bk	*ENG	[0 to 0 x FFFFFFFF / **0** / 1 sec/step]
047	Mohno Off Time: C	*ENG	
048	Mohno Off Time: M	*ENG	
049	Mohno 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	[1 to 600 / **57** / 1 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]**		
	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. Normal: 120 mm/sec, Low: 60 mm/sec		
001	Med Speed Shift:Bk	*ENG	[0 to 5 / **0.29** / 0.01 V/step]
002	Med Speed Shift:C	*ENG	
003	Med Speed Shift:M	*ENG	
004	Med Speed Shift:Y	*ENG	
005	Low Speed Shift:Bk	*ENG	[0 to 5 / **0.28** / 0.01 V/step]
006	Low Speed Shift:C	*ENG	[0 to 5 / **0.31** / 0.01 V/step]
007	Low Speed Shift:M	*ENG	
008	Low Speed Shift:Y	*ENG	
013	Low TCShift: K	*ENG	[-0.5 to 0.5 / **0** / 0.01 V/step]
014	Low TCShift: C	*ENG	
015	Low TCShift: M	*ENG	
016	Low TCShift: Y	*ENG	

3221	**[Vtcnt: Display/Set]**		
	Displays or adjusts the current Vtcnt value for each color.		
001	Current: Bk	*ENG	[2 to 5 / **4** / 0.01 V/step]
002	Current: C	*ENG	
003	Current: M	*ENG	
004	Current: Y	*ENG	
005-008	Displays or adjusts the Vtcnt value for each color at developer initialization.		
005	Initial: Bk	*ENG	[2 to 5 / **4** / 0.01 V/step]

006	Initial: C	*ENG	
007	Initial: M	*ENG	
008	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.		
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.		
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]** 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 / **7** / 0.1 wt%/step]
010	Upper: TC	*ENG	Adjusts the upper limit of the toner concentration. [1 to 15 / **8.5** / 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 / **3.5** / 0.1 wt%/step]
015	TD Thresh M/L	*ENG	[1 to 10 / **3.5** / 0.1 wt%/step]
016	UpperTC:K	*ENG	[1 to 15 / **8.5** / 0.1 wt%/step]

017	UpperTC:C	*ENG	Adjusts the upper limit of the toner concentration for each color.
018	UpperTC:M	*ENG	
019	UpperTC:Y	*ENG	

3224	**[Vtref Correct: Pixel]**		
	Adjusts the coefficient of Vtref correction for each coverage and color.		
001	Low Coverage Coeff. Bk	*ENG	[0 to 5 / **0.2** / 0.1 /step]
002	Low Coverage Coeff.C	*ENG	
003	Low Coverage Coeffi.M	*ENG	
004	Low Coverage Coeff. Y	*ENG	
005	High Coverage Coeff, Bk	*ENG	[0 to 5 / **0.3** / 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 / **60** / 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 / **8.5** / 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 Threshold:M	*ENG	[0 to 255 / **50** / 1 time/step]

017	High Coverage: Threshold:H	*ENG	Adjusts the threshold of the high coverage. [0 to 100 / **20** / 1 %/step]
018	High Coverage: Threshold:L	*ENG	
019	Process Control Thresh:H	*ENG	[0 to 255 / **14** / 1 time/step]
020	Process Control Thresh:L	*ENG	
021	Initial ProCon Thresh	*ENG	[0 to 255 / **6** / 1 time/step]
022	High Coverage Thresh:LS	*ENG	[0 to 100 / **10** / 1 %/step]
023	Process Control Thresh:LS	*ENG	[0 to 255 / **4** / 1 time/step]

3230	**[Toner Supply MBD] DFU**		
001	ADD:TIME	*ENG	[0 to 2000 / **200** / 10 msec/step]
002	ADD:K	*ENG	[0.01 to 2 / **1** / 0.01 /step]
003	ADD:C	*ENG	
004	ADD:M	*ENG	
005	ADD:Y	*ENG	
007	ADD:LowSpd	*ENG	[0.01 to 5 / **1** / 0.01 /step]
008	MSEC_V	*ENG	[0 to 1 / **0.080** / 0.001/step]
009	N_Delay	*ENG	[0 to 200 / **27** / 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	
039	PID:I:LowSpd	*ENG	[0 to 5 / **0.5** / 0.01 /step]
041	PID:P:LowSpd	*ENG	
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	
070	AWILOW:LowSpd	*ENG	[0 to 100 / **2** / 0.01 /step]
071	AWPUP:LowSpd	*ENG	
090	SMITH:K	*ENG	[0 to 2 / **0.06** / 0.01 /step]
091	SMITH:C	*ENG	
092	SMITH:M	*ENG	
093	SMITH:Y	*ENG	
095	SMITH:LowSpd	*ENG	[0 to 5 / **1.5** / 0.01 /step]
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	ANC_ref_conserve_K	*ENG	[-1000 to 1000 / **0** / 0.0001 /step]
111	ANC_ref_conserve_C	*ENG	

112	ANC_ref_conserve_M	*ENG	
113	ANC_ref_conserve_Y	*ENG	
120	ANC_A3_K	*ENG	[0 to 1 / **0.17** / 0.001 /step]
121	ANC_A3_C	*ENG	
122	ANC_A3_M	*ENG	
123	ANC_A3_Y	*ENG	
124	ANC_A4_K	*ENG	[0 to 1 / **0.17** / 0.001 /step]
125	ANC_A4_C	*ENG	
126	ANC_A4_M	*ENG	
127	ANC_A4_Y	*ENG	
130	ANC_A3_LowSpd	*ENG	[0 to 1 / **0.44** / 0.001 /step]
131	ANCA4T_LowSpd	*ENG	[0 to 1 / **0.4** / 0.001 /step]
150	AWPNI_K	*ENG	[-10 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 1 / **0.25** / 0.001 /step]
181	ANCLA_C	*ENG	
182	ANCLA_M	*ENG	
183	ANCLA_Y	*ENG	
184	ANCLB_K	*ENG	[0 to 1 / **0.31** / 0.001 /step]
185	ANCLB_C	*ENG	
186	ANCLB_M	*ENG	

187	ANCLB_Y	*ENG	
190	ANCLA_LowSpd	*ENG	[0 to 5 / **0.36** / 0.01 /step]
191	ANCLB_LowSpd	*ENG	[0 to 5 / **0.29** / 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	[0 to 5 / **1** / 0.01 /step]
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	[0 to 5 / **1** / 0.01 /step]
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]
231	PID_I_LIM1_Std	*ENG	[0 to 1 / **0.156** / 0.001 /step]
233	PID_I_LIM1_LowSpd	*ENG	[0 to 1 / **0.078** / 0.001 /step]
234	PID_I_LIM2_Std	*ENG	[0 to 1 / **0.156** / 0.001 /step]
236	PID_I_LIM2_LowSpd	*ENG	[0 to 1 / **0. 078** / 0.001 /step]

237	PID_P_LIM1_Std	*ENG	[0 to 1 / **0.156** / 0.001 /step]
239	PID_P_LIM1_LowSpd	*ENG	[0 to 1 / **0. 078** / 0.001 /step]
240	PID_P_LIM2_Std	*ENG	[0 to 1 / **0.156** / 0.001 /step]
242	PID_P_LIM2_LowSpd	*ENG	[0 to 1 / **0. 078** / 0.001 /step]
243	PID_I_STDtoLOW	*ENG	[0 to 5 / **0.5** / 0.01 /step]
244	PID_I_LOWtoSTD	*ENG	[0 to 5 / **2** / 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 / **3.33** / 0.01 /step]
002	Conversion Coeff.:C	*ENG	
003	Conversion Coeff.:M	*ENG	
004	Conversion Coeff.:K	*ENG	

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 / **0.47** / 0.01 /step]
006	Pixel Proportion: C	*ENG	
007	Pixel Proportion: M	*ENG	
008	Pixel Proportion: Y	*ENG	
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]**		
	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.		
001	Agitation Time	*ENG	[0 to 200 / **5** / 1 sec/step]

3238	**[Vt Target: Setting]**		
	Displays the Vt target value at developer initialization.		
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 / **0.05** / 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 / **0.15** / 0.01 /step]
010	P Rank 2 Threshold	*ENG	[0 to 2 / **0.05** / 0.1 /step]
011	P Rank 3 Threshold	*ENG	[-2 to 0 / **-0.05** / 0.1 /step]
012	P Rank 4 Threshold	*ENG	[-2 to 0 / **-0.15** / 0.01 /step]
013-014	Threshold for image density rank on the image transfer belt.		
013	T Rank 1 Threshold	*ENG	[-1 to 0 / **-0.2** / 0.01 V/step]
014	T Rank 2 Threshold	*ENG	[0 to 1 / **0.2** / 0.01 V/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 / **140** / 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	Coefficient: Bk	*ENG	[-1000 to 1000 / **128** / 1 /step]
002	Coefficient: C	*ENG	
003	Coefficient: M	*ENG	
004	Coefficient: Y	*ENG	
005	Offset: Bk	*ENG	[-1000 to 1000 / **27** / 1 /step]
006	Offset: C	*ENG	
007	Offset: M	*ENG	
008	Offset: Y	*ENG	
017	Low Speed Coeff.:Bk	*ENG	[-1000 to 1000 / **128** / 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 / **58** / 1 /step]
022	Low Speed Offset:C	*ENG	
023	Low Speed Offset:M	*ENG	
024	Low Speed Offset:Y	*ENG	

3243	**[DevBias_SpdCorrectSetting]**		
	Adjusts the coefficient or offset value for development bias correction for each speed.		
009	LowSpd:Coef:Bk	*ENG	[0.5 to 1.5 / **1** / 0.01 /step]
010	LowSpd:Coef:M	*ENG	
011	LowSpd:Coef:C	*ENG	
012	LowSpd:Coef:Y	*ENG	
013	LowSpd:offset:Bk	*ENG	[0 to 200 / **0** / 1 V/step]
014	LowSpd:offset:M	*ENG	
015	LowSpd:offset:C	*ENG	
016	LowSpd: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 / **10** / 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	**[ID/TM Sensor All]**		
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]**		
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	[0 to 50 / **0** / 0.1 mA/step]
006	Ifsg TM (Center)	*ENG	
007	Ifsg TM (Rear)	*ENG	

3324	**[Vsg Adjustment: Set]**		
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 999 / **999** / 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 10 / **0** / 0.01 /step]
004	K5C (Latest)	*ENG	[0 to 10 / **1.2** / 0.01 /step]

3362	**[ID Sn Sensitivity: Display] DFU**		
003	K5: Upper	*ENG	[0 to 10 / **5** / 0.01 /step]
004	K5: Lower	*ENG	[0 to 1 / **0.5** / 0.01 /step]
005	Kn: Upper	*ENG	[0 to 1 / **0.1** / 0.01 /step]
006	Kn: Lower	*ENG	[0 to 1 / **1** / 0.01 /step]

007	K5 Edit Point	*ENG	[0 to 1 / **0.15** / 0.01 /step]
008	K5 Target Voltage	*ENG	[0 to 5 / **1.63** / 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 / **0.07** / 0.01 /step]
012	K2: Lower Limit Correction	*ENG	[–0.2 to 0.4 / **–0.07** / 0.01 /step]
013	Diffusion Correction	*ENG	[0.75 to 1.35 / **1** / 0.01 /step]
016	K2: Check	*ENG	[0 to 1 / **0.25** / 0.001 /step]

3363	**[ID Pattern Timing Setting]**		
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 / **400** / 1 msec/step]
003	Delay Time	*ENG	Adjusts the processing timing for the process control pattern. [0 to 2500 / **1335** / 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 2.0 / **0.99** / 0.01 /step]
002	Correction Coeff.: C	*ENG	[0.5 to 2.0 / **1** / 0.01 /step]
003	Correction Coeff.: M	*ENG	[0.5 to 2.0 / **1** / 0.01 /step]
004	Correction Coeff.: Y	*ENG	[0.5 to 2.0 / **1** / 0.01 /step]
005	Color Correct Coeff.:Bk	*ENG	[0.5 to 2.0 / **1** / 0.01 /step]
006	Color Correct Coeff.:C	*ENG	[0.5 to 2.0 / **0.95** / 0.01 /step]
007	Color Correct Coeff.:M	*ENG	[0.5 to 2.0 / **1** / 0.01 /step]
008	Color Correct Coeff.:Y	*ENG	[0.5 to 2.0 / **1.01** / 0.01 /step]

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 "1".
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 / **0** / 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: Display] 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	

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 / **0.45** / 0.001 mg/cm^2/step]
002	Maximum M/A: C	*ENG	[0 to 1 / **0.445** / 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 / **100** / 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 / **0.5** / 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 / **2** / 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 or copying.		
001	During Job	*ENG	[0 to 100 / **5** / 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	Date	*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 / **250** / 1 page/step]
002	Job End: Process Control: FC	*ENG	[0 to 2000 / **100** / 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]**		
	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 / **49** / 1 cm^2/m/step]
015	Refresh Threshold: C	*ENG	[0 to 255 / **25** / 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	
023	Toner Consumption Pattern Area	*ENG	[10 to 2550 / **280** / 10 cm^2/step]
024	Supply Coefficient	*ENG	[0 to 2.55 / **1** / 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 / **30** / 1%/step]
027	Job End Length	*ENG	[0 to 100 / **19** / 1mm/step]
028	Job End Supply Amt	*ENG	[0 to 1 / **0.45** / 0.001 mg/cm^2/step]
029	Refresh:Page Thresh	*ENG	[0 to 1000 / **0** / 1 page/step]
030	Mode Counter:Bk	*ENG	
031	Mode Counter:FC	*ENG	

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 / **40** / 1°C/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	[0 to 2 / **0** / 1/step] 0: OFF. 1: ON (once), 2: ON (twice)
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]**		
001	Temperature: High	*ENG	Specifies the idle rotation times of the ITB after the process control. [0 or 3 / **0** / 1 revolution/step]
002	Temperature: Medium	*ENG	
003	Temperature: Low	*ENG	
004	Temp.: L: Power 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 / **30** / 1 deg/step]
006	Temp. Range Thresh:T1	*ENG	[0 or 15 / **15** / 1 deg/step]
010	Temp. Thresh:High	*ENG	[0 or 50 / **30** / 1 deg/step]
011	Temp. Thresh:Low	*ENG	[0 or 50 / **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. Change Thresh	*ENG	[0 to 99 / **10** / 1°C/step]
004	Relative Humidity Range	*ENG	[0 to 99 / **50** / 1 %RH/step]
005	Absolute Humidity Range	*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. Change Thresh	*ENG	[0 to 99 / **10** / 1°C/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 / **0.9** / 0.01 mg/cm^2/kV /step]
002	C (Current)	*ENG	Displays the current development gamma for C/M/Y. [0 to 5 / **0.8** / 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 / **0.9** / 0.01 mg/cm^2/kV /step]
006	C (Target Display)	*ENG	Displays the target development gamma for C/M/Y. [0 to 5 / **0.8** / 0.01 mg/cm^2/kV /step]
007	M (Target Display)	*ENG	
008	Y (Target Display)	*ENG	
009	Bk (Standard Target Set)	*ENG	Displays the standard target development gamma for each color. [0 to 5 / **0.9** / 0.01 mg/cm^2/kV /step]
010	C (Standard Target Set)	*ENG	[0 to 5 / **0.8** / 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 / **0.1** / 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 / **15** / 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 / - / 1 V/step]
002	C	*ENG	
003	M	*ENG	
004	Y	*ENG	

3621	**[Dev. DC Control:Display]** Normal: 120 mm/sec, Low: 70 mm/sec		
	Displays the development DC bias adjusted with the process control for each line speed and color.		
001	Normal Speed:Bk	*ENG	[0 to 700 / **550** / 1 -V/step]
002	Normal Speed:C	*ENG	
003	Normal Speed:M	*ENG	
004	Normal Speed:Y	*ENG	
009	Low Speed:Bk	*ENG	
010	Low Speed:C	*ENG	
011	Low Speed:M	*ENG	
012	Low Speed:Y	*ENG	

3622	[Development DC Control] **DFU** Adjusts the limit of VB.		
001	VB Limit	*ENG	[0 to 500 / **50** / 1 V/step]

3631	**[Charge DC Control: Display]** Normal: 120 mm/sec, Low: 60 mm/sec Displays the charge DC voltage adjusted with the process control for each line speed and color.		
001	Normal Speed:Bk	*ENG	[0 to 2000 / **690** / 1 -V/step]
002	Normal Speed:C	*ENG	
003	Normal Speed:M	*ENG	
004	Normal 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]** Displays the charge AC voltage adjusted with the process control for each color.		
001	Normal Speed:Bk	*ENG	[0 to 3 / **1.75** / 0.01 kV/step]
002	Normal Speed:C	*ENG	
003	Normal Speed:M	*ENG	
004	Normal Speed:Y	*ENG	

3651	**[LD Power Control: Display]** Normal: 120 mm/sec, Low: 60 mm/sec		
	Displays the LD power adjusted for each environment.		
001	Normal Speed:Bk	*ENG	[0 to 200 / **100** / 1 %/step]
002	Normal Speed:C	*ENG	
003	Normal Speed:M	*ENG	
004	Normal 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	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]

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	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]

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 / **2.1** / 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	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]

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	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]

3800	**[Toner Collection Bttl Full]**		
	Displays/ adjusts the PCDU toner collection bottle detection settings.		
001	Condition	*CTL	[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	*CTL	Not used [0 to 50 / **-** / 1 /step]

003	Print Page AF Near Full	*CTL	Not used [0 to 2000 / **0** / 1 sheet/step]
004	Pixel Count AF Near Full	*CTL	Not used [0 to 200000 / **-** / 1 cm^2/step]
005	Pixel Count AF Replacement	*CTL	Not used Displays the pixel counter after replacement of toner collection bottle. [0 to 200000 / **-** / 1 cm^2/step]
008	Coefficient	*ENG	[0.1 to 1 / **1** / 0.1 /step]
	Adjusts the toner amount between near full and full. (0.1 indicates 10%.)		
011	Alarm Setting	*ENG	Enables or disables the calling for @Remote. [0 or 1 / **1** / -] 0: Enable @Remote calling 1: Disable @Remote calling
	NOTE: If the PCDU toner collection bottle has been replaced before the machine detects used toner near full when this setting is set to "0", the machine cannot detect toner collection bottle near full. In that case, set SP3-902-017 to "1".		
012	Day Thresh:NF	*ENG	[1 to 30 / **10** / 1 day/step]
	Sets the threshold days for the near-full display. The near-full of the PCDU toner collection bottle is displayed after the toner collection full sensor has detected the actuator in the PCDU toner collection bottle.		
013	Total Collected Toner	*ENG	Displays the total amount from the near full detection. [0 to 999999999 / **1** / 1]
014	Full Detection Date	*ENG	Displays the date of the near full detection for the PCDU toner collection bottle.

3810	**[ITB T-Collection Bttl Full]**		
001	Condition	*CTL	[0 to 4 / **0** / 1 /step]
	Displays the current condition of the ITB toner collection bottle. 0: Factory default, 1: Before near full, 2; Near full, 3: Full, 4: Reserved		
002	Detection Times	*CTL	Not used [0 to 50 / **-** / 1 /step]
003	Print Page AF Near Full	*CTL	Not used [0 to 2000 / **0** / 1 sheet/step]
004	Pixel Count AF Near Full	*CTL	Not used [0 to 200000 / **-** / 1 cm^2/step]
005	Pixel Count AF Replacement	*CTL	Not used Displays the pixel counter after replacement of toner collection bottle. [0 to 200000 / **-** / 1 cm^2/step]
008	Coefficient	*ENG	[0.1 to 1 / **1** / 0.1 /step]
	Adjusts the toner amount between near full and full. (0.1 indicates 10%.)		
011	Alarm Setting	*ENG	Enables or disables the calling for @Remote. [0 or 1 / **1** / -] 0: Enable @Remote calling 1: Disable @Remote calling
	NOTE: If the toner collection bottle has been replaced before the machine detects used toner near full when this setting is set to "0", the machine cannot detect toner collection bottle near full. In that case, set SP3-902-017 to "1".		
012	Day Thresh:NF	*ENG	[1 to 30 / **10** / 1 day/step]
	Sets the threshold days for the near-full display. The near-full of the IT toner collection bottle is displayed after the toner collection full sensor has detected the actuator in the ITB toner collection bottle.		

013	Total Collected Toner	*ENG	Displays the total amount from the near full detection. [0 to 999999999 / **1** / 1]
014	Full Detection Date	*ENG	Displays the date of the near full detection fot the ITB toner collection bottle.

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. The use of these counters is explained in the PM section and in the relevant parts of section 3 (Replacement and Adjustment).		
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. 3902-017: This is for the image transfer belt cleaning unit.
014	Fusing Unit	*ENG	
015	Fusing Pad	*ENG	
016	Fusing Belt	*ENG	
017	ITB Cleaning Unit	*ENG	
018	PTR Unit	*ENG	[0 or 1 / **0** / -] 0: OFF, 1: ON
019	PCU Toner Collection Bottle	*ENG	
020	ITB Toner Collection Bottle	*ENG	

3903	**[Last Print Counter]**		
	Displays the rotation counter of the black development unit at five minutes interval.		
001	Counter 1	*ENG	[0 to 999999999 / - / 1 mm/step]
002	Counter 2	*ENG	
003	Counter 3	*ENG	
004	Counter 4	*ENG	
005	Counter 5	*ENG	
006	Counter 6	*ENG	
007	Counter 7	*ENG	
008	Counter 8	*ENG	
009	Counter 9	*ENG	
010	Counter 10	*ENG	
011-040	Counter 11 to 40	*ENG	
101	Last Fixed Date	*ENG	Displays the time of the latest stored counter.
102	Last PM Counter Save Destination	*ENG	Displays the counter number of the latest stored counter.

3.4 SYSTEM SP4XXX

3.4.1 SP4-XXX (SCANNER)

4008	**[Sub Scan Mag. Adjustment]**		
	Adjusts the sub-scan magnification by changing the scanner motor speed.		
001	SScan Mag.Adjust	*ENG	[-1.0 to 1.0 / **0** / 0.1%/step] **FA**

4010	**[L-Edge Regist Adjustment]**		
	Adjusts the leading edge registration by changing the scanning start timing in the sub-scan direction.		
001	LE Regist Adjust	*ENG	[-2.0 to 2.0 / **0** / 0.1 mm/step] **FA**

4011	**[S-to-S Regist Adjustment]**		
	Adjusts the side-to-side registration by changing the scanning start timing in the main scan direction.		
001	StoS Rgst Adjust	*ENG	[-2.5 to 2.5 / **0** / 0.1 mm/step] **FA**

4012	**[Scanner Erase Margin: Scale]** Scanner: Erase Margin: Scale		
	Sets the blank margin at each side for erasing the original shadow caused by the gap between the original and the scale.		
001	Book: Leading Edge	*ENG	[0 to 3.0 / **0** / 0.1 mm/step] **FA**
002	Book: Trailing Edge		
003	Book: Left		
004	Book: Right		
005	ADF: Leading Edge	*ENG	[0 to 3.0 / **0** / 0.1 mm/step] **FA**
007	ADF: Left		

008	ADF: Right		

4013	**[Scanner Free Run]**		
	Performs the scanner free run with the exposure lamp on or off in the following mode. Full color mode / Full Size / A3 or DLT		
001	Lamp: OFF	*ENG	[0 or 1 / **0** / -] 0: OFF, 1: ON
002	Lamp: ON		

4014	**[Scan]**		
	Execute the scanner free fun with each mode.		
001	HP Detection Enable	-	Scanner free run with HP sensor check.
002	HP Detection Disable	-	Scanner free run without HP sensor check.

4020	**[Dust Check]**		
001	Detection: ON/OFF	*ENG	Turns the ADF scan glass dust check on/off. [0 or 1 / **1** / 1 /step] 0: OFF, 1: ON
002	Dust Detection: Level	*ENG	Selects the detect level. [0 to 8 / **4** / 1 /step] 0: lowest detection level 8: highest detection level

003	Correction Level	*ENG	Selects the level of the sub scan line correction when using the ARDF. [0 to 4 / **0** / 1 /step] 0: Off 1: Weakest 2: Weak 3: Strong 4: Strongest

4301	**[APS Operation Check]**		
	Displays a code that represents the original size detected by the original sensors. (See "Input Check Table".)		
001	APS Operation Check	-	-

4303	**[APS Min Size]**		
	Specifies the result of the detection when the outputs from the original sensors are all OFF.		
001	APS Min. Size	*ENG	[0 to 1 / **0** / 1 /step] 0: No Original 1: A5-Lengthwise (16K SEF if 4305 is set to 3)

4305	**[8K/16K Detection]**	*ENG	[0 to 3 / **0** / 1 /step] 0: Normal Detection (the machine detects A4/LT size as A4 or LT, depending on the paper size setting) 1: A4-Sideways LT-Lengthwise 2: LT-Sideways A4-Lengthwise 3: 8K 16K
001	This program enables the machine to automatically recognize the 8K/16K size.		

4308	**[Scan Size Detection]**		
001	Detect: ON/OFF	*ENG	[0 or 1 / **1** / 1 /step] 0: OFF, 1: ON

4309	**[Scan Size Detect Setting] DFU**		
001	Original Density Thresh	*ENG	[0 to 255 / **32** / 1 digit /step]
002	Detection Time	*ENG	[20 to 100 / **60** / 20 msec /step]
003	Lamp ON:Delay Time	*ENG	[0 to 200 / **40** / 20 msec /step]

4310	**[Scan Size Detect Value]**		
	Displays the scanned data for the original width detection.		
001	S1:R	-	[0 to 255 / **0** / 1 digit /step]
002	S1:G	-	
003	S1:B	-	
004	S2:R	-	[0 to 255 / **0** / 1 digit /step]
005	S2:G	-	
006	S2:B	-	
007	S3:R	-	[0 to 255 / **0** / 1 digit /step]
008	S3:G	-	
009	S3:B	-	

4400	**[Scanner Erase Margin]**	*ENG	
	Set the Mask for Original. These SPs set the area to be masked during platen (book) mode scanning.		
001	Book: Leading Edge	[0 to 3.0 / **0** / 0.1 mm/step]	
002	Book: Trailing Edge		
003	Book: Left		
004	Book: Right		
005	ADF: Leading Edge		
007	ADF: Left		
008	ADF: Right		

4417	**[IPU Test Pattern]**	
	Selects the IPU test pattern.	
001	Test Pattern Selection	[0 to 24 / **0** / 1/step]
	0: Scanned image 1: Gradation main scan A 2: Gradation main scan B 3: Gradation main scan C 4: Gradation main scan D 5: Gradation sub scan (1) 6: Grid pattern 7: Slant grid pattern 8: Gradation RGBCMYK 9: UCR pattern 10: Color patch 16 (1) 11: Color patch 16 (2) 12: Color patch 64	13: Grid pattern CMYK 14: Color patch CMYK 15: Gray pattern (1) 16: Gray pattern (2) 17: Gray Pattern (3) 18: Shading pattern 19: Thin line pattern 20: Scanned + Grid pattern 21: Scanned + Gray scale 22: Scanned + Color patch 23: Scanned + Slant Grid C 24: Scanned + Slant Grid D

4429	**[Illegal Copy Output]**		
001	Copy	*ENG	[0 to 3 / **3** / 1 /step]
002	Scanner		
003	Fax		

4440	**[Saturation Adjustment]**		
	Adjusts the level of saturation for copying.		
001	-	*ENG	[0 to 5 / **3** / 1 /step] 0: High 1: Lowest 2: Lower 3: Default 4: Higher 5: Highest

4450	**[Scan Image Path Selection]**	
001	Black Subtraction ON/OFF	[0 or 1 / **1** / -] 0: OFF, 1: ON
	Uses or does not use the black reduction image path.	
002	SH ON/OFF	[0 or 1 / **0** / 1 /step] 0: ON, 1: OFF
	Uses or does not use the shading image path.	

4460	**[Digital AE Set] DFU**		
	Specifies the level of deleting the background in the ADS mode. You can adjust its level for each scanning method (platen, ADF).		
001	Lower Limit	*ENG	[0 to 1023 / **364** / 4 digit/step]
002	Background Level	*ENG	[512 to 1532 / **932** / 1 digit/step]

4501	**[ACC Target Density]**		
	Selects the ACC target.		
001	Copy: Bk: Text	*ENG	[0 to 10 / **5** / 1 /step] 10: Darkest density
002	Copy: C: Text	*ENG	
003	Copy: M: Text	*ENG	
004	Copy: Y: Text	*ENG	
005	Copy: Bk: Photo	*ENG	
006	Copy: C: Photo	*ENG	
007	Copy: M: Photo	*ENG	
008	Copy: Y: Photo	*ENG	

4505	**[ACC Correction:Bright]**		
	Adjusts the offset correction for light areas of the ACC pattern.		
001	Text:K	*ENG	[-128 to 127 / **0** / 1 /step]
002	Text:C	*ENG	
003	Text:M	*ENG	
004	Text:Y	*ENG	
005	Photo:K	*ENG	[-128 to 127 / **0** / 1 /step]
006	Photo:C	*ENG	
007	Photo:M	*ENG	
008	Photo:Y	*ENG	

4506	**[ACC Correction: Dark]**		
	Adjusts the offset correction for dark areas of the ACC pattern.		
001	Text:K	*ENG	[-128 to 127 / **0** / 1 /step]
002	Text:C	*ENG	
003	Text:M	*ENG	
004	Text:Y	*ENG	
005	Photo:K	*ENG	[-128 to 127 / **0** / 1 /step]
006	Photo:C	*ENG	
007	Photo:M	*ENG	
008	Photo:Y	*ENG	

4540	**[Printer Vector Correction]**		
	This SP corrects the printer coverage of 12 hues (RY, YR, YG, etc. x 4 Colors [R, G, B, Option]) for a total of 48 parameters.		
001-004	RY Phase: Option/R/G/B	*ENG	Specifies the printer vector correction value. [0 to 255 / **0** / 1 /step]
005-008	YR Phase: Option/R/G/B		
009-012	YG Phase: Option/R/G/B		
013-016	GY Phase: Option/R/G/B		
017-020	GC Phase: Option/R/G/B		
021-024	CG Phase: Option/R/G/B		
025-028	CB Phase: Option/R/G/B		
029-032	BC Phase: Option/R/G/B		
033-036	BM Phase: Option/R/G/B		
037-040	MB Phase: Option/R/G/B		

041-044	MR Phase: Option/R/G/B		
045-048	RM Phase: Option/R/G/B		

4550	**[Scanner Appl.:Text/Chart] DFU**		
4551	**[Scanner Appl.: Text] DFU**		
4552	**[Scanner Appl.:Txt Dropout] DFU**		
4553	**[Scanner Appl.:Text/Photo] DFU**		
4554	**[Scanner Appl.: Photo] DFU**		
4565	**[Scanner Appl.: GrayScale] DFU**		
4570	**[Scan Appl.: Color: Text-Photo] DFU**		
4571	**[Scan Appl.: Color: Glossy Photo] DFU**		
4572	**[Scan Appl.: Color: AutoColor] DFU**		
-005	MTF: 0 (Off), 1-15 (Strong)	*ENG	[0 to 15 / **8** / 1 /step] 0: MTF Off
	Sets the MTF level (Modulation Transfer Function) designed to improve image contrast. Set higher for stronger effect, lower for weaker effect.		
-006	Smoothing: 0 (x1), 1-7 (Strong)	*ENG	[0 to 7 / **4** / 1 /step]
	Use to remove "jaggies" if they appear. Set higher for smoother images.		
-007	Brightness: 1–255	*ENG	[1 to 255 / **128** / 1 /step]
	Set higher for darker, set lower for lighter.		
-008	Contrast: 1–255	*ENG	[1 to 255 / **128** / 1 /step]
	Set higher for more contrast, set lower for less contrast.		
-009	I-Dot Erase :0 (x1) 1-7 (Strong)	*ENG	[0 to 7 / **0** / 1 /step]
	Sets the erasure level of Irregular Dots. Set higher for stronger effect, lower for weaker effect. 0: Not activated		

4580	**[FAX Appl.: Text/Chart] DFU**		
4582	**[FAX Appl.: Text/Photo] DFU**		
4583	**[FAX Appl.: Photo] DFU**		
-005	MTF: 0 (Off), 1-15 (Strong)	*ENG	[0 to 15 / **8** / 1 /step] 0: MTF Off
	Sets the MTF level (Modulation Transfer Function) designed to improve image contrast. Set higher for stronger effect, lower for weaker effect.		
-006	Smoothing: 0 (x1), 1-7 (Strong)	*ENG	[0 to 7 / **4** / 1 /step]
	Use to remove "jaggies" if they appear. Set higher for smoother images.		
-007	Brightness: 1–255	*ENG	[1 to 255 / **128** / 1 /step]
	Set higher for darker, set lower for lighter.		
-008	Contrast: 1–255	*ENG	[1 to 255 / **128** / 1 /step]
	Set higher for more contrast, set lower for less contrast.		
-009	I-Dot Erase:0 (x1), 1-7 (Strong)	*ENG	[0 to 7 / **0** / 1 /step]
	Selects the contrast level for B/W the Text mode. Sets the erasure level of Irregular Dots. Set higher for stronger effect, lower for weaker effect. 0: Not activated		
-010	Texture Erase:0 (Fix), 1-2	*ENG	[0 to 2 / **0** / 1 /step]
	Sets the erasure level of textures. Set higher for stronger effect, lower for weaker effect. This SP (suffix "-010") only exists in SP4580, 4582 and 4583. 0: Not activated		

4581	**[FAX Appl.: Text] DFU**		
4584	**[FAX Appl.: Original 1] DFU**		
4585	**[FAX Appl.: Original 2] DFU**		
-005	MTF: 0 (Off), 1-15 (Strong)	*ENG	[0 to 15 / **8** / 1 /step] 0: MTF Off
	Sets the MTF level (Modulation Transfer Function) designed to improve image contrast. Set higher for stronger effect, lower for weaker effect.		
-006	Smoothing: 0 (x1), 1-7 (Strong)	*ENG	[0 to 7 / **4** / 1 /step]
	Use to remove "jaggies" if they appear. Set higher for smoother images.		
-007	Brightness: 1–255	*ENG	[1 to 255 / **128** / 1 /step]
	Set higher for darker, set lower for lighter.		
-008	Contrast: 1–255	*ENG	[1 to 255 / **128** / 1 /step]
	Set higher for more contrast, set lower for less contrast.		
-009	I-Dot Erase:0 (x1), 1-7 (Strong)	*ENG	[0 to 7 / **0** / 1 /step]
	Selects the contrast level for B/W the Text mode. Sets the erasure level of Irregular Dots. Set higher for stronger effect, lower for weaker effect. 0: Not activated		

4600	**[SBU Version Display]**		
001	SBU ID	-	[0 to 0xFF / **0** / 1 /step] Displays the ID of the SBU.
002	GASBU-N ID	-	[0 to 0xFF / **0** / 1 /step]
003	VSP5100 ID	-	[0 to 0xFF / **0** / 1 /step]

4602	**[Scanner Memory Access]**		
001	Scanner Memory Access	-	Enables the read and write check for the SBU registers.

4603	**[AGC Execution]**		
001	HP Detection Enable	-	[0 or 1 / **0** / 1/step] Executes the AGC.
002	HP Detection Disable	-	[0 or 1 / **0** / 1/step] **DFU**

4604	**[FGATE Open/Close] DFU**		
001	-	-	Opens or closes the FGATE signal. This SP automatically returns to the default status (close) after exiting this SP. [0 or 1 / **0** / 1/step] 0: OFF, 1: ON

4609	**[Gray Balance Set: R] DFU**		
001	Book Scan	*ENG	[-512 to 511 / **-46** / 1 digit/step]
002	DF Scan	*ENG	[-512 to 511 / **-46** / 1 digit/step]

4610	**[Gray Balance Set: G] DFU**		
001	Book Scan	*ENG	[-512 to 511 / **-20** / 1 digit/step]
002	DF Scan	*ENG	[-512 to 511 / **-20**/ 1 digit/step]

4611	**[Gray Balance Set: B] DFU**		
001	Book Scan	*ENG	[-512 to 511 / **-28** / 1 digit/step]
002	DF Scan	*ENG	[-512 to 511 / **-28** / 1 digit/step]

4623	**[Black Level Adj. Display] DFU** RE: Red Even signal, RO: Red Odd signal		
001	Latest: RE Color	-	Displays the black offset value (rough adjustment) for the even red signal in the CCD circuit board (color printing speed). [0 to 16383 / **0** / 1 digit/step]
002	Latest: RO Color	-	Displays the black offset value (rough adjustment) for the odd red signal in the CCD circuit board (color printing speed). [0 to 16383 / **0** / 1 digit/step]

4624	**[Black Level Adj. Display] DFU** GE: Green Even signal, GO: Green Odd signal		
001	Latest: GE Color	-	Displays the black offset value (rough adjustment) for the even green signal in the CCD circuit board (color printing speed). [0 to 16383 / **0** / 1 digit/step]
002	Latest: GO Color	-	Displays the black offset value (rough adjustment) for the odd green signal in the CCD circuit board (color printing speed). [0 to 16383 / **0** / 1 digit/step]

4625	**[Black Level Adj. Display] DFU** BE: Blue Even signal, BO: Blue Odd signal		
001	Latest: BE Color	-	Displays the black offset value (rough adjustment) for the even blue signal in the CCD circuit board (color printing speed). [0 to 16383 / **0** / 1 digit/step]
002	Latest: BO Color	-	Displays the black offset value (rough adjustment) for the odd blue signal in the CCD circuit board (color printing speed). [0 to 16383 / **0** / 1 digit/step]

4628	**[Analog Gain Adjust] DFU**		
	Displays the gain value of the amplifiers on the controller for Red.		
001	Latest: R Color	-	[0 to 7 / **0** / 1 digit/step]

4629	**[Analog Gain Adjust] DFU**		
	Displays the gain value of the amplifiers on the controller for Green.		
001	Latest: G Color	-	[0 to 7 / **0** / 1 digit/step]

4630	**[Analog Gain Adjust] DFU**		
	Displays the gain value of the amplifiers on the controller for Blue.		
001	Latest: B Color	-	[0 to 7 / **0** / 1 digit/step]

4631	**[Digital Gain Adjust] DFU**		
	Displays the gain value of the amplifiers on the controller for Red.		
001	Latest: RE Color	-	[0 to 1023 / **0** / 1 digit/step]
002	Latest: RO Color	-	

4632	**[Digital Gain Adjust] DFU**		
	Displays the gain value of the amplifiers on the controller for Green.		
001	Latest: GE Color	-	[0 to 1023 / **0** / 1 digit/step]
002	Latest: GO Color	-	

4633	**[Digital Gain Adjust] DFU** Displays the gain value of the amplifiers on the controller for Blue.		
001	Latest: BE Color	-	[0 to 1023 / **0** / 1 digit/step]
002	Latest: BO Color	-	

4645	**[Scan Adjust Error] DFU** Displays the error value of the white level or black level adjustment.		
001	White Level	-	[0 to 65535 / **0** / 1 digit/step]
002	Black Level	-	

4647	**[Scanner Hard Error]** Displays the result of the SBU connection check.		
001	Power-ON	-	[0 to 65535 / **0** / 1 /step] 0: OK, Other: SBU connection check failure If the SBU connection check fails, SC144 occurs.

4654	**[Black Level Adj. Display] DFU** RE: Red Even signal, RO: Red Odd signal		
001	Last Correct Value: RE Color	*ENG	Displays the black offset value (rough adjustment) for the even red signal in the CCD circuit board (color printing speed). [0 to 16383 / **0** / 1 digit/step]
002	Last Correct Value: RO Color	*ENG	Displays the black offset value (rough adjustment) for the odd red signal in the CCD circuit board (color printing speed). [0 to 16383 / **0** / 1 digit/step]

4655	**[Black Level Adj. Display] DFU** GE: Green Even signal, GO: Green Odd signal		
001	Last Correct Value: GE Color	*ENG	Displays the black offset value (rough adjustment) for the even green signal in the CCD circuit board (color printing speed). [0 to 16383 / **0** / 1 digit/step]
002	Last Correct Value: GO Color	*ENG	Displays the black offset value (rough adjustment) for the odd green signal in the CCD circuit board (color printing speed). [0 to 16383 / **0** / 1 digit/step]

4656	**[Black Level Adj. Display] DFU** BE: Blue Even signal, BO: Blue Odd signal		
001	Last Correct Value: BE Color	*ENG	Displays the black offset value (rough adjustment) for the even blue signal in the CCD circuit board (color printing speed). [0 to 16383 / **0** / 1 digit/step]
002	Last Correct Value: BO Color	*ENG	Displays the black offset value (rough adjustment) for the odd blue signal in the CCD circuit board (color printing speed). [0 to 16383 / **0** / 1 digit/step]

4658	**[Analog Gain Adjust] DFU**		
	Displays the previous gain value of the amplifiers on the controller for Red.		
001	Last Correct Value: RE Color	*ENG	[0 to 7 / **0** / 1 digit/step]

4659	**[Analog Gain Adjust] DFU**		
	Displays the previous gain value of the amplifiers on the controller for Green.		
001	Last Correct Value: GE Color	*ENG	[0 to 7 / **0** / 1 digit/step]

4660	**[Analog Gain Adjust] DFU** Displays the previous gain value of the amplifiers on the controller for Blue.		
001	Last Correct Value: BE Color	*ENG	[0 to 7 / **0** / 1 digit/step]

4661	**[Digital Gain Adjust] DFU** RE: Red Even signal, RO: Red Odd signal		
001	Last Correct Value: RE Color	*ENG	[0 to 1023 / **0** / 1 digit/step]
002	Last Correct Value: RO Color	*ENG	

4662	**[Digital Gain Adjust] DFU** GE: Green Even signal, GO: Green Odd signal		
001	Last Correct Value: GE Color	*ENG	[0 to 1023 / **0** / 1 digit/step]
002	Last Correct Value: GO Color	*ENG	

4663	**[Digital Gain Adjust] DFU** BE: Blue Even signal, BO: Blue Odd signal		
001	Last Correct Value: BE Color	*ENG	[0 to 1023 / **0** / 1 digit/step]
002	Last Correct Value: BO Color	*ENG	

4673	**[Black Level Adj. Display] DFU** RE: Red Even signal, RO: Red Odd signal		
001	Factory Setting: RE Color	*ENG	Displays the factory setting values of the black level adjustment for the even red signal in the CCD circuit board (color printing speed). [0 to 16383 / **0** / 1 digit/step]
002	Factory Setting: RO Color	*ENG	Displays the factory setting values of the black level adjustment (rough adjustment) for the odd red signal in the CCD circuit board (color printing speed). [0 to 16383 / **0** / 1 digit/step]

4674	**[Black Level Adj. Display] DFU** GE: Green Even signal, GO: Green Odd signal		
001	Factory Setting: GE Color	*ENG	Displays the factory setting values of the black level adjustment (rough adjustment) for the even green signal in the CCD circuit board (color printing speed). [0 to 16383 / **0** / 1 digit/step]
002	Factory Setting: GO Color	*ENG	Displays the factory setting values of the black level adjustment (rough adjustment) for the odd green signal in the CCD circuit board (color printing speed). [0 to 16383 / **0** / 1 digit/step]

4675	**[Black Level Adj. Display] DFU** BE: Blue Even signal, BO: Blue Odd signal		
001	Factory Setting: BE Color	*ENG	Displays the factory setting values of the black level adjustment (rough adjustment) for the even blue signal in the CCD circuit board (color printing speed). [0 to 16383 / **0** / 1 digit/step]
002	Factory Setting: BO Color	*ENG	Displays the factory setting values of the black level adjustment (rough adjustment) for the odd blue signal in the CCD circuit board (color printing speed). [0 to 16383 / **0** / 1 digit/step]

4677	**[Analog Gain Adjust] DFU**		
	Displays the factory setting values of the gain adjustment for Red.		
001	Factory Setting: RE Color	*ENG	[0 to 7 / **0** / 1 digit/step]

4678	**[Analog Gain Adjust] DFU**		
	Displays the factory setting values of the gain adjustment for Green.		
001	Factory Setting: GE Color	*ENG	[0 to 7 / **0** / 1 digit/step]

4679	**[Analog Gain Adjust] DFU**		
	Displays the factory setting values of the gain adjustment for Blue.		
001	Factory Setting: BE Color	*ENG	[0 to 7 / **0** / 1 digit/step]

4680	**[Digital Gain Adjust] DFU**		
	Displays the gain value of the amplifiers on the controller for Red.		
001	Factory Setting: RE Color	*ENG	[0 to 1023 / **0** / 1 digit/step]
002	Factory Setting: RO Color	*ENG	

4681	**[Digital Gain Adjust] DFU**		
	Displays the gain value of the amplifiers on the controller for Green.		
001	Factory Setting: GE Color	*ENG	[0 to 1023 / **0** / 1 digit/step]
002	Factory Setting: GO Color	*ENG	

4682	**[Digital Gain Adjust] DFU**		
	Displays the gain value of the amplifiers on the controller for Blue.		
001	Factory Setting: BE Color	*ENG	[0 to 1023 / **0** / 1 digit/step]
002	Factory Setting: BO Color	*ENG	

4688	**[DF: Density Adjustment]**		
	Adjusts the white shading parameter when scanning an image with the ARDF. Adjusts the density level if the ID of outputs made in the DF and Platen mode is different.		
001	-	*ENG	[50 to 150 / **107** / 1%/ step]

4690	**[White Level Peak Read] DFU**		
	Displays the peak level of the white level scanning.		
001	RE	-	[0 to 1023 / **0** / 1 digit/step]
002	RO	-	

4691	**[White Level Peak Read] DFU**		
	Displays the peak level of the white level scanning.		
001	GE	-	[0 to 1023 / **0** / 1 digit/step]
002	GO	-	

4692	**[White Level Peak Read] DFU**		
	Displays the peak level of the white level scanning.		
001	BE	-	[0 to 1023 / **0** / 1 digit/step]
002	BO	-	

4693	**[Black Level Peak Read] DFU**		
	Displays the peak level of the black level scanning.		
001	RE	-	[0 to 1023 / **0** / 1 digit/step]
002	RO	-	

4694	**[Black Level Peak Read] DFU**		
	Displays the peak level of the black level scanning.		
001	GE	-	[0 to 1023 / **0** / 1 digit/step]
002	GO	-	

4695	**[Black Level Peak Read] DFU**		
	Displays the peak level of the black level scanning.		
001	BE	-	[0 to 1023 / **0** / 1 digit/step]
002	BO	-	

4802	**[DF Shading FreeRun]**		
001	Lamp OFF	-	Executes the scanner free run of shading movement with exposure lamp on or off. Press "OFF" to stop this free run. Otherwise, the free run lasts.
002	Lamp ON		

4804	**[Home Position Opetation]**		
001	-	-	Executes the scanner HP detection.

4806	**[Carriage Move]**		
001	-	-	Moves the carriage from the scanner home position. Dust may fall through the DF exposure glass. Therefore, do this SP when you transport the machine a long distance.

4807	**[SBU Test Pattern Change]**		
001	-	-	[0 to 255 / **0** / 1 /step]
	Selects the SBU test pattern. 0: Normal output 1: Fixed value output 2: Main scan gradation 3: Sub scan gradation 4: Grid pattern		

4808	**[Factory Setting Input] DFU**		
002	Execution Flag	*ENG	[0 or 1 / **0** / 1 /step]

4902	**[ACC Data Display]**		
	This SP outputs the final data read at the end of ACC execution. A zero is returned if there was an error reading the data. [0 to 255 / **0** / 1 /step]		
001	R DATA1	*ENG	Photo C Patch Level 1 (8-bit)
002	G DATA1	*ENG	Photo M Patch Level 1 (8-bit)
003	B DATA1	*ENG	Photo Y Patch Level 1 (8-bit)
004	R DATA2	*ENG	Photo C Patch Level 17 (8-bit)
005	G DATA2	*ENG	Photo M Patch Level 17(8-bit)
006	B DATA2	*ENG	Photo Y Patch Level 17 (8-bit)

4904	**[IPU Board Test]**		
001	Test1	-	Bit0: TAURUS register Bit1: ORION register Bit2: LUPUS register Bit3 to 11: Not used Bit12: Ri20 Bit13 to 15: Not used 0: OK, 1: Error
	Performs a write and read check of the ASICs on the BCU board and displays the result.		
002	Test2	-	Bit0: Image path from SBU to TAURUS Bit1: Image path from TAURUS to ORION Bit2: Image path from ORION to TAURUS Bit3: Image path from TAURUS to LUPUS Bit4 to 11: Not used Bit12: Image path from LUPUS to Ri20 Bit13: Image path from Ri20 to GAVD Bit14 and 15: Not used 0: OK, 1: Error

	Performs an image path check on the BCU board and displays the result.

4905	**[Dither Selection] DFU**		
	Changes the parameters for error diffusion.		
001	-	*ENG	[0 to 255 / **0** / 1 /step]

4918	**[Man Gamma Adj]**		
009	-	-	Adjusts the manual gamma for Copy/Photo or Copy/Text with the soft keys on the operation panel.

4948	**[ACC History:Latest]**		
001	YY/MM/DD	*ENG	Displays the latest ACC execution date.
002	HH/MM/SS	*ENG	Displays the latest ACC execution time.

4949	**[ACC History:Previous]**		
001	YY/MM/DD	*ENG	Displays the previous ACC execution date.
002	HH/MM/SS	*ENG	Displays the previous ACC execution time.

4954	**[Read/Restore Standard]**		
001	Scan New Chart	-	Executes new chart scanning.
002	Recall Previous Chart	-	Recalls the previous scanned chart.
004	Set Standard Chart	-	Restores a new chart data as a standard chart data.

4991	**[IPU Image Path Selection]**		
	Selects the image path. Enter the number to be selected using the 10-key pad.		
001	RGB Frame Memory	-	[0 to 11 / **2** / 1 /step]
	0: Scanner input RGB images 1: Scanner I/F RGB images 2: RGB images done by Shading correction (Shading ON, Black offset ON) 3: Shading data 4: Inner pattern data: Gray scale 5: RGB images done by Line skipping correction 6: RGB images done by Digital AE 7: RGB images done by Vertical line correction 8: RGB image done by Scanner gamma correction 9: RGB image done by Filtering correction 10: RGB images done by Full color ADS 11: RGB image done by Color correction		

4993	**[High Light Correction]**		
001	Sensitivity Selection	*ENG	Selects the Highlight correction level. [0 to 9 / **4** / 1 /step] 0: weakest sensitivity 9: strongest sensitivity
002	Range Selection	*ENG	Selects the range level of Highlight correction. [0 to 9 / **4** / 1 /step] 0: weakest skew correction, 9: strongest skew correction

4994	**[Text/Photo Detection Level Adj.]**		
	Selects the definition level between Text and Photo for high compression PDF.		
001	High Compression PDF	*ENG	[0 to 2 / **1** / 1 /step] 0: Text priority 1: Normal 2: Photo priority

4996	**[White Paper Detect Level]**		
	Selects the threshold level of the original background density. Increasing this threshold level machine easily judge that an original is white.		
001	-	*ENG	[0 to 6 / **3** / 1 /step] 0: lightest 6: Darkest

3.5 SYSTEM SP5XXX

3.5.1 SP5-XXX (MODE)

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 / **0** / -] 0: Developments 1: Prints

5047	**[Paper Display]**		
	Turns on or off the printed paper display on the LCD.		
001	Backing Paper	*CTL	[0 or 1 / **0** / -] 0: OFF, 1: ON

5051	**[Toner Refill Detection Display]**		
	Enables or disables the toner refill detection display.		
5051 1	-	*CTL	[0 or 1 / **0** / -] Alphanumeric 0: ON 1: OFF

5055	**[Display IP Address]**		
	Display or does not display the IP address on the LCD.		
001	-	*CTL	[0 or 1 / **0** / -] 0: OFF 1: ON

5056	**[Coverage Counter Display]**		
	Display or does not display the coverage counter on the LCD.		
001	-	*CTL	[0 or 1 / **0** / -] 0: Not display, 1: Display

5061	**[Toner Remaining Icon Display Change]**		
	Display or does not display the remaining toner display icon on the LCD.		
001	-	*CTL	[0 or 1 / **0** / -] 0: Not display, 1: Display

5062	**[Parts PM System Setting]**		
	Display or does not display the PM part yield on the LCD.		
001	PCU:Bk	*CTL	[0 or 1 / **0** / -] **0:** No Display, 1: Display
002	PCU:M	*CTL	
003	PCU:C	*CTL	
004	PCU:Y	*CTL	
005	Development Unit:Bk	*CTL	
006	Development Unit:M	*CTL	
007	Development Unit:C	*CTL	
008	Development Unit:Y	*CTL	
009	Image Transfer Belt	*CTL	

010	ITB Cleaning Unit	*CTL	
011	Fusing Unit	*CTL	
012	PTR Unit	*CTL	
013	PCU Toner Collection Bottle	*CTL	

5063	**[Small Tray]**		
001	-	*CTL	[0 or 1 / **0** / -] **0:** Normal Tray, 1: Envelope Feeder
	Changes the tray setting.		

5066	**[Parts PM Menu Display Setting] Not used**		
001	-	*CTL	[0 or 1 / **0** / -] **0:** No Display, 1: Display

5067	**[Parts PM System Setting]**		
	Selects the service maintenance or user maintenance for each PM parts. If the user service is selected, PM alart is displayed on the LCD.		
001	PCU:Bk	*CTL	**[0: Service]** or [1: User]
002	PCU:M	*CTL	
003	PCU:C	*CTL	
004	PCU:Y	*CTL	
005	Development Unit:Bk	*CTL	**[0: Service]** or [1: User]
006	Development Unit:M	*CTL	
007	Development Unit:C	*CTL	
008	Development Unit:Y	*CTL	
009	Image Transfer Belt	*CTL	**[0: Service]** or [1: User]

010	ITB Cleaning Unit	*CTL	
011	Fusing Belt	*CTL	
012	PTR Unit	*CTL	
013	PCU Toner Collection Bottle	*CTL	

5071	**[Set Bypass Paper Size]**		
001	-	*CTL	[0 or 1 / **0** / -] 0: Off, 1: On
	Turn on or off the paper size confirmation pop-up on the LED. This pop-up prevents mismatching between a paper size selected by the operation panel and an actual paper size on the by-pass tray.		

5104	**[A3/DLT Double Count] SSP**		
001	PCU:Bk	*CTL	[0 to 2 / **0** / 1/step] 0: No 1: Yes 2: Yes except By-pass
	Specifies whether the counter is doubled for A3/DLT. "Yes" counts except from the bypass tray. When "Yes" is selected, A3 and DLT paper are counted twice, that is A4 x2 and LT x2 respectively.		

5113	**[Optional Counter Type]**		
001	Default Optional Counter Type	*CTL	This program specifies the counter type. **0**: **None**, 1: Key card (RK 3, 4) 2: Key card (down), 3: Prepaid card 4: Coin rack, 5: MF key card 8: Key counter + Vendor 9: Bar-code Printer
002	External Optional Counter Type	*CTL	This program specifies the external counter type. **0**: **None** 1: Expansion Device 1 2: Expansion Device 2 3: Expansion Device 3

5114	**[Optional Counter I/F]**		
001	MF Key Card Extension	*CTL	[**0: Not installed/** 1: Installed (scanning accounting)]

5118	**[Disable Copying]**	*CTL	[**0**: Not disabled/ 1: Disabled]
001	This program disables copying.		

5120	**[Mode Clear Opt. Counter Removal]**	*CTL	[**0**: **Yes (removed)**/ 1: Standby (installed but not used)/ 2: No (not removed)]
001	This program updates the information on the optional counter. When you install or remove an optional counter, check the settings.		

5121	**[Counter Up Timing]**	*CTL	[**0: Feed**/ 1: Exit]
001	This program specifies when the counter goes up. The settings refer to "paper feed" and "paper exit" respectively.		

5126	**[F Size Original Setting]**	*ENG	[0 to 2 / **0** / 1 /step] 0: 8 1/2" x 13" (Foolscap) 1: 8 1/4" x 13" (Folio) 2: 8" x 13" (F)
001	Selects F size original setting.		

5127	**[APS Mode]**	*CTL	[**0**: Not disabled/ 1: Disabled]
001	This program disables the APS.		

5128	**[Code Mode With Key/Card Option]**	*CTL	-
001	**DFU**		

5131	**[Paper Size Type Selection]**	*ENG	**DFU** [0: JP (Japan)/ 1: NA / 2: EU]
001	The program selects a paper size system from the following alternatives: the AB system (0), the LT system (1), and the AF system (2).		

5150	**[By-Pass Length Setting]**	*CTL	[**0**: OFF/ 1: ON]
001	Determines whether the transfer sheet from the by-pass tray is used or not. Normally the paper length for sub scanning paper from the by-pass tray is limited to 600 mm, but this can be extended with this SP to 1260 mm.		

5162	**[App. Switch Method]**	*CTL	[**0**: Soft Key Set/ 1: Hard Key Set]
001	This program specifies the switch that selects an application program.		

5167	**[Fax Printing Mode at Optional Counter Off]**		
	Enables or disables the automatic print out without an accounting device. This SP is used when the receiving fax is accounted by an external accounting device.		
001	Fax Printing Mode at Optional Counter Off	*CTL	[0 or 1 / **0** / -] 0: Automatic printing 1: No automatic printing

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

5181	**[Size Adjust]**		
	Adjusts the paper size for each tray.		
001	Tray 1:1	*ENG	[0 to 1 / **0 (EU/ASIA), 1 (NA)** / 1 /step] 0: A4 LEF, 1: LT LEF
002	Tray 1: 2	*ENG	[0 or 1 / **0 (EU/ASIA), 1 (NA)** / -] 0: A3, 1: DLT
003	Tray 1: 3	*ENG	[0 or 1 / **0 (EU/ASIA), 1 (NA)** / -] 0: B4, 1: LG
004	Tray 1: 4	*ENG	[0 or 1 / **0 (EU/ASIA), 1 (NA)** / -] 0: B5 LEF, 1: Exe LEF
005	Tray 2: 1	*ENG	[0 or 1 / **0 (EU/ASIA), 1 (NA)** / -] 0: A4 LEF, 1: LT LEF
006	Tray 2: 2	*ENG	[0 or 1 / **0 (EU/ASIA), 1 (NA)** / -] 0: A3, 1: DLT

007	Tray 2: 3	*ENG	[0 or 1 / **0 (EU/ASIA), 1 (NA)** / -] 0: B4, 1: LG
008	Tray 2: 4	*ENG	[0 or 1 / **0 (EU/ASIA), 1 (NA)** / -] 0: B5 LEF, 1: Exe LEF
009	Tray 3: 1	*ENG	[0 or 1 / **0 (EU/ASIA), 1 (NA)** / -] 0: A4 LEF, 1: LT LEF
010	Tray 3: 2	*ENG	[0 or 1 / **0 (EU/ASIA), 1 (NA)** / -] 0: A3, 1: DLT
011	Tray 3: 3	*ENG	[0 or 1 / **0 (EU/ASIA), 1 (NA)** / -] 0: B4, 1: LG
012	Tray 3: 4	*ENG	[0 or 1 / **0 (EU/ASIA), 1 (NA)** / -] 0: B5 LEF, 1: Exe LEF
013	Tray 4: 1	*ENG	[0 to 2 / **0 (EU/ASIA), 1 (NA)** / -] 0: A4LEF, 1: LTLEF
014	Tray 4: 2	*ENG	[0 or 1 / **0 (EU/ASIA), 1 (NA)** / -] 0: A3, 1: DLT
015	Tray 4: 3	*ENG	[0 or 1 / **0 (EU/ASIA), 1 (NA)** / -] 0: B4, 1: LG
016	Tray 4: 4	*ENG	[0 or 1 / **0 (EU/ASIA), 1 (NA)** / -] 0: B5 LEF, 1: Exe LEF

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

Appendix: SP Mode Tables

5188	**[Copy NV Version]**		
	Displays the version number of the NVRAM on the controller board.		
001	-	*CTL	-

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".		

5196	**[Copier Vendor Mode]**		
001	90 deg. Rotation	*CTL	Not used
002	Color and Tray Selection	*CTL	Not used

5199	**[Paper Exit After Staple End.]**		
001	-	*CTL	[0 or 1 / **0** / -] 0: OFF, 1: ON
	Enables or disables the paper feeding out from the finisher without stapling. ▪ If this setting is "1: ON", paper is fed out without stapling at the maximum number of the finisher stapling when the machine gets a multiple printing job (over maximum number). ▪ If this setting is "0: OFF", paper is fed out with stapling at the maximum number of the finisher stapling when the machine gets a multiple printing job (over maximum number).		

5212	**[Page Numbering]**	*CTL		
	This program adjusts the position of the second side page numbers. A "– value" moves the page number positions to the left edge. A "+ value" moves the page number positions to the right edge.			
003	Duplex Printout Right/Left Position			[–10 to 10 / **0** / 1 mm/step]
004	Duplex Printout High/Low Position			

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)		
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**		
103	Default Document ACL	*CTL	Whenever a new login user is added to the address book in external certification mode (for Windows, LDAP, RDH), the default document ACL is updated according to this SP setting. [0 to 3 / **0** / 1] 0: View 1: Edit 2: Edit/Delete 3: Full control Note: This SP setting is ignored on a machine that is not using document server.
104	Authentication Time	*CTL	[0 to 255 / **0** / 1 sec./step] 0: 60 seconds 1 to 250 seconds
	Specifies the timeout of the authentication.		
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	-
	Enables 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	Determines whether LDAP option (anonymous certification) is turned on or off. Bit0 **0: OFF**, 1: ON

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 999 / **60** / 1 min.]
005	Counter Clear Time	*CTL	**Not Used**

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.		
001	Copy	*CTL	Determines whether certification is required before a user can use the copy applications. [0 to 1 / **0** /1] 0: On, 1: Off
002	Color Security Setting	*CTL	-
	Enables or disables the color copy limitation for each copy mode when the user authentication is "ON". 0: Enable (default), 1: Disable Bit0: B/W mode Bit1: Mono color mode Bit2: Two colors mode Bit3: Full color mode Bit4: Automatic color mode Bit5 to 7: Reserved		

011	Document Server	*CTL	Determines whether certification is required before a user can use the document server. [0 to 1 / **0** /1] 0: On, 1: Off
021	Fax	*CTL	Determines whether certification is required before a user can use the fax application. [0 to 1 / **0** /1] 0: On, 1: Off
031	Scanner	*CTL	Determines whether certification is required before a user can use the scan applications. [0 to 1 / **0** /1] 0: On, 1: Off
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		

5430	**[Auth Dialog Message Change]**		
001	Message Change On/Off	*CTL	Turns on or off the displayed message change for the authentication. [0 or 1 / **0** / -] 0: Off, 1: On
002	Message Text Download	*CTL	Executes the message download for the authentication.
003	Message Text ID	*CTL	Inputs message text for the authentication.

5431	**[External Auth Preset]**		
010	Tag	*CTL	[0 or 1 / **1** / -] 0: Not permit, 1: Permit
	Turns on or off the tag copy permission for the external authentication.		
011	Entry	*CTL	[0 or 1 / **1** / -] 0: Not permit, 1: Permit
	Turns on or off the copy permission of the entry information for the external authentication.		
012	Group	*CTL	[0 or 1 / **1** / -] 0: Not permit, 1: Permit
	Turns on or off the copy permission of the group information for the external authentication.		
020	Mail	*CTL	[0 or 1 / **1** / -] 0: Not permit, 1: Permit
	Turns on or off the copy permission of the mail information for the external authentication.		

030	Fax	*CTL	[0 or 1 / **1** / -] 0: Not permit, 1: Permit
	Turns on or off the copy permission of the fax information for the external authentication.		
031	FaxSub	*CTL	[0 or 1 / **1** / -] 0: Not permit, 1: Permit
	Turns on or off the copy permission of the fax additional information for the external authentication.		
032	Folder	*CTL	[0 or 1 / **1** / -] 0: Not permit, 1: Permit
	Turns on or off the copy permission of the folder information for the external authentication.		
033	ProtectCode	*CTL	[0 or 1 / **1** / -] 0: Not permit, 1: Permit
	Turns on or off the copy permission of the protection code information for the external authentication.		
034	SmtpAuth	*CTL	[0 or 1 / **1** / -] 0: Not permit, 1: Permit
	Turns on or off the copy permission of the SMTP information for the external authentication.		
035	LdapAuth	*CTL	[0 or 1 / **1** / -] 0: Not permit, 1: Permit
	Turns on or off the copy permission of the LDAP information for the external authentication.		

036	Smb Ftp Auth	*CTL	[0 or 1 / **1** / -] 0: Not permit, 1: Permit
	Turns on or off the copy permission of the SMB/FTP information for the external authentication.		
037	AcntAcl	*CTL	[0 or 1 / **1** / -] 0: Not permit, 1: Permit
	Turns on or off the copy permission of the account ACL information for the external authentication.		
038	DocumentAcl	*CTL	[0 or 1 / **1** / -] 0: Not permit, 1: Permit
	Turns on or off the copy permission of the document ACL information for the external authentication.		
040	CertCrypt		[0 or 1 / **1** / -] 0: Not permit, 1: Permit
	Turns on or off the copy permission of the authentication information for the external authentication.		
050	UserLimitCount	*CTL	[0 or 1 / **1** / -] 0: Not permit, 1: Permit
	Turns on or off the copy permission of the maximum number information for the external authentication.		

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
002	Panel Disp	*CTL	Determines whether an error code appears on the operation panel after a user authentication failure occurs. [0 to 1 / **1** / 1] 1: On, 0: Off

5490	**[MF Key Card (Japan only)]**		
001	Job Permit Setting	*CTL	Sets up operation of the machine with a keycard. [0 to 1 / **0** / 1] 0: Disabled. Cancels operation without a user code. 1: Enabled. Allows operation without a user code.
002	Count Mode Setting	*CTL	-

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**
002	Original Count Alarm	*CTL	[0 or 1 / **1** / -] 0: No alarm sounds 1: Alarm sounds after the number of originals passing through the ARDF > 10,000

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	
002	Staple Supply Alarm	0: Off, **1**: On	
003	Toner 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]	
132	Interval :A3		
133	Interval :A4		
134	Interval :A5		
141	Interval :B4		
142	Interval :B5		
160	Interval :DLT		
164	Interval :LG		
166	Interval :LT		
172	Interval :HLT		

5508*	**[CC Call]**	*CTL	-
001*	Jam Remains	0: Disable, **1**: Enable	
	Enables/disables initiating a call for an unattended paper jam.		
002*	Continuous Jams	0: Disable, **1**: Enable	
	Enables/disables initiating a call for consecutive paper jams.		
003*	Continuous Door Open	0: Disable, **1**: Enable	
	Enables/disables initiating a call when the front door remains open.		
011*	Jam Detection: Time Length	[3 to 30 / **10** / 1 minute /step]	
	Sets the time a jam must remain before it becomes an "unattended paper jam".		
012*	Jam Detection: Continuous Count	[2 to 10 / **5** / 1 /step]	
	Sets the number of consecutive paper jams required to initiate a call.		
013*	Door Open: Time Length	[3 to 30 / **10** / 1 /step]	
	Sets the length of time the door remains open before the machine initiates a call.		

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	
003	Service Parts End Call	
004	User Call	
006	Communication Test Call	[0 or 1 / **1** / -]

007	Machine Information Notice	0: Off 1: On
008	Alarm Notice	
009	Non Genuin Tonner Alarm	
010	Supply Automatic Ordering Call	
011	Supply Manegement Report Call	
012	Jam/Door Open Call	

5516	[Individual PM Part Alarm Call]	*CTL	-
	With @Remote in use, these SP codes can be set to issue an PM alarm call when one of SP parts reaches its yield.		
001	Disable/Enable Setting (0: Not send, 1: Send)		[0 or 1 / **1** / -] 0: Not send, 1: Send
004	Percent yield for triggering PM alert		[1 to 255 / **75** / 1 %/step]

5610	**[Base Gamma Cntl P: Command]**	
004	Recall Factory Setting	-
	Recalls the factory settings of the base gamma control points.	
005	Restore Factory Setting	-
	Overwrites the current values onto the factory settings of the base gamma control points.	
006	Restore Prev. Setting	-
	Recalls the previous settings of the base gamma control points.	

5611	**[Toner Color in 2C]**		
001	B-C	*ENG	[0 to 128 / **100** / 1 /step] 128: Darkest density
	Adjusts the Cyan correction value of the blue signal in two-color mode.		
002	B-M	*ENG	[0 to 128 / **100** / 1 /step] 128: Darkest density
	Adjusts the Magenta correction value of the blue signal in two-color mode.		
003	G-C	*ENG	[0 to 128 / **100** / 1 /step] 128: Darkest density
	Adjusts the Cyan correction value of the blue signal in two-color mode.		
004	G-Y	*ENG	[0 to 128 / **100** / 1 /step] 128: Darkest density
	Adjusts the Yellow correction value of the blue signal in two-color mode.		
005	R-M	*ENG	[0 to 128 / **100** / 1 /step] 128: Darkest density
	Adjusts the Magenta correction value of the blue signal in two-color mode.		
006	R-Y	*ENG	[0 to 128 / **100** / 1 /step] 128: Darkest density
	Adjusts the Yellow correction value of the blue signal in two-color mode.		

5618	**[Color Mode Display Selection]**		
001	-	*CTL	[0 or 1 / **1** / -] 0: ACS, Colour, Black & White, Two Colour, Single colour 1: ACD, Full Colour, Black & White
	Selects the color selection display on the LCD.		

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 (SP8-581, 582, 583, 584, and 586) are not cleared.

5730

Extended Function Setting

5731	[Counter Effect] **JPN only**		
001	Change Mk1 Cnt (Paper->Combine)	*CTL	[0 or 1 / **0** / -] 0: Disabled, 1: Enabled

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.
006	Copier application	Initializes all copier application settings.

007	Fax application	Initializes the fax reset time, job login ID, all TX/RX settings, local storage file numbers, and off-hook timer.
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
009	Scanner application	Initializes the scanner defaults for the scanner and all the scanner SP modes.
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)
012	R-FAX	Initializes the job login ID, SmartDeviceMonitor for Admin, job history, and local storage file numbers.
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.
020	Web Uapli	Initializes the web user application 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]		
001	TIMES	-	[0 to 65535 / - / 1 /step]
	Displays the counter for the RFID communication test.		
002	NOT 0	-	[0 to 65535 / - / 1 /step]
	Displays the counter for the RFID communication failure.		
003	RET.	-	[0 to 65535 / - / 1 /step]
	Displays the counter for the RFID communication retry.		
004	EXE.ALL	-	Execute the RFID communication test for all colors.
005	EXE.K	-	Execute the RFID communication test for balck.
006	EXE.M	-	Execute the RFID communication test for magenta.
007	EXE.C	-	Execute the RFID communication test for cyan.
008	EXE.Y	-	Execute the RFID communication test for yellow.

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	-	Inputs the serial number.
005	FRAM		

5812	**[Service Tel. No. Setting]**		
001	Service	*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).		
003	Supply	*CTL	-
	Use this to input the telephone number of your supplier for consumables. Enter the number and press #.		

004	Operation	*CTL	-
	Use this to input the telephone number of your sales agency. Enter the number and press #.		

5816	**[Remote Service]**	*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	RCG – C Registed
	This SP displays the Embedded RC Gate installation end flag. 0: Installation not completed 1: Installation completed

022	RCG – C Regist Detail
	This SP displays the Embedded RC Gate installation status. 0: RCG device not registered 1: RCG device registered 2: Device registered
023	Connect Type (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.
065	Proxy User Name
	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.
066	Proxy Password
	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.

067	CERT: Up State	
	Displays the status of the certification update.	
	0	The certification used by Embedded RC Gate is set correctly.
	1	The certification request (setAuthKey) for update has been received from the GW URL and certification is presently being updated.
	2	The certification update is completed and the GW URL is being notified of the successful update.
	3	The certification update failed, and the GW URL is being notified of the failed update.
	4	The period of the certification has expired and new request for an update is being sent to the GW URL.
	11	A rescue update for certification has been issued and a rescue certification setting is in progress for the rescue GW connection.
	12	The rescue certification setting is completed and the GW URL is being notified of the certification update request.
	13	The notification of the request for certification update has completed successfully, and the system is waiting for the certification update request from the rescue GW URL.
	14	The notification of the certification request has been received from the rescue GW controller, and the certification is being stored.
	15	The certification has been stored, and the GW URL is being notified of the successful completion of this event.
	16	The storing of the certification has failed, and the GW URL is being notified of the failure of this event.
	17	The certification update request has been received from the GW URL, the GW URL was notified of the results of the update after it was completed, but a certification error has been received, and the rescue certification is being recorded.
	18	The rescue certification of No. 17 has been recorded, and the GW URL

		is being notified of the failure of the certification update.
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.
085	Firm Up User Check	This SP setting determines if the operator can confirm the previous version of the firmware before the firmware update execution. If the option to confirm the previous version is selected, a notification is sent to the system manager and the firmware update is done with the firmware files from the URL.
086	Firmware Size	Allows the service technician to confirm the size of the firmware data files during the firmware update execution.
087	CERT: Macro Ver.	Displays the macro version of the @Remote certification.

088	CERT: PAC Ver.	Displays the PAC version of the @Remote certification.
089	CERT: ID2 Code	Displays ID2 for the @Remote certification. Spaces are displayed as underscores (_). Asteriskes (*) indicate that no @Remote certification exists. "000000___________" indicates "Common certification".
090	CERT: Subject	Displays the common name of the @Remote certification subject. CN = the following 17 bytes. Spaces are displayed as underscores (_). Asterisks (*) indicate that no @Remote certification exists. "000000___________" indicates "Common certification".
091	CERT: Serial No.	Displays serial number for the @Remote certification. Asterisks (*) indicate that no @Remote certification exists.
092	CERT: Issuer	Displays the common name of the issuer of the @Remote certification. CN = the following 30 bytes. Asteriskes () indicate that no @Remote certification exists.
093	CERT: Valid Start	Displays the start time of the period for which the current @Remote certification is enabled.
094	CERT: Valid End	Displays the end time of the period for which the current @Remote certification is enabled.
150	Selection Country	
	Not used	
151	Line Type Automatic Judgment	
	Not used	
152	Line Type Judgment Result	
	Not used	

153	Selection Dial/Push		
	Not used		
154	Outside Line/Outgoing Number		
	▪ **Not used**		
156	Dial Up User Name		
	▪ **Not used**		
157	Dial Up Password		
	▪ **Not used**		
161	Local Phone Number		
	Not used		
162	Connection Timing Adjustment: Incoming		
	Not used		
163	Access Point		
	Not used		
164	Line Connecting		
	Not used		
173	Modem Serial Number	**Not used**	
174	Retransmission Limit		
	Not used		
187	FAX TX Priority	-	
	Not used		
200	Manual Polling	-	**Not used**

201	Regist: Status	
	Displays a number that indicates the status of the @Remote service device. 0: Neither the @Remote device nor Embedded RCG Gate is set. 1: The Embedded RCG Gate is being set. Only Box registration is completed. In this status, @Remote device cannot communicate with this device. 2: The Embedded RCG Gate is set. In this status, the @Remote device cannot communicate with this device. 3: The @Remote device is being set. In this status the Embedded RCG Gate cannot be set. 4: The @Remote module has not started.	
202	Letter Number	Allows entry of the request number needed for the Embedded RCG Gate.
203	Confirm Execute	Executes the confirmation request to the @Remote Gateway.
204	Confirm Result	
	Displays a number that indicates the result of the confirmation executed with SP5816-203. 0: Succeeded 1: Confirmation number error 2: Registration in progress 3: Proxy error (proxy enabled) 4: Proxy error (proxy disabled) 5: Proxy error (Illegal user name or password) 6: Communication error 7: Certification update error 8: Other error 9: Confirmation executing	
205	Confirm Place	
	Displays the result of the notification sent to the device from the Gateway in answer to the confirmation request. Displayed only when the result is registered at the Gateway.	
206	Register Execute	Executes "Embedded RCG Registration".

207	Register Result		
	Displays a number that indicates the registration result. 0: Succeeded 2: Registration in progress 3: Proxy error (proxy enabled) 4: Proxy error (proxy disabled) 5: Proxy error (Illegal user name or password) 6: Communication error 7: Certification update error 8: Other error 9: Registration executing		
208	Error Code		
	Displays a number that describes the error code that was issued when either SP5816-204 or SP5816-207 was executed.		
	Cause	**Code**	**Meaning**
	Illegal Modem Parameter	-11001	Chat parameter error
		-11002	Chat execution error
		-11003	Unexpected error
	Operation Error, Incorrect Setting	-12002	Inquiry, registration attempted without acquiring device status.
		-12003	Attempted registration without execution of an inquiry and no previous registration.
		-12004	Attempted setting with illegal entries for certification and ID2.
	Operation Error, Incorrect Setting	-12005	@Remote communication is prohibited. The device has an Embedded RC gate-related problem.
		-12006	A confirmation request was made after the confirmation had been already completed.

		-12007	The request number used at registration was different from the one used at confirmation.
		-12008	Update certification failed because mainframe was in use.
		-12009	ID2 mismatch between an individual certification and NVRAM
		-12010	Certification area is not initialized.
	Error Caused by Response from GW URL	-2385	Attempted dial up overseas without the correct international prefix for the telephone number.
		-2387	Not supported at the Service Center
		-2389	Database out of service
		-2390	Program out of service
		-2391	Two registrations for same device
		-2392	Parameter error
		-2393	RCG device not managed
		-2394	Device not managed
		-2395	Box ID for RCG device is illegal
		-2396	Device ID for RCG device is illegal
		-2397	Incorrect ID2 format
		-2398	Incorrect request number format
209	Instl Clear	Releases the machine from its Embedded RCG Gate setup. **NOTE:** Turn off and on the main power switch after this setting has been changed.	
250	CommLog Print	Prints the communication log.	

5821	**[Remote Service 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 Data 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 Data 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.
002	HDD Formatting (IMH)	
003	HDD Formatting (Thumbnail)	
004	HDD Formatting (Job Log)	
005	HDD Formatting (Printer Fonts)	
006	HDD Formatting (User Info)	
007	Mail RX Data	
008	Mail TX Data	
009	HDD Formatting (Data for a Design)	
010	HDD Formatting (Log)	
011	HDD Formatting (Ridoc I/F)	

5836	**[Capture Settings]**	*CTL
001	Capture Function (0:Off 1:On)	**0**: Disable, 1: Enable
	With this function disabled, the settings related to the capture feature cannot be initialized, displayed, or selected.	
002	Panel Setting	**0**: Displayed, 1: Not displayed
	Displays or does not display the capture function buttons.	
	5836-71 to 5836-76, Copier and Printer Document Reduction The following 6 SP modes set the default reduction for stored documents sent to the document management server via the MLB. Enabled only when optional MLB (Media Link Board) is installed.	
071	Reduction for Copy Color	0: 1to-1, 1: 1/2, **2: 1/3**, 3: 1/4
072	Reduction for Copy B&W Text	**0: 1to-1**, 1: 1/2, 2: 1/3, 3: 1/4

073	Reduction for Copy B&W Other	**0: 1to-1**, 1: 1/2, 2: 1/3, 3: 1/4	
074	Reduction for Printer Color	0: 1to-1, 1: 1/2, **2: 1/3**, 3: 1/4	
075	Reduction for Printer B&W	**0: 1to-1**, 1: 1/2, 2: 1/3, 3: 1/4	
076	Reduction for Printer B&W HQ	**0: 1to-1**, 1: 1/2, 2: 1/3, 3: 1/4	
077	Reduction for Printer Color 1200	1: 1/2, 3: 1/4, **4: 1/6**, 5: 1/8 (2: skipped) , 6: 2/3	
078	Reduction for Printer B&W 1200	**1: 1/2**, 3: 1/4, 4: 1/6, 5: 1/8 (2: skipped) , 6: 2/3	
5836-81 to 5836-86, Stored document format The following 6 SP modes set Sets the default format for stored documents sent to the document management server via the MLB. Enabled only when optional MLB (Media Link Board) is installed.			
081	Format for Copy Color	**0: JFIF/JPEG**, 1: TIFF/MMR, 2: TIFF/MH, 3: TIFF/MR Note ▪ This SP is not used in this model.	
082	Format for Copy B&W Text	0: JFIF/JPEG, **1: TIFF/MMR**, 2: TIFF/MH, 3: TIFF/MR	
083	Format for Copy B&W Other	0: JFIF/JPEG, **1: TIFF/MMR**, 2: TIFF/MH, 3: TIFF/MR	
084	Format for Printer Color	**0: JFIF/JPEG**, 1: TIFF/MMR, 2: TIFF/MH, 3: TIFF/MR Note ▪ This SP is not used in this model.	
085	Format for Printer B&W	0: JFIF/JPEG, **1: TIFF/MMR**, 2: TIFF/MH, 3: TIFF/MR	
086	Format for Printer B&W HQ	0: JFIF/JPEG, 1: TIFF/MMR, **2: TIFF/MH**, 3: TIFF/MR	

091	Default for JPEG	[5 to 95 / **50** / 1 /step]	
	Sets the JPEG format default for documents sent to the document management server via the MLB with JPEG selected as the format. Enabled only when optional MLB (Media Link Board) is installed.		
101	Primary srv IP address	Sets the IP address for the primary capture server. This is basically adjusted by the remote system.	
102	Primary srv scheme	This is basically adjusted by the remote system.	
103	Primary srv port number	This is basically adjusted by the remote system.	
104	Primary srv URL path	This is basically adjusted by the remote system.	
111	Secondary srv IP address	Sets the IP address for the secondary capture server. This is basically adjusted by the remote system.	
112	Secondary srv scheme	This is basically adjusted by the remote system.	
113	Secondary srv port number	This is basically adjusted by the remote system.	
114	Secondary srv URL path	This is basically adjusted by the remote system.	
120	Default Reso Rate Switch	This is basically adjusted by the remote system.	
121	Reso: Copy (Color)	[0 to 3 / **2** / 1/step]	
	Selects the resolution for color copy mode. This is basically adjusted by the remote system. 0: 600dpi/ 1: 300dpi/ 2: 150dpi/ 3: 75dpi		
122	Reso: Copy (Mono)	[0 to 5 / **3** / 1/step]	
	Selects the resolution for BW copy mode. This is basically adjusted by the remote system. 0: 600dpi/ 1: 400dpi/ 2: 300dpi/ 3: 200dpi/ 4: 150dpi/ 5: 100dpi		

123	Reso: Print (Color)	This is basically adjusted by the remote system. [0 to 3 / **2** / 1/step]	
	Selects the resolution for color print mode. This is basically adjusted by the remote system. 0: 600dpi/ 1: 300dpi/ 2: 150dpi/ 3: 75dpi		
124	Reso: Print (Mono)	This is basically adjusted by the remote system. [0 to 5 / **3** / 1/step]	
	Selects the resolution for BW print mode. This is basically adjusted by the remote system. 0: 600dpi/ 1: 400dpi/ 2: 300dpi/ 3: 200dpi/ 4: 150dpi/ 5: 100dpi		
125	Reso: Fax (Color)	This is basically adjusted by the remote system. [0 to 6 / **4** / 1/step]	
	Selects the resolution for color fax mode. This is basically adjusted by the remote system. 0: 600dpi/ 1: 400dpi/ 2: 300dpi/ 3: 200dpi/ 4: 150dpi/ 5: 100dpi/ 6: 75dpi		
126	Reso: Fax (Mono)	This is basically adjusted by the remote system. [0 to 6 / **3** / 1/step]	
	Selects the resolution for BW fax mode. This is basically adjusted by the remote system. 0: 600dpi/ 1: 400dpi/ 2: 300dpi/ 3: 200dpi/ 4: 150dpi/ 5: 100dpi/ 6: 75dpi		
127	Reso: Scan (Color)	This is basically adjusted by the remote system. [0 to 6 / **4** / 1/step]	
	Selects the resolution for color scanning mode. This is basically adjusted by the remote system. 0: 600dpi/ 1: 400dpi/ 2: 300dpi/ 3: 200dpi/ 4: 150dpi/ 5: 100dpi/ 6: 75dpi		

128	Reso: Scan (Mono)	This is basically adjusted by the remote system. [0 to 6 / **3** / 1/step]	
	Selects the resolution for BW scanning mode. This is basically adjusted by the remote system. 0: 600dpi/ 1: 400dpi/ 2: 300dpi/ 3: 200dpi/ 4: 150dpi/ 5: 100dpi/ 6: 75dpi		
141	All Addr Info Switch	[0 or 1 / **1** / -] 0: Off, 1: On	
	Turns on or off the all address information transmission for the captured resources.		
142	Stand-by Doc Max Number	[10 to 10000 / **2000** / 1/step]	
	Selects the maximum number of captured documents to be transmitted to the document server.		

5840	**[IEEE 802.11]**		
006	Channel MAX	*CTL	[1 to 11 or 13 / **11 or 13** / 1 /step] Europe/Asia: 1 to 13 NA/ Asia: 1 to 11
	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. **DFU** Note ▪ Do not change the setting.		
007	Channel MIN	*CTL	[1 to 11 or 13 / **1** / 1 /step] Europe: 1 to 13 NA/ Asia: 1 to 11
	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. **DFU** Note ▪ Do not change the setting.		
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)
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)
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.
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.
044	11g Slot Time	*CTL	Selects the slot time for IEEE802.11. [0 to 1 / **0** / 1] 0: 20 µm, 1: 9 µm
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.

5841	**[Supply Name Setting]**		
001	Toner Name Setting: Black	*CTL	Specifies supply names. These appear on the screen when the user presses the Inquiry button in the user tools screen.
002	Toner Name Setting: Cyan		
003	Toner Name Setting: Yellow		
004	Toner Name Setting: Magenta		
007	OrgStamp		
011	Staple Std1		
012	Staple Std2		
013	Staple Std3		
014	Staple Std4		

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	0x01: Full speed **0x04: Auto Change**
	Adjusts the USB transfer rate.		
002	Vendor ID	*CTL	Displays the vendor ID. **DFU**
003	Product ID	*CTL	Displays the product ID. **DFU**
004	Device Release Number	*CTL	Displays the development release version number. **DFU**
006	PnP Model Name	*CTL	Inputs the model name.
007	PnP Serial Number	*CTL	Inputs the serial number.
100	Notify Unsupport	*CTL	[0 or 1 / **1** / -] 0: Disable, 1: Enable
	Enables or disables the unsupported USB display.		

5845	**[Delivery Server Setting]**	*CTL	-
	Provides items for delivery server settings.		
001	FTP Port No.	[0 to 65535 / **3670** / 1 /step]	
	Sets the FTP port number used when image files to the Scan Router Server.		
002	IP Address (Primary)	Range: **000.000.000.000** to 255.255.255.255	
	Use this SP to set the Scan Router Server address. The IP address under the transfer tab can be referenced by the initial system setting.		

006	Delivery Error Display Time	[0 to 999 / **300** / 1 second /step]
	Use this setting to determine the length of time the prompt message is displayed when a test error occurs during document transfer with the NetFile application and an external device.	
008	IP Address (Secondary)	Range: **000.000.000.000** to 255.255.255.255
	Specifies the IP address assigned to the computer designated to function as the secondary delivery server of Scan Router. This SP allows only the setting of the IP address without reference to the DNS setting.	
009	Delivery Server Model	[0 to 4/ **0** / 1 /step]
	Allows changing the model of the delivery server registered by the I/O device. 0: Unknown 1: SG1 Provided 2: SG1 Package 3: SG2 Provided 4: SG2 Package	
010	Delivery Svr Capability	[0 to 255 / **0** / 1 /step]
	Changes the capability of the registered that the I/O device registered.	
	Bit7 = 1 Comment information exits	
	Bit6 = 1 Direct specification of mail address possible	
	Bit5 = 1 Mail RX confirmation setting possible	
	Bit4 = 1 Address book automatic update function exists	
	Bit3 = 1 Fax RX delivery function exists	
	Bit2 = 1 Sender password function exists	
	Bit1 = 1 Function to link MK-1 user and Sender exists	
	Bit0 = 1 Sender specification required (if set to 1, Bit6 is set to "0")	
011	Delivery Svr Capability (Ext)	[0 to 255 / **0** / 1 /step]

	Changes the capability of the registered that the I/O device registered.
	Bit7 = 1 Address book usage limitation (Limitation for each authorized user) Bit6 = 1 RDH authorization link Bit5 to 0: Not used
013	Server Scheme (Primary) **DFU**
	This is used for the scan router program.
014	Server Port Number (Primary) **DFU**
	This is used for the scan router program.
015	Server URL Path (Primary) **DFU**
	This is used for the scan router program.
016	Server Scheme (Secondary) **DFU**
	This is used for the scan router program.
017	Server Port Number (Secondary) **DFU**
	This is used for the scan router program.
018	Server URL Path (Secondary) **DFU**
	This is used for the scan router program.
022	Rapid Sending Control
	Enables or disables the prevention function for the continuous data sending error. [0 to 1 / **0** / -] 0: Disable, 1: Enable

5846	**[UCS Settings]**	*CTL	-
001	Machine ID (For Delivery Server)		Displays ID
	Displays the unique device ID in use by the delivery server directory. The value is only displayed and cannot be changed. This ID is created from the NIC MAC or IEEE 1394 EUI. The ID is displayed as either 6-byle or 8-byte binary.		
002	Machine ID Clear (For Delivery Server)		Clears ID
	Clears the unique ID of the device used as the name in the file transfer directory. Execute this SP if the connection of the device to the delivery server is unstable. After clearing the ID, the ID will be established again automatically by cycling the machine off and on.		
003	Maximum Entries		[2000 to 20000/ **2000** /1 /step]
	Changes the maximum number of entries that UCS can handle. If a value smaller than the present value is set, the UCS managed data is cleared, and the data (excluding user code information) is displayed.		
006	Delivery Server Retry Timer		[0 to 255 / **0** / 1 /step]
	Sets the interval for retry attempts when the delivery server fails to acquire the delivery server address book.		
007	Delivery Server Retry Times		[0 to 255 / **0** / 1 /step]
	Sets the number of retry attempts when the delivery server fails to acquire the delivery server address book.		
008	Delivery Server Maximum Entries		[2000 to 50000 / **2000** / 1/step]
	Sets the maximum number account entries of the delivery server user information managed by UCS.		

010	LDAP Search Timeout	[1 to 255 / **60** / 1 /step]
	Sets the length of the timeout for the search of the LDAP server.	
020	WSD Maximum Entries	
021	Folder Auth Change 0: Login User, 1: Destination	
022	Initial Value of Upper Limit Count 500	
040	Addr Book Migration (SD => HDD)	
	Not used in this machine.	
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.
048	Initialize Delivery Addr Book	Clears the distribution address book information, except 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**	
091	FTP Auth Port Setting	Specifies the FTP port for getting a distribution server address book that is used in the identification mode. [0 to 65535 / **3671** / 1 /step]
094	Encryption Stat	Shows the status of the encryption function for the address book data.

5847	**[Rep Resolution Reduction]**	*CTL	-
	SP5847-1 through SP5847-8 changes the default settings of image data transferred externally by the Net File page reference function. [0 to 5 / **2** / 1 /step] SP5847-21 sets the default for JPEG image quality of image files handled by NetFile. "Net files" are jobs to be printed from the document server using a PC and the DeskTopBinder software.		
001	Rate for Copy Color		0: 1x 1: 1/2x **2: 1/3x** 3: 1/4x 4: 1/6x 5: 1/8x
002	Rate for Copy B&W Text		
003	Rate for Copy B&W Other		
004	Rate for Printer Color		
005	Rate for Printer B&W		
006	Rate for Printer Color 1200dpi		0: 1x 1: 1/2x 2: 1/3x 3: 1/4x **4: 1/6x** 5: 1/8x
007	Rate for Printer B&W 1200dpi		0: 1x **1: 1/2x** 2: 1/3x 3: 1/4x 4: 1/6x 5: 1/8x
021	Network Quality Default for JPEG		
	Sets the default value for the quality of JPEG images sent as NetFile pages. This function is available only with the MLB (Media Link Board) option installed. [5 to 95 / **50** / 1 /step]		

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.		
002	Access Ctrl: Repository (only Lower 4 bits)	0000: No access control 0001: Denies access to DeskTop Binder. **0010**: No writing control	
003	Access Ctrl: Doc. Svr. Print (Lower 4 bits)	Switches access control on and off. **0000**: No access control 0001: Denies access to DeskTop Binder.	
004	Access Ctrl: user Directory (only Lower 4 bits)		
007	Access Ctrl: Comm. Log Fax (Lower 4 bits)		
009	Access Ctrl: Job Ctrl (Lower 4 bits)		
011	Access Ctrl: Device management (Lower 4 bits)		
021	Access Ctrl: Delivery (Lower 4 bits)		
022	Access Ctrl: uadministration (Lower 4bits)		
099	Repository: Download Image Setting	**DFU**	
100	Repository: Download Image Max. Size	Specifies the max size of the image data that the machine can download. [1 to 1024 / **1024** / 1 MB /step]	
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	-
5849 1	Display	The "Counter Clear Day" has been changed to "Installation Date" or "Inst. Date".	
5849 2	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	-	

5850	**[Address Book Function]**	*CTL	-
003	Replacement of Circuit Classification **Japan Only**		
	The machine is sold ready to use with a G3 line. This SP allows you to switch all at once to convert to G4 after you add a G4 line. Conversely, if for some reason the G4 line becomes unusable, you can easily switch back to G3.		

5851	**[Bluetooth Mode]**
	Sets the operation mode for the Bluetooth Unit. Press either key. [0:Public] [1: Private]

5853	**[Stamp Data Download]**
	Use this SP to download the fixed stamp data stored in the firmware of the ROM and copy it to the HDD. This SP can be executed as many times as required. This SP must be executed after replacing or formatting the hard disks. Note ▪ This SP can be executed only with the hard disks installed.

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 copier 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	**-**
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

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).

5875	**[SC Auto Reboot]**		
001	Reboot Setting	*CTL	Enables or disables the automatic reboot function when an SC error occurs. [0 or 1/ **0** / –] 0: The machine reboots automatically when the machine issues an SC error and logs the SC error code. If the same SC occurs again, the machine does not reboot. 1: The machine does not reboot when an SC error occurs. The reboot is not executed for Type A or C SC codes.
002	Reboot Type	*CTL	Selects the reboot method for SC. [0 or 1 / **0** / -] 0: Manual reboot, 1: Automatic reboot

5878	**[Option Setup]**		
001	Data 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.

5881	**[Fixed Phrase Block Erasing]**		
001	-	*ENG	Deletes the fixed phrase.

5884	**[Plain 1/2 Setting]**		
	Select the paper type (plain 1 or plain 2) for each tray.		
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	

5885	**[Set WIM Function]** Web Image Monitor Settings		
	Close or disclose the functions of web image monitor.		
020	Document Server ACC Ctrl	*CTL	0: OFF, 1: ON Bit Meaning 0: Forbid all document server access (1) 1: Forbid user mode access (1) 2: Forbid print function (1) 3: Forbid fax TX (1) 4: Forbid scan sending (1) 5: Forbid downloading (1) 6: Forbid delete (1) 7: Reserved
050	DocSvr Format	*CTL	Selects the display type for the document box list. [0 to 2 / **0** / 1] 0: Thumbnail, 1: Icon, 2: Details

051	DocSvr Trans	*CTL	Sets the number of documents to be displayed in the document box list. [5 to 20 / **10** / 1]
100	Set Signature	*CTL	[0 to 2 / **0** / 1/step] 0: Signature for each e-mail 1: Signature for all e-mails 2: No signature
	Selects whether the signature is added to the scanned documents with the WIM when they are transmitted by an e-mail.		
101	Set Encryption	*CTL	Determines whether the scanned documents with the WIM are encrypted when they are transmitted by an e-mail. [0 or 1 / **0** / 1] 0: Not encrypted, 1:Encryption
200	Detect Mem Leak	*CTL	Not used
201	DocSur Timeout	*CTL	Not used

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]**	*CTL	-
	Displays the counter name of each SDK application.		
001	SDK-1		
002	SDK-2		
003	SDK-3		
004	SDK-4		
005	SDK-5		
006	SDK-6		

5894	**[External Counter Setting]**		
	-		
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 the "Original Type" key and "#" key at the same time. When the setting is completed, the beeper sounds five times.

5913	**[Switchover Permission Time]**		
002	Print Application Timer	*CTL	[3 to 30 / **3** / 1 second /step]
	Sets the amount of time to elapse while the machine is in standby mode (and the operation panel keys have not been used) before another application can gain control of the display.		

5967	**[Copy Server Set Function]**	*CTL	**0**: ON, 1: OFF
001	Enables and disables the document server. This is a security measure that prevents image data from being left in the temporary area of the HDD. After changing this setting, you must switch the main switch off and on to enable the new setting.		

5974	**[Cherry Server]**		
	Specifies which version of ScanRouter, "Lite" or "Full", is installed.		
001	Cherry Server	*CTL	[0 or 1 / **0** / –] 0: Lite, 1: Full

5985	**[Device Setting]**	
	The NIC and USB support features are built into the GW controller. Use this SP to enable and disable these features. In order to use the NIC and USB functions built into the controller board, these SP codes must be set to "1".	
001	On Board NIC	[0 to 2 / **0** / 1 /step] 0: Disable, 1: Enable, 2: Function limitation When the "Function limitation" is set, "On board NIC" is limited only for the NRS or LDAP/NT authentication. Note ▪ Other network applications than NRS or LDAP/NT authentication are not available when this SP is set to "2". Even though you can change the initial settings of those

		network applications, the settings do not work.
002	On Board USB	[0 or 1 / **0** / 1/step] 0: Disable, 1: Enable

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)	-	
003	User Program	-	
004	Logging Data	-	
005	Diagnostic Report	-	
006	Non-Default	-	
007	NIB Summary	-	
008	Capture Log	-	
021	Copier User Program	-	
022	Scanner SP	-	
023	Scanner User Program	-	
024	SDK/J Summary	-	
025	SDK/J Application Info	-	

5997	**[Fusing Cont mode]**		
001	fast/silent	-	[0 or 1 / **1** / -] 0: Silent, 1: Fast
	Turns on or off the fusing unit preceding mode. The machine turns on the fusing unit first by default after power-on or recovery from the energy save mode. If a customer does not want the fusing unit to rotate before sending a job to the machine, change this setting to "0". In this case, the first print time or recovery time may be little bit longer than before.		

3.6 SYSTEM SP6XXX

3.6.1 SP6-XXX (PERIPHERALS)

6006	**[ADF Adjustment]**		
	Adjusts the side-to-side and leading registration of originals with the ARDF.		
001	S-to-S Registration 1st	*ENG	[-3.0 to 3.0 / **0** / 0.1 mm/step]
002	S-to-S Registration 2nd		
003	Leading Edge Registration		[-5.0 to 5.0 / **0** / 0.1 mm/step]
	Adjusts the amount of paper buckle to correct original skew for the front and rear sides.		
005	Buckle: Duplex: 1st	*ENG	[-5.0 to 5.0 / **0** / 0.1 mm/step]
006	Buckle: Duplex: 2nd		
	Adjusts the erase margin at the original trailing edge.		
007	Trailing Edge Erase	*ENG	[-5.0 to 5.0 / **0** / 0.1 mm/step]

6007	**[ADF INPUT Check]**
	Displays the signals received from the sensors and switches of the ARDF. Only Bit 0 is used for ADF input check (☛ p.3-396 "Input and Output Check Tables").

6008	**[ADF OUTPUT Check]**
	Activates the electrical components for functional check. It is not possible to activate more than one component at the same time (☛p.3-396 "Input and Output Check Tables")

6009	**[ADF Free Run]**

	Performs a DF free run in simplex, duplex mode or stamp mode.		
002	Free Run Duplex Mode	-	

6010	**[Stamp Position Adj.]** Fax Stamp Position Adjustment		
	Adjusts the horizontal position of the stamp on the scanned originals.		
001	-	*ENG	[-5.0 to 5.0 / **0** / 1 mm/step]

6016	**[Original Size Detection Priority]** Original Size Detection Priority			
	Specifies the original size for a size detected by the original sensor, since original sensors cannot recognize all sizes.			
001	-	*ENG	[0 or 1 / **0** / -] 0: Setting 1 1: Setting 2	
			Setting 1	Setting 2
		NA	DLT SEF	Folio SEF 11" x 15"
			LG SEF	Foolscap SEF
			LT SEF	US EXE 8" x 10"
			LT LEF	US EXE LEF
		EU/ ASIA	DLT SEF	8K 267 x 390 mm
			LT SEF	16K 195 x 267 mm
			LT LEF	16K 267 x 195 mm

6017	**[DF Magnification Adj.]** DF Magnification Adjustment		
	Adjusts the magnification in the sub-scan direction for the ARDF.		
001	-	*CTL	[-5.0 to 5.0 / **0** / 0.1 %/step]

6101	**[Staple Position Adjustment]**

	Adjusts the staple position for finisher. + Value: Moves the staple position to the rear side. - Value: Moves the staple position to the front side.		
001	-	ENG	[-2 to 2 / **0** / 0.2mm/step]

6102	**[Punch Position Adjustment]**		
	Adjusts the punching position in the sub scan direction.		
001	Leading Edge Adjustment	ENG	[-1.5 to 1.5 / **0** / 0.1mm/step]

6103	**[Jogger Position Adjustment]**		
	Adjusts the jogger position		
001	-	ENG	[-4 to 4 / **0** / 0.1 mm/step]

6104	**[Punch Position Adjustment]**		
	Adjusts the punching position in the main scan direction.		
001	Side-to-Side Adjustment	ENG	[-2.0 to 2.0 / **0** / 0.2mm/step]

6120	**[Finisher Input Check] Finisher (D429)**
	Displays the signals received from sensors and switches of the finisher. (☛p.3-396 "Input and Output Check Tables")

6121	**[Finisher Output Check] Finisher (D429)**
	Displays the signals received from sensors and switches of the finisher. (☛p.3-396 "Input and Output Check Tables")

6830	[Extra Staples]
	Not used in this model

3.7 SYSTEM SP7-XXX

3.7.1 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 SC991 detected. The 10 most recently detected SC991 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]

7503	**[Total Original Jam Counter]** Displays the total number of original jams.		
001	-	*CTL	[0 to 9999 / **0** / 1 original/step]

7504	**[Paper Jam Location]** ON: On check, OFF: Off Check		
	Displays the number of jams according to the location where jams were detected. **NOTE:** The LCT is counted as the 3rd feed station.		
001	At Power On	*CTL	For details, ☞ the "Jam Detection" in the Main Chapters
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	
017	Registration: On	*CTL	
018	Fusing Entrance: On	*CTL	
019	Fusing Exit: On	*CTL	
020	Paper Exit: On	*CTL	
024	Junction Gate Sensor: On	*CTL	
025	Duplex Exit: On	*CTL	
027	Duplex Entrance: ON (Out)	*CTL	
028	1-Bin Tray Exit Sensor: On	*CTL	For details, ☞ the "Jam Detection" in the Main Chapters
029	Right Tray Exit Sensor: On	*CTL	
051	Vertical Transport 1: Off	*CTL	
052	Vertical Transport 2: Off	*CTL	

053	Bank SEF Sensor 1: Off	*CTL	
057	Registration Sensor: Off	*CTL	
058	Fusing Entrance Sensor: Off	*CTL	
059	Fusing Exit Sensor: Off	*CTL	
060	Paper Exit: Off	*CTL	
065	Duplex Exit Sensor: Off	*CTL	
068	1-Bin Tray Exit: Off	*CTL	
069	Right Tray Exit Sensor: Off	*CTL	
230	FIN: Paper Exit Data Error	*CTL	
231	FIN: Command Error	*CTL	
240	FIN: Entrance: On	*CTL	For details, ☛ the "Jam Detection" in the Main Chapters
241	FIN: Entrance: Off	*CTL	
242	FIN: Feed Motor	*CTL	
243	FIN: Staler Motor	*CTL	
244	FIN: Jogger Motors	*CTL	
245	FIN: PU Roller Contact Motor	*CTL	
246	FIN: Stapler Movement Motor	*CTL	
247	FIN: Output Tray Motor	*CTL	
248	FIN: Belt Roller Solenoid	*CTL	
249	FIN: Front Fan	*CTL	
250	FIN: Punch Motor	*CTL	
251	FIN: Registration Motor	*CTL	
252	FIN: Stapling Error	*CTL	
253	FIN: Mainframe Set Incorrect	*CTL	

7505	**[Original Jam Detection]**		
	Displays the total number of original jams by location.		
001	At Power On	*CTL	-
003	Registration Sensor: On		
004	Registration Sensor: On		
005	Original Exit Sensor: On		
053	Registration Sensor: Off		
054	Registration Sensor: Off		
055	Original Exit Sensor: Off		

7506	**[Jam Count by Paper Size]**		
	Displays the number of jams according to the paper size.		
005	A4 LEF	*CTL	[0 to 9999 / **0** / 1 sheet/step]
006	A5 LEF		
014	B5 LEF		
038	LT LEF		
044	HLT LEF		
132	A3 SEF		
133	A4 SEF		
134	A5 SEF		
141	B4 SEF		
142	B5 SEF		
160	DLT 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		

7508	**[Original Jam History]**		
	Displays the 10 most recently detected original 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		

7624	**[Parts PM Use Setting]**		
001	PCU:Bk	*CTL	[0 or 1 / **1** / -] 0: No (Not PM maintenance) 1: Yes (PM maintenance)
002	PCU:M	*CTL	
003	PCU:C	*CTL	
004	PCU:Y	*CTL	
005	Development Unit:Bk	*CTL	
006	Development Unit:M	*CTL	
007	Development Unit:C	*CTL	
008	Development Unit:Y	*CTL	
009	Image Transfer Belt	*CTL	
010	ITB Cleaning Unit	*CTL	
011	Fusing Unit	*CTL	
012	PTR Unit	*CTL	
013	PCU Toner Collection Bottle	*CTL	

7801	**[ROM No./Firmware Version]**		
255	-	*CTL	Displays all versions and ROM numbers in the machine.

7803	**[PM Counter Display]**
	(Page, Unit, [Color])
-001 to -021	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 21.
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
010	Page: Developer: Bk
011	Page: Developer: C
012	Page: Developer: M
013	Page: Developer: Y
014	Page: ITB Unit
015	Page: ITB Cleaning Unit

016	Page: Fusing Unit
017	Page:Fusing Pad
018	Page: Fusing Belt
019	Page:PTR Unit
020	Page:ITB T-Collect Bottle
021	Page:PCU T-Collect Bottle
027	Rotation: Half Speed PCU: Bk
028	Rotation: Half Speed PCU: C
029	Rotation: Half Speed PCU: M
030	Rotation: Half Speed PCU: Y
-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 48) and is reset to "0". The total number of revolutions made with the last unit replaced can be checked with SP7-906-31 to 48.
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 Pad
047	Rotation: Fusing Belt
048	Rotation: PTR Unit
-049 to -050	[0 to 999999999 / - / 1 mg/step] Displays the total amount of each toner collection bottle.
049	Amount:ITB T-Collect Bottle
050	Amount:PCU 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		
069	Rotation (%): Developer: Bk		
070	Rotation (%): Developer: C		
071	Rotation (%): Developer: M		
072	Rotation (%): Developer: Y		
073	Rotation (%): ITB Unit		
074	Rotation (%): ITB Cleaning Unit		
075	Rotation (%): Fusing Unit		
076	Rotation (%): Fusing Pad		
077	Rotation (%): Fusing Belt		
078	Rotation (%):PTR Unit		
-079 to -080	[0 to 255 / - / 1 %/step] Displays how much of the unit’s expected lifetime has been used up.		
079	Amt(%):ITB T-Collect Bottle		
080	Amt(%):PCU 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		
099	Page (%): Developer: Bk		
100	Page (%): Developer: C	*ENG	[0 to 255 / - / 1 %/step]
101	Page (%): Developer: M		
102	Page (%): Developer: Y		
103	Page (%): ITB Unit		
104	Page (%): ITB Cleaning Unit		
105	Page (%): Fusing Unit		
106	Page (%): Fusing Pad		
107	Page (%): Fusing Belt		
108	Page (%): PTR Unit		

7804	**[PM Counter Reset]** PM Counter Clear
	(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
012	Developer: Bk
013	Developer: C
014	Developer: M
015	Developer: Y
016	Developer: All
017	ITB Unit
018	ITB Cleaning Unit
019	Fusing Unit
020	Fusing Pad
021	Fusing Belt
022	PTR Unit
023	ITB T-Collect Bottle
024	PCU T-Collect Bottle
100	All

7807	**[SC/Jam Counter Reset]**		
	Clears the counters related to SC codes and paper jams.		
001	-	*CTL	-

7826	**[MF Error Counter] Japan Only**		
001	Error Total	*CTL	-
002	Error Staple	*CTL	-

7827	**[MF Error Counter Clear] Japan Only**		
	-	*CTL	**-**

7832	**[Self-Diagnose Result Display]**		
	Displays the result of the diagnostics.		
001	-	*CTL	-

7835	**[ACC Counter]**		
001	Copy ACC	-	Displays the ACC exectuion times for each mode.
002	Printer ACC	--	

7836	**Total Memory Size** (CTL)		
	Displays the memory capacity of the controller system.		
001	-	*CTL	-

7852	**[DF Glass Dust Check]**		
	Counts the number of occurrences (0 to 65,535) when dust was detected on the scanning glass of the ADF or resets the dust detection counter. Counting is done only if SP4-020-1 (ADF Scan Glass Dust Check) is switched on.		
001	Dust Detection Counter	*CTL	[0 to 65535 / - / 1 /step]
002	Dust Detection Clear Counter	*CTL	

7853	**[Replacement Counter]**		
	Displays the PM parts replacement number.		
001	PCU: Bk	*CTL	[0 to 255 / - / 1 /step]
002	PCU: C	*CTL	
003	PCU: M	*CTL	
004	PCU: Y	*CTL	
005	Development Unit: Bk	*CTL	
006	Development Unit: C	*CTL	
007	Development Unit: M	*CTL	
008	Development Unit: Y	*CTL	
009	Developer: Bk	*CTL	
010	Developer: C	*CTL	
011	Developer: M	*CTL	
012	Developer: Y	*CTL	
013	ITB Unit	*CTL	
014	ITB Cleaning Unit	*CTL	
015	Fusing Unit	*CTL	
016	Fusing Pad	*CTL	
017	Fusing Belt	*CTL	
018	PTR Unit	*CTL	[0 to 255 / - / 1 /step]
019	ITB T-Collect Bottle	*CTL	
020	PCU T-Collect Bottle	*CTL	

7855	**[Coverage Range]**		
	Sets the color coverage threshold. Coverage rate = Coverage per page / A4 full coverage (dots) x 100 There are three coverage counters: Color 1, Color 2, and Color 3 ▪ 5% (default) is adjustable with SP7855-001. ▪ 20% (default) is adjustable with SP7855-002. Note ▪ The setting value of -002 must be set larger than the value of -001. 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		
001	Coverage Range 1	*CTL	[1 to 200 / **5** /1]
002	Coverage Range 2	*CTL	[1 to 200 / **20** /1]

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		

7906	**[Prev. Unit PM Counter]**	
	(Page or Rotations, Unit, [Color]), Dev.: Development Unit	*ENG
-001 to -020	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	
009	Page: Developer: Bk	
010	Page: Developer: C	
011	Page: Developer: M	
012	Page: Developer: Y	
013	Page: ITB Unit	
014	Page: ITB Cleaning Unit	
015	Page: Fusing Unit	
016	Page: Fusing Pad	
017	Page: Fusing Belt	
018	Page: PTR Unit	
019	Page:ITB T-Collect Bottle	
020	Page:PCU T-Collect Bottle	

027	Rotation: Half Speed PCU: Bk
028	Rotation: Half Speed PCU: C
029	Rotation: Half Speed PCU: M
030	Rotation: Half Speed PCU: Y
-031 to -050	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
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 Pad
047	Rotation: Fusing Belt
048	Rotation: PTR Unit

049	Rotation:ITB T-Collect Bottle
050	Rotation:PCU T-Collect Bottle
-061 to -080	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
069	Rotation %: Developer: Bk
070	Rotation %: Developer: C
071	Rotation %: Developer: M
072	Rotation %: Developer: Y
073	Rotation %: ITB Unit
074	Rotation %: ITB Cleaning Unit
075	Rotation %: Fusing Unit
076	Rotation %: Fusing Pad
077	Rotation %: Fusing Belt
078	Rotation %: PTR Unit
079	Rotation %:ITB T-Collect Bottle
080	Rotation %:PCU 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
099	Page (%): Developer: Bk
100	Page (%): Developer: C
101	Page (%): Developer: M
102	Page (%): Developer: Y
103	Page (%): ITB Unit
104	Page (%): ITB Cleaning Unit
105	Page (%): Fusing Unit
106	Page (%): Fusing Pad
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	*EGN	
003	Brand ID	*EGN	
004	Area ID	*EGN	
005	Product ID	*EGN	
006	Color ID	*EGN	
007	Maintenance ID	*EGN	
008	New Product Information	*EGN	
009	Recycle Counter	*EGN	
010	Date	*EGN	
011	Serial No.	*EGN	
012	Toner Remaining	*EGN	
013	EDP Code	*EGN	-
014	End History	*EGN	
015	Refill Information	*EGN	
016	Attachment: Total Counter	*EGN	
017	Attachment: Color Counter	*EGN	
018	End: Total Counter	*EGN	
019	End: Color Counter	*EGN	
020	Attachment Date	*EGN	
021	End Date	*EGN	

7932	**[Toner Bottle M]**		
	Displays the toner bottle information for M.		
001	Machine Serial ID	*ENG	-
002	Cartridge Ver	*EGN	
003	Brand ID	*EGN	
004	Area ID	*EGN	
005	Product ID	*EGN	
006	Color ID	*EGN	
007	Maintenance ID	*EGN	
008	New Product Information	*EGN	
009	Recycle Counter	*EGN	
010	Date	*EGN	
011	Serial No.	*EGN	
012	Toner Remaining	*EGN	
013	EDP Code	*EGN	-
014	End History	*EGN	
015	Refill Information	*EGN	
016	Attachment: Total Counter	*EGN	
017	Attachment: Color Counter	*EGN	
018	End: Total Counter	*EGN	
019	End: Color Counter	*EGN	
020	Attachment Date	*EGN	
021	End Date		

7933	**[Toner Bottle C]**		
	Displays the toner bottle information for C.		
001	Machine Serial ID	*ENG	-
002	Cartridge Ver	*EGN	
003	Brand ID	*EGN	
004	Area ID	*EGN	
005	Product ID	*EGN	
006	Color ID	*EGN	
007	Maintenance ID	*EGN	
008	New Product Information	*EGN	
009	Recycle Counter	*EGN	
010	Date	*EGN	
011	Serial No.	*EGN	
012	Toner Remaining	*EGN	
013	EDP Code	*EGN	-
014	End History	*EGN	
015	Refill Information	*EGN	
016	Attachment: Total Counter	*EGN	
017	Attachment: Color Counter	*EGN	
018	End: Total Counter	*EGN	
019	End: Color Counter	*EGN	
020	Attachment Date	*EGN	
021	End Date	*EGN	

7934	**[Toner Bottle Y]** Displays the toner bottle information for Y.		
001	Machine Serial ID	*ENG	-
002	Cartridge Ver	*EGN	
003	Brand ID	*EGN	
004	Area ID	*EGN	
005	Product ID	*EGN	
006	Color ID	*EGN	
007	Maintenance ID	*EGN	
008	New Product Information	*EGN	
009	Recycle Counter	*EGN	
010	Date	*EGN	
011	Serial No.	*EGN	-
012	Toner Remaining	*EGN	
013	EDP Code	*EGN	
014	End History	*EGN	
015	Refill Information	*EGN	
016	Attachment: Total Counter	*EGN	
017	Attachment: Color Counter	*EGN	
018	End: Total Counter	*EGN	
019	End: Color Counter	*EGN	
020	Attachment Date	*EGN	
021	End Date	*EGN	

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	*EGN	
003	PTR Unit	*EGN	
004	Fusing Unit	*EGN	
005	Fusing Pad	*EGN	
006	Fusing Belt	*EGN	
013	PCU: Bk	*EGN	
014	PCU: C	*EGN	
015	PCU: M	*EGN	
016	PCU: Y	*EGN	
017	Development Unit:Bk	*EGN	-
018	Development Unit:C	*EGN	
019	Development Unit:M	*EGN	
020	Development Unit:Y	*EGN	
021	Developer:Bk	*EGN	
022	Developer:C	*EGN	
023	Developer:M	*EGN	
024	Developer:Y	*EGN	

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		
009	Page: Developer: Bk		
010	Page: Developer: C		
011	Page: Developer: M		
012	Page: Developer: Y		
013	Page: ITB Unit		
014	Page: ITB Cleaning Unit		
015	Page: Fusing Unit		
016	Page: Fusing Pad		
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 Pad
047	Rotation: Fusing Belt
048	Rotation:PTR Unit
049	Rotation:ITB T-Collect Bottle
050	Rotation:PCU T-Collect Bottle

7952	**[PM Yield Setting]**		
	Adjusts the unit yield of each PM unit.		
001	Rotation: ITB Unit	*EGN	[0 to 999999999 / **23976000** / 1000 mm/step]
002	Rotation: ITB Cleaning Unit	*EGN	[0 to 999999999 / **59940000** / 1 mm/step]
003	Rotation: Fusing Unit	*EGN	[0 to 999999999 / **17500000** / 1000 mm/step]
004	Rotation: Fusing Pad	*EGN	
005	Rotation: Fusing Belt	*EGN	
006	Rotation:PTR Unit	*EGN	[0 to 999999999 / **23976000** / 1000 mm/step]
007	Amount:ITB T-Collect Bottle	*EGN	[0 to 999999999 / **300000** / 1000 mg/step]
008	Amount:PCU T-Collect Bottle		
011	Page: ITB Unit	*EGN	[0 to 999999 / **240000** / 1000 sheet/step]
012	Page: ITB Cleaning Unit	*EGN	[0 to 999999 / **60000** / 1 sheet/step]
013	Page: Fusing Unit	*EGN	[0 to 999999 / **150000** / 1 sheet/step]
014	Page: Fusing Pad	*EGN	
015	Page: Fusing Belt	*EGN	
016	Page: PTR Unit	*EGN	[0 to 999999 / **240000** / 1 sheet/step]
021	Day Threshold: PCU: Bk	*EGN	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	*EGN	

023	Day Threshold: PCU: M	*EGN	
024	Day Threshold: PCU: Y	*EGN	
025	Day Threshold: Development Unit: Bk	*EGN	
026	Day Threshold: Development Unit: C	*EGN	
027	Day Threshold: Development Unit: M	*EGN	
028	Day Threshold: Development Unit: Y	*EGN	
029	Day Threshold: Developer: Bk	*EGN	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.
030	Day Threshold: Developer: C	*EGN	
031	Day Threshold: Developer: M	*EGN	
032	Day Threshold: Developer: Y	*EGN	
033	Day Threshold: ITB Unit	*EGN	
034	Day Threshold: ITB Cleaning Unit	*EGN	
035	Day Threshold: Fusing Unit	*EGN	
036	Day Threshold: Fusing Pad	*EGN	

037	Day Threshold: Fusing Belt	*EGN	
038	Rotation: PCU: Bk	*EGN	[0 to 999999999 / **0** / 1 mm/step]
039	Rotation: PCU: C		
040	Rotation: PCU: M		
041	Rotation: PCU: Y		
042	Rotation: Development Unit: Bk	*EGN	[0 to 999999999 / **0** / 1 mm/step]
043	Rotation: Development Unit: C	*EGN	
044	Rotation: Development Unit: M	*EGN	
045	Rotation: Development Unit: Y	*EGN	
046	Rotation: Developer: Bk	*EGN	[0 to 999999999 / **0** / 1 mm/step]
047	Rotation: Developer: C		
048	Rotation: Developer: M		
049	Rotation: Developer: Y		
050	Page: PCU: Bk	*EGN	[0 to 999999 / **0** / 1 sheet/step]
051	Page: PCU: C		
052	Page: PCU: M		
053	Page: PCU: Y		

054	Page: Development Unit: Bk	*EGN	[0 to 999999 / **0** / 1 sheet/step]
055	Page: Development Unit: C		
056	Page: Development Unit: M		
057	Page: Development Unit: Y		
058	Page: Developer: Bk	*EGN	[0 to 999999 / **0** / 1 sheet/step]
059	Page: Developer: C		
060	Page: Developer: M		
061	Page: Developer: Y		
062	Day Threshold:PTR Unit	*EGN	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:ITB T-Collect Bttl		
064	Day Thresh:PCU 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	*CTL	[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	*CTL	[0 to 99999999 / - / 1 mm/step]
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	-

3.8 SYSTEM SP8-XXX

3.8.1 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

Abbreviation	What it means
GenCopy	Generation Copy Mode
GPC	Get Print Counter. For jobs 10 pages or less, this counter does not count up. For jobs larger than 10 pages, this counter counts up by the number that is in excess of 10 (e.g., for an 11-page job, the counter counts up 11-10 =1)
IFax	Internet Fax
ImgEdt	Image Edit performed on the original with the copier GUI, e.g. border removal, adding stamps, page numbers, etc.
K	Black (YMCK)
LS	Local Storage. Refers to the document server.
LSize	Large (paper) Size
Mag	Magnification
MC	One color (monochrome)
NRS	New Remote Service, which allows a service center to monitor machines remotely. "NRS" is used overseas, "CSS" is used in Japan.
Org	Original for scanning
OrgJam	Original Jam
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.

Abbreviation	What it means
PJob	Print Jobs
Ppr	Paper
PrtJam	Printer (plotter) Jam
PrtPGS	Print Pages
R	Red (Toner Remaining). Applies to the wide format model A2 only. This machine is under development and currently not available.
Rez	Resolution
SC	Service Code (Error SC code displayed)
Scn	Scan
Sim, Simplex	Simplex, printing on 1 side.
S-to-Email	Scan-to-E-mail
SMC	SMC report printed with SP5990. All of the Group 8 counters are recorded in the SMC report.
Svr	Server
TonEnd	Toner End
TonSave	Toner Save
TXJob	Send, Transmission
YMC	Yellow, Magenta, Cyan
YMCK	Yellow, Magenta, Cyan, Black

Note

- All of the Group 8 SPs are reset with SP5 801 1 Memory All Clear.

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] **Note**: The L: counter is the total number of times the other applications are used to send a job to the document server, plus the number of times a file already on the document server is used.
8 002	C:Total Jobs	*CTL	
8 003	F:Total Jobs	*CTL	
8 004	P:Total Jobs	*CTL	
8 005	S:Total Jobs	*CTL	
8 006	L: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 copy 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.

8 011	T:Jobs/LS	*CTL	These SPs count the number of jobs stored to the document server by each application, to reveal how local storage is being used for input. [0 to 9999999/ **0** / 1] The L: counter counts the number of jobs stored from within the document server mode screen at the operation panel.
8 012	C:Jobs/LS	*CTL	
8 013	F:Jobs/LS	*CTL	
8 014	P:Jobs/LS	*CTL	
8 015	S:Jobs/LS	*CTL	
8 016	L:Jobs/LS	*CTL	
8 017	O:Jobs/LS	*CTL	

- When a scan job is sent to the document server, the S: counter increments. When you enter document server mode and then scan an original, the L: counter increments.
- When a print job is sent to the document server, the P: counter increments.
- When a network application sends data to the document server, the O: counter increments.
- When an image from Palm 2 is stored on the document server, the O: counter increments.
- When a fax is sent to the document server, the F: counter increments.

8 021	T:Pjob/LS	*CTL	These SPs reveal how files printed from the document server were stored on the document server originally. [0 to 9999999/ **0** / 1] The L: counter counts the number of jobs stored from within the document server mode screen at the operation panel.
8 022	C:Pjob/LS	*CTL	
8 023	F:Pjob/LS	*CTL	
8 024	P:Pjob/LS	*CTL	
8 025	S:Pjob/LS	*CTL	
8 026	L:Pjob/LS	*CTL	
8 027	O:Pjob/LS	*CTL	

- When a copy job stored on the document server is printed with another application, the C: counter increments.
- When an application like DeskTopBinder merges a copy job that was stored on the document server with a print job that was stored on the document server, the C: and P: counters both increment.
- When a job already on the document server is printed with another application, the L: counter increments.
- When a scanner job stored on the document server is printed with another application, the S: counter increments. If the original was scanned from within document server mode, then the L: counter increments.
- When images stored on the document server by a network application (including Palm 2), are printed with another application, the O: counter increments.
- When a copy job stored on the document server is printed with a network application (Web Image Monitor, for example), the C: counter increments.
- When a fax on the document server is printed, the F: counter increments.

8 031	T:Pjob/DesApl	*CTL	These SPs reveal what applications were used to output documents from the document server. [0 to 9999999/ **0** / 1] The L: counter counts the number of jobs printed from within the document server mode screen at the operation panel.
8 032	C:Pjob/DesApl	*CTL	
8 033	F:Pjob/DesApl	*CTL	
8 034	P:Pjob/DesApl	*CTL	
8 035	S:Pjob/DesApl	*CTL	
8 036	L:Pjob/DesApl	*CTL	
8 037	O:Pjob/DesApl	*CTL	

- When documents already stored on the document server are printed, the count for the application that started the print job is incremented.
- When the print job is started from a network application (Desk Top Binder, Web Image Monitor, etc.) the L: counter increments.

8 041	T:TX Jobs/LS	*CTL	These SPs count the applications that stored files on the document server that were later accessed for transmission over the telephone line or over a network (attached to an e-mail, or as a fax image by I-Fax). [0 to 9999999/ **0** / 1] **Note**: Jobs merged for sending are counted separately. The L: counter counts the number of jobs scanned from within the document server mode screen at the operation panel.
8 042	C:TX Jobs/LS	*CTL	
8 043	F:TX Jobs/LS	*CTL	
8 044	P:TX Jobs/LS	*CTL	
8 045	S:TX Jobs/LS	*CTL	
8 046	L:TX Jobs/LS	*CTL	
8 047	O:TX Jobs/LS	*CTL	

- When a stored copy job is sent from the document server, the C: counter increments.
- When images stored on the document server by a network application or Palm2 are sent as an e-mail, the O: counter increments.

8 051	T:TX Jobs/DesApl	*CTL	These SPs count the applications used to send files from the document server over the telephone line or over a network (attached to an e-mail, or as a fax image by I-Fax). Jobs merged for sending are counted separately. [0 to 9999999/ **0** / 1] The L: counter counts the number of jobs sent from within the document server mode screen at the operation panel.
8 052	C:TX Jobs/DesApl	*CTL	
8 053	F:TX Jobs/DesApl	*CTL	
8 054	P:TX Jobs/DesApl	*CTL	
8 055	S:TX Jobs/DesApl	*CTL	
8 056	L:TX Jobs/DesApl	*CTL	
8 057	O:TX Jobs/DesApl	*CTL	

- If the send is started from Desk Top Binder or Web Image Monitor, for example, then the O: counter increments.

8 061	T:FIN Jobs	*CTL	[0 to 9999999/ **0** / 1]
	These SPs total the finishing methods. The finishing method is specified by the application.		
8 062	C:FIN Jobs	*CTL	[0 to 9999999/ **0** / 1]
	These SPs total finishing methods for copy jobs only. The finishing method is specified by the application.		
8 063	F:FIN Jobs	*CTL	[0 to 9999999/ **0** / 1]
	These SPs total finishing methods for fax jobs only. The finishing method is specified by the application. **Note**: Finishing features for fax jobs are not available at this time.		
8 064	P:FIN Jobs	*CTL	[0 to 9999999/ **0** / 1]
	These SPs total finishing methods for print jobs only. The finishing method is specified by the application.		
8 065	S:FIN Jobs	*CTL	[0 to 9999999/ **0** / 1]
	These SPs total finishing methods for scan jobs only. The finishing method is specified by the application. **Note**: Finishing features for scan jobs are not available at this time.		
8 066	L:FIN Jobs	*CTL	[0 to 9999999/ **0** / 1]
	These SPs total finishing methods for jobs output from within the document server mode screen at the operation panel. The finishing method is specified from the print window within document server mode.		
8 067	O:FIN Jobs	*CTL	[0 to 9999999/ **0** / 1]
	These SPs total finishing methods for jobs executed by an external application, over the network. The finishing method is specified by the application.		
8 06x 1	Sort	Number of jobs started in Sort mode. When a stored copy job is set for Sort and then stored on the document server, the L: counter increments. (See SP8 066 1)	

8 06x 2	Stack	Number of jobs started out of Sort mode.		
8 06x 3	Staple	Number of jobs started in Staple mode.		
8 06x 4	Booklet	Number of jobs started in Booklet mode. If the machine is in staple mode, the Staple counter also increments.		
8 06x 5	Z-Fold	Number of jobs started In any mode other than the Booklet mode and set for folding (Z-fold).		
8 06x 6	Punch	Number of jobs started in Punch mode. When Punch is set for a print job, the P: counter increments. (See SP8 064 6.)		
8 06x 7	Other	Reserved. 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.		
8 072	C:Jobs/PGS	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count and calculate the number of copy jobs by size based on the number of pages in the job.		
8 073	F:Jobs/PGS	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count and calculate the number of fax jobs by size based on the number of pages in the job.		
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.		

8 075	S:Jobs/PGS		[0 to 9999999/ **0** / 1]
	These SPs count and calculate the number of scan jobs by size based on the number of pages in the job.		
8 076	L:Jobs/PGS	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count and calculate the number of jobs printed from within the document server mode window at the operation panel, by 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 copy 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 copy job (SP 8072).

- When printing the first page of a job from within the document server screen, the page is counted.

8 111	T:FAX TX Jobs	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count the total number of jobs (color or black-and-white) sent by fax, either directly or using a file stored on the document server, on a telephone line. **Note**: Color fax sending is not available at this time.		
8 113	F: FAX TX Jobs	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count the total number of jobs (color or black-and-white) sent by fax directly on a telephone line. **Note**: Color fax sending is not available at this time.		
8 11x 1	B/W		
8 11x 2	Color		

- These counters count jobs, not pages.
- This SP counts fax jobs sent over a telephone line with a fax application, including documents stored on the document server.
- If the mode is changed during the job, the job will count with the mode set when the job started.
- If the same document is faxed to both a public fax line and an I-Fax at a destination where both are available, then this counter increments, and the I-Fax counter (8 12x) also increments.
- The fax job is counted when the job is scanned for sending, not when the job is sent.

8 121	T:IFAX TX Jobs	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count the total number of jobs (color or black-and-white) sent, either directly or using a file stored on the document server, as fax images using I-Fax. **Note**: Color fax sending is not available at this time.		
8 123	F: IFAX TX Jobs	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count the number of jobs (color or black-and-white) sent (not stored on the document server), as fax images using I-Fax. **Note**: Color fax sending is not available at this time.		
8 12x 1	B/W		
8 12x 2	Color		

- These counters count jobs, not pages.
- The counters for color are provided for future use; the color fax feature is not available at this time.
- The fax job is counted when the job is scanned for sending, not when the job is sent.

8 131	T:S-to-Email Jobs	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count the total number of jobs (color or black-and-white) scanned and attached to an e-mail, regardless of whether the document server was used or not.		
8 135	S: S-to-Email Jobs	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count the number of jobs (color or black-and-white) scanned and attached to e-mail, without storing the original on the document server.		
8 13x 1	B/W		
8 13x 2	Color		
8 13x 3	ACS		

- These counters count jobs, not pages.
- If the job is stored on the document server, after the job is stored it is determined to be color or black-and-white then counted.
- If the job is cancelled during scanning, or if the job is cancelled while the document is waiting to be sent, the job is not counted.
- If the job is cancelled during sending, it may or may not be counted, depending on what stage of the process had been reached when the job was cancelled.
- If several jobs are combined for sending to the Scan Router, Scan-to-Email, or Scan-to-PC, or if one job is sent to more than one destination. each send is counted separately. For example, if the same document is sent by Scan-to-Email as well as Scan-to-PC, then it is counted twice (once for Scan-to-Email and once for Scan-to-PC).

8 141	T:Deliv Jobs/Svr	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count the total number of jobs (color or black-and-white) scanned and sent to a Scan Router server.		
8 145	S: Deliv Jobs/Svr	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count the number of jobs (color or black-and-white) scanned in scanner mode and sent to a Scan Router server.		
8 14x 1	B/W		
8 14x 2	Color		
8 14x 3	ACS		

- These counters count jobs, not pages.
- The jobs are counted even though the arrival and reception of the jobs at the Scan Router server cannot be confirmed.
- If even one color image is mixed with black-and-white images, then the job is counted as a "Color" job.
- If the job is cancelled during scanning, or if the job is cancelled while the document is waiting to be delivered, the job is not counted.
- If the job is cancelled during sending, it may or may not be counted, depending on what stage of the process had been reached when the job was cancelled.
- Even if several files are combined for sending, the transmission counts as one job.

8 151	T:Deliv Jobs/PC	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count the total number of jobs (color or black-and-white) scanned and sent to a folder on a PC (Scan-to-PC). **Note**: At the present time, 8 151 and 8 155 perform identical counts.		
8 155	S:Deliv Jobs/PC	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count the total number of jobs (color or black-and-white) scanned and sent with Scan-to-PC.		
8 15x 1	B/W		
8 15x 2	Color		
8 15x 3	ACS		

- These counters count jobs, not pages.
- If the job is cancelled during scanning, it is not counted.
- If the job is cancelled while it is waiting to be sent, the job is not counted.
- If the job is cancelled during sending, it may or may not be counted, depending on what stage of the process had been reached when the job was cancelled.
- Even if several files are combined for sending, the transmission counts as one job.

8 161	T:PCFAX TX Jobs	*CTL	These SPs count the number of PC Fax transmission jobs. A job is counted from when it is registered for sending, not when it is sent. [0 to 9999999/ **0** / 1] **Note**: At the present time, these counters perform identical counts.
8 163	F:PCFAX TX Jobs	*CTL	

- This counts fax jobs started from a PC using a PC fax application, and sending the data out to the destination from the PC through the copier.

8 171	T: Deliv Jobs/WSD	*CTL	These SPs count the pages scanned by WS. [0 to 9999999/ **0** / 1]
8 175	S: Dvliv Jobs/WSD	*CTL	
x 1	B/W		
x 2	Color		
x 3	ACS		

8 181	T: Scan to Media Jobs	*CTL	These SPs count the scanned pages in a media by the scanner application. [0 to 9999999/ **0** / 1]
8 185	S: Scan to Media Jobs	*CTL	
x 1	B/W		
x 2	Color		
x 3	ACS		

8 191	T: Total Scan PGS	*CTL	These SPs count the pages scanned by each application that uses the scanner to scan images. [0 to 9999999/ **0** / 1]
8 192	C: Total Scan PGS	*CTL	
8 193	F: Total Scan PGS	*CTL	
8 195	S: Total Scan PGS	*CTL	
8 196	L: Total Scan PGS		

- SP 8 191 to 8 196 count the number of scanned sides of pages, not the number of physical pages.
- These counters do not count reading user stamp data, or reading color charts to adjust color.
- Previews done with a scanner driver are not counted.
- A count is done only after all images of a job have been scanned.
- Scans made in SP mode are not counted.

Examples

- If 3 B5 pages and 1 A3 page are scanned with the scanner application but not stored, the S: count is 4.
- If both sides of 3 A4 sheets are copied and stored to the document server using the Store File button in the Copy mode window, the C: count is 6 and the L: count is 6.
- If both sides of 3 A4 sheets are copied but not stored, the C: count is 6.
- If you enter document server mode then scan 6 pages, the L: count is 6.

8 201	T:LSize Scan PGS	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count the total number of large pages input with the scanner for scan and copy jobs. Large size paper (A3/DLT) scanned for fax transmission are not counted. **Note**: These counters are displayed in the SMC Report, and in the User Tools display.		
8 203	F: LSize Scan PGS	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count the total number of large pages input with the scanner for fax transmission. **Note**: These counters are displayed in the SMC Report, and in the User Tools display.		
8 205	S:LSize Scan PGS	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count the total number of large pages input with the scanner for scan jobs only. Large size paper (A3/DLT) scanned for fax transmission are not counted. **Note**: These counters are displayed in the SMC Report, and in the User Tools display.		

8 211	T:Scan PGS/LS	*CTL	These SPs count the number of pages scanned into the document server . [0 to 9999999/ **0** / 1] The L: counter counts the number of pages stored from within the document server mode screen at the operation panel, and with the Store File button from within the Copy mode screen
8 212	C:Scan PGS/LS	*CTL	
8 213	F:Scan PGS/LS	*CTL	
8 215	S:Scan PGS/LS	*CTL	
8 216	L:Scan PGS/LS	*CTL	

- Reading user stamp data is not counted.
- If a job is cancelled, the pages output as far as the cancellation are counted.
- If the scanner application scans and stores 3 B5 sheets and 1 A4 sheet, the S: count is 4.
- If pages are copied but not stored on the document server, these counters do not change.
- If both sides of 3 A4 sheets are copied and stored to the document server, the C: count is 6 and the L: count is 6.
- If you enter document server mode then scan 6 pages, the L: count is 6.

8 221	ADF Org Feeds	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count the number of pages fed through the ADF for front and back side scanning.		
8 221 1	Front	Number of front sides fed for scanning: With an ADF that can scan both sides simultaneously, the Front side count is the same as the number of pages fed for either simplex or duplex scanning. With an ADF that cannot scan both sides simultaneously, the Front side count is the same as the number of pages fed for duplex front side scanning. (The front side is determined by which side the user loads face up.)	
8 221 2	Back	Number of rear sides fed for scanning: With an ADF that can scan both sides simultaneously, the Back count is the same as the number of pages fed for duplex scanning. With an ADF that cannot scan both sides simultaneously, the Back count is the same as the number of pages fed for duplex rear-side scanning.	

- When 1 sheet is fed for duplex scanning the Front count is 1 and the Back count is 1.
- If a jam occurs during the job, recovery processing is not counted to avoid double counting. Also, the pages are not counted if the jam occurs before the first sheet is output.

8 231	Scan PGS/Mode	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count the number of pages scanned by each ADF mode to determine the work load on the ADF.		

8 231 1	Large Volume	Selectable. Large copy jobs that cannot be loaded in the ADF at one time.
8 231 2	SADF	Selectable. Feeding pages one by one through the ADF.
8 231 3	Mixed Size	Selectable. Select "Mixed Sizes" on the operation panel.
8 231 4	Custom Size	Selectable. Originals of non-standard size.
8 231 5	Platen	Book mode. Raising the ADF and placing the original directly on the platen.
8 231 6	Mixed 1side/2side	Simplex and Duplex mode.

- If the scan mode is changed during the job, for example, if the user switches from ADF to Platen mode, the count is done for the last selected mode.
- The user cannot select mixed sizes or non-standard sizes with the fax application so if the original’s page sizes are mixed or non-standard, these are not counted.
- If the user selects "Mixed Sizes" for copying in the platen mode, the Mixed Size count is enabled.
- In the SADF mode if the user copies 1 page in platen mode and then copies 2 pages with SADF, the Platen count is 1 and the SADF count is 3.

8 241	T:Scan PGS/Org	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count the total number of scanned pages by original type for all jobs, regardless of which application was used.		
8 242	C:Scan PGS/Org	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count the number of pages scanned by original type for Copy jobs.		
8 243	F:Scan PGS/Org	*CTL	[0 to 9999999/ **0** / 1]

	These SPs count the number of pages scanned by original type for Fax jobs.		
8 245	S:Scan PGS/Org	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count the number of pages scanned by original type for Scan jobs.		
8 246	L:Scan PGS/Org	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count the number of pages scanned and stored from within the document server mode screen at the operation panel, and with the Store File button from within the Copy mode screen		

	8 241		**8 242**	**8 243**	**8 245**	**8 246**
8 24x 1: Text		Yes	Yes	Yes	Yes	Yes
8 24x 2: Text/Photo		Yes	Yes	Yes	Yes	Yes
8 24x 3: Photo		Yes	Yes	Yes	Yes	Yes
8 24x 4: GenCopy, Pale		Yes	Yes	No	Yes	Yes
8 24x 5: Map		Yes	Yes	No	-	Yes
8 24x 6: Normal/Detail		Yes	No	Yes	No	No
8 24x 7: Fine/Super Fine		Yes	No	Yes	No	No
8 24x 8: Binary		Yes	No	No	Yes	No
8 24x 9: Grayscale		Yes	No	No	Yes	No
8 24x 10: Color		Yes	No	No	Yes	No
8 24x 11: Other		Yes	Yes	Yes	Yes	Yes

- If the scan mode is changed during the job, for example, if the user switches from ADF to Platen mode, the count is done for the last selected mode.

8 251	T:Scan PGS/ImgEdt	*CTL	These SPs show how many times Image Edit features have been selected at the operation panel for each application. Some examples of these editing features are: ▪ Erase> Border ▪ Erase> Center ▪ Image Repeat ▪ Centering ▪ Positive/Negative [0 to 9999999/ **0** / 1] Note: The count totals the number of times the edit features have been used. A detailed breakdown of exactly which features have been used is not given.
8 252	C:Scan PGS/ImgEdt	*CTL	
8 255	S:Scan PGS/ImgEdt	*CTL	
8 256	L:Scan PGS/ImgEdt	*CTL	
8 257	O:Scan PGS/ImgEdt	*CTL	

The L: counter counts the number of pages stored from within the document server mode screen at the operation panel, and with the Store File button from within the Copy mode screen.

8 261	T:Scan PGS/ColCr	*CTL	-
8 262	C:Scan PGS/ ColCr	*CTL	-
8 266	L:Scn PGS/ColCr	*CTL	-
8 26x 1	Color Conversion	These SPs show how many times color creation features have been selected at the operation panel.	
8 26x 2	Color Erase		
8 26x 3	Background		
8 26x 4	Other		

8 281	T:Scn PGS/TWAIN	*CTL	These SPs count the number of pages scanned using a TWAIN driver. These counters reveal how the TWAIN driver is used for delivery functions. [0 to 9999999/ **0** / 1] **Note**: At the present time, these counters perform identical counts.
8 285	S:Scn PGS/TWAIN	*CTL	

8 291	T:Scan PGS/Stamp	*CTL	These SPs count the number of pages stamped with the stamp in the ADF unit. [0 to 9999999/ **0** / 1] The L: counter counts the number of pages stored from within the document server mode screen at the operation panel, and with the Store File button from within the Copy mode screen
8 293	F:Scan PGS/Stamp	*CTL	
8 295	S:Scan PGS/Stamp	*CTL	

8 301	T:Scan PGS/Size	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count by size the total number of pages scanned by all applications. Use these totals to compare original page size (scanning) and output (printing) page size [SP 8-441].		
8 302	C:Scan PGS/Size	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count by size the total number of pages scanned by the Copy application. Use these totals to compare original page size (scanning) and output (printing) page size [SP 8-442].		
8 303	F:Scan PGS/Size	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count by size the total number of pages scanned by the Fax application. Use these totals to compare original page size (scanning) and output page size [SP 8-443].		

8 305	S:Scan PGS/Size	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count by size the total number of pages scanned by the Scan application. Use these totals to compare original page size (scanning) and output page size [SP 8-445].		
8 306	L:Scan PGS/Size	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count by size the total number of pages scanned and stored from within the document server mode screen at the operation panel, and with the Store File button from within the Copy mode screen. Use these totals to compare original page size (scanning) and output page size [SP 8-446].		
8 30x 1	A3	-	
8 30x 2	A4		
8 30x 3	A5		
8 30x 4	B4		
8 30x 5	B5		
8 30x 6	DLT		
8 30x 7	LG		
8 30x 8	LT		
8 30x 9	HLT		
8 30x 10	Full Bleed		
8 30x 254	Other (Standard)		
8 30x 255	Other (Custom)		

8 311	T:Scan PGS/Rez	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count by resolution setting the total number of pages scanned by applications that can specify resolution settings.		
8 315	S: Scan PGS/Rez	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count by resolution setting the total number of pages scanned by applications that can specify resolution settings. **Note**: At the present time, SP8-311 and SP8-315 perform identical counts.		
8 31x 1	1200dpi <		
8 31x 2	600dpi to 1199dpi		
8 31x 3	400dpi to 599dpi		
8 31x 4	200dpi to 399dpi		
8 31x 5	< 199dpi		

- Copy resolution settings are fixed so they are not counted.
- The Fax application does not allow finely-adjusted resolution settings so no count is done for the Fax application.

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] The L: counter counts the number of pages stored from within the document server mode screen at the operation panel. Pages stored with the Store File button from within the Copy mode screen go to the C: counter.
8 382	C:Total PrtPGS	*CTL	
8 383	F:Total PrtPGS	*CTL	
8 384	P:Total PrtPGS	*CTL	
8 385	S:Total PrtPGS	*CTL	
8 386	L:Total PrtPGS	*CTL	
8 387	O:Total PrtPGS	*CTL	

- When the A3/DLT double count function is switched on with SP5104, 1 A3/DLT page is counted as 2.
- 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 copy machine.		

8 401	T:PrtPGS/LS	*CTL	These SPs count the number of pages printed from the document server. The counter for the application used to print the pages is incremented. The L: counter counts the number of jobs stored from within the document server mode screen at the operation panel. [0 to 9999999/ **0** / 1]
8 402	C:PrtPGS/LS	*CTL	
8 403	F:PrtPGS/LS	*CTL	
8 404	P:PrtPGS/LS	*CTL	
8 405	S:PrtPGS/LS	*CTL	
8 406	L:PrtPGS/LS	*CTL	

- Print jobs done with Web Image Monitor and Desk Top Binder are added to the L: count.
- Fax jobs done with Web Image Monitor and Desk Top Binder are added to the F: count.

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.		
8 422	C: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 copier application.		
8 423	F: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 fax application.		
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.		
8 425	S: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 scanner application.		
8 426	L: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 from within the document server mode window at the operation panel.		

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 9	8>	8 pages on 1 side (8-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.		
8 432	C:PrtPGS/ImgEdt	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count the total number of pages output with the three features below with the copy application.		
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.		
8 436	L:PrtPGS/ImgEdt	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count the total number of pages output from within the document server mode window at the operation panel with the three features below.		
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.		
8 442	C:PrtPGS/Ppr Size	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count by print paper size the number of pages printed by the copy application.		
8 443	F:PrtPGS/Ppr Size	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count by print paper size the number of pages printed by the fax application.		
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.		
8 445	S:PrtPGS/Ppr Size	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count by print paper size the number of pages printed by the scanner application.		
8 446	L:PrtPGS/Ppr Size	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count by print paper size the number of pages printed from within the document server mode window at the operation panel.		
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	Copier	
8 451 3	Tray 2	Copier	
8 451 4	Tray 3	Paper Tray Unit (Option)	
8 451 5	Tray 4	Paper Tray Unit (Option)	
8 451 6	Tray 5	LCT (Option)	
8 451 7	Tray 6	Currently not used.	
8 451 8	Tray 7	Currently not used.	
8 451 9	Tray 8	Currently not used.	
8 451 10	Tray 9	Currently not used.	
8 451 11	Tray 10	Currently not used.	
8 451 12	Tray 11	Currently not used.	
8 451 13	Tray 12	Currently not used.	

8 451 14	Tray 13	Currently not used.
8 451 15	Tray 14	Currently not used.
8 451 16	Tray 15	Currently 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.		
8 462	C:PrtPGS/Ppr Type	*CTL	[0 to 9999999/ 0 / 1]
	These SPs count by paper type the number pages printed by the copy application.		
8 463	F:PrtPGS/Ppr Type	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count by paper type the number pages printed by the fax application.		
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.		
8 466	L:PrtPGS/Ppr Type	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count by paper type the number pages printed from within the document server mode window at the operation panel.		
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 copying 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]		

8 491	T:PrtPGS/Col Mode	*CTL	These SPs count the number of pages printed in the Color Mode by each application.
8 492	C:PrtPGS/Col Mode	*CTL	
8 493	F:PrtPGS/Col Mode	*CTL	
8 496	L:PrtPGS/Col Mode	*CTL	
8 497	O:PrtPGS/Col Mode	*CTL	
8 49x 1	B/W		
8 49x 2	Single Color		
8 49x 3	Two Color		
8 49x 4	Full Color		

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	
8 057	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]
	These SPs count by finishing mode the total number of pages printed by all applications.		
8 522	C:PrtPGS/FIN	*CTL	[0 to 9999999 / **0** / 1]
	These SPs count by finishing mode the total number of pages printed by the Copy application.		
8 523	F:PrtPGS/FIN	*CTL	[0 to 9999999 / **0** / 1]
	These SPs count by finishing mode the total number of pages printed by the Fax application. **NOTE**: Print finishing options for received faxes are currently not available.		
8 524	P:PrtPGS/FIN	*CTL	[0 to 9999999 / **0** / 1]
	These SPs count by finishing mode the total number of pages printed by the Print application.		
8 525	S:PrtPGS/FIN	*CTL	[0 to 9999999 / **0** / 1]
	These SPs count by finishing mode the total number of pages printed by the Scanner application.		
8 526	L:PrtPGS/FIN	*CTL	[0 to 9999999 / **0** / 1]
	These SPs count by finishing mode the total number of pages printed from within the document server mode window at the operation panel.		
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			
8 52x 10			
8 52x 11			
8 52x 12			
8 52x 13			
8 52x 14			

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	This SP counts the amount of staples used by the machine. [0 to 9999999 / **0** / 1]

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 copy 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 6	Copy: Color		
8 581 7	Copy: B/W		

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 16	Full Color GPC
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)

8 582	C:Counter	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count the total output of the copy application broken down by color output.		
8 582 1	B/W		
8 582 2	Single Color		
8 582 3	Two Color		
8 582 4	Full Color		

8 583	F:Counter	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count the total output of the fax application broken down by color output.		
8 583 1	B/W		
8 583 2	Single Color		

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		

8 586	L:Counter	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count the total output of the local storage broken down by color output.		
8 582 1	B/W		
8 582 2	Single Color		
8 582 3	Two Color		
8 582 4	Full 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		

8 631	T:FAX TX PGS	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count by color mode the number of pages sent by fax to a telephone number.		
8 633	F:FAX TX PGS	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count by color mode the number of pages sent by fax to a telephone number.		
8 63x 1	B/W		
8 63x 2	Color		

- If a document has color and black-and-white pages mixed, the pages are counted separately as B/W or Color.
- At the present time, this feature is provided for the Fax application only so SP8631 and SP8633 are the same.
- The counts include error pages.
- If a document is sent to more than one destination with a Group transmission, the count is done for each destination.
- Polling transmissions are counted but polling RX are not.
- Relay, memory, and confidential mailbox transmissions and are counted for each destination.

8 641	T:IFAX TX PGS	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count by color mode the number of pages sent by fax to as fax images using I-Fax.		
8 643	F:IFAX TX PGS	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count by color mode the number of pages sent by Fax as fax images using I-Fax.		
8 64x 1	B/W		
8 64x 2	Color		

- If a document has color and black-and-white pages mixed, the pages are counted separately as B/W or Color.

- At the present time, this feature is provided for the Fax application only so SP8641 and SP8643 are the same.
- The counts include error pages.
- If a document is sent to more than one destination with a Group transmission, the count is done for each destination.
- Polling transmissions are counted but polling RX are not.
- Relay, memory, and confidential mailbox transmissions and are counted for each destination.

8 651	T:S-to-Email PGS	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count by color mode the total number of pages attached to an e-mail for both the Scan and document server applications.		
8 655	S-to-Email PGS	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count by color mode the total number of pages attached to an e-mail for the Scan application only.		
8 65x 1	B/W		
8 65x 2	Color		

Note

- The count for B/W and Color pages is done after the document is stored on the HDD. If the job is cancelled before it is stored, the pages are not counted.
- If Scan-to-Email is used to send a 10-page document to 5 addresses, the count is 10 (the pages are sent to the same SMTP server together).
- If Scan-to-PC is used to send a 10-page document to 5 folders, the count is 50 (the document is sent to each destination of the SMB/FTP server).
- Due to restrictions on some devices, if Scan-to-Email is used to send a 10-page document to a large number of destinations, the count may be divided and counted separately. For example, if a 10-page document is sent to 200 addresses, the count is 10 for the first 100 destinations and the count is also 10 for the second 100 destinations, for a total of 20.).

8 661	T:Deliv PGS/Svr	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count by color mode the total number of pages sent to a Scan Router server by both Scan and LS applications.		
8 665	S:Deliv PGS/Svr	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count by color mode the total number of pages sent to a Scan Router server by the Scan application.		
8 66x 1	B/W		
8 66x 2	Color		

Note

- The B/W and Color counts are done after the document is stored on the HDD of the Scan Router server.
- If the job is canceled before storage on the Scan Router server finishes, the counts are not done.
- The count is executed even if regardless of confirmation of the arrival at the Scan Router server.

8 671	T:Deliv PGS/PC	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count by color mode the total number of pages sent to a folder on a PC (Scan-to-PC) with the Scan and LS applications.		
8 675	S:Deliv PGS/PC	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count by color mode the total number of pages sent with Scan-to-PC with the Scan application.		
8 67x 1	B/W		
8 67x 2	Color		

8 681	T:PCFAX TXPGS	*CTL	These SPs count the number of pages sent by PC Fax. These SPs are provided for the Fax application only, so the counts for SP8 681 and SP8 683 are the same. [0 to 9999999/ **0** / 1]
8 683	F:PCFAX TXPGS	*CTL	

- This counts pages sent from a PC using a PC fax application, from the PC through the copier to the destination.
- When sending the same message to more than one place using broadcasting, the pages are only counted once. (For example, a 10-page fax is sent to location A and location B. The counter goes up by 10, not 20.)

8 691	T:TX PGS/LS	*CTL	These SPs count the number of pages sent from the document server. The counter for the application that was used to store the pages is incremented. [0 to 9999999/ **0** / 1] The L: counter counts the number of pages stored from within the document server mode screen at the operation panel. Pages stored with the Store File button from within the Copy mode screen go to the C: counter.
8 692	C:TX PGS/LS	*CTL	
8 693	F:TX PGS/LS	*CTL	
8 694	P:TX PGS/LS	*CTL	
8 695	S:TX PGS/LS	*CTL	
8 696	L:TX PGS/LS	*CTL	

Note

- Print jobs done with Web Image Monitor and Desk Top Binder are added to the count.
- If several documents are merged for sending, the number of pages stored are counted for the application that stored them.
- When several documents are sent by a Fax broadcast, the F: count is done for the number of pages sent to each destination.

8 701	TX PGS/Port	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count the number of pages sent by the physical port used to send them. For example, if a 3-page original is sent to 4 destinations via ISDN G4, the count for ISDN (G3, G4) is 12.		
8 701 1	PSTN-1		
8 701 2	PSTN-2		
8 701 3	PSTN-3		
8 701 4	ISDN (G3,G4)		
8 701 5	Network		

8 711	T:Scan PGS/Comp	*CTL	[0 to 9999999/ **0** / 1]
8 715	S:Scan PGS/Comp	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count the number of pages sent by each compression mode.		
8 715 1	JPEG/JPEG2000		
8 715 2	TIFF(Multi/Single)		
8 715 3	PDF		
8 715 4	Other		
8 715 5	PDF/Comp		

8 721	T: Deliv PGS/WSD	*CTL	[0 to 9999999/ **0** / 1]
8 725	S: Deliv PGS/WSD	*CTL	
	These SPs count the number of pages scanned by each scanner mode.		
x 1	B/W		
x 2	Color		

8 731	T: Scan PGS/Media	*CTL	[0 to 9999999/ **0** / 1]
8 735	S: Scan PGS/Media	*CTL	
	These SPs count the number of pages scanned and saved in a meia by each scanner mode.		
x 1	B/W		
x 2	Color		

8 741	RX PGS/Port	*CTL	[0 to 9999999/ **0** / 1]
	These SPs count the number of pages received by the physical port used to receive them.		
8 741 1	PSTN-1		
8 741 2	PSTN-2		
8 741 3	PSTN-3		
8 741 4	ISDN (G3,G4)		
8 741 5	Network		

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	

8 791	LS Memory Remain	*CTL	This SP displays the percent of space available on the document server for storing documents. [0 to 100 / **0** / 1]

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 14	Coverage/P: BK		
8 921 15	Coverage/P: Y		
8 921 16	Coverage/P: M		
8 921 17	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 8	OrgJam	Total time when original jams have been staying during scanning.
8 941 9	Supply PM Unit End	Total time when toner end has been staying

8 951	AddBook Register	*CTL		
	These SPs count the number of events when the machine manages data registration.			
8 951 1	User Code/User ID	User code registrations.		[0 to 9999999/ **0** / 1]
8 951 2	Mail Address	Mail address registrations.		
8 951 3	Fax Destination	Fax destination registrations.		
8 951 4	Group	Group destination registrations.		

8 951 5	Transfer Request	Fax relay destination registrations for relay TX.	
8 951 6	F-Code	F-Code box registrations.	
8 951 7	Copy Program	Copy application registrations with the Program (job settings) feature.	[0 to 255 / **0** / 255]
8 951 8	Fax Program	Fax application registrations with the Program (job settings) feature.	
8 951 9	Printer Program	Printer application registrations with the Program (job settings) feature.	
8 951 10	Scanner Program	Scanner application registrations with the Program (job settings) feature.	

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 2	Copy: Full Color		
8 999 3	Copy: BW		
8 999 4	Copy: Single Color		
8 999 5	Copy: Two Color		
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 10	Fax Print: BW	
8 999 11	Fax Print: Single Color	
8 999 12	A3/DLT	
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 (%)	
8 999 101	Transmission Total: Color	
8 999 102	Transmission Total: BW	
8 999 103	FAX Transmission	
8 999 104	Scanner Transmission: Color	
8 999 105	Scanner Transmission: BW	

3.9 INPUT AND OUTPUT CHECK TABLES

3.9.1 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

Copier

5803	**Description**	**Reading**	
		0	**1**
5803 1	C-Dev. Mtr:LOCK	Normal	Lock
5803 2	C-Drum Mtr:LOCK	Normal	Lock
5803 3	Bk-Drum/Dev. Mtr:LOCK	Normal	Lock
5803 4	ITB Mtr:LOCK	Normal	Lock
5803 5	Fusing/P-Exit Mtr:LOCK	Normal	Lock
5803 6	Electrical FAN:LOCK	Normal	Lock
5803 7	Fusing Fan:LOCK	Normal	Lock
5803 8	Dev. Front Fan:LOCK	Normal	Lock
5803 9	Dev. Rear Fan:LOCK	Normal	Lock
5803 10	Fusing Exit Fan:LOCK	Normal	Lock
5803 11	LD Unit FAN:LOCK	Normal	Lock
5803 12	Jun. Gate SOL Fan:LOCK	Normal	Lock
5803 13	Fusing:New Detection	New	Not new

5803 14	Fusing:Area Detection	-	-
5803 15	Zero Cross	Not detected	Detected
5803 16	Regist Sensor	Paper detected	No paper detected
5803 17	Drum Phase Sn:Bk	Actuator not detected	Actuator detected
5803 18	Drum Phase Sn:Color	Actuator not detected	Actuator detected
5803 19	Inverter Sensor	Inverter gate open	Inverter gate close
5803 20	Duplex Exit Sensor	Paper detected	No paper detected
5803 21	Duplex Entrance Sensor	Paper detected	No paper detected
5803 22	ID/MUSIC Sn Shutter HP Sn (PTR Contact Sensor)	HP	Not HP
5803 23	HVPS:CB	-	-
5803 24	HVPS:T	-	-
5803 25	Right Door Open SW	Door close	Door open
5803 26	Right Lower Cover OP SW	Cover close	Cover open
5803 27	Mechanical Counter:Bk	Not set	Set
5803 28	Mechanical Counter:FC	Not set	Set
5803 29	Key Counter Set Sensor	Set	Not set
5803 30	Key Card Set Sensor	Set	Not set
5803 31	Toner End Sensor: K	End	Not end
5803 32	Toner End Sensor: C	End	Not end
5803 33	Toner End Sensor: M	End	Not end
5803 34	Toner End Sensor: Y	End	Not end
5803 35	Fusing Entrance Sensor	Paper detected	No paper detected

5803 36	Fusing Exit Sensor	Paper detected	No paper detected
5803 37	Paper Exit Sensor	Paper detected	No paper detected
5803 38	ITB Contact HP Sensor	HP (Contact)	Not HP (not contact)
5803 39	ITB T-Collect Bttl:Set SW	Set	Not set
5803 40	PCU T-Collect Bttl:Set SW	Set	Not set
5803 41	PCU T-Collect Bttl Full Sn	Full	Not full
5803 42	Vertical Transport 1 Sn	Paper detected	No paper detected
5803 43	Vertical Transport 2 Sn	Paper detected	No paper detected
5803 44	Tray1 Size Detection SW	See "Table 1" below.	
5803 45	Tray2 Size Detection SW	See "Table 1" below.	
5803 46	Bypass Size Detection SW	See "Table 2" below.	
5803 47	Bypass Length Detection Sn	Detected	Not detect
5803 48	Bypass HP Sensor	HP	Not HP
5803 49	Tray1 Paper End Sensor	Not end	End
5803 50	Tray2 Paper End Sensor	Not end	End
5803 51	Bypass Paper End Sensor	Not end	End
5803 52	Tray1 Set SW	Set	Not set
5803 53	Tray2 Set SW	Set	Not set
5803 54	Interlock SW 1	Door close	Door open
5803 55	Interlock SW 2	Door close	Door open
5803 56	DIP SW	-	-
5803 57	BCU Version	-	-
5803 58	PCU T-Collect Motor Set	Not set	Set
5803 59	Reserve Fan:LOCK	Lock	Normal

5803 70	R-Tray Paper Exit Sensor	Paper detected	No paper detected
5803 71	R-Tray Set Sensor	Set	Not set
5803 72	1-Bin:Transport Sensor	Paper detected	No paper detected
5803 73	1-Bin:Paper Sensor	Paper detected	No paper detected
5803 74	1-Bin Set Detection	Set	Not set
5803 75	Shift Tray:Half Turn Sn	Not HP	HP
5803 76	Shift Tray Set Detection	Not set	Set
5803 77	1T PFU:Size Sensors	See "Table 4".	
5803 78	1T PFU:Paper Lift Sn	Not upper limit	Upper limit
5803 79	1T PFU:Paper Height Sn	-	-
5803 80	1T PFU:Right Cover SW	Open	Close
5803 81	1T PFU:Set Detection	Not set	Set
5803 82	1T PFU:Paper End Sn	Not end	End
5803 83	2T PFU:Upper Size Sns	See "Table 4" below.	
5803 84	2T PFU:Lower Size Sns		
5803 85	2T PFU:Upper Paper Lift Sn	Not upper limit	Upper limit
5803 86	2T PFU:Lower Paper Lift Sn	Not upper limit	Upper limit
5803 87	2T PFU:Upper Paper Height Sn	-	-
5803 88	2T PFU:Lower Paper Height Sn	-	-
5803 89	2T PFU:Right Cover SW	Open	Close
5803 90	2T PFU:Upper PE Sn	Not end	End
5803 91	2T PFU:Lower PE Sn	Not end	End

5803 92	2T PFU:V-Transport Sn	Paper detected	No paper detected
5803 94	LD OFF Check:Factory	-	-
5803 200	Scanner HP Sensor	Not HP	HP
5803 201	Platen Cover Sensor	Open	Close

Table 1: Paper Size Switch (Tray 1/ 2)

Switch 1 is used for tray set detection.

0: Pushed, 1: Not pushed

Models		**Bit**		
North America	**Europe/Asia**	**2**	**1**	**0**
11" x 17" SEF*[1] (A3 SEF)	A3 SEF*[1] (11" x 17" SEF)	1	0	0
8.5" x 14" SEF *[2] (B4 SEF)	B4 SEF *[2] (8.5" x 14" SEF)	0	0	0
A4 SEF	A4 SEF	0	1	1
8.5" x 11" SEF	8.5" x 11" SEF	1	1	1
B5 SEF	B5 SEF	1	1	0
11" x 81/2" LEF*[3] (A4 LEF)	A4 LEF*[3] (11" x 81/2" LEF)	0	0	1
10.5" x 7.25" LEF*[4] (B5 LEF)	B5 LEF*[4] (10.5" x 7.25" LEF)	0	1	0
A5 LEF	A5 LEF	1	0	1
*1: The machine detects either 11" x 17" SEF or A3 SEF, depending on the setting of SP 5-181-002 (Tray 1) or SP 5-181-006 (Tray 2). *2: The machine detects either 8.5" x 14" SEF or B4 SEF, depending on the setting of SP 5-181-003 (Tray 1) or SP 5-181-007 (Tray 2).				

*3: The machine detects either 11" x 81/2" LEF or A4 LEF, depending on the setting of SP 5-181-001 (Tray 1) or SP 5-181-005 (Tray 2).

*4: The machine detects either B5 LEF or 10.5" x 7.25" LEF, depending on the setting of SP 5-181-004 (Tray 1) or SP 5-181-008 (Tray 2).

Table 2: Paper Size (By-pass Table)

0: ON, 1: OFF

By-pass Paper Size Sensor				Length Sensor	NA	EU/ASIA
bit3	**Bit2**	**Bit1**	**Bit0**			
1	1	0	0	1	HLT SEF	B6 SEF
1	1	1	1	1	HLT SEF	A5 SEF
1	1	1	0	1	HLT SEF	A5 SEF
0	0	1	1	0	LT/LG SEF*[1]	A4 SEF
0	0	1	1	1	LT/LG SEF*[1]	A5 LEF
1	0	0	1	0	DLT SEF	A3 SEF
1	0	0	1	1	LT LEF	A4 LEF

*1: The paper size (LT or LG) can be selected with SP1-007-001.

Table 3: APS Original Size Detection

Original Size		**Width Sensor**			**Length Sensor**		**SP4-301 display**
Metric version	**Inch version**	W1	W2	W3	L1	L2	
A3	11" x 17"	O	O	O	O	O	00000011
B4	10" x 14"	O	O	X	O	O	00000011
F4 8.5" x 13", 8.25" x 13", or 8" x 13" SP 5126 controls the size that is detected	8.5" x 14"	O	X	X	O	O	00000011
A4 LEF	8.5" x 11"	O	O	O	X	X	00000000
B5 LEF	-	O	O	X	X	X	00000000
A4 SEF	11" x 8.5"	O	X	X	O	X	00000010
B5 SEF	-	X	X	X	O	X	00000010
A5 LEF/ SEF	5.5" x 8.5", 8.5" x 5.5"	X	X	X	X	X	00000000

Table 4: Paper Size Switch (Tray 3/ 4)

"Bit 0" is used for tray set detection. 0: Set, 1: Not set

0: Not Interrupted, 1: Interrupted

Models		**Bit**			
North America	**Europe/Asia**	**3**	**2**	**1**	**0**
11" x 17" SEF*[1] (A3 SEF)	A3 SEF*[1] (11" x 17" SEF)	0	1	1	0
8.5" x 14" SEF *[2] (B4 SEF)	B4 SEF *[2] (8.5" x 14" SEF)	1	1	1	0
A4 SEF	A4 SEF	1	0	0	0
B5 SEF	B5 SEF	0	0	1	1
8.5" x 11" SEF	8.5" x 11" SEF	0	0	0	0
11" x 81/2" LEF*[3] (A4 LEF)	A4 LEF*[3] (11" x 81/2" LEF)	1	1	0	1
10.5" x 7.25" LEF*[4] (B5 LEF)	B5 LEF*[4] (10.5" x 7.25" LEF)	1	0	1	0
A5 LEF	A5 LEF	0	1	0	0
A5 SEF	A5 SEF	1	1	0	1

*1: The machine detects either 11" x 17" SEF or A3 SEF, depending on the setting of SP 5-181-010 (Tray 3) or SP 5-181-014 (Tray 4).

*2: The machine detects either 8.5" x 14" SEF or B4 SEF, depending on the setting of SP 5-181-011 (Tray 3) or SP 5-181-015 (Tray 4).

*3: The machine detects either 11" x 81/2" LEF or A4 LEF, depending on the setting of SP 5-181-009 (Tray 3) or SP 5-181-013 (Tray 4).

*4: The machine detects either B5 LEF or 10.5" x 7.25" LEF, depending on the setting of SP 5-181-012 (Tray 3) or SP 5-181-016 (Tray 4).

ARDF (D366)

6007	Description	Reading	
		0	1
6007 1	Original Length Sn1 (B5 Sn)	Paper not detected	Paper detected
6007 2	Original Length Sn2 (A4 Sn)	Paper not detected	Paper detected
6007 3	Original Length Sn3 (LG Sn)	Paper not detected	Paper detected
6007 4	Original Width Sn:S	Paper not detected	Paper detected
6007 5	Original Width Sn:M	Paper not detected	Paper detected
6007 6	Original Width Sn:L	Paper not detected	Paper detected
6007 7	Original Width Sn:LL	Paper not detected	Paper detected
6007 9	Original Set Sn	Paper not detected	Paper detected
6007 10	Trailing Edge Sn	Paper not detected	Paper detected
6007 11	Skew Correction Sn	Paper not detected	Paper detected
6007 13	Registration Sn	Paper not detected	Paper detected
6007 14	Exit Sn	Paper not detected	Paper detected
6007 15	Feed Cover SW	ADF cover close	ADF cover open
6007 16	Lift Up Sn	HP	Not HP

Internal Finisher (D429)

6120	Description	Reading	
		0	1
6120 1	Staple Slide HP Sensor	Not HP	HP
6120 2	Punch Slide HP Sensor	Not HP	HP
6120 3	Staple HP Sensor	Not HP	HP
6120 4	Paper T-Edge Sensor	Paper not detected	Paper detected
6120 5	Pick Roller Lift Sensor	Up	Down
6120 6	Paper Detection Sensor	Paper not detected	Paper detected
6120 7	Belt Roller Lift Sensor	Down	Up
6120 8	Entrance Sensor	Paper not detected	Paper detected
6120 9	Rear Jogger HP Sensor	HP	Not HP
6120 10	Front Jogger HP Sensor	HP	Not HP
6120 11	Fan Lock Signal	Normal	Lock
6120 12	Finisher Open Switch	Close	Open
6120 13	Punch Unit:Area Detect2	See "Table 5" below.	
6120 14	Punch Unit:Area Detect1		
6120 15	Paper Stack Sensor 2	HP	Not HP
6120 16	Paper Stack Sensor 1	HP	Not HP
6120 17	Punch Position Sensor	Not HP	HP
6120 18	Paper Width Sensor:A3	Paper not detected	Paper detected
6120 19	Paper Width Sensor:LD	Paper not detected	Paper detected
6120 20	Paper Width Sensor:B4	Paper not detected	Paper detected

6120 21	Paper Width Sensor:A4	Paper not detected	Paper detected
6120 22	Paper Width Sensor:16K	Paper not detected	Paper detected
6120 23	Paper Width Sensor:B5	Paper not detected	Paper detected
6120 24	Punch Hopper Full Sensor	Full	Not full
6120 25	Tray Upper Sensor	Upper	Not upper
6120 26	Relay Sensor	Paper not detected	Paper detected
6120 27	Tray Lower Sensor	Lower	Not lower
6120 28	Jogger HP Sensor	Not HP	HP
6120 29	Punch HP Sensor	Not rear	Rear Position
6120 30	Stapler Safety Sensor	No staple	Staple detected
6120 31	Staple Empty Sensor	No staple	Staple detected
6120 32	Punch Unit Sensor	Not set	Set

Table 5: Area Display

The bit 0 of these SPs shows the punch unit type.

2: 2 Holes, 2/3: 2/3 Holes, 4 (EU): 4 Holes Europe,
4 (Scan.): 4 Holes Scandinavia

SP		2	2/3	4 (EU)	4 (Scan.)
6120-013	Punch Unit:Area Detect2	0	0	1	1
6120-014	Punch Unit:Area Detect2	0	1	0	1

3.9.2 OUTPUT CHECK TABLE

Copier

5804	**Display**	**Description**
5804 1	Paper Feed M1:CW:190mm/s	-
5804 2	Paper Feed M1:CW:120mm/s	-
5804 3	Paper Feed M1:CW:60mm/s	-
5804 4	P-Feed M1:CW:60mm/s:Thick	-
5804 5	Paper Feed M1:CCW:190mm/s	-
5804 6	Paper Feed M1:CCW:120mm/s	-
5804 7	Paper Feed M1:CCW:60mm/s	-
5804 8	P-Feed M1:CCW:60mm/s:Thick	-
5804 9	Paper Feed M2:CW:190mm/s	-
5804 10	Paper Feed M2:CW:120mm/s	-
5804 11	Paper Feed M2:CW:60mm/s	-
5804 12	P-Feed M2:CW:60mm/s:Thick	-
5804 13	Paper Feed M2:CCW:190mm/s	-
5804 14	Paper Feed M2:CCW:120mm/s	-
5804 15	Paper Feed M2:CCW:60mm/s	-
5804 16	P-Feed M2:CCW:60mm/s:Thick	-
5804 17	Bypass M:CW:190mm/s	-
5804 18	Bypass M:CW:120mm/s	-
5804 19	Bypass M:CW:60mm/s:400mA	-
5804 20	Bypass M:CW:60mm/s:300mA	-

5804 21	Bypass M:CCW:190mm/s	-
5804 22	Bypass M:CCW:120mm/s	-
5804 23	Bypass M:CCW:60mm/s	-
5804 24	Registration M:120mm/s	-
5804 25	Registration M:60mm/s	-
5804 26	Regist M:60mm/s:Thick	-
5804 27	Inverter M:CW:280mm/s	-
5804 29	Inverter M:CW:120mm/s	-
5804 31	Inverter M:CW:60mm/s	-
5804 33	Inverter M:280mm/s	-
5804 35	Inverter M:120mm/s	-
5804 37	Inverter M:60mm/s	-
5804 39	Duplex Exit M:280mm/s	-
5804 40	Duplex Exit M:120mm/s	-
5804 41	Duplex Exit M:60mm/s	-
5804 42	Duplex Ent. M:280mm/s	-
5804 43	Duplex Ent. M:120mm/s	-
5804 44	Duplex Ent. M:60mm/s	-
5804 45	Color Dev. M:120mm/s	-
5804 46	Color Dev. M:60mm/s	-
5804 47	Color Drum. M:120mm/s	-
5804 48	Color Drum. M:60mm/s	-
5804 49	Bk Drum M:120mm/s	-
5804 50	Bk Drum M:60mm/s	-

5804 51	ITB Motor:120mm/s	-
5804 52	ITB Motor:60mm/s	-
5804 53	Fusing/P-Exit M:120mm/s	-
5804 54	Fusing/P-Exit M:60mm/s	-
5804 55	Electrical FAN:H	-
5804 56	Electrical FAN:L	-
5804 57	Fusing Fan:H	-
5804 58	Fusing Fan:L	-
5804 59	Dev. Front FAN:H	-
5804 60	Dev. Front FAN:L	-
5804 61	Dev. Rear FAN:H	-
5804 62	Dev. Rear FAN:L	-
5804 63	Fusing Exit Fan:H	-
5804 64	Fusing Exit Fan:L	-
5804 65	LD Unit Fan:H	-
5804 67	PSU Fan:H	-
5804 69	Junc. Gate SOL Fan:H	-
5804 70	Junc. Gate SOL Fan:L	-
5804 71	Toner Supply M:Bk	-
5804 72	Toner Supply M:C	-
5804 73	Toner Supply M:M	-
5804 74	Toner Supply M:Y	-
5804 75	PCU T-Collect Motor	-
5804 76	ID/MUSIC Sn Shutter Motor	PTR Contact Motor

5804 77	ITB Contact Motor	-
5804 78	Bk Dev. Clutch	-
5804 79	Junction Gate SOL	-
5804 80	PWM:Potential Sn:Bk	-
5804 81	PWM:Potential Sn:C	-
5804 82	PWM:Potential Sn:M	-
5804 83	PWM:Potential Sn:Y	-
5804 84	HVPS:Charge AC:Bk:H	-
5804 85	HVPS:Charge AC:Bk:L	-
5804 86	HVPS:Charge AC:C:H	-
5804 87	HVPS:Charge AC:C:L	-
5804 88	HVPS:Charge AC:M:H	-
5804 89	HVPS:Charge AC:M:L	-
5804 90	HVPS:Charge AC:Y:H	-
5804 91	HVPS:Charge AC:Y:L	-
5804 92	HVPS:Charge DC:Bk	-
5804 93	HVPS:Charge DC:C	-
5804 94	HVPS:Charge DC:M	-
5804 95	HVPS:Charge DC:Y	-
5804 96	HVPS:Dev. Bias:Bk	-
5804 97	HVPS:Dev. Bias:C	-
5804 98	HVPS:Dev. Bias:M	-
5804 99	HVPS:Dev. Bias:Y	-
5804 100	HVPS:PTR Bias:- PWM	-

5804 101	HVPS:PTR Bias:+ PWM	-
5804 102	HVPS:ITR Bias:Bk	-
5804 103	HVPS:ITR Bias:Bk	-
5804 104	HVPS:ITR Bias:Bk	-
5804 105	HVPS:ITR Bias:Bk	-
5804 106	MUSIC Sensor:R:PWM	-
5804 107	MUSIC Sensor:C:PWM	-
5804 108	MUSIC Sensor:F:PWM	-
5804 109	Reserve Fan:H	-
5804 110	Reserve Fan:LOCK	-
5804 111	Toner End Sn Power	-
5804 120	R-Tray M:280mm/s	-
5804 121	R-Tray M:120mm/s	-
5804 122	R-Tray SOL	-
5804 123	Shift Motor	-
5804 124	1T PFU:Tray Lift M	-
5804 125	1T PFU:Paper Feed M	-
5804 126	1T PFU:Paper Feed CL	-
5804 127	2T PFU:Relay CL	-
5804 128	2T PFU:Upper Feed CL	-
5804 129	2T PFU:Lower Feed CL	-
5804 130	2T PFU:P-Feed M:190mm/s	-
5804 131	2T PFU:P-Feed M:120mm/s	-
5804 132	2T PFU:P-Feed M:60mm/s	-

5804 133	2T PFU:Upper Tray Lift M	-
5804 134	2T PFU:Lower Tray Lift M	-
5804 192	RFID ON/OFF: Bk	-
5804 193	RFID ON/OFF: C	-
5804 194	RFID ON/OFF: M	-
5804 195	RFID ON/OFF: Y	-
5804 196	RFID COM ON: Bk	-
5804 197	RFID COM ON: C	-
5804 198	RFID COM ON: M	-
5804 199	RFID COM ON: Y	-
5804 202	Scanner Lamp	-
5804 210	Polygon Motor	-
5804 216	LD1: Bk	-
5804 218	LD1: M	
5804 220	LD1: C	-
5804 222	LD1: Y	-

Internal Finisher (D429)

6121	**Description**	**Description**
6121 1	Transport Motor	-
6121 2	Front Jogger Motor	-
6121 3	Rear Jogger Motor	-
6121 4	Stapler Slide Motor	-
6121 5	Stuck Feed-out Motor	-
6121 6	Pick Roller Lift Motor	-
6121 7	Staple Motor	-
6121 8	Tray Lift Motor	-
6121 9	Paper Detection SOL	-
6121 10	Paddle Rotation SOL	-
6121 11	Belt Roller SOL	-
6121 12	Junction Gate SOL	-
6121 13	Fan Motor	-
6120 14	Punch Motor	-
6120 15	Punch Slide Motor	-
6120 16	Inverter Roller SOL	-

ARDF (D366)

6008	Display	Description
6008 3	Feed Motor: Forward	Feed Motor-Forward rotation
6008 4	Feed Motor: Reverse	Feed Motor-Reverse rotation
6008 5	Transport Motor: Forward	Transport Motor- Forward rotation
6008 6	Transport Motor: Forward	Transport Motor- Forward rotation
6008 9	Feed Clutch	-
6008 10	Pick-up Solenoid	-
6008 11	Junction Gate Solenoid	-
6008 12	Stamp Solenoid	Stamp Solenoid

3.10 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 [#].
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: Magenta, 3: Yellow, 4: Cyan).
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. When you are prompted to confirm your selection, touch "Yes" to select the test pattern for printing.
6. Touch "Copy Window" to open the copy window, then select the settings for the test print (paper size etc.).

   Note

   - If you want to use black and white printing, touch "Black & White" on the LCD. If you want to use color printing, touch "Full Colour" on the LCD.
7. Press the "Start" key to start the test print.
8. After checking the test pattern, touch "SP Mode" on the LCD to return to the SP mode display.
9. Reset all settings to the default values.
10. Touch "Exit" twice to exit SP mode.

No.	Pattern	No.	Pattern
0	None	11	Independent Pattern (1dot)
1	Vertical Line (1dot)	12	Independent Pattern (2dot)
2	Vertical Line (2dot)	13	Independent Pattern (4dot)

3	Horizontal Line (1dot)	14	Ttrimming Area
4	Horizontal Line (2dot)	16	Hound's Tooth Check (Horizontal)
5	Grid Vertical Line	17	Band (Horizontal)
6	Grid Horizontal Line	18	Band (Vertical)
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	23	Full Dot Pattern

3.11 PRINTER SERVICE MODE

3.11.1 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 MFP 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 (☞"Card Save Function" in "System Maintenance" chapter of the Field Service Manual).		
	bit 5	DFU	-	-
	bit 6	DFU	-	-
	bit 7	**[RPCS,PCL]: Printable area frame border**	0: Disable	1: Enable
		Enable: The machine prints all RPCS and PCL jobs with a border on the edges of the printable area.		

1001	Bit Switch			
002	Bit Switch 2		0	1
	bit 0	DFU	-	-
	bit 1	DFU	-	-
	bit 2	**Applying a collation Type**	Shift Collate	Normal Collate
		A collation type (shift or normal) will be applied to all jobs that do not already have a ‘Collate Type’ configured. Note ▪ If #5-0 is enabled, this Bit Switch has no effect.		
	bit 3	**[PCL5e/c,PS]: PDL Auto Switching**	0: Enable	1: Disable
		Disable: The MFPs 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**		0	1
	bit 0	DFU	-	-
bit 1	DFU	-	-	
bit 2	DFU	-	-	
bit 3	**IPDS print-side reversal**	0: Disable	1: Enable	
		If enabled, the simplex pages of IPDS jobs will be printed on the front side because of printing on the back side of the page. This might reduce printing speed.		
bit 4	DFU	-	-	
bit 5	DFU	-	-	
bit 6	DFU	-	-	
bit 7	DFU	-	-	

1001	Bit Switch			
005	Bit Switch 5		0	1
	bit 0	**Show "Collate Type", "Staple Type" and "Punch Type" buttons on the operation panel.**	Disable	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 the function, 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	DFU	-	-
	bit 3	**[PS] PS Criteria**	Pattern3	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.**	Disable (100)	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	**Face-up output**	Disable	Enable
		Enable: All print jobs will be output face-up in the destination tray.		
	bit 6	**Method for determining the image**	0: Disable	1: Enable

		rotation for the edge to bind on.		
		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)

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	DFU	-	-
	bit 1	DFU	-	-
	bit 2	DFU	-	-
	bit 3	**[PCL,PS]: Allow BW jobs to print without requiring User Code**	Disable	Enable
		Enable: BW jobs submitted without a user code will be printed even if usercode authentication is enabled. Note ▪ Color jobs will not be printed without a valid user code.		
	bit 4	DFU	-	-
	bit 5	DFU	-	-
	bit 6	DFU	-	-
	bit 7	DFU	-	-

1001	Bit Switch			
005	Bit Switch 9		0	1
	bit 0	**PDL Auto Detection timeout of jobs submitted via USB or Parallel Port (IEEE 1284).**	"Disabled (Immediately)"	"Enabled (10 seconds)"
		To be used if PDL auto-detection fails. A failure of PDL autodetection doesn't necessarily mean that the job can't be printed. This bit switch tells the device whether to time-out immediately (default) upon failure or to wait 10 seconds.		
	bit 1	DFU	-	-
	bit 2	**Job Cancel**	Disabled (Not	Enabled (Cancelled)

			cancelled)	
		If this bit switch, all jobs will be cancelled after a jam occurs. Note: If this bitsw is enabled, printing under the following conditions might result in problems: - Job submission via USB or Parallel Port - Spool printing (WIM >Configuration > Device Settings > System)		
	bit 3	**PCL/PS bypass tray paper rotation (SEF/LEF)**	0: Disable	1: Enable
		This bitsw causes the device to revert to the behavior of previous generations. It only takes effect if "Bypass Tray Setting Priority" = "Driver/Command". Previous spec (bitsw=1): If a standard sized paper mismatch occurred in the bypass tray, the MFP always prompted for SEF paper. If this bitsw=0 (default) then in the event of a standard sized paper mismatch, the MFP will always prompt for paper of the rotation (SEF/LEF) determined by the MFP bypass tray paper setting or by the bypass tray sensor.		
	bit 4	**Timing of the PJL Status ReadBack (JOB END) when printing multiple collated copies.**	0: Disable	1: Enable
		This bitsw determines the timing of the PJL USTATUS JOB END sent when multiple collated copies are being printed. 0 (default): JOB END is sent by the device to the client after the first copy has completed printing. This causes the page counter to be incremented after the first copy and then again at the end of the job. 1: JOB END is sent by the device to the client after the last copy has finished printing. This causes the page counter to be incremented at the end of each job.		
	Bit 5 to 7	DFU	-	-

1003	[Clear Setting]
1003 1	Initialize Printer System
	Initializes settings in the "System" menu of the user mode.
1003 3	Delete Program

1004	[Print Summary]
1004 1	Print Summary
	Prints the service summary sheet (a summary of all the controller settings).

1005	[Display Version]
1005 1	Disp. Version
	Displays the version of the controller firmware.

1006	[Sample/Locked Print]	*CTL	**0**: Linked, 1: On
1006 1	Enables and disables the document server. When you select "0," the document server is enabled or disabled in accordance with Copy Service Mode SP5-967. When you select "1," the document server is enabled regardless of Copy Service Mode SP5-967.		

1101	[Data Recall]		
	Recalls a set of gamma settings. This can be either a) the factory setting, b) the previous setting, or c) the current setting.		
1101 1	Factory	*CTL	
1101 2	Previous		
1101 3	Current		
1101 4	ACC		

1102	[Resolution Setting]
	Selects the printing mode (resolution) for the printer gamma adjustment.
1102 1	**2400x600 Photo**, 1800x600 Photo, 600 x 600 Photo, 2400x600 Text, 1800x600, Text, 600x600 Text

1103	[Test Page]		
	Prints the test page to check the color balance before and after the gamma adjustment.		
1103 1	Color Gray Scale		
1103 2	Color Pattern		

1104	[Gamma Adjustment]		
	Adjusts the printer gamma for the mode selected in the "Mode Selection" menu.		
1104 1	Black: Highlight	*CTL	[0 to 30 / **15** / 1/step]
1104 2	Black: Shadow		
1104 3	Black: Middle		
1104 4	Black: IDmax		
1104 21	Cyan: Highlight		
1104 22	Cyan: Shadow		
1104 23	Cyan: Middle		
1104 24	Cyan: IDmax		
1104 41	Magenta: Highlight	*CTL	[0 to 30 / **15** / 1/step]
1104 42	Magenta: Shadow		
1104 43	Magenta: Middle		
1104 44	Magenta: IDmax		
1104 61	Yellow: Highlight		
1104 62	Yellow: Shadow		
1104 63	Yellow: Middle		
1104 64	Yellow: IDmax		

1105	[Save Tone Control Value]		
	Stores the print gamma adjusted with the "Gamma Adj." menu item as the current setting. Before the machine stores the new "current setting", it moves the data currently stored as the "current setting" to the "previous setting" memory storage location.		
1105 1	Save Tone Control Value		

1106	[Toner Limit]		
	Adjusts the maximum toner amount for image development.		
1106 1	Toner Limit Value	*CTL	[100 to 400 / **260** / 1 %/step]

3.12 SCANNER SP MODE

3.12.1 SP1-XXX (SYSTEM AND OTHERS)

1001	**[Scan Nv Version]**		
1001 5	-	*CTL	-

1004	**[Compression Type]**		
	Selects the compression type for binary picture processing.		
1004 1	Compression Type	*CTL	[1 to 3 / **1** / 1/step] 1: MH, 2: MR, 3: MMR

1005	**[Erase margin]**		
	Creates an erase margin for all edges of the scanned image. If the machine has scanned the edge of the original, create a margin. This SP is activated only when the machine uses TWAIN scanning.		
1005 1	Range from 0 to 5 mm	*CTL	[0 to 5 / **0** / 1 mm/step]

1009	**[Remote scan disable]**	*CTL	[0 or 1 / **0** / -] 0: enable, 1: disable
1009 1	Enable or disable remote scan.		

1010	**[Non Display Clear Light PDF]**	*CTL	[0 or 1 / **0** / -] 0: Display, 1: No display
1010 1	Enable or disable remote scan.		

1011	**[Org count Disp]**	*CTL	[0 or 1 / **0** / -]
1011 1	Selects the original counter display. 0: Displays remaining memory for the original scanning. 1: Displays original counter.		

1012	**[UserInfo release]**	*CTL	[0 or 1 / **1** / -] 0: No, 1: Yes
1012 1	Clear the following settings: Address, Sender, Text / Subject, Filename		

1013	**[Multimedia Function Setting]**	*CTL	[0 or 1 / **0** / -] 0: OFF, 1: ON
1013 1	On or off multimedia function		

3.12.2 SP2-XXX (SCANNING-IMAGE QUALITY)

2021	**[Compression Level (Grayscale)]** Selects the compression ratio for grayscale processing mode (JPEG) for the three settings that can be selected at the operation panel.		
2021 1	Comp 1: 5-95	*CTL	[5 to 95 / **20** / 1 /step]
2021 2	Comp 2: 5-95		[5 to 95 / **40** / 1 /step]
2021 3	Comp 3: 5-95		[5 to 95 / **65** / 1 /step]
2021 4	Comp 4: 5-95		[5 to 95 / **80** / 1 /step]
2021 5	Comp 5: 5-95		[5 to 95 / **95** / 1 /step]

2024	**[Compression ratio of ClearLight PDF]** Selects the compression ratio for clearlight PDF for the two settings that can be selected at the operation panel.		
2024 1	Compression Ratio (Normal)	*CTL	[5 to 95 / **25** / 1 /step]
2024 2	Compression Ratio (High)		[5 to 95 / **20** / 1 /step]

PAPER TRAY UNIT PB3030

D331

D331 PAPER TRAY UNIT PB3030 REVISION HISTORY		
Page	**Date**	**Added/Updated/New**
		None

PAPER TRAY UNIT PB3030 D331

TABLE OF CONTENTS

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

◯: Clip ring

Ͼ: E-ring

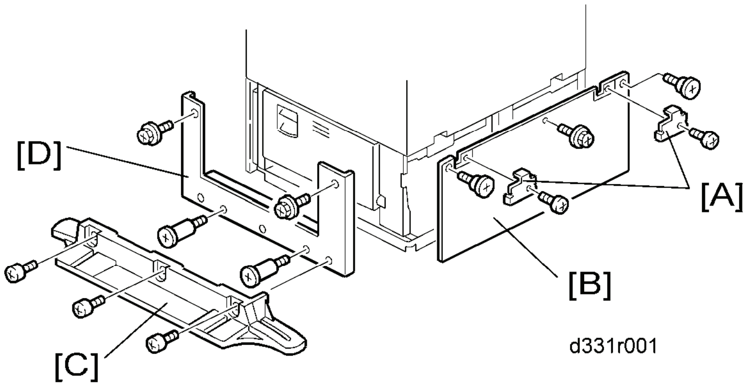
1. REPLACEMENT AND ADJUSTMENT

1.1 COVERS AND ROLLER

⚠CAUTION

- Turn off the main power switch and unplug the machine before beginning any of the procedures in this section.

1.1.1 COVERS



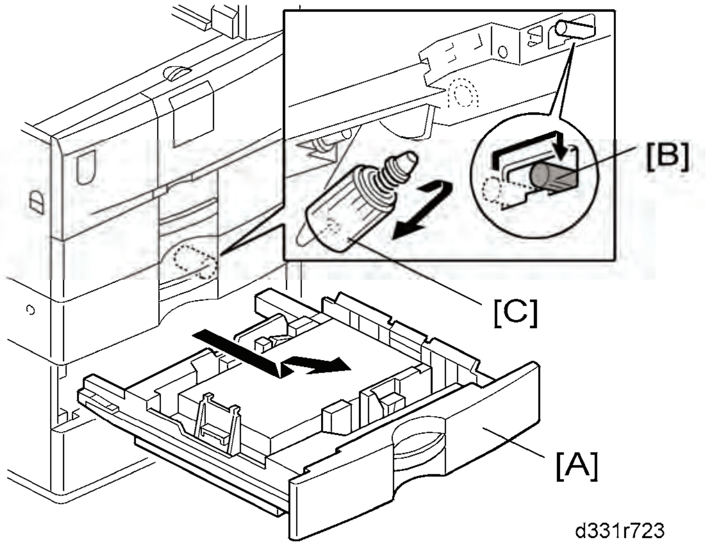
Rear Cover

1. Hold brackets [A] (🔩 x 1 each)
2. Rear cover [B] (🔩 x 3)

Right Cover

1. Right side stopper [C] (🔩 x 3)
2. Right cover [D] (🔩 x , knob screw x 2)

1.1.2 FEED ROLLER



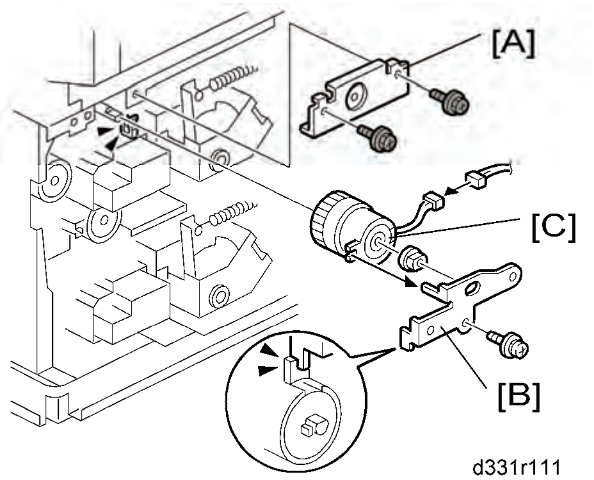
1. Pull out the tray [A].
2. Release the lock lever [B].
3. Feed roller [C]

1.2 DRIVE COMPONENTS

⚠CAUTION

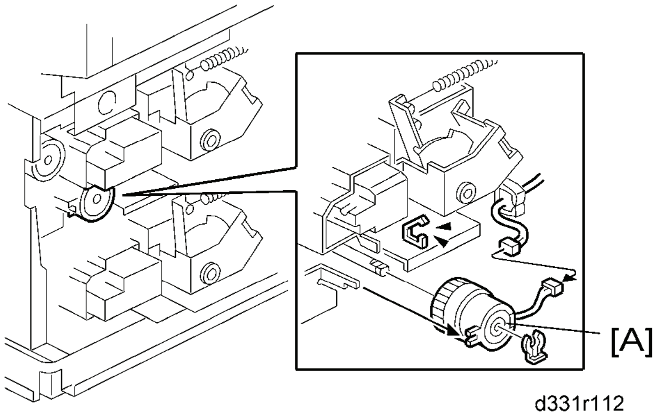
- Turn off the main power switch and unplug the machine before beginning any of the procedures in this section.

1.2.1 UPPER FEED CLUTCH



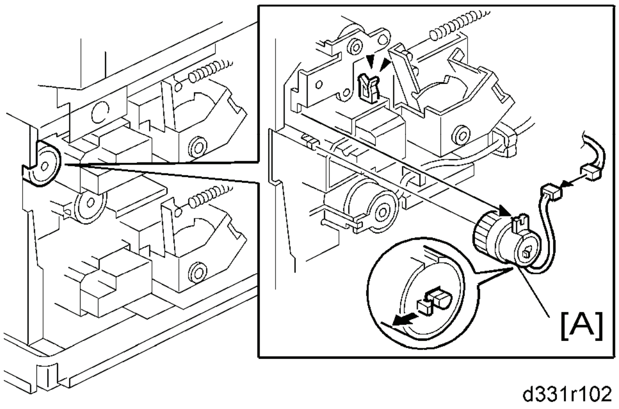
1. Rear cover (☛ "Covers")
2. Bracket [A] (🔩 x 2)
3. Hold bracket [B] (🔩 x 1, bushing x 1)
4. Upper feed clutch [C] (🔌 x 1)

1.2.2 LOWER FEED CLUTCH



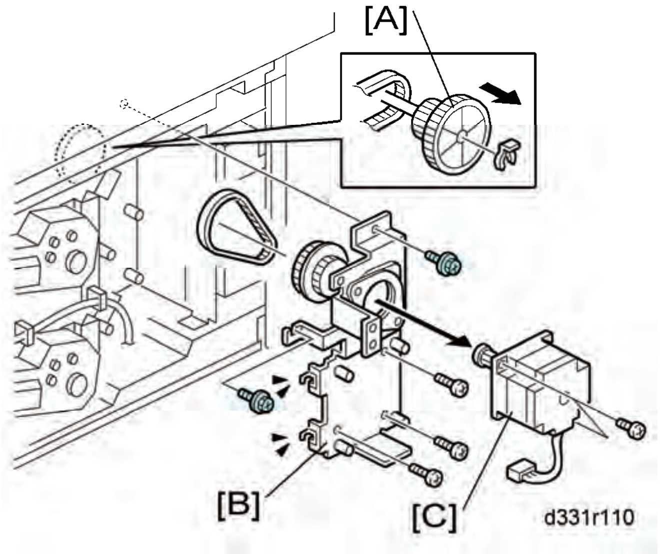
1. Rear cover (☛ "Covers")
2. Lower feed clutch [A] (⊂ x 1, ⊓ x 1, 🔌 x 1)

1.2.3 RELAY CLUTCH



1. Rear cover (☛ "Covers")
2. Relay clutch [A] (🔌 x 1, 📎 x 1)

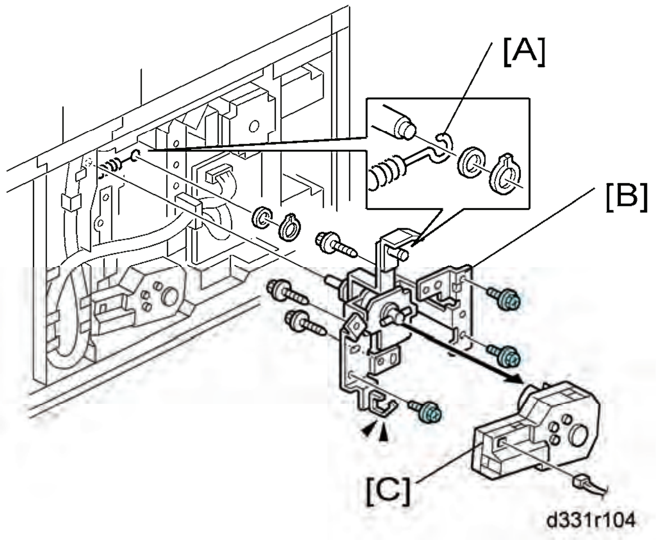
1.2.4 PAPER FEED MOTOR



1. Rear cover (☛ "Covers")
2. Tray main board (☛ "Tray Main Board")
3. Gear [A] (◯ x 1)
4. Paper feed motor bracket [B] (🔩 x 5)
5. Paper feed motor [C] (🔩 x 2)

1.2.5 LIFT MOTORS

Upper Lift Motor



1. Rear cover (☛ "Covers")
2. Spring [A] (snap ring x 1, spacer x 1)
3. Lift motor bracket [B] (🔩 x 3, 🔌 x 1)
4. Upper lift motor [C] (🔩 x 3)

Lower Lift Motor

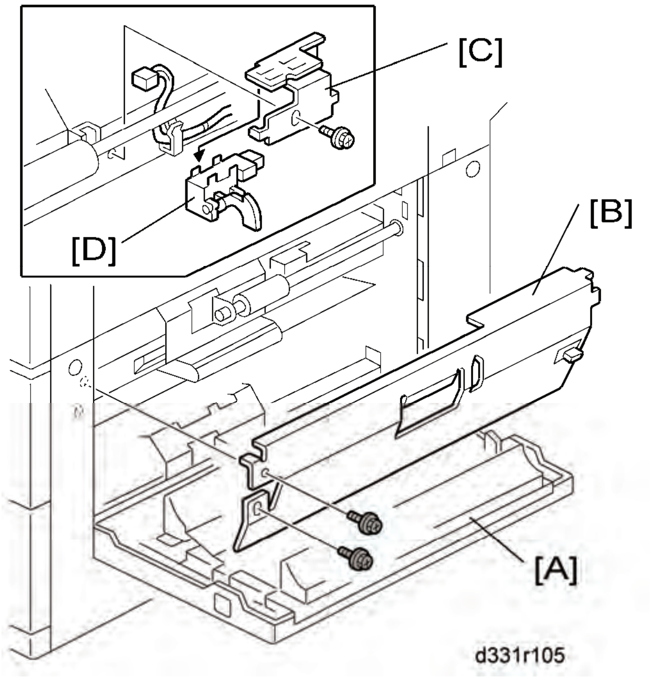
1. Rear cover (☛ "Covers")
2. Spring (snap ring x 1, spacer x 1)
3. Lift motor bracket (🔩 x 4, 🔌 x 1)
4. Lower lift motor (🔩 x 3)

1.3 ELECTRICAL COMPONENTS

⚠CAUTION

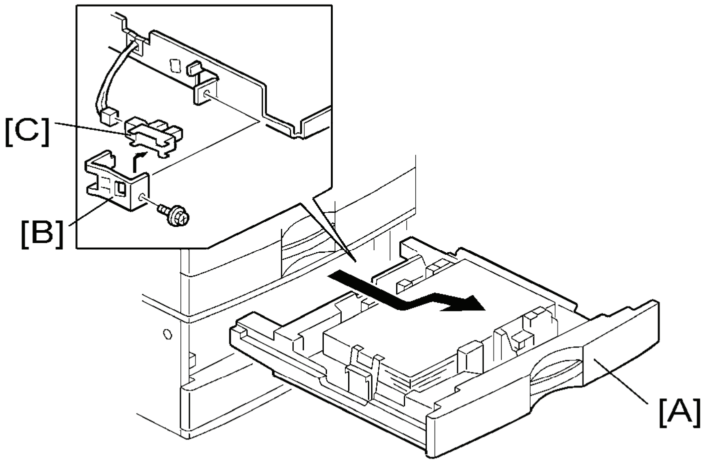
- Turn off the main power switch and unplug the machine before beginning any of the procedures in this section.

1.3.1 VERTICAL TRANSPORT SENSOR



1. Open the tray cover [A]
2. Guide plate [B] (🔩 x 2)
3. Sensor bracket [C] (🔩 x 1, 🔌 x 1)
4. Vertical transport sensor [D] (hooks)

1.3.2 PAPER END SENSOR



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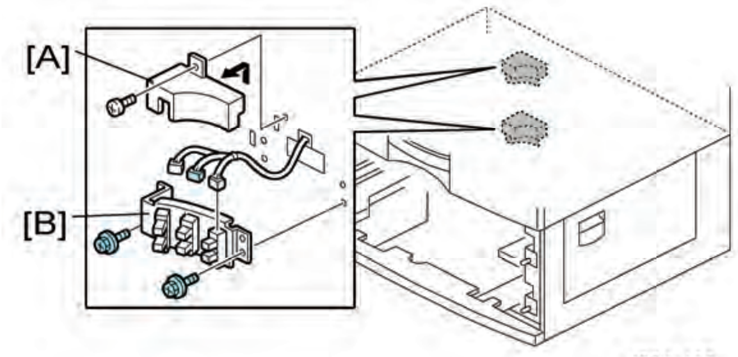
1. Pull out the tray [A]
2. Sensor bracket [B] (🔩 x 1, 🔌 x 1)
3. Paper end sensor [C] (hooks)

1.3.3 PAPER SIZE SENSORS



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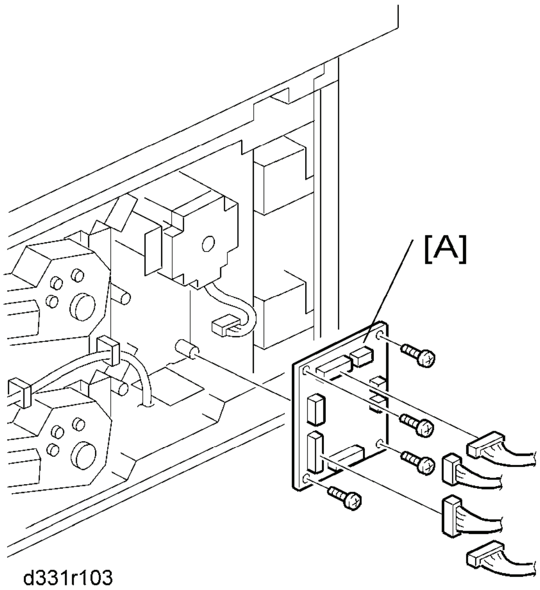
1. Pull out the two trays.
2. Sensor bracket cover [A] (🔩 x 1)
3. Sensor bracket [B] (🔌 x 3, 🔩 x 2)
4. Paper size sensors (hooks)

1.3.4 TRAY MAIN BOARD



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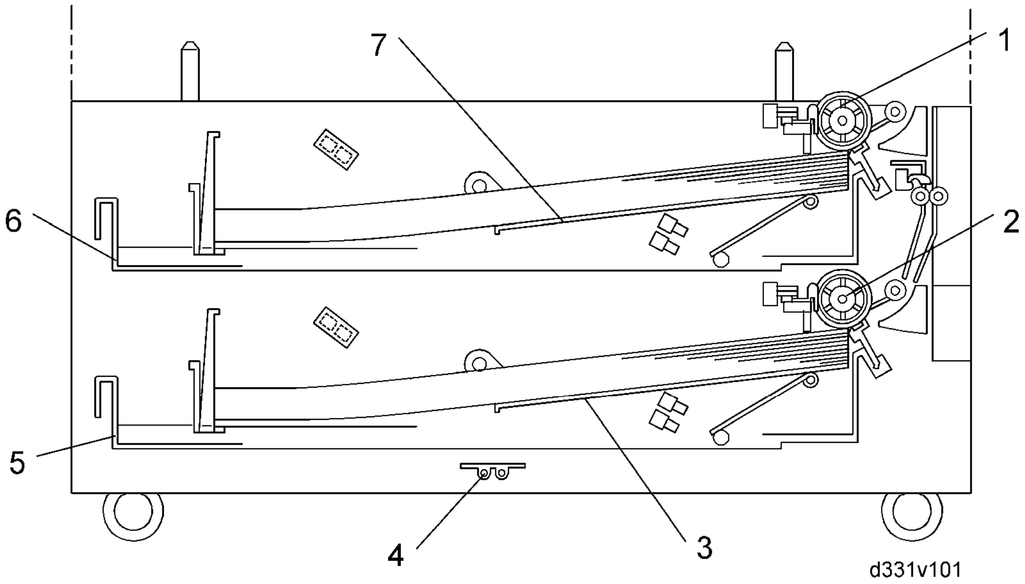
1. Rear cover (☛ "Covers")
2. Tray main board [A] (🔩 x 4, all 🔌's)

2. DETAILED SECTION DESCRIPTIONS

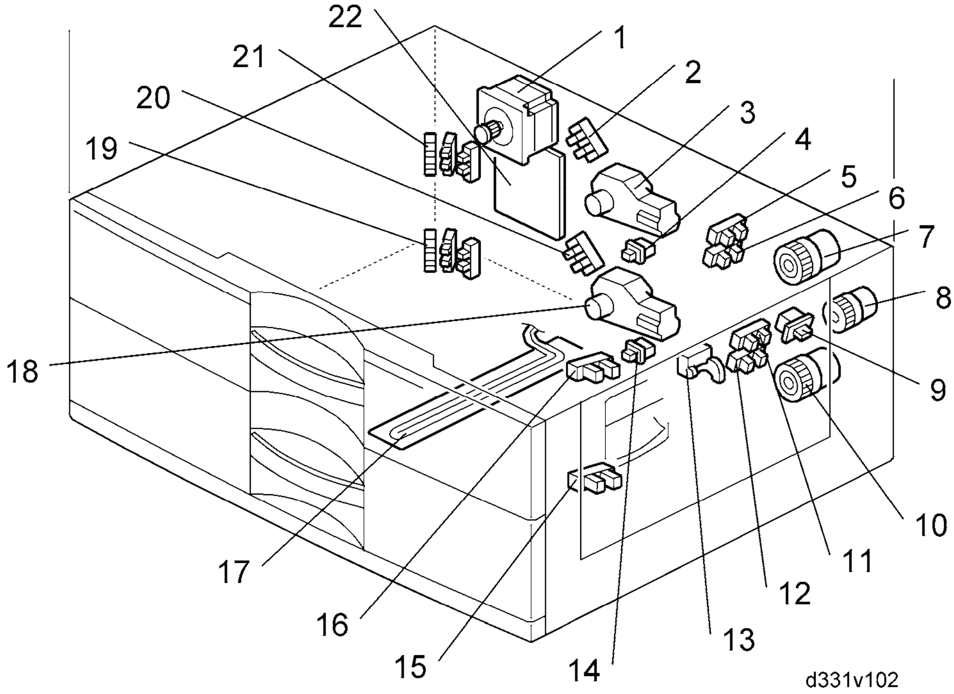
2.1 COMPONENT LAYOUT

2.1.1 MECHANICAL COMPONENT LAYOUT



1. Upper paper feed roller 2. Lower paper feed roller 3. Lower bottom plate 4. Optional tray heater	5. Lower tray 6. Upper tray 7. Upper bottom plate

2.1.2 ELECTRICAL COMPONENT LAYOUT



1. Paper feed motor	12. Lower paper height 1 sensor
2. Upper lift sensor	13. Vertical transport sensor
3. Upper lift motor	14. Lower tray set switch
4. Upper tray set switch	15. Lower paper end sensor
5. Upper paper height 2 sensor	16. Upper paper end sensor
6. Upper paper height 1 sensor	17. Optional tray heater
7. Upper paper feed clutch	18. Lower lift motor
8. Relay clutch	19. Lower paper size sensors
9. Tray cover switch	20. Lower lift sensor
10. Lower paper feed clutch	21. Upper paper size sensors
11. Lower paper height 2 sensor	22. Tray main board

2.1.3 ELECTRICAL COMPONENT DESCRIPTION

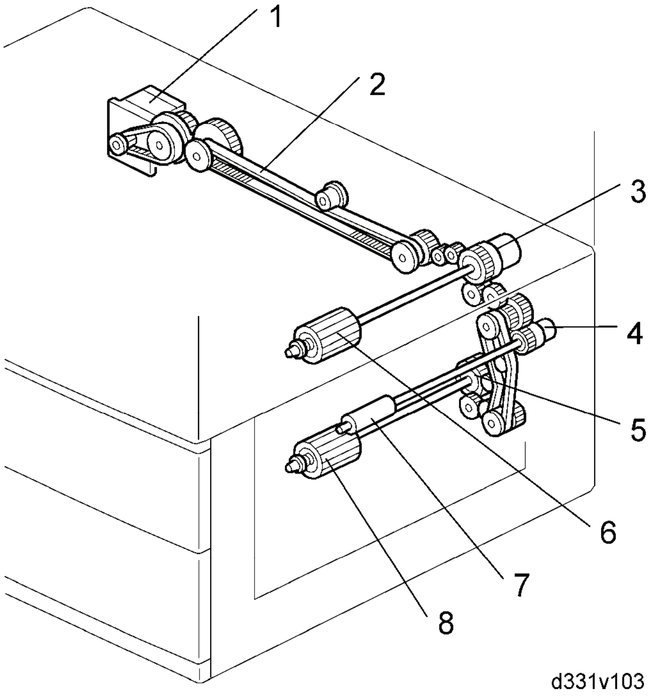
Symbol	**Name**	**Function**	**Index No.**

Motors			
M1	Paper Feed	Drives all rollers.	1
M2	Upper Lift	Lifts the upper tray bottom plate.	3
M3	Lower Lift	Lifts the lower tray bottom plate.	18
Sensors			
S1	Upper Lift	Detects when the paper in the upper tray is at the correct feed height.	2
S2	Lower Lift	Detects when the paper in the lower tray is at the correct feed height.	20
S3	Upper Paper End	Informs the copier/printer when the upper tray runs out of paper.	16
S4	Lower Paper End	Informs the copier/printer when the lower tray runs out of paper.	15
S5	Vertical Transport	Detects misfeeds.	13
S6	Upper Paper Height 1	Detects the amount of paper in the upper tray.	6
S7	Upper Paper Height 2	Detects the amount of paper in the upper tray.	5
S8	Lower Paper Height 1	Detects the amount of paper in the lower tray.	12
S9	Lower Paper Height 2	Detects the amount of paper in the lower tray.	11
S10	Upper Paper Size	Determines what paper size is in the upper tray.	21
S11	Lower Paper	Determines what paper size is in the lower tray.	19

Component Layout

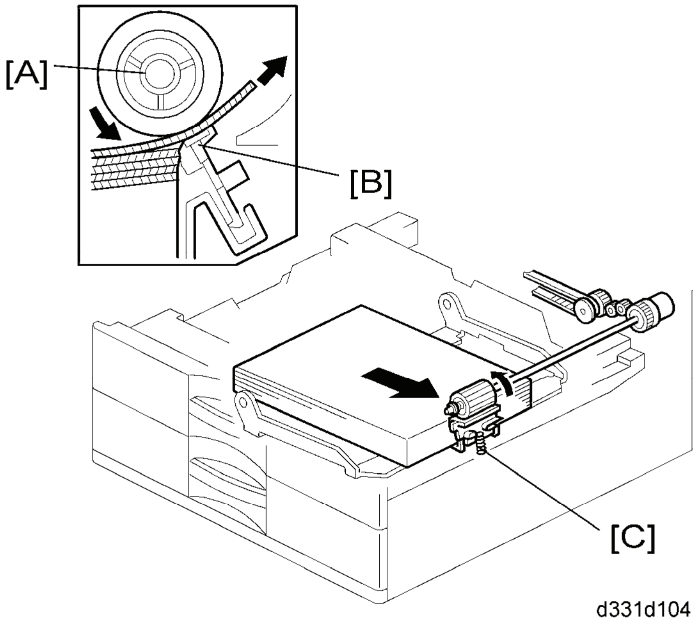
	Size		
Switches			
SW1	Tray Cover	Detects whether the tray cover is opened or not.	9
SW2	Upper Tray Set	Detects whether the upper tray is opened or not.	4
SW3	Lower Tray Set	Detects whether the lower tray is opened or not.	14
Magnetic Clutches			
MC1	Upper Paper Feed	Starts paper feed from the upper tray.	7
MC2	Lower Paper Feed	Starts paper feed from the lower tray.	10
MC3	Relay	Drives the relay rollers.	8
PCBs			
PCB1	Tray Main	Controls the paper tray unit and communicates with the copier/printer.	22
Others			
H1	Optional Tray Heater	Removes humidity from the paper in the trays.	17

2.1.4 DRIVE LAYOUT



1. Paper feed motor	5. Lower paper feed clutch
2. Drive belt	6. Upper paper feed roller
3. Upper paper feed clutch	7. Relay roller
4. Relay clutch	8. Lower paper feed roller

2.2 PAPER FEED AND SEPARATION MECHANISM



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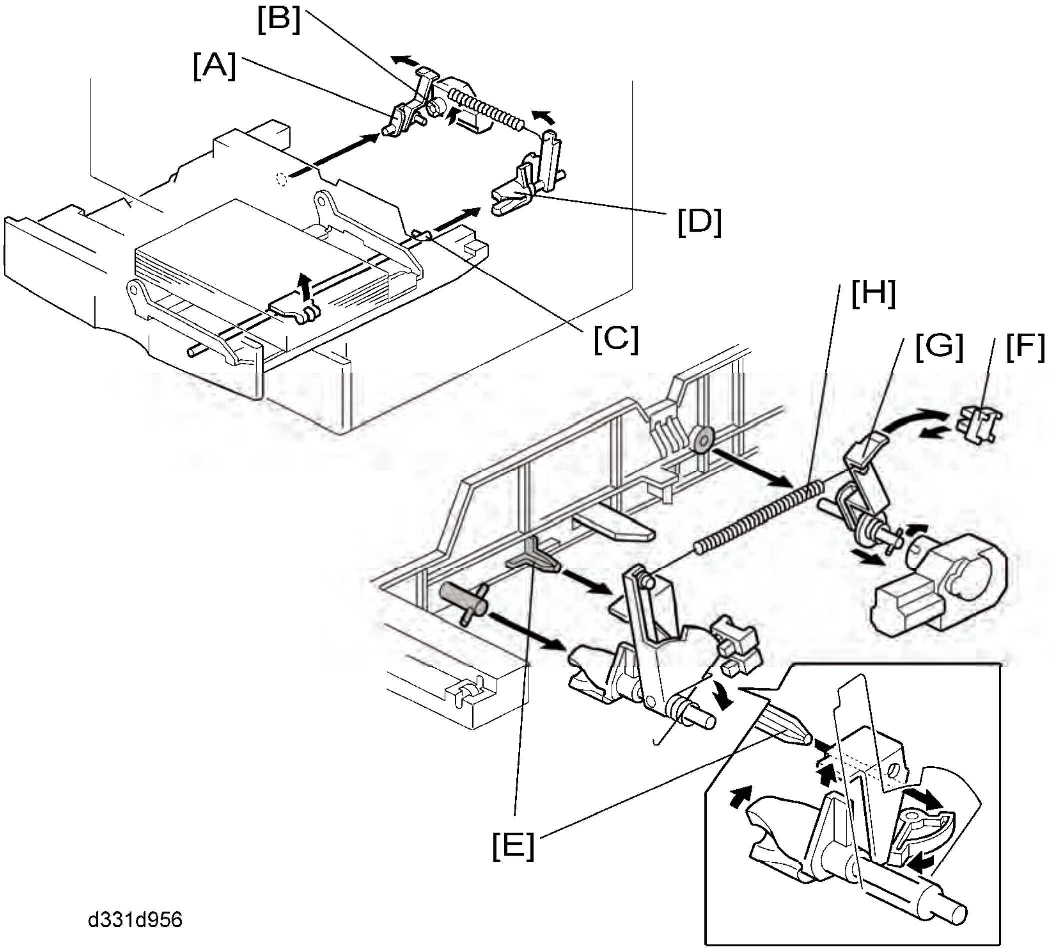
The paper tray holds 500 sheets. The paper feed roller [A] drives the top sheet of paper from the paper tray to the copier/printer. The friction pad [B] allows only one sheet to feed at a time. The friction pad applies pressure to the feed roller with a spring [C].

2.3 PAPER LIFT MECHANISM



The paper size switch detects when the tray is pushed in.

When the paper tray is pushed into the machine, the pin [A] for the lift motor pressure shaft engages the lift motor coupling [B] and the pin [C] for the bottom plate lift shaft in the tray engages the bottom plate pressure lever coupling [D]. The pin [E] on the rear of the tray pushes the lock lever so that the lift motor can lift the bottom plate pressure lever.

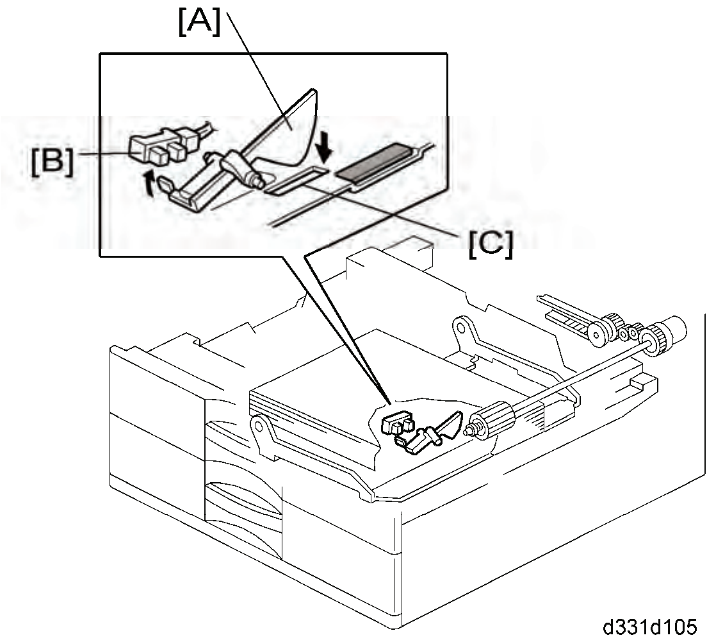
The lift motor turns on, and turns clockwise as viewed on the diagram. The main pressure spring [H] pulls the bottom plate pressure lever, and this lifts the tray bottom plate.

When the top of the stack touches the feed roller, the motor cannot pull up the plate any more, so it pulls the actuator [G] into the lift sensor [F].

The pressure of the feed roller on the paper is now too high, so the lift motor reverses to reduce this pressure. It reverses for 300 ms or 600 ms, depending on the paper size. For smaller paper, it reverses the larger amount (600 ms) to reduce the pressure more.

When the paper tray is pulled out, the pins [A, C] disengage from the couplings [B, D], and the bottom plate drops. To make it easier to push the tray in, the lift motor rotates backwards 1.7 seconds to return the bottom plate pressure lever coupling [D] to the original position.

2.4 PAPER END DETECTION

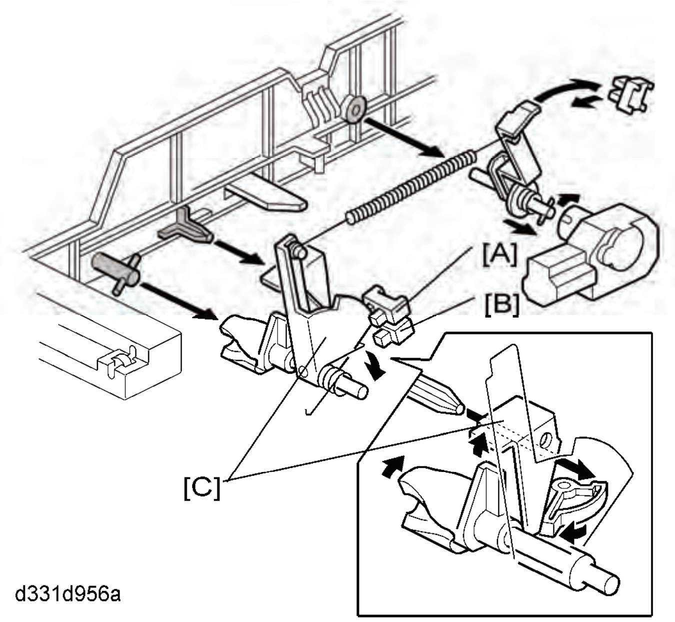


If there is some paper in the paper tray, the paper stack raises the paper end feeler [A] and the paper end sensor [B] is deactivated.

When the paper tray runs out of paper, the paper end feeler drops into the cutout [C] in the tray bottom plate and the paper end sensor is activated.

When the paper tray is drawn out with no paper in the tray, the shape of the paper end feeler causes it to lift up.

2.5 PAPER HEIGHT DETECTION



The amount of paper in the tray is detected by the combination of on/off signals from two paper height sensors [A] and [B].

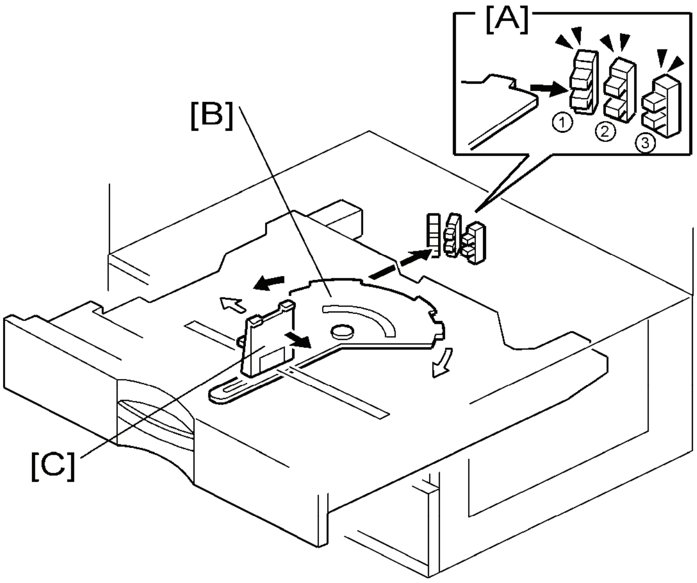
When the amount of paper decreases, the bottom plate pressure lever [C] moves the actuator up.

The following combination of sensor signals is sent to the copier/printer.

Amount of Paper	Paper Height Sensor 1	Paper Height Sensor 2
Near End	OFF	ON
30%	ON	ON
70%	ON	OFF
100%	OFF	OFF

When the tray contains paper of a small width, the paper feed pressure may become too low when the thickness of the remaining stack of paper has decreased. The lift motor rotates forward 300 ms after the sensor detects a certain amount of paper remaining in the tray to increase paper feed pressure, simulating the pressure generated by a full tray.

2.6 PAPER SIZE DETECTION



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There are three paper size sensors [A] (SN1, SN2 and SN3) on the paper tray unit. Each paper tray has its own actuator [B], with a unique combination of notches. This actuator is moved when the paper end fence [C] is adjusted for the installed paper. To determine which size has been installed, the CPU reads which paper size sensors the actuator has switched off. Refer to the size detection lists as shown below.

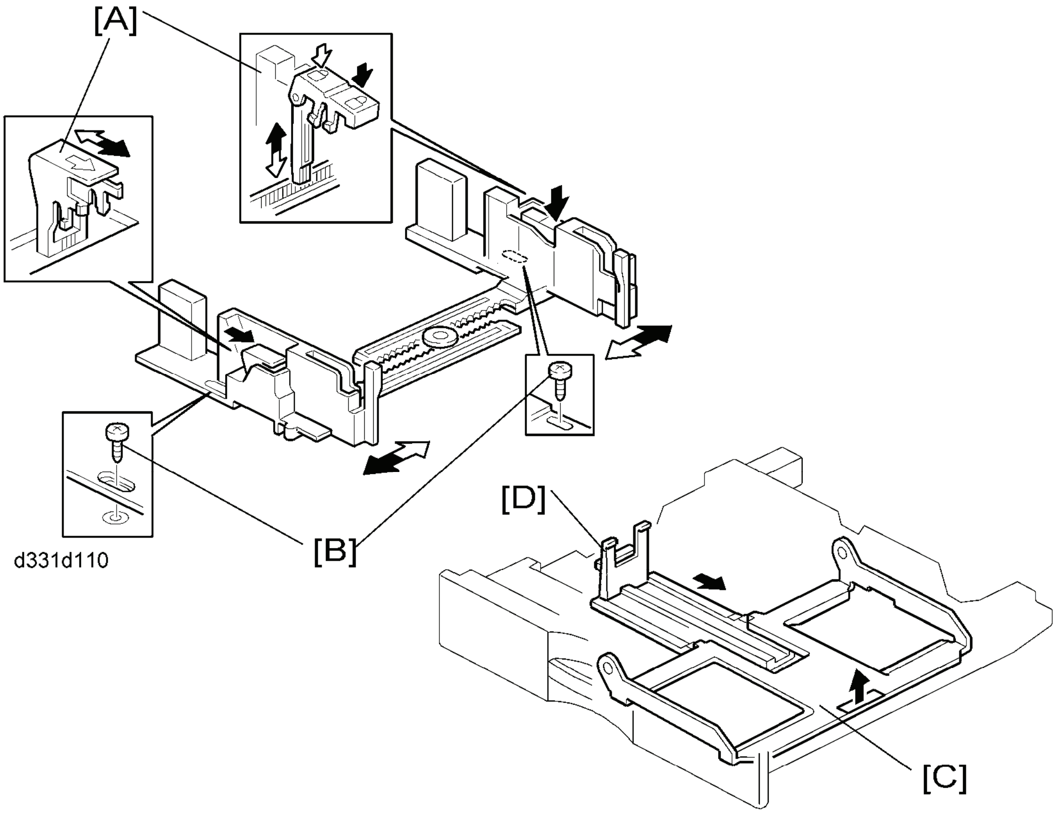
EU/ AISA Size		SN1	SN2	SN3	SP Setting
A6 SEF	148 x 105	OFF	ON	OFF	A5 LEF
B5 LEF	182 x 257	ON	OFF	ON	B6 SEF/ Exe LEF
A4 LEF	210 x 297	ON	ON	OFF	LT LEF/ A5 SEF/ HLT SEF
B5 SEF	257 x 182	OFF	OFF	ON	
LT SEF	279 x 216	OFF	OFF	OFF	
A4 SEF	297 x 210	ON	OFF	OFF	LG SEF
B4 SEF	364 x 257	ON	ON	ON	

Paper Size Detection

A3 SEF	420 x 297	OFF	ON	ON	DLT SEF
NA Size		**SN1**	**SN2**	**SN3**	**SP Setting**
A6 SEF	148 x 105	OFF	ON	OFF	A5 LEF
B5 LEF	182 x 257	ON	OFF	ON	Exe LEF/ B6 SEF
LT LEF	210 x 297	ON	ON	OFF	A4 LEF/ A5 SEF/ HLT SEF
B5 SEF	257 x 182	OFF	OFF	ON	
LT SEF	279 x 216	OFF	OFF	OFF	
A4 SEF	297 x 210	ON	OFF	OFF	
LG SEF	364 x 257	ON	ON	ON	
DLT SEF	420 x 297	OFF	ON	ON	A3 SEF

The CPU disables paper feed from a tray if the paper size cannot be detected. If the paper size actuator is broken, or if there is no tray installed, the Add Paper indicator will light.

2.7 SIDE AND END FENCES



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2.7.1 SIDE FENCES

If the tray is full of paper and it is pushed in strongly, the fences may deform or bend. This may cause the paper to skew or the side-to-side registration to be incorrect. To correct this, each side fence has a stopper [A] attached to it. Each side fence can be secured with a screw [B], for customers who do not want to change the paper size.

2.7.2 END FENCE

As the amount of paper in the tray decreases, the bottom plate [C] lifts up gradually. The end fence [D] is connected to the bottom plate. When the tray bottom plate rises, the end fence moves forward and pushes the back of the paper stack to keep it squared up.

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D366 ARDF DF3030 REVISION HISTORY		
Page	**Date**	**Added/Updated/New**
		None

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TABLE OF CONTENTS

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

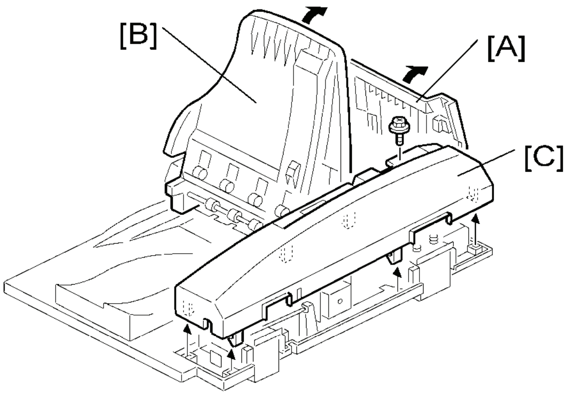
: Clip ring

ℂ: E-ring

1. REPLACEMENT AND ADJUSTMENT

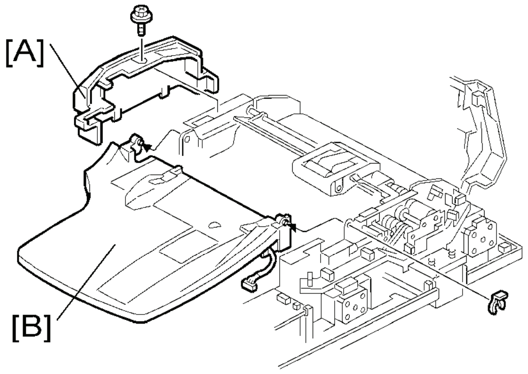
1.1 COVERS AND TRAY

1.1.1 REAR COVER



1. Open the left cover [A].
2. Open the original tray [B].
3. Rear cover [C] (🔩 x 1, hook x 6)

1.1.2 FRONT COVER AND ORIGINAL TRAY



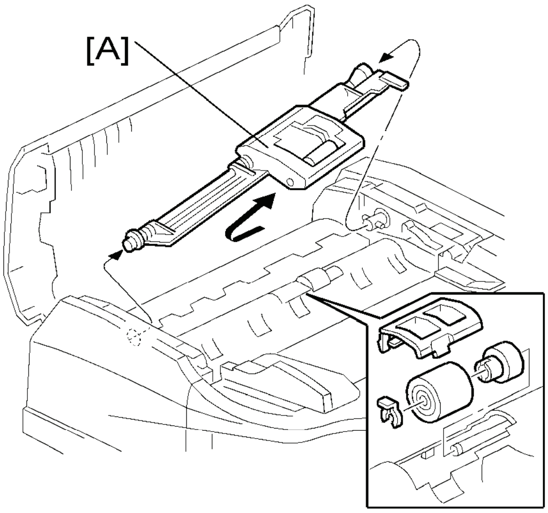
1. Open the left cover.
2. Rear cover (☛ "Rear Cover")
3. Front cover [A] (🔩 x 1)

   Note

   - Keep the original tray open when you remove the front cover.
4. Original tray [B] (⚲ x 1, 🔌 x 1)

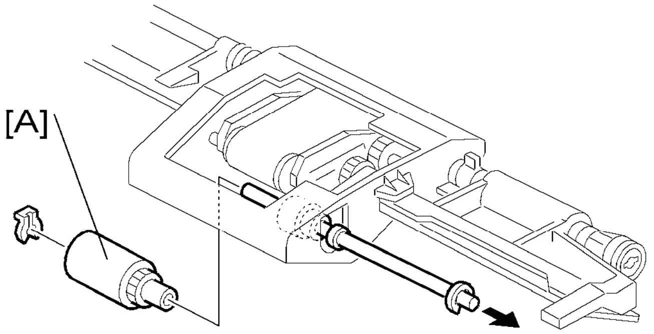
1.2 DOCUMENT FEED COMPONENTS

1.2.1 ORIGINAL FEED UNIT



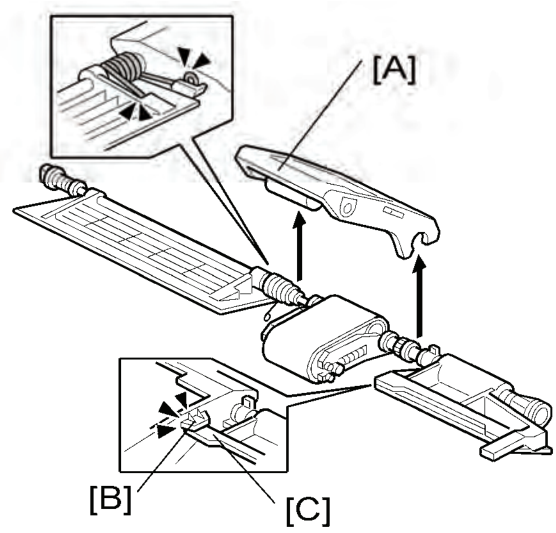
1. Open the left cover.
2. Original feed unit [A].

1.2.2 PICK-UP ROLLER



1. Open the left cover.
2. Original feed unit (☞ "Original Feed Unit")
3. Pick-up roller [A] (x 1)

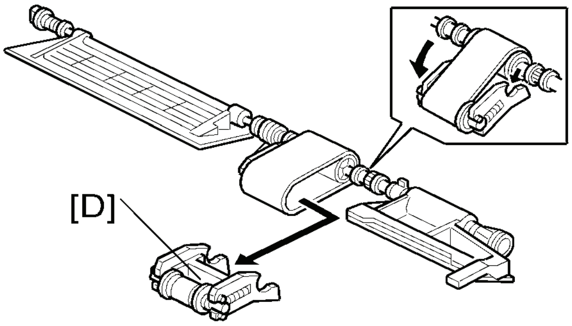
1.2.3 FEED BELT



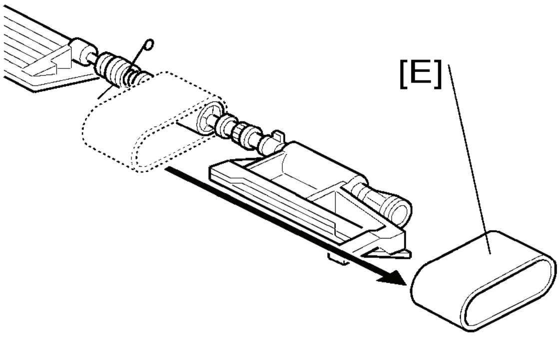
1. Open the left cover.
2. Original feed unit (☞ "Original Feed Unit")
3. Feed belt cover [A] (spring x 1)

Note

- When reassembling the feed belt cover, make sure that the projection [B] of the feed belt cover is on the guide plate rear [C].

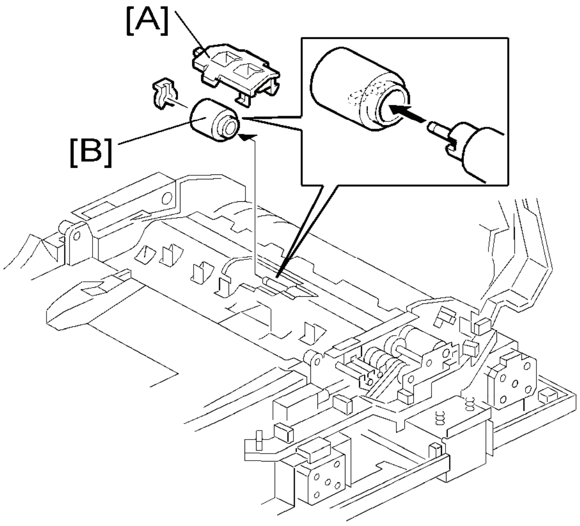


4. Belt tension unit [D]



5. Feed belt [E]

1.2.4 SEPARATION ROLLER



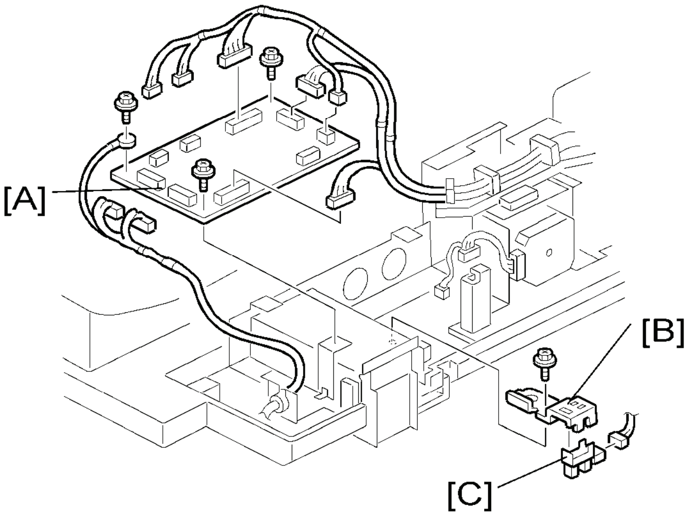
1. Open the left cover.

2. Separation roller cover [A].

3. Separation roller [B] (🔩 x 1)

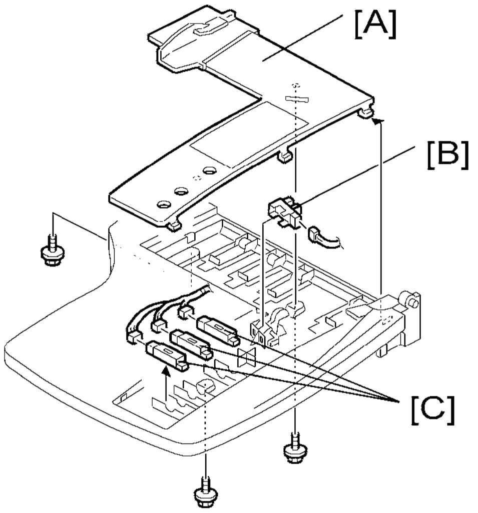
1.3 ELECTRICAL COMPONENTS

1.3.1 ARDF DRIVE BOARD AND DF POSITION SENSOR



1. Rear cover (see "Rear Cover")
2. ARDF drive board [A] (🔩 x 3, all 🔌s)
3. DF position sensor with bracket [B] (🔩 x 1, 🔌 x 1)
4. DF position sensor [C] (hook x 2)

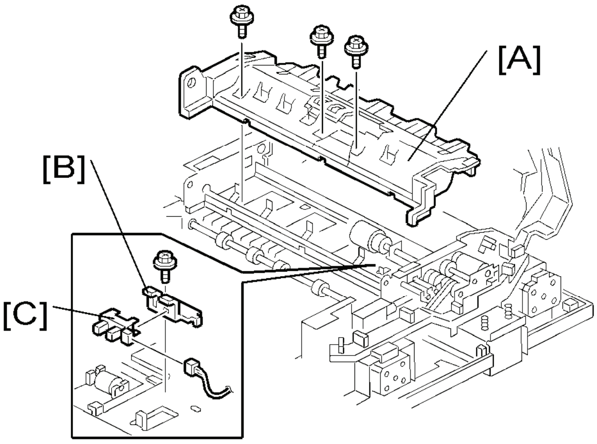
1.3.2 ORIGINAL LENGTH SENSORS AND TRAILING EDGE SENSOR



1. Original Tray (see "Front Cover and Original Tray")
2. Tray cover [A] (🔩 x 3)

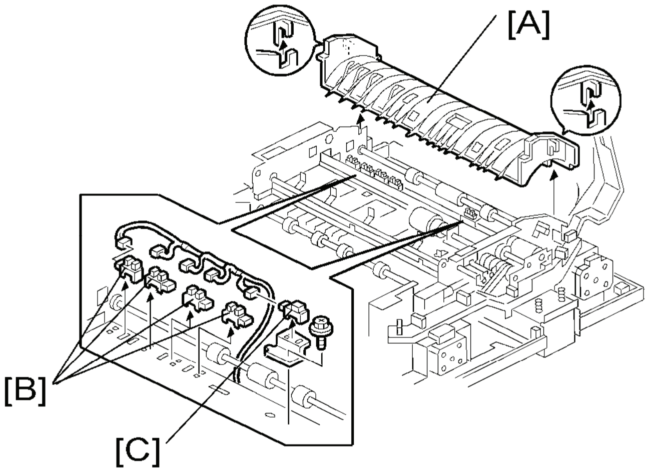
3. Original trailing edge sensor [B] (🔌 x 1)
4. Original length sensors [C] (🔌 x 1 each)

1.3.3 ORIGINAL SET SENSOR



1. Open the left cover.
2. Original feed unit (see the "Original Feed Unit")
3. Original Tray (see the "Original Tray")
4. Original feed-in guide plate [A] (🔩 x 3).
5. Original set sensor bracket [B] (🔩 x 1)
6. Original set sensor [C]

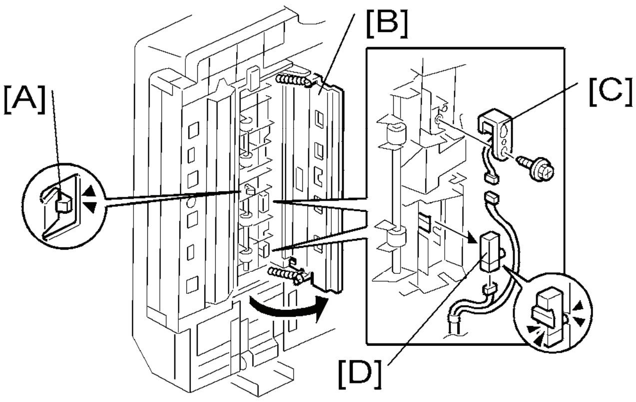
1.3.4 ORIGINAL SIZE SENSORS AND SKEW CORRECTION SENSOR



1. Original feed-in guide plate (see "Original Set Sensor")
2. Original turn guide plate [A] (hook x 1).
3. Original width sensors [B] (🔌 x 1 each) and skew correction sensor [C] with **bracket**

(🔩 x 1, 🔌 x 1)

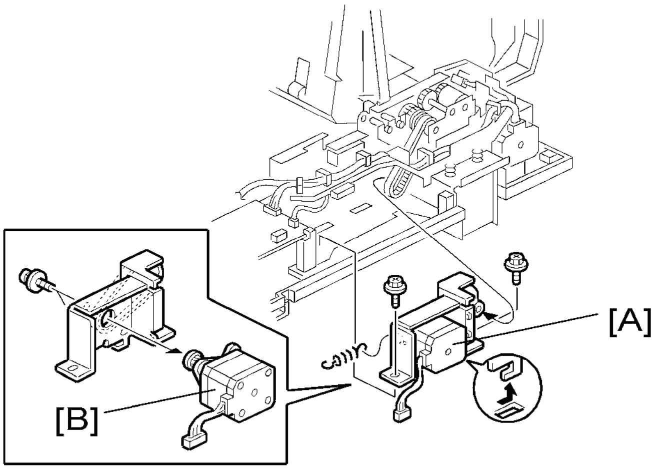
1.3.5 STAMP SOLENOID AND ORIGINAL EXIT SENSOR



1. Open the ARDF.
2. Remove the left edge of the platen sheet.
3. Release the hook [A].
4. Open the original exit guide plate [B]
5. Stamp solenoid [C] (🔩 x 1, 🔌 x 1)
6. Original exit sensor [D] (🔌 x 1, hook x 1)

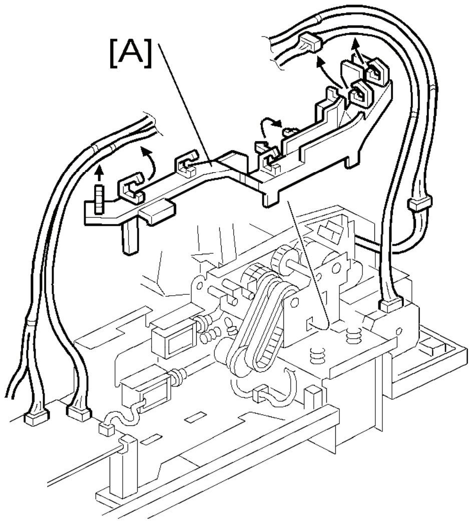
1.4 ORIGINAL FEED DRIVE

1.4.1 FEED MOTOR

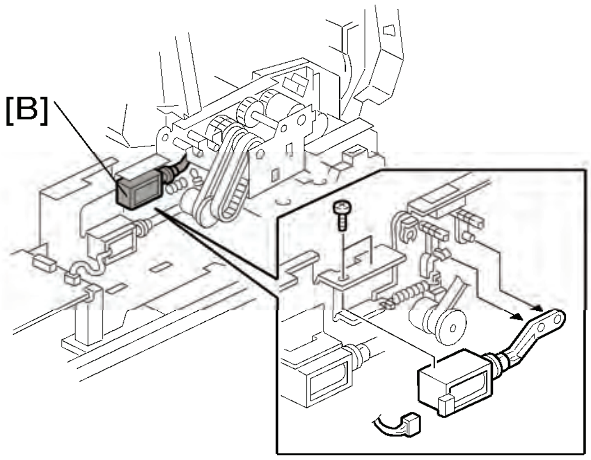


1. Rear cover (see "Rear Cover")
2. Feed motor with bracket [A] (🔩 x 2, 🔌 x 1, spring x 1)
3. Feed motor [B] (🔩 x 2)

1.4.2 PICK-UP SOLENOID

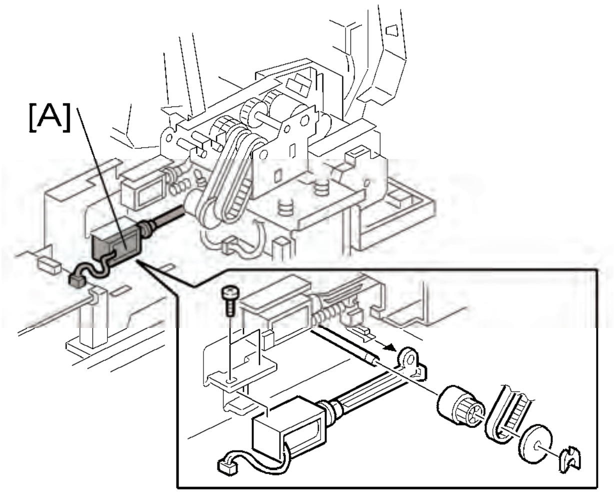


1. Rear cover (see "Rear Cover")
2. Harness guide [A] (all 🔌s)



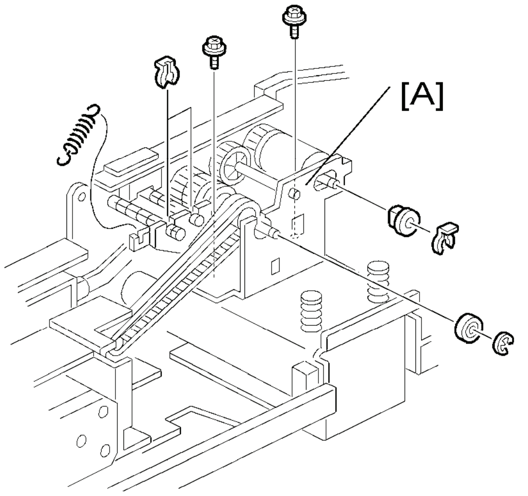
3. Pick-up solenoid [B] (🔩 x 2, 🔌 x 1)

1.4.3 INVERTER SOLENOID

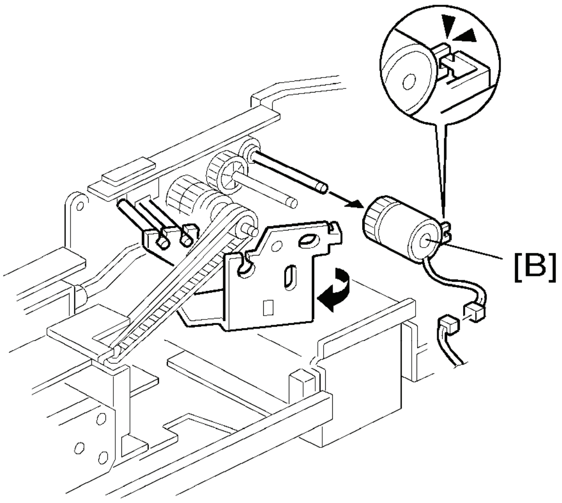


1. Rear cover (see "Rear Cover")
2. Harness guide (see "Pick-up Solenoid")
3. Inverter solenoid [A] (🔩 x 2, 🔌 x 1, ⊂⊃ x 1, gear x 1, gear cover x 1)

1.4.4 FEED CLUTCH

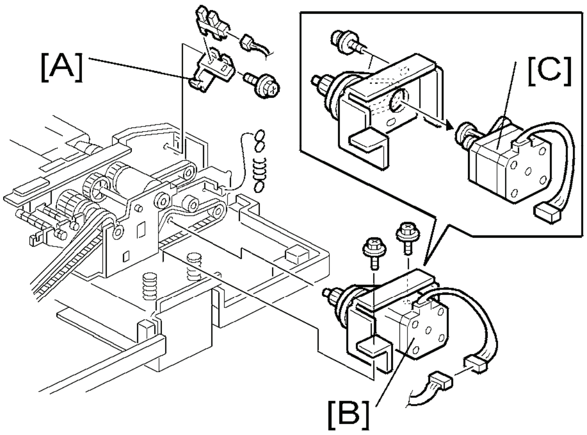


1. Rear cover (see "Rear Cover")
2. Harness guide (see "Pick-up Solenoid")
3. Bracket [A] (x 2, x 3, x 1, bushing x 1, spring x 1)



4. Slide the bracket.
5. Feed clutch [B] (x 1)

1.4.5 TRANSPORT MOTOR

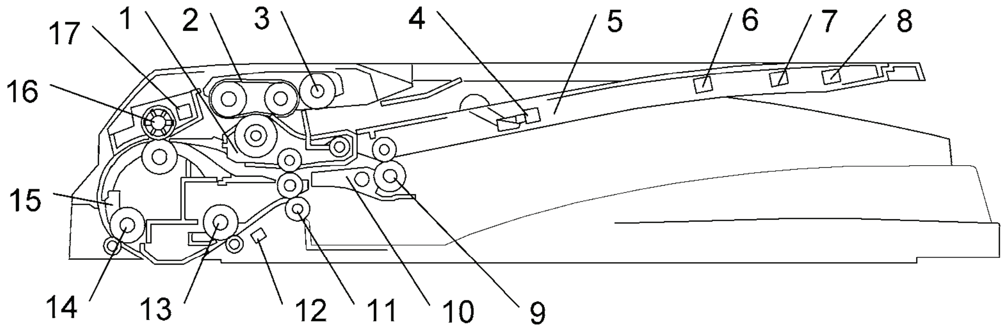


1. **1.** Rear cover (see "Rear Cover")
2. **2.** Harness guide (see "Pick-up Solenoid")
3. **3.** Left cover sensor with bracket [A] (🔩 x 1, 🔌 x 1)
4. **4.** Transport motor with bracket [B] (🔩 x 2, 🔌 x 1, spring x 1)
5. **5.** Transport motor [C] (🔩 x 2)

2. DETAILED DESCRIPTIONS

2.1 COMPONENT LAYOUT

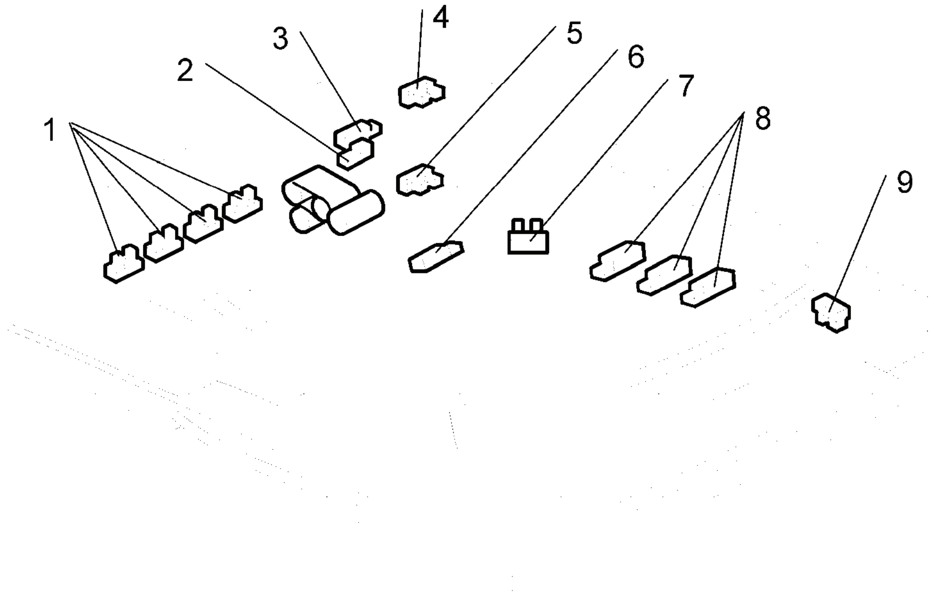
2.1.1 MECHANICAL COMPONENT LAYOUT



1. Separation Roller 2. Paper Feed Belt 3. Pick-up Roller 4. Original Trailing Edge Sensor 5. Original Tray 6. Original Length Sensor 1 7. Original Length Sensor 2 8. Original Length Sensor 3 9. Inverter Roller	10. Junction Gate 11. Exit Roller 12. Original Exit Sensor 13. Transport Roller 14. Registration Roller 15. Registration Sensor 16. Skew Correction Roller 17. Skew Correction Sensor

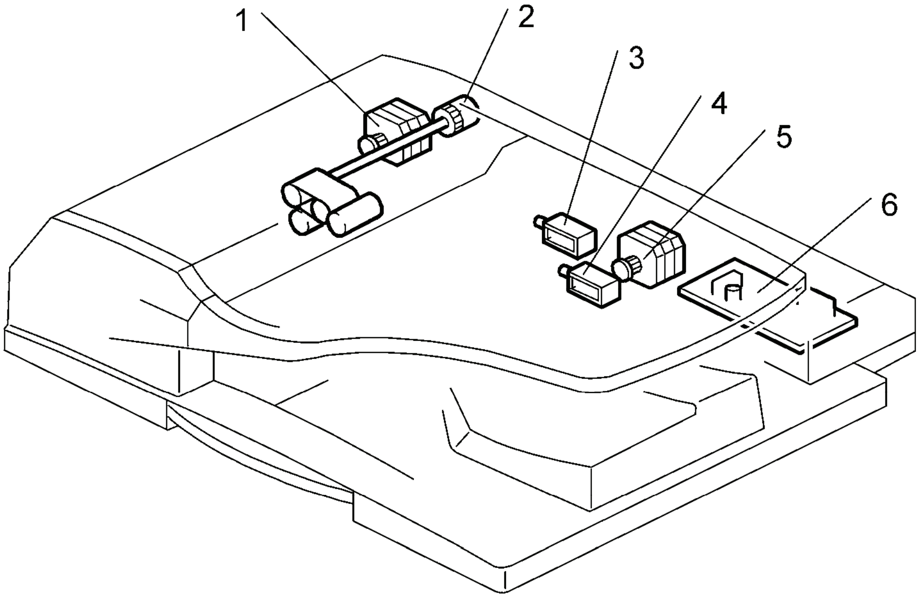
2.1.2 ELECTRICAL COMPONENT LAYOUT

Sensors



1. Original Width Sensor
2. Skew Correction Sensor
3. Registration Sensor
4. Cover Sensor
5. Original Set Sensor
6. Exit Sensor
7. Original Sensor
8. Original Length Sensor
9. DF Position Sensor

Drive Components



1. Transport Motor
2. Feed Clutch
3. Pick-up Solenoid
4. Inverter Solenoid
5. Feed Motor
6. Main Board

Electrical Component Descriptions

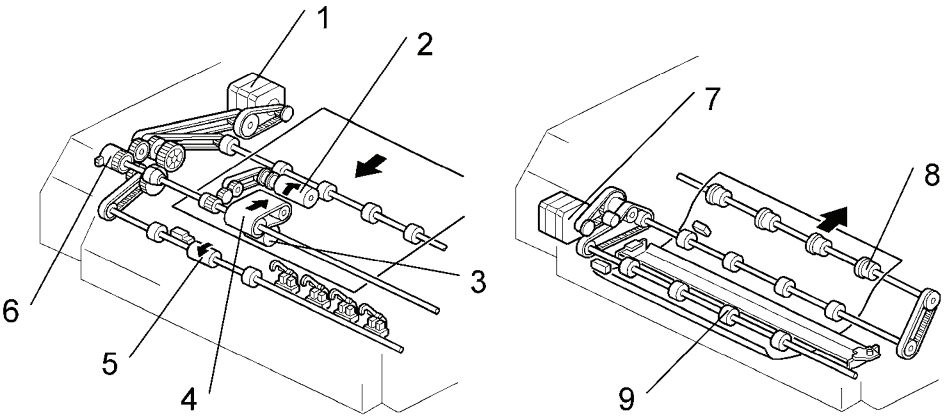
Symbol	Name	Function	Index No.
Motors			
M1	Feed	Drives the feed belt, separation, pick-up, and reverse table rollers.	5
M2	Transport	Drives the transport and exit rollers	1
Sensors			
S9	DF Position	Detects whether the DF is lifted or not.	9
S5	Skew Correction	Detects the leading edge of the original to turn off the DF feed and transport motors.	2
S8	Registration	Detects the original exposure timing, and checks for original misfeeds.	3
S10	Cover Sensor	Detects whether the feed-in cover is opened or not.	4

S1	Original Width Sensor - S	Detects the original width - S.	1
S2	Original Width Sensor - M	Detects the original width - M.	1
S3	Original Width Sensor - L	Detects the original width - L.	1
S4	Original Width Sensor - LL	Detects the original width - LL.	1
S14	Original Length - S	Detects the original length - S.	8
S13	Original Length - M	Detects the original length - M.	8
S12	Original Length - L	Detects the original length - L.	8
S7	Original Set	Detects if an original is on the feed table.	5
S6	Original Exit	Detects the leading edge of the original to turn on the junction gate solenoid and checks for original misfeeds. Detects the trailing edge of the original to turn off the transport and feed motor and junction gate solenoid. In single-sided mode, used to detect original misfeeds.	6
S11	Original	Detects the trailing edge of the last original to stop copy paper feed and to turn off the transport motor, and checks for original misfeeds.	7
Solenoids			
SOL1	Pick-up	Controls the up-down movement of the original table.	3
SOL2	Stamp	Energizes the stamper to mark the original.	
SOL3	Junction Gate	Opens and closes the junction gate.	4
Magnetic Clutches			
MC1	Feed	Drives the feed belt, separation, pick-up, and skew correction rollers	5

Component Layout

PCBs			
PCB1	Main	Interfaces the sensor signals with the copier, and transfers the magnetic clutch, solenoid and motor drive signals from the copier.	6

2.1.3 DRIVE LAYOUT

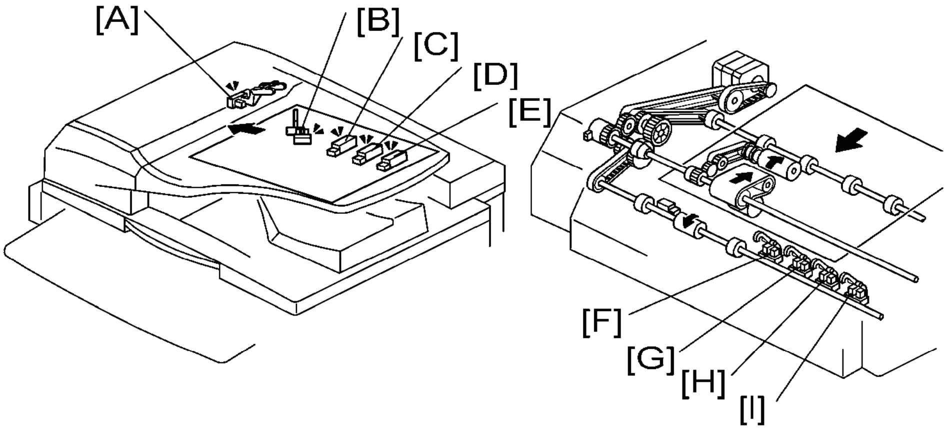


1. Feed Motor
2. Pick-up Roller
3. Separation Roller
4. Feed Belt
5. Skew Correction Roller
6. Feed Clutch
7. Transport Motor
8. Exit Roller
9. Registration Roller

- Feed Motor: Drives the feed belt, separation, pick-up, and skew correction rollers.
- Transport Motor: Drives the registration and exit rollers.

2.2 BASIC OPERATION

2.2.1 ORIGINAL SET AND SIZE DETECTION



The original set sensor [A] detects if the original is set or not. The original sensor [B] detects if the original is on the original tray or not (this lets the machine know as early as possible, whether there is another original on the tray).

The original size detection mechanism consists of the four original width sensors ([F]: Width Sensor S, [G]: Width Sensor M, [H] Width Sensor L, [I]: Width Sensor LL) and three original length sensors ([C]: Length Sensor S, [D]: Length Sensor M, [E]: Length Sensor L). Based on the combined output of the length sensors and the width sensors, the machine can detect the size of the original. This integrated detection mechanism is detailed in the table below.

Size	**Width Sensor**				**Length Sensor**			**Area**	
	S	**M**	**L**	**LL**	**S**	**M**	**L**	**LT**	**A/B**
A3/SEF (297 x 420)	ON	ON	ON	ON	ON	ON	ON	O	O
B4/SEF (257 x 364)	ON	ON	-	-	ON	ON	ON	-	O
A4/SEF (210 x 297)	ON	-	-	-	ON	ON	-	O	O
A4/LEF (297 x 210)	ON	ON	ON	ON	-	-	-	O	O
B5/SEF (182 x 257)	-	-	-	-	ON	-	-	-	O
B5/LEF (257 x 182)	ON	ON	-	-	-	-	-	-	O
A5/SEF (148 x 210)	-	-	-	-	-	-	-	-	O
A5/LEF (210 x 148)	ON	-	-	-	-	-	-	-	O
11" x 17"/SEF (DLT)	ON	ON	ON	-	ON	ON	ON	O[1]	O[5]

Basic Operation

11" x 15"/SEF	ON	ON	ON	-	ON	ON	ON	●^{1}	-
10" x 14"/SEF	ON	ON	-	-	ON	ON	ON	O	-
8.5" x 14"/SEF (LG)	ON	-	-	-	ON	ON	ON	O^{2}	-
8.5" x 13"/SEF (F4)	ON	-	-	-	ON	ON	ON	●^{2}	O
8.25" x 13"/SEF	ON				ON	ON	ON	-	-
8" x 13"/SEF (F)	ON	-	-	-	ON	ON	ON	-	-
8.5" x 11"/SEF (LT)	ON	-	-	-	ON	-	-	O^{3}	O^{6}
8.5" x 11"/LEF (LT)	ON	ON	ON	-	-	-	-	O^{4}	O^{7}
7.25" x 10.5"/SEF (US EXE)	ON	-	-	-	ON	-	-	O	-
10.5" x 7.25"/SEF (US EXE)	ON	ON	ON	-	-	-	-	●^{4}	-
10" x 8"/SEF	ON	-	-	-	ON	-	-	●^{3}	-
5.5" x 8.5"/SEF (HLT)	-	-	-	-	-	-	-	O	-
5.5" x 8.5"/LEF (HLT)	ON	-	-	-	-	-	-	O	-
267 mm x 390 mm	ON	ON	ON	-	ON	ON	ON	-	●^{5}
195 mm x 267 mm	ON	-	-	-	ON	-	-	-	●^{6}
267 mm x 195 mm	ON	ON	ON	-	-	-	-	-	●^{7}

Symbol

O: Yes (Default), ●: Yes (Can select this with SP mode), ON: Paper present, LT: North America, A/B: Europe, Asia

Note

- For "O/●" mark, which has superscripted number, it is possible to change the original detection size with SP6-016. For example, instead of LT (O^{3}), the machine can be set up to detect 10” x 8” (●^{3}).
- The F size can be selected with SP5-126. The default is 8.5" x 13"
- The machine cannot detect more than one size of original in the same job.

2.2.2 MIXED ORIGINAL SIZE MODE

This section explains what happens when the user selects mixed original size mode. Because this ARDF is a sheet-through document feeder, the method for original document width detection is the same as when the originals are the same size, but the document length detection method is different. Therefore, the scanning speed is slightly slower.

Document length detection

From when the skew correction sensor switches on until it switches off, the CPU counts the transport motor pulses. The number of pulses determines the length of the original.

Feed-in cycle

When the original size for the copy modes listed below cannot be determined, the image cannot be correctly scaled (reduced or enlarged) or processed until the original's length has been accurately detected. The length must be determined before the image is scanned.

Auto Reduce/Enlarge
Centering
Erase Center/Border
Booklet
Image Repeat

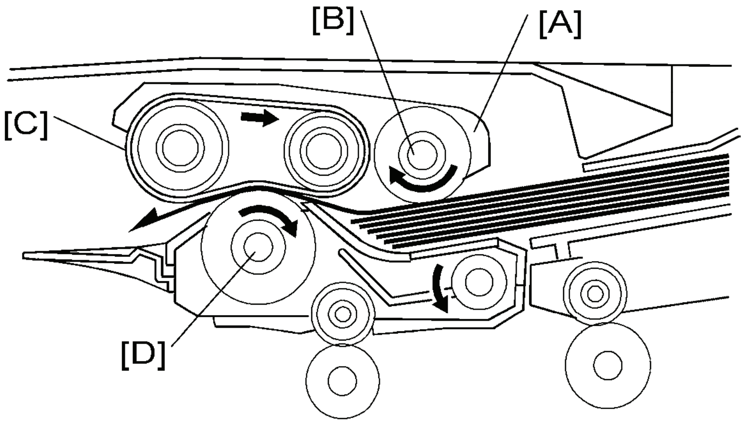
The originals follow this path:

1. Length detection → Scanning glass → Inverter table
2. Inverter table → Scanning glass → Inverter table (restores the original order)
3. Inverter table → Scanning glass (image scanned) → Exit tray

Normal feed-in

In a copy mode other than those listed above, when the reduction/enlargement ratio has been determined, the originals are scanned normally. In order to store the scanned images, a large area of memory (the detected original width x 432 mm length) is prepared. Next, only the portion of the image up to the detected original length is read from memory and printed.

2.2.3 PICK-UP AND SEPARATION



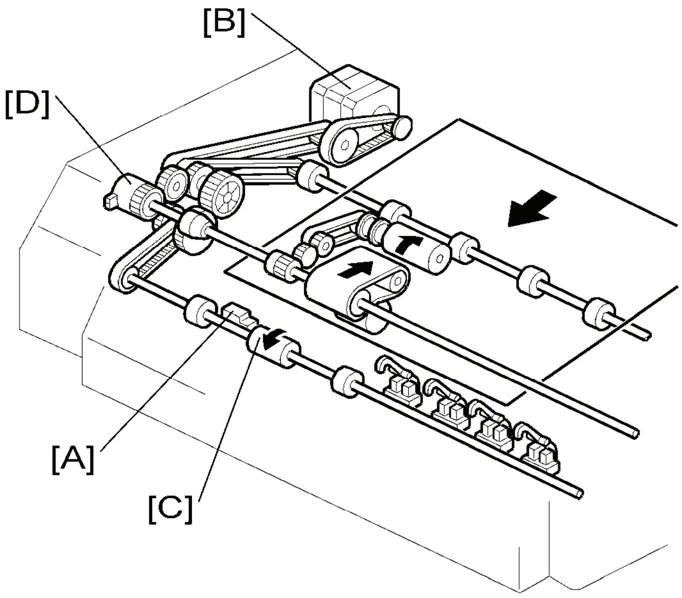
The original is set with the image facing up. The original pushes actuator and the original set sensor is activated.

After pressing the start button, the feed clutch is activated and the original feed unit [A] moves down. At the same time, the pick-up solenoid is activated and the original table lifts until the original comes in contact with the pick-up roller [B]. The pick-up roller then feeds the top sheet of paper.

After being fed from feed belt [C], the topmost sheet is separated from the stack by the separation roller [D] and sent to the skew correction roller.

The mechanism is an FRR system, consisting of the original feed belt [C] and separation roller [D].

2.2.4 SKEW CORRECTION

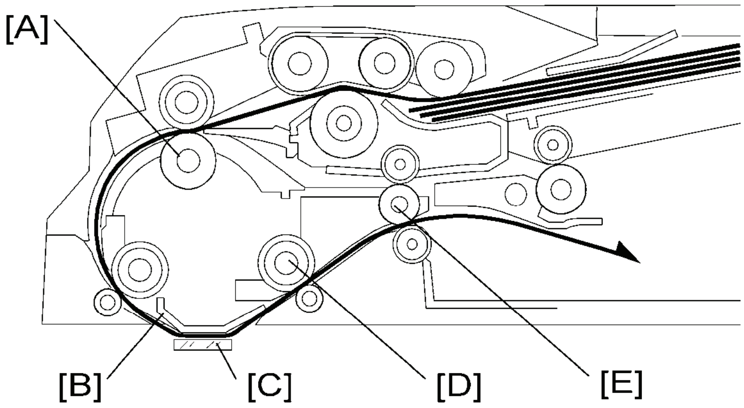


When an original is fed into the feeder, the feed motor [B] rotates forwards. At this time, the feed belt turns but the skew correction roller [C] does not. Because of this, when the leading edge of the paper gets to the skew correction roller, skew in the original is removed. A short time after the leading edge of the original turns on the skew correction sensor [A], the feed motor [B] turns off for 40 ms and rotates in reverse. At this time, the skew correction roller [C] and the feed belt both turn, and original feed continues.

The original is fed by the skew correction roller after the feed clutch [D] has turned off.

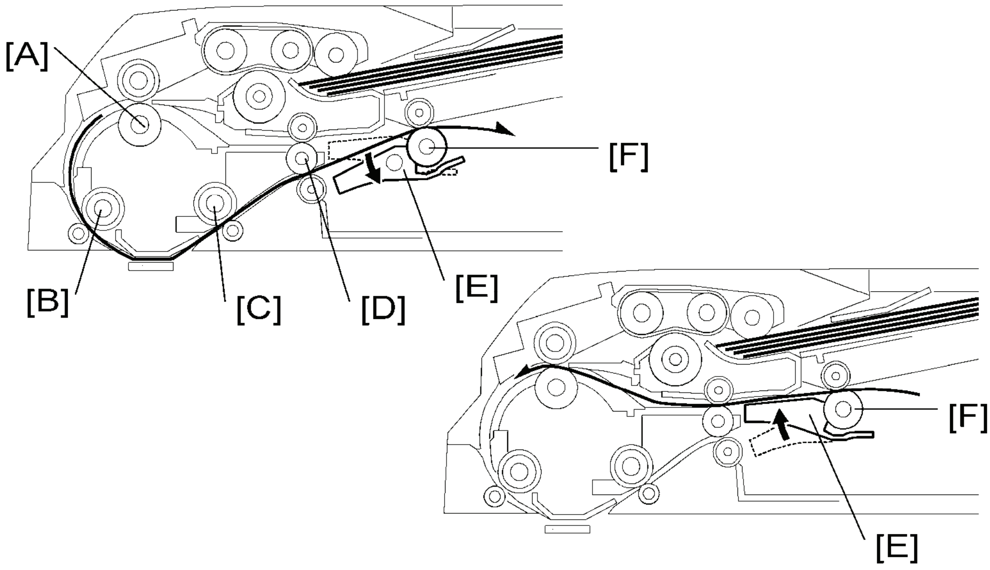
2.2.5 ORIGINAL TRANSPORT AND EXIT

Single-Sided Originals



The feed motor feeds the separated original to the skew correction roller [A] at maximum speed. After skew correction, the feed and transport motors feed the original through the scanning area at a lower speed (the scanning area contains the original exposure guide [B] and DF exposure glass [C]). After scanning, the original is fed out by the transport roller [D] and exit roller [E].

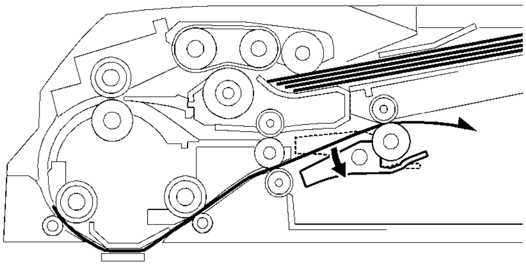
Double-Sided Originals

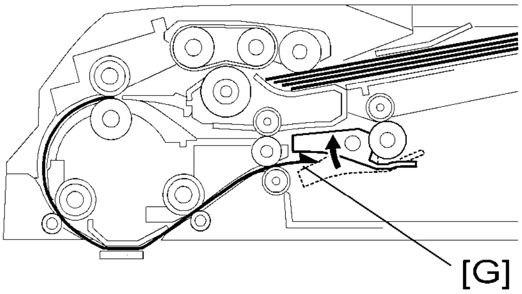


After skew correction, the feed and transport motors drive the skew correction roller [A], registration roller [B], transport roller [C] and the exit roller [D]. The front side of the original is then scanned.

When the original exit sensor detects the leading edge of the original, the junction gate solenoid is activated and the junction gate [E] opens. The original is then transported towards the inverter table.

Soon after the trailing edge of the original passes the exit sensor, the junction gate solenoid switches off and the junction gate [E] is closed. When the original has been fed onto the inverter table, the feed motor switches on in reverse. The original is then fed by the inverter roller [F], and then by the skew correction roller [A] and registration roller [B] to the scanning area (where the reverse side will be scanned).





The original is then sent to the inverter table again to be turned over. This is done so that the duplex copies will be properly stacked front side down in the exit tray [G] in the correct order.

Original Sensor

During one-to-one copying, copy paper is fed to the skew correction roller in advance (while the original is still being scanned), to increase the copy speed. The original sensor monitors the stack of originals in the feeder, and detects when the trailing edge of the last page has been fed in. The main CPU then stops the copier from feeding an unwanted extra sheet of copy paper.

2.2.6 CONDITIONS FOR JAM DETECTION

Jam Mode	Detection Timing
Initial	When turning on the machine, the skew correction sensor, registration sensor or exit sensor detects an original.
	When the cover is closed or DF is down, the skew correction sensor, registration sensor or exit sensor detects an original.
	When the cover is opened or DF is lifted up, the skew correction sensor, registration sensor or exit sensor detects an original.

Sensor stays on too long	The skew correction sensor does not turn off even if the original was fed by the maximum length of the original + 150 mm after the skew correction sensor turned on.
	The registration sensor does not turn off even if the original was fed by its length x 1.5 after the registration sensor turned on.
	The exit sensor does not turn off even if the original was fed by its length x 1.5 after the exit sensor turned on.
Sensor does not come on	The skew correction sensor does not turn on even if the original was fed by transport path length x 1.5.
	The registration sensor does not turn on even if the original was fed by transport path length x 1.5 after the skew correction sensor turned on.
	The exit sensor does not turn on even the original was fed by transport path length x 1.5 after the skew correction sensor turned on.

3. SERVICE TABLES

3.1 DIP SWITCHES

DIP-SW				**Function**
1	**2**	**3**	**4**	
0	0	0	0	Normal operating mode (Default)
0	0	0	1	Free run: With original: One-sided mode: 100% speed
0	0	1	0	Free run: With original: Two-sided mode: 100% speed
0	0	1	1	Free run: No original: One-sided mode: 100% speed
0	1	0	0	Free run: No original: Two-sided mode: 100% speed
0	1	0	1	Free run: With original: One-sided mode: 32% speed
0	1	1	0	Free run: With original: Two-sided mode: 32% speed
0	1	1	1	Free run: With original: One-sided mode: 70% speed
1	0	0	0	Free run: With original: Two-sided mode: 70% speed
1	0	0	1	Free run: With original: One-sided mode: 200% speed
1	0	1	0	Free run: With original: Two-sided mode: 200% speed
1	0	1	1	Transport Motor On
1	1	0	0	Feed Motor On
1	1	0	1	Transport Motor On with random mode
1	1	1	0	Feed Motor On with random mode
1	1	1	1	

PAPER FEED UNIT PB3070

D425

D425　ONE BIN TRAY BN3070 REVISION HISTORY		
Page	**Date**	**Added/Updated/New**
		None

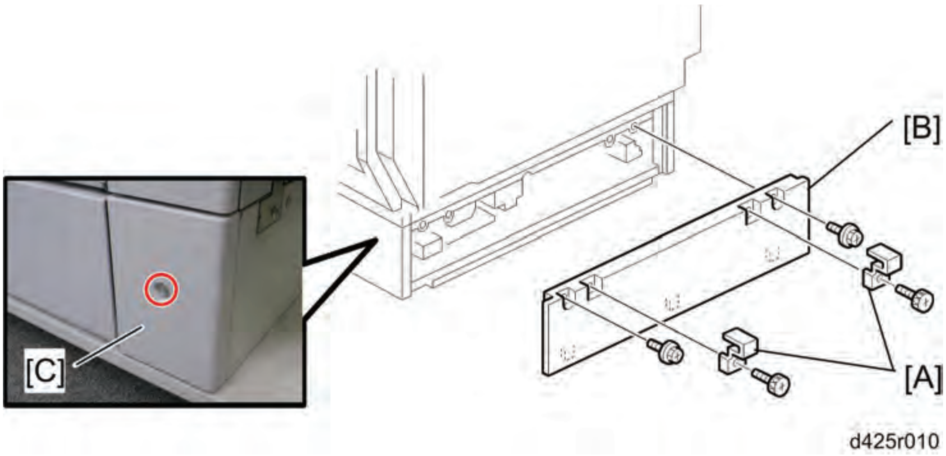
PAPER FEED UNIT PB3070 D425

TABLE OF CONTENTS

1. REPLACEMENT AND ADJUSTMENT

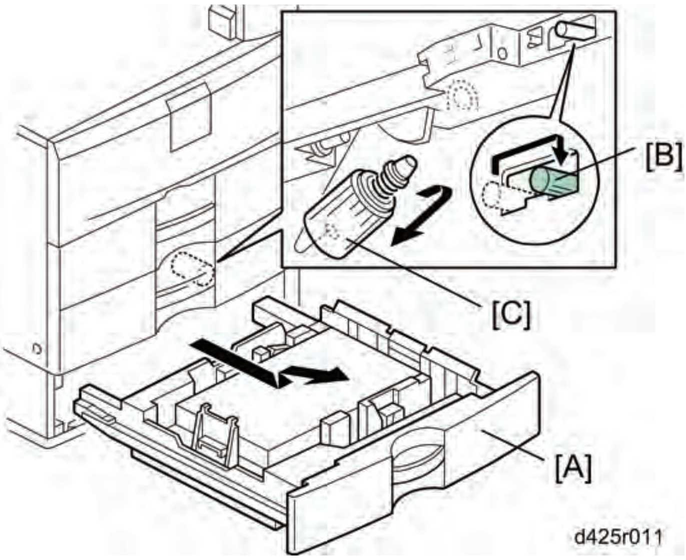
1.1 COVERS AND ROLLER

1.1.1 COVERS



1. Securing brackets [A] (🔩 x 1 each)
2. Rear cover [B] (🔩 x 2)
3. Rear right cover [C] (🔩 x 1)

1.1.2 FEED ROLLER



1. Pull out the tray [A]
2. Release the lock lever [B]
3. Feed roller [C]

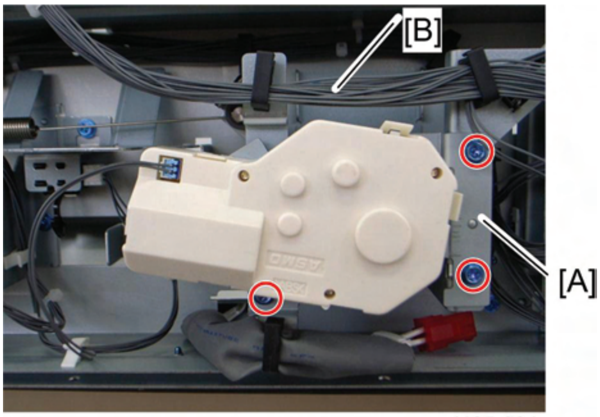
1.2 MOTORS AND CLUTCH

⚠CAUTION

- Turn off the main power switch and unplug the machine before beginning any of the procedures in this section.

1.2.1 PAPER FEED MOTOR

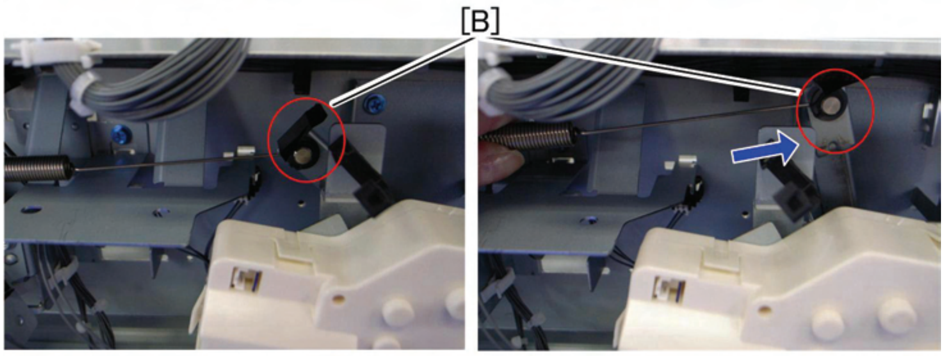
1. Rear Cover (☛ Rear Cover)



d425r004

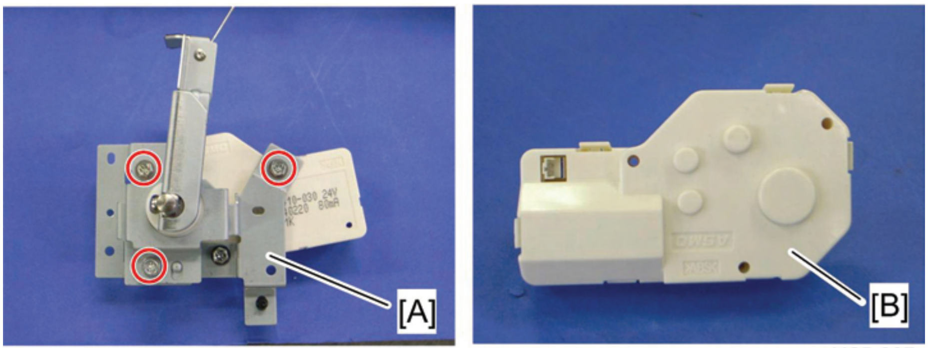
2. Release the harness [B] (x 2).
3. Paper feed motor with the bracket [A] (x 3, x 2, x 1))

Note:



d425r006

Move the lever [B] in the red circle as shown above when removing the paper feed motor with the bracket.

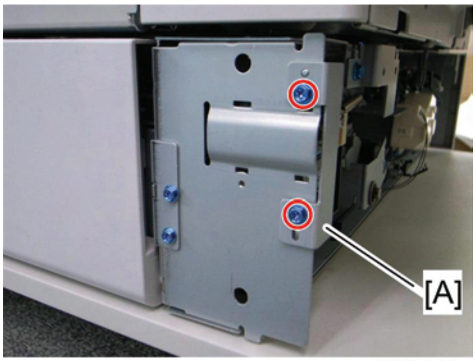


d425r007

4. Paper feed motor bracket [A] (🔩 x 3)
5. Paper feed motor [B]

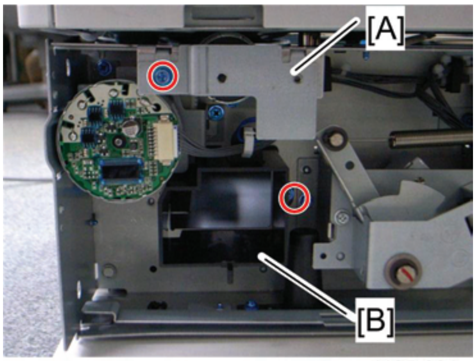
1.2.2 TRANSPORT MOTOR

1. Pull out the Tray.
2. Rear cover (☛ Rear Cover)
3. Rear right cover (☛ Rear Right Cover)



d425r008

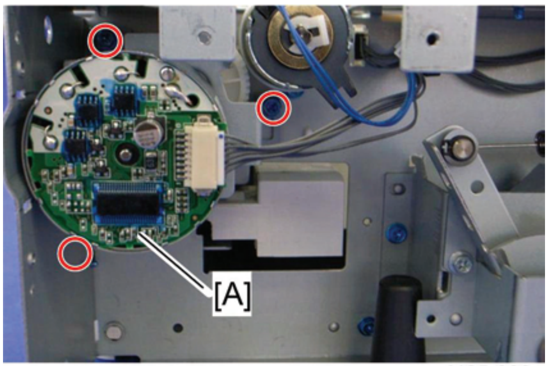
4. Stay [A] (🔩 x 2)



d425r001

5. Rear right bracket [A] (🔩 x 1)
6. Tray end cover [B] (🔩 x 1, 🔌 x 1)

Motors and Clutch

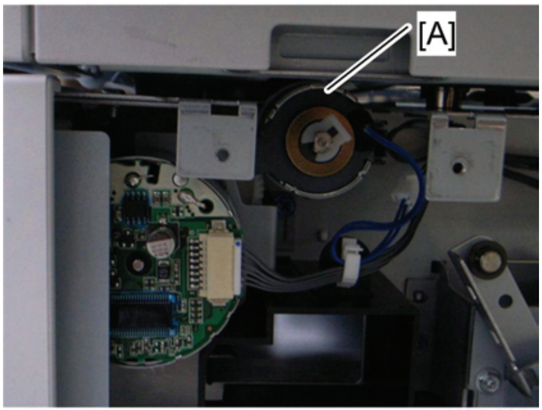


d425r003

7. Transport motor [A] (🔩 x 3, 🔌 x 1)

1.2.3 PAPER FEED CLUTCH

1. Rear Cover (☛ Rear Cover)
2. Rear right bracket (☛ Transport Motor)

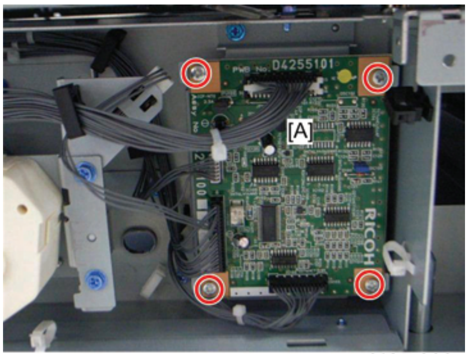


d425r005

3. Paper feed clutch [A] (⊏ x 1, 🔌 x 1, ⊓ x 1)

1.2.4 MAIN BOARD

1. Rear cover (☛ Rear Cover)



d425r009

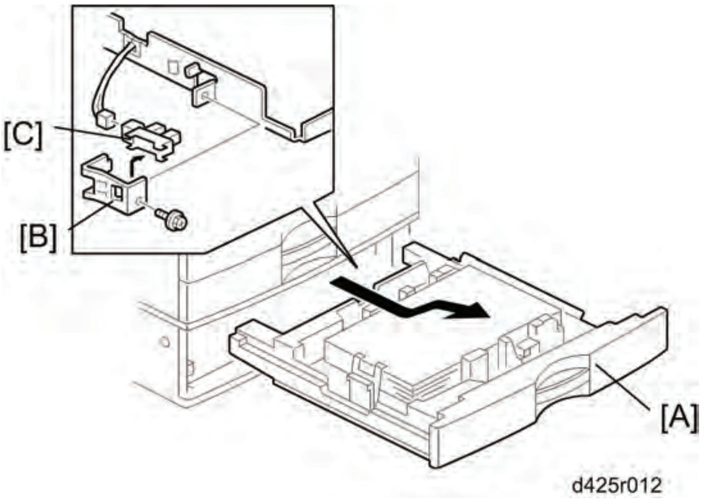
2. Main board [A] (All 🔌s, 🔩 x 4)

1.3 SENSORS AND BOARD

⚠CAUTION

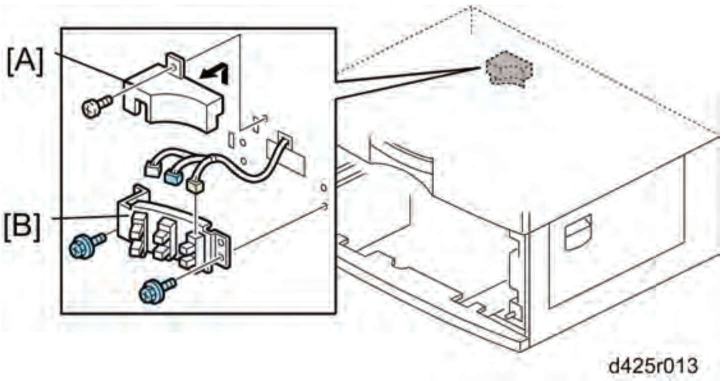
- Turn off the main power switch and unplug the machine before beginning any of the procedures in this section.

1.3.1 PAPER END SENSOR



1. Pull out the tray [A]
2. Sensor bracket [B] (🔩 x 1, 🔌 x 1)
3. Paper end sensor [C] (hooks)

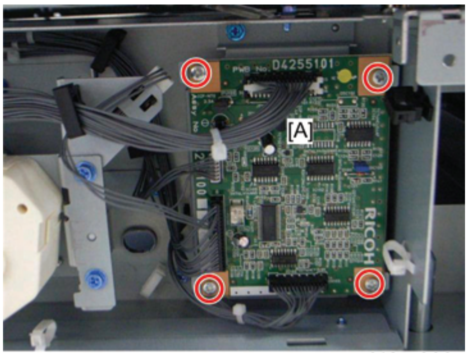
1.3.2 PAPER SIZE SENSORS



1. Pull out the tray.
2. Sensor bracket cover [A] (🔩 x 1)
3. Sensor bracket [B] (🔌 x 3, 🔩 x 2)
4. Paper size sensor (hooks)

1.3.3 TRAY MAIN BOARD

1. Rear cover (☛ Rear Cover)



d425r009

2. Main board [A] (All 🔌s, 🔩 x 4)

1 BIN TRAY BN3060

D426

D426 ONE BIN TRAY BN3060 REVISION HISTORY		
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1 BIN TRAY BN3060 D426

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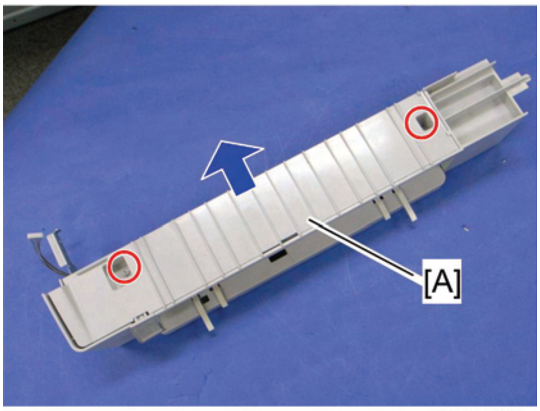
1. REPLACEMENT AND ADJUSTMENT

1.1 ELECTRICAL COMPONENTS

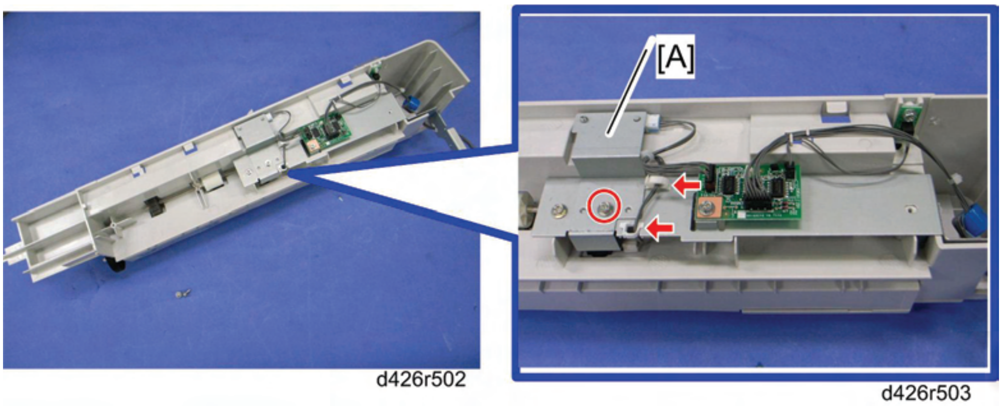
1.1.1 1-BIN TRAY EXIT SENSOR AND PAPER SENSOR

1. 1-Bin tray unit



d426r501

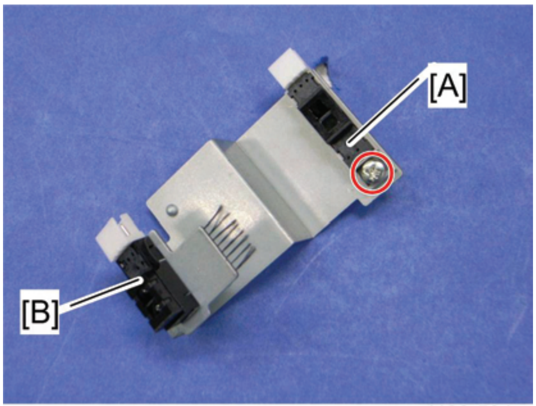
2. 1-bin tray bottom cover [A] (🔩 x 2)



d426r502

d426r503

3. Sensor assembly [A] (🔩 x 1, ⧉ x 2, 🔌 x 2)



d426r504

4. Sensors;
    - [A]: Paper sensor (🔩 x 1)
    - [B]: 1-bin tray exit sensor (hooks)

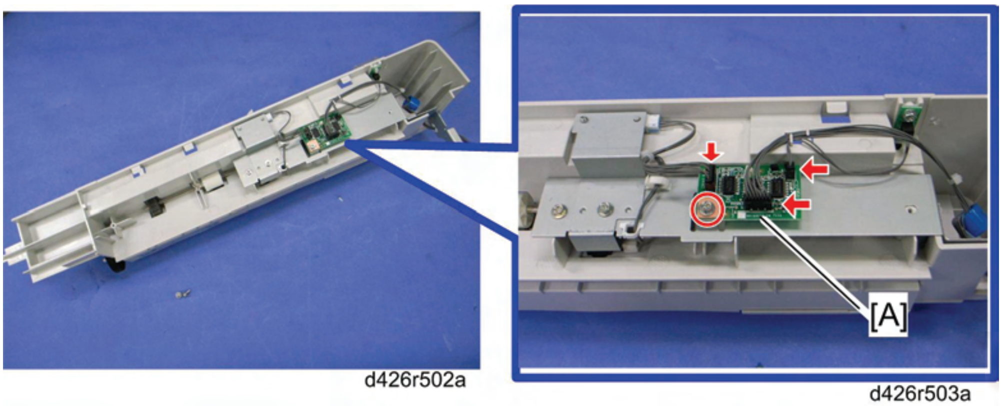
When reinstalling these sensors

Both sensors have a 3-pin connector. Be careful to connect the correct harnesses from the 1-bin tray control board to each sensor.

- The blue connector from the 1-bin tray control board must be connected to the paper sensor.
- The white connector from the 1-bin tray control board must be connected to the 1-bin tray exit sensor.

1.1.2 1-BIN TRAY CONTROL BOARD

1. 1-bin tray unit
2. 1-bin tray bottom cover (☛ 1-Bin Tray Exit Sensor and Paper Sensor)

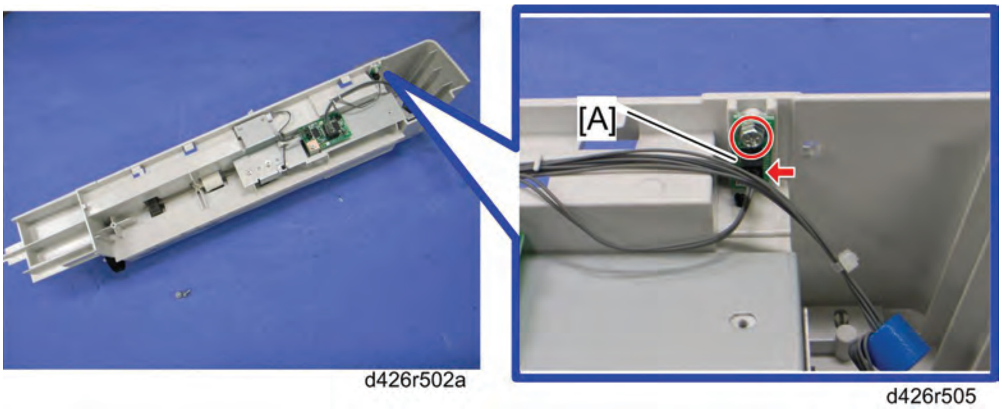


d426r502a d426r503a

3. 1-bin tray control board [A] (🔩 x 1, 🔌 x 3)

1.1.3 LED BOARD

1. 1-bin tray unit
2. 1-bin tray bottom cover (☛ 1-Bin Tray Exit Sensor and Paper Sensor)



d426r502a

d426r505

3. LED board (🔩 x 1, 🔌 x 1)

SIDE TRAY TYPE C2550

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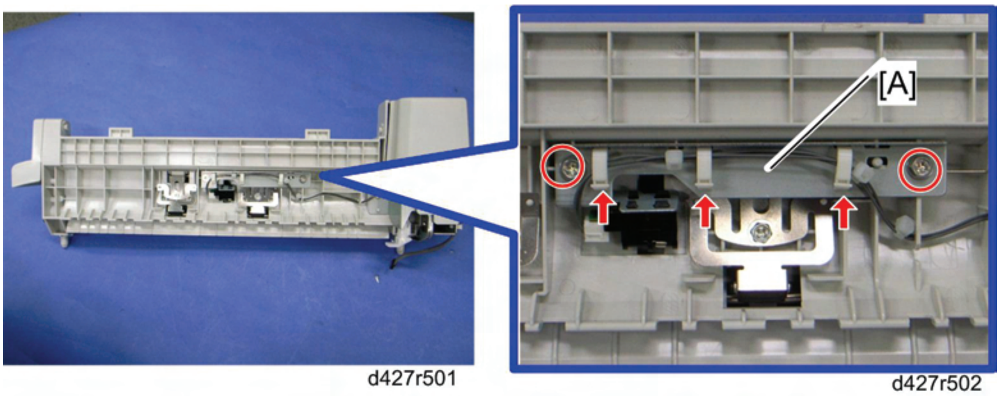
1. REPLACEMENT AND ADJUSTMENT

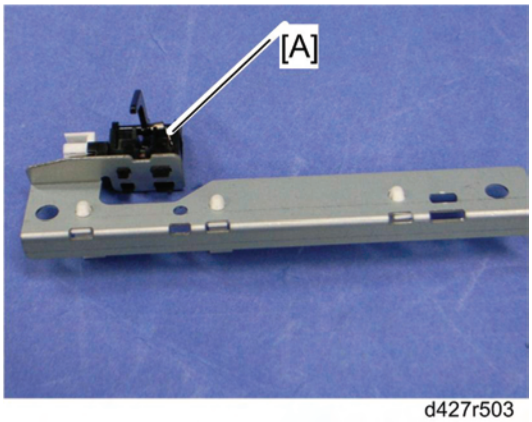
1.1 ELECTRICAL COMPONENTS

1.1.1 SIDE TRAY EXIT SENSOR

1. Side tray paper exit unit



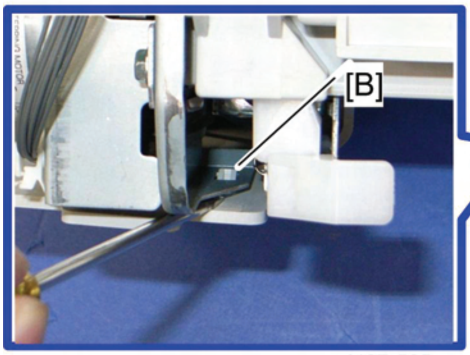
2. Sensor assembly [A] (🔩 x 2, ⎍ x 3, ⎘ x 1)



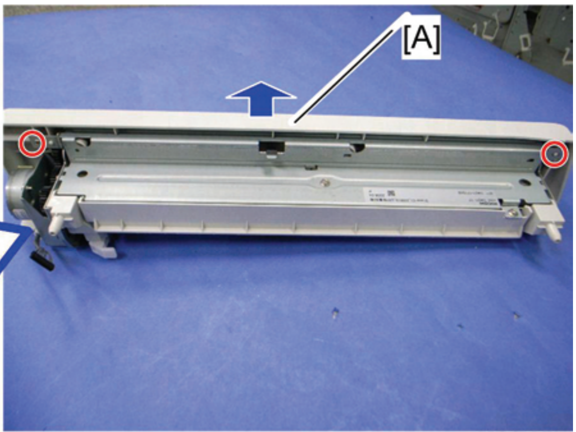
3. Side tray exit sensor [A] (hooks)]

1.1.2 SIDE TRAY MOTOR

1. Side tray paper exit unit



d427r505

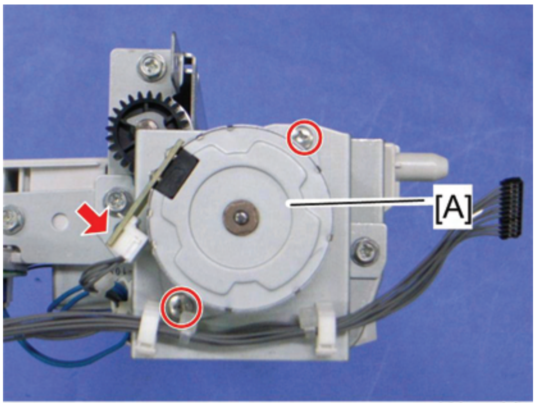


d427r504

2. Side tray upper cover [A] (🔩 x 2, tab [B])

Note

- Release the tab [B] with a flat-head screwdriver.

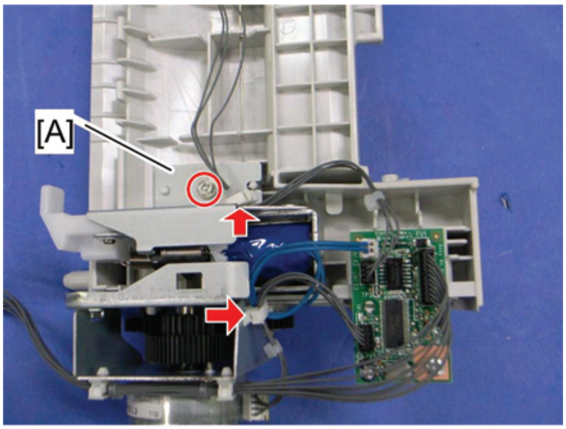


d427r506

3. Side tray motor [A] (🔩 x 2, 🔌 x 1)

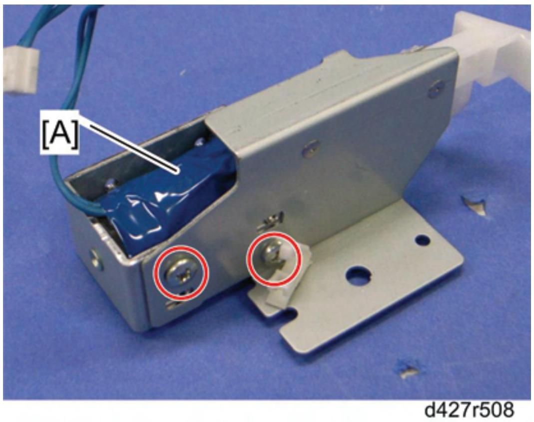
1.1.3 SIDE TRAY GATE SOLENOID

1. Side tray paper exit unit
2. Side tray upper cover (☛ Side Tray Motor)



d427r507

3. Side tray gate solenoid assembly [A] (🗜 x 2, 🔩 x 1, 🔌 x 1)

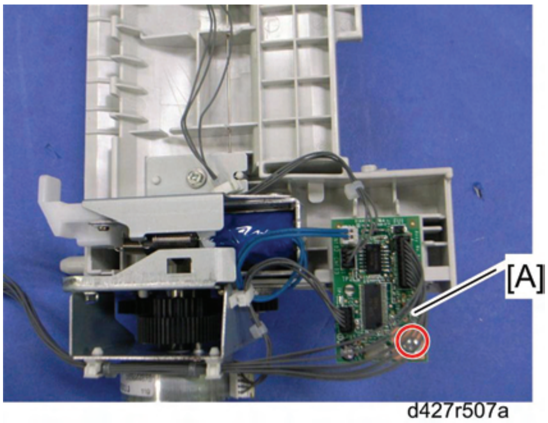


d427r508

4. Side tray gate solenoid [A] (🔩 x 2, spring x 1)

1.1.4 SIDE TRAY BOARD

1. Side tray paper exit unit
2. Side tray upper cover (☛ Side Tray Motor)



d427r507a

3. Side tray board [A] (🔩 x 1, 🔌 x all)

INTERNAL SHIFT TRAY SH3030

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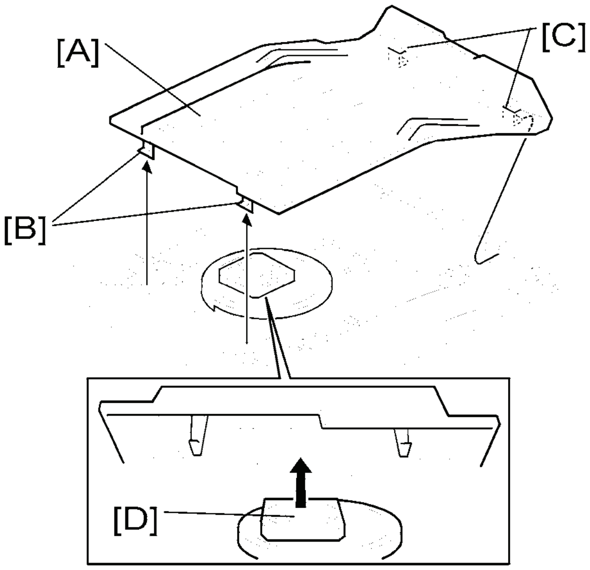
1. REPLACEMENT AND ADJUSTMENT

1.1 TRAY COVER



1. Remove the tray cover [A] by pressing on the two pawls [B] on the left side of the cover.

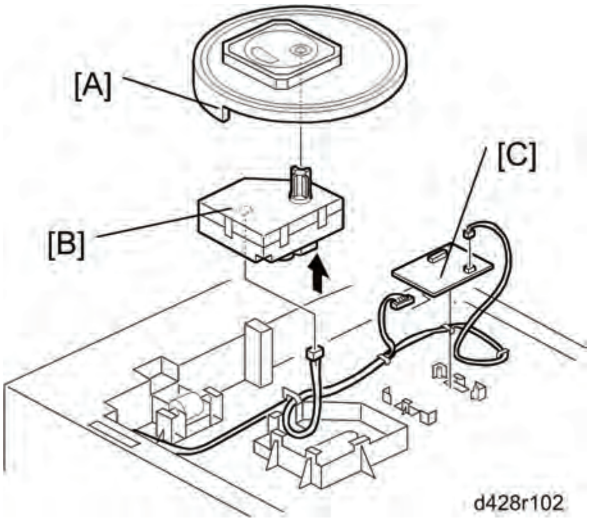
– When Attaching the Tray Cover –

Note

- The right side of the tray cover should be attached first.

1. Fit the pawls [C] on the shift tray.
2. Align the square [D] so that it fits into the groove in the underside of the tray cover and does not interfere with the attachment of the cover.
3. Complete the attachment by inserting the left side pawls [B] into place.

1.2 TRAY MOTOR AND HALF TURN SENSOR BOARD



1. Top cover (☛ Tray Cover)
2. Slip disc [A]
3. Tray motor [B] (🔌 x 1)
4. Half turn sensor board [C] (🔌 x 1).

INTERNAL FINISHER TYPE C2550

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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

⚭: Clip ring

Ͼ: E-ring

🗜: Clamp

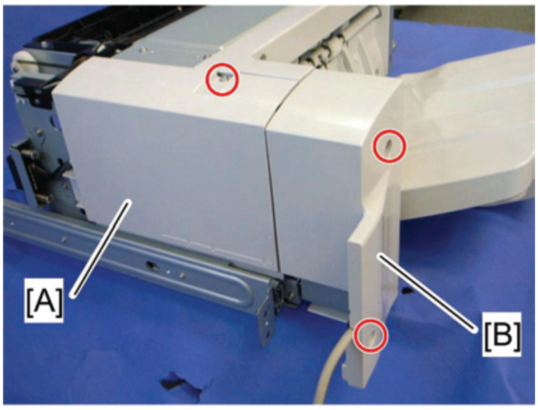
1. REPLACEMENT AND ADJUSTMENT

1.1 COMMON PROCEDURES

★ Important

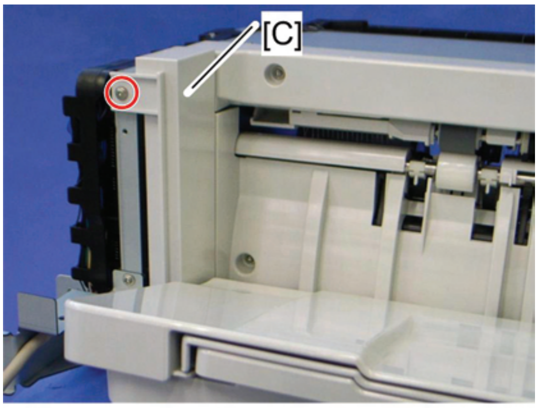
- The finisher must be removed from the machine for these procedures except "Output Tray Lower Cover" removal procedure. The following covers cannot be removed while the finisher is attached to the machine.

1.1.1 REAR, LEFT REAR AND REAR INNER COVER



d429r100

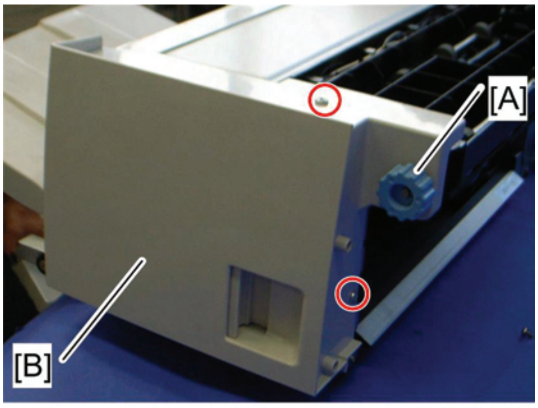
1. Rear cover [A] (🔩 x 1)
2. Left rear cover [B] (🔩 x 2)



d429r101

3. Rear inner cover [C] (🔩 x 1)

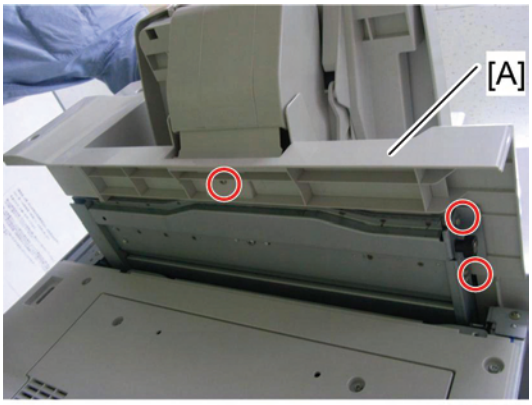
1.1.2 FRONT COVER



d429r102

1. Remove the knob [A]
2. Front cover [B] (🔩 x 2)

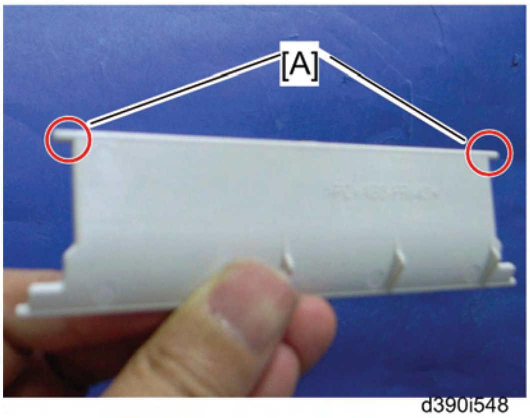
1.1.3 OUTPUT TRAY LOWER COVER



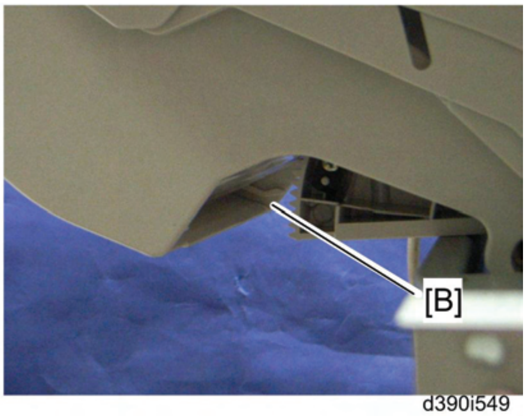
d429r106

1. Output tray lower cover [A] (🔩 x 3)

When installing the output tray lower cover



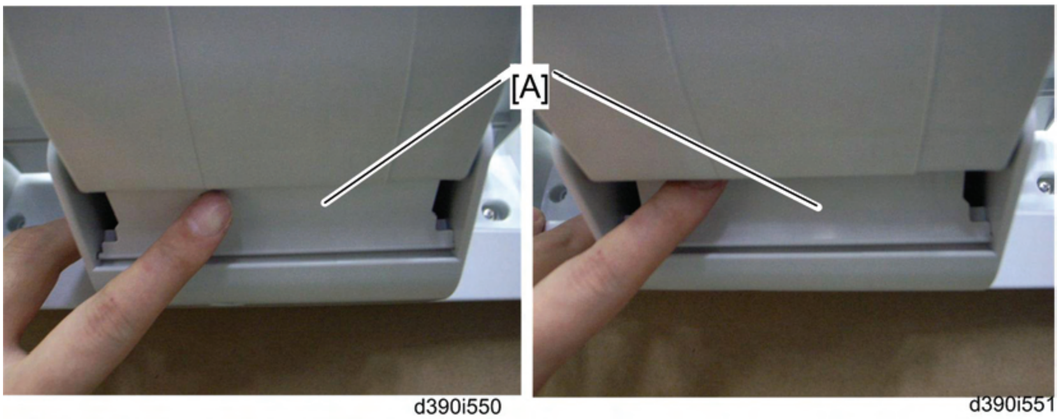
d390i548



d390i549

1. The two projections [A] of the output tray lower cover (this plate is actually attached to

the output tray lower cover) must be inserted along with two guide rails [B] inside the output tray unit.

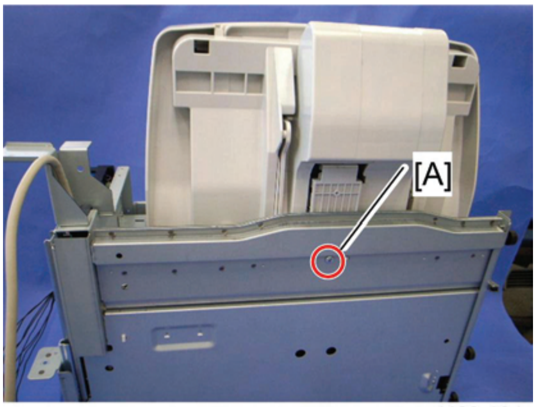


d390i550 d390i551

2. Push the slide plate [A] to check if the output tray lower cover is correctly installed. The left side picture shows the correct result and right side picture shows the incorrect result.

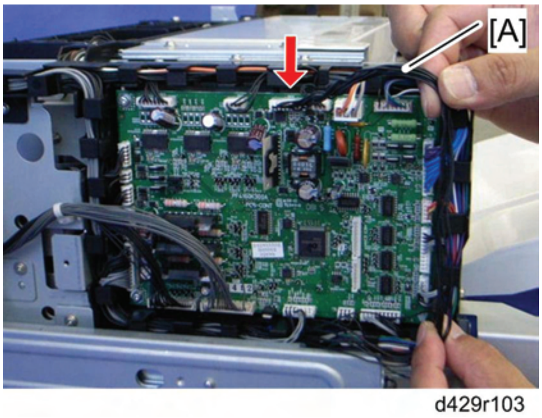
1.1.4 OUTPUT TRAY UNIT

1. Output tray lower cover (☛Output Tray Lower Cover)
2. Rear cover (☛Rear, Left Rear and Rear Inner Cover)
3. Left rear cover (☛Rear, Left Rear and Rear Inner Cover)
4. Rear inner cover (☛Rear, Left Rear and Rear Inner Cover)

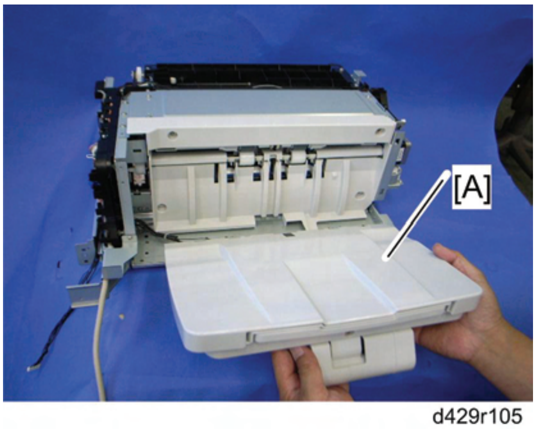


d429r104

5. Remove the screw [A].



6. Disconnect the harness [A] (CN10), and make some slack in the cable.

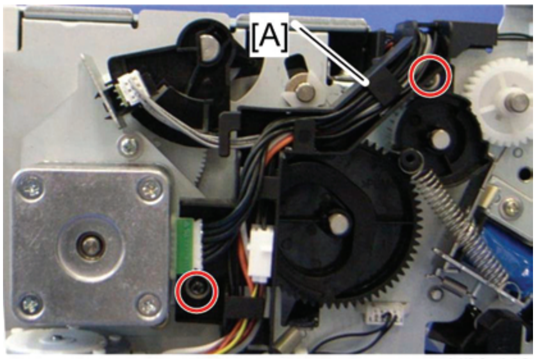


7. Output tray unit [A]

1.2 MOTORS

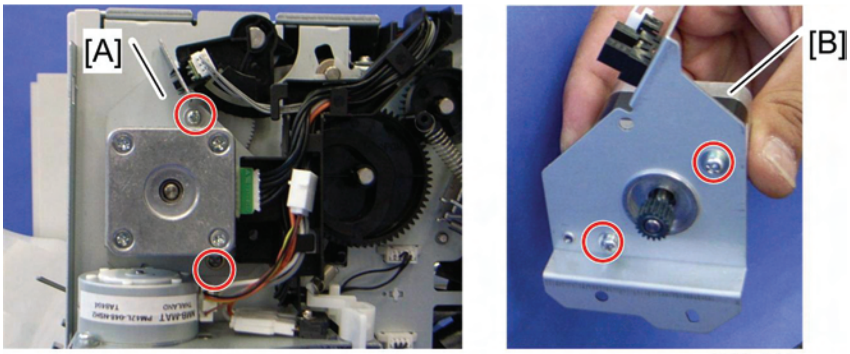
1.2.1 PICK-UP ROLLER CONTACT MOTOR

1. Front cover (☛ Front Cover)



d429r113

2. Loosen the harness guide [A] (🔩 x 2)

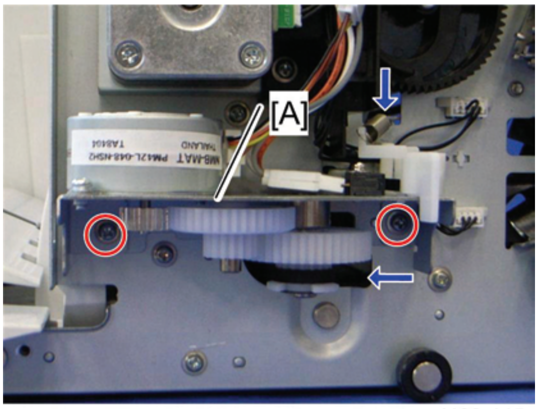


d429r114

3. Bracket with pick-up roller contact motor [A] (🔩 x 2, 🔌 x 1)
4. Pick-up roller contact motor [B] (🔩 x 2)

1.2.2 STAPLER UNIT MOVEMENT MOTOR

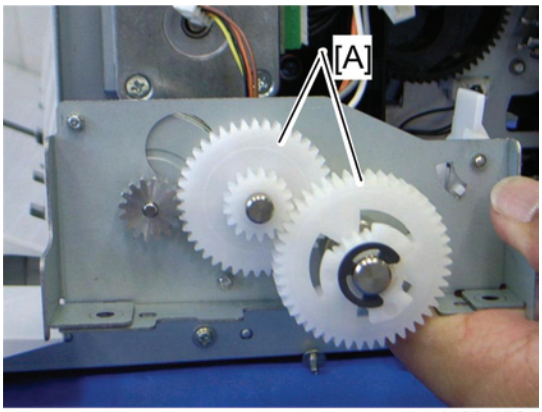
1. Front cover (☛ Front Cover)



d429r115

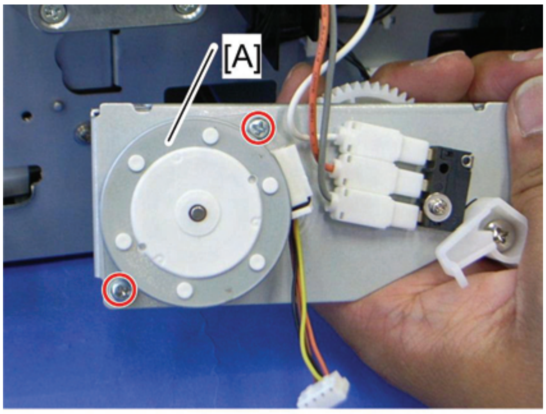
Motors

2. Bracket with stapler unit movement motor [A] (🔩 x 2, spring x 1, belt)



d429r116

3. Two gears [A] (ℂ x 1)

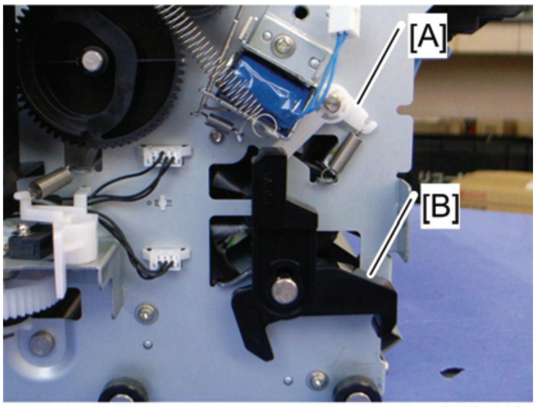


d429r117

4. Stapler unit movement motor [A] (🔩 x 2)

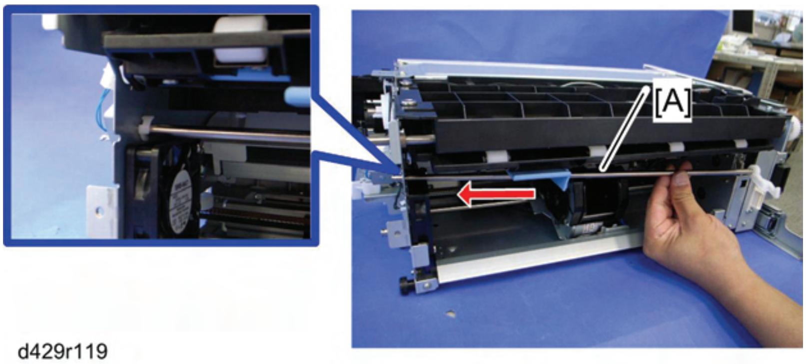
1.3 STAPLER UNIT

1. Front cover (☛ Front Cover)



d429r118

2. White lever [A] (spring x 1, hook)
3. Black lever [B] (hook)

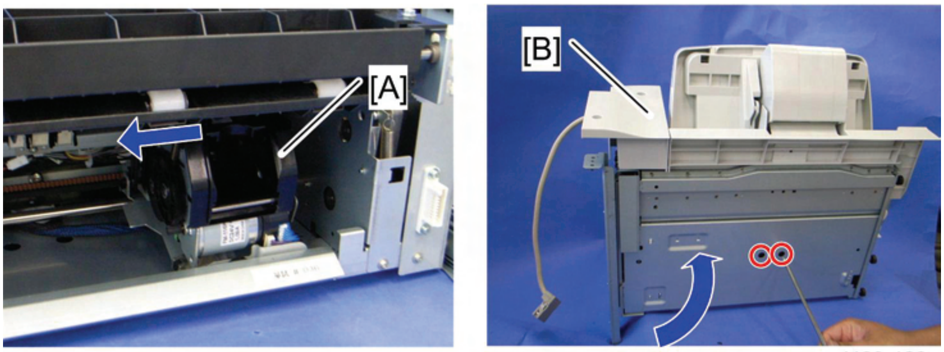


d429r119

4. Shaft [A] (x 1)

Note

- Remove the green stapler cartridge first, to make this step more easy.

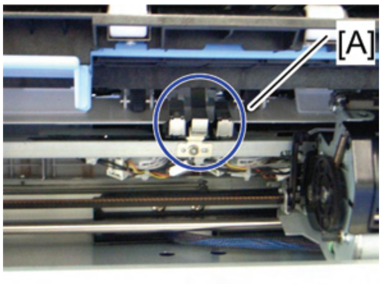


d429r122

5. Move the stapler unit [A] to the center.
6. Stand the internal finisher [B] as shown above.
7. Remove two screws.

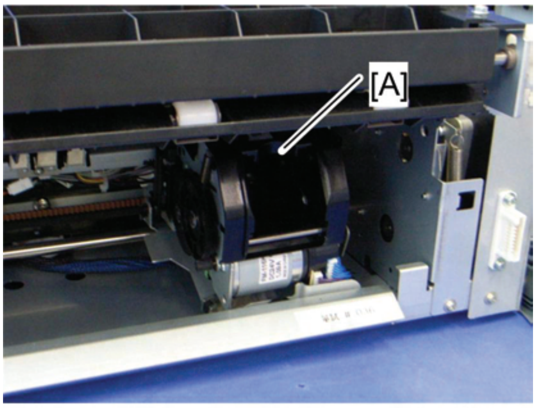
Stapler Unit

Note:



d429r123

Make sure that the end fences [A] are placed as shown above when replacing the stapler unit.



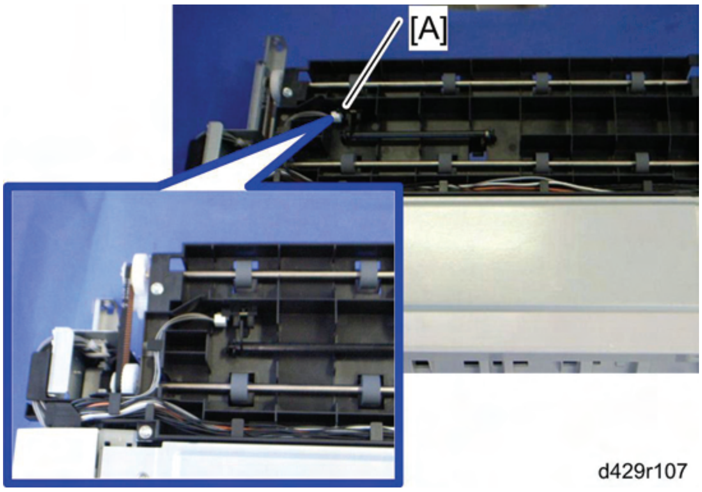
d429r124

8. Move the stapler unit to the rear side, and then remove the stapler unit [A] (🔩 x 2).

1.4 SENSORS

1.4.1 MAIN UNIT

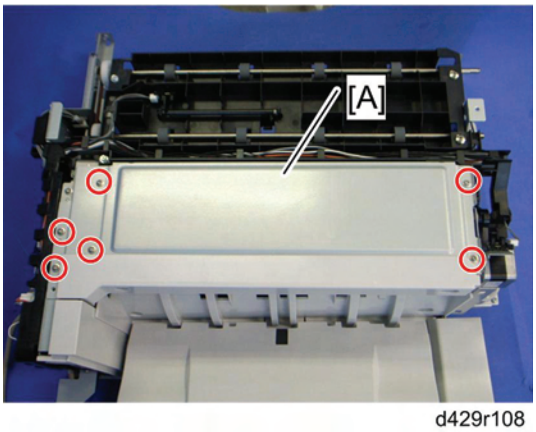
Relay Sensor



1. Relay sensor [A] (hook, 🔌 x 1)

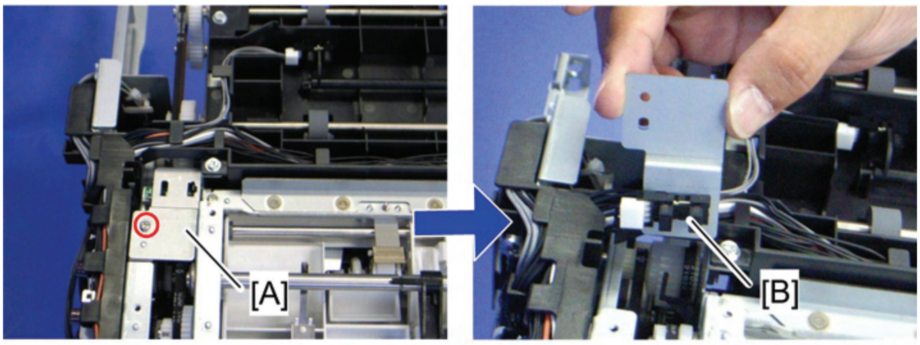
Belt Roller Position Sensor

1. Rear cover (☛Rear, Left Rear and Rear Inner Cover)
2. Front cover (☛ Front Cover)



3. Top bracket [A] (🔩 x 6)

Sensors

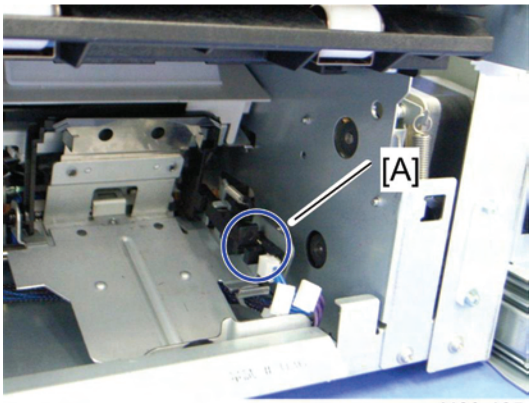


d429r109

4. Belt roller position sensor with the bracket [A] (🔩 x 1)
5. Belt roller position sensor [B] (hook, 🔌 x 1)

Stapler Safety Sensor

1. Stapler unit (☛ Stapler Unit)

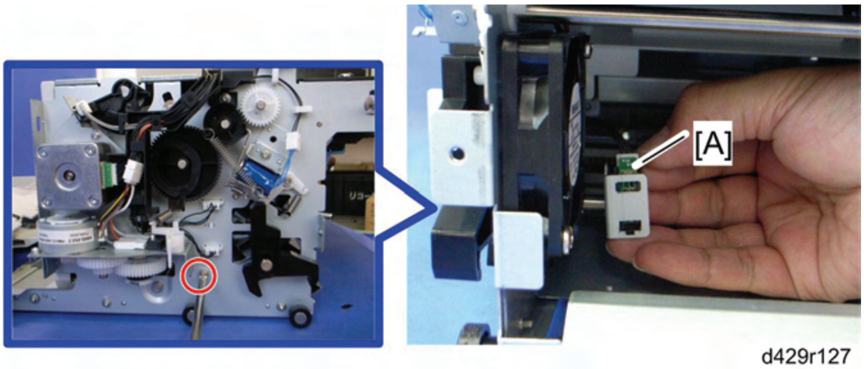


d429r125

2. Stapler safety sensor [A] (🔌 x 1, hook)

Stapler Unit HP Sensor

1. Front cover (☛ Front Cover)

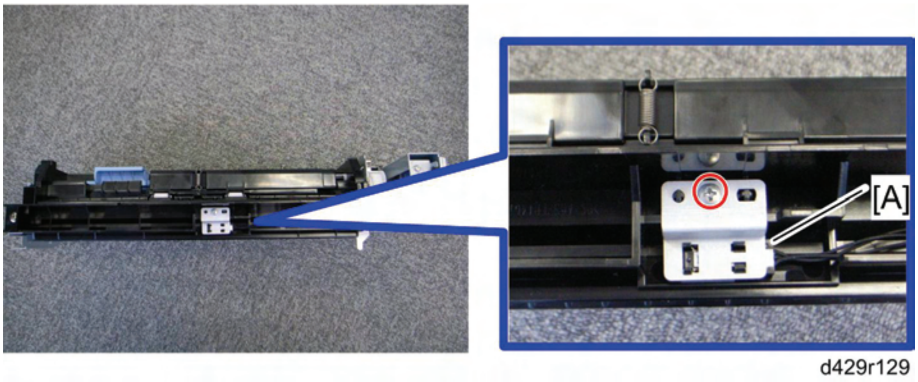


d429r127

2. Bracket with stapler unit HP sensor (🔩 x 1)
3. Stapler unit HP sensor [A] (hook, 🔌 x 1)

1.4.2 INVERTER UNIT

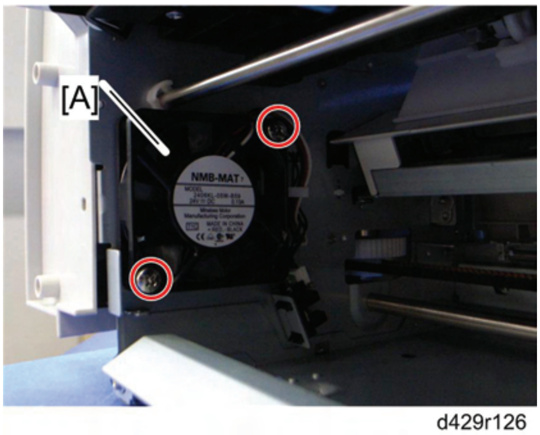
Entrance Sensor



1. Bracket with entrance sensor (x 1)
2. Entrance sensor [A] (x 1, hook)

1.5 FAN

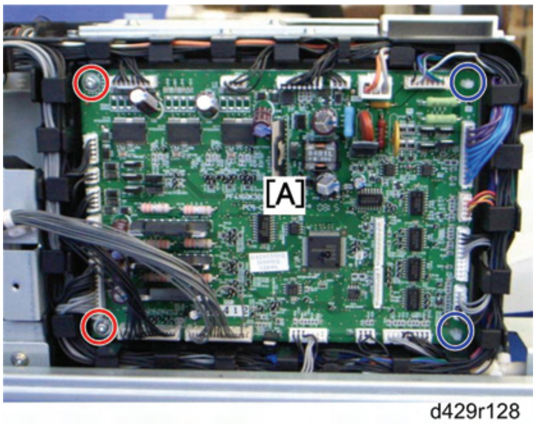
1.5.1 FRONT FAN



1. Front fan [A] (🔩 x 2, 🔌 x 1, 📎 x 1)

1.6 MAIN BOARD

1. Rear cover (☛Rear, Left Rear and Rear Inner Cover)
2. Left rear cover (☛Rear, Left Rear and Rear Inner Cover)



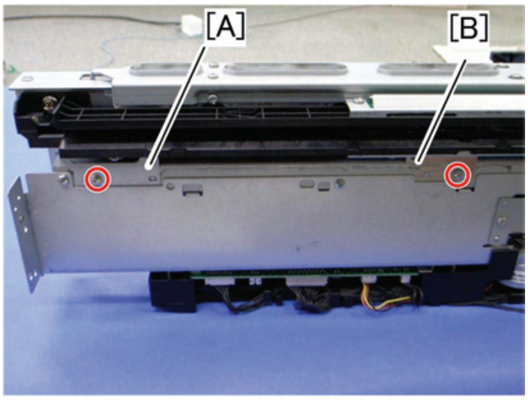
3. Main board (🔩 x 2, clip x 2, 🔌 x all)

1.7 PUNCH UNIT

★ Important

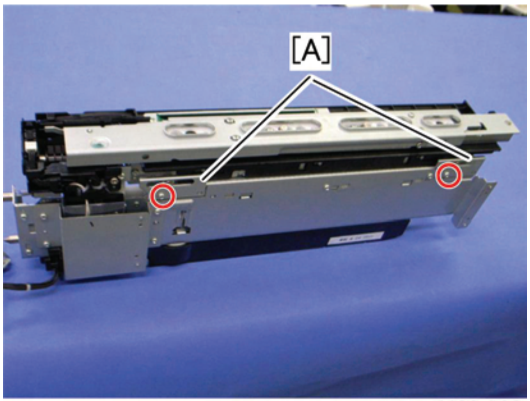
- The punch unit must be removed from the internal finisher for this procedure.

1.7.1 PUNCH SLIDER UNIT



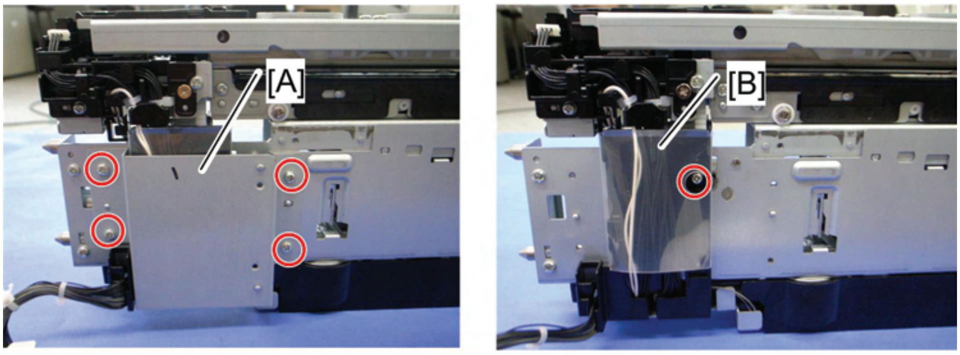
d429r139

1. Brackets [A] and ground plate [B] at the right side of the punch unit (🔩 x 1 each)



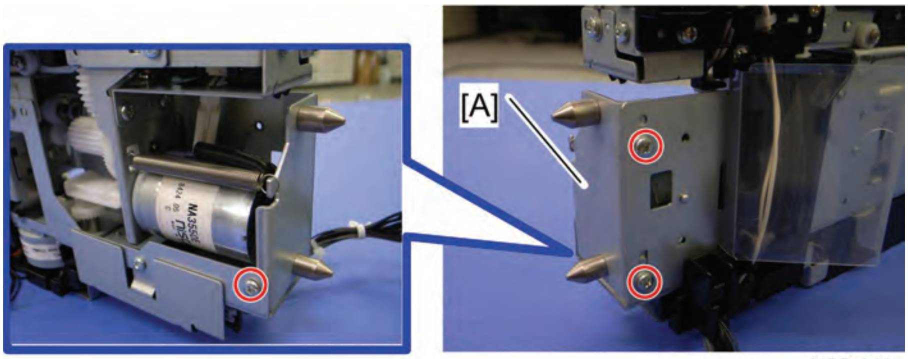
d429r138

2. Brackets [A] at the left side of the punch unit (🔩 x 1 each)



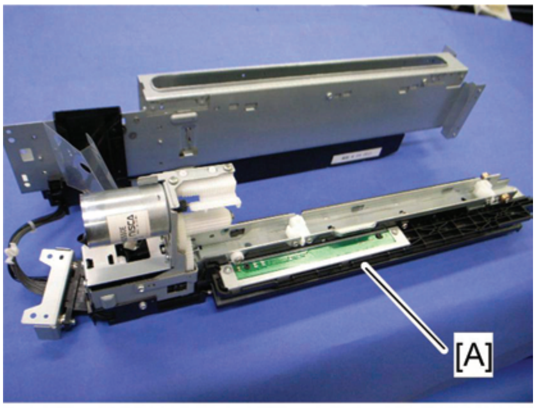
d429r140

3. Harness bracket [A] (🔩 x 4)
4. Wire guide cover [B] (🔩 x 1)



d429r141

5. Positioning pins [A] (🔩 x 3, spring)



d429r142

6. Punch slider unit [A] (🔌 x all)

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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
: Clip ring
: E-ring
: Clamp

1. INSTALLATION PROCEDURE

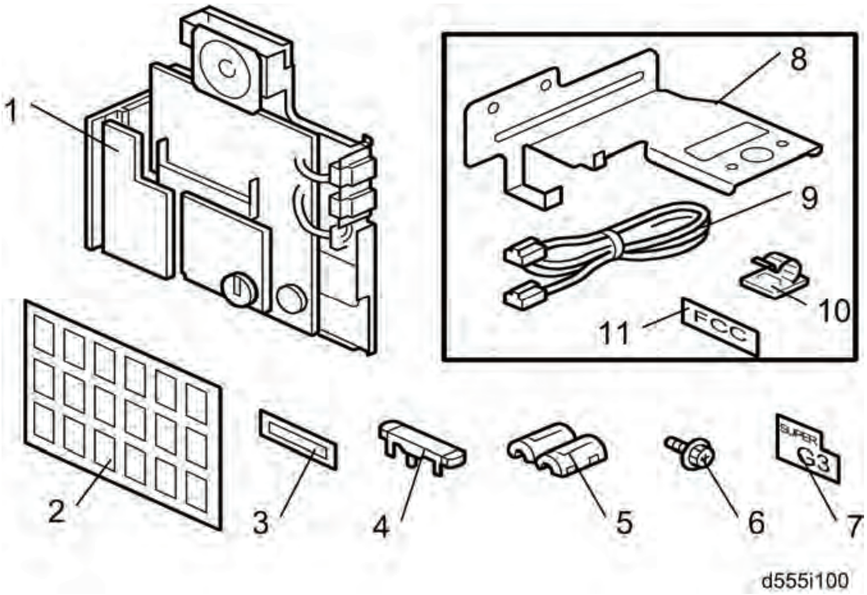
1.1 FAX OPTION (D555) INSTALLATION

1.1.1 COMPONENT CHECK

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

No.	Description	Q'ty
1	FCU	1
2	Data Display Decal Sheet (18 languages: all destinations except NA)	1
3	Serial Number Decal	1
4	Fax Keytop	1
5	Ferrite Core	1
6	Screw: M3x6	2
7	G3 Decal	1
8	Handset Bracket (NA only)	1
9	Telephone Cord (NA only)	1
10	Clamp*[1]	1
111	FCC Decal (NA only)	1

*1: Item No. 10 is used only when the internal finisher (D429) is installed with NA models. (See "Handset Installation" in the Fax Field Service Manual.)

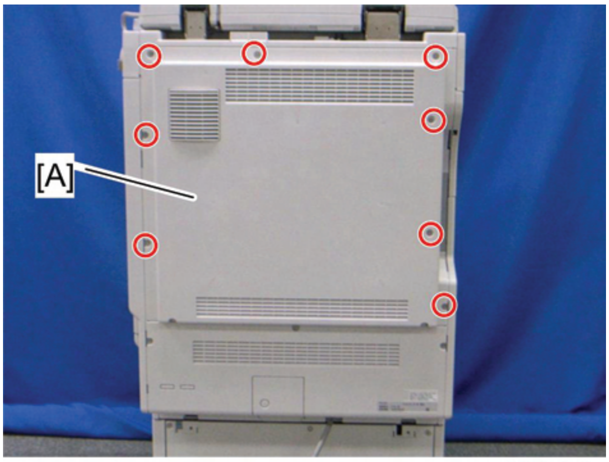


1.1.2 FAX OPTION INSTALLATION PROCEDURE

⚠CAUTION

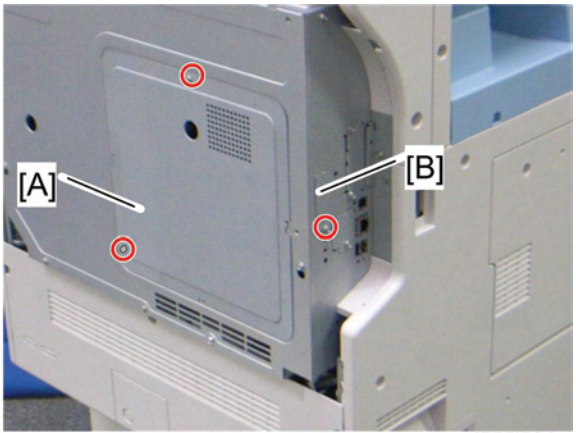
- Before installation, print out all data in the printer buffer.
- Push the operation switch to put the machine in standby mode. Make sure the power LED is off, turn the main switch off, and then disconnect the power cord and the network cable.
- The copier must be connected to a properly grounded socket outlet.

1. **For NA models**, attach the FCC decal near the serial number decal of the mainframe.



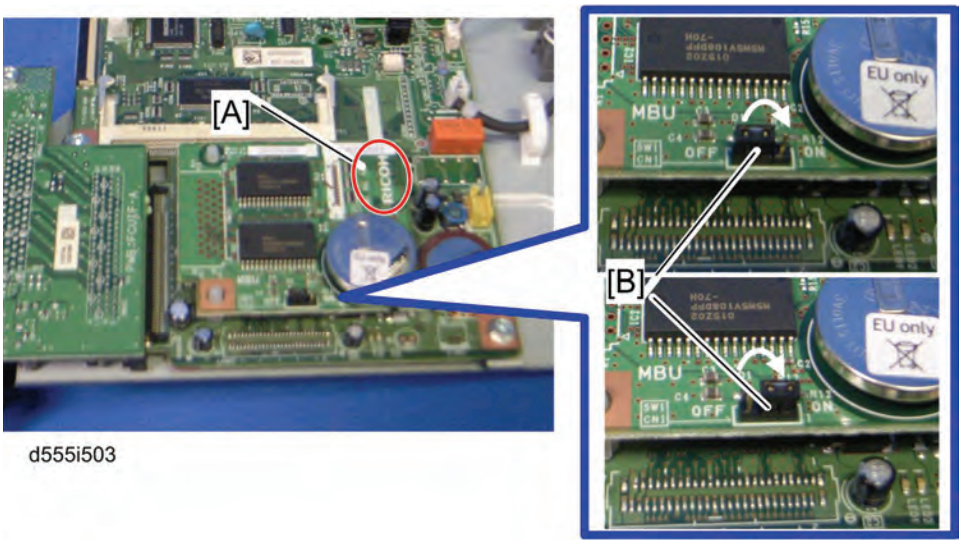
d104r110

2. Remove the rear cover [A] (x 8).



d555i504

3. Remove the controller bracket [A] (🔩 x 2).
4. Remove the TEL/LINE jack cover [B] (🔩 x 1).



d555i503

5. Press down the circle area [A] on the MBU so that the MBU is firmly connected to the FCU board.

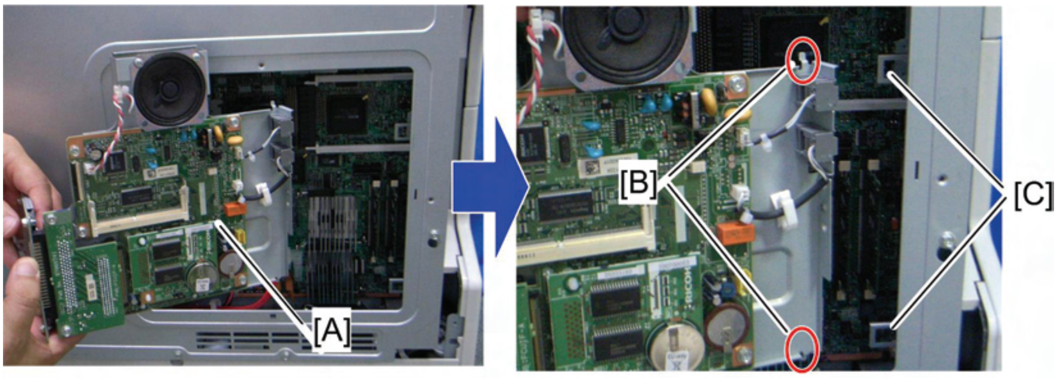
Note

- Make sure that the **MBU** is seated correctly. If not, SC672 occurs.

6. Remove the jumper [B] (set to "OFF") and set it to "ON".

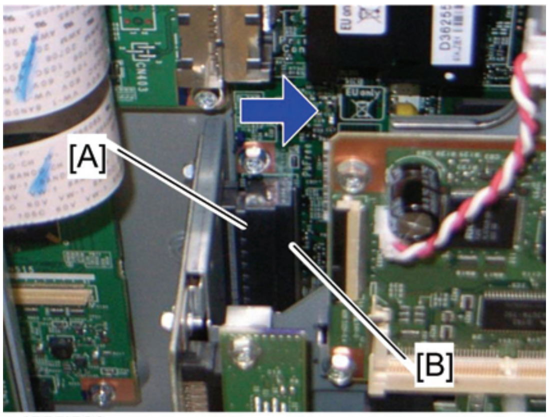
Note

- The machine may issue SC819 or SC820 if the jumper is not set to "ON" correctly. (Sometimes these SC codes are not issued.)



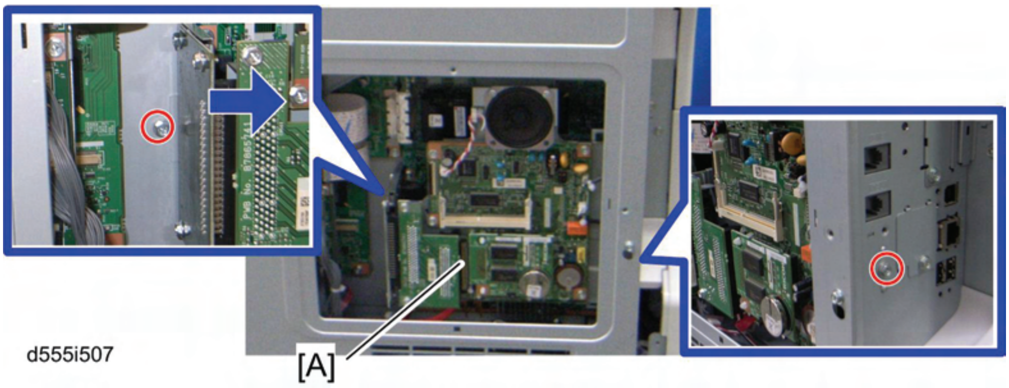
d555i505

7. Install the **FCU** [A] inserting the tabs [B] of the fax unit in the two support rails [C].



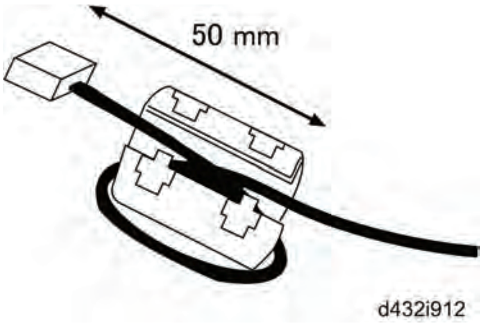
d555i506

8. Firmly connect the board to board connector [A] of the relay board to the board to board connector [B] of the controller board.



d555i507

9. Fasten the fax unit [A] to the controller box (🔩 x 2; M3x6).
10. Reinstall the controller bracket (🔩 x 2).
11. Reinstall the rear cover (🔩 x 8).

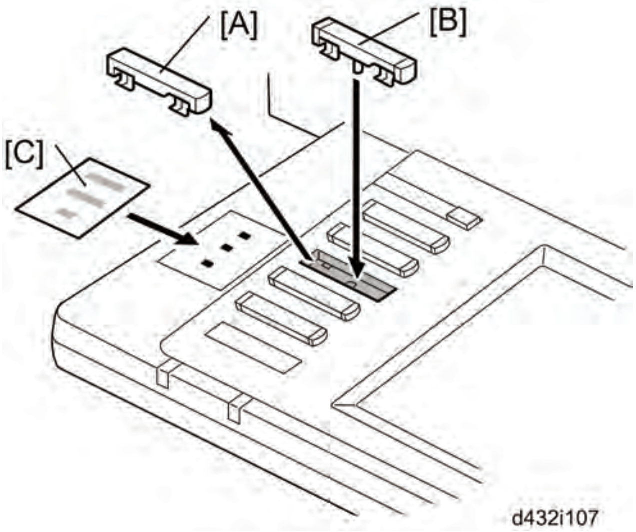


12. Attach the ferrite core to the telephone cord. Do not attach the ferrite core to the telephone cord if the handset is to be installed in the machine (See the "Installation Procedure of the Handset (B433)".

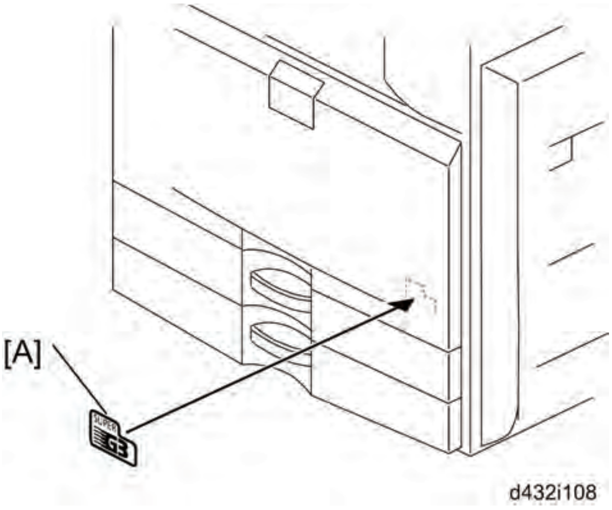
⚠CAUTION

- A telephone cord with the ferrite core must be used for RF interference suppression.

13. Connect the telephone cord to the "LINE" jack.



14. Remove dummy keytop [A] and replace it with the Fax keytop [B].
15. Attach a proper data display decal [C] to the operation panel if no decal is attached.



16. Attach the Super G3 decal [A].
17. Attach the serial number decal to the left side of the controller box.
18. Plug in the machine and turn on the main power switch.

    ★ Important

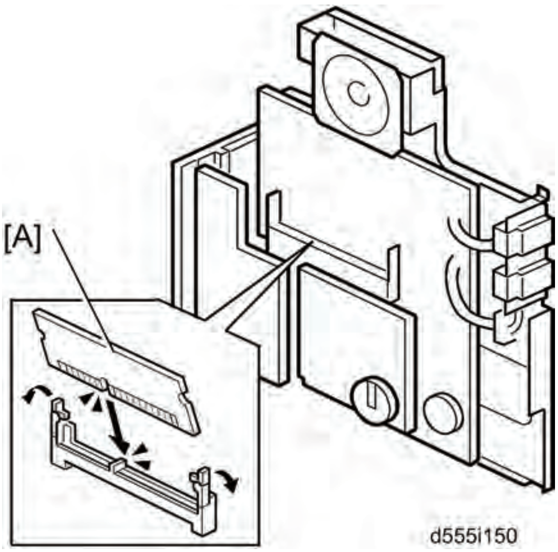
    - After you turn the machine on, if you see a message that tells you the SRAM has been formatted due to a problem with SRAM, turn the machine off and on again to clear the message.

19. Enter the "User Tools" mode and set date and time.
20. Do SP3102 in the fax SP mode and enter the serial number for the fax unit.
21. Enter the correct country code with SP1101-016 (System SW 0F, Country/area code for functional settings).
22. Exit the SP mode, and turn the machine off and on.

1.2 FAX UNIT OPTIONS

1.2.1 MEMORY UNIT (G578)

1. Remove the FCU from the machine.

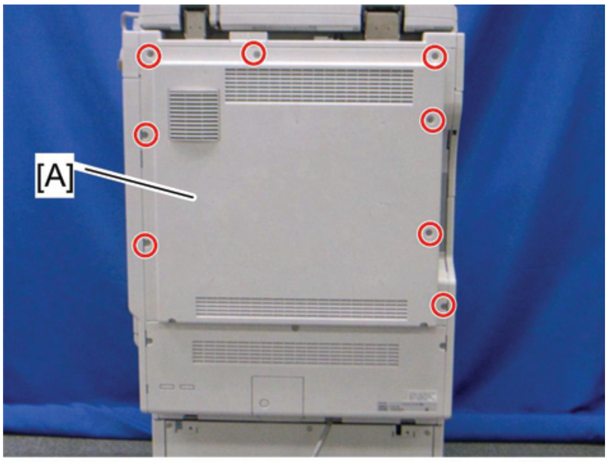


2. Install the memory option [A] on the FCU.
3. Reinstall the FCU in the machine.

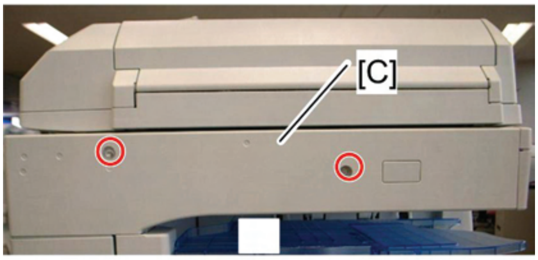
1.2.2 HANDSET (B433)

Note

- The optional handset is available for the U.S. version only.

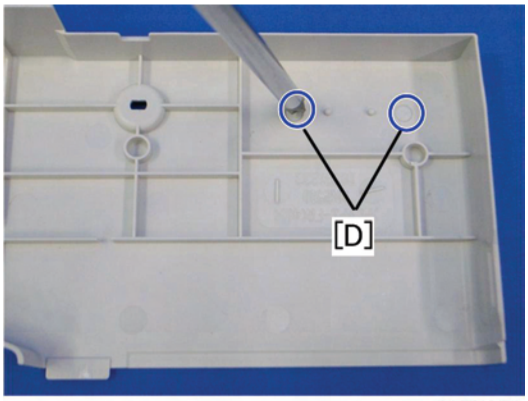


1. Remove the rear cover [A] (x 8).



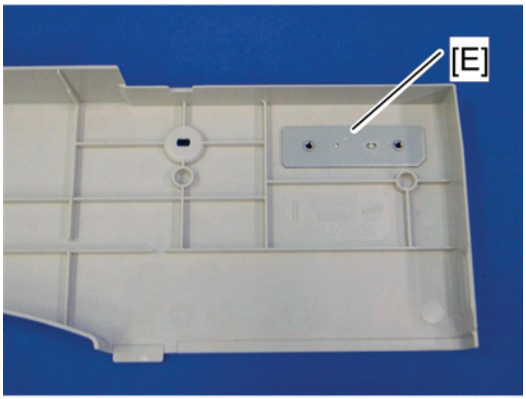
d432i110

2. Remove the scanner left cover [C] (🔩 x 2).



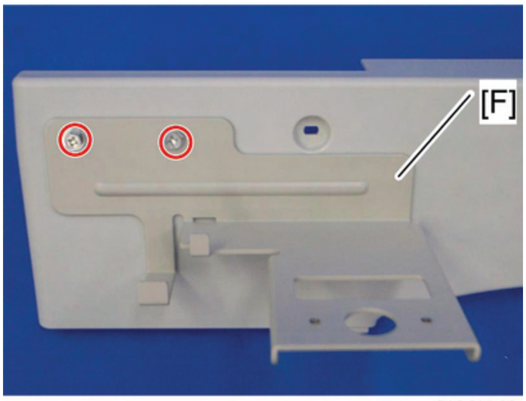
d432i111

3. Make two holes [D] in the scanner left cover.



d432i112

4. Attach the handset support bracket [E] inside the scanner left cover.

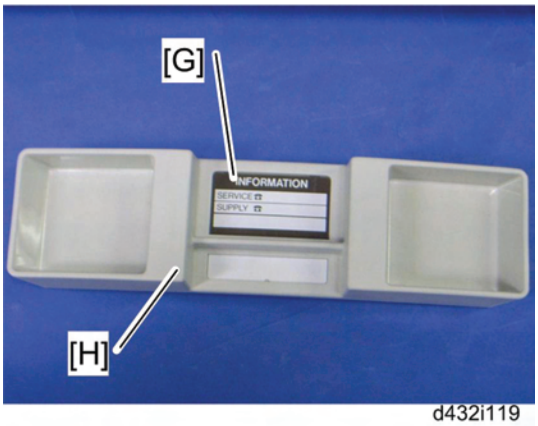


d432i113

5. Secure the handset bracket [F] (🔩 x 2: M3x6 in the accesories of the FCU option).

d432i115

6. Reattach the scanner left cover to the machine.

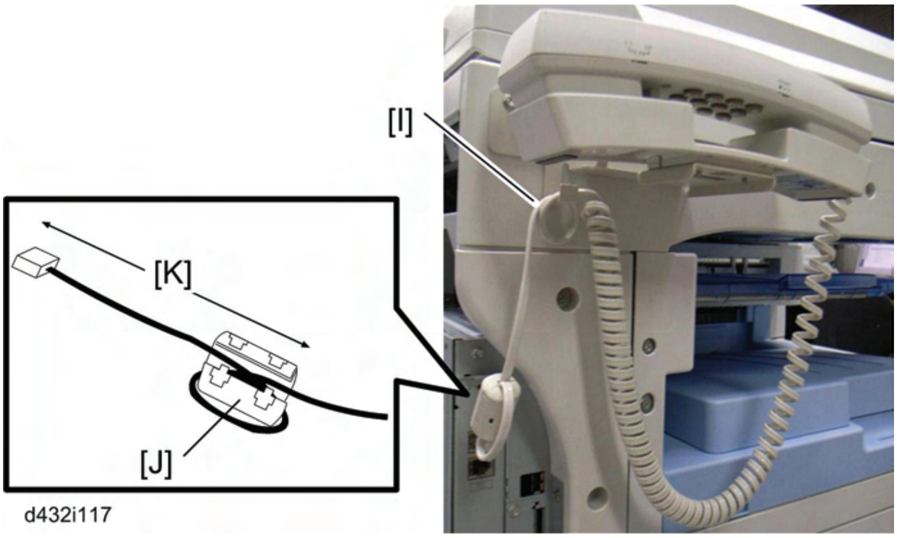


d432i119

7. Remove the label [G] from the handset cradle [H].

d432i120

8. Attach the cradle to the handset bracket (🔩 x 2: M3x8).



9. Set the handset on the handset bracket.
10. Set the telephone cable [I] as shown above.
11. Put the ferrite core [J] on the handset cord as shown. The length [K] must be 60 mm.

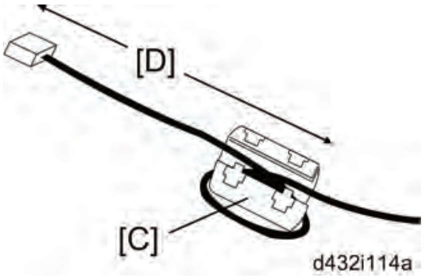
    ⚠CAUTION

    - A telephone cord with the ferrite core must be used for RF interference suppression.
12. Connect the handset cable to the "TEL" jack at the rear of the machine.

Handset with the internal finisher

Do steps from 1 to 9 in the "Handset (B433)" installation procedure.

1. Attach the clamp [A] to the scanner left cover.
2. Set the telephone cable [B] as shown above.



3. Put the ferrite core [C] on the handset cord as shown. The length [D] must be 60 mm.
4. Connect the handset cable to the "TEL" jack at the rear of the machine.

2. REPLACEMENT AND ADJUSTMENT

2.1 FCU

1. When you replace the FCU board, remove the MBU board from the old FCU board and install it on the new FCU board.
2. Set the correct date and time with the User Tools: User Tools > System Settings > Timer Setting > Set Date/Time.

   Note

   - Do not turn off the battery switch (SW1).
   - Do SP6101 to print the system parameters, and check the settings.

3. TROUBLESHOOTING

3.1 ERROR CODES

If an error code occurs, retry the communication. If the same problem occurs, try to fix the problem as suggested below. Note that some error codes appear only in the error code display and on the service report.

Code	Meaning	Suggested Cause/Action
0-00	DIS/NSF not detected within 40 s of Start being pressed	▪ Check the line connection. ▪ The machine at the other end may be incompatible. ▪ Replace the FCU. ▪ Check for DIS/NSF with an oscilloscope. ▪ If the rx signal is weak, there may be a bad line.
0-01	DCN received unexpectedly	▪ The other party is out of paper or has a jammed printer. ▪ The other party pressed Stop during communication.
0-03	Incompatible modem at the other end	The other terminal is incompatible.
0-04	CFR or FTT not received after modem training	▪ Check the line connection. ▪ Try changing the tx level and/or cable equalizer settings. ▪ Replace the FCU. ▪ The other terminal may be faulty; try sending to another machine. ▪ If the rx signal is weak or defective, there may be a bad line. **Cross reference** Tx level - NCU Parameter 01 (PSTN) Cable equalizer - G3 Switch 07 (PSTN) Dedicated Tx parameters in Service Program

Code	Meaning	Suggested Cause/Action
		Mode
0-05	Modem training fails even G3 shifts down to 2400 bps.	▪ Check the line connection. ▪ Try adjusting the tx level and/or cable equalizer. ▪ Replace the FCU. ▪ Check for line problems. **Cross reference** See error code 0-04.
0-06	The other terminal did not reply to DCS	▪ Check the line connection. ▪ Try adjusting the tx level and/or cable equalizer settings. ▪ Replace the FCU. ▪ The other end may be defective or incompatible; try sending to another machine. ▪ Check for line problems. **Cross reference** See error code 0-04.
0-07	No post-message response from the other end after a page was sent	▪ Check the line connection. ▪ Replace the FCU. ▪ The other end may have jammed or run out of paper. ▪ The other end user may have disconnected the call. ▪ Check for a bad line. ▪ The other end may be defective; try sending to another machine.

Code	Meaning	Suggested Cause/Action
0-08	The other end sent RTN or PIN after receiving a page, because there were too many errors	▪ Check the line connection. ▪ Replace the FCU. ▪ The other end may have jammed, or run out of paper or memory space. ▪ Try adjusting the tx level and/or cable equalizer settings. ▪ The other end may have a defective modem/FCU; try sending to another machine. ▪ Check for line problems and noise. **Cross reference** ▪ Tx level - NCU Parameter 01 (PSTN) ▪ Cable equalizer - G3 Switch 07 (PSTN) ▪ Dedicated Tx parameters in Service Program Mode
0-14	Non-standard post message response code received	▪ Incompatible or defective remote terminal; try sending to another machine. ▪ Noisy line: resend. ▪ Try adjusting the tx level and/or cable equalizer settings. ▪ Replace the FCU. **Cross reference** See error code 0-08.
0-15	The other terminal is not capable of specific functions.	The other terminal is not capable of accepting the following functions, or the other terminal's memory is full. ▪ Confidential rx ▪ Transfer function ▪ SEP/SUB/PWD/SID

Code	Meaning	Suggested Cause/Action
0-16	CFR or FTT not detected after modem training in confidential or transfer mode	▪ Check the line connection. ▪ Replace the FCU. ▪ Try adjusting the tx level and/or cable equalizer settings. ▪ The other end may have disconnected, or it may be defective; try calling another machine. ▪ If the rx signal level is too low, there may be a line problem. **Cross reference** See error code 0-08.
0-20	Facsimile data not received within 6 s of retraining	▪ Check the line connection. ▪ Replace the FCU. ▪ Check for line problems. ▪ Try calling another fax machine. ▪ Try adjusting the reconstruction time for the first line and/or rx cable equalizer setting. **Cross reference** Reconstruction time - G3 Switch 0A, bit 6 Rx cable equalizer - G3 Switch 07 (PSTN)
0-21	EOL signal (end-of-line) from the other end not received within 5 s of the previous EOL signal	▪ Check the connections between the FCU and line. ▪ Check for line noise or other line problems. ▪ Replace the FCU. ▪ The remote machine may be defective or may have disconnected. **Cross reference** Maximum interval between EOLs and between ECM frames - G3 Bit Switch 0A, bit 4

Code	Meaning	Suggested Cause/Action
0-22	The signal from the other end was interrupted for more than the acceptable modem carrier drop time (default: 200 ms)	▪ Check the line connection. ▪ Replace the FCU. ▪ Defective remote terminal. ▪ Check for line noise or other line problems. ▪ Try adjusting the acceptable modem carrier drop time. **Cross reference** Acceptable modem carrier drop time - G3 Switch 0A, bits 0 and 1
0-23	Too many errors during reception	▪ Check the line connection. ▪ Replace the FCU. ▪ Defective remote terminal ▪ Check for line noise or other line problems. ▪ Try asking the other end to adjust their tx level. ▪ Try adjusting the rx cable equalizer setting and/or rx error criteria. **Cross reference** Rx cable equalizer - G3 Switch 07 (PSTN) Rx error criteria - Communication Switch 02, bits 0 and 1
0-30	The other terminal did not reply to NSS(A) in AI short protocol mode	▪ Check the line connection. ▪ Try adjusting the tx level and/or cable equalizer settings. ▪ The other terminal may not be compatible. **Cross reference** Dedicated tx parameters - Section 4
0-32	The other terminal sent a DCS, which contained functions that the receiving machine cannot handle.	▪ Check the protocol dump list. ▪ Ask the other party to contact the manufacturer.

Code	Meaning	Suggested Cause/Action
0-33	The data reception (not ECM) is not completed within 10 minutes.	▪ Check the line connection. ▪ The other terminal may have a defective modem/FCU.
0-52	Polarity changed during communication	▪ Check the line connection. Retry communication.
0-55	FCU does not detect the SG3.	▪ FCU firmware or board defective. ▪ SG3 firmware or board defective.
0-56	The stored message data exceeds the capacity of the mailbox in the SG3.	▪ SG3 firmware or board defective.
0-70	The communication mode specified in CM/JM was not available (V.8 calling and called terminal)	▪ The other terminal did not have a compatible communication mode (e.g., the other terminal was a V.34 data modem and not a fax modem.) ▪ A polling tx file was not ready at the other terminal when polling rx was initiated from the calling terminal.
0-74	The calling terminal fell back to T.30 mode, because it could not detect ANSam after sending CI.	▪ The calling terminal could not detect ANSam due to noise, etc. ▪ ANSam was too short to detect. ▪ Check the line connection and condition. ▪ Try making a call to another V.8/V.34 fax.
0-75	The called terminal fell back to T.30 mode, because it could not detect a CM in response to ANSam (ANSam timeout).	▪ The terminal could not detect ANSam. ▪ Check the line connection and condition. ▪ Try receiving a call from another V.8/V.34 fax.

Code	Meaning	Suggested Cause/Action
0-76	The calling terminal fell back to T.30 mode, because it could not detect a JM in response to CM (CM timeout).	▪ The called terminal could not detect a CM due to noise, etc. ▪ Check the line connection and condition. ▪ Try making a call to another V.8/V.34 fax.
0-77	The called terminal fell back to T.30 mode, because it could not detect a CJ in response to JM (JM timeout).	▪ The calling terminal could not detect a JM due to noise, etc. ▪ A network that has narrow bandwidth cannot pass JM to the other end. ▪ Check the line connection and condition. ▪ Try receiving a call from another V.8/V.34 fax.
0-79	The called terminal detected CI while waiting for a V.21 signal.	▪ Check for line noise or other line problems. ▪ If this error occurs, the called terminal falls back to T.30 mode.
0-80	The line was disconnected due to a timeout in V.34 phase 2 – line probing.	▪ The guard timer expired while starting these phases. Serious noise, narrow bandwidth, or low signal level can cause these errors. If these errors happen at the transmitting terminal: ▪ Try making a call at a later time. ▪ Try using V.17 or a slower modem using dedicated tx parameters. ▪ Try increasing the tx level. ▪ Try adjusting the tx cable equalizer setting. If these errors happen at the receiving terminal: ▪ Try adjusting the rx cable equalizer setting. ▪ Try increasing the tx level. ▪ Try using V.17 or a slower modem if the same error is frequent when receiving from multiple senders.
0-81	The line was disconnected due to a timeout in V.34 phase 3 – equalizer training.	
0-82	The line was disconnected due to a timeout in the V.34 phase 4 – control channel start-up.	
0-83	The line was disconnected due to a timeout in the V.34 control channel restart sequence.	

Code	Meaning	Suggested Cause/Action
0-84	The line was disconnected due to abnormal signaling in V.34 phase 4 – control channel start-up.	▪ The signal did not stop within 10 s. ▪ Turn off the machine, then turn it back on. ▪ If the same error is frequent, replace the FCU.
0-85	The line was disconnected due to abnormal signaling in V.34 control channel restart.	▪ The signal did not stop within 10 s. ▪ Turn off the machine, then turn it back on. ▪ If the same error is frequent, replace the FCU.
0-86	The line was disconnected because the other terminal requested a data rate using MPh that was not available in the currently selected symbol rate.	▪ The other terminal was incompatible. ▪ Ask the other party to contact the manufacturer.
0-87	The control channel started after an unsuccessful primary channel.	▪ The receiving terminal restarted the control channel because data reception in the primary channel was not successful. ▪ This does not result in an error communication.
0-88	The line was disconnected because PPR was transmitted/received 9 (default) times within the same ECM frame.	▪ Try using a lower data rate at the start. ▪ Try adjusting the cable equalizer setting.
2-11	Only one V.21 connection flag was received	▪ Replace the FCU.
2-12	Modem clock irregularity	▪ Replace the FCU.
2-13	Modem initialization error	▪ Turn off the machine, then turn it back on. ▪ Update the modem ROM. ▪ Replace the FCU.

Code	Meaning	Suggested Cause/Action
2-23	JBIG compression or reconstruction error	▪ Turn off the machine, then turn it back on.
2-24	JBIG ASIC error	▪ Turn off the machine, then turn it back on.
2-25	JBIG data reconstruction error (BIH error)	▪ JBIG data error ▪ Check the sender's JBIG function. ▪ Update the MBU ROM.
2-26	JBIG data reconstruction error (Float marker error)	
2-27	JBIG data reconstruction error (End marker error)	
2-28	JBIG data reconstruction error (Timeout)	
2-29	JBIG trailing edge maker error	▪ FCU defective ▪ Check the destination device.
2-50	The machine resets itself for a fatal FCU system error	▪ If this is frequent, update the ROM, or replace the FCU.
2-51	The machine resets itself because of a fatal communication error	▪ If this is frequent, update the ROM, or replace the FCU.
2-53	Snd msg() in the manual task is an error because the mailbox for the operation task is full.	▪ The user did the same operation many times, and this gave too much load to the machine.
4-01	Line current was cut	▪ Check the line connector. ▪ Check for line problems. ▪ Replace the FCU.

Code	Meaning	Suggested Cause/Action
4-10	Communication failed because of an ID Code mismatch (Closed Network) or Tel. No./CSI mismatch (Protection against Wrong Connections)	▪ Get the ID Codes the same and/or the CSIs programmed correctly, then resend. ▪ The machine at the other end may be defective.
5-10	DCR timer expired	▪ Replace the FCU.
5-20	Storage impossible because of a lack of memory	▪ Temporary memory shortage. ▪ Test the SAF memory.
5-21	Memory overflow	
5-23	Print data error when printing a substitute rx or confidential rx message	▪ Test the SAF memory. ▪ Ask the other end to resend the message.
5-25	SAF file access error	▪ Replace an SD card or HDD. ▪ Replace the FCU.
6-00	G3 ECM - T1 time out during reception of facsimile data	▪ Try adjusting the rx cable equalizer. ▪ Replace the FCU.
6-01	G3 ECM - no V.21 signal was received	
6-02	G3 ECM - EOR was received	
6-04	G3 ECM - RTC not detected	▪ Check the line connection. ▪ Check for a bad line or defective remote terminal. ▪ Replace the FCU.

Code	Meaning	Suggested Cause/Action
6-05	G3 ECM - facsimile data frame not received within 18 s of CFR, but there was no line fail	▪ Check the line connection. ▪ Check for a bad line or defective remote terminal. ▪ Replace the FCU. ▪ Try adjusting the rx cable equalizer **Cross reference** ▪ Rx cable equalizer - G3 Switch 07 (PSTN)
6-06	G3 ECM - coding/decoding error	▪ Defective FCU. ▪ The other terminal may be defective.
6-08	G3 ECM - PIP/PIN received in reply to PPS.NULL	▪ The other end pressed Stop during communication. ▪ The other terminal may be defective.
6-09	G3 ECM - ERR received	▪ Check for a noisy line. ▪ Adjust the tx levels of the communicating machines. ▪ See code 6-05.
6-10	G3 ECM - error frames still received at the other end after all communication attempts at 2400 bps	▪ Check for line noise. ▪ Adjust the tx level (use NCU parameter 01 or the dedicated tx parameter for that address). ▪ Check the line connection. ▪ Defective remote terminal.
6-21	V.21 flag detected during high speed modem communication	▪ The other terminal may be defective or incompatible.
6-22	The machine resets the sequence because of an abnormal handshake in the V.34 control channel	▪ Check for line noise. ▪ If the same error occurs frequently, replace the FCU. ▪ Defective remote terminal.
6-99	V.21 signal not stopped within 6 s	▪ Replace the FCU.

Code	Meaning	Suggested Cause/Action
13-17	SIP user name registration error	▪ Double registration of the SIP user name. ▪ Capacity for user-name registration in the SIP server is not sufficient.
13-18	SIP server access error	▪ Incorrect initial setting for the SIP server. ▪ Defective SIP server.
13-24	SIP authentication error	▪ Registered password in the device does not match the password in the SIP server.
13-25	Network I/F setting error	▪ IPV4 is not active in the active protocol setting. ▪ IP address of the device is not registered.
13-26	Network I/F setting error at power on	▪ Active protocol setting does not match the I/F setting for SIP server. ▪ IP address of the device is not registered.
13-27	IP address setting error	▪ IP address of the device is not registered.
14-00	SMTP Send Error	▪ Error occurred during sending to the SMTP server. Occurs for any error other than 14-01 to 16. For example, the mail address of the system administrator is not registered.
14-01	SMTP Connection Failed	▪ Failed to connect to the SMTP server (timeout) because the server could not be found. ▪ The PC is not ready to transfer files. ▪ SMTP server not functioning correctly. ▪ The DNS IP address is not registered. ▪ Network not operating correctly. ▪ Destination folder selection not correct.

Code	Meaning	Suggested Cause/Action
14-02	No Service by SMTP Service (421)	▪ SMTP server operating incorrectly, or the destination for direct SMTP sending is not correct. ▪ Contact the system administrator and check that the SMTP server has the correct settings and operates correctly. ▪ Contact the system administrator for direct SMTP sending and check the sending destination.
14-03	Access to SMTP Server Denied (450)	▪ Failed to access the SMTP server because the access is denied. ▪ SMTP server operating incorrectly. Contact the system administrator to determine if there is a problem with the SMTP server and to check that the SMTP server settings are correct. ▪ Folder send destination is incorrect. Contact the system administrator to determine that the SMTP server settings and path to the server are correct. ▪ Device settings incorrect. Confirm that the user name and password settings are correct. ▪ Direct SMTP destination incorrect. Contact the system administrator to determine if there is a problem at the destination at that the settings at the destination are correct.
14-04	Access to SMTP Server Denied (550)	▪ SMTP server operating incorrectly ▪ Direct SMTP sending not operating correctly

Code	Meaning	Suggested Cause/Action
14-05	SMTP Server HDD Full (452)	▪ Failed to access the SMTP server because the HDD on the server is full. ▪ Insufficient free space on the HDD of the SMTP server. Contact the system administrator and check the amount of space remaining on the SMTP server HDD. ▪ Insufficient free space on the HDD where the destination folder is located. Contact the system administrator and check the amount of space remaining on the HDD where the target folder is located. ▪ Insufficient free space on the HDD at the target destination for SMTP direct sending. Contact the system administrator and check the amount of space remaining on the target HDD.
14-06	User Not Found on SMTP Server (551)	▪ The designated user does not exist. ▪ The designated user does not exist on the SMTP server. ▪ The designated address is not for use with direct SMTP sending.
14-07	Data Send to SMTP Server Failed (4XX)	▪ Failed to access the SMTP server because the transmission failed. ▪ PC not operating correctly. ▪ SMTP server operating incorrectly ▪ Network not operating correctly. ▪ Destination folder setting incorrect. ▪ Direct SMTP sending not operating correctly.

Code	Meaning	Suggested Cause/Action
14-08	Data Send to SMTP Server Failed (5XX)	▪ Failed to access the SMTP server because the transmission failed. ▪ SMTP server operating incorrectly ▪ Destination folder setting incorrect. ▪ Direct SMTP sending not operating correctly. ▪ Software application error.
14-09	Authorization Failed for Sending to SMTP Server	▪ POP-Before-SMTP or SMTP authorization failed. ▪ Incorrect setting for file transfer
14-10	Addresses Exceeded	▪ Number of broadcast addresses exceeded the limit for the SMTP server.
14-11	Buffer Full	▪ The send buffer is full so the transmission could not be completed. Buffer is full due to using Scan-to-Email while the buffer is being used send mail at the same time.
14-12	Data Size Too Large	▪ Transmission was cancelled because the detected size of the file was too large.
14-13	Send Cancelled	▪ Processing is interrupted because the user pressed Stop.
14-14	Security Locked File Error	▪ Update the software because of the defective software.
14-15	Mail Data Error	▪ The transmitting a mail is interrupted via DCS due to the incorrect data. ▪ Update the software because of the defective software.

Code	Meaning	Suggested Cause/Action
14-16	Maximum Division Number Error	▪ When a mail is divided for the mail transmission and the division number of a mail are more than the specified number, the mail transmission is interrupted. ▪ Update the software because of the defective software.
14-17	Incorrect Ticket	▪ Update the software because of the defective software.
14-18	Access to MCS File Error	▪ The access to MCS file is denied due to the no permission of access. ▪ Update the software because of the defective software.
14-30	MCS File Creation Failed	Failed to create the MCS file because: ▪ The number of files created with other applications on the Document Server has exceeded the limit. ▪ HDD is full or not operating correctly. ▪ Software error.
14-31	UFS File Creation Failed	UFS file could not be created: ▪ Not enough space in UFS area to handle both Scan-to-Email and IFAX transmission. ▪ HDD full or not operating correctly. ▪ Software error.
14-32	Cancelled the Mail Due to Error Detected by NFAX	▪ Error detected with NFAX and send was cancelled due to a software error.
14-33	No Mail Address For the Machine	▪ Neither the mail address of the machine nor the mail address of the network administrator is registered.

Code	Meaning	Suggested Cause/Action
14-34	Address designated in the domain for SMTP sending does not exist	▪ Operational error in normal mail sending or direct SMTP sending. ▪ Check the address selected in the address book for SMTP sending. ▪ Check the domain selection.
14-50	Mail Job Task Error	Due to an FCU mail job task error, the send was cancelled: ▪ Address book was being edited during creation of the notification mail. ▪ Software error.
14-51	UCS Destination Download Error	Not even one return notification can be downloaded: ▪ The address book was being edited. ▪ The number for the specified destination does not exist (it was deleted or edited after the job was created).
14-60	Send Cancel Failed	▪ The cancel operation by the user failed to cancel the send operation.
14-61	Notification Mail Send Failed for All Destinations	▪ All addresses for return notification mail failed.
14-62	Transmission Error due to the existence of zero line page	▪ When the 0 line page exists in received pages with G3 communication, the transmission is interrupted.
15-01	POP3/IMAP4 Server Not Registered	▪ At startup, the system detected that the IP address of the POP3/IMAP4 server has not been registered in the machine.
15-02	POP3/IMAP4 Mail Account Information Not Registered	▪ The POP3/IMAP4 mail account has not been registered.
15-03	Mail Address Not Registered	▪ The mail address has not been registered.

Code	Meaning	Suggested Cause/Action
15-10	DCS Mail Receive Error	▪ Error other than 15-11 to 15-18.
15-11	Connection Error	The DNS or POP3/IMAP4 server could not be found: ▪ The IP address for DNS or POP3/IMAP4 server is not stored in the machine. ▪ The DNS IP address is not registered. ▪ Network not operating correctly.
15-12	Authorization Error	POP3/IMAP4 send authorization failed: ▪ Incorrect IFAX user name or password. ▪ Access was attempted by another device, such as the PC. ▪ POP3/IMAP4 settings incorrect.
15-13	Receive Buffer Full	▪ Occurs only during manual reception. Transmission cannot be received due to insufficient buffer space. The buffer is being used for mail send or Scan-to-Email.
15-14	Mail Header Format Error	▪ The mail header is not standard format. For example, the Date line description is incorrect.
15-15	Mail Divide Error	▪ The e-mail is not in standard format. There is no boundary between parts of the e-mail, including the header.
15-16	Mail Size Receive Error	▪ The mail cannot be received because it is too large.
15-17	Receive Timeout	▪ May occur during manual receiving only because the network is not operating correctly.
15-18	Incomplete Mail Received	▪ Only one portion of the mail was received.
15-31	Final Destination for Transfer Request Reception Format Error	▪ The format of the final destination for the transfer request was incorrect.

Code	Meaning	Suggested Cause/Action
15-39	Send/Delivery Destination Error	The transmission cannot be delivered to the final destination: ▪ Destination file format is incorrect. ▪ Could not create the destination for the file transmission.
15-41	SMTP Receive Error	▪ Reception rejected because the transaction exceeded the limit for the "Auth. E-mail RX" setting.
15-42	Off Ramp Gateway Error	▪ The delivery destination address was specified with Off Ramp Gateway OFF.
15-43	Address Format Error	▪ Format error in the address of the Off Ramp Gateway.
15-44	Addresses Over	▪ The number of addresses for the Off Ramp Gateway exceeded the limit of 30.
15-61	Attachment File Format Error	▪ The attached file is not TIFF format.
15-62	TIFF File Compatibility Error	Could not receive transmission due to: ▪ Resolution error ▪ Image of resolution greater than 200 dpi without extended memory. ▪ Resolution is not supported. ▪ Page size error ▪ The page size was larger than A3. ▪ Compression error ▪ File was compressed with other than MH, MR, or MMR.

Code	Meaning	Suggested Cause/Action
15-63	TIFF Parameter Error	The TIFF file sent as the attachment could not be received because the TIFF header is incorrect: ▪ The TIFF file attachment is a type not supported. ▪ The TIFF file attachment is corrupted. ▪ Software error.
15-64	TIFF Decompression Error	The file received as an attachment caused the TIFF decompression error: ▪ The TIFF format of the attachment is corrupted. ▪ Software error.
15-71	Not Binary Image Data	▪ The file could not be received because the attachment was not binary image data.
15-73	MDN Status Error	▪ Could not find the Disposition line in the header of the Return Receipt, or there is a problem with the firmware.
15-74	MDN Message ID Error	▪ Could not find the Original Message ID line in the header of the Return Receipt, or there is a problem with the firmware.
15-80	Mail Job Task Read Error	▪ Could not receive the transmission because the destination buffer is full and the destination could not be created (this error may occur when receiving a transfer request or a request for notification of reception).
15-81	Repeated Destination Registration Error	▪ Could not repeat receive the transmission because the destination buffer is full and the destination could not be created (this error may occur when receiving a transfer request or a request for notification of reception).

Code	Meaning	Suggested Cause/Action
15-91	Send Registration Error	Could not receive the file for transfer to the final destination: ▪ The format of the final destination or the transfer destination is incorrect. ▪ Destinations are full so the final and transfer destinations could not be created.
15-92	Memory Overflow	▪ Transmission could not be received because memory overflowed during the transaction.
15-93	Memory Access Error	▪ Transaction could not complete due to a malfunction of SAF memory.
15-94	Incorrect ID Code	▪ The machine rejected an incoming e-mail for transfer request, because the ID code in the incoming e-mail did not match the ID code registered in the machine.
15-95	Transfer Station Function	▪ The machine rejected an incoming e-mail for transfer because the transfer function was unavailable.
22-00	Original length exceeded the maximum scan length	▪ Divide the original into more than one page. ▪ Check the resolution used for scanning. Lower the scan resolution if possible. ▪ Add optional page memory.
22-01	Memory overflow while receiving	▪ Wait for the files in the queue to be sent. ▪ Delete unnecessary files from memory. ▪ Transfer the substitute reception files to an another fax machine, if the machine's printer is busy or out of order. ▪ Add an optional SAF memory card or hard disk.

Code	Meaning	Suggested Cause/Action
22-02	Tx or rx job stalled due to line disconnection at the other end	▪ The job started normally but did not finish normally; data may or may not have been received fully. ▪ Restart the machine.
22-04	The machine cannot store received data in the SAF	▪ Update the ROM ▪ Replace the FCU.
22-05	No G3 parameter confirmation answer	▪ Defective FCU board or firmware.
23-00	Data read timeout during construction	▪ Restart the machine. ▪ Replace the FCU.
25-00	The machine software resets itself after a fatal transmission error occurred	▪ Update the ROM ▪ Replace the FCU.
F0-xx	V.34 modem error	▪ Replace the FCU.
F6-xx	SG3 modem error	▪ Update the SG3 modem ROM. ▪ Replace the SG3 board. ▪ Check for line noise or other line problems. ▪ Try communicating another V.8/V.34 fax.

3.2 IFAX TROUBLESHOOTING

Use the following procedures to determine whether the machine or another part of the network is causing the problem.

Communication Route	Item	Action [Remarks]
General LAN	1. Connection with the LAN	▪ Check that the LAN cable is connected to the machine. ▪ Check that the LEDs on the hub are lit.
	2. LAN activity	Check that other devices connected to the LAN can communicate through the LAN.
Between IFAX and PC	1. Network settings on the PC	▪ Check the network settings on the PC. [Is the IP address registered in the TCP/IP properties in the network setup correct? Check the IP address with the administrator of the network.]
	2. Check that PC can connect with the machine	▪ Use the "ping" command on the PC to contact the machine. [At the MS-DOS prompt, type ping then the IP address of the machine, then press Enter.]
	3. LAN settings in the machine	▪ Check the LAN parameters ▪ Check if there is an IP address conflict with other PCs. [Use the "Network" function in the User Tools. If there is an IP address conflict, inform the administrator.]
Between machine and e-mail server	1. LAN settings in the machine	▪ Check the LAN parameters ▪ Check if there is an IP address conflict with other PCs. [Use the "Network" function in the User Tools. If there is an IP address conflict, inform the administrator.]

Communication Route	Item	Action [Remarks]
	2. E-mail account on the server	▪ Make sure that the machine can log into the e-mail server. ▪ Check that the account and password stored in the server are the same as in the machine. [Ask the administrator to check.]
	3. E-mail server	▪ Make sure that the client devices which have an account in the server can send/receive e-mail. [Ask the administrator to check. Send a test e-mail with the machine's own number as the destination. The machine receives the returned e-mail if the communication is performed successfully.]
Between e-mail server and internet	1. E-mail account on the Server	▪ Make sure that the PC can log into the e-mail server. ▪ Check that the account and password stored in the server are the same as in the machine. [Ask the administrator to check.]
	2. E-mail server	▪ Make sure that the client devices which have an account in the server can send/receive e-mail. [Ask the administrator to check. Send a test e-mail with the machine's own number as the destination. The machine receives the returned e-mail if the communication is performed successfully.]
	3. Destination e-mail address	▪ Make sure that the e-mail address is actually used. ▪ Check that the e-mail address contains no incorrect characters such as spaces.

Communication Route	Item	Action [Remarks]
	4. Router settings	▪ Use the "ping" command to contact the router. ▪ Check that other devices connected to the router can sent data over the router. [Ask the administrator of the server to check.]
	5. Error message by e-mail from the network of the destination.	▪ Check whether e-mail can be sent to another address on the same network, using the application e-mail software. ▪ Check the error e-mail message. [Inform the administrator of the LAN.]

3.3 IP-FAX TROUBLESHOOTING

3.3.1 IP-FAX TRANSMISSION

Cannot send by IP Address/Host Name

Check Point		Action
1	LAN cable connected?	Check the LAN cable connection.
2	Specified IP address/host name correct?	Check the IP address/host name.
3	Firewall/NAT is installed?	Cannot breach the firewall. Send by using another method (Fax, Internet Fax)
4	Transmission sent manually?	Manual sending not supported.
5	IP address of local machine registered?	Register the IP address.
6	Remote terminal port number setting other than 1720?	Send by specifying the port number.
7	Specified port number correct?	Confirm the port number of the remote fax.
8	DNS server registered when host name specified?	Contact the network administrator.
9	Remote fax a T.38 terminal?	Check whether the remote fax is a T38 terminal.
10	Remote fax switched off or busy?	Check that the remote fax is switched on.
11	Network bandwidth too narrow?	Request the network administrator to increase the bandwidth.
		Raise the delay level. IPFAX SW 01 Bit 0 to 3
		IP-Fax bandwidth is the same as the

		DCS speed. Set IP-Fax SW00 Bit 6 to 1.
12	Remote fax cancelled transmission?	Check whether the remote fax cancelled the transmission.

Cannot send via VoIP Gateway

Check Point		Action
1	LAN cable connected?	Check the LAN cable connection.
2	VoIP Gateway T.38 standard?	Contact the network administrator.
3	VoIP Gateway installed correctly?	Contact the network administrator.
4	VoIP Gateway power switched on?	Contact the network administrator.
5	Is the IP address/host name of the specified Gateway correct?	Check the IP address/host name.
6	Number of the specified fax correct?	Check the remote fax number.
7	Firewall/NAT is installed?	Cannot breach the firewall. Send by using another method (Fax, Internet Fax)
8	Transmission sent manually?	Manual sending not supported.
9	IP address of local fax registered?	Register the IP address.
10	DNS registered when host name specified?	Contact the network administrator.
11	Remote fax a G3 fax?	Check that the remote fax is a G3 fax.
12	G3 fax is connected to VoIP gateway?	Check that G3 fax is connected.
13	Remote G3 fax turned on?	Check that G3 fax is switched on.

14	Network bandwidth too narrow?	Request the network administrator to increase the bandwidth.
		Raise the network delay level. IPFAX SW 01 Bit 0 to 3
		IP-Fax bandwidth is the same as the DCS speed. Set IP-Fax SW00 Bit 6 to 1.

Cannot send by Alias Fax number.

Check Point		Action
1	LAN cable connected?	Check the LAN cable connection.
2	Number of specified Alias fax correct?	Confirm the Alias of the remote fax. Error Code: 13-14
3	Firewall/NAT installed?	Cannot breach the firewall. Send by using another method (Fax, Internet Fax)
4	Transmission sent manually?	Manual sending not supported.
5	Gatekeeper installed correctly?	Contact the network administrator.
6	Gatekeeper power switched on?	Contact the network administrator.
7	IP address/host name of Gatekeeper correct?	Check the IP address/host name.
8	DNS server registered when Gatekeeper host name specified?	Contact the network administrator.
9	Enable H.323 SW is set to on?	Check the settings. See User Parameter SW 34 Bit 0
10	IP address of local fax registered?	Register the IP address of the local fax.

11	Alias number of local fax registered?	Register the Alias number of the local fax.
12	Remote fax registered in Gatekeeper?	Contact the network administrator.
13	Remote fax a T.38 terminal?	Check whether the remote fax is a T38 terminal.
14	Remote fax switched off or busy?	Contact the network administrator.
15	Network bandwidth too narrow?	Request the system administrator to increase the bandwidth.
		Raise the delay level. IPFAX SW 01 Bit 0 to 3
		Lower the modem transmission baud rate. IPFAX SW 05
16	Remote fax cancelled transmission?	Check whether the remote fax cancelled the transmission.

3.3.2 IP-FAX RECEPTION

Cannot receive via IP Address/Host Name.

Check Point		Action
1	LAN cable connected?	Check the LAN cable connection.
2	Firewall/NAT is installed?	Cannot breach the firewall. Send by using another method (Fax, Internet Fax)
3	IP address of local fax registered?	Register the IP address.
4	Port number specified at remote sender fax (if required)?	Request the sender to specify the port number.
5	Specified port number correct (if required)?	Request the sender to check the port number.
6	DNS server registered when host name specified on sender side?	Contact the network administrator. Note ▪ The sender machine displays this error code if the sender fax is a Ricoh model.
7	Network bandwidth too narrow?	Request the system administrator to increase the bandwidth.
		Lower the start modem reception baud rate on the receiving side. IPFAX SW06
8	Remote fax cancelled transmission?	Check whether the remote fax cancelled the transmission.

Cannot receive by VoIP Gateway.

Check Point		Action
1	LAN cable connected?	Check the LAN cable connection.
2	Firewall/NAT is installed?	Cannot breach the firewall. Request the remote fax to send by using another method (Fax, Internet Fax)
3	VoIP Gateway installed correctly?	Contact the network administrator.
4	VoIP Gateway power switched on?	Contact the network administrator.
5	IP address/host name of specified VoIP Gateway correct on sender's side?	Request the remote fax to check the IP address/host name.
6	DNS server registered when host name specified on sender side?	Contact the network administrator.
7	Network bandwidth too narrow?	Request the network administrator to increase the bandwidth.
8	G3 fax connected?	Check that G3 fax is connected.
9	G3 fax power switched on?	Check that G3 fax is switched on.

Cannot receive by Alias Fax number.

Check Point		Action
1	LAN cable connected?	Check the LAN cable connection.
2	Firewall/NAT is installed?	Cannot the breach firewall. Request the remote fax to send by using another method (Fax, Internet Fax)
3	Gatekeeper installed correctly?	Contact the network administrator. Note ▪ The sender machine displays this error code when the sender fax is a Ricoh model.
4	Power to Gatekeeper switched on?	Contact the network administrator. Note ▪ The sender machine displays this error code when the sender fax is a Ricoh model.
5	IP address/host name of Gatekeeper correct on the sender's side?	Request the sender to check the IP address/host name. Note ▪ The sender machine displays this error code when the sender fax is a Ricoh model.
6	DNS server registered when Gatekeeper host name specified on sender's side?	Contact the network administrator. Note ▪ The sender machine displays this error code when the sender fax is a Ricoh model.

7	Enable H.323 SW is set to on?	Request the sender to check the settings. User Parameter SW 34 Bit 0 Note ▪ Only if the remote sender fax is a Ricoh fax.
8	Local fax IP address registered?	Register the IP address.
9	Local fax Alias number registered?	Register the Alias number.
10	Network bandwidth too narrow?	Request the system administrator to increase the bandwidth.
		Lower the start modem reception baud rate on the receiving side. IPFAX SW06
11	Remote fax cancelled transmission?	Check whether the remote fax cancelled the transmission.
12	Local fax registered in Gatekeeper?	Contact the network administrator. Note ▪ The sender machine displays this error code when the sender fax is a Ricoh model.

4. SERVICE TABLE

4.1 BEFOREHAND

⚠CAUTION

- Never turn off the main power switch when the power LED is lit or flashing. To avoid damaging the hard disk or memory, press the operation power switch to switch the power off, wait for the power LED to go off, and then switch the main power switch off.

Note

- The main power LED lights or flashes while the platen cover or ARDF is open, while the main machine is communicating with a facsimile or the network server, or while the machine is accessing the hard disk or memory for reading or writing data.

4.2 SERVICE TABLES

4.2.1 SP1-XXX (BIT SWITCHES)

☛ Bit Switches

1	Mode No.		Function
101	System Switch		
	001 – 032	00 – 1F	Change the bit switches for system settings for the fax option. ☛ "Bit Switches"
102	Ifax Switch		
	001 – 016	00 – 0F	Change the bit switches for internet fax settings for the fax option. ☛ "Bit Switches"
103	Printer Switch		
	001 – 016	00 – 0F	Change the bit switches for printer settings for the fax option. ☛ "Bit Switches"
104	Communication Switch		
	001 – 032	00 – 1F	Change the bit switches for communication settings for the fax option. ☛ "Bit Switches"
105	G3-1 Switch		
	001 – 016	00 – 0F	Change the bit switches for the protocol settings of the standard G3 board. ☛ "Bit Switches"

111	IP fax Switch		
	001 – 016	00 – 0F	Change the bit switches for optional IP fax parameters. ☛ "Bit Switches"

4.2.2 SP2-XXX (RAM DATA)

2	Mode No.		Function
101	RAM Read/Write		
	001		Change RAM data for the fax board directly. ☛ "Service RAM Addresses"
102	Memory Dump		
	001	G3-1 Memory Dump	Print out RAM data for the fax board. ☛ "Service RAM Addresses"
103	G3-1 NCU Parameters		
	001 – 023	CC, 01 – 22	NCU parameter settings for the standard G3 board. ☛ "NCU Parameters"

4.2.3 SP3-XXX (TEL LINE SETTINGS)

3	Mode No.		Function
101	Service Station		
	001	Fax Number	Enter the fax number of the service station.
102	Serial Number		
	000		Enter the fax unit’s serial number.
103	PSTN-1 Port Settings		
	001	Select Line	Select the line type setting for the G3-1 line. If the machine is installed on a PABX line, select "PABX", "PABX(GND)" or "PABX(FLASH)".
	002	PSTN Access Number	Enter the PSTN access number for the G3-1 line.
	003	Memory Lock Disabled	Not used
107	IPFAX Port Settings		
	001	H323 Port	Sets the H323 port number.
	002	SIP Port	Sets the SIP port number.
	003	RAS Port	Sets the RAS port number.
	004	Gatekeeper port	Sets the Gatekeeper port number.
	005	T.38 Port	Sets the T.38 port number.
	006	SIP Server Port	Sets the SIP port number.
	007	IPFAX Protocol Priority	Select "H323" or "SIP".
201	FAX SW		
	001 – 032	00 – 1F	

4.2.4 SP4-XXX (ROM VERSIONS)

4	Mode No.		Function
101	001	FCU ROM Version	Displays the FCU ROM version.
102	001	Error Codes	Displays the latest 64 fax error codes.
103	001	G3-1 ROM Version	Displays the G3-1 modem version.

4.2.5 SP5-XXX (INITIALIZING)

5	Mode No.	Function
101	Initialize SRAM (except Secure)	
	000	Initializes the bit switches and user parameters, user data in the SRAM, files in the SAF memory, and clock.
102	Erase All Files	
	000	Erases all files stored in the SAF memory.
103	Reset Bit Switches (except Secure)	
	000	Resets the bit switches and user parameters.
104	Factory setting	
	000	Resets the bit switches and user parameters, user data in the SRAM and files in the SAF memory.
105	Initialize All Bit Switches	
	000	Initializes all the current bit switch settings.

106	Initialize Security Bit Switches	
	000	Initializes only the security bit switches. If you select automatic output/display for the user parameter switches, the security settings are initialized.

4.2.6 SP6-XXX (REPORTS)

6	Mode No.		Function
101	System Parameter List		
	000	-	Touch the "ON" button to print the system parameter list.
102	Service Monitor Report		
	000	-	Touch the "ON" button to print the service monitor report.
103	G3 Protocol Dump List		
	001	G3 All Communications	Prints the protocol dump list of all communications for all G3 lines.
	002	G3-1 (All Communications)	Prints the protocol dump list of all communications for the G3-1 line.
	003	G3-1 (1 Communication)	Prints the protocol dump list of the last communication for the G3-1 line.
105	All Files print out		
	000	-	Prints out all the user files in the SAF memory, including confidential messages. Note ▪ Do not use this function, unless the customer is having trouble printing confidential messages or recovering

			files stored using the memory lock feature.
106	Journal Print out		
	001	All Journals	The machine prints all the communication records on the report.
	002	Specified Date	The machine prints all communication records after the specified date.
107	Log List Print out		
	001	All log files	These log print out functions are for designer use only.
	002	Printer	
	003	SC/TRAP Stored	
	004	Decompression	
	005	Scanner	
	006	JOB/SAF	
	007	Reconstruction	
	008	JBIG	
	009	Fax Driver	
	010	G3CCU	
	011	Fax Job	
	012	CCU	
	013	Scanner Condition	
108	IP Protocol Dump List		
	001	All Communications	Prints the protocol dump list of all communications for the IP fax line.
	002	1 Communication	Prints the protocol dump list of the last communication for the IP fax line.

4.2.7 SP7-XXX (TESTS)

These are the test modes for PTT approval.

7	Function
101	G3-1 Modem Tests
102	G3-1 DTMF Tests
103	Ringer Test
104	G3-1 V34 (S2400baud)
105	G3-1 V34 (S2800baud)
106	G3-1 V34 (S3000baud)
107	G3-1 V34 (S3200baud)
108	G3-1 V34 (S3429baud)
109	Recorded Message Test

4.3 BIT SWITCHES

⚠WARNING

- Do not adjust a bit switch or use a setting that is described as "Not used", as this may cause the machine to malfunction or to operate in a manner that is not accepted by local regulations. Such bits are for use only in other areas, such as Japan.

Note

- Default settings for bit switches are not listed in this manual. Refer to the System Parameter List printed by the machine.

4.3.1 SYSTEM SWITCHES

System Switch 00 [SP No. 1-101-001]

No	FUNCTION	COMMENTS
0	Dedicated transmission parameter programming 0: Disabled, 1: Enabled	Set this bit to 1 before changing any dedicated transmission parameters. This setting is automatically reset to "0" after turning off and on.
1	**Not used**	Do not change
2	Technical data printout on the Journal 0: Disabled 1: Enabled	1: Instead of the personal name, the following data are listed on the Journal for each G3 communication.
	e.g. 0000 (1) // 32 (2) V34 (3) // 288 (4) // 264 (5) // L0100 (6) 03 (7) 04 (8) (1): EQM value (Line quality data). A larger number means more errors. (2): Symbol rate (V.34 only) (3): Final modem type used (4): Starting data rate (for example, 288 means 28.8 kbps) (5): Final data rate (6): Rx revel (refer to the note after this table for how to read the rx level) (7): Total number of error lines that occurred during non-ECM reception. (8): Total number of burst error lines that occurred during non-ECM reception. Note	

	▪ EQM and rx level are fixed at "FFFF" in tx mode. ▪ The seventh and eighth numbers are fixed at "00" for transmission records and ECM reception records.	
	Rx level calculation Example: 0000 // 32 V34 // 288/264 // L 01 00 03 04 The four-digit hexadecimal value (N) after "L" indicates the rx level. The high byte is given first, followed by the low byte. Divide the decimal value of N by -16 to get the rx level. In the above example, the decimal value of N (= 0100 [H]) is 256. So, the actual rx level is 256/-16 = -16 dB	
3	**Not used**	Do not change this setting.
4	Line error mark print 0: OFF, 1: ON (print)	When "1" is selected, a line error mark is printed on the printout if a line error occurs during reception. This shows an error position in ECM off mode.
5	G3 communication parameter display 0: Disabled 1: Enabled	This is a fault-finding aid. The LCD shows the key parameters (see "G3 Communication Parameters" below this table). This is normally disabled because it cancels the CSI display for the user. Be sure to reset this bit to 0 after testing.
6	Protocol dump list output after each communication 0: Off 1: On	This is only used for communication troubleshooting. It shows the content of the transmitted facsimile protocol signals. Always reset this bit to 0 after finishing testing. If system switch 09 bit 6 is at "1", the list is only printed if there was an error during the communication.
7	Not used	Do not change the setting.

System Switch 01 - Not used (Do not change the factory settings.)

System Switch 02 [SP No. 1-101-003]		
No	**FUNCTION**	**COMMENTS**
0-1	**Not used**	Do not change these settings.
2	Force after transmission stall 0: Off 1: On	With this setting on, the machine resets itself automatically if a transmission stalls and fails to complete the job.
3	**Not used**	Do not change these settings.
4	File retention time 0: Depends on User Parameter 24 [18(H)] 1: No limit (until the year 2126)	1: A file that had a communication error will not be erased unless the communication is successful.
5	**Not used**	Do not change this setting.
6-7	Memory read/write by RDS Bit 7: 0, Bit 6: 0 Always disabled Bit 7: 0, Bit 6: 1 User selectable Bit 7: 1, Bit 6: 0 User selectable Bit 7: 1, Bit 6: 1 Always enabled	(0,0): All RDS systems are always locked out. (0,1), (1,0): Normally, RDS systems are locked out, but the user can temporarily switch RDS on to allow RDS operations to take place. RDS will automatically be locked out again after a certain time, which is stored in System Switch 03. Note that if an RDS operation takes place, RDS will not switch off until this time limit has expired. (1,1): At any time, an RDS system can access the machine.

System Switch 03 [SP No. 1-101-004]		
No	**FUNCTION**	**COMMENTS**
0-7	Length of time that RDS is temporarily switched on when bits 6 and 7 of System Switch 02 are set to "User selectable"	00 - 99 hours (BCD). This setting is only valid if bits 6 and 7 of System Switch 02 are set to "User selectable". The default setting is 24 hours.

System Switch 04 [SP No. 1-101-005]		
No	**FUNCTION**	**COMMENTS**
0-2	**Not used**	Do not change these settings.
3	Printing dedicated tx parameters on Quick/Speed Dial Lists 0: Disabled 1: Enabled	1: Each Quick/Speed dial number on the list is printed with the dedicated tx parameters.
4-7	**Not used**	Do not change these settings.

System Switch 05 - Not used (Do not change the factory settings.)
System Switch 06 - Not used (Do not change the factory settings.)
System Switch 07 - Not used (Do not change the factory settings.)
System Switch 08 - Not used (Do not change the factory settings.)

System Switch 09 [SP No. 1-101-010]		
No	**FUNCTION**	**COMMENTS**
0	Addition of image data from confidential transmissions on the transmission result report 0: Disabled 1: Enabled	If this feature is enabled, the top half of the first page of confidential messages will be printed on transmission result reports.

1	Print timing of communication reports on the Journal when no image data was exchanged. 0: After DCS/NSS communication (default), 1: After polling	0: Journal is printed only when image data is sent. 1: Journal is printed when any data is sent.
2	Automatic error report printout 0: Disabled 1: Enabled	0: Error reports will not be printed. 1: Error reports will be printed automatically after failed communications.
3	Printing of the error code on the error report 0: No 1: Yes	1: Error codes are printed on the error reports. This can be used for detecting an error which rarely occurs.
4	**Not used**	Do not change this setting.
5	Power failure report 0: Disabled 1: Enabled	1: A power failure report will be automatically printed after the power is switched on if a fax message disappeared from the memory when the power was turned off last. **NOTE:** If "0" is selected, no reports are printed and no one may recognize that fax data is gone due to a power failure.
6	Conditions for printing the protocol dump list 0: Print for all communications 1: Print only when there is a communication error	This switch becomes effective only when system switch 00 bit 6 is set to 1. 1: Set this bit to 1 when you wish to print a protocol dump list only for communications with errors. **NOTE:** The memory size is limited. Use this bit switch only when some log reports are necessary.
7	Priority given to various types of remote terminal ID when printing reports 0: RTI > CSI > Dial label > Tel. Number 1: Dial label > Tel. number > RTI > CSI	This bit determines which set of priorities the machine uses when listing remote terminal names on reports. Dial Label: The name stored, by the user, for the Quick/Speed Dial number.

System Switch 0A [SP No. 1-101-011]		
No	**FUNCTION**	**COMMENTS**
0	Automatic port selection 0: Disabled, 1: Enabled	When "1" is selected, a suitable port is automatically selected if the selected port is not used. **NOTE:** This bit is useful if all communication lines at a customer site are not same quality.
1-3	**Not used**	Do not change these settings.
4	Dialing on the ten-key pad when the external telephone is off-hook 0: Disabled 1: Enabled	0: Prevents dialing from the ten-key pad while the external telephone is off-hook. Use this setting when the external telephone is not by the machine, or if a wireless telephone is connected as an external telephone. 1: The user can dial on the machine's ten-key pad when the handset is off-hook.
5	On hook dial 0: Disabled 1: Enabled	0: On hook dial is disabled.
6-7	**Not used**	Do not change the factory settings

System Switch 0B - Not used (Do not change the factory settings.)
System Switch 0C - Not used (Do not change the factory settings.)
System Switch 0D - Not used (Do not change the factory settings.)

System Switch 0E [SP No. 1-101-015]		
No	**FUNCTION**	**COMMENTS**
0-1	**Not used**	Do not change the settings.
2	Enable/disable for direct sending selection 0: Direct sending off	Direct sending cannot operate when the capture function is on during sending. Setting this switch to "1" enables direct sending without capture.

	1: Direct sending on	Setting this switch to "0" masks the direct sending function on the operation panel so direct sending with ScanRouter cannot be selected.
3	Action when the external handset goes off-hook 0: Manual tx and rx operation 1: Memory tx and rx operation (the display remains the same)	0: Manual tx and rx are possible while the external handset is off-hook. However, memory tx is not possible. 1: The display stays in standby mode even when the external handset is used, so that other people can use the machine for memory tx operation. Note that manual tx and rx are not possible with this setting.
4-7	**Not used**	Do not change these settings.

System Switch 0F [SP No. 1-101-016]			
No	FUNCTION		COMMENTS
0-7	Country/area code for functional settings (Hex)		This country/area code determines the factory settings of bit switches and RAM addresses. However, it has no effect on the NCU parameter settings and communication parameter RAM addresses. **Cross reference** NCU country code: SP No. 2-103-001 for G3-1 SP No. 2-104-001 for G3-2 SP No. 2-105-001 for G3-3
	00: France	11: USA	
	01: Germany	12: Asia	
	02: UK	12: Asia	
	03: Italy	13: Japan	
	04: Austria	14: Hong Kong	
	05: Belgium	15: South Africa	
	06: Denmark	16: Australia	
	07: Finland	17: New Zealand	
	08: Ireland	18: Singapore	
09: Norway	19: Malaysia		
0A:	1A: China		

Sweden			
0B: Switzerland	1B: Formosa		
0C: Portugal	1C: Korea		
0D: Netherland	20: Turkey		
0E: Spain	21: Greece		
0F: Israel	22: Hungary		
10: ---	23: Czech		
11: USA	24: Poland		

System Switch 10 [SP No. 1-101-017]

No	FUNCTION	COMMENTS
0-7	Threshold memory level for parallel memory transmission	Threshold = N x 128 KB + 256 KB N can be between 00 - FF(H) Default setting: 02(H) = 512 KB

System Switch 11 [SP No. 1-101-018]		
No	**FUNCTION**	**COMMENTS**
0	TTI printing position 0: Superimposed on the page data 1: Printed before the data leading edge	Change this bit to 1 if the TTI overprints information that the customer considers to be important (G3 transmissions). **NOTE:** If "1" is selected, it is possible that sent data is printed on two sheets of paper.
1	**Not used**	Japan Only
2	**Not used**	Do not change the factory settings.
3	TTI printing type 0: Address unit 1: File unit	TTI printing unit can be selected.
4-6	**Not used**	Do not change the factory settings.
7	**Not used**	Japan Only

System Switch 12 [SP No. 1-101-019]		
No	**FUNCTION**	**COMMENTS**
0-7	TTI printing position in the main scan direction	TTI: 08 to 92 (BCD) mm Input even numbers only. This setting determines the print start position for the TTI from the left edge of the paper. If the TTI is moved too far to the right, it may overwrite the file number which is on the top right of the page. On an A4 page, if the TTI is moved over by more than 50 mm, it may overwrite the page number.

System Switch 13 - Not used (do not change these settings)
System Switch 14 - Not used (do not change these settings)

System Switch 15 [SP No. 1-101-022]		
No	**FUNCTION**	**COMMENTS**
0	**Not used**	Do not change the settings.
1	Going into the Energy Saver mode automatically 0: Enabled 1: Disabled	1: The machine will restart from the Energy Saver mode quickly, because the +5V power supply is active even in the Energy Saver mode. The LED of the operation switch is flashing instead of entering Energy Saver mode. Use this setting if an external telephone has to be used when the machine is in the Energy Saver mode.
2-3	**Not used**	Do not change these settings.
4-5	Interval for preventing the machine from entering Energy Saver mode if there is a pending transmission file. Bit 5: 0, Bit 4: 0	If there is a file waiting for transmission, the machine does not go to Energy Saver mode during the selected period. After transmitting the file, if there is no file waiting for transmission, the machine goes to the Energy

	1 min Bit 5: 0, Bit 4: 1 30 min1 Bit 5: 1, Bit 4: 0 1 hour Bit 5: 1, Bit 4: 1 24 hours	Saver mode.
6-7	**Not used**	Do not change

System Switch 16 [SP No. 1-101-023]

No	FUNCTION	COMMENTS
0	Parallel Broadcasting 0: Disabled 1: Enabled	1: The machine sends messages simultaneously using all available ports during broadcasting. **NOTE:** If a customer wants to keep a line available for fax reception or other reasons, select "0" (Disable).
1	Priority setting for the G3 line. 0: PSTN-1 > PSTN-2 or 3 1: PSTN-2 or 3 > PSTN-1	This function allows the user to select the default G3 line type. The optional SG3 units are required to use the PSTN-2 or 3 setting.
2-7	**Not used**	Do not change these settings.

System Switch 17 - Not used (do not change these settings)
System Switch 18 - Not used (do not change these settings)

System Switch 19 [SP No. 1-101-026]

No	FUNCTION	COMMENTS
0-6	**Not used**	Do not change the settings.
7	Special Original mode 0: Disabled 1: Enabled	1: If the customer frequently wishes to transmit a form or letterhead which has a colored or printed background, change this bit to "1". "Original 1" and "Original 2" can be selected in addition to the "Text", "Text/Photo" and "Photo" modes.

System Switch 1A [SP No. 1-101-027]

No.	FUNCTION	COMMENTS
0-7	LS RX memory remaining refresh value setting	Sets a value of 4K. If the amount of memory remaining falls below 4K, documents received in memory are printed to create more space in memory. Initial value: 0x80 (512K) 00-FF (0-1020 KB: Hex) **NOTE:** If a customer wants available memory size larger, decrease this threshold.

System Switch 1B - Not used (do not change these settings)

System Switch 1C - Not used (do not change these settings)

System Switch 1D [SP No. 1-101-030]

No	FUNCTION	COMMENTS
0	RTI/CSI/CPS code display 0: ON 1: OFF	0: RTI, CSI, CPS codes are displayed on the top line of the LCD panel during communication. 1: Codes are switched off (no display)
1-7	**Not used**	Do not change these settings.

System Switch 1E [SP No. 1-101-031]		
No	**FUNCTION**	**COMMENTS**
0	Communication after the Journal data storage area has become full 0: Impossible 1: Possible	0: When this switch is on and the journal history becomes full, the next report prints. If the journal history is not deleted, the next transmission cannot be received. This prevents overwriting communication records before the machine can print them. 1: If the buffer memory of the communication records for the Journal is full, fax communications are still possible. But the machine will overwrite the oldest communication records. Note: This setting is effective only when Automatic Journal printout is enabled but the machine cannot print the report (e.g., no paper).
1	Action when the SAF memory has become full during scanning 0: The current page is erased. 1: The entire file is erased.	0: If the SAF memory becomes full during scanning at the memory transmission, the successfully scanned pages are transmitted. 1: If the SAF memory becomes full during scanning at the memory transmission, the file is erased and no pages are transmitted. This bit switch is ignored for parallel memory transmission.
2	RTI/CSI display priority 0: RTI 1: CSI	This bit determines which identifier, RTI or CSI, is displayed on the LCD while the machine is communicating in G3 non-standard mode.
3	File No. printing 0: Enabled 1: Disabled	1: File numbers are not printed on any reports. **NOTE:** The file numbers may not be printed in the sequential order. If a customer does not like this numbering, select "0".
4	Action when authorized reception is enabled but authorized RTIs/CSIs are not yet programmed	If authorized reception is enabled but the user has stored no acceptable sender RTIs or CSIs, the machine will not be able to receive any fax messages.

	0: All fax reception is disabled 1: Faxes can be received if the sender has an RTI or CSI	If the customer wishes to receive messages from any sender that includes an RTI or CSI, and to block messages from senders that do not include an RTI or CSI, change this bit to "1", then enable Authorized Reception. Otherwise, keep this bit at "0 (default setting)".
5-7	**Not used**	Do not change the settings

System Switch 1F [SP No. 1-101-032]

No	FUNCTION	COMMENTS
0	**Not used**	Do not change the settings.
1	Report printout after an original jam during SAF storage or if the SAF memory fills up 0: Enabled 1: Disabled	0: When an original jams, or the SAF memory overflows during scanning, a report will be printed. Change this bit to "1" if the customer does not want to have a report in these cases. Memory tx – Memory storage report Parallel memory tx – Transmission result report
2	**Not used**	Do not change the settings.
3	Received fax print start timing (G3 reception) 0: After receiving each page 1: After receiving all pages	0: The machine prints each page immediately after the machine receives it. 1: The machine prints the complete message after the machine receives all the pages in the memory.
4-6	**Not used**	Do not change the factory settings.
7	Action when a fax SC has occurred 0: Automatic reset 1: Fax unit stops	0: When the fax unit detects a fax SC code other than SC1201 and SC1207, the fax unit automatically resets itself. 1: When the fax unit detects any fax SC code, the fax unit stops. Cross Reference Fax SC codes - See "Troubleshooting"

4.3.2 I-FAX SWITCHES

I-fax Switch 00 [SP No. 1-102-001]		
No	**FUNCTION**	**COMMENTS**
	Original Width of TX Attachment File	This setting sets the maximum size of the original that the destination can receive. (Bits 3~7 are reserved for future use or not used.)
0	A4	0: Off (not selected), 1: On (selected) If more than one of these three bits is set to "1", the larger size has priority. For example, if both Bit 2 and Bit 1 are set to "1" then the maximum size is "A3" (Bit 2).
1	B4	
2	A3	
3-6	Reserved	
7	**Not used**	
	When mail is sent, there is no negotiation with the receiving machine at the destination, so the sending machine cannot make a selection for the receiving capabilities (original width setting) of the receiving machine. The original width selected with this switch is used as the RX machine's original width setting, and the original is reduced to this size before sending. The default is A4. If the width selected with this switch is higher than the receiving machine can accept, the machine detects this and this causes an error.	

I-fax Switch 01 [SP No. 1-102-002]		
No	**FUNCTION**	**COMMENTS**
	Original Line Resolution of TX Attachment File	These settings set the maximum resolution of the original that the destination can receive.
0	200x100 Standard	0: Not selected 1: Selected If more than one of these three bits is set to "1", the higher resolution has priority. For example, if both Bit 0 and Bit 2 are set to "1" then the
1	200x200 Detail	
2	200x400 Fine	
3	300 x 300 Reserve	

4	400 x 400 Super Fine	resolution is set for "Bit 2 200 x 400.
5	600 x 600 Reserve	
6	Reserve	
7	mm/inch	
	This setting selects mm/inch conversion for mail transmission. 0: Off (No conversion), 1: On (Conversion) When on (set to "1"), the machine converts millimeters to inches for sending mail. There is no switch for converting inches to millimeters. Unlike G3 fax transmissions which can negotiate between sender and receiver to determine the setting, mail cannot negotiate between terminals; the mm/inch selection is determined by the sender fax. When this switch is Off (0): Images scanned in inches are sent in inches. Images scanned in mm are sent in mm. Images received in inches are transmitted in inches. Images received in mm are transmitted in mm. When this switch is On (1): Images scanned in inches are sent in inches. Images scanned in mm are converted to inches. Images received in inches are transmitted in inches. Images received in mm are converted to inches.	

I-fax Switch 02 [SP No. 1-102-003]		
No	**FUNCTION**	**COMMENTS**
0	RX Text Mail Header Processing	
	This setting determines whether the header information is printed with text e-mails when they are received. 0: Prints only text mail. 1: Prints mail header information attached to text mail. When a text mail is received with this switch On (1), the "From" address and "Subject" address are printed as header information. When a mail with only binary data is received (a TIFF-F file, for example), this setting is ignored and no header is printed.	

1	Output from Attached Document at E-mail TX Error
	This setting determines whether only the first page or all pages of an e-mail attachment are printed at the sending station when a transmission error occurs. This allows the customer to see which documents have not reached their intended destinations if sent to the wrong e-mail addresses, for example. 0: Prints 1st page only. 1: Prints all pages.
2-3	Text String for Return Receipt
	This setting determines the text string output for the Return Receipt that confirms the transmission was received normally at the destination.
	00: "Dispatched" Sends from PC mail a request for a Return Receipt. Receives the Return Receipt with "dispatched" in the 2nd part: Disposition: Automatic-action/MDN-send automatically; dispatched The "dispatched" string is included in the Subject string. 01: "Displayed" Sends from PC mail a request for a Return Receipt. Receives the Return Receipt with "displayed" in the 2nd part: Disposition: Automatic-action/MDN-send automatically; displayed The "displayed" string is included in the Subject string. 10: Reserved 11: Reserved A mail requesting a Return Receipt sent from an IFAX with this switch set to "00" (for "dispatched") received by Microsoft Outlook 2000 may cause an error. If any setting other than "displayed" (01) causes a problem, change the setting to "01" to enable normal sending of the Return Receipt.
4	Media accept feature
	This setting adds or does not add the media accept feature to the answer mail to confirm a reception. 0: Does not add the media accept feature to the answer mail 1: Adds the media accept feature to the answer mail. Use this bit switch if a problem occurs when the machine receives an answer mail, which contains the media accept feature field.

5-6	**Not Used**
7	Image Resolution of RX Text Mail
	This setting determines the image resolution of the received mail. 0: 200 x 200 1: 400 x 400 The "1" setting requires installation of the Function Upgrade Card in order to have enough SAF (Store and Forward) memory to receive images at 400 x 400 resolution.

I-fax Switch 03 - Not used (do not change the settings) [SP No. 1-102-004]

<table>
<tr><th colspan="3">I-fax Switch 04 [SP No. 1-102-005]</th></tr>
<tr><th>No</th><th>FUNCTION</th><th>COMMENTS</th></tr>
<tr><td rowspan="2">0</td><td colspan="2">Subject for Delivery TX/Memory Transfer</td></tr>
<tr><td colspan="2">This setting determines whether the RTI/CSI registered on this machine or the RTI/CSI of the originator is used in the subject lines of transferred documents.
0: Puts the RTI/CSI of the originator in the Subject line. If this is used, either the RTI or CSI is used. Only one of these can be received for use in the subject line.
1: Puts the RTI/CSI registered on this machine in the Subject line.
When this switch is used to transfer and deliver mail to a PC, the information in the Subject line that indicates where the transmission originated can be used to determine automatically the destination folder for each e-mail.</td></tr>
<tr><td>1</td><td colspan="2">Subject corresponding to mail post database
0: Standard subject
1: Mail post database subject
The standard subject is replaced by the mail post database subject in the following three cases:
1) When the service technician sets the service (software) switch.
2) When memory sending, delivery specified by F code or SMTP reception is done.
3) With relay broadcasting (1st stage without the Schmidt 4 function).
Note
▪ This switch does not apply for condition 3) when the RX system is set up for memory sending, delivery by F-code, sending with SMTP RX and when</td></tr>
</table>

	operators are using FOL (to prevent problems when receiving transmissions).
2-7	**Not Used**

I-fax Switch 05 [SP No. 1-102-006]

No	FUNCTION	COMMENTS
0	Mail Addresses of SMTP Broadcast Recipients	
	Determines whether the e-mail addresses of the destinations that receive transmissions broadcasted using SMTP protocol are recorded in the Journal. For example: "1st destination + Total number of destinations: 9" in the Journal indicates a broadcast to 9 destinations. 0: Not recorded 1: Recorded	
1	I-Fax Automatic Re-dial Setting 0: OFF 1: ON	Determines whether the I-fax automatically redials when an error occurs.
2-7	**Not Used**	

I-fax Switch 06 - Not used (do not change the settings) [SP No. 1-102-007]
I-fax Switch 07 - Not used (do not change the settings) [SP No. 1-102-008]

I-fax Switch 08 [SP No. 1-102-009]

No	FUNCTION	COMMENTS
0-7	Memory Threshold for POP Mail Reception	This setting determines the amount of SAF (Store and Forward) memory. (SAF stores fax messages to send later for transmission to more than one location, and also holds incoming messages if they cannot be printed.) When the amount of SAF memory available falls below this setting, mail can no longer be received; received mail is then stored on the mail server. 00-FF (0 to 1024 KB: HEX) Note ▪ The hexadecimal number you enter is multiplied by 4 KB to determine the amount of memory.

I-fax Switch 09 [SP No. 1-102-010]

No	FUNCTION	COMMENTS
0-3	**Not used**	Do not change the settings
4-7	Restrict TX Retries	This setting determines the number of retries when connection and transmission fails due to errors. 01-F (1-15 Hex)

I-fax Switch 0A - Not used (do not change the settings) **[SP No. 1-102-011]**

I-fax Switch 0B - Not used (do not change the settings) **[SP No. 1-102-012]**

I-fax Switch 0C - Not used (do not change the settings) **[SP No. 1-102-013]**

I-fax Switch 0D - Not used (do not change the settings) **[SP No. 1-102-014]**

I-fax Switch 0E - Not used (do not change the settings) **[SP No. 1-102-015]**

I-fax Switch 0F [SP No. 1-102-016]

No	FUNCTION	COMMENTS
0	Delivery Method for SMTP RX Files	
	This setting determines whether files received with SMTP protocol are delivered or output immediately. 0: Off. Files received via SMTP are output immediately without delivery. 1: On. Files received via SMTP are delivered immediately to their destinations.	
1	Signature for the SMTP	
	This setting determines whether a signature is put on an e-mail via SMTP. 0: No signature 1: Signature	
2	This setting determines whether an e-mail via SMTP is encrypted. 0: Not encrypted 1: Encrypted	
3-7	**Not used**	

4.3.3 PRINTER SWITCHES

Printer Switch 00 [SP No. 1-103-001]

No	FUNCTION	COMMENTS
0	Select page separation marks 0: Off 1: On	0: If a 2 page RX transmission is split, [*] is printed in the bottom right corner of the 1st page and only a [2] is printed in the upper right corner of the 2nd page. 1: If a 2 page RX transmission is split into two pages, for example, [*] [2] is printed in the bottom right corner of the 1st page and only a [2] is printed in the upper right corner of the 2nd page. Note ▪ This helps the user to identify pages that have been split because the size of the paper is smaller than the size of the document received. (When A5 is used to print an A4 size document, for example.)
1	Repetition of data when the received page is longer than the printer paper 0: Off 1: On	1: Default. 10 mm of the trailing edge of the previous page are repeated at the top of the next page. 0: The next page continues from where the previous page stopped without any repeated text.
2	Prints the date and time on received fax messages 0: Disabled 1: Enabled	This switch is only effective when user parameter 02 - bit 2 (printing the received date and time on received fax messages) is enabled. 1: The machine prints the received and printed date and time at the bottom of each received page.
3-7	**Not used**	Do not change the settings.

Printer Switch 01 [SP No. 1-103-002]

No	FUNCTION	COMMENTS
0-2	**Not used**	Do not change the settings.
3-4	Maximum print width used in the setup protocol Bit 4: 0, Bit 3: 0 = Not used Bit 4: 0, Bit 3: 1 = A3 Bit 4: 1, Bit 3: 0 = B4 Bit 4: 1, Bit 3: 1 = A4	These bits are only effective when bit 7 of printer switch 01 is "1".
5-6	**Not used**	Do not change the settings.
7	Received message width restriction in the protocol signal to the sender 0: Disabled 1: Enabled	0: The machine informs the transmitting machine of the print width depending on the paper size available from the paper feed stations. Refer to the table on the next page for how the machine chooses the paper width used in the setup protocol (NSF/DIS). 1: The machine informs the transmitting machine of the fixed paper width which is specified by bits 3 and 4 above.

Printer Switch 02 [SP No. 1-103-003]

No	FUNCTION	COMMENTS
0	1st paper feed station usage for fax printing 0: Enabled 1: Disabled	0: The paper feed station can be used to print fax messages and reports. 1: The specified paper feed station will not be used for printing fax messages and reports. Note ▪ Do not disable usage for a paper feed station which has been specified by User Parameter Switch 0F (15), or which is used for the Specified Cassette Selection feature.
1	2nd paper feed station usage for fax printing 0: Enabled 1: Disabled	
2	3rd paper feed station usage for fax printing 0: Enabled 1: Disabled	
3	4th paper feed station usage for fax printing 0: Enabled 1: Disabled	
4-7	**Not used**	Do not change the settings.

Printer Switch 03 [SP No. 1-103-004]		
No	**FUNCTION**	**COMMENTS**
0	Length reduction of received data 0: Disabled 1: Enabled	0: Incoming pages are printed without length reduction. (Page separation threshold: Printer Switch 03, bits 4 to 7) 1: Incoming page length is reduced when printing. (Maximum reducible length: Printer Switches 04, bits 0 to 4)
1-3	Not used	Do not change the settings
4-7	Page separation setting when sub scan compression is forbidden 00-0F (0-15 mm: Hex) Default: 6 mm	Page separation threshold (with reduction disabled with switch 03-0 above). For example, if this setting is set to "10", and A4 is the selected paper size: If the received document is 10 mm or less longer than A4, then the 10 mm are cut and only 1 page prints. If the received document is 10 mm longer than A4, then the document is split into 2 pages.

<table>
<tr><td colspan="7">Printer Switch 04
SP No. 1-103-005</td></tr>
<tr><td>No</td><td colspan="2">FUNCTION</td><td colspan="4">COMMENTS</td></tr>
<tr><td rowspan="7">0-4</td><td colspan="6">Maximum reducible length when length reduction is enabled with switch 03-0 above.
<Maximum reducible length> = <Paper length> + (N x 5mm)
"N" is the decimal value of the binary setting of bits 0 to 4.</td></tr>
<tr><td>Bit 4</td><td>Bit 3</td><td>Bit 2</td><td>Bit 1</td><td>Bit 0</td><td>Setting</td></tr>
<tr><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0 mm</td></tr>
<tr><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>5 mm</td></tr>
<tr><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>20 mm</td></tr>
<tr><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>155 mm</td></tr>
<tr><td colspan="6">For A5 sideways and B5 sideways paper
<Maximum reducible length> = <Paper length> + 0.75 x (N x 5mm)</td></tr>
<tr><td>5-6</td><td colspan="6">Length of the duplicated image on the next page, when page separation has taken place.
Bit 6: 0, Bit 5: 0 = 4 mm
Bit 6: 1, Bit 5: 0 = 10 mm
Bit 6: 0, Bit 5: 1 = 15 mm
Bit 6: 1, Bit 5: 1 = Not used</td></tr>
<tr><td>7</td><td colspan="2">Not used.</td><td colspan="4">Do not change the setting.</td></tr>
</table>

Printer Switch 05 - Not used (do not change the settings)

Printer Switch 06 [SP No. 1-103-007]		
No	**FUNCTION**	**COMMENTS**
0	Printing while a paper cassette is pulled out, when the Just Size Printing feature is enabled. 0: Printing will not start 1: Printing will start if another cassette has a suitable size of paper, based on the paper size selection priority tables.	Cross reference Just size printing on/off – User switch 05, bit 5
1-7	**Not used.**	Do not change the settings.

Printer Switch 07 [SP No. 1-103-008]		
No	**FUNCTION**	**COMMENTS**
0-3	**Not used.**	Do not change the settings.
4	List of destinations in the Communication Failure Report for broadcasting 0: All destinations 1: Only destinations where communication failure occurred	1: Only destinations where communication failure occurred are printed on the Communication Failure Report.
5-7	**Not used.**	Do not change the settings.

Printer Switch 08 - Not used (do not change the settings)
Printer Switch 09 - Not used (do not change the settings)
Printer Switch 0A - Not used (do not change the settings)

Printer Switch 0B - Not used (do not change the settings)
Printer Switch 0C - Not used (do not change the settings)
Printer Switch 0D - Not used (do not change the settings)

Printer Switch 0E [SP No. 1-103-015]		
No	**FUNCTION**	**COMMENTS**
0	Paper size selection priority 0: Width 1: Length	0: A paper size that has the same width as the received data is selected first. 1: A paper size which has enough length to print all the received lines without reduction is selected first.
1	Paper size selected for printing A4 width fax data 0: 8.5" x 11" size 1: A4 size	This switch determines which paper size is selected for printing A4 width fax data, when the machine has both A4 and 8.5" x 11" size paper.
2	Page separation 0: Enabled 1: Disabled	1: If all paper sizes in the machine require page separation to print a received fax message, the machine does not print the message (Substitute Reception is used). After a larger size of paper is set in a cassette, the machine automatically prints the fax message.
3-4	Printing the sample image on reports Bit 4: 0, Bit 3: 0 = The upper half only Bit 4: 0, Bit 3: 1 = 50% reduction in sub-scan only Bit 4: 1, Bit 3: 0 = Same size Bit 4: 1, Bit 3: 1 = **Not used**	"Same size" means the sample image is printed at 100%, even if page separation occurs. User Parameter Switch 19 (13H) bit 4 must be set to "0" to enable this switch. Refer to Detailed Section Descriptions for more on this feature.
5-6	**Not used**	Do not change the settings.

7	Equalizing the reduction ratio among separated pages (Page Separation) 0: Enabled 1: Disabled	0: When page separation has taken place, all the pages are reduced with the same reduction ratio. 1: Only the last page is reduced to fit the selected paper size when page separation has taken place. Other pages are printed without reduction.

Printer Switch 0F [SP No. 1-103-016]

No	**FUNCTION**	**COMMENTS**
0-1	Smoothing feature Bit 1: 0 Bit 0: 0 = Disabled Bit 1: 0 Bit 0: 1 = Disabled Bit 1: 1 Bit 0: 0 = Enabled Bit 1: 1 Bit 0: 1 = **Not used**	(0, 0) (0, 1): Disable smoothing if the machine receives halftone images from other manufacturers fax machines frequently.
2	Duplex printing 0: Disabled 1: Enabled	1: The machine always prints received fax messages in duplex printing mode:
3	Binding direction for Duplex printing 0: Left binding 1: Top binding	0: Sets the binding for the left edge of the stack. 1: Sets the binding for the top of the stack.
4-7	**Not used**	Do not change the settings.

4.3.4 COMMUNICATION SWITCHES

Communication Switch 00 [SP No. 1-104-001]		
No	**FUNCTION**	**COMMENTS**
0-1	Compression modes available in receive mode Bit 1: 0 Bit 0: 0 = MH only Bit 1: 0 Bit 0: 1 = MH/MR Bit 1: 1 Bit 0: 0 = MH/MR/MMR Bit 1: 1 Bit 0: 1 = MH/MR/MMR/JBIG	These bits determine the compression capabilities to be declared in phase B (handshaking) of the T.30 protocol.
2-3	Compression modes available in transmit mode Bit 3: 0 Bit 2: 0 = MH only Bit 3: 0 Bit 2: 1 = MH/MR Bit 3: 1 Bit 2: 0 = MH/MR/MMR Bit 3: 1 Bit 2: 1 = MH/MR/MMR/JBIG	These bits determine the compression capabilities to be used in the transmission and to be declared in phase B (handshaking) of the T.30 protocol.
4	**Not used**	Do not change the settings.
5	JBIG compression method: Reception 0: Only basic supported 1: Basic and optional both supported	Change the setting when communication problems occur using JBIG compression.
6	JBIG compression method: Transmission 0: Basic mode priority 1: Optional mode priority	Change the setting when communication problems occur using JBIG compression.
7	**Not used**	Do not change the settings.

Communication Switch 01 [SP No. 1-104-002]

No	FUNCTION	COMMENTS
0	ECM 0: Off 1: On	If this bit is set to 0, ECM is switched off for all communications. In addition, V.8 protocol and JBIG compression are switched off automatically.
1	**Not used**	Do not change the settings.
2-3	Wrong connection prevention method Bit 3: 0, Bit 2: 0 = None Bit 3: 0, Bit 2: 1 = 8 digit CSI Bit 3: 1, Bit 2: 0 = 4 digit CSI Bit 3: 1, Bit 2: 1 = CSI/RTI	(0,1) - The machine will disconnect the line without sending a fax message, if the last 8 digits of the received CSI do not match the last 8 digits of the dialed telephone number. This does not work when manually dialed. (1,0) - The same as above, except that only the last 4 digits are compared. (1,1) - The machine will disconnect the line without sending a fax message, if the other end does not identify itself with an RTI or CSI. (0,0) - Nothing is checked; transmission will always go ahead. Note ▪ This function does not work when dialing is done from the external telephone.
4-5	**Not used**	Do not change the setting.
6-7	Maximum printable page length available Bit 7: 0 Bit 6: 0 = No limit Bit 7: 0 Bit 6: 1 = B4 (364 mm) Bit 7: 1 Bit 6: 0 = A4 (297 mm) Bit 7: 1 Bit 6: 1 = **Not used**	The setting determined by these bits is informed to the transmitting terminal in the pre-message protocol exchange (in the DIS/NSF frames).

Communication Switch 02 [SP No. 1-104-003]			
No	**FUNCTION**	**COMMENTS**	
0	G3 Burst error threshold 0: Low 1: High	If there are more consecutive error lines in the received page than the threshold, the machine will send a negative response. The Low and High threshold values depend on the sub-scan resolution, and are as follows.	
		100 dpi	6(L) → 12(H)
		200 dpi	12(L) → 24(H)
		300 dpi	18(L) → 36(H)
		400 dpi	24(L) → 48(H)
1	Acceptable total error line ratio 0: 5% 1: 10%	If the error line ratio for a page exceeds the acceptable ratio, RTN will be sent to the other end.	
2	Treatment of pages received with errors during G3 reception 0: Deleted from memory without printing 1: Printed	0: Pages received with errors are not printed.	
3	Hang-up decision when a negative code (RTN or PIN) is received during G3 immediate transmission 0: No hang-up, 1: Hang-up	0: The next page will be sent even if RTN or PIN is received. 1: The machine will send DCN and hang up if it receives RTN or PIN. This bit is ignored for memory transmissions or if ECM is being used.	
4-7	**Not used**	Do not change the settings.	

Communication Switch 03 [SP No. 1-104-004]		
No	**FUNCTION**	**COMMENTS**
0-7	Maximum number of page retransmissions in a G3 memory transmission	00 - FF (Hex) times. This setting is not used if ECM is switched on. Default setting - 03(H)

Communication Switch 04 - Not used (do not change the settings)
Communication Switch 05 - Not used (do not change the settings)
Communication Switch 06 - Not used (do not change the settings)
Communication Switch 07 - Not used (do not change the settings)
Communication Switch 08 - Not used (do not change the settings)

Communication Switch 09 [SP No. 1-104-010]		
No	**FUNCTION**	**COMMENTS**
0-7	IP-Fax dial interval setting	Adjusts the interval of the I-fax dialing. The interval of I-fax dialing is calculated by following formula. [Interval time = specified value with this switch x 0.2 msec]

Communication Switch 0A [SP No. 1-104-011]		
No	**FUNCTION**	**COMMENTS**
0	Point of resumption of memory transmission upon redialing 0: From the error page 1: From page 1	0: The transmission begins from the page where transmission failed the previous time. 1: Transmission begins from the first page, using normal memory transmission.
1-7	**Not used**	Do not change the settings.

Communication Switch 0B [SP No. 1-104-012]		
No	**FUNCTION**	**COMMENTS**
0-3	**Not used**	Do not change the settings.
4	Print setting when receiving a request to forward a fax	0: The machine does not print fax data. 1: The machine prints fax data.
5-7	**Not used**	Do not change the settings.

Communication Switch 0C - Not used (do not change the settings)

Communication Switch 0D [SP No. 1-104-014]		
No	**FUNCTION**	**COMMENTS**
0-7	The available memory threshold, below which ringing detection (and therefore reception into memory) is disabled	00 to FF (Hex), unit = 4 kbytes (e.g., 06(H) = 24 kbytes) One page is about 24 kbytes. The machine refers to this setting before each fax reception. If the amount of remaining memory is below this threshold, the machine cannot receive any fax messages. If this setting is kept at 0, the machine will detect ringing signals and go into receive mode even if there is no memory available. This will result in communication failure.

Communication Switch 0E [SP No. 1-104-015]		
No	**FUNCTION**	**COMMENTS**
0-7	Minimum interval between automatic dialing attempts	06 to FF (Hex), unit = 2 s (e.g., 06(H) = 12 s) This value is the minimum time that the machine waits before it dials the next destination.

Communication Switch 0F – Not used (do not change the settings.)

Communication Switch 10 [SP No. 1-104-017]		
No	**FUNCTION**	**COMMENTS**
0-7	Memory transmission: Maximum number of dialing attempts to the same destination	01 – FE (Hex) times

Communication Switch 11 – Not used (do not change the settings.)

Communication Switch 12 [SP No. 1-104-019]		
No	**FUNCTION**	**COMMENTS**
0-7	Memory transmission: Interval between dialing attempts to the same destination	01 – FF (Hex) minutes

Communication Switch 13 – Not used (do not change the settings.)

Communication Switch 14 [SP No. 1-104-021]		
No	**FUNCTION**	**COMMENTS**
0	Inch-to-mm conversion during transmission 0: Disabled 1: Enabled	0: In immediate transmission, data scanned in inch format are transmitted without conversion. In memory transmission, data stored in the SAF memory in mm format are transmitted without conversion. Note: When storing the scanned data into SAF memory, the fax unit always converts the data into mm format. 1: The machine converts the scanned data or stored data in the SAF memory to the format

		which was specified in the set-up protocol (DIS/NSF) before transmission.
1-5	**Not used**	Do not change the factory settings.
6-7	Available unit of resolution in which fax messages are received Bit 7: 0, Bit 6: 0 = mm Bit 7: 0, Bit 6: 1 = inch Bit 7: 1, Bit 6: 0 = mm and inch (default) Bit 7: 1, Bit 6: 1 = **Not used**	For the best performance, do not change the factory settings. The setting determined by these bits is informed to the transmitting terminal in the pre-message protocol exchange (in the DIS/NSF frames).

Communication Switch 15 – Not used (do not change the settings)

Communication Switch 16 [SP No. 1-104-023]

No	FUNCTION	COMMENTS
0-7	**Not used**	Do not change the factory settings.

Communication Switch 17 [SP No. 1-104-024]

No	FUNCTION	COMMENTS
0	SEP reception 0: Disabled 1: Enabled	0: Polling transmission to another maker's machine using the SEP (Selective Polling) signal is disabled.
1	SUB reception 0: Disabled 1: Enabled	0: Confidential reception to another maker's machine using the SUB (Sub-address) signal is disabled.
2	PWD reception 0: Disabled 1: Enabled	0: Disables features that require PWD (Password) signal reception.
3-4	**Not used**	Do not change the settings.

5	PSTN dial-in routing setting 0: OFF 1: ON	1: The machine sets multiple PSTN dial-in number in the PSTN dial-in lien and transfers received data of each PSTN dial-in number to each address.
6	**Not used**	Do not change the settings.
7	Action when there is no box with an F-code that matches the received SUB code 0: Disconnect the line 1: Receive the message (using normal reception mode)	Change this setting when the customer requires.

Communication Switch 18 [SP No. 1-104-025]

No	FUNCTION	COMMENTS
0-4	**Not used**	Do not change the factory settings.
5	IP-Fax dial-in routing selection 0: Off 1: On	1: Transfers receiving data to each IP-Fax dial-in number. IP-Fax dial-in number is 4 digit-number.
6-7	**Not used**	Do not change the factory settings.

Communication Switch 19 - Not used (do not change the settings)

Communication Switch 1A - Not used (do not change the settings)

Communication Switch 1B [SP No. 1-104-028]

No	FUNCTION	COMMENTS
0-7	Extension access code (0 to 7) to turn V.8 protocol On/Off 0: On 1: Off	If the PABX does not support V.8/V.34 protocol procedure, set this bit to "1" to disable V.8. Example: If "0" is the PSTN access code, set bit 0 to 1. When the machine detects "0" as the first dialed number, it automatically disables V.8

		protocol. (Alternatively, if "3" is the PSTN access code, set bit 3 to 1.)

Communication Switch 1C [SP No. 1-104-029]		
No	**FUNCTION**	**COMMENTS**
0-1	Extension access code (8 and 9) to turn V.8 protocol On/Off 0: On 1: Off	Refer to communication switch 1B. Example: If "8" is the PSTN access code, set bit 0 to 1. When the machine detects "8" as the first dialed number, it automatically disables V.8 protocol. (If "9" is the PSTN access code, use bit 1.)
2-7	**Not used**	Do not change the settings.

Communication Switch 1D - Not used (do not change the settings)
Communication Switch 1E - Not used (do not change the settings)
Communication Switch 1F - Not used (do not change the settings)

4.3.5 G3 SWITCHES

G3 Switch 00 [SP No. 1-105-001]		
No	**FUNCTION**	**COMMENTS**
0 1	Monitor speaker during communication (tx and rx) Bit 1: 0, Bit 0: 0 = Disabled Bit 1: 0, Bit 0: 1 = Up to Phase B Bit 1: 1, Bit 0: 0 = All the time Bit 1: 1, Bit 0: 1 = **Not used**	(0, 0): The monitor speaker is disabled all through the communication. (0, 1): The monitor speaker is on up to phase B in the T.30 protocol. (1, 0): Used for testing. The monitor speaker is on all through the communication. Make sure that you reset these bits after testing.
2	Monitor speaker during memory transmission 0: Disabled 1: Enabled	1: The monitor speaker is enabled during memory transmission.
3-5	**Not used**	Do not change the settings.
6	G3 mode selection for direct line 0: Off 1:On	1: G3 communication through the direct line is enabled.
7	**Not used**	Do not change the settings.

G3 Switch 01 [SP No. 1-105-002]		
No	**FUNCTION**	**COMMENTS**
0-1	**Not used**	Do not change the settings.
2-3	**Not used**	Do not change the settings.
4	DIS frame length 0: 10 bytes 1: 4 bytes	1: The bytes in the DIS frame after the 4th byte will not be transmitted (set to 1 if there are communication problems with PC-based faxes which cannot receive the extended DIS frames).

5	**Not used**	Do not change the setting.
6	Forbid CED/AMsam output 0: Off 1: On (Forbid output)	Do not change this setting (Default: 0: Off), unless communication problem is caused by a CED or ANSam transmission.
7	**Not used**	Do not change the setting.

G3 Switch 02 [SP No. 1-105-003]

No	**FUNCTION**	**COMMENTS**
0	G3 protocol mode used 0: Standard and non-standard 1: Standard only	Change this bit to 1 only when the other end can only communicate with machines that send T.30-standard frames only. 1: Disables NSF/NSS signals (these are used in non-standard mode communication)
1-6	**Not used**	Do not change the settings.
7	Short preamble 0: Disabled 1: Enabled	Refer to Appendix B in the Group 3 Facsimile Manual for details about Short Preamble.

G3 Switch 03 [SP No. 1-105-004]

No	**FUNCTION**	**COMMENTS**
0	DIS detection number (Echo countermeasure) 0: 1 1: 2	0: The machine will hang up if it receives the same DIS frame twice. 1: Before sending DCS, the machine will wait for the second DIS which is caused by echo on the line.
1	**Not Used**	Do not change the settings.
2	V.8 protocol 0: Disabled 1: Enabled	0: V.8/V.34 communications will not be possible. Note: Do not set to 0 unless the line condition is always bad enough to slow down the data rate to 14.4 kbps or lower.

3	ECM frame size 0: 256 bytes 1: 64 bytes	Keep this bit at "0" in most cases.
4	CTC transmission conditions 0: After one PPR signal received 1: After four PPR signals received (ITU-T standard)	When using ECM in non-standard (NSF/NSS) mode at 14.4, 12.0, 9.6, and 7.2 kbps; 0: The machine sends a CTC to drop back the modem rate after receiving a PPR. 1:The machine sends a CTC to drop back the modem rate after receiving four PPRs.
5	Modem rate used for the next page after receiving a negative code (RTN or PIN) 0: No change 1: Fallback	1: The machine's tx modem rate will fall back before sending the next page if a negative code is received. This bit is ignored if ECM is being used.
6	**Not Used**	Do not change the settings
7	Select detection of reverse polarity in ringing 0: Off 1: On	This switch is used to prevent reverse polarity in ringing on the phone line (applied to PSTN-G3 ringing). Do not change this setting 0: No detection 1: Detection (Japan and Korea only)

G3 Switch 04 [SP No. 1-105-005]

No	FUNCTION	COMMENTS
0-3	Training error detection threshold	0 - F (Hex); 0 - 15 bits If the number of error bits in the received TCF is below this threshold, the machine informs the sender that training has succeeded.
4-7	**Not used**	Do not change the settings.

<table>
<tr><th colspan="7">G3 Switch 05 [SP No. 1-105-006]</th></tr>
<tr><th>No</th><th colspan="5">FUNCTION</th><th>COMMENTS</th></tr>
<tr><td rowspan="17">0-3</td><td colspan="5">Initial Tx modem rate</td><td rowspan="17">These bits set the initial starting modem rate for transmission.
Use the dedicated transmission parameters if you need to change this for specific receivers.
If a modem rate 14.4 kbps or slower is selected, V.8 protocol should be disabled manually.
Cross reference
V.8 protocol on/off - G3 switch 03, bit2</td></tr>
<tr><td>Bit 3</td><td>Bit 2</td><td>Bit 1</td><td>Bit 0</td><td>bps</td></tr>
<tr><td>0</td><td>0</td><td>0</td><td>1</td><td>2.4k</td></tr>
<tr><td>0</td><td>0</td><td>1</td><td>0</td><td>4.8k</td></tr>
<tr><td>0</td><td>0</td><td>1</td><td>1</td><td>7.2k</td></tr>
<tr><td>0</td><td>1</td><td>0</td><td>0</td><td>9.6k</td></tr>
<tr><td>0</td><td>1</td><td>0</td><td>1</td><td>12.0k</td></tr>
<tr><td>0</td><td>1</td><td>1</td><td>0</td><td>14.4k</td></tr>
<tr><td>0</td><td>1</td><td>1</td><td>1</td><td>16.8k</td></tr>
<tr><td>1</td><td>0</td><td>0</td><td>0</td><td>19.2k</td></tr>
<tr><td>1</td><td>0</td><td>0</td><td>1</td><td>21.6k</td></tr>
<tr><td>1</td><td>0</td><td>1</td><td>0</td><td>24.0k</td></tr>
<tr><td>1</td><td>0</td><td>1</td><td>1</td><td>26.4k</td></tr>
<tr><td>1</td><td>1</td><td>0</td><td>0</td><td>28.8k</td></tr>
<tr><td>1</td><td>1</td><td>0</td><td>1</td><td>31.2k</td></tr>
<tr><td>1</td><td>1</td><td>1</td><td>0</td><td>33.6k</td></tr>
<tr><td colspan="5">Other settings - Not used</td></tr>
<tr><td>4-5</td><td colspan="5">Initial modem type for 9.6 k or 7.2 kbps.
Bit 5: 0, Bit 4: 0 = V.29
Bit 5: 0, Bit 4: 1 = V.17
Bit 5: 1, Bit 4: 0 = V.34
Bit 5: 1, Bit 4: 1 = Not used</td><td>These bits set the initial modem type for 9.6 and 7.2 kbps, if the initial modem rate is set at these speeds.</td></tr>
</table>

6-7	**Not used**	Do not change the settings.

G3 Switch 06 [SP No. 1-105-007]						
No	**FUNCTION**					**COMMENTS**
0-3	Initial Rx modem rate					▪ These bits set the initial starting modem rate for reception. ▪ Use a lower setting if high speeds pose problems during reception. ▪ If a modem rate 14.4 kbps or slower is selected, V.8 protocol should be disabled manually. Cross reference: V.8 protocol on/off - G3 switch 03, bit2
	Bit 3	Bit 2	Bit 1	Bit 0	bps	
	0	0	0	1	2.4k	
	0	0	1	0	4.8k	
	0	0	1	1	7.2k	
	0	1	0	0	9.6k	
	0	1	0	1	12.0k	
	0	1	1	0	14.4k	
	0	1	1	1	16.8k	
	1	0	0	0	19.2k	
	1	0	0	1	21.6k	
	1	0	1	0	24.0k	
	1	0	1	1	26.4k	
	1	1	0	0	28.8k	
	1	1	0	1	31.2k	
	1	1	1	0	33.6k	
	Other settings - **Not used**					

<table>
<tr><td rowspan="8">4-7</td><td colspan="5">Modem types available for reception</td><td rowspan="8">▪ The setting of these bits is used to inform the transmitting terminal of the available modem type for the machine in receive mode.
▪ If V.34 is not selected, V.8 protocol must be disabled manually.
Cross reference:
V.8 protocol on/off - G3 switch 03, bit2</td></tr>
<tr><td>Bit 7</td><td>Bit 6</td><td>Bit 5</td><td>Bit 4</td><td>Setting</td></tr>
<tr><td>0</td><td>0</td><td>0</td><td>1</td><td>V.27ter</td></tr>
<tr><td>0</td><td>0</td><td>1</td><td>0</td><td>V.27ter,
V.29</td></tr>
<tr><td>0</td><td>0</td><td>1</td><td>1</td><td>V.27ter,
V.29</td></tr>
<tr><td>0</td><td>1</td><td>0</td><td>0</td><td>V.27ter,
V.29, V.17</td></tr>
<tr><td>0</td><td>1</td><td>0</td><td>1</td><td>V.27ter,
V.29, V.17,
V.34</td></tr>
<tr><td colspan="5">Other settings - **Not used**</td></tr>
</table>

G3 Switch 07 [SP No. 1-105-008]

No	**FUNCTION**	**COMMENTS**
0-1	PSTN cable equalizer (tx mode: Internal) Bit 1: 0, Bit 0: 0 = None Bit 1: 0, Bit 0: 1 = Low Bit 1: 1, Bit 0: 0 = Medium Bit 1: 1, Bit 0: 1 = High	Use a higher setting if there is signal loss at higher frequencies because of the length of wire between the modem and the telephone exchange. Use the dedicated transmission parameters for specific receivers. Also, try using the cable equalizer if one or more of the following symptoms occurs. Communication error Modem rate fallback occurs frequently. Note ▪ This setting is not effective in V.34 communications.

2-3	PSTN cable equalizer (rx mode: Internal) Bit 3: 0, Bit 2: 0 = None Bit 3: 0, Bit 2: 1 = Low Bit 3: 1, Bit 2: 0 = Medium Bit 3: 1, Bit 2: 1 = High	Use a higher setting if there is signal loss at higher frequencies because of the length of wire between the modem and the telephone exchange. Also, try using the cable equalizer if one or more of the following symptoms occurs. Communication error with error codes such as 0-20, 0-23, etc. Modem rate fallback occurs frequently. Note ▪ This setting is not effective in V.34 communications.
4	PSTN cable equalizer (rx mode: External) 0: Disabled 1: Enabled	Keep this bit at "1". Note ▪ This setting is not effective in V.34 communications.
5	**Not used**	Do not change the settings.
6	Parameter selection for dial tone detection 0: Normal parameter 1: Specific parameter	0: This uses the fixed table in the ROM for dial tone detection. 1: This uses the specific parameter adjusted with SRAM (69ECBEH - 69ECDEH). Select this if the dial tone cannot be detected when the "Normal parameter: 0" is selected.
7	**Not used**	Do not change the settings.

G3 Switch 08 - Not used (do not change the settings)
G3 Switch 09 - Not used (do not change the settings)

G3 Switch 0A [SP No. 1-105-011]		
No	**FUNCTION**	**COMMENTS**
0-1	Maximum allowable carrier drop during image data reception Bit 1: 0, Bit 0: 0 = 200 (ms) Bit 1: 0, Bit 0: 1 = 400 (ms) Bit 1: 1, Bit 0: 0 = 800 (ms) Bit 1: 1, Bit 0: 1 = **Not used**	These bits set the acceptable modem carrier drop time at the non ECM mode. Try using a longer setting if error code 0-22 is frequent.
2	Select cancellation of high-speed RX if carrier signal lost while receiving 0: Off 1: On	This switch setting determines if high-speed receiving ends if the carrier signal is lost when receiving during non-ECM mode
3	**Not used**	Do not change the settings
4	Maximum allowable frame interval during image data reception. 0: 5 s 1: 13 s	This bit set the maximum interval between EOL (end-of-line) signals and the maximum interval between ECM frames from the other end. Try using a longer setting if error code 0-21 is frequent.
5	**Not used**	Do not change the settings.
6	Reconstruction time for the first line in receive mode 0: 6 s 1: 12 s	When the sending terminal is controlled by a computer, there may be a delay in receiving page data after the local machine accepts set-up data and sends CFR. This is outside the T.30 recommendation. But, if this delay occurs, set this bit to 1 to give the sending machine more time to send data. Refer to error code 0-20. ITU-T T.30 recommendation: The first line should come within 6 s of CFR.

7	**Not used**	Do not change the settings.

G3 Switch 0B - Not used (do not change the settings).
G3 Switch 0C - Not used (do not change the settings)
G3 Switch 0D - Not used (do not change the settings).

G3 Switch 0E [SP No 1-105-015]		
0-7	Set CNG send time interval Some machines on the receiving side may not be able to automatically switch the 3-second CNG interval.	
	High order bit	3000-2250ms: 3000-50xNms 3000 – 50 x Nms 0F (3000 ms) < N < FF (2250 ms)
	Low order bit	3000-3700ms: 3000+50xNms 3000 + 50 x Nms 00 (3000 ms) < N < 0E (3700 ms)

G3 Switch 0F [SP No. 1-105-016]

No	FUNCTION	COMMENTS
0	Alarm when an error occurred in Phase C or later 0: Disabled 1: Enabled	If the customer wants to hear an alarm after each error communication, change this bit to "1".
1	Alarm when the handset is off-hook at the end of communication 0: Disabled 1: Enabled	If the customer wants to hear an alarm if the handset is off-hook at the end of fax communication, change this bit to "1".
2	**Not used**	Do not change the settings.
4	Sidaa manual calibration	1: manually calibrates for communication with a

	setting 0: Off 1: On	line, whose current change occurs such as an optical fiber line.
5-7	**Not used**	Do not change the settings.

4.3.6 IP FAX SWITCHES

IP Fax Switch 00 [SP No. 1-111-001]

No.	FUNCTION	COMMENTS
0	**Not used**	Do not change this setting.
1	IP Fax Transport 0: TCP, 1: UDP	Selects TCP or UDP protocol for IP-Fax
2	IP Fax single port selection 0: OFF, 1: ON (enable)	Selects single data port.
3	IP Fax double ports (single data port) selection 0: OFF, 1: ON (enable)	Selects whether IP-Fax uses a double port.
4	IP Fax Gatekeeper 0: OFF, 1: ON (enable)	Enables/disables the communication via the gatekeeper for IP-Fax.
5	IP Fax T30 bit signal reverse 0: LSB first, 1: MSB first	Reverses the T30 bit signal.
6	IP Fax max bit rate setting 0: Not affected, 1: Affected	When "0" is selected, the max bit rate does not affect the value of the DIS/DCS. When "1" is selected, the max bit rate affects the value of the DIS/DCS.
7	IP Fax received telephone number confirmation 0: No confirmation, 1: Confirmation	When "0" is selected, fax data is received without checking the telephone number. When "1" is selected, fax data is received only when confirming that the telephone number from the sender matches the registered telephone number in this machine. If this confirmation fails, the line is disconnected.

IP-Fax Switch 01

No.	FUNCTION					COMMENTS
0-3	Select IP FAX Delay Level					Raise the level by selecting a higher setting if too many transmission errors are occurring on the network. If TCP/UDP is enabled on the network, raise this setting on the T.30 machine. Increasing the delay time allows the recovery of more lost packets. If only UDP is enabled, increase the number of redundant packets. Level 1~2: 3 Redundant packets Level 3: 4 Redundant packets
	Bit3	Bit2	Bit1	Bit0	Setting	
	0	0	0	0	Level 0	
	0	0	0	1	Level 1	
	0	0	1	0	Level 2	
	0	0	1	1	Level 3	
4-7	IP Fax preamble wait time setting					Selects the preamble wait time. [00 to 0f] There are 16 values in this 4-bit binary switch combination. Waiting time: set value level x 100 ms Max: 0f (1500 ms) Min: 00 (No wait time) The default is "0000" (00H).

IP Fax Switch 02 [SP No. 1-111-003]		
No.	**FUNCTION**	**COMMENTS**
0	IP Fax bit signal reverse setting 0: Maker code setting 1: Internal bit switch setting	When "0" is selected, the bit signal reverse method is decided by the maker code. When "1" is selected, the bit signal reverse method is decided by the internal bit switch. When communicating between IP Fax devices, LSB first is selected.)
1	IP Fax transmission speed setting 0: Modem speed 1: No limitation	Selects the transmit speed for IP Fax communication.
2	SIP transport setting 0: TCP 1: UDP	This bit switch sets the transport that has priority for receiving IP Fax data. This function is activated only when the sender has both TCP and UDP.
3	CCM connection 0: No CCM connection 1: CCM connection	When "1" is selected, only the connection call message with H.323 or no tunneled H.245 is transmitted via CCM.
4	Message reception selection from non-registered SIP server 0: Answer 1: Not answer	0: This answers the INVITE message from the SIP server not registered for the machine. 1: This does not receive the INVITE message from the SIP server not registered for the machine and send a refusal message.
5	ECM communication setting 0: No limit for image compression 1: Limit for image compression	0: This does not limit the type of the image compression with ECM communication. 1: When the other end machine is Ciscco, this permits the image compression other than JBIG or MMR with ECM communication.
6-7	**Not used**	Do not change these settings.

IP Fax Switch 03 [SP No. 1-111-004]		
No.	**FUNCTION**	**COMMENTS**
0	Effective field limitation for G3 standard function information 0: OFF, 1: 4byte (DIS)	Limits the effective field for standard G3 function information.
1	Switching between G3 standard and G3 non standard 0: Enable switching 1: G3 standard only	Enables/disables switching between G3 standard and G3 non-standard.
2	Not used.	Do not change this setting.
3	ECM frame size selection at transmitting 0: 256byte, 1: 64byte	Selects the ECM frame size for sending.
4	DIS detection times for echo prevention 0: 1 time, 1: 2 times	Sets the number of times for DIS to detect echoes.
5	CTC transmission selection 0: PPRx1 1: PPRx4	When "0" is selected, the transmission condition is decided by error frame numbers. When "1" is selected, the transmission condition is based on the ITU-T method.
6	Shift down setting at receiving negative code 0: OFF, 1: ON	Selects whether to shift down when negative codes are received.
7	**Not used**	Do not change this setting.

IP Fax Switch 04 [SP No. 1-111-005]		
No.	**FUNCTION**	**COMMENTS**
0	TCF error threshold	Sets the TCF error threshold level. [00 to 0f] The default is "1111" (0fH).
1		
2		
3		
4-7	**Not used**	Do not change these settings.

<table>
<tr><th colspan="6">IP Fax Switch 05 [SP No. 1-111-006]</th></tr>
<tr><th>No.</th><th colspan="2">FUNCTION</th><th colspan="3">COMMENTS</th></tr>
<tr><td rowspan="8">0-3</td><td colspan="5">Modem bit rate setting for transmission
Sets the modem bit rate for transmission. The default is "0110" (14.4K bps).</td></tr>
<tr><td>Bit 3</td><td>Bit 2</td><td>Bit 1</td><td>Bit 0</td><td></td></tr>
<tr><td>0</td><td>0</td><td>0</td><td>1</td><td>2400 bps</td></tr>
<tr><td>0</td><td>0</td><td>1</td><td>1</td><td>4800 bps</td></tr>
<tr><td>0</td><td>0</td><td>1</td><td>1</td><td>7200 bps</td></tr>
<tr><td>0</td><td>1</td><td>0</td><td>0</td><td>9600 bps</td></tr>
<tr><td>0</td><td>1</td><td>0</td><td>1</td><td>12.0 Kbps</td></tr>
<tr><td>0</td><td>1</td><td>1</td><td>0</td><td>14.4 Kbps</td></tr>
<tr><td>4-5</td><td colspan="5">Modem setting for transmission
Sets the modem for transmission.
The default is "00" (V29).
Bit 5: 0, Bit 4: 0 = V29
Bit 5: 0, Bit 4: 1 = V17
Bit 5: 1, Bit 4: 0 = V34*
Bit 5: 1, Bit 4: 1 = Not used
*V34 is not supported for IP-Fax communication.</td></tr>
</table>

6-7	**Not used**	Do not change these settings.

IP Fax Switch 06 [SP No. 1-111-007]

No.	FUNCTION				
0-3	Modem bit rate setting for reception Sets the modem bit rate for reception. The default is "0110" (14.4K bps).				
	Bit 3	Bit 2	Bit 1	Bit 0	
	0	0	0	1	2400 bps
	0	0	1	0	4800 bps
	0	0	1	1	7200 bps
	0	1	0	0	9600 bps
	0	1	0	1	12.0 Kbps
	0	1	1	0	14.4 Kbps
4-7	Modem setting for reception Sets the modem type for reception. The default is "0100" (V27ter, V29, V17).				
	Bit 7	Bit 6	Bit 5	Bit 4	
	0	0	0	1	V27ter
	0	0	1	0	V27ter, V29
	0	0	1	1	V27ter, V29, V33 (invalid)
	0	1	0	0	V27ter, V29, V17
	0	1	0	1	V27ter, V29, V17, V34*
	*V34 is not supported for IP-Fax communication.				

(Header row: No. | FUNCTION | COMMENTS)

IP Fax Switch 07 [SP No. 1-111-008]		
No.	**FUNCTION**	**COMMENTS**
0	TSI information 0: Not added, 1: Added	Adds or does not add TSI information to NSS(S).
1	DCN transmission setting at T1 timeout 0: Not transmitted, 1: Transmitted	Transmits or does not transmit DCN at T1 timeout.
2	**Not used**	Do not change this setting.
3	Hang up setting at DIS reception disabled 0: No hang up 1: Hang up after transmitting DCN	Sets whether the machine disconnects after DIS reception.
4	Number of times for training 0: 1 time, 1: 2 times	Selects the number of times training is done at the same bit rate.
5	Space CSI transmission setting at no CSI registration 0: Not transmitted, 1: Transmitted	When "0" is selected, frame data is enabled. When "1" is selected, the transmitted data is all spaces.
6-7	**Not used**	Do not change these settings.

IP Fax Switch 08 [SP No. 1-111-009]		
No.	**FUNCTION**	**COMMENTS**
0-1	T1 timer adjustment Adjusts the T1 timer. The default is "00" (35 seconds). Bit 1: 0, Bit 0: 0 = 35 sec Bit 1: 0, Bit 0: 1 = 40 sec Bit 1: 1, Bit 0: 0 = 50 sec Bit 1: 1, Bit 0: 1 = 60 sec	-
2-3	T4 timer adjustment Adjust the T4 timer. The default is "00" (3 seconds).	-

	Bit 3: 0, Bit 2: 0 = 3 sec Bit 3: 0, Bit 2: 1 = 3.5 sec Bit 3: 1, Bit 2: 0 = 4 sec Bit 3: 1, Bit 2: 1 = 5 sec	
4-5	T0 timer adjustment Bit 5: 0, Bit 4: 0 = 75 sec Bit 5: 0, Bit 4: 1 = 120 sec Bit 5: 1, Bit 4: 0 = 180 sec Bit 5: 1, Bit 4: 1 = 240 sec	Adjusts the fail safe timer. This timer sets the interval between "setup" data transmission and T.38 phase decision. If your destination return is late on the network or G3 fax return is late, adjust the longer interval timer. The default is "00" (75 seconds).
6-7	**Not used**	Do not change these settings.

<table>
<tr><th colspan="5">IP Fax Switch 09 [SP No. 1-111-010]</th></tr>
<tr><th>No.</th><th colspan="3">FUNCTION</th><th>COMMENTS</th></tr>
<tr><td>0</td><td colspan="3">Network I/F setting for SIP connection
0: IPv4
1: IPv6.</td><td>Selects the connection type (IPV4 or IPV6) to connect to the SIP server.</td></tr>
<tr><td>1</td><td colspan="3">Network I/F setting for Fax communication
0: Same setting as SIP server connection
1: Automatic setting</td><td>0: The I/F setting for fax communication follows the setting for SIP server connection.
1: The negotiation between the SIP server and the device decides whether IPv4 or IPv6 is used for the I/F setting for fax communication.</td></tr>
<tr><td>2</td><td colspan="3">Record-route setting
0: Disable
1: Enable</td><td>0: Disables the record-route function of the SIP server.
1: Enables the record-route function of the SIP server.</td></tr>
<tr><td rowspan="6">3-4</td><td colspan="3">re-INVITE transmission delay timer setting</td><td rowspan="6">This changes the interval for transmit re-INVITE after receiving the ACK message transmitted by T.38 device.</td></tr>
<tr><td>Bit 4</td><td>Bit 3</td><td></td></tr>
<tr><td>0</td><td>0</td><td>No delay</td></tr>
<tr><td>0</td><td>1</td><td>1 sec</td></tr>
<tr><td>1</td><td>0</td><td>2 sec</td></tr>
<tr><td>1</td><td>1</td><td>3 sec</td></tr>
<tr><td>5-7</td><td colspan="3">Not used.</td><td>Do not change these settings.</td></tr>
</table>

4.4 NCU PARAMETERS

The following tables give the RAM addresses and the parameter calculation units that the machine uses for ringing signal detection and automatic dialing. The factory settings for each country are also given. Most of these must be changed by RAM read/write (SP2-101), but some can be changed using NCU Parameter programming (SP2-103, 104 and 105); if SP2-103, 104 and 105 can be used, this will be indicated in the Remarks column. The RAM is programmed in hex code unless (BCD) is included in the Unit column.

Note

- The following addresses describe settings for the standard NCU.
- Change the fourth digit from “5” to “6” (e.g. 680500 to 680600) for the settings for the first optional G3 interface unit and from “5” to “7” (e.g. 680700) for the settings for the second optional G3 interface unit.

Address	Function					
680500	Country/Area code for NCU parameters					
	Use the Hex value to program the country/area code directly into this address, or use the decimal value to program it using SP2-103-001					
	Country /Area	**Decimal**	**Hex**	**Country /Area**	**Decimal**	**Hex**
	France	00	00	USA	17	11
	Germany	01	01	Asia	18	12
	UK	02	02	Hong Kong	20	14
	Italy	03	03	South Africa	21	15
	Austria	04	04	Australia	22	16
	Belgium	05	05	New Zealand	26	17
	Denmark	06	06	Singapore	24	18
	Finland	07	07	Malaysia	25	19
	Ireland	08	08	China	26	1A

Address	Function					
	Norway	09	09	Taiwan	27	1B
	Sweden	10	0A	Korea	28	1C
	Switzerland	11	0B	Brazil	29	1D
	Portugal	12	0C	Turkey	32	20
	Holland	13	0D	Greece	33	21
	Spain	14	0E	Hungary	34	22
	Israel	15	0F	Czech	35	23
		Poland	36	24		

Address	Function	Unit	Remarks
680501	Line current detection time	20 ms	Line current detection is disabled. Line current is not detected if 680501 contains FF.
680502	Line current wait time		
680503	Line current drop detect time		
680504	PSTN dial tone frequency upper limit (high byte)	Hz (BCD)	If both addresses contain FF(H), tone detection is disabled.
680505	PSTN dial tone frequency upper limit (low byte)		
680506	PSTN dial tone frequency lower limit (high byte)	Hz (BCD)	If both addresses contain FF(H), tone detection is disabled.
680507	PSTN dial tone frequency lower limit (low byte)		
680508	PSTN dial tone detection time	20 ms	If 680508 contains FF(H), the machine pauses for the pause time (address 68050D /
680509	PSTN dial tone reset time (LOW)		
68050A	PSTN dial tone reset time (HIGH)		

Address	Function	Unit	Remarks
68050B	PSTN dial tone continuous tone time		68050E). Italy: See Note 2.
68050C	PSTN dial tone permissible drop time		
68050D	PSTN wait interval (LOW)		-
68050E	PSTN wait interval (HIGH)		
68050F	PSTN ring-back tone detection time	20 ms	Detection is disabled if this contains FF.
680510	PSTN ring-back tone off detection time	20 ms	-
680511	PSTN detection time for silent period after ring-back tone detected (LOW)	20 ms	-
680512	PSTN detection time for silent period after ring-back tone detected (HIGH)	20 ms	-
680513	PSTN busy tone frequency upper limit (high byte)	Hz (BCD)	If both addresses contain FF(H), tone detection is disabled.
680514	PSTN busy tone frequency upper limit (low byte)		
680515	PSTN busy tone frequency lower limit (high byte)	Hz (BCD)	If both addresses contain FF(H), tone detection is disabled.
680516	PSTN busy tone frequency lower limit (low byte)		
680517	PABX dial tone frequency upper limit (high byte)	Hz (BCD)	If both addresses contain FF(H), tone detection is disabled.
680518	PABX dial tone frequency upper limit (low byte)		

Address	Function	Unit	Remarks
680519	PABX dial tone frequency lower limit (high byte)	Hz (BCD)	If both addresses contain FF(H), tone detection is disabled.
68051A	PABX dial tone frequency lower limit (low byte)		
68051B	PABX dial tone detection time	20 ms	If 68051B contains FF, the machine pauses for the pause time (680520 / 680521).
68051C	PABX dial tone reset time (LOW)		
68051D	PABX dial tone reset time (HIGH)		
68051E	PABX dial tone continuous tone time		
68051F	PABX dial tone permissible drop time		
680520	PABX wait interval (LOW)		-
680521	PABX wait interval (HIGH)		
680522	PABX ringback tone detection time	20 ms	If both addresses contain FF(H), tone detection is disabled.
680523	PABX ringback tone off detection time	20 ms	
680524	PABX detection time for silent period after ringback tone detected (LOW)	20 ms	If both addresses contain FF(H), tone detection is disabled.
680525	PABX detection time for silent period after ringback tone detected (HIGH)	20 ms	
680526	PABX busy tone frequency upper limit (high byte)	Hz (BCD)	If both addresses contain FF(H), tone detection is disabled.
680527	PABX busy tone frequency upper limit (low byte)		
680528	PABX busy tone frequency lower	Hz (BCD)	If both addresses

Address	Function	Unit	Remarks
	limit (high byte)		contain FF(H), tone detection is disabled.
680529	PABX busy tone frequency lower limit (low byte)		
68052A	Busy tone ON time: range 1	20 ms	-
68052B	Busy tone OFF time: range 1		
68052C	Busy tone ON time: range 2		
68052D	Busy tone OFF time: range 2		
68052E	Busy tone ON time: range 3		
68052F	Busy tone OFF time: range 3	20 ms	
680530	Busy tone ON time: range 4		
680531	Busy tone OFF time: range 4		
680532	Busy tone continuous tone detection time		
680533	Busy tone signal state time tolerance for all ranges, and number of cycles required for detection (a setting of 4 cycles means that ON-OFF-ON or OFF-ON-OFF must be detected twice). Tolerance (±) Bit 1: 0, Bit 0: 0 = 75% Bits 2 and 3 must always be kept at 0. Bit 1: 0, Bit 0: 0 = 50% Bits 2 and 3 must always be kept at 0. Bit 1: 0, Bit 0: 0 = 25% Bit 1: 0, Bit 0: 0 = 12.5% Bits 7, 6, 5, 4 - number of cycles required for cadence detection		
680534	International dial tone frequency upper limit (high byte)	Hz (BCD)	If both addresses contain FF(H), tone detection is disabled.
680535	International dial tone frequency upper limit (low byte)		
680536	International dial tone frequency lower limit (high byte)	Hz (BCD)	If both addresses contain FF(H), tone

Address	Function	Unit	Remarks
680537	International dial tone frequency lower limit (low byte)		detection is disabled.
680538	International dial tone detection time	20 ms	If 680538 contains FF, the machine pauses for the pause time (68053D / 68053E). Belgium: See Note 2.
680539	International dial tone reset time (LOW)		
68053A	International dial tone reset time (HIGH)		
68053B	International dial tone continuous tone time		
68053C	International dial tone permissible drop time		
68053D	International dial wait interval (LOW)		-
68053E	International dial wait interval (HIGH)		
68053F	Country dial tone upper frequency limit (HIGH)	Hz (BCD)	If both addresses contain FF(H), tone detection is disabled.
680540	Country dial tone upper frequency limit (LOW)		
680541	Country dial tone lower frequency limit (HIGH)		If both addresses contain FF(H), tone detection is disabled.
680542	Country dial tone lower frequency limit (LOW)		
680543	Country dial tone detection time	20 ms	If 680543 contains FF, the machine pauses for the pause time (680548 / 680549).
680544	Country dial tone reset time (LOW)		
680545	Country dial tone reset time		

Address	Function	Unit	Remarks
	(HIGH)		
680546	Country dial tone continuous tone time	-	-
680547	Country dial tone permissible drop time	20 ms	-
680548	Country dial wait interval (LOW)		
680549	Country dial wait interval (HIGH)		
68054A	**DFU**	1 ms	See Notes 3. SP2-103-012 (parameter 11).
68054B	Break time for pulse dialing	1 ms	See Note 3. SP2-103-013 (parameter 12).
68054C	Make time for pulse dialing	1 ms	See Note 3. SP2-103-014 (parameter 13).
68054D	**DFU**	1 ms	See Notes 3. SP2-103-015 (parameter 14). This parameter is only valid in Europe.
68054E	Minimum pause between dialed digits (pulse dial mode)	20 ms	See Note 3. SP2-103-016 (parameter 15).
68054F	Time waited when a pause is entered at the operation panel		SP2-103-017 (parameter 16)
680550	DTMF tone on time	1 ms	SP2-103-018 (parameter 17).
680551	DTMF tone off time		SP2-103-019

Address	Function	Unit	Remarks
			(parameter 18).
680552	DTMF signal TX level	-0.5 dBm	SP2-103-020 (parameter 19). See Note 5.
680553	Tone attenuation value difference between high frequency tone and low frequency tone in DTMF signals	-0.5 dBm	SP2-103-021 (parameter 20). The setting must be less than –5dBm, and should not exceed the setting at 680552h above. See Note 5.
680554	**DFU** **DFU parameter 22**	-N x 0.5 –3.5 dBm	SP2-103-022 (parameter 21). See Note 5.
680556	Not used	-	Do not change the settings.
680557	Time between 68054Dh (NCU parameter 14) and 68054Eh (NCU parameter 15)	1 ms	This parameter takes effect when the country code is set to France.
680558	Not used	-	Do not change the setting.
680559	Grounding time (ground start mode)	20 ms	The Gs relay is closed for this interval.
68055A	Break time (flash start mode)	1 ms	The OHDI relay is open for this interval.
68055B	International dial access code (High)	BCD	For a code of 100: 68055B - F1 68055C - 00
68055C	International dial access code (Low)		

Address	Function	Unit	Remarks
68055D	PSTN access pause time	20 ms	This time is waited for each pause input after the PSTN access code. If this address contains FF[H], the pause time stored in address 68054F is used. Do not set a number more than 7 in the UK.
68055E	Progress tone detection level, and cadence detection enable flags	Bit 7: 0, Bit 6: 0, Bit 5: 0 = -25.0 dBm Bit 7: 0, Bit 6: 0, Bit 5: 1 = -35.0 dBm Bit 7: 0, Bit 6: 1, Bit 5: 0 = -30.0 dBm Bit 7: 1, Bit 6: 0, Bit 5: 0 = -40.0 dBm Bit 7: 1, Bit 6: 1, Bit 5: 0 = -49.0 dBm Bits 2, 0 - See Note 2.	
68055F To 680564	**Not used**	-	Do not change the settings.
680565	Long distance call prefix (HIGH)	BCD	For a code of 0: 680565 – FF 680566 - FF
680566	Long distance call prefix (LOW)	BCD	
680567 to 680571	**Not used**	-	Do not change the settings.
680572	Acceptable ringing signal frequency: range 1, upper limit	1000/ N (Hz).	SP2-103-003 (parameter 02).
680573	Acceptable ringing signal frequency: range 1, lower limit		SP2-103-004 (parameter 03).
680574	Acceptable ringing signal frequency: range 2, upper limit		SP2-103-005 (parameter 04).

Address	Function	Unit	Remarks
680575	Acceptable ringing signal frequency: range 2, lower limit		SP2-103-006 (parameter 05).
680576	Number of rings until a call is detected	1	SP2-103-007 (parameter 06). The setting must not be zero.
680577	Minimum required length of the first ring	20 ms	See Note 4. SP2-103-008 (parameter 07).
680578	Minimum required length of the second and subsequent rings	20 ms	SP2-103-009 (parameter 08).
680579	Ringing signal detection reset time (LOW)	20 ms	SP2-103-010 (parameter 09).
68057A	Ringing signal detection reset time (HIGH)		SP2-103-011 (parameter 10).
68057B to 680580	**Not used**	-	Do not change the settings.
680581	Interval between dialing the last digit and switching the Oh relay over to the external telephone when dialing from the operation panel in handset mode.	20 ms	Factory setting: 500 ms
680582	Bits 0 and 1 - Handset off-hook detection time Bit 1:0, Bit 0: 0 = 200 ms Bit 1:0, Bit 0: 1 = 800 ms Other Not used Bits 2 and 3 - Handset on-hook detection time Bit 3: 0, Bit 2: 0 = 200 ms Bit 3: 0, Bit 2: 1 = 800 ms Other Not used		-

Address	Function	Unit	Remarks
	Bits 4 to 7 - **Not used**		
680583 To 6805A0	**Not used**	-	Do not change the settings.
6805A1	Acceptable CED detection frequency upper limit (high byte)	BCD (Hz)	If both addresses contain FF(H), tone detection is disabled.
6805A2	Acceptable CED detection frequency upper limit (low byte)		
6805A3	Acceptable CED detection frequency lower limit (high byte)	BCD (Hz)	If both addresses contain FF(H), tone detection is disabled.
6805A4	Acceptable CED detection frequency lower limit (low byte)		
6805A5	CED detection time	20 ms ± 20 ms	Factory setting: 200 ms
6805A6	Acceptable CNG detection frequency upper limit (high byte)	BCD (Hz)	If both addresses contain FF(H), tone detection is disabled.
6805A7	Acceptable CNG detection frequency upper limit (low byte)		
6805A8	Acceptable CNG detection frequency lower limit (high byte)	BCD (Hz)	If both addresses contain FF(H), tone detection is disabled.
6805A9	Acceptable CNG detection frequency lower limit (low byte)		
6805AA	**Not used**	-	Do not change the setting.
6805AB	CNG on time	20 ms	Factory setting: 500 ms
6805AC	CNG off time	20 ms	Factory setting: 3000 ms

Address	Function	Unit	Remarks
6805AD	Number of CNG cycles required for detection	-	The data is coded in the same way as address 680533.
6805AE	**Not used**	-	Do not change the settings.
6805AF	Acceptable AI short protocol tone (800Hz) detection frequency upper limit (high byte)	Hz (BCD)	If both addresses contain FF(H), tone detection is disabled.
6805B0	Acceptable AI short protocol tone (800Hz) detection frequency upper limit (low byte)		
6805B1	Acceptable AI short protocol tone (800Hz) detection frequency lower limit (high byte)	Hz(BCD)	If both addresses contain FF(H), tone detection is disabled.
6805B2	Acceptable AI short protocol tone (800Hz) detection frequency lower limit (low byte)		
6805B3	Detection time for 800 Hz AI short protocol tone	20 ms	Factory setting: 360 ms
6805B4	PSTN: Tx level from the modem	-dBm	SP2-103-002 (parameter 01).
6805B5	PSTN: 1100 Hz tone transmission level	- N 6805B4 - 0.5N 6805B5 –3.5 (dB) See Note 7.	
6805B6	PSTN: 2100 Hz tone transmission level	- N6805B4 - 0.5N 6805B6 –3 (dB) See Note 7.	
6805B7	PABX: Tx level from the modem	- dBm	
6805B8	PABX: 1100 Hz tone transmission level	- N 6805B7 - 0.5N 6805B8 (dB)	

Address	Function	Unit	Remarks
6805B9	PABX: 2100 Hz tone transmission level	- N 6805B7 - 0.5N 6805B9 (dB)	
6805BD	Modem turn-on level (incoming signal detection level)	-37-0.5N (dBm)	
6805BE to 6805C6	**Not used**	-	Do not change the settings.
6805C7	Bits 0 to 3 – **Not used** Bit 4 = V.34 protocol dump 0: Simple, 1: Detailed (default) Bits 5 to 7 – **Not used.**		
6805C8 to 6805D9	**Not used**	-	Do not change the settings.
6805DA	T.30 T1 timer	1 s	
6805E0 bit 3	Maximum wait time for post message	0: 12 s 1: 30 s	1: Maximum wait time for post message (EOP/EOM/MPS) can be changed to 30 s. Change this bit to “1” if communication errors occur frequently during V.17 reception.

Address	Function				Unit	Remarks
6805E4	Bit 1 sets the level of the call signal, Bit 3 sets the call signal impedance	Bit 1	0		RT=0 (Low)	-
			1		RT=1 (High)	
		Bit 3	0		RZ=0 (High)	
			1		RZ=1 (Composite)	
6805E5	Bit 0 sets the ring detection method, Bit 1 sets the ring detection method when fixed.	Bit 0	0		Auto	If any setting is changed, select a setting that is higher than the default setting.
			1		Fixed	
		Bit 1	0		Use RDTP	
			1		Use RDTN	
	Here is a summary of the voltages for the detection of off-hook for DP detection.					
	Bit 7	Bit 6	Bit 5	Bit 4	-	
	0	0	0	0	**Not used**	
	0	0	0	1	2.75 V	
	0	0	1	0	5.5 V	
	1	0	0	0	22 V	
	1	1	1	1	41.25 V	

NOTES

1. If a setting is not required, store FF in the address.
2. Italy and Belgium only
   RAM address 68055E: the lower four bits have the following meaning.
   Bit 2 - 1: International dial tone cadence detection enabled (Belgium)
   Bit 1 - Not used
   Bit 0 - 1: PSTN dial tone cadence detection enabled (Italy)

   If bit 0 or bit 2 is set to 1, the functions of the following RAM addresses are changed.
   680508 (if bit 0 = 1) or 680538 (if bit 2 = 1): tolerance for on or off state
   duration (%), and number of cycles required for detection, coded as in address 680533.
   68050B (if bit 0 = 1) or 68053B (if bit 2 = 1): on time, hex code (unit = 20 ms)
   68050C (if bit 0 = 1) or 68053C (if bit 2 = 1): off time, hex code (unit = 20 ms)
3. Pulse dial parameters (addresses 68054A to 68054F) are the values for 10 pps. If 20 pps is used, the machine automatically compensates.
4. The first ring may not be detected until 1 to 2.5 wavelengths after the time specified by this parameter.
5. Tone signals which frequency is lower than 1500Hz (e.g., 800Hz tone for AI short protocol) refer to the setting at 6805B5h. Tones which frequency is higher than 1500Hz refer to the setting at 6805B6h.

4.5 DEDICATED TRANSMISSION PARAMETERS

There are two sets of transmission parameters: Fax and E-mail
Each Quick Dial Key and Speed Dial Code has eight bytes of programmable parameters allocated to it. If transmissions to a particular machine often experience problems, store that terminal's fax number as a Quick Dial or Speed Dial, and adjust the parameters allocated to that number.
The programming procedure will be explained first. Then, the eight bytes will be described.

4.5.1 PROGRAMMING PROCEDURE

1. Set the bit 0 of System Bit Switch 00 to 1.
2. Enter Address Book Management mode ([User Tools]> System Settings> Key Operator> Address Book Management).
3. Select the address book that you want to program.
4. For the fax parameter, select "Fax Dest.", for the E-mail parameter, select "E-mail", then press "Start". Make sure that the LED of the Start button lights green.
5. The settings for the switch 00 are now displayed. Press the bit number that you wish to change.
6. To scroll through the parameter switches, either:
7. Select the next switch: press "Next" or Select the previous switch: "Prev." until the correct switch is displayed. Then go back to step 6.
8. After the setting is changed, press "OK".
9. After finishing, reset bit 0 of System Bit Switch 00 to 0.

4.5.2 PARAMETERS

Fax Parameters

The initial settings of the following fax parameters are all FF(H) - all the parameters are disabled.

Switch 00
FUNCTION AND COMMENTS
ITU-T T1 time (for PSTN G3 mode) If the connection time to a particular terminal is longer than the NCU parameter setting, adjust this byte. The T1 time is the value stored in this byte (in hex code), multiplied by 1

second.

Range:

0 to 120 s (00h to 78h)

FFh - The local NCU parameter factory setting is used.

Do not program a value between 79h and FEh.

<table>
<tr><th colspan="8">Switch 01</th></tr>
<tr><th>No</th><th colspan="6">FUNCTION</th><th>COMMENTS</th></tr>
<tr><td rowspan="10">0-4</td><td colspan="6">Tx level</td><td rowspan="10">If communication with a particular remote terminal often contains errors, the signal level may be inappropriate. Adjust the Tx level for communications with that terminal until the results are better.
If the setting is "Disabled", the NCU parameter 01 setting is used.
Note
▪ Do not use settings other than listed on the left.</td></tr>
<tr><td>Bit4</td><td>Bit3</td><td>Bit2</td><td>Bit1</td><td>Bit0</td><td></td></tr>
<tr><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr>
<tr><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>–1</td></tr>
<tr><td>0</td><td>0</td><td>0</td><td>1</td><td>0</td><td>–2</td></tr>
<tr><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td><td>–3</td></tr>
<tr><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>–4</td></tr>
<tr><td>↓</td><td>↓</td><td>↓</td><td>↓</td><td>↓</td><td>↓</td></tr>
<tr><td>0</td><td>1</td><td>1</td><td>1</td><td>1</td><td>–15</td></tr>
<tr><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>Disabled</td></tr>
<tr><td>5-7</td><td colspan="6">Cable equalizer
Bit 7: 0, Bit 6: 0, Bit 5: 0 = None
Bit 7: 0, Bit 6: 0, Bit 5: 1 = Low
Bit 7: 0, Bit 6: 1, Bit 5: 0 = Medium
Bit 7: 0, Bit 6: 1, Bit 5: 1 = High
Bit 7: 1, Bit 6: 1, Bit 5: 1 = Disabled</td><td>Use a higher setting if there is signal loss at higher frequencies because of the length of wire between the modem and the telephone exchange when calling the number stored in this Quick/Speed Dial.
Also, try using the cable equalizer if one or more of the following symptoms occurs.
Communication error with error codes such as 0-20, 0-23, etc.
Modem rate fallback occurs</td></tr>
</table>

		frequently. Note ▪ Do not use settings other than listed on the left. If the setting is "Disabled", the bit switch setting is used.

Switch 02

No	FUNCTION					COMMENTS
0-3	Initial Tx modem rate					If training with a particular remote terminal always takes too long, the initial modem rate may be too high. Reduce the initial Tx modem rate using these bits. For the settings 14.4 or kbps slower, Switch 04 bit 4 must be changed to 0. Note ▪ Do not use settings other than listed on the left. If the setting is "Disabled", the bit switch setting is used.
	Bit3	Bit2	Bit1	Bit0	bps	
	0	0	0	0	Not used	
	0	0	0	1	2400	
	0	0	1	0	4800	
	0	0	1	1	7200	
	0	1	0	0	9600	
	0	1	0	1	12000	
	0	1	1	0	14400	
	0	1	1	1	16800	
	1	0	0	0	19200	
	1	0	0	1	21600	
	1	0	1	0	24000	
	1	0	1	1	26400	
	1	1	0	0	28800	
	1	1	0	1	31200	
	1	1	1	0	33600	

	1	1	1	1	Disabled	
	Other settings: **Not used**					
4-7	**Not used**					Do not change the settings.

Switch 03		
No	**FUNCTION**	**COMMENTS**
0-1	Inch-mm conversion before tx Bit 1: 0, Bit 0: 0 = Inch-mm conversion available Bit 1: 0, Bit 0: 1 = Inch only Bit 1: 1, Bit 0: 0 = Not used Bit 1: 1, Bit 0: 1 = Disabled	The machine uses inch-based resolutions for scanning. If "inch only" is selected, the printed copy may be slightly distorted at the other end if that machine uses mm-based resolutions. If the setting is "Disabled", the bit switch setting is used.
2-3	DIS/NSF detection method Bit 3: 0, Bit 2: 0 = First DIS or NSF Bit 3: 0, Bit 2: 1 = Second DIS or NSF Bit 3: 1, Bit 2: 0 = Not used Bit 3: 1, Bit 2: 1 = Disabled	(0, 1): Use this setting if echoes on the line are interfering with the set-up protocol at the start of transmission. The machine will then wait for the second DIS or NSF before sending DCS or NSS. If the setting is "Disabled", the bit switch setting is used.
4	V.8 protocol 0: Off 1: Disabled	If transmissions to a specific destination always end at a lower modem rate (14,400 bps or lower), disable V.8 protocol so as not to use V.34 protocol. 0: V.34 communication will not be possible. If the setting is "Disabled", the bit switch setting is used.
5	Compression modes available in transmit mode 0: MH only 1: Disabled	This bit determines the capabilities that are informed to the other terminal during transmission. If the setting is "Disabled", the bit switch setting is used.

6-7	ECM during transmission Bit 7: 0, Bit 6: 0 = Off Bit 7: 0, Bit 6: 1 = On Bit 7: 1, Bit 6: 0 = Not used Bit 7: 1, Bit 6: 1 = Disabled	For example, if ECM is switched on but is not wanted when sending to a particular terminal, use the (0, 0) setting. Note ▪ V.8/V.34 protocol and JBIG compression are automatically disabled if ECM is disabled. ▪ If the setting is "Disabled", the bit switch setting is used.

Switch 04 - Not used (do not change the settings)
Switch 05 - Not used (do not change the settings)
Switch 06 - Not used (do not change the settings)
Switch 07 - Not used (do not change the settings)
Switch 08 - Not used (do not change the settings)
Switch 09 - Not used (do not change the settings)

E-mail Parameters

The initial settings of the following e-mail parameters are all "0" (all parameters disabled).

Switch 00		
No	**FUNCTION**	**COMMENTS**
0	MH Compression mode for e-mail attachments **0**: Off 1: On	Switches MH compression on and off for files attached to e-mails for sending.
1	MR Compression mode for e-mail attachments **0**: Off 1: On	Switches MR compression on and off for files attached to e-mails for sending.
2	MMR Compression mode for e-mail attachments **0**: Off 1: On	Switches MMR compression on and off for files attached to e-mails for sending.
3-6	**Not used**	Do not change these settings.
7	Designates the bits to reference for compression method of e-mail attachments **0**: Registered (Bit 0 to 6) 1: No registration.	The "0" selection (default) references the settings for Bits 00, 01, 02 above. The "1" selection ignores the selections of Bits 00, 01, 02.

Switch 01		
No	**FUNCTION**	**COMMENTS**
0	Original width of e-mail attachment: A4 **0**: Off 1: On	Sets the original width of the e-mail attachment as A4.
1	Original width of e-mail attachment: B4 **0**: Off 1: On	Sets the original width of the e-mail attachment as B4.
2	Original width of e-mail attachment: A3 **0**: Off 1: On	Sets the original width of the e-mail attachment as A3.
3-6	**Not used**	Do not change these settings.
7	Designates the bits to reference for original size of e-mail attachments **0**: Registered (Bit 0 to 6) 1: No registration.	The "0" selection (default) references the settings for Bits 00, 01, 02 above. The "1" selection ignores the selections of Bits 00, 01, 02.

Switch 02		
No	**FUNCTION**	**COMMENTS**
0	Line resolution of e-mail attachment: 200 x 100 **0**: Off 1: On	Sets the line resolution of the e-mail attachment as 200 x100.
1	Line resolution of e-mail attachment: 200 x 200 **0**: Off 1: On	Sets the line resolution of the e-mail attachment as 200 x 200.
2	Line resolution of e-mail attachment: 200 x 400 **0**: Off 1: On	Sets the line resolution of the e-mail attachment as 200 x 400.
3	Not used	Do not change these settings.
4	Line resolution of e-mail attachment: 400 x 400 **0**: Off 1: On	Sets the line resolution of the e-mail attachment as 400 x 400.
5-6	**Not used**	Do not change these settings.
7	Designates the bits to reference for original size of e-mail attachments **0**: Registered (Bit 0 to 6) 1: No registration.	The "0" selection (default) references the settings for Bits 00, 01, 02, 04 above. The "1" selection ignores the selections of Bits 00, 01, 02, 04.

Switch 03 - Not used (do not change the settings)

Switch 04		
No	**FUNCTION**	**COMMENTS**
0	Full mode address selection 0: Full mode address 1: No full mode (simple mode)	If the other ends have the addresses, which have the full mode function flag ("0"), this machine determines them as full mode standard machines. ▪ This machine attaches the "demand of reception confirmation" to a message when transmitting. ▪ This machine updates the reception capability to the address book when receiving.
1-7	**Not used**	Do not change these settings.

Switch 05		
No	**FUNCTION**	**COMMENTS**
0	Directr transmission selection to SMTP server 0: ON 1: OFF	Allows or does not allow the direct transmission to SMTP server.
1-7	Not used	Do not change these settings.

Switch 06 - Not used (do not change the settings)
Switch 07 - Not used (do not change the settings)
Switch 08 - Not used (do not change the settings)
Switch 09 - Not used (do not change the settings)

4.6 SERVICE RAM ADDRESSES

⚠CAUTION

- Do not change the settings which are marked as "Not used" or "Read only".

680001 to 680004(H) - ROM version (Read only)

680001(H) - Revision number (BCD)

680002(H) - Year (BCD)

680003(H) - Month (BCD)

680004(H) - Day (BCD)

680006 to 680015(H) - Machine's serial number (16 digits - ASCII)

680018(H) - Total program checksum (low)

680019(H) - Total program checksum (high)

680020 to 68003F(H) - System bit switches

680050 to 68005F(H) - Printer bit switches

680060 to 68007F(H) - Communication bit switches

680080 to 68008F(H) - G3 bit switches

680090 to 68009F(H) - G3-2 bit switches: Not used

6800A0 to 6800AF(H) - G3-3 bit switches: Not used

6800D0(H) - User parameter switch 00 (SWUER_00) : Not used

6800D1(H) - User parameter switch 01 (SWUSR_01) : Not used

6800D2(H) - User parameter switch 02 (SWUSR_02)

Bit 0: Forwarding mark printing on forwarded messages 0: Disabled, 1: Enabled

Bit 1: Center mark printing on received copies

(This switch is not printed on the user parameter list.)

0: Disabled, 1: Enabled

Bit 2: Reception time printing

(This switch is not printed on the user parameter list.)

0: Disabled, 1: Enabled

Bit 3: TSI print on received messages 0: Disabled, 1: Enabled

Bit 4: Checkered mark printing

(This switch is not printed on the user parameter list.)

0: Disabled, 1: Enabled

Bit 5: Not used

Bit 6: Not used

Bit 7: Not used

6800D3(H) - User parameter switch 03 (SWUSR_03: Automatic report printout)

Bit 0: Transmission result report (memory transmissions) 0: Off, 1: On

Bit 1: Not used

Bit 2: Memory storage report 0: Off, 1: On

Bit 3: Polling reserve report (polling reception) 0: Off, 1: On

Bit 4: Polling result report (polling reception) 0: Off, 1: On

Bit 5: Transmission result report (immediate transmissions) 0: Off, 1: On

Bit 6: Not used

Bit 7: Journal 0: Off, 1: On

6800D4(H) - User parameter switch 04 (SWUSR_04: Automatic report printout)

Bit 0: Not used

Bit 1: Automatic communication failure report and transfer result report output 0: Off, 1: On

Bits 2 to 3: Not used

Bit 4: Indicates the parties 0: Not indicated, 1: Indicated

Bit 5: Include sender's name on reports 0: Off, 1: On

Bit 6: Not used

Bit 7: Inclusion of a sample image on reports 0: Off, 1: On

6800D5(H) - User parameter switch 05 (SWUSR_05)

Bit 0: Substitute reception when the base copier is in an SC condition

0: Enabled, 1: Disabled

Bits 1 and 2: Condition for substitute rx when the machine cannot print messages (Paper end, toner end, jam, and during night mode)

Bit 2: 0, Bit 1: 0 = The machine receives all the fax messages.

Bit 2: 0, Bit 1: 1 = The machine receives the fax messages with RTI or CSI.

Bit 2: 1, Bit 1: 0 = The machine receives the fax messages with the same ID code.

Bit 2: 1, Bit 1: 1 = The machine does not receive anything.

Bit 3: Not used

Bit 4: Not used

Bit 5: Just size printing 0: Off, 1: On

Bit 6: Not used

Bit 7: Add paper display when a cassette is empty 0: Off, 1: On

6800D6(H) - User parameter switch 06 (SWUSR_06): Not used

6800D7(H) - User parameter switch 07 (SWUSR_07)

Bit 0 Ringing 0: Off, 1: On

Bit1: Automatic answering message 0: Off, 1: On

Bit 2: Parallel memory transmission 0: Off, 1: On

Bits 3 and 4: Not used

Bit 5: Remote control 0: Off, 1: On

Bits 6 and 7: Not used

6800D8(H) - User parameter switch 08 (SWUSR_08)

Bits 0 and 1: Not used.

Bit 2: Authorized reception

0: Only faxes from senders whose RTIs/CSIs are specified for this feature are accepted.

1: Only faxes from senders whose RTIs/CSIs are not specified for this feature are accepted.

Bits 3 to 7: Not used.

6800D9(H) - User parameter switch 09 (SWUSR_09): Not used

6800DA(H) - User parameter switch 10 (SWUSR_0A)

Bits 0 to 2: Not used

Bit 3: Page reduction 0: Off, 1: On

Bits 4 and 5: Not used

Bit 6: Use both e-mail notification and printed reports to confirm the transmission results 0: Off, 1: On

Bit 7: Not used

6800DB(H) - User parameter switch 11 (SWUSR_0B)

Bits 0 and 1: Not used

Bit 2: White original detection 0: Off, 1: On (alarm and alert message on the LCD)

Bit 3: Receive rejection for 1300 Hz transmission 0: Off (receive), 1: On (not receive)

Bit 5: Not used

Bit 6: Printout of messages received while acting as a forwarding station 0: Off, 1: On

Bit 7: Not used

6800DC(H) - User parameter switch 12 (SWUSR_0C): Not used

6800DD(H) - User parameter switch 13 (SWUSR_0D): Not used

6800DE(H) - User parameter switch 14 (SWUSR_0E)

Bit 0: Message printout while the machine is in Night Printing mode 0: On, 1: Off

Bit 1: Maximum document length detection 0: Double letter, 1: Longer than double-letter (well log) – up to 1,200 mm

Bit 2: Not used

Bit 3: Fax mode settings, such as resolution, before a mode key (Copy/Fax/Printer/Scanner) is pressed 0: Not cleared, 1: Cleared

Bits 4 to 6: Not used

Bit 7: Not used

6800DF(H) - User parameter switch 15 (SWUSR_0F)

(This switch is not printed on the user parameter list.)

Bits 0, 1 and 2: Cassette for fax printout

Bit 2: 0, Bit 1: 0, Bit 0: 1 = 1st paper feed station

Bit 2: 0, Bit 1: 1, Bit 0: 0 = 2nd paper feed station

Bit 2: 0, Bit 1: 1, Bit 0: 1 = 3rd paper feed station

Bit 2: 1, Bit 1: 0, Bit 0: 0 = 4th paper feed station

Bit 2: 1, Bit 1: 0, Bit 0: 1 = LCT

Other settings Not used

Bits 3 and 4: Not used

Bit 5: Using the cassette specified by bits 0, 1 and 2 above only 0: On, 1: Off

Bits 6 and 7: Not used

6800E0(H) – User parameter switch 16 (SWUSR_10)

(This switch is not printed on the user parameter list.)

Bits 0 and 1: Not used

Bit 2: Paper size selection priority for an A4 size fax message when A4/LT size paper is not available. 0: A3 has priority, 1: B4 has priority

Bits 3 to 7: Not used

6800E1(H) – User parameter switch 17 (SWUSR_11)

Bit 0: Not used

Bit 1: Not used

Bit 2: Inclusion of the "Add" button when a sequence of Quick/Speed dials is selected for broadcasting 0:Not needed, 1: Needed

Bits 3 to 6: Not used

Bit 7: Press "Start" key without an original when using the on hook dial or the external telephone,

0: displays "Cannot detect original size". 1: Receives fax messages.

6800E2(H) - User parameter switch 18 (SWUSR_12)

Bit 0: TTI date 0: Off, 1: On

Bit 1: TTI sender 0: Off, 1: On

Bit 2: TTI file number 0: Off, 1: On

Bit 3: TTI page number 0: Off, 1: On

Bits 4 to 6: Not used

Bit 7: Japan only

6800E3(H) - User parameter switch 19 (SWUSR_13)

Bit 0: Not used

Bit 1: Journal format

0: The Journal is separated into transmissions and receptions

1: The Journal is separated into G3-1, G3-2, and G3-3 communications

Bit 2: Not used

Bit 3: 90° image rotation during B5 portrait Tx (This switch is not printed on the user parameter list.) 0: Off, 1: On

Bit 4: Reduction of sample images on reports to 50% in the main scan and sub-scan directions. (This switch is not printed on the user parameter list.) 0: Technician adjustment (printer switch 0E bits 3 and 4), 1: 50% reduction

Bit 5: Use of A5 size paper for reports (This switch is not printed on the user parameter list.) 0: Off, 1: On

Bits 6 and 7: Not used

6800E4(H) - User parameter switch 20 (SWUSR_14)

Bit 0: Automatic printing of the LAN fax result report 0: Off, 1: On

Bit 1: Not used.

Bits 2 to 5: Store documents in memory which could not be printed from PC fax (LAN fax) driver

Bit 5	Bit 4	Bit 3	Bit 2	Setting
0	0	0	0	0 min.
0	0	0	1	1 min.
↓	↓	↓	↓	↓
1	1	1	0	14 min.
1	1	1	1	15 min.

Bits 6 and 7: Not used.

6800E5(H) - User parameter switch 21 (SWUSR_15)

Bit 0: Print results of sending reception notice request message 0: Disabled (print only when error occurs), 1: Enabled

Bit 1: Respond to e-mail reception acknowledgment request 0: Disabled, 1: Enabled

Bit 2: Not used

Bit 3: File format for forwarded folders 0: TIFF, 1:PDF

Bit 4: Transmit Journal by E-mail 0: Disabled, 1: Enabled

Bit 5: Not used

Bit 6: Network error display 0: Displayed, 1: Not displayed

Bit 7: Transmit error mail notification 0: Enabled, 1: Disabled

6800E6(H) - User parameter switch 22 (SWUSR_16)

(This switch is not printed on the user parameter list.)

Bit 0: Dial tone detection (PSTN 1) 0: Disabled, 1: Enabled

Bits 1 to 7: Not used

6800E7(H) – User parameter switch 23 (SWUSR_17): Not used

6800E8(H) - User parameter switch 24 (SWUSR_18): Not used

6800E9(H) - User parameter switch 25 (SWUSR_19)

Bit 0: Not used

Bit 1: Reception mode switch timer 0: Off, 1: On (switching Fax or Fax/Tel)

Bit 2: Mode priority switch 0: Fax first, 1: Tel first

Bit 3: Dial in function (Japan Only)

Bit 4: RDS operation 0: Not acceptable, 1: Acceptable for the limit specified by system switch 03

Note

- This bit is only effective when RDS operation can be selected by the user (see system switch 02).

Bits 5 to 7: Not used

6800EA(H) and 6800EB(H) - User parameter switches 26 and 27 (SWUSR_1A and 1B): Not used

6800EC(H) - User parameter switch 28(SWUSR_1C)

Xxxxx

6800ED(H) - User parameter switch 29(SWUSR_1D)

xxxxxx

6800EE(H) and 6800EF(H) - User parameter switches 30 and 31 (SWUSR_1E and 1F): Not used

6800F0(H) - User parameter switch 32 (SWUSR_20)

Bit 0: Quotation priority for a destination when there is no destination of the specified type

0: Paper output priority = Priority order: 1. IP-fax destination, 2. Fax Number, 3. E-mail address, 4. Folder

1: Electric putout order = Priority order: 1. E-mail address, 2. Folder, 3. IP-fax destination, 4. Fax number

Bits 1 to 7: Not used

6800F1(H) - User parameter switch 33 (SWUSR_21): Not used

6800F2(H) - User parameter switch 34 (SWUSR_22)

Bit 0: Gatekeeper server used with IP-Fax 0: Disabled, 1: Enabled

Bit 1: SIP server used with IP-Fax 0: Disabled, 1: Enabled

Bits 2 to 7: Not used

680100 to 68010F(H) - G4 Parameter Switches – Not used

680110 to 68012F(H) - G4 Internal Switches – Not used

680130 to 68016F(H) - Service Switches

680170 to 68017F(H) - IFAX Switches

680180 to 68018F(H) - IP-FAX Switches

680190 to 6801AF(H) - Service station's fax number (SP3-101)

6801B0 to 6801B9(H) - Own fax PABX extension number

6801BA to 6801C3(H) - Own fax number (PSTN) – Not used

6801C4 to 6801D7(H) - Own fax number (ISDN G4) – Not used

6801D8 to 6801E3(H) - The first subscriber number (ISDN G3) – Not used

6801E4 to 6801EF(H) - The second subscriber number (ISDN G3) – Not used

6801F0 to 6801FB(H) - The first subscriber number (ISDN G4) – Not used

6801FC to 680207(H) - The second subscriber number (ISDN G4) – Not used

680208 to 68021B(H) - PSTN-1 RTI (Max. 20 characters - ASCII) - See the following note.

68021C to 68022F(H) - PSTN-2 RTI (Max. 20 characters - ASCII) - Not used

680230 to 680246(H) - PSTN-3 RTI (Max. 20 characters - ASCII) - Not used

680247 to 680286(H) - TTI 1 (Max. 64 characters - ASCII) - See the following note.

680287 to 6802C6(H) - TTI 2 (Max. 64 characters - ASCII) - Not used

6802C7 to 680306(H) - TTI 3 (Max. 64 characters - ASCII) - Not used

680307 to 68031A(H) - PSTN-1 CSI (Max. 20 characters - ASCII)

68031B to 68032E(H) - PSTN-2 CSI (Max.20 characters - ASCII) - Not used

68032F to 680342(H) - PSTN-3 CSI (Max.20 characters - ASCII) - Not used

680343(H) - Number of PSTN-1 CSI characters (Hex)

680344(H) - Number of PSTN-2 CSI characters (Hex) - Not used

680345(H) Number of PSTN-3 CSI characters (Hex) - Not used

Note

- If the number of characters is less than the maximum (20 for RTI, 32 for TTI), add a stop code (00[H]) after the last character.

680380 to 680387(H) - Last power off time (Read only)

680380(H) - 01(H) - 24-hour clock, 00(H) - 12-hour clock (AM), 02(H) - 12-hour clock (PM)

680381(H) - Year (BCD)

680382(H) - Month (BCD)

680383(H) - Day (BCD)

680384(H) – Hour

680385(H) – Minute

680386(H) – Second

680387(H) - 00: Monday, 01: Tuesday, 02: Wednesday, /// , 06: Sunday

680394(H) - Optional equipment (Read only – Do not change the settings)

Bit 0: Page Memory 0: Not installed, 1: Installed

Bit 1: SAF Memory 0: Not installed, 1: Installed

Bits 2 to 7; Not used

680395(H) - Optional equipment (Read only – Do not change the settings)

Bits 0 to 3: Not used

Bit 4: G3-2 0: Not installed, 1: Installed

Bit 5: G3-3 0: Not installed, 1: Installed

Bit 6 and 7: Not used

680406 to 68040A – Option G3 board (G3-2) ROM information (Read only)

680406(H) - Suffix (BCD)

680407(H) - Version (BCD)

680408(H) - Year (BCD)

680409(H) - Month (BCD)

68040A(H) - Day (BCD)

68040B to 68040F – Option G3 board (G3-3) ROM information (Read only)

68040B(H) - Suffix (BCD)

68040C(H) - Version (BCD)

68040D(H) - Year (BCD)

68040E(H) - Month (BCD)

68040F(H) - Day (BCD)

680410(H) - G3-1 Modem ROM version (Read only)

680412(H) - G3-2 Modem ROM version (Read only)

680414(H) - G3-3 Modem ROM version (Read only)

680420(H) - Number of multiple sets print (Read only)

680476(H) - Time for economy transmission (hour in 24h clock format - BCD)

680477(H) - Time for economy transmission (minute - BCD)

680492(H) - Transmission monitor volume 00 - 07(H)

680493(H) - Reception monitor volume 00 - 07(H)

680494(H) - On-hook monitor volume 00 - 07(H)

680495(H) - Dialing monitor volume 00 - 07(H)

680496(H) - Buzzer volume 00 - 07(H)

680497(H) - Beeper volume 00 - 07(H)

6804A8(H) - Machine code (Check ram 4)

6805DE

68918E(H) - Gatekeeper server address - Main (Max. 128 characters - ASCII)

68920E(H) - Gatekeeper server address - Sub (Max. 128 characters - ASCII)

68928E(H) - Arias Number (Max. 128 characters - ASCII)

68930E(H) - SIP user name (Max. 128 characters - ASCII)

68938E(H) - SIP digest authentication password (Max. 128 characters - ASCII)

68940E(H) - Gateway address information (Max. 7100 characters - ASCII)

68AFCA(H) - Stand-by port number for H.232 connection

68AFCCH) - Stand-by port number for SIP connection

68AFCE(H) - RAS port number

68AFD0(H) - Gatekeeper port number

68AFD2(H) - Port number of data waiting for T.38

68AFD4(H) - Port number of SIP server

68AFD6(H) - Priority for SIP and H.323 0: H.323, 1: SIP

68AFD7(H) - SIP function 0: Disabled, 1: Enabled

68AFD8(H) - H.323 function 0: Disabled, 1: Enabled

68AFD9(H) - SIP digest authentication function 0: Disabled, 1: Enabled

68AFDA(H) - IP-Fax backup data 00 - 600 (H) - Not used

69ED6A(H) to 69ED92(H) - SIP server address (Read only)

69ED6A(H) - Proxy server - Main (Max. 128 characters - ASCII)

69ED72(H) - Proxy server - Sub (Max. 128 characters - ASCII)

69ED7A(H) - Redirect server - Main (Max. 128 characters - ASCII)

69ED82(H) - Redirect server - Sub (Max. 128 characters - ASCII)

69ED8A(H) - Registrar server - Main (Max. 128 characters - ASCII)

69ED92(H) - Registrar server - Sub (Max. 128 characters - ASCII)

6BEBFE(H) - 6BEC1E (H) - Dial tone detection parameter (Max. 11 x 3 lines)

This initializes following order. [0x04, 0x40, 0x03, 0x60, 0x64, 0xf4, 0x01,0x64, 0x04, 0xc8, 0x00]

6BEBFE(H) – Dial tone detection frequency – Upper limit (High)

Defaults: NA: 06, EU: 06, ASIA: 06

6BEBFF(H) – Dial tone detection frequency – Upper Limit (Low)

Defaults: NA: 50, EU: 50, ASIA: 50

6BEC00(H) – Dial tone detection frequency – Lower Limit (High)

Defaults: NA: 03, EU: 02, ASIA: 02

6BEC01(H) – Dial tone detection frequency – Lower Limit (Low)

Defaults: NA: 60, EU: 90, ASIA: 90

6BEC02(H) –Dial tone detection waiting time (20 ms)

Defaults: NA: 64, EU 64, ASIA: 64

6BEC03 to 6BEC04 – Dial tone detection monitoring time (20 ms)

Defaults

Area	6BEC03	6BEC04
NA	F4	01
EU	F4	01
ASIA	F4	01

6BEC05(H) – Dial tone detect judge time (20 ms)

Defaults: NA: 64, EU: 1B, ASIA: 32

6BEC06(H) – Dial tone disconnect permission time (20 ms)

Defaults: NA: 11, EU: 0F, ASIA: 11

5. SPECIFICATIONS

5.1 GENERAL SPECIFICATIONS

5.1.1 FCU

Type:	Desktop type transceiver
Circuit:	PSTN PABX
Connection:	Direct couple
Original Size:	Book (Face down) Maximum Length: 432 mm [17 ins] Maximum Width: 297 mm [11.7 ins] ARDF (Face up) (Single-sided document) Length: 128 - 1200 mm [5.0 - 47.2 ins] Width: 105 - 297 mm [4.1 - 11.7 inch] (Double-sided document) Length: 128 - 432 mm [5.0 - 17 inch] Width: 105 - 297 mm [4.1 - 11.7 inch]
Scanning Method:	Flat bed, with CCD
Resolution:	G3: 8 x 3.85 lines/mm, 200 x 100 dpi (Standard character), 8 x 7.7 lines/mm, 200 x 200 dpi (Detail character), 8 x 15.4 lines/mm (Fine character: optional), 16 x 15.4 lines/mm, 400 x 400 dpi (Super Fine character: optional) Note ▪ Optional Expansion Memory required
Transmission Time:	G3: 3 s at 28800 bps; Measured with G3 ECM using memory for an ITU-T #1 test document (Slerexe letter) at standard resolution

Data Compression:	MH, MR, MMR, JBIG
Protocol:	Group 3 with ECM
Modulation:	V.34, V.17 (TCM), V.29, V.17 (QAM), V.27ter (PHM), V.8, V.21 (FSK)
Data Rate:	G3: 33600/31200/28800/26400/24000/21600/ 19200/16800/14400/12000/9600/7200/4800/2400 bps Automatic fallback
I/O Rate:	With ECM: 0 ms/line Without ECM: 2.5, 5, 10, 20, or 40 ms/line
Memory Capacity:	ECM: 128 KB SAF Standard: 4 MB With optional Expansion Memory: 28 MB Page Memory Standard: 8 MB (Print: 4 MB + Scanner: 4 MB) With optional Expansion Memory: 8 MB (Print 4 MB + Scanner: 4 MB)

5.1.2 CAPABILITIES OF PROGRAMMABLE ITEMS

The following table shows the capabilities of each programmable items.

Item	Max.
Total Destinations in Address Book	2000
Groups	100
Destination per Group	500
Destinations for All Files	500
Programs	100
Special Senders	30

The following table shows how the capabilities of the document memory will change after the Expansion Memory are installed.

	Without the Expansion Memory	With the Expansion Memory
Memory Transmission file	400	400
Memory capacity for memory transmission (See the Note below)	320	2240

Note

- Measured using an ITU-T #1 test document (Slerexe letter) at standard resolution, auto image density mode, and Text mode.

5.2 IFAX SPECIFICATIONS

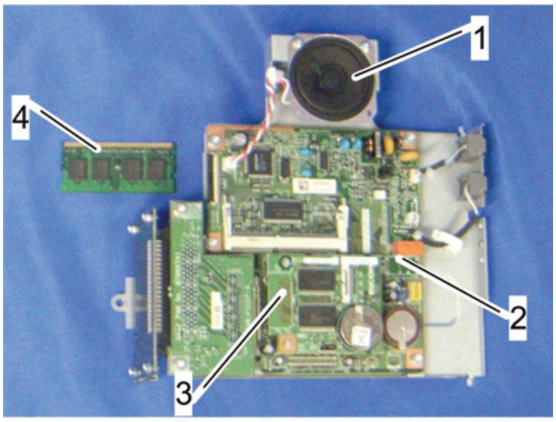
Connectivity:	Local area network Ethernet 100base-Tx/10base-T IEEE802.11a/g, g (wireless LAN), 1000 Base-T
Resolution:	Main scan: 400 dpi, 200 dpi Sub scan: 400 dpi, 200 dpi, 100 dpi Note ▪ To use 400 dpi, IFAX SW01 Bit 4 must be set to "1".
Transmission Time:	1 s (through a LAN to the server) Condition: ITU-T #1 test document (Selerexe Letter) MTF correction: OFF TTI: None Resolution: 200 x 100 dpi Communication speed: 10 Mbps Correspondent device: E-mail server Line conditions: No terminal access
Document Size:	Maximum message width is A4/LT. Note ▪ To use B4 and A3 width, IFAX SW00 Bit 1 (B4) and/or Bit 2 (A3) must be set to "1".
E-mail File Format:	Single/multi-part MIME conversion Image: TIFF-F (MH, MR, MMR)
Protocol:	**Transmission:** SMTP, TCP/IP **Reception:** POP3, SMTP, IMAP4, TCP/IP
Data Rate:	100 Mbps(100base-Tx) 10 Mbps (10base-T)
Authentication	SMTP-AUTH

Method:	POP before SMTP A-POP
Remark:	The machine must be set up as an e-mail client before installation. Any client PCs connected to the machine through a LAN must also be e-mail clients, or some features will not work (e.g. Autorouting).

5.3 IP-FAX SPECIFICATIONS

Network:	Local Area Network Ethernet/10base-T, 100base-TX IEEE802.11a/g, g (wireless LAN), 1000 Base-T
Scan line density:	8 x 3.85 lines/mm, 200x100dpi (standard character), 8 x 7.7lines/mm, 200x200dpi (detail character), 8 x 15.4lines/mm (fine character: optional expansion memory required), 16 x 15.4lines/mm, 400x400dpi (super fine character: optional expansion memory required)
Original size:	Maximum A3 or 11"x 17" (DLT)
Maximum scanning size:	Standard: A3, 297mm x 432mm Irregular: 297mm x 1200mm
Transmission protocol:	Recommended: T.38 Annex protocol, TCP, UDP/IP communication
Compatible machines:	IP-Fax compatible machines
IP-Fax transmission function:	Specify IP address and send fax to an IP-Fax compatible fax through a network. Also capable of sending fax from a G3 fax connected to the public telephone lines via a VoIP gateway.
IP-Fax reception function:	Receive a fax sent from an IP-Fax compatible fax through a network. Also capable of receiving fax from a G3 fax connected the public telephone lines via a VoIP gateway.

5.4 FAX UNIT CONFIGURATION



d555v501

Component	Code	No.	Remarks
MBU	D555	3	Included with the fax unit
GWFCU		2	
Speaker		1	
Expansion Memory	G578	4	Optional for D555
Handset Type 1018	B433	-	NA only. Also used with DI-C1