

**Model MT-C4
Machine Codes:
D062/D063/D065/D066
Field Service Manual**

10th April, 2009

Safety, Conventions, Trademarks

Safety

Prevention of Physical Injury

1. Before disassembling or assembling parts of the machine and peripherals, make sure that they 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. Always connect the power cord directly into a wall outlet. Never use an extension cord.
8. Inspect the power cord for damage. Never cut or attempt to modify the power cord in any way.
9. Keep the machine away from dust and high humidity. Never expose the machine to corrosive gases.
10. Never use flammable liquids or aerosols around the machine.
11. Never handle the power cord or plug with wet hands.

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.
4. This machine employs an LED array in the scanner and image writing unit.

Important

- This machine is rated as a Class 1 LED Device. It is safe for both office and EDP use.

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 controller board has a lithium battery which can explode if replaced incorrectly. Replace the NVRAM only with an identical type. However, the manufacturer recommends replacing the entire NVRAM, not just the battery. Never recharge or incinerate a used NVRAM battery. Dispose of a used NVRAM or NVRAM battery in accordance with local regulations.
3. The danger of explosion exists if the battery on the controller board is incorrectly replaced. Replace the battery only with the equivalent type recommended by the manufacturer. Discard the used controller board battery in accordance with the manufacturer's instructions and local regulations.
4. Test the breaker switches on the main machine and all peripheral devices at least once a year.

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:







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

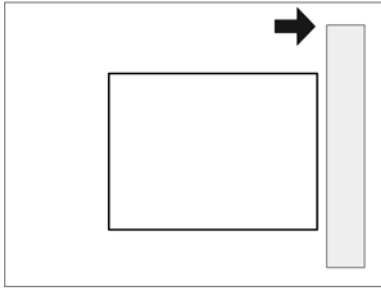
CAUTION MARKING:



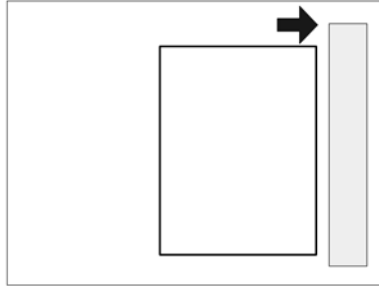
Conventions and Trademarks

Conventions

Symbol	What it means
	Core Tech Manual
	Screw
	Connector
	E-ring
	C-ring
	Harness clamp



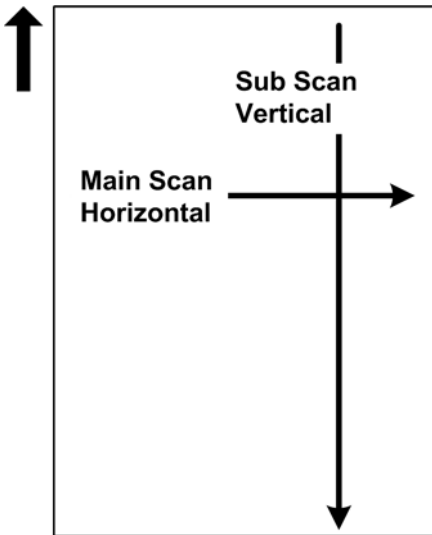
SEF (Short Edge Feed)



LEF (Long Edge Feed)

C001

The notations "SEF" and "LEF" describe the direction of paper feed. The arrows indicate the direction of paper feed.

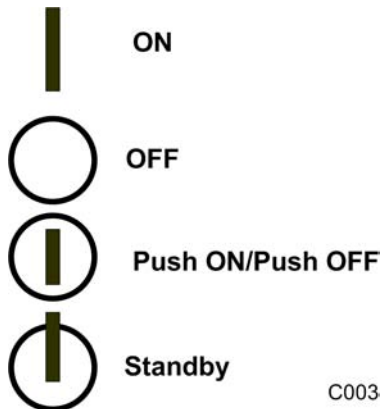


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In this manual "Horizontal" means the "Main Scan Direction" and "Vertical" means the "Sub Scan Direction" relative to the paper feed direction.

Switches and Symbols

Where symbols are used on or near switches on machines for Europe and other areas, the meaning of each symbol conforms with IEC60417.



Warnings, Cautions, Notes

In this manual, the following important symbols and notations are used.

WARNING

- A Warning indicates a potentially hazardous situation. Failure to obey a Warning could result in death or serious injury.

CAUTION

- A Caution indicates a potentially hazardous situation. Failure to obey a Caution could result in minor or moderate injury or damage to the machine or other property.

Important

- Obey these guidelines to avoid problems such as misfeeds, damage to originals, loss of valuable data and to prevent damage to the machine

Note

- This information provides tips and advice about how to best service the machine.

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.
 - Caution operators about storing extra toner cartridges. To prevent clumping on one end of the toner cartridge, it should always be stored horizontally on a flat surface. A toner cartridge should never be stored on its end vertically.

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1. Product Information

Specifications

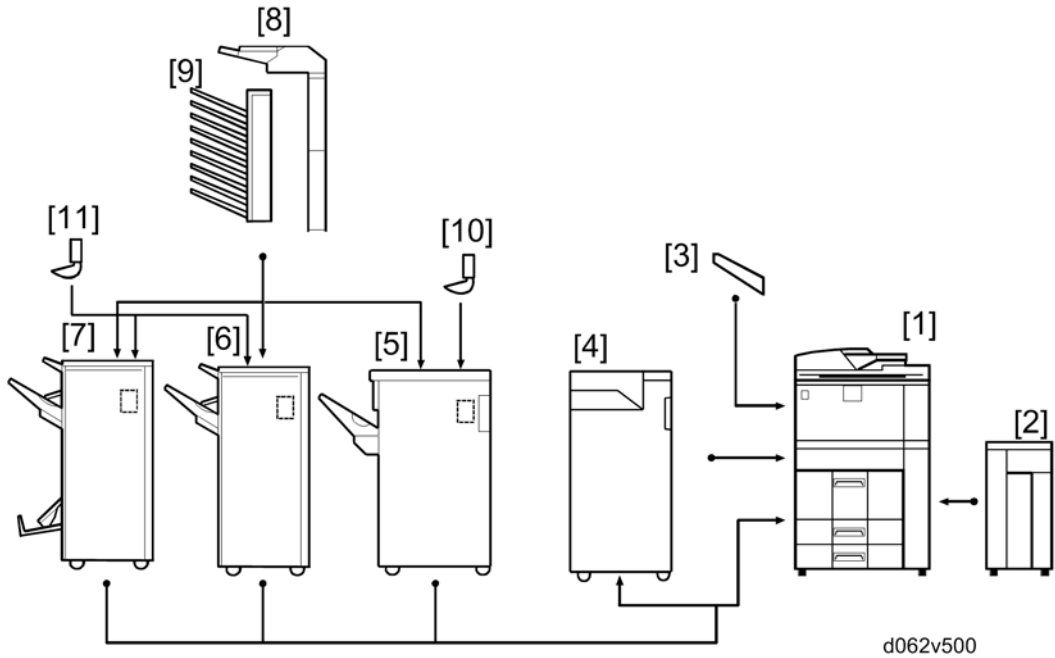
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See "Appendices" for the following information:

- General Specifications
- Optional Equipment

Machine Configuration

1



Item	Machine code	Number
Mainframe	D062/D063/ D065/D066	1
A3/11" x 17" Tray Type 9001	D482	Inside mainframe
Tab Sheet Holder Type3260	B499	
RT43 (LCT)	B473	2
LG Size Tray Type1075	B474	Inside LCT
Multi-Folding Unit FD5000	D454	4
Finisher SR4050	D460	5
Punch Unit Type 1075 NA 3/2	B531	Inside
Punch Unit Type 1075 EU 2/4	B531	Inside
Punch Unit Type 850 SC	B531	Inside Finisher No. 5
Output Jogger Unit Type 1075	B513	10

Item	Machine code	Number
Finisher SR4030	D374	6
Finisher SR4040	D373	7
Punch Unit Type 3260 NA 3/2	B702	Inside Finisher No. 6 or 7
Punch Unit Type 3260 2/4 EU	B702	Inside Finisher No. 6 or 7
Punch Unit Type 3260 SC	B702	Inside Finisher No. 6 or 7
Output Jogger Unit Type3260	B703	11
Cover Interposer Tray Type 3260	B704	8
Mailbox CS391	B762	9
Copy Tray Type 2075	B756	3
Fax Option Type 9001	D418	Inside mainframe
G3 Interface Unit Type 9001	D418	
Copy Connector Type 3260	B328	
Optional Counter Interface Unit Type A	B870	
Copy Data Security Unit Type F	B829	
Gigabit Ethernet Type B	D377	
File Format Converter Type E	D377	In the I/F slot
IEEE 1284 Interface Board Type A	B679	
IEEE 802.11a/g Interface Unit Type J	D377	
IEEE 802.11g Interface Unit Type K	D377	
Bluetooth Interface Unit Type 3245	B826	

1

Item	Machine code	Number
Printer/Scanner Unit Type 9001	D462	In the SD card slot
DataOverwriteSecurity Unit Type H	D377	
Post Script3 Unit Type 9001	D462	
IPDS Unit Type 9001	D462	
HDD Encryption Unit Type A	D377	
Browser Unit Type E	D430	
USB2.0/SD Slot Type C	D464	Outside mainframe
Card Reader Bracket	B498	
Key Counter Bracket Type1027	B452	

Guidance for Those Who are Familiar with Predecessor Products

The D062/D063/D065/D066 series are successor models to the D052/D053/D054 series. 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

	D062/D063/D065/D066	D052/D053/D054
SD Slot	2 slots	3 slots
I/F Slot	2 slots	4 slots
Model Line Up	4 models 60cpm/70cpm/80cpm/90cpm	3 models 60cpm/70cpm/80cpm
Fusing Unit	D062/D063/D065: Fusing roller dia: 40mm Pressure roller dia: 40mm D066: Fusing roller dia: 50mm Pressure roller dia: 50mm	Fusing roller dia: 40mm Pressure roller dia: 40mm
Scanner	Color	B/W
Development Unit	Only for D066: Pressure release tube is attached. No Fusing Pressure Release Mechanism (No Fusing pressure release motor, HP sensor)	-
Paper Feed Motor	D062/D063/D065: Paper feed motor is installed in the paper feed unit. D066: Paper feed motor is installed at the rear of the mainframe.	Paper feed motor is installed in the paper feed unit.
Fusing Lamp	2 lamps	3 lamps

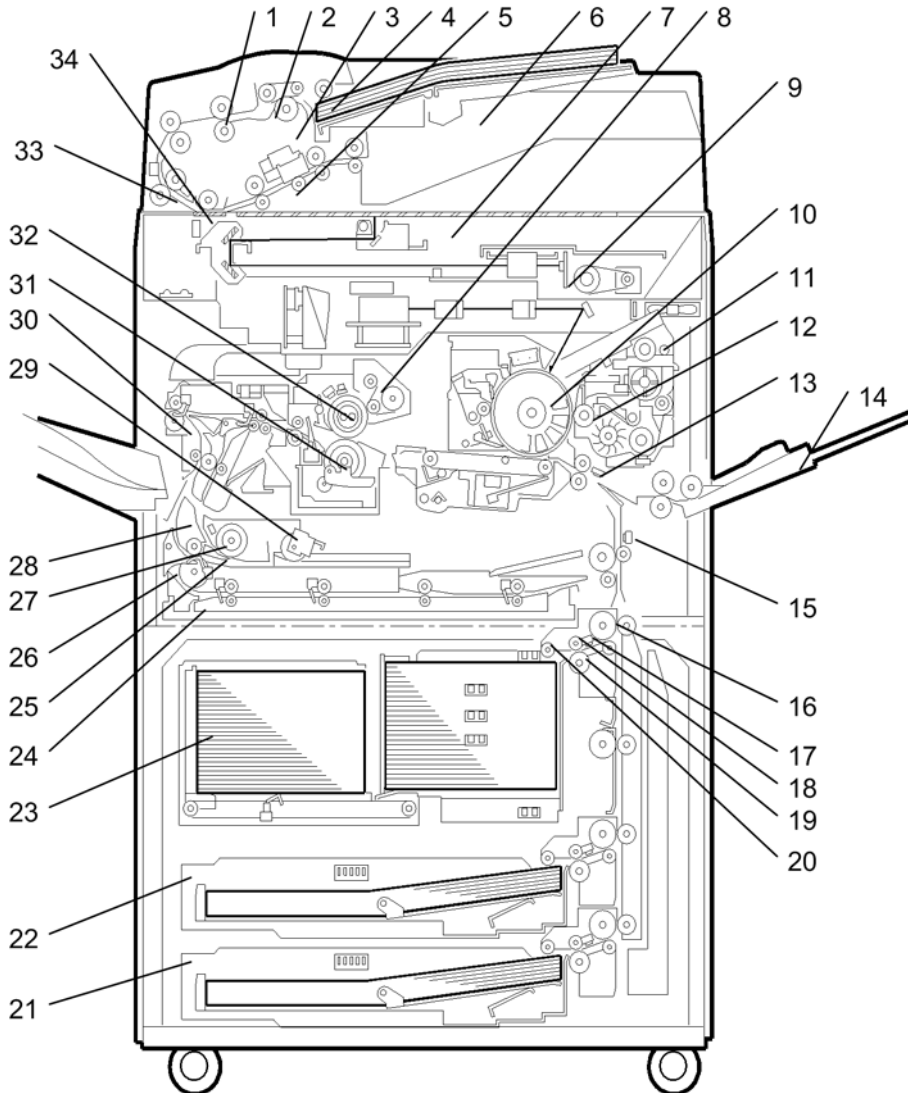
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	D062/D063/D065/D066	D052/D053/D054
ADF original size sensor	4 sensors	5 sensors
ADF Separation Sensor	Yes	No
HDD	160GB	80GB
Scan to USB/SD	Yes (Option)	No

Overview

Mechanical Component Layout

1

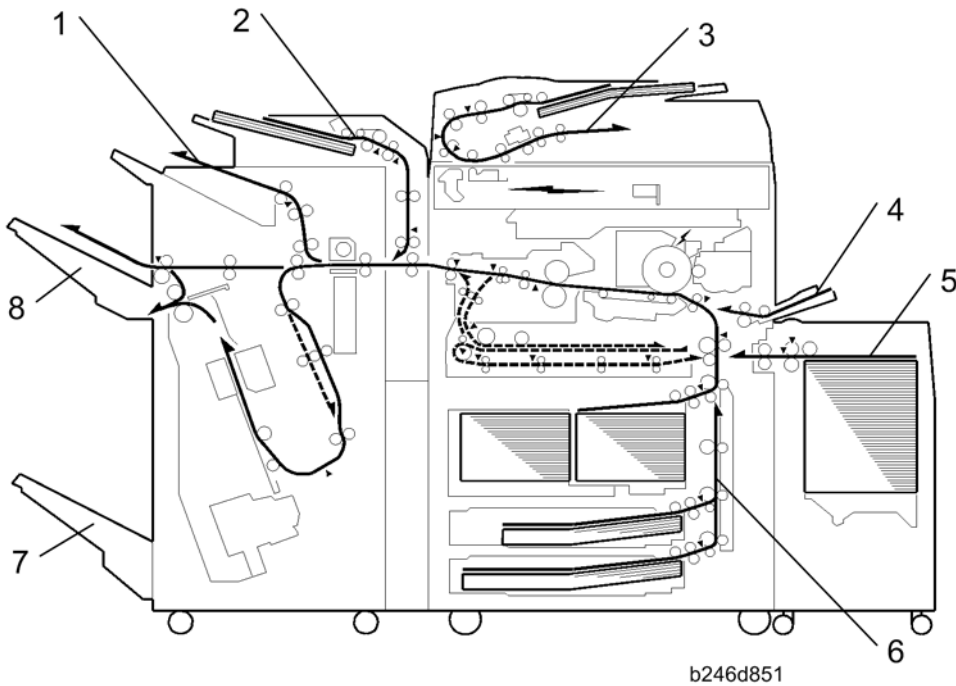


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|----------------------------|-------------------------------|
| 1. Entrance Roller (ADF) | 5. CIS (Contact Image Sensor) |
| 2. Feed Belt (ADF) | 6. Original Feed-in Tray |
| 3. Separation Roller (ADF) | 7. Exposure Glass |
| 4. Pick-up Roller (ADF) | 8. Fusing Unit |

- 9. CCD
- 10. OPC Drum
- 11. Development Unit
- 12. Development Roller
- 13. Registration Sensor
- 14. By-pass Tray
- 15. Relay Sensor
- 16. Grip Roller
- 17. Feed Sensor (Paper Tray)
- 18. Feed Roller (Paper Tray)
- 19. Separation Roller (Paper Tray)
- 20. Pick-up Roller (Paper Tray)
- 21. Universal Tray (Tray 3)
- 22. Universal Tray (Tray 2)
- 23. Tandem Tray (Tray 1)
- 24. Duplex Unit
- 25. Inverter
- 26. Inverter Exit Roller
- 27. Inverter Entrance Roller
- 28. Duplex Junction Gate
- 29. Reverse Trigger Roller
- 30. Exit Unit
- 31. Pressure Roller
- 32. Hot Roller
- 33. Scanning (ADF)
- 34. Exposure (ADF)

Paper Path (With Cover Interposer Tray)



- 1. Proof Exit Tray
- 2. Cover Sheet Path
- 3. Original Path
- 4. By-pass Tray

5. LCT Feed

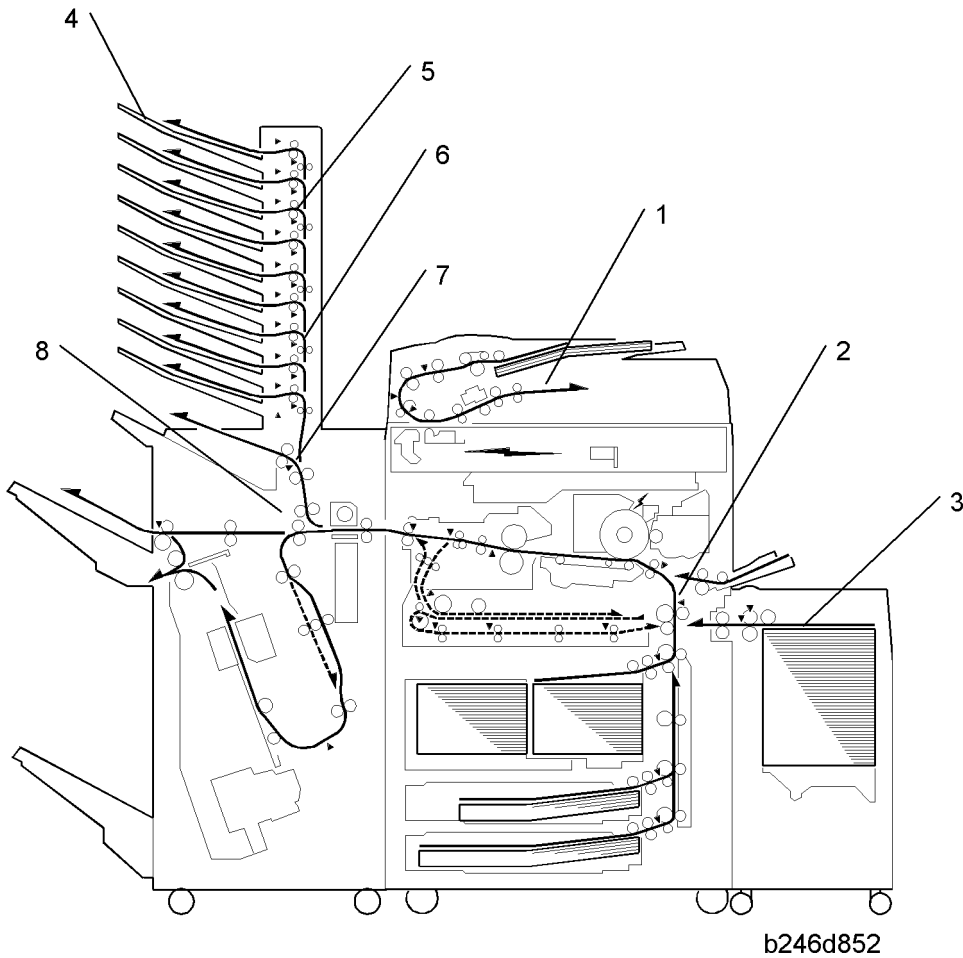
7. Finisher Exit Tray 2

6. Vertical Transport Path

8. Finisher Exit Tray 1

Paper Path (With 9-Bin Mailbox)

1



1. Original Paper Path

2. Vertical Transport Path

3. LCT Feed

4. Selected Trays

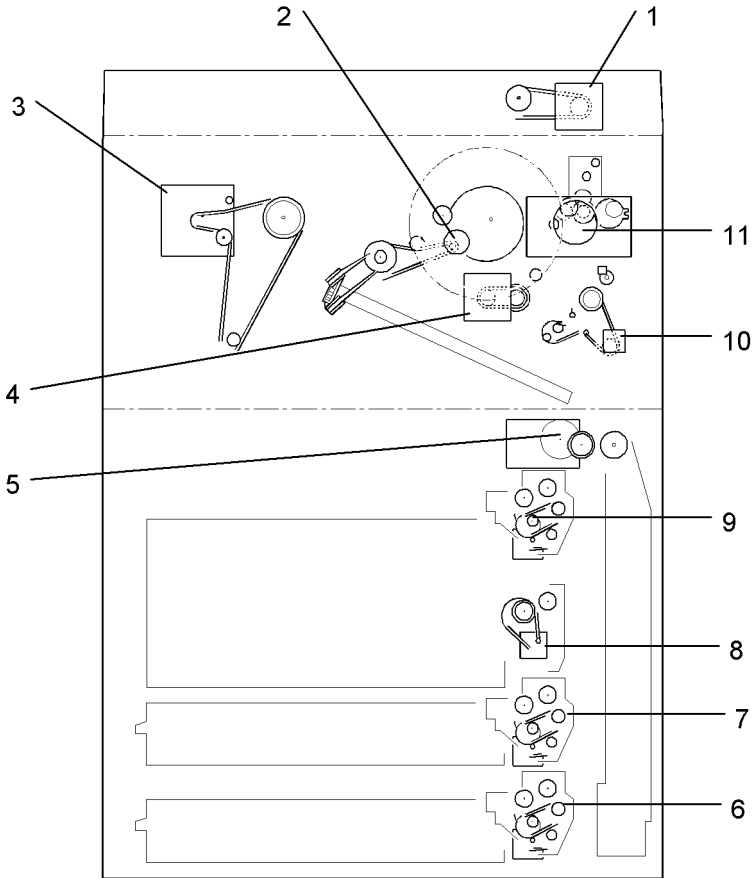
5. Turn Gates

6. Mailbox Paper Path

7. Junction Gate (paper goes either up to the mailbox or out to the finisher's proof tray)

8. Junction Gates (two junction gates control the paper path inside the finisher)

Drive Layout



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- | | |
|---------------------------|-----------------------|
| 1. Scanner Motor | 7. Paper Feed Motor 2 |
| 2. Drum Motor | 8. Lower Relay Motor |
| 3. Fusing/Exit Motor | 9. Paper Feed Motor 1 |
| 4. Registration Motor | 10. By-pass Motor |
| 5. Toner Collection Motor | 11. Development Motor |
| 6. Paper Feed Motor 3 | |

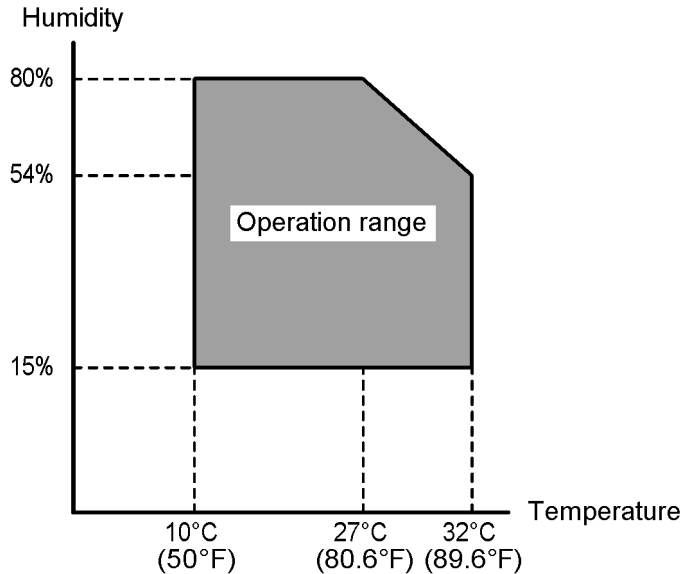
2. Installation

Installation Requirements

Operating Environment

2

1. Temperature Range
 - Recommended: 15 °C to 25 °C (59 °F to 77 °F)
 - Possible: 10 °C to 32 °C (50 °F to 90 °F)
2. Humidity Range:
 - Recommended: 30% to 70 %RH
 - Possible: 15% to 80% RH (27 °C 80%, 32 °C 54%)
3. Ambient Illumination: Less than 1,500 lux (do not expose to direct sunlight or strong light.)
4. Ventilation: Room air should turn over at least 3 times per hour
5. Ambient Dust: Less than 0.10 mg/m³



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6. If the place of installation is air-conditioned or heated, do not place the machine where it will be:
 - Subjected to sudden temperature changes
 - Directly exposed to cool air from an air-conditioner

- Directly exposed to heat from a heater
7. Do not place the machine where it will be exposed to corrosive gases.
 8. Do not install the machine at any location over 2,000 m (6,500 feet) above sea level.
 9. Place the copier on a strong and level base with the front and back of the machine within ± 5 mm (0.2") of level.
 10. Do not place the machine where it may be subjected to strong vibrations.
 11. Do not connect the machine to a power source shared with another electrical appliance.
 12. The machine can generate an electromagnetic field which could interfere with radio or television reception.

Machine Level

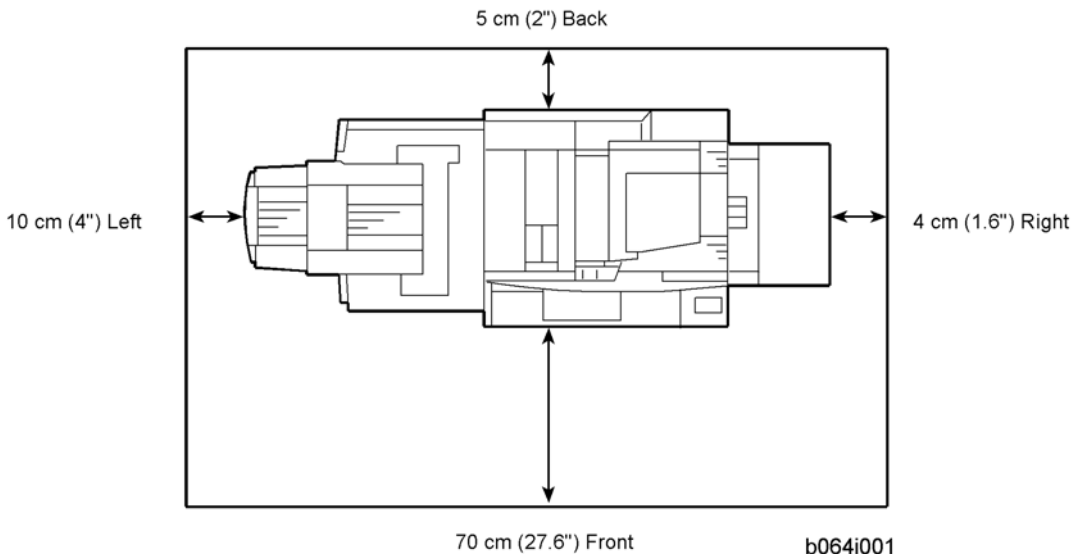
Front to back: Within ± 5 mm (0.2") of level

Right to left: Within ± 5 mm (0.2") of level

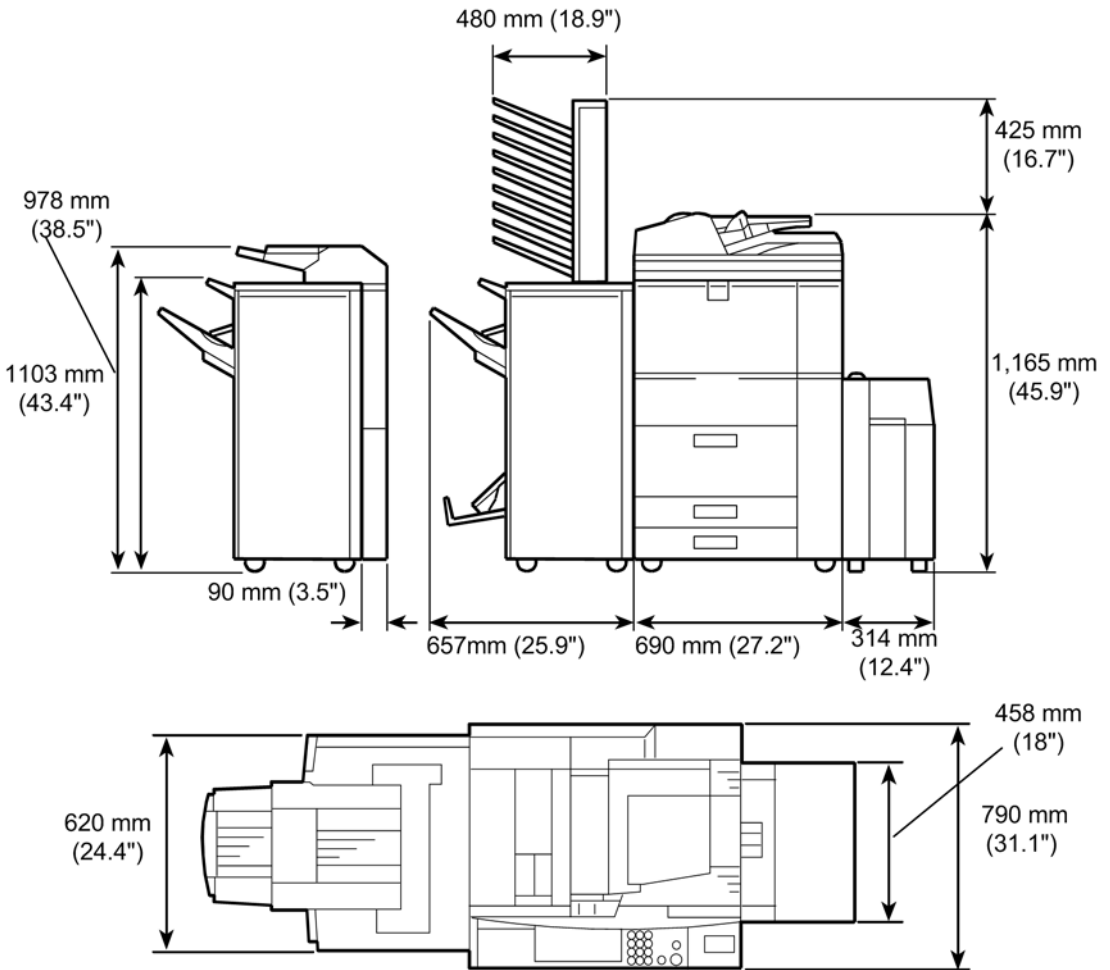
The machine legs may be screwed up or down in order to level the machine. Set a carpenter's level on the exposure glass.

Minimum Space Requirements

Place the copier near the power source, providing minimum clearance as shown below. The same amount of clearance is necessary when optional peripheral devices are installed.



Dimensions



2

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Peripheral/Option Summary Table

The table below summarizes all the peripheral devices and controller options.

Bnnn	Name	Class *1	Comment
B452	Key Counter Bracket Type 1027	1	Common option
B473	LCT RT43	1	Paper bank for LT/A4 paper

Bnnn	Name	Class *1	Comment
B474	81/2"x 14" Paper Size Tray Type 1075	1	Paper bank for LG paper
D482	A3/11" x 17" Tray Type 9001	1	Installed in Tray 1 (Tandem Tray)
B498	Card Reader Bracket	1	Connected directly to the mainframe
B499	Tab Sheet Holder Type 3260	2	Installed in Tray 1 (Tandem Tray)
B513	Output Jogger Unit Type 1075	2	Installed in D460
D462	Post Script3 Unit Type 9001	3	SD card
D464	USB2.0/SD Slot Type B	3	Installed in mainframe
B531-27	Punch Unit Type 1075 EU 2/4	2	Installed in D460
B531-17	Punch Unit Type 1075 NA 3/2	2	Installed in D460
D377	File Format Converter Type E	3	Board
B679	IEEE1284 Interface Board Type A	3	Board
D460	Finisher SR4050	1	Punching, sorting, shifting, corner stapling only
D373	Finisher SR4040	1	Punching, sorting, shifting, corner/ booklet stapling
D374	Finisher SR4030	1	Punching, sorting, shifting, corner stapling only
B702-27	Punch Unit Type 3260 EU 2/4	2	Installed in D373, D374
B702-17	Punch Unit Type 3260 NA 2/3	2	Installed in D373, D374
A812	Punch Unit Type 850 SC	2	Installed in D460
B703	Output Jogger Unit Type 3260	2	Installed on D373, D374
B513	Output Jogger Unit Type 1075	2	Installed on D460
B704	Cover Interposer Type 3260	2	Installed on the D374, D374, D460
D377-06	DataOverwriteSecurity Unit Type H	3	SD card
B756	Copy Tray Type 2075	1	Small output tray for mainframe

Bnnn	Name	Class ^{*1}	Comment
B762	Mail Box CS391	2	Installed on D373, D374
B826	Bluetooth Unit Type 3245	3	Board
D430	Browser Unit Type E	3	SD card
B829	Copy Data Security Unit Type F	3	IPU Board
D462	Printer/Scanner Unit Type 9001	3	SD Card
B328	Copy Connector Type 3260	1	Links two mainframes
D463	VM Card Type J	3	SD card
D377	Gigabit Ethernet Type B	3	Board
D377	IEEE 802.11a/g, g Interface Unit Type J	3	Board
D454	Multi Folding Unit FD5000	1	
D418-01	Fax Option Type 9001	1	Board
D418-05	G3 Interface Unit Type 9001	1	Board

* 1

Class 1: Peripheral units connected directly to the mainframe

Class 2: Components installed on or in peripheral units (punches, etc.)

Class 3: MFP controller options (SD cards, boards)

Power Requirements

CAUTION

- Make sure that the wall outlet is near the main machine and easily accessible. Make sure the plug is firmly inserted in the outlet.
- Avoid multi-wiring.
- Be sure to ground the machine.
- Never set anything on the power cord.

Input voltage level	North America 120 V, 60 Hz: 20 A or more
	Europe/Asia 220 V to 240 V, 50 Hz/60 Hz: 10 A or more
	Taiwan 110V, 60 Hz, 20A or more
Permissible voltage fluctuation	±10%

2

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.

The Main Power LED lights or flashes at the following times:

- While the platen cover or ADF is open
- While the main machine is communicating with the network server
- While the machine is accessing the hard disk or memory when reading or writing data.

There are two power switches on the machine:

- **Main Power Switch:** Located on the front left corner of the machine and covered by a plastic cover. This switch should always remain on unless the machine is being serviced.
- **Operation Power Switch:** Located on the right side of the operation panel. This is the switch normally used by the customer to power the machine on and off.

Main Machine

Accessory Check

Check the accessories and their quantities against this list:

	Description	Q'ty
1.	Model Name Decal (-29 Only)	1
2.	Operation Instructions (-17, -19, -21, -29, -57 Only)	2
3.	Support	2
4.	Decal – Paper Size	1
5.	Decal: Caution Chart: Paper Set: Direction	1
6.	Leveling Shoe	2
7.	Operating Instructions Holder	2
8.	Decal – Cleaning - Multiple	1
9.	Cloth – DF Exposure Glass	1
10.	Cloth Holder	1
11.	Decal – Toner Supply - Multiple	1
12.	Decal: Power Source: Off	1
13.	Decal Exposure Glass: Multiple	1
14.	Decal – D1/E1 Multiple	1
15.	EU Safety Sheet (-27, -67 only)	1
16.	Clear Cover (-17, -29, -57 only)	1
17.	Ferrite Core (RFC-13)	1
18.	EULA Sheet: 18 languages (-28, -57, -67 only)	1
19.	DHCP Sheet	1
20.	Decal: License Agreement 18 Languages (-28, -57, -67 only)	1

	Description	Q'ty
21	TEL Name Sheet (-21 only)	1

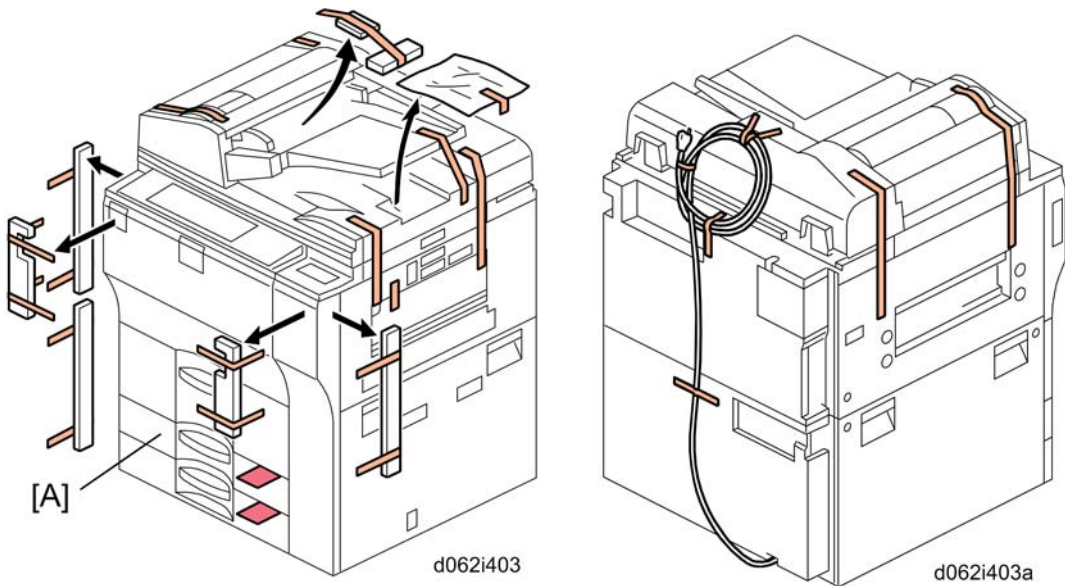
Installation Procedure

2

Removing Tapes and Retainers

⚠ CAUTION

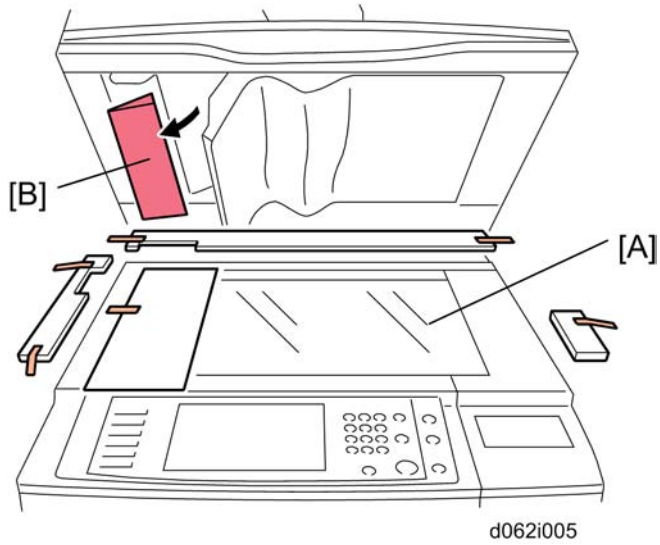
- To avoid serious injury, do not connect the power plug to the machine until you are instructed to do so.



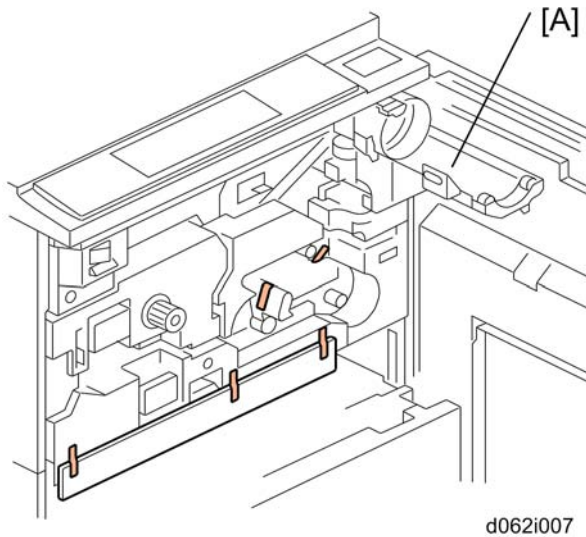
1. Unpack the machine and remove all the wrapping.
2. Remove all filament tape from the front of the machine.
3. Open the lower tray [A] and remove the operating instructions holder and foot risers.
4. Open the ADF feed cover and remove the tape and retainer.
5. Remove the tape from the back of the machine.

↓ Note

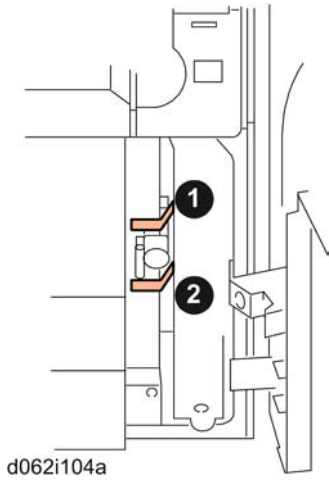
- Save the filament tape and shipping retainers to prepare the machine for shipping in the future.



6. Raise the ADF and remove all the tape and shipping retainers around the exposure glass [A] and operation panel.
7. Remove the shipping retaining sheet [B] under the white pad.

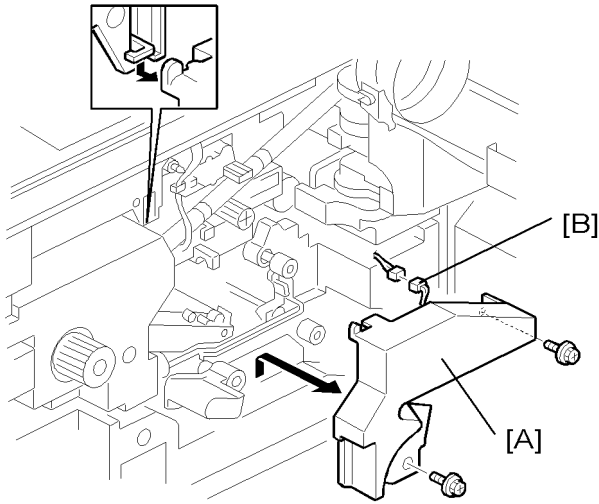


8. Open the front door, open the toner bottle holder [A], then remove all tape and shipping retainers.



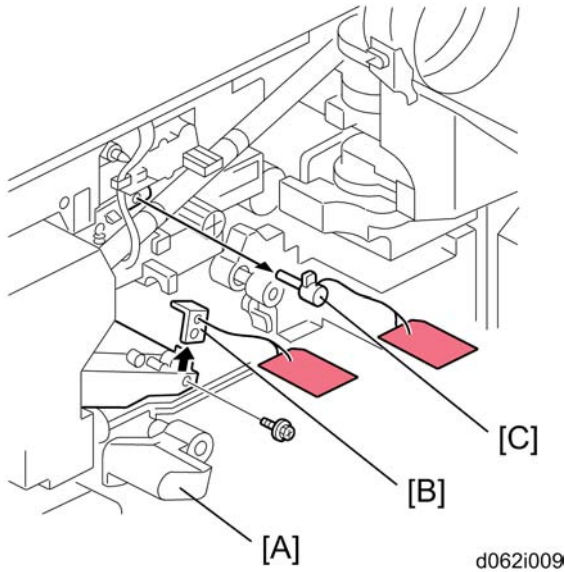
d062i104a

9. Open the right door and remove the tapes from the vertical transport plate.

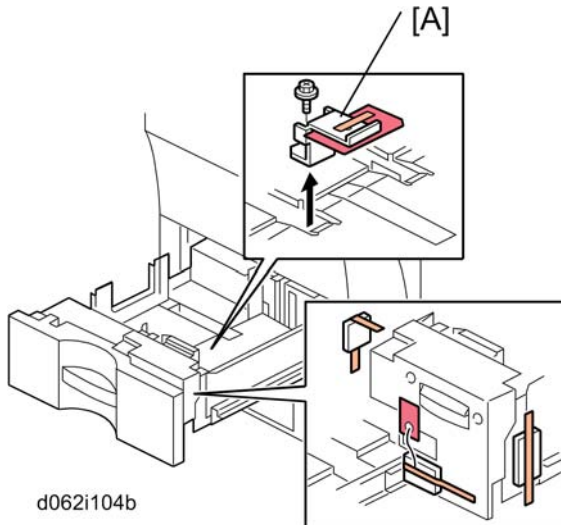


b064i008

10. Remove the PCU inner cover [A] (🔧 x 2) and disconnect the fan motor [B] (🔌 x 1).



11. Lower the transfer unit by turning its knob [A].
12. Remove the bracket [B], and the red tag from the transfer belt (🔧 x 1).
13. Remove the pin [C], and the red tag from the cleaning plate.



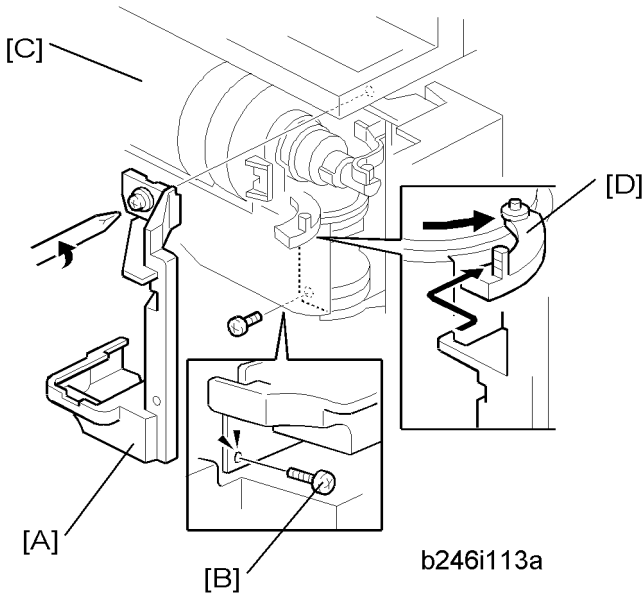
14. Open the tandem tray (top paper tray) and remove the metal retainer bracket [A] (🔧 x 1) and wire, then the red tags (x2) and all tape.

Removing and Filling the Development Unit

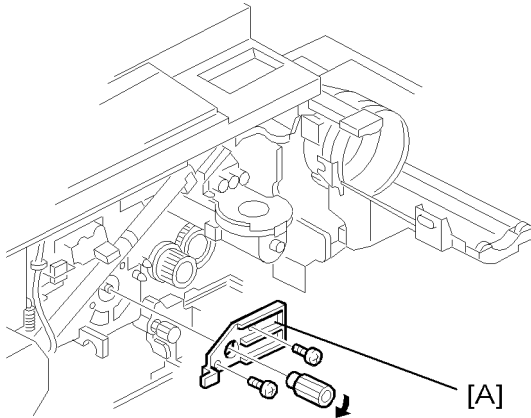
★ Important

- Before you begin, remove the toner bottle if it is installed.
- The toner bottle holder can be damaged if it is in the machine when you do the procedure below.

2

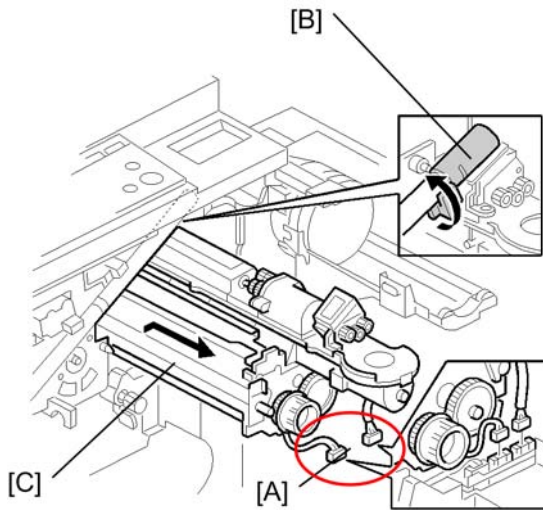


1. Open the front door.
2. Remove the shutter cover [A] (1 x 1).
3. Remove the lock screw [B].
4. Remove any remaining shipping tape [C].
5. Pull the toner bottle holder [D] and swing it to the right.



b064i302

6. Remove the face plate [A] of the development unit (knob x 1,  x 2).



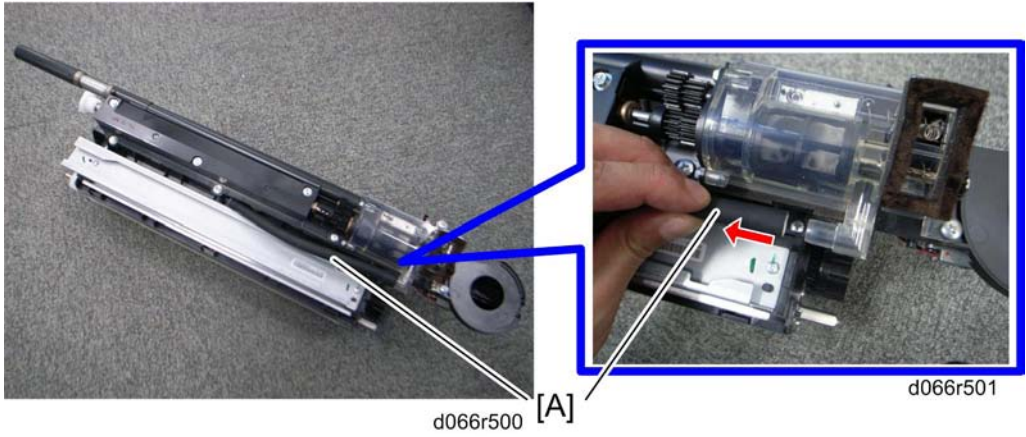
b064i303

7. Disconnect the development unit [A] ( x 2).

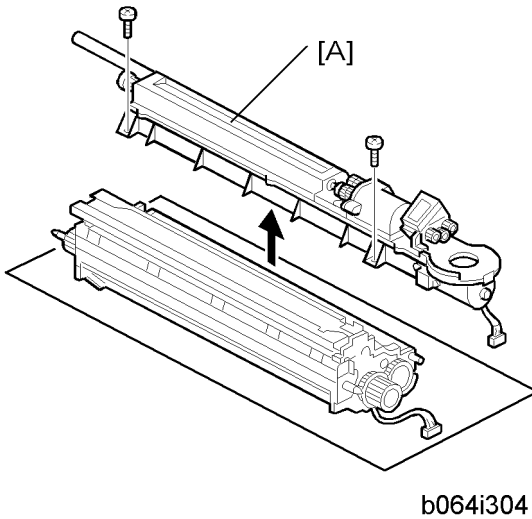
Note

- If the LCT is installed, disconnect it. This lets the front door open far enough for development unit removal.

8. Close the supply pipe shutter [B].
9. While allowing the development unit [C] to slip to the right, slowly pull it out of the machine.

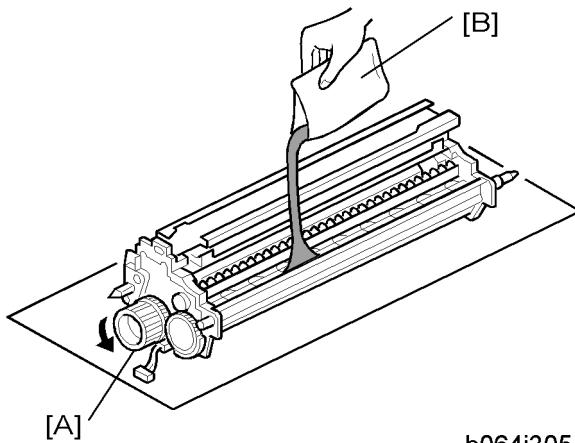


10. For D066 only, remove the pressure release tube [A].



11. Toner hopper [A] (see p.215 "Developer Replacement").

12. Rotate the toner hopper slightly 10° to 20° as you slide it up to remove it.



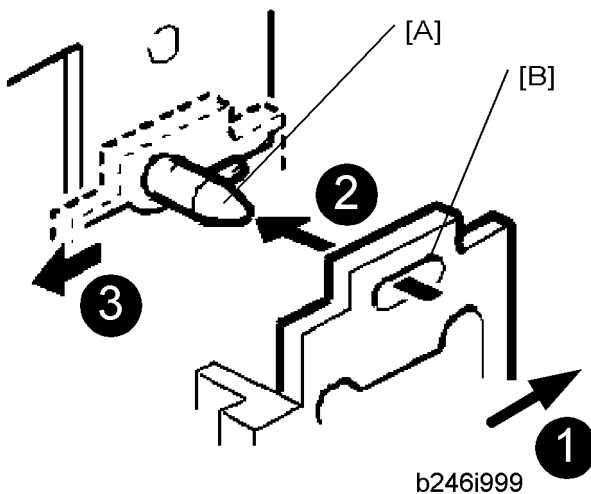
b064i305

13. While turning the knob [A] slowly, pour in one pack of developer [B] from one end of the development unit to the other.
14. Make sure that the developer is evenly distributed. Note the developer lot number printed on the top edge of the bag. You will need the lot number when you execute SP2963 (Installation Mode).
15. Assemble the development unit, then re-install it in the machine.
16. Follow the instructions printed on the inside of the front door to install the toner bottle.

↓ **Note**

- If the door does not close, make sure that the pipe line shutter is rotated down. (See Step 7 above.)

Re-installing the Development Unit



b246i999

2

1. Push the development unit to the right ❶.
2. While continuing to hold the unit to the right, push it into the machine.
3. Confirm that the pin [A] goes into the left side of the oval hole [B] in the development unit plate.
4. Push the development unit in completely ❷ until it stops, then push it to the left ❸.
5. Make sure you can see the horizontal pin in front of the plate as shown below.

Correct



Incorrect



b246i999a

↓ **Note**

- If you cannot move the development unit plate behind the horizontal pin, turn the front gear of the unit to the left and try again.

6. Make sure the pipeline shutter is rotated down to the open position.
7. Reattach all removed parts.

Initializing the Drum Settings

You must do SP2963 (Installation Mode) to 1) Initialize the developer and do a forced toner supply to the development unit, and 2) Initialize the auto process control settings.

- You must open the front door before you switch the machine on. If you do this, the machine does not do the short automatic process control procedure, which is usually done after the machine power is turned on.
 - SP2963 must be done before you do sample copying or test printing.
 - If you do not press "Execute" in Step 6, the auto process control items (potential sensor calibration, Vsg, Vref, etc.) will not initialize correctly.
1. Open the front door.
 2. Connect the power cord.
 3. Turn the main power switch on.
 4. Go into the SP mode.

5. Close the front door.
6. Enter SP2963-002, then enter the lot number of the developer.
 - The lot number should be seven digits.
 - If seven digits are not entered before you do SP2963-001, the LCD shows error messages.
7. Do SP2963-001.

Note

- It may take approximately four minutes to initialize toner supply and the auto process control settings.
8. Press "Exit" to go out of the SP mode.
 9. Attach the applicable decals (supplied with the machine) to the paper trays.
 10. Check the copy quality and machine operation.

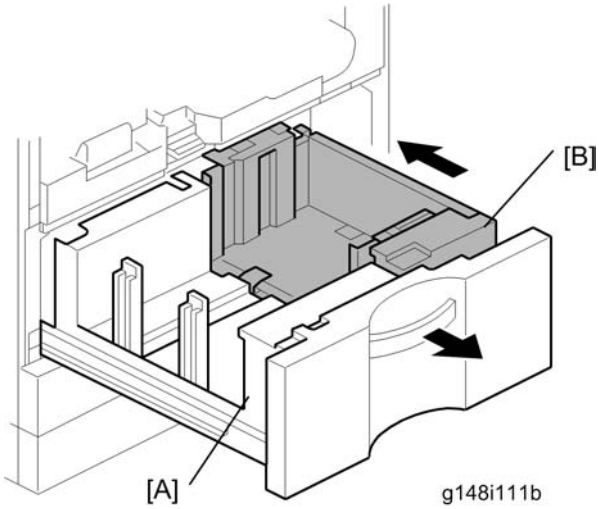
★ Important

- **At installation, use SP2963 to enter the lot number, initialize the developer, and to force toner supply to the toner hopper.**
- **After you replace developer in a machine that has been already installed, do not use SP2963; use SP2801 (TD Sensor Initial Setting) instead to enter the lot number and initialize the TD sensor. (See p.215 "Developer Replacement")**

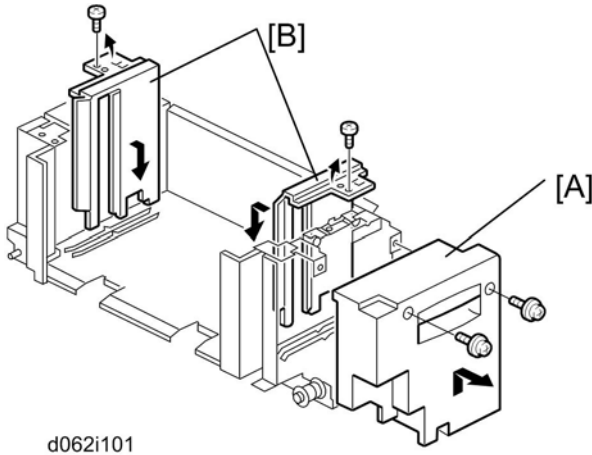
Tandem Tray

Before shipping the machine, the tandem tray is set for A4 or LT LEF and must be adjusted if the customer wants to use the tandem tray for another paper size.

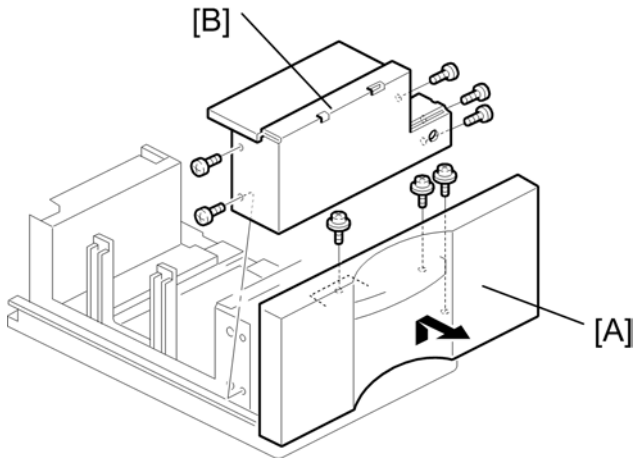
Feed Station	Allowed Size
Tandem Tray (Tray 1)	A4 LEF, LT LEF



1. Open the front cover.
2. Completely pull out the tandem feed tray [A] so that the right tandem tray [B] separates from the left tandem tray.

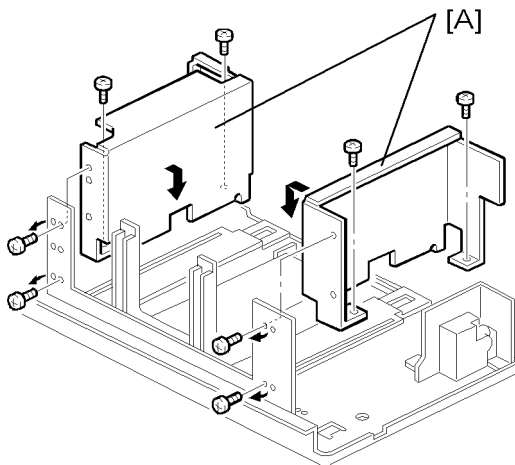


3. Remove the right tandem inner cover [A].
4. Re-position the side fences [B] (2). The outer slot position is used when loading A4 size paper.
5. Re-install the right tandem inner cover [A].



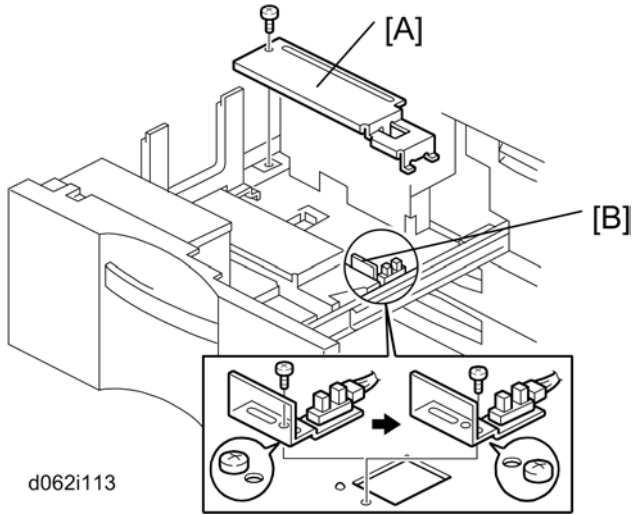
d062i112

6. Remove the tray cover [A] (⚙️ x 3).
7. Remove the motor cover [B] (⚙️ x 5).



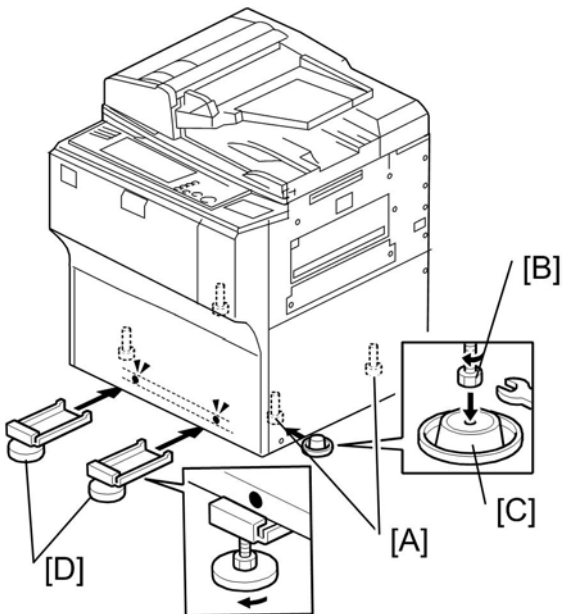
b064i523

8. Re-position the side fences [A] (⚙️ x 8). The outer slot position is used when loading A4 size paper.
9. Re-install the motor cover and the tray cover.



10. Remove the rear bottom plate [A] (⌀ x 1).
11. Re-position the return position sensor bracket [B] (⌀ x 1). To use the paper tray for A4 size, put the screw in the left hole as shown. (For LT size, the screw should be placed on the right.)
12. Re-install the rear bottom plate.
13. Change the paper size using SP5959-001 (Paper Size – Tray 1). For details, see SP5959 in “Service Tables”.

Machine Level



1. Set a stand [A] at two front foot of the machine.
2. Set the leveling shoes [C] (x2) under the feet [B], then level the machine.
 - Two leveling shoes should be installed at the front side.
3. Install two supports [D] at the front side of the machine.
4. Check the machine operation. With the customer, determine the best place to attach the cleaning reminder decal.

Date/Time Setting

Use the User Tools menu to set the current date and time.

- On the operation panel, press the User Tools key.
- On the touch-panel, press "System Settings".
- Press the "Timer Setting" tab.
- Press "Set Date" to enter the date.
- Press "Set Time" to enter the time.

SP Codes

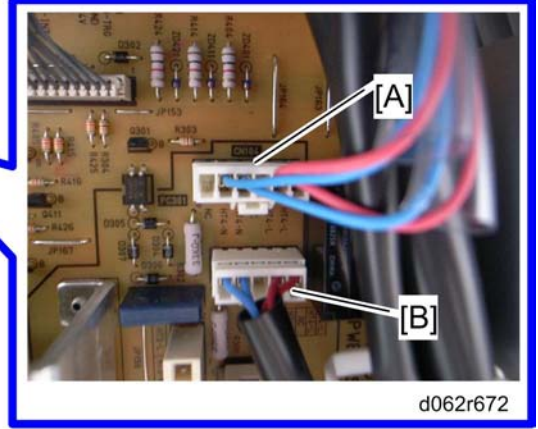
SP5812-00 1	Service Telephone Number Settings	Enter the contact number of the customer engineer. This is the number displayed when a service call is issued.
SP5841-00 1	Supply Name Setting – Toner Name Setting: Black	This name appears when the user presses the Inquiry on the User Tools screen.
SP5853	Stamp Data Download	Do SP 5853 to copy stamp data to the hard disk, then turn the power off/on.

Connecting the Drum Heater Connector and the Tray Heater Connector.

1. Open the rear upper cover and the rear lower cover.



d062r662

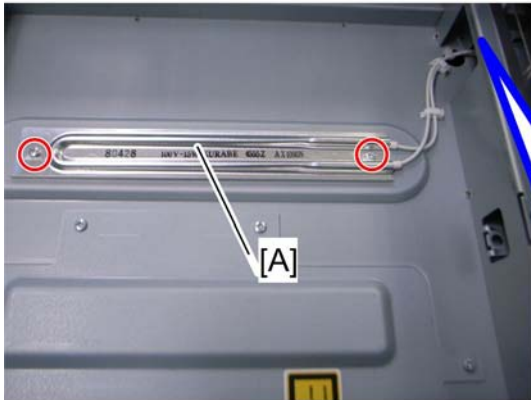


d062r672

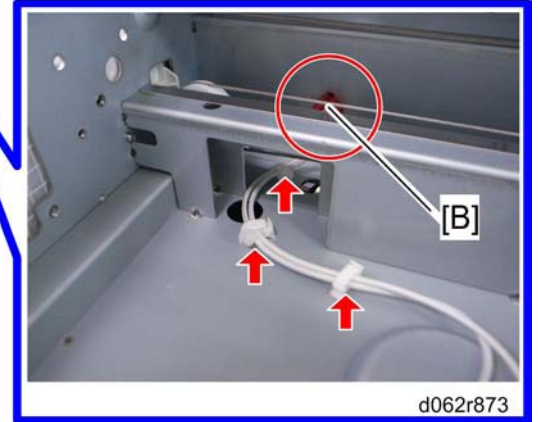
2. Connect the tray heater connector to the CN104 connector [A].
3. Connect the drum heater connector to the CN103 connector [B].

Installing the Scanner Heater

1. Rear upper cover (p.175)
2. Exposure glass (p.178)
3. Operation panel (p.172)
4. Left stay (p.184 "Scanner Wire Replacement").



d062r876



d062r873

5. Install the scanner heater [A] (x 2)
6. Fasten the cable with the harness clamps (x 3).
7. Fasten the connector [B] on the rear side of the machine (x 1).



d062r874



d062r876

8. Connect the harness [C] to the connector [B] on the rear side of the machine.

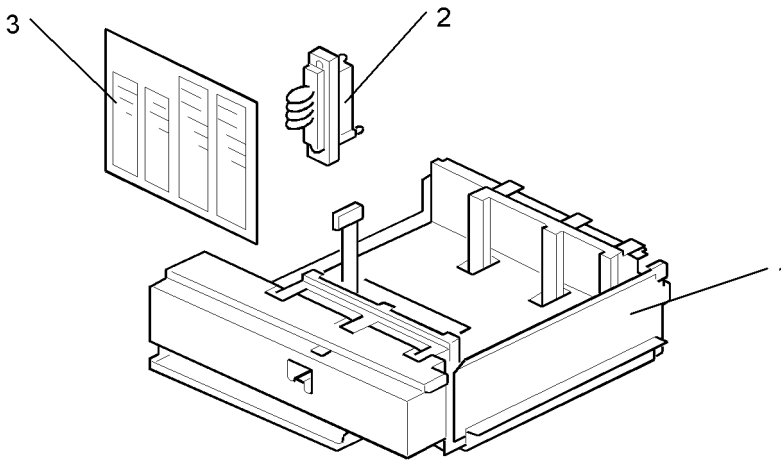
A3/DLT Feeder Kit (D482)

Accessory Check

2

Check the accessories and their quantities against this list:

	Description	Q'ty
1.	A3/DLT Tray	1
2.	Short connector	1
3.	Page size decals	1

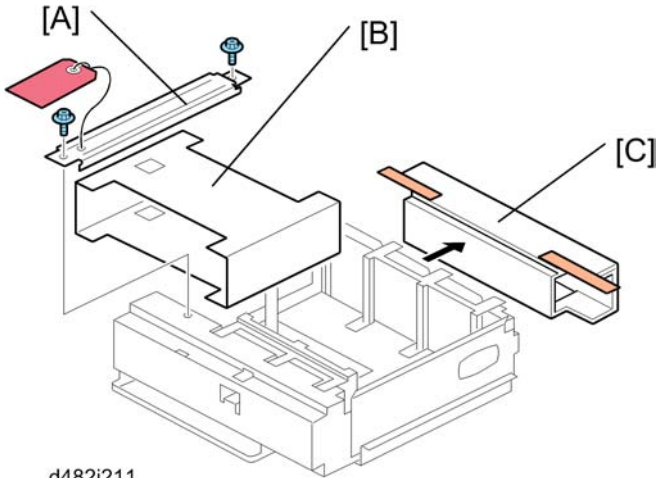


b475i001

Installation Procedure

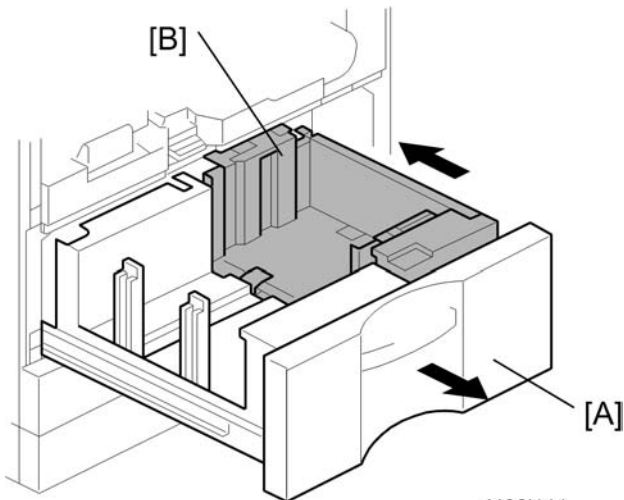
⚠ CAUTION

- Switch the machine off and unplug the machine before starting the following procedure.



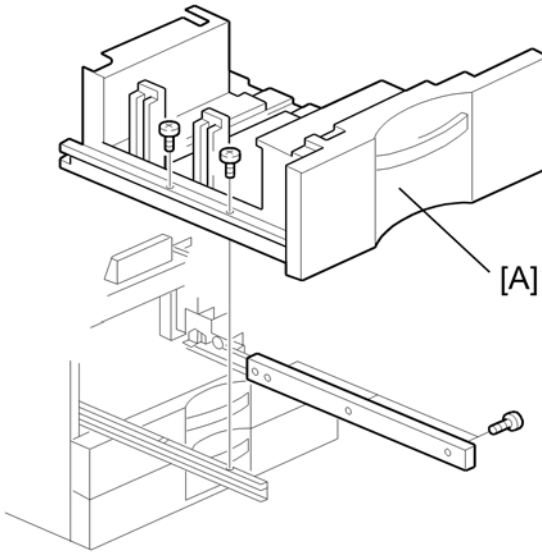
d482i211

1. Remove the stay [A] (⌀ x 2).
2. Remove the retainers [B] [C].



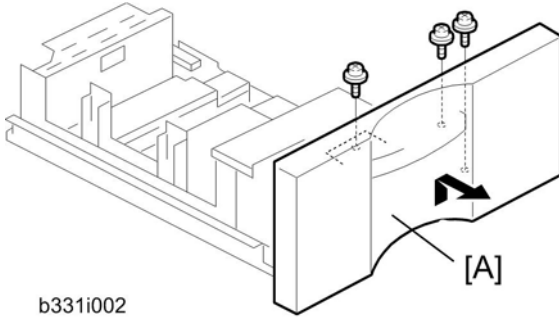
d482i111

3. Draw out the tandem tray [A] completely to separate the left and right sides of the tray.
4. Push in the right tandem tray [B].



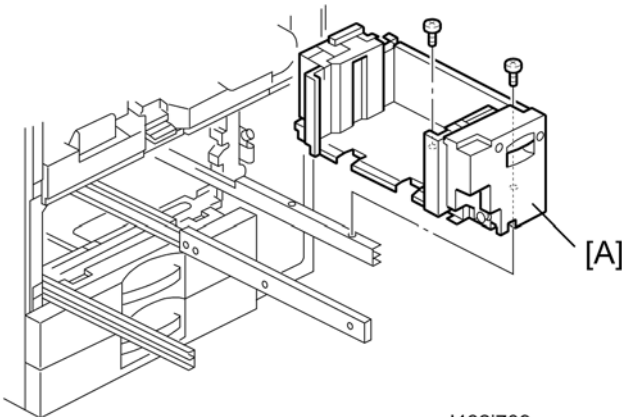
b475i708

5. Remove the left tandem tray [A] (⚙ x 5). Keep these screws.



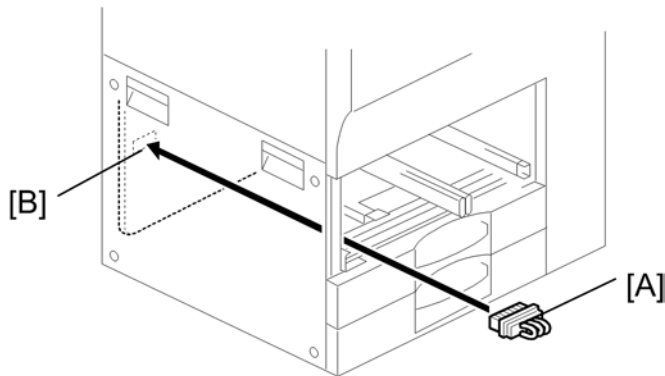
b331i002

6. Remove the front cover [A] (⚙ x 3).



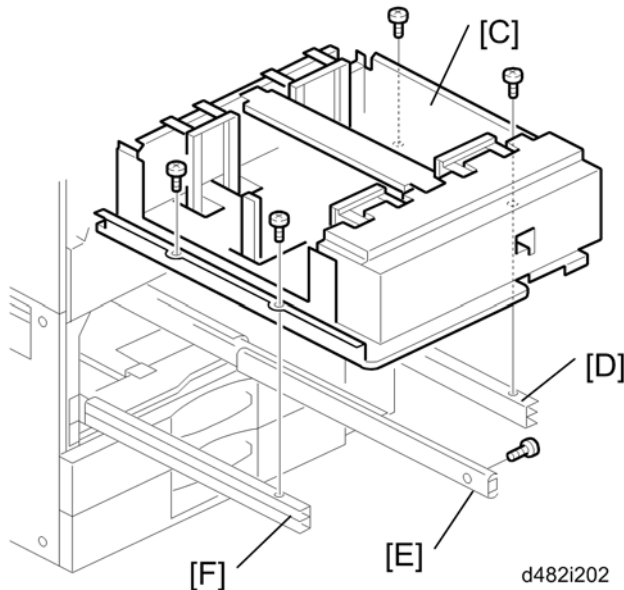
d482i709

7. Remove the right tandem tray [A] (⚠ x 2). Keep these screws.



d482i201

8. Connect the short connector [A] to the left tandem tray terminal [B].



d482i202

9. Install the A3/DLT tray [C] on the right rail [D], center rail [E], and left rail [F]. Use the screws that you removed in Steps 3 and 4.

Note

- You must use the short, silver screws on the left and right rails. If you use one of the longer screws, it will stop the movement of the tray on the rails.

10. Re-install the front cover.
11. Switch the machine on, enter the SP mode and select the paper size for Tray 1 with SP5959-001 (Paper Size – Tray 1). For details, see SP5959 in "Service Tables".
12. Attach the appropriate decal for the selected paper size.

LCT (B473)

Accessory Check

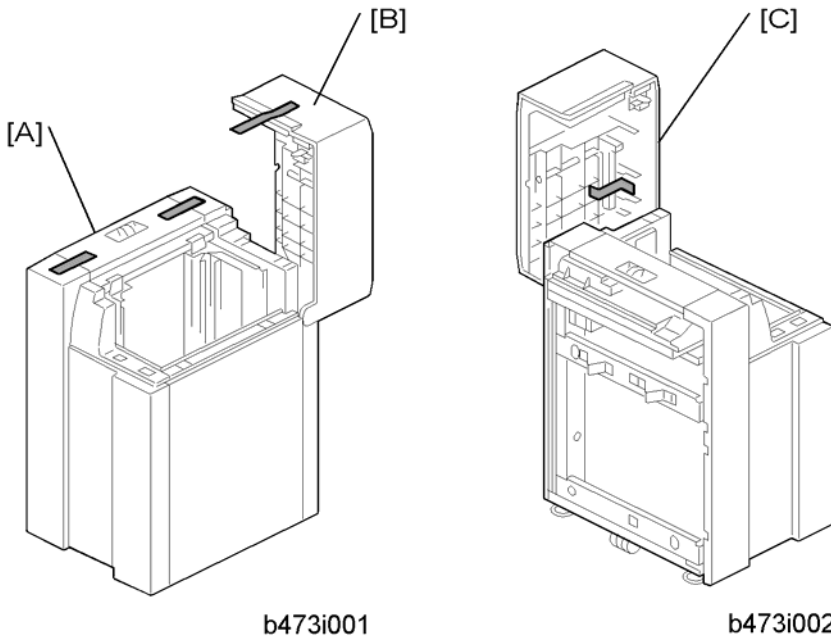
Check the accessories and their quantities against this list:

2

	Description	Q'ty
1.	Flat-head shoulder screw - M4 x 6	1
2.	Upper docking pins (grooved)	2
3.	Lower docking pin (not grooved)	1
4.	Installation Instructions	1
5.	Paper Set Decal	1

Installation Procedure

Removing Tape



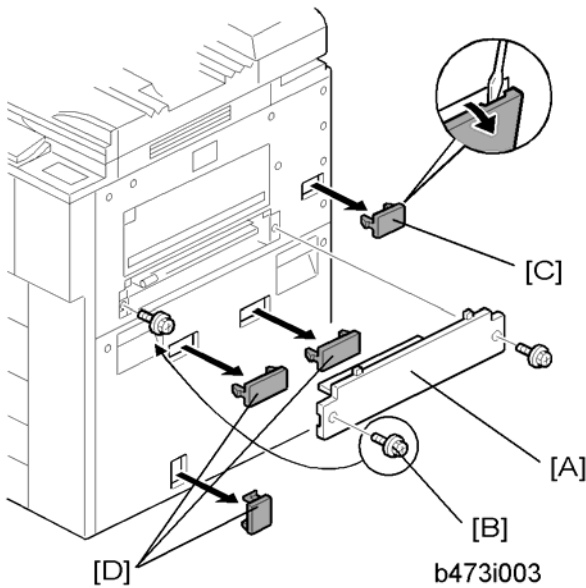
1. Remove the filament tape from the body [A] and top cover [B] of the LCT.
2. Remove the tape under the lid [C] of the LCT.

Preparing the Main Machine

⚠ CAUTION

- Switch the machine off and unplug the machine before starting the following procedure.

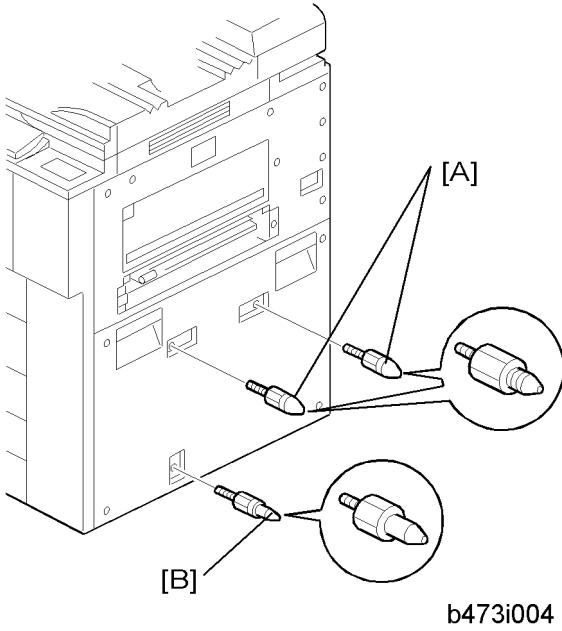
2



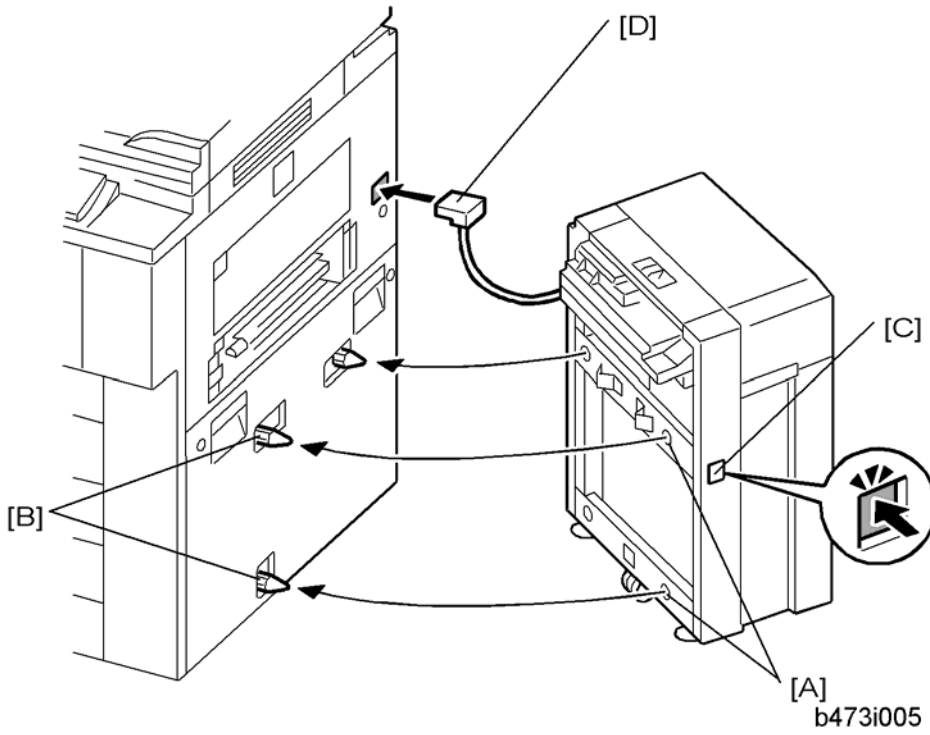
1. Remove the LCT installation cover [A] from the right side of the machine (⚙ x 2).
2. Save the screw on the left [B]. You will need it to install the LCT.
3. Remove the LCT connector cover [C] (x 1) and the covers over the holes for the docking pins [D]. (x 3)

Installing the LCT

2



1. Insert the two upper docking pins (grooved) [A] into the upper slots and the lower docking pin [B] into the lower slot.

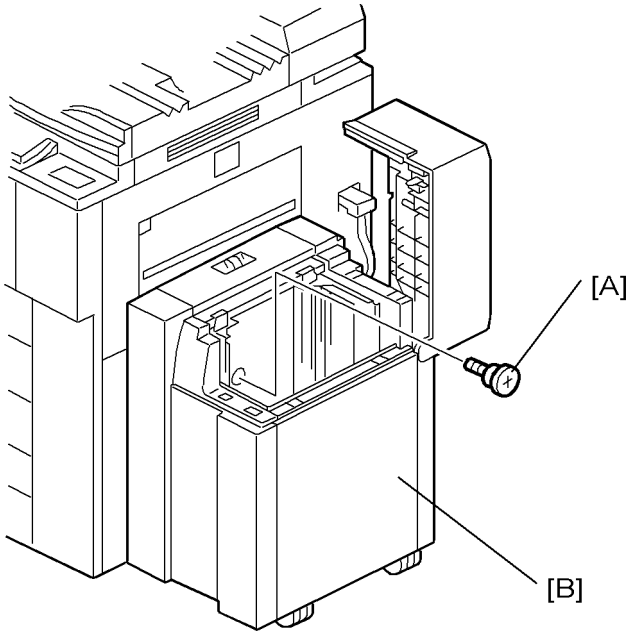


1. Align the holes on the side of the LCT [A] with the docking pins on the side of the machine [B], then slowly push the LCT onto the pins.

Note

- The release button [C] is used to unlock the LCT so it can be disconnected from the machine.

1. Connect the plug [D] of the LCT power cord to the side of the machine.



b473i006

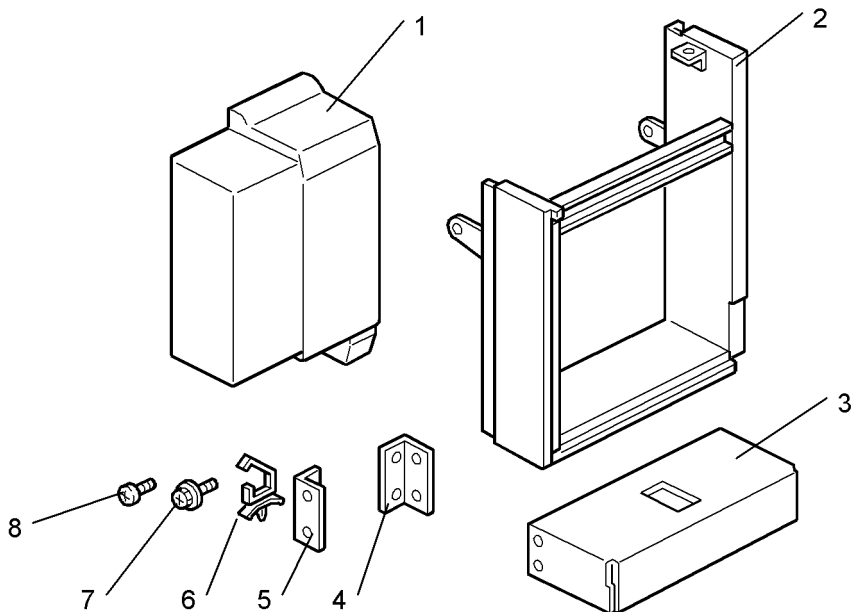
1. Insert the flat-head shoulder screw [A] into the hole and fasten it to lock the release lever in place.
 - For easier access to the hole for the screw [A], you can remove the right panel [B] (⚙ x 2).
2. Switch the machine on and execute SP5959 005 (Paper Size – Tray 4 (LCT)) to select the paper size. For details, see SP5959 in “Service Tables.”

LG/B4 Feeder Kit (B474)

Accessory Check

Check the accessories and their quantities against this list:

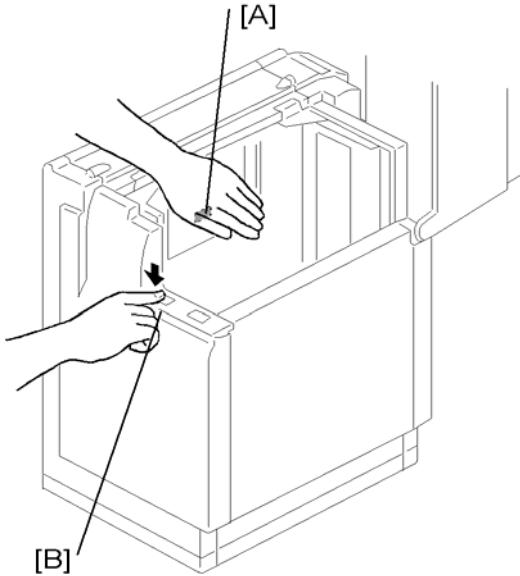
	Description	Q'ty
1.	Cover	1
2.	B4/LG frame	1
3.	Bottom plate extension	1
4.	Rear bracket	1
5.	Front bracket	1
6.	Harness clamp	1
7.	Tapping hex screws - M4 x 8	6
8.	Tapping screws - M4 x 8	4



b474i001a

Installation Procedure

If the LCT is connected to the machine



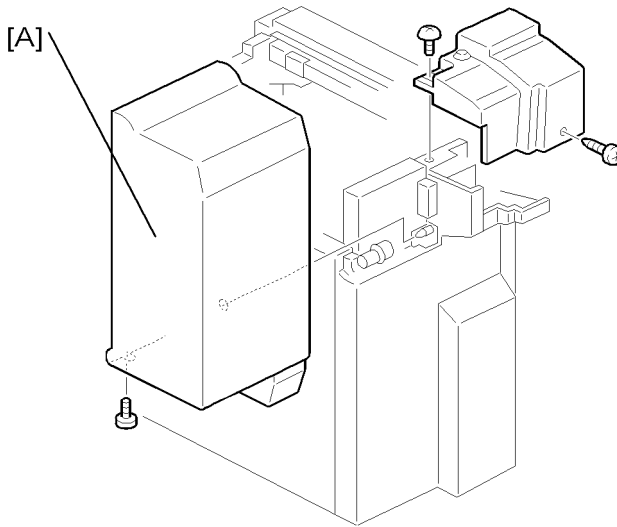
b474i507

1. Open the cover and remove the paper.
2. Lower the LCT tray. Cover the near end sensor [A], then press the tray down button [B] to lower the tray bottom plate.

⚠ CAUTION

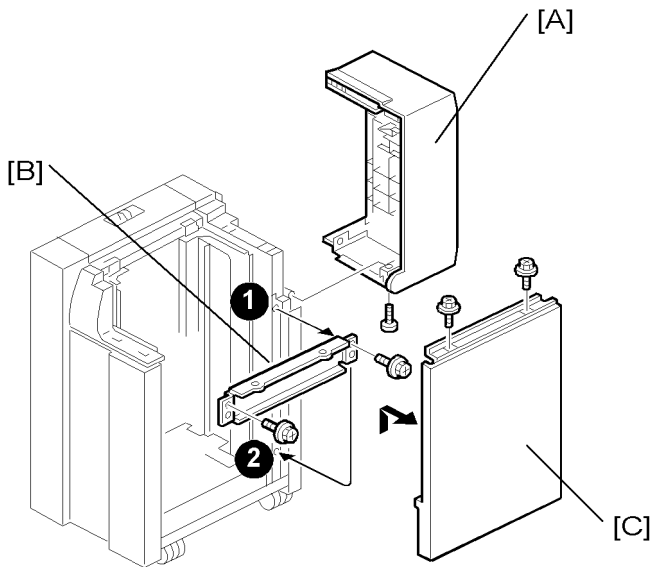
- Switch the machine off and unplug the machine before starting the following procedure.

3. Disconnect the LCT from the machine.



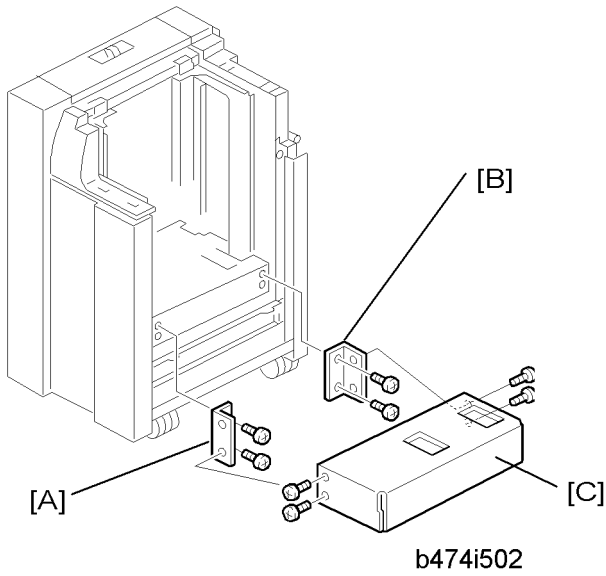
b474i504

4. Remove the LCT upper cover [A].



b474i001

5. Remove the LCT cover [A] (🔩 x 1).
6. Remove the right stay [B] at ❶ and re-attach it below at ❷ (🔩 x 2).
7. Remove the right cover [C] (🔩 x 2).



b474i502

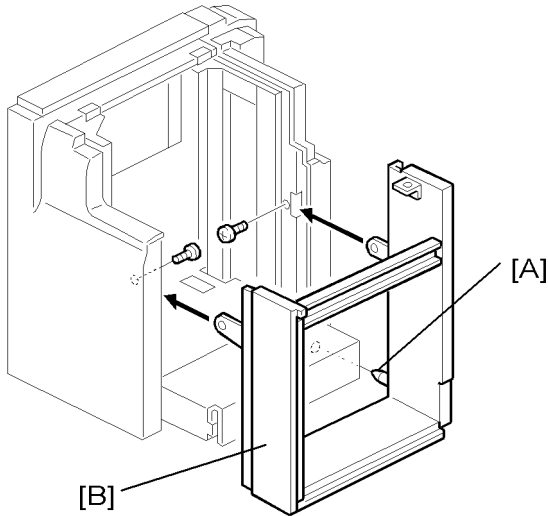
8. Attach the front bracket [A] with the beveled corner down (⚙️ x 2).

Note

- If the brackets are difficult to install, raise the bottom plate with your hand.

9. Attach the rear bracket [B] with the beveled corner down (⚙️ x 2).

10. Attach the bottom plate extension [C] with the hex nuts (⚙️ x 4).

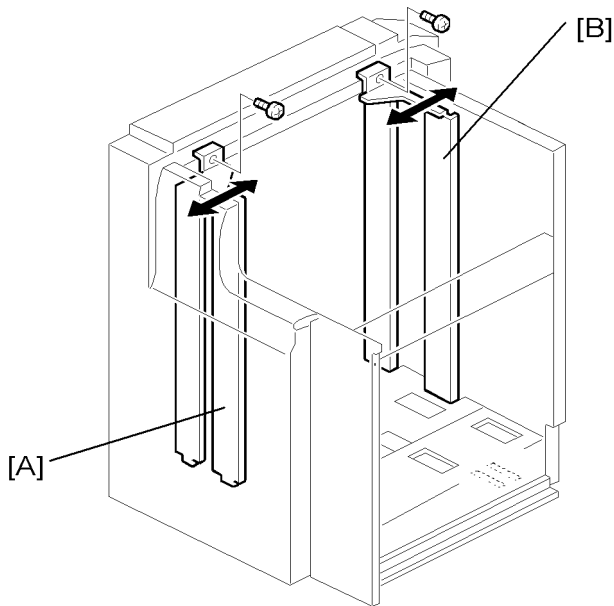


b474i553

11. Align the positioning pin [A].

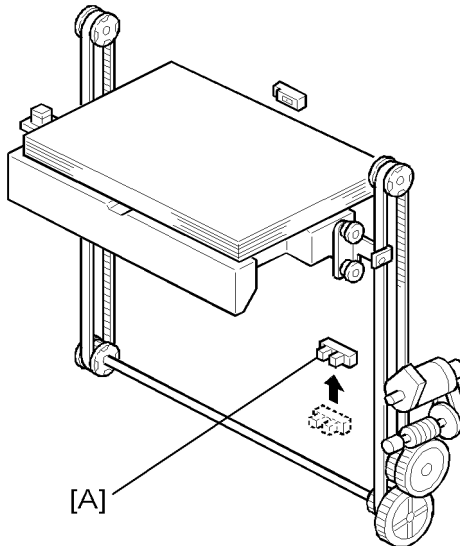
12. Attach the B4/LG frame [B] with the hex nuts (⚙️ x 2).

The kit is set for B4. If you need to change the paper size to LG, do the following steps.



b474i555

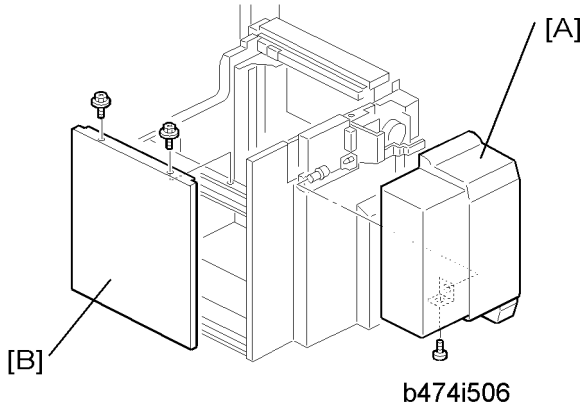
13. Move the front side fence [A] to the LG position and fasten (⚙️ x 1).
14. Move the rear side fence [B] to the LG position and fasten (⚙️ x 1).



b474i508

15. Change the position of the lower limit sensor [A] (⚙️ x 1).
16. Attach the harness (not shown) to the back of the plate and secure the sensor connector wire.

2

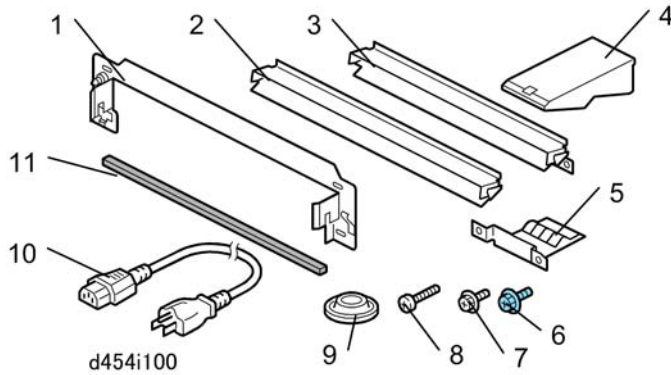


17. Attach the LCT cover [A] provided with the kit (⚙️ x 1).
18. Re-attach the right cover [B] (⚙️ x 2).
19. Connect the LCT to the machine (🖨️ p.54 "LCT (B473)")
20. Switch the machine on, enter the SP mode, then use SP5959 005 (Paper Size – Tray 4 (LCT)) to select the new paper size. For details, see SP5959 in "Service Tables".

Multi Folding Unit (D454)

Accessories

Check the quantity and condition of the accessories in the box against the following illustration and list.



No.	Description	Q'ty
1.	Joint Bracket	1
2.	Paper Guide – Long	1
3.	Paper Guide – Short (Not used)	1
4.	Proof Tray Auxiliary Plate	1
5.	Ground Plate	1
6.	Screws M3x6	2
7.	Screws M3x6	2
8.	Screws M4x14	4
9.	Leveling Shoes	5
10.	Power Cord	1
11.	Sponge Strip	1

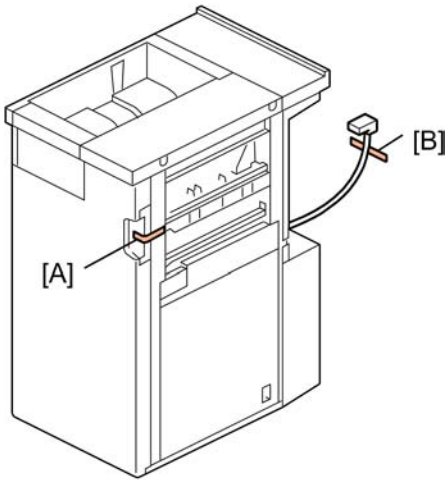
Installation

⚠ CAUTION

- The unit must be connected to a power source that is close to the unit and easily accessible.
- Make sure that the main machine is switched off and that its power cord is disconnected before doing the following procedure.

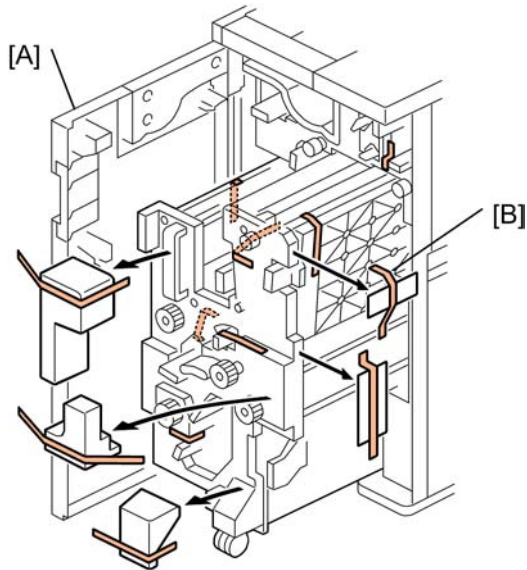
2

Tapes



d454i101

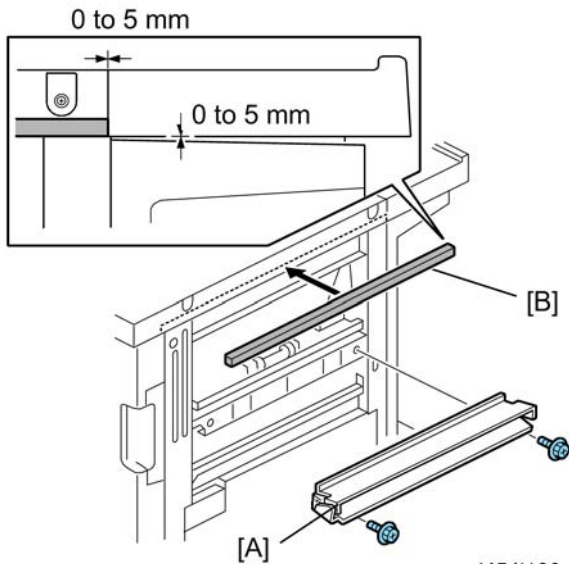
1. Remove tape from front [A] and rear [B].



d454i102

2. Open the front door [A].
3. Remove all tape from inside [B].

Paper Guide, Sponge Strip



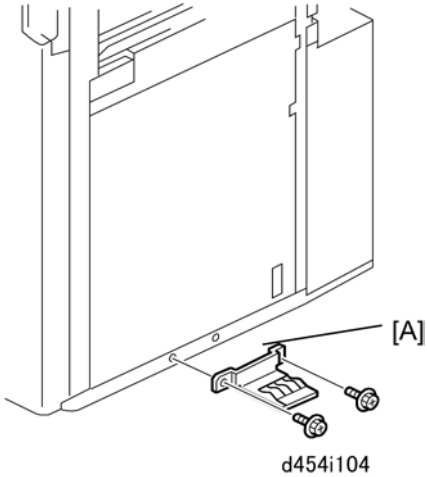
d454i103

1. Select the short paper guide for this installation.
 - The long paper guide is not used.

2. Attach the short paper guide [A] (🔩 x2 M3x6).
3. Peel the tape from the sponge strip [B] and attach the strip to the top right edge of the unit.

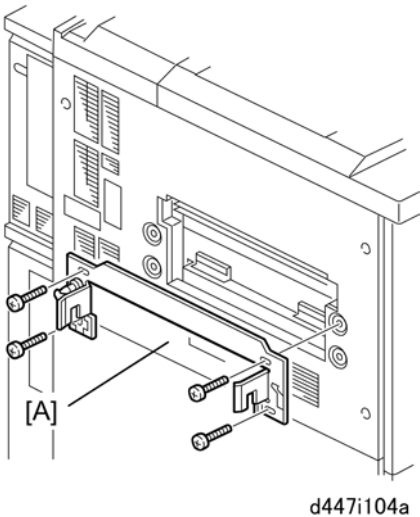
Ground Plate

2

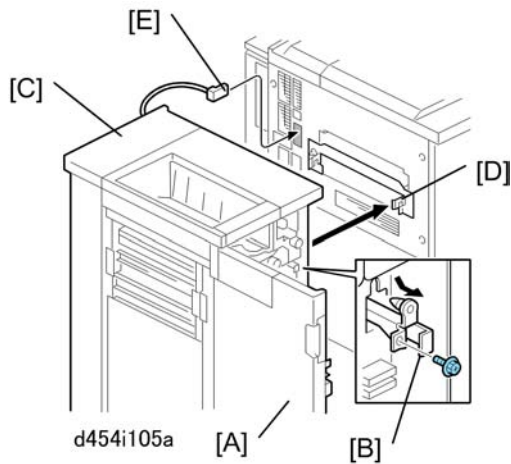


1. Attach the ground plate [A] to the lower right edge of the unit (🔩 x2 M3x6).

Docking



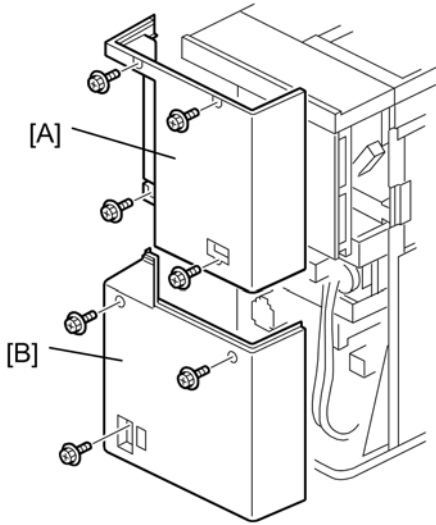
1. Fasten the joint bracket [A] to the left side of the upstream unit (🔩 x4 M4x10).



2. Open the front door [A].
3. At the front right corner, remove the screw of the lock bar [B] (🔩 x1 M3x6). **Keep this screw.**
4. Pull the lock bar toward you until it stops.
5. Slowly push the unit [C] against the left side of the upstream unit (or main machine) so that the lock bar is directly and squarely under the arms of the joint bracket.
6. Push the lock bar in completely so that it slides up into the notches in the arms on both ends of the joint bracket [D].
7. Fasten the lock bar by re-attaching the screw removed in **Step 3** (🔩 x1).
8. Connect the I/F cable [E] to the upstream unit (or main machine).

⬇ **Note**

- If you are connecting to the main machine, you must first remove the plastic cap on the I/F cable connection point.

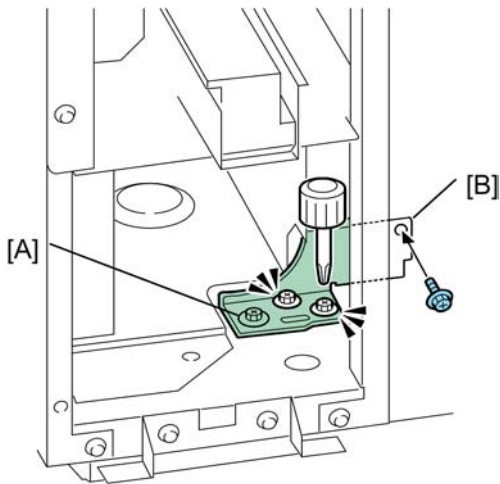


d454i106

9. Remove:

[A] Rear upper cover (🔩 x4)

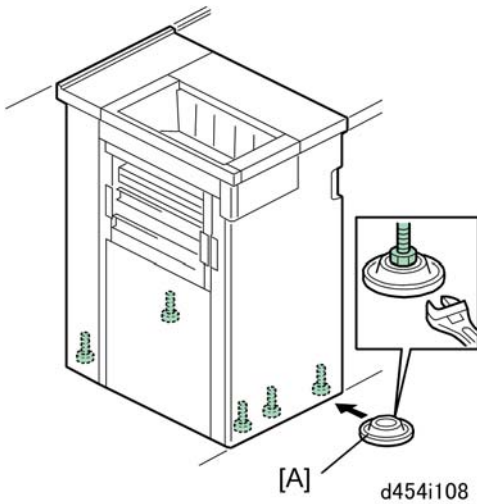
[B] Rear lower cover (🔩 x3)



d457i110

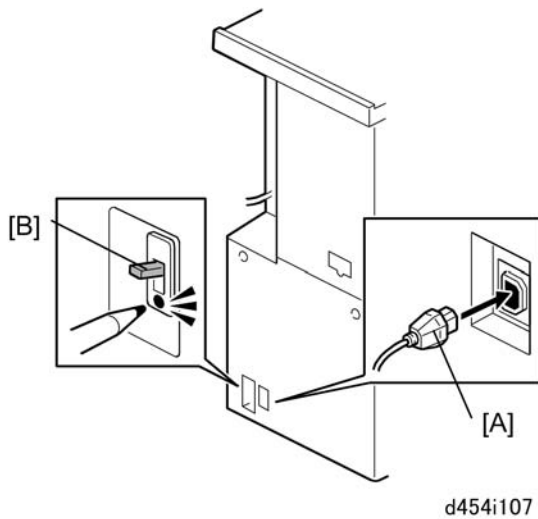
10. Use a short screwdriver to loosen bracket [A] (🔩 x2).
11. Fasten the bracket to the upstream unit at [B] (🔩 x1).
12. Tighten the screws (🔩 x3).
13. Re-attach the rear covers.

Height Adjustment



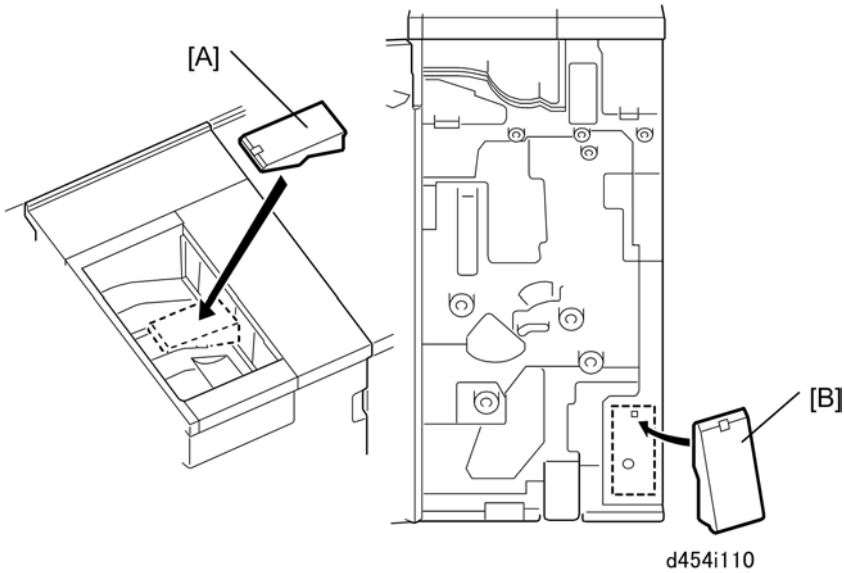
1. Set the leveling shoes [A].
2. Adjust the height of the unit and make sure that it is level.

Power Cord, Breaker Switch Test



1. Insert the power cord socket [A] into the power connection point.
2. Connect the power supply cord plug into a power outlet.
3. Test the breaker switch [B].

Proof Tray Auxiliary Plate



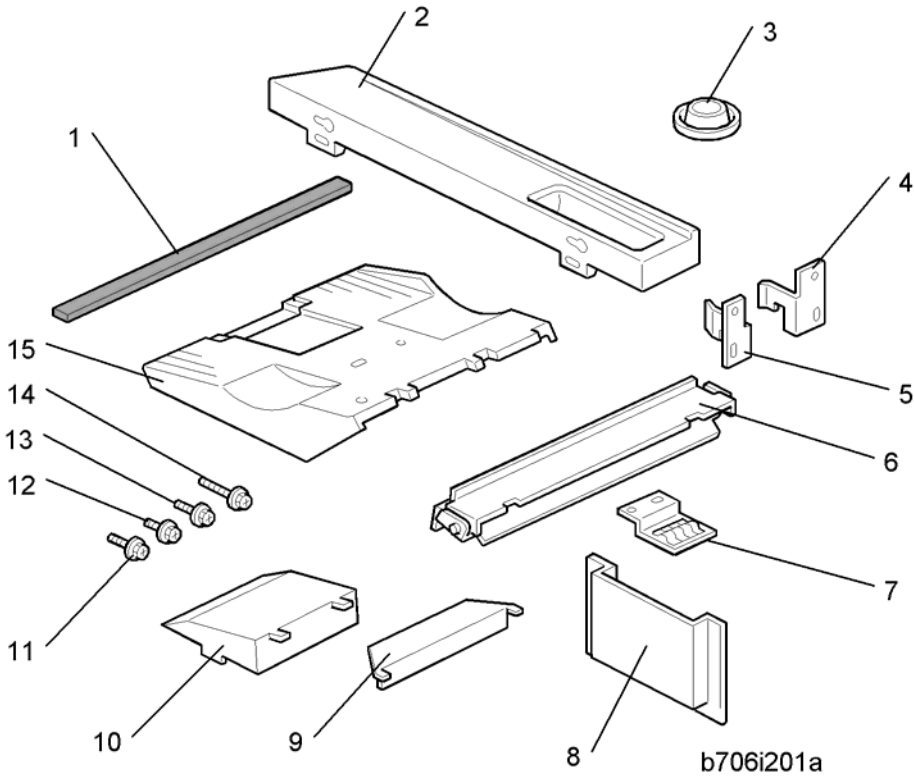
1. Install the proof tray auxiliary plate at [A].
 - Set the plate in the center aligned with the diagonal groove.
 - The back should be flat against the end fence.
2. When the plate is not being used, open the front door and store it at [B] inside the inner cover.
 - The plate should be used when Z-folded paper (all sizes) is output to the proof tray.
 - If the plate is not used with Z-folded output, the pages could mix and overlap.

3000-Sheet Finisher (D460)

Accessory Check

Check the accessories and their quantities against this list:

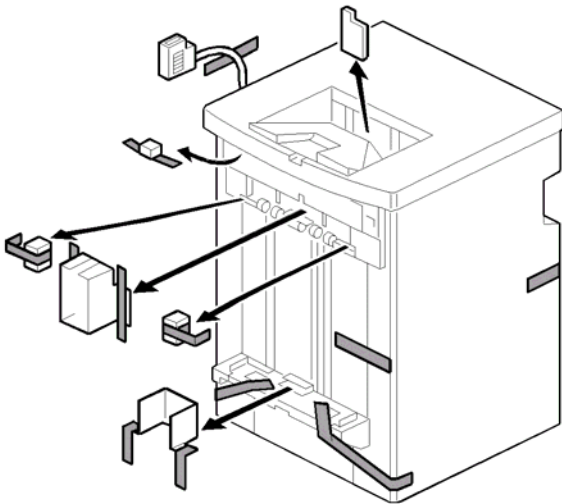
	Description	Q'ty
1.	Cushion	1
2.	Table Extension	1
3.	Leveling Shoes	1
4.	Rear Joint Bracket	1
5.	Front Joint Bracket	1
6.	Entrance Guide Plate	1
7.	Grounding Plate	1
8.	Auxiliary Tray Holder	2
9.	Auxiliary Tray - Proof	2
10.	Auxiliary Tray - Shift	2
11.	Tapping Screws - M4 x 8	2
12.	Tapping Screws - M3 x 6	4
13.	Tapping Screws - M3 x 8	4
14.	Phillips Screws w/washer - M4 x 14	4
15.	Shift Tray	4



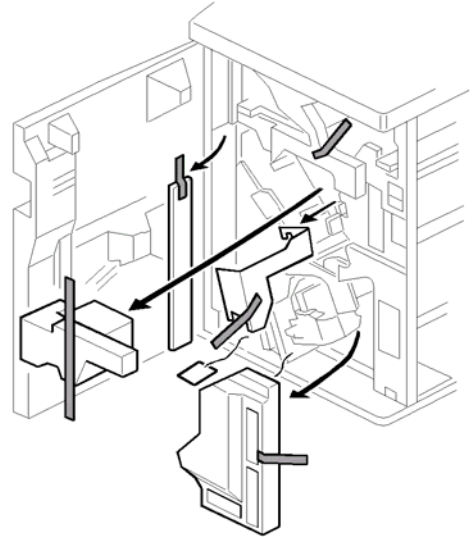
Installation

⚠ CAUTION

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



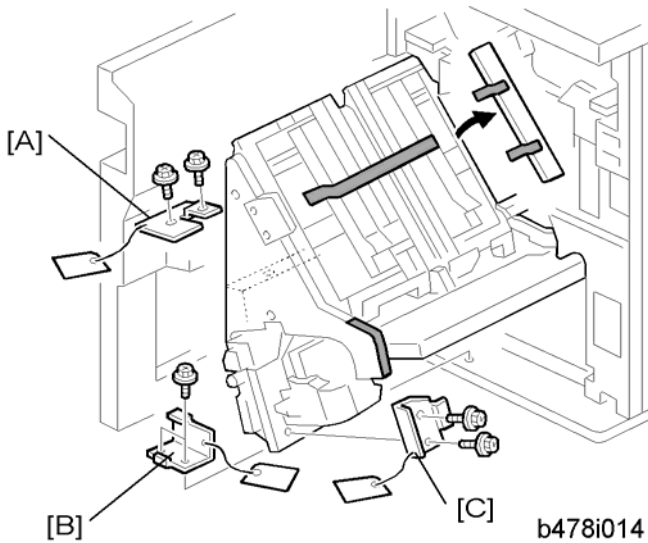
b478i002



b478i003

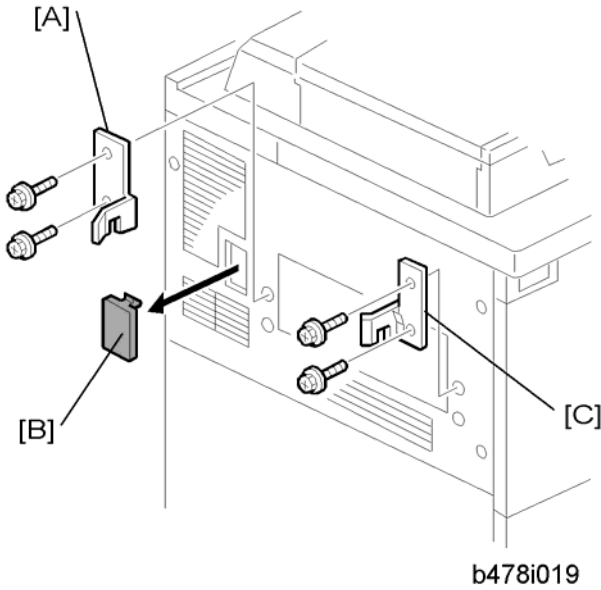
2

1. Unpack the finisher and remove all tapes and shipping retainers.

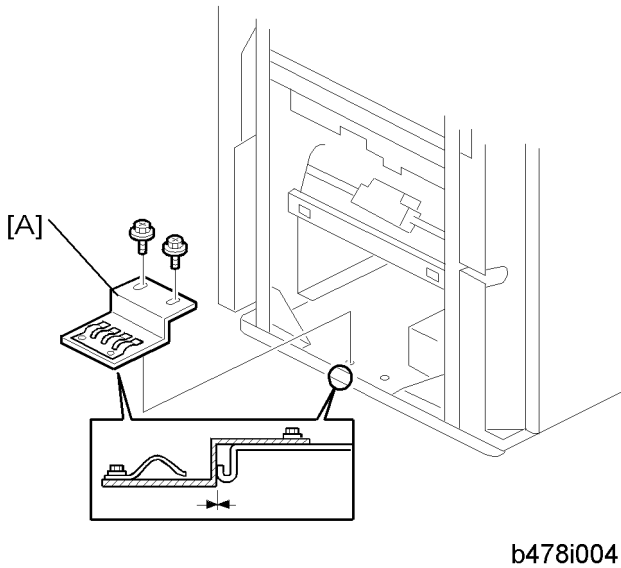


b478i014

2. Open the front door and remove the shipping retainers. Remove brackets [A], [B], and [C] (2 each).



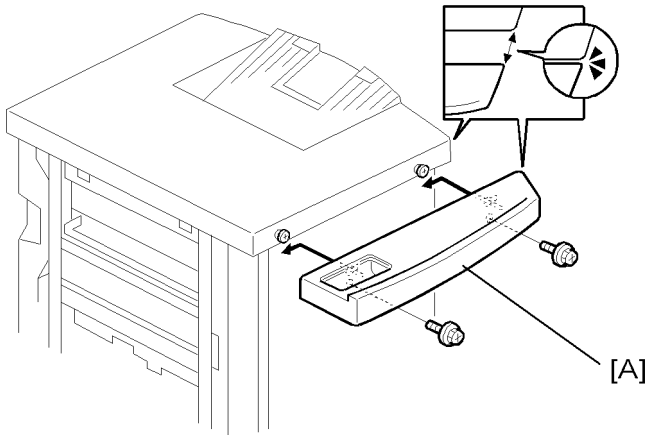
3. Install the front rear bracket [A] and front joint bracket [B] (⌀ x 2 each) (M4 x 14) on the left side of the copier.
4. Remove the connector cover [C].



5. Install the grounding plate [A] (⌀ x 2) (M3 x 6).

Note

- Set the grounding plate so that there is no gap between the grounding plate and the bottom frame of the finisher (as shown).

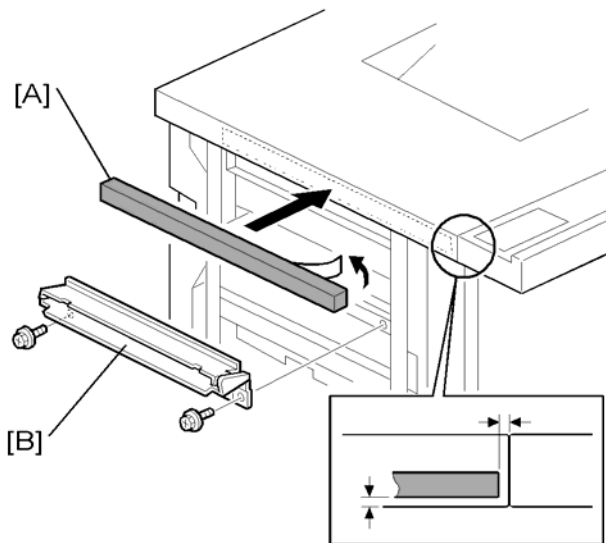


b478i005

6. Install the table extension [A] as shown (⚙ x 2) (M4 x 8).

↓ **Note**

- The edge of the table extension should be aligned with the edge of the finisher (as shown).



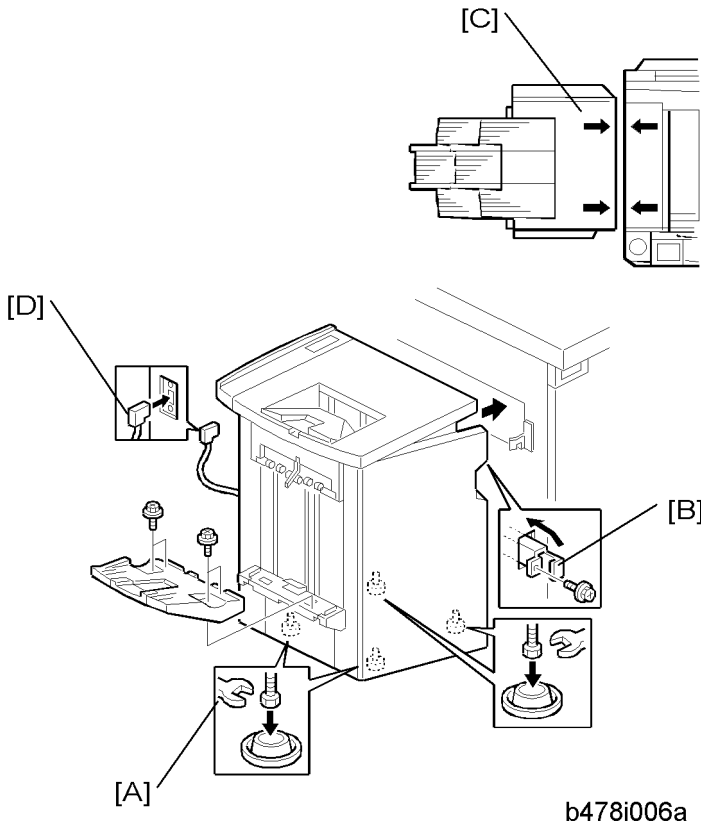
b478i107

7. Attach the cushion [A] to the right side of the upper cover.

↓ **Note**

- If you are installing the cover interposer tray, do not attach the cushion here. Attach it to the cover interposer tray. The cover interposer tray must be installed before you dock the finisher and tray with the main machine.

8. Install the entrance guide plate [B] (⚙ x 2) (M3 x 6).



b478i006a

9. Attach the shift tray [A] (🔩 x 4) (M3 x 8).
10. Open the front door of the finisher, and remove the screw from the locking lever, then pull out the locking lever [B].
11. Align the finisher on the joint brackets, and lock it in place by pushing in the locking lever [B].

Note

- Before securing the locking lever, make sure that the top edges of the finisher and the copier are parallel from front to rear as shown [C].

12. Secure the locking lever [B] (🔩 x 1) and close the front door.
13. Connect the finisher cable [D] to the copier.
14. Set the leveling shoes (x 4) under the feet and level the machine.

Punch Unit (B531/A812)

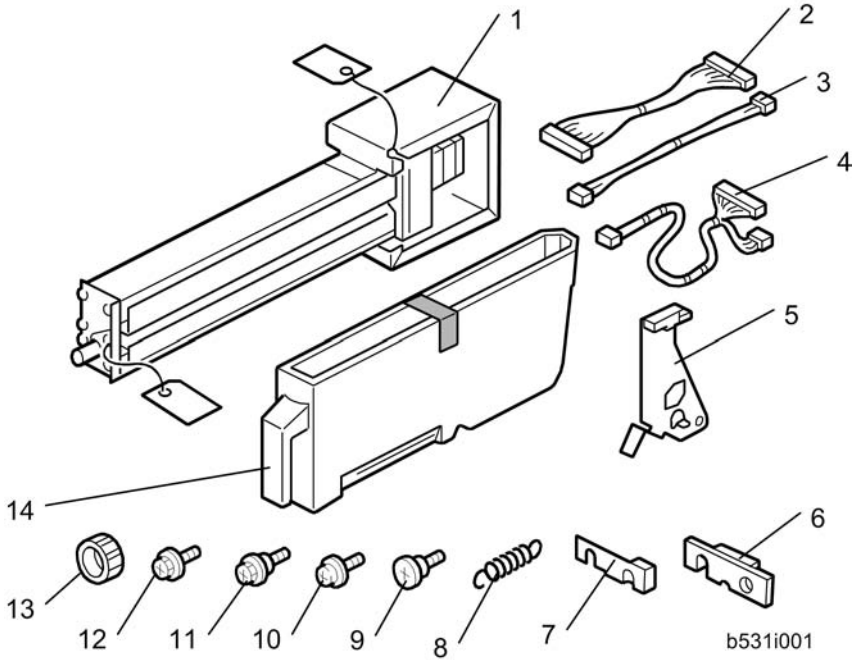
The Punch Unit B531/B812 can be installed only in the 3000-Sheet Finisher D460.

Accessory Check

2

Check the accessories and their quantities against this list:

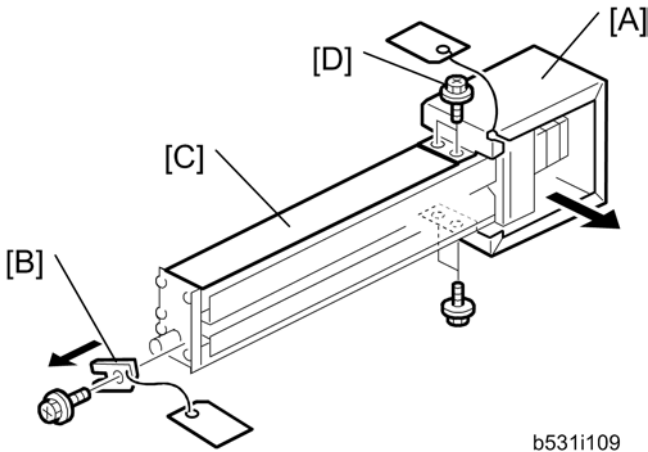
	Description	Q"ty
1.	Punch unit	1
2.	Harness Connector Cable - PCB	1
3.	Harness Connector Cable - HP Sensor 2	1
4.	Harness Connector Cable - HP Sensor 1, Hopper Full	1
5.	Sensor Arm and Sensor	1
6.	Spacer (2 mm)	1
7.	Spacer (1 mm)	2
8.	Spring	1
9.	Step Screw (large) (M4 x 11)	1
10.	Tapping Screw (M4 x 10)	2
11.	Step Screw (small) (M3 x 4)	1
12.	Machine Screw, Washer (M4 x 6)	1
13.	Knob	1
14.	Punch Waste Hopper	1



Installation

⚠ CAUTION

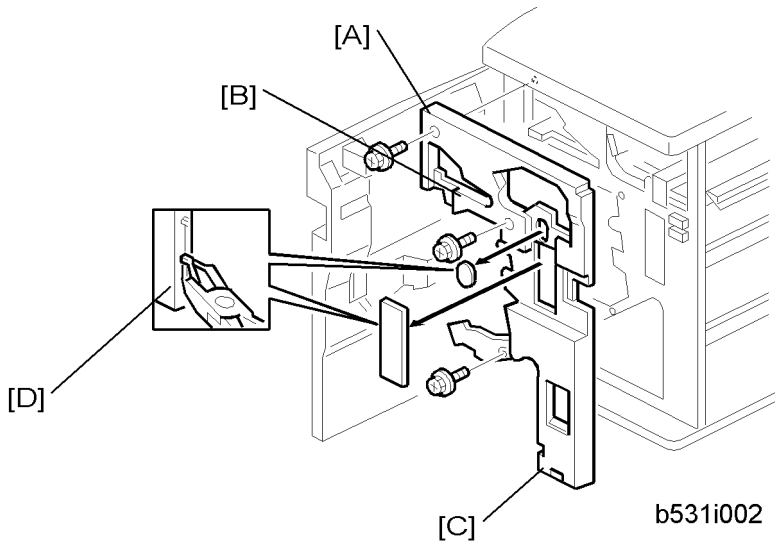
- Switch the machine off and unplug the machine before starting the following procedure.



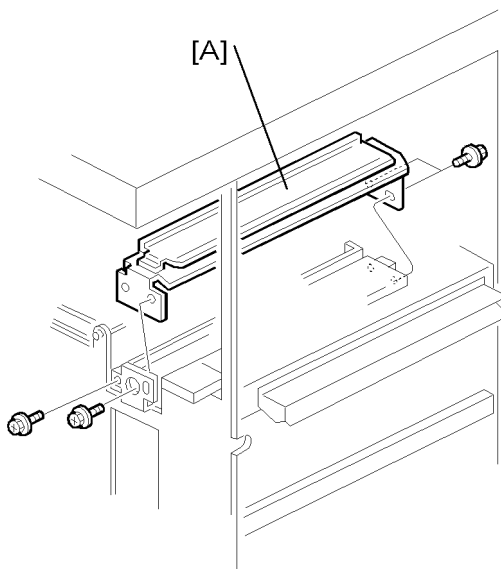
b531i109

1. If the finisher is connected to the machine, disconnect it.
2. Open the front door and remove the rear cover (⚙ x 2).

3. Unpack the punch unit and remove the motor protector plate [A] (🔩 x 4) and the cam lock plate [B] (🔩 x 1).
4. Reattach the cover bracket [C] (🔩 [D] x 2).

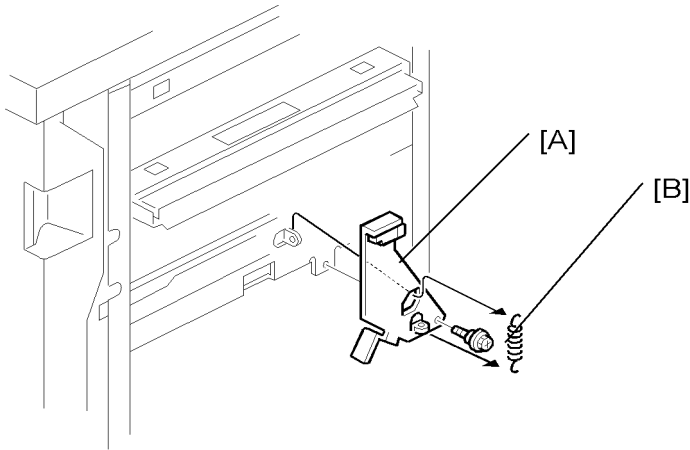


5. Remove the inner cover [A] (🔩 x 3).
6. Behind the inner cover at [B] and [C], press the lock tab to the right to release the inner cover from the frame.
7. Remove the plastic knockouts [D].



b531i003

8. Remove the paper guide [A] (🔩 x 4).



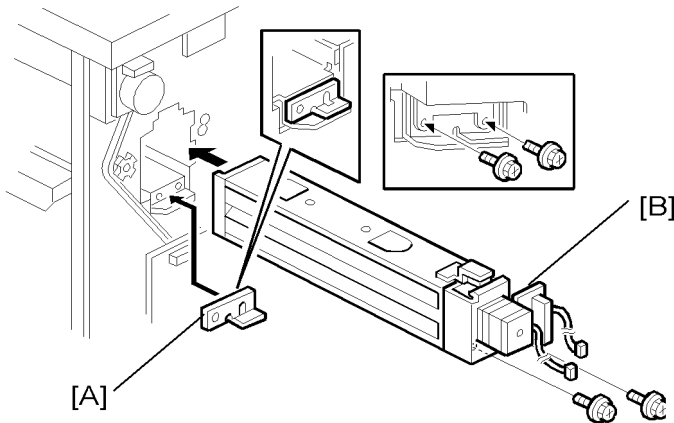
b531i004

9. Install the sensor arm [A] (🔩 x 1, small step screw (M3 x 4)).

Note

- Make sure that the sensor arm swings freely on the step screw.

10. Attach the spring [B].

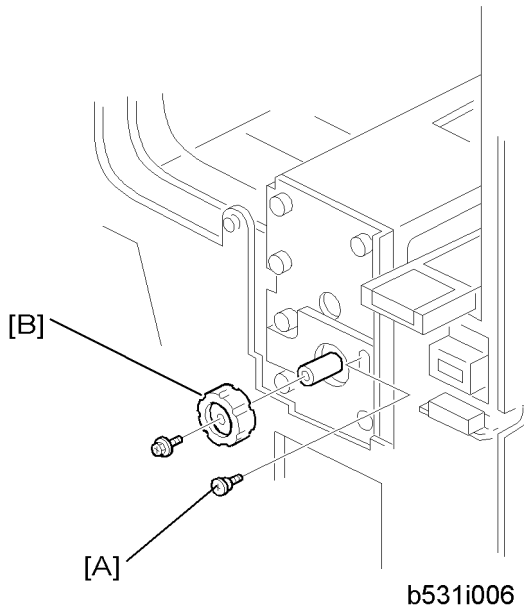


b531i005

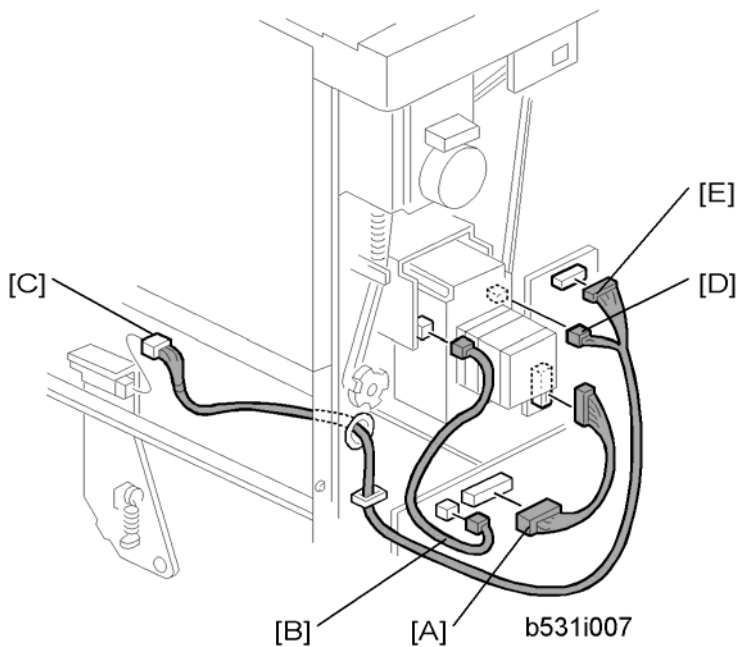
11. At the rear, position the 2 mm spacer [A] and attach the punch unit [B] (🔩 x 2, M4 x 10).

Important

- At the hole just above the lock lever, use one of the screws from the paper guide removed above to fasten the remaining two spacers to the frame.
- These extra spacers are used to adjust the horizontal position of the punch holes.



12. At the front, secure the punch unit [A] with the large step screw (1 x 1, M4 x 10).
13. Attach the punch unit knob [B] (1 x 1).

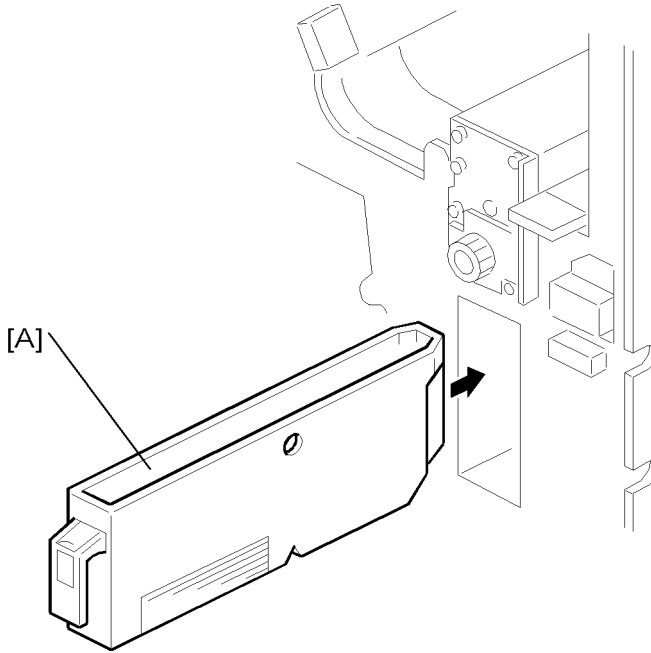


14. Connect the PCB harness connector [A] to CN129 of the finisher PCB and to CN600 of the punch unit PCB.
15. Connect the HP Sensor 2 harness connector [B] to CN130 of the finisher PCB and to HP Sensor 2.

16. Connect the single end of the hopper full sensor connector cable [C] to the hopper full sensor on the arm (🔌 x 1, 📡 x 1), then connect the other two connectors to HP Sensor 1 [D] and CN620 [E] of the punch PCB.

Note

- No special DIP switch settings are required for this punch unit. The punch unit sends an identification signal to the machine, so it knows what type of punch unit has been installed.



b531i008

17. Slide the hopper [A] into the finisher.
18. Re-attach the inner cover and rear cover.
19. Close the front door and re-connect the finisher to the machine.

Jogger Unit (B513)

The Jogger Unit B531 can be installed only on the 3000-Sheet Finisher B706.

Accessory Check

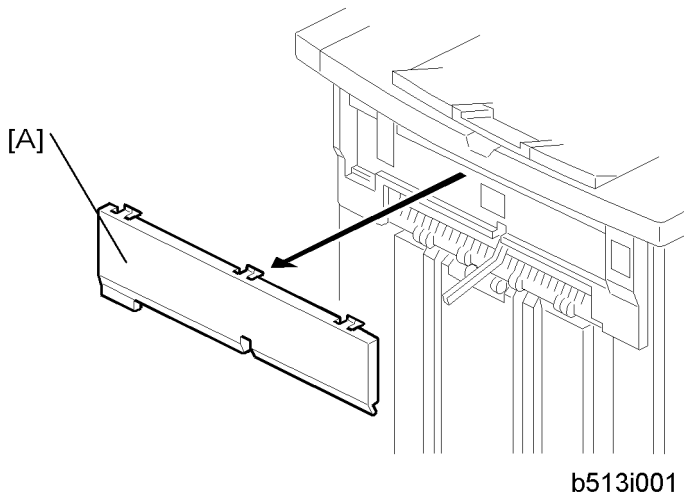
2

Check the accessories and their quantities against this list:

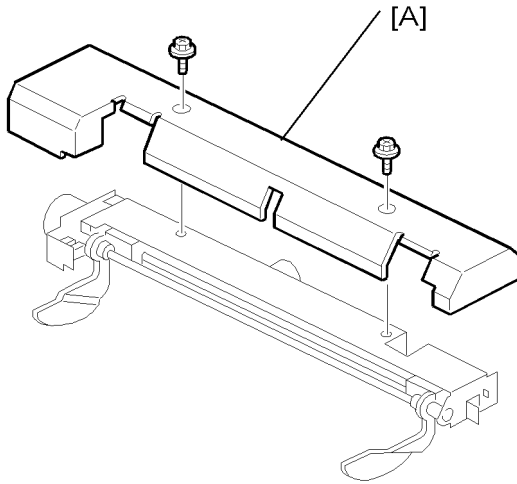
	Description	Q'ty
1.	Jogger Unit B513	1
2.	Tapping Screws - M3 x 6	2
3.	Installation Procedure	1

Installation Procedure

1. Turn the main machine switch off and disconnect the finisher from the main frame.

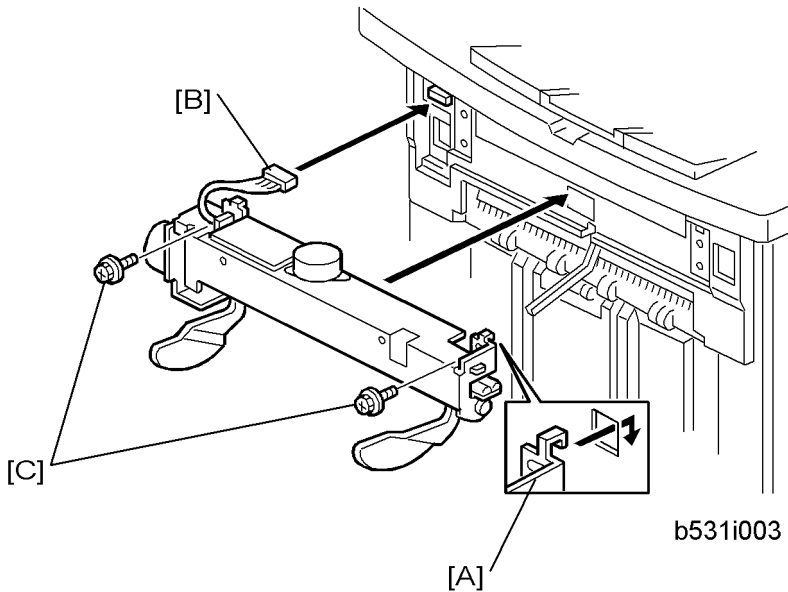


2. Use the flat head of a screwdriver to remove the left upper cover [A] from the finisher and discard it.



b531i002

3. Remove the cover plate [A] from the jogger unit (🔩 x 2). Keep the screws.



b531i003

4. With the jogger unit connector on the left side, hook the frame of the jogger unit [A] into the holes on the left and right side of the finisher frame.
5. On the left side, fasten the connector [B] to the socket (🔌 x 1).
6. On the left and right side, attach the jogger unit frame to the side of the finisher with the screws [C] provided (🔩 x 2).
7. Re-attach the jogger unit cover to its frame with the screws removed in step 2 (🔩 x 2).

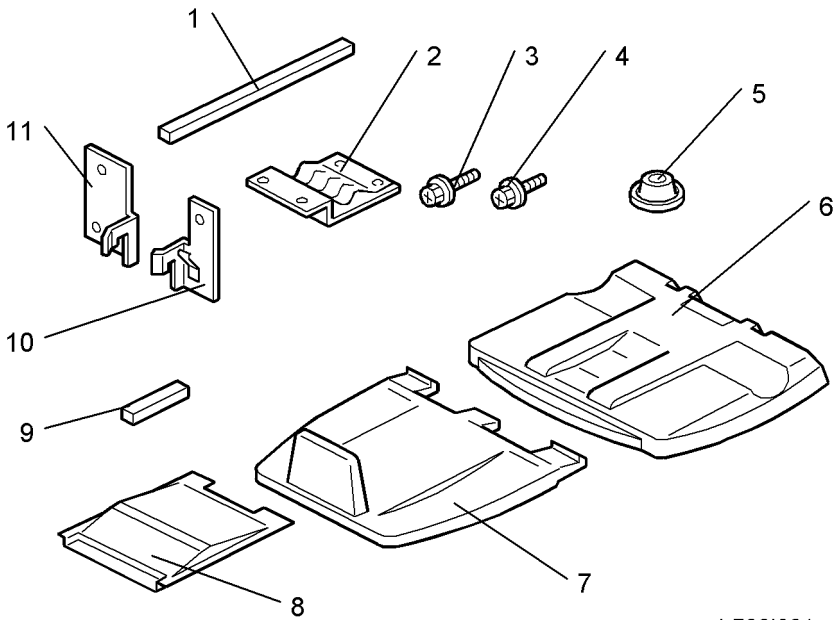
2000/3000-sheet Finishers (D373/D374)

Accessories

Check the accessories from the box against the following list.

	Description	Q'ty
1.	Cushion (with double-sided tape)	1
2.	Ground (earth) plate	1
3.	Tapping screws - M4 x 14	4
4.	Tapping screws - M3 x 8	1
5.	Leveling Shoes	3
6.	Upper output tray	1
7.	Lower output tray (D373 Only)	1
8.	Auxiliary Tray	1
9.	Gasket	1
10.	Front joint bracket	1
11.	Rear joint bracket	1
	Auxiliary Tray for Shift Tray (D373 Only – Not Shown)	1
	Auxiliary Tray for Proof Tray (D373 Only – Not Shown)	1
	Auxiliary Tray Storage Pocket (D373 Only – Not Shown)	1

3 screws (M3x6) are provided for the D373.



b700i201

Installation Procedure

This section describes the common installation instructions for two peripheral devices:

- D373 Booklet Finisher. Does punching, shifting, corner stapling, and booklet (saddle-stitch) stapling.
- D374 Finisher. Does punching, shifting, and corner stapling but no booklet (saddle-stitch) stapling unit.

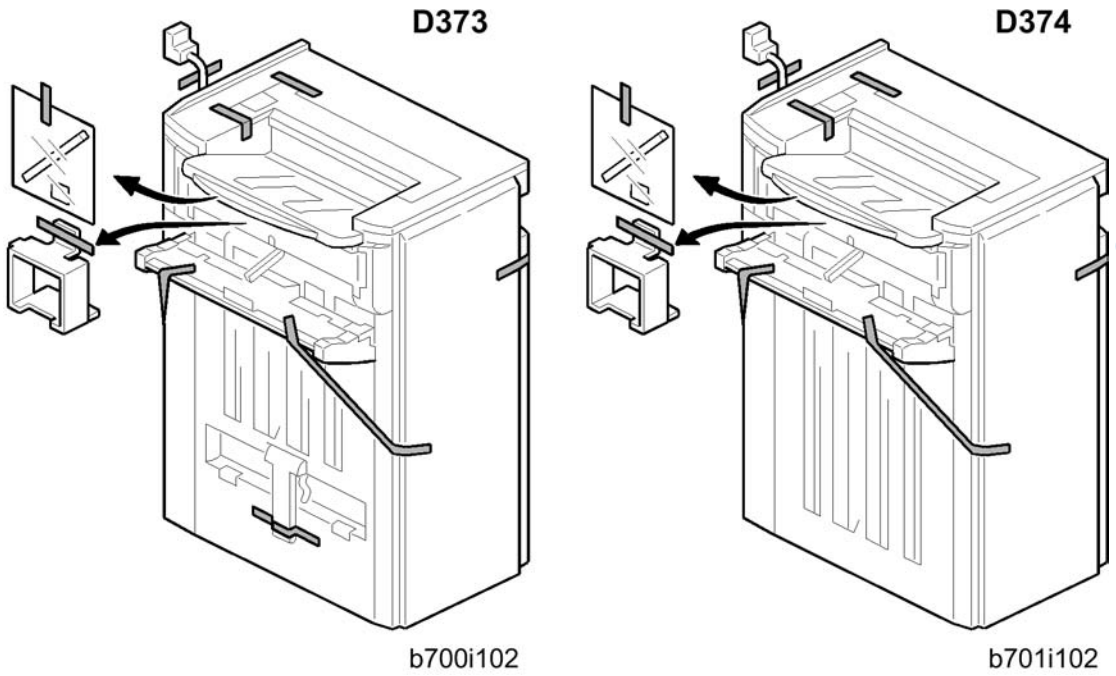
⚠ Note

- Differences in the installation procedures are noted as "D373" or "D374".

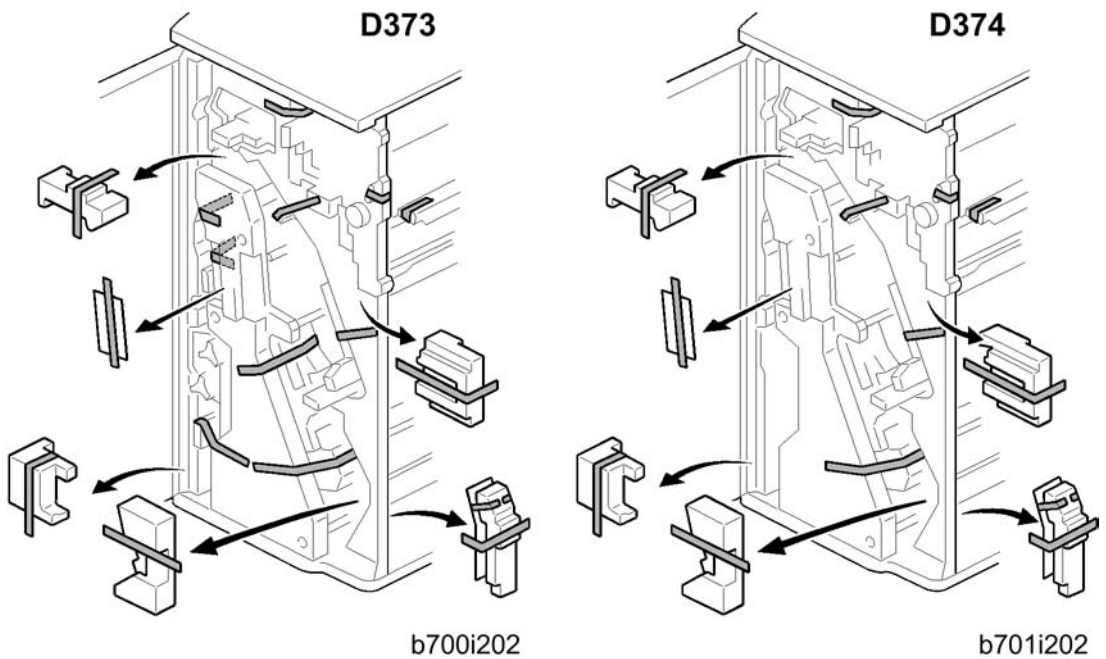
Removing Tapes and Retainers

⚠ WARNING

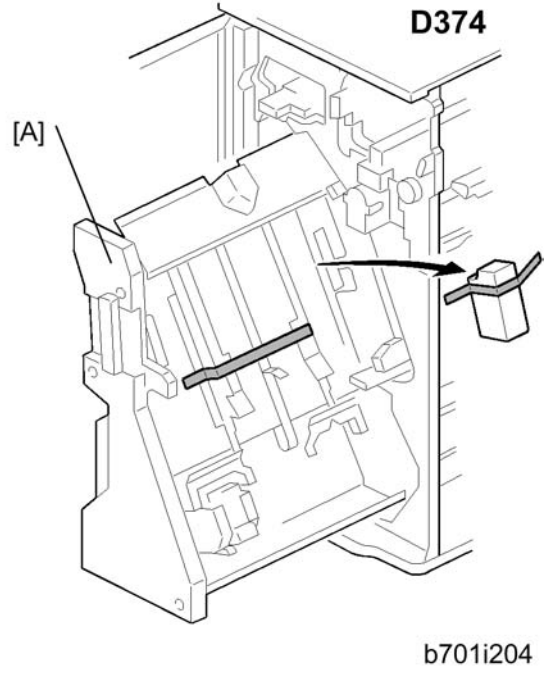
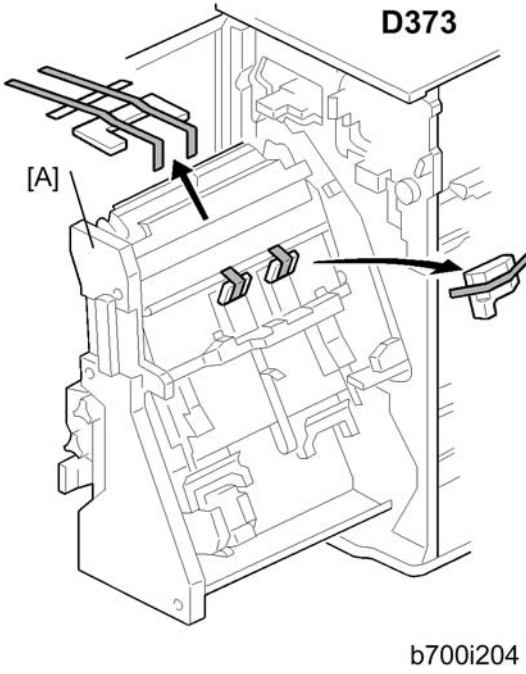
- Always turn the machine off and unplug the machine before doing any of the following procedures.



1. Unpack the machine and remove all the wrapping.
2. Remove all filament tape and shipping retainers from the finisher.

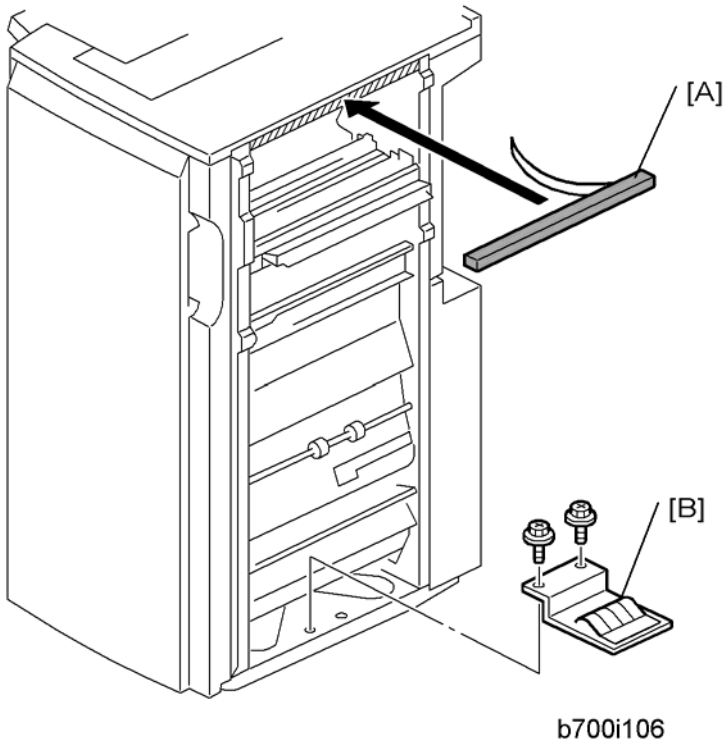


3. Open the front door.
4. Remove all tapes and shipping retainers inside the finisher.



5. Pull out the jogger unit [A].
6. Remove the tapes and retainers.

Docking the Finisher



If you are not installing the Cover Interposer B704:

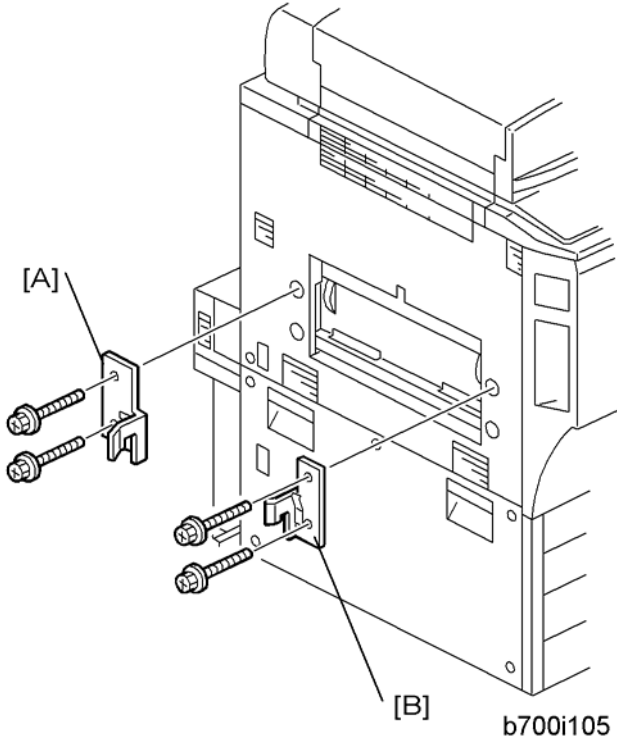
- Peel the strip from the sponge cushion [A] and attach it to the finisher then go to the next step.

If you are installing the Cover Interposer B704:

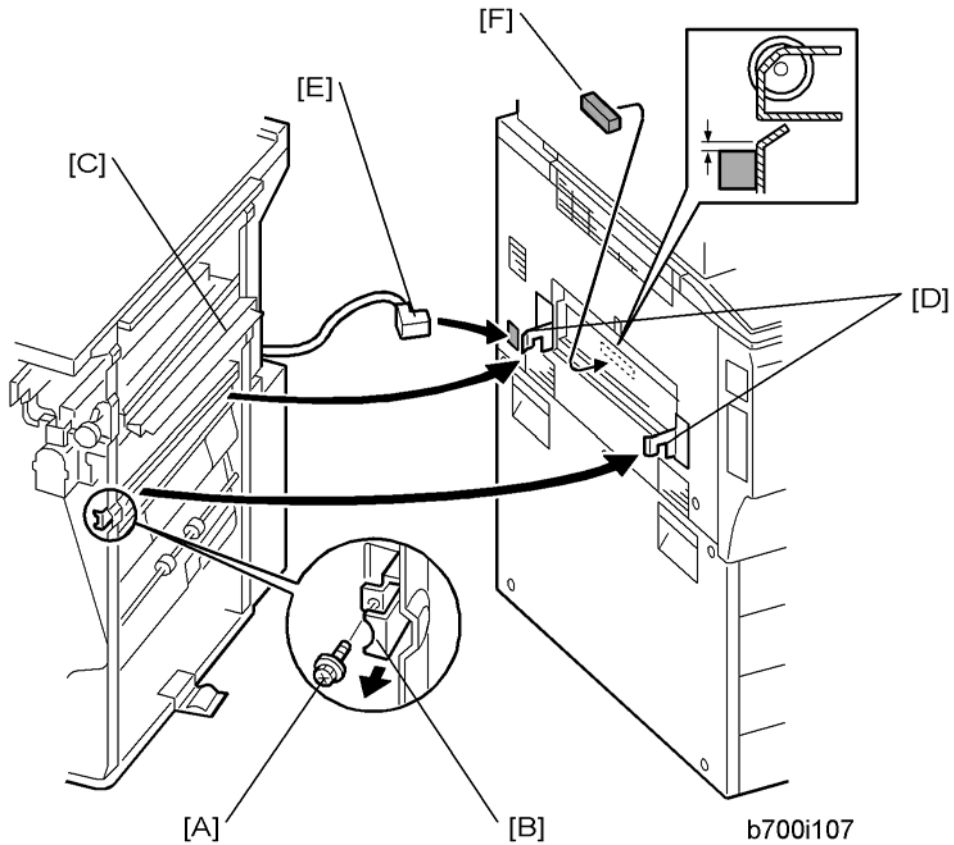
- Do not attach the sponge cushion to the finisher. It must be attached to the cover interposer.
- Do not attach the grounding plate [B] to the finisher. It must be attached to the cover interposer.
- Install the interposer now. The cover interposer must be installed before you dock the finisher to the copier.

1. Use a short screwdriver to attach the grounding plate [B] (2, M3 x 6).

2

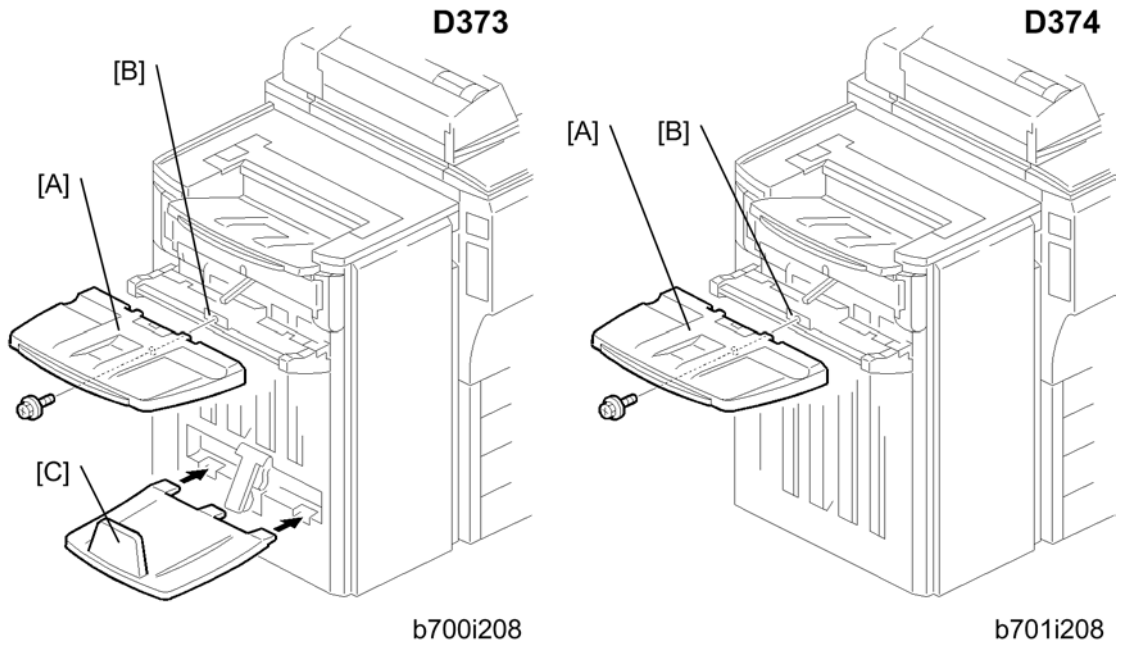


2. Attach the rear bracket [A] (🔩 x 2, M4 x 14).
3. Attach the front bracket [B] (🔩 x 2, M4 x 14).



4. Remove the screw [A] to release the lock lever [B] (1 x 1).
5. To avoid bending and damaging the paper entrance guide plates [C], slowly push the finisher against the side of the machine until the brackets [D] enter their slots.
6. Connect connector [E] to the main frame.
7. Attach the gasket seal [F] as shown.
8. Push the finisher against the machine.
9. Push in lock lever [B] then reattach the screw [A].

Attaching the Trays



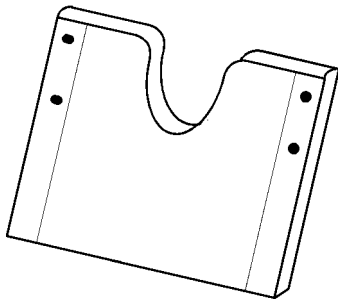
D373

1. Attach the upper output tray [A] (⚙️ x 1, M3 x 8).

Note

- Make sure the metal plate [B] overlaps the tray.

2. Attach the lower output tray [C].



B2461901

3. Use the round-head rivet (provided accessory) to fasten the auxiliary tray storage pocket to rear cover of the finisher.
4. Place the auxiliary trays for the shift tray and proof tray in the pocket.

D374

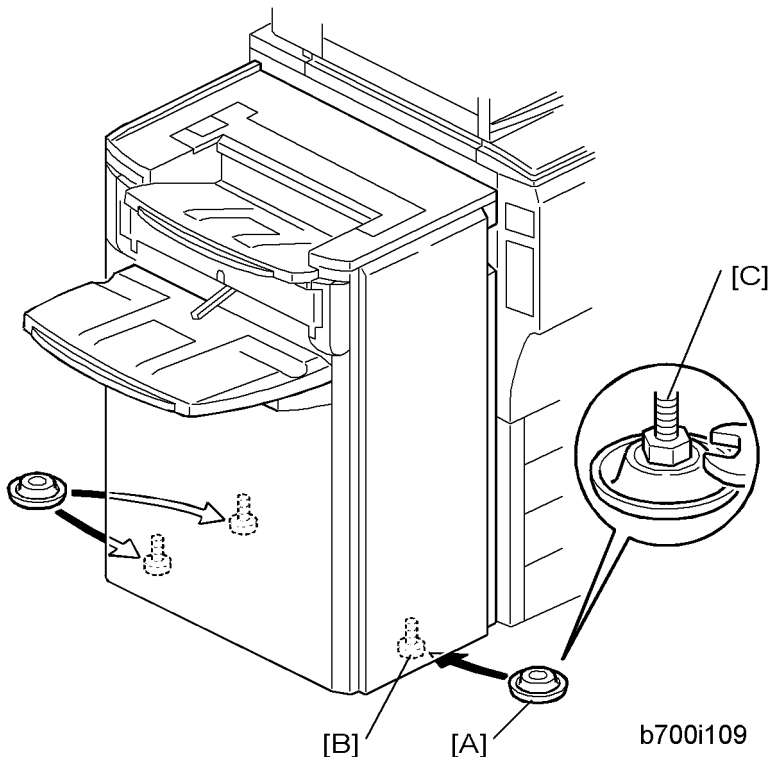
1. Attach the output tray [A].

Note

- Make sure the metal plate [B] overlaps the tray.

Leveling the Finisher

2



1. Set the leveling shoes [A] (x 3) under the feet [B].
2. Use a wrench to adjust the height of the screws [C] to level the machine.

Selecting the Staple Supply Name

Enter the SP mode and execute the following information.

584 1*	Supply Name Setting	These names appear when the user prints the Inquiry List. Press the Counter key, then press 'Print Inquiry List'. Press the Inquiry button on the initial User Tools screen.
013 *	Staple Std	Enter the name of the staples in use for normal stapling (not booklet stapling). This setting should be done for both the D373 and D374.

022	Staple Bind	Enter the name of the staples in use for booklet stapling (saddle-stitching). This setting is required only for the D373.
-----	-------------	---

Enabling Booklet Binding (D373 Only)

2

To enable booklet binding (saddle-stitching) for the D373, you must make sure that the center-position stapling option is displayed.

1. Press the User Tools key.
2. Touch "Copier/Document Server Features".
3. Touch the "Input/Output" tab, then touch "Stapling Position".
4. Touch any "Stapling Position" button and touch the center (saddle-stitch) stapling symbol.
5. Exit the User Tools mode. Specify the number of copies, touch the center stapling symbol on the operation panel, then start the print job.

Auxiliary Trays

The auxiliary trays are stored in the auxiliary tray storage pocket mounted on the back cover of the finisher.

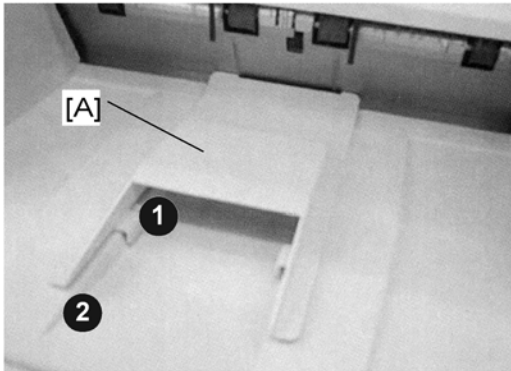
Make sure that the customer understands the following points about these auxiliary trays:

- The trailing edges of excessively curled or Z-folded paper can activate the tray full sensors before the tray is actually full.
- Once the "Exit Tray Full" message displays, the job cannot continue until some sheets are removed from the tray which is only partially full. The trays are designed to prevent this problem.
- The auxiliary tray for the shift tray should be installed for Z-folding jobs.
- The auxiliary tray for the proof tray should be installed only when excessively curled paper is triggering early "Exit Tray Full" alerts.
- Normally, both auxiliary trays should be placed in the pocket mounted on the back of the finisher.

Proof Exit Auxiliary Tray

Follow the procedures below to install the auxiliary tray for the proof tray.

1. First, remove the paper from the paper feed tray, turn it upside down, and continue printing. This may solve the problem.

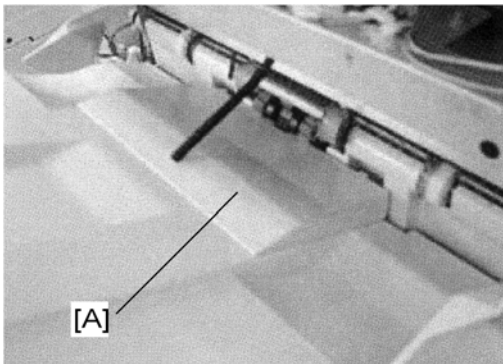


B246I903

2. If the "Exit Tray Full" alerts continue, set the proof auxiliary tray [A] on the proof tray on the top of the finisher.
3. Make sure that the arms **1** of the auxiliary tray fit tightly over the ridges **2** of the proof tray below.

Shift Auxiliary Tray

1. Open and close the front door of the finisher.
 - This initializes the finisher and moves the shift tray to the standby position.
2. Open the front door again and leave it open.



B246I902

3. Set the shift auxiliary tray [A] on the shift tray as shown.
4. Close the front door.
 - This initializes the finisher again and moves the shift tray to the new standby position with the auxiliary tray installed.
5. After the Z-folding job is finished, remove the tray and store it in the auxiliary tray storage pocket on the back of the finisher.

6. Open and close the front door to re-initialize the finisher and reset the standby position of the shift tray.

Punch Unit (B702)

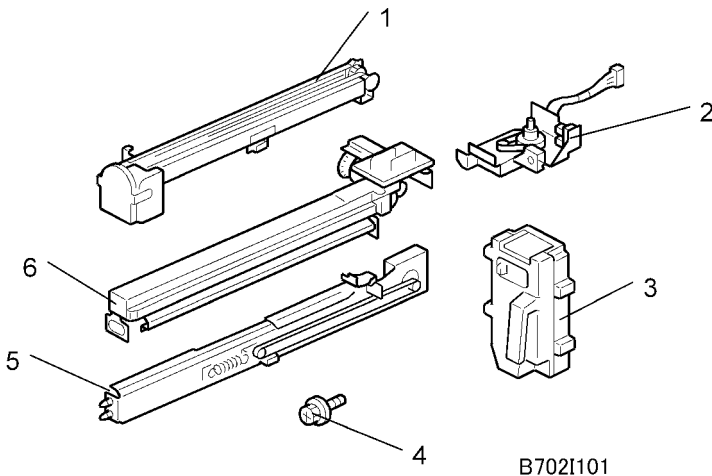
The Punch Unit B702 can be installed only in the 2000/3000-Sheet Finisher D373/D374.

Accessories

2

Check the accessories and their quantities against the following list.

	Description	Q'ty
1.	Punchout Waste Unit	1
2.	Slide Drive Unit	1
3.	Punch Waste Hopper	1
4.	Screws (M3 x 6)	5
5.	Side-to-Side Detection Unit	1
6.	Punching Unit	1



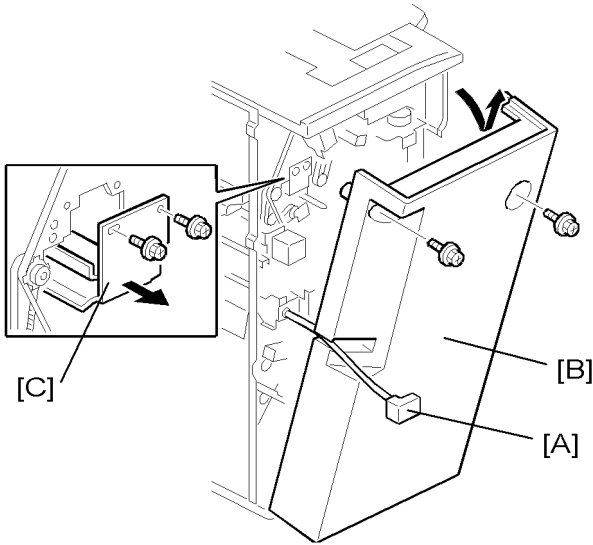
B702I101

Installation Procedure

⚠ WARNING

- Always turn the machine off and unplug the machine before doing any of the following procedures.

2



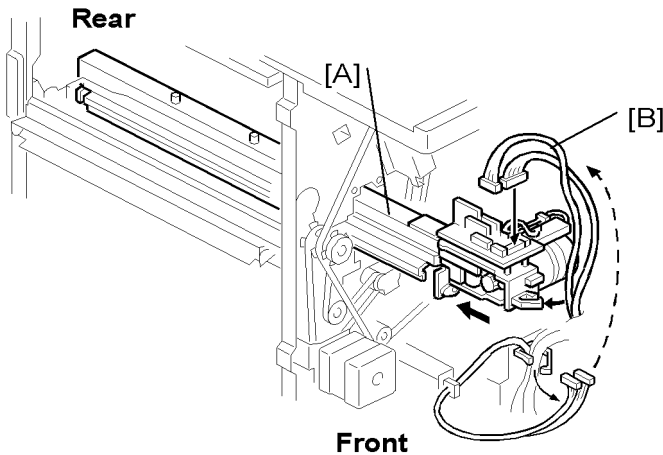
B702I102

1. If the finisher is connected to the copier, disconnect the power connector [A] and separate the finisher from the copier.
2. Remove the rear cover [B] (🔩 x 2) and open the front door.

Note

- At the base of the back cover, be sure to disconnect the tabs that fasten the cover to the frame.

3. Remove the guide plate [C] (🔩 x 2).

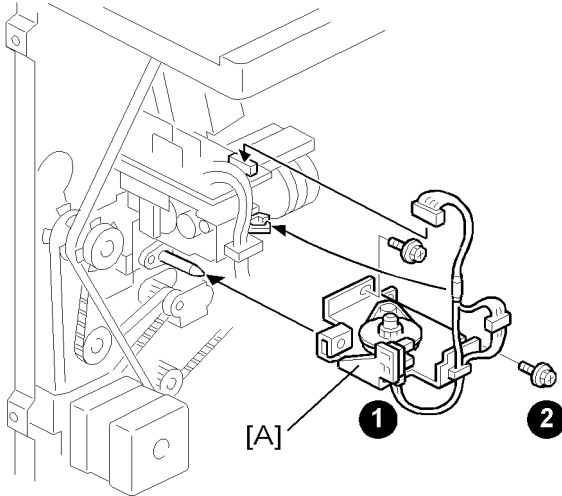


B702I103

4. Slide the punch unit [A] along its rails into the finisher. Make sure that pin engages correctly at the front and rear.
5. Connect and fasten the punch unit [B] (🔩 x 2, 🛠️ x 1).

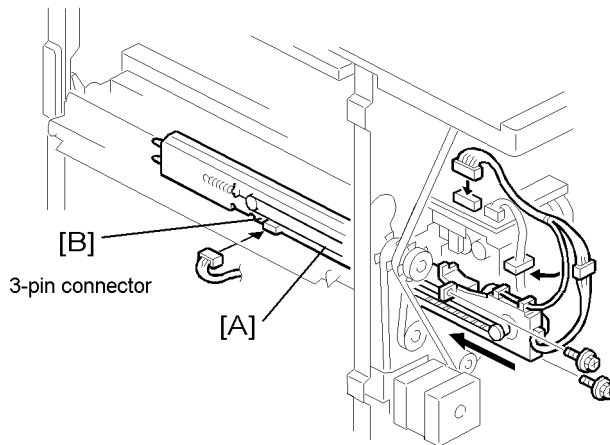
↓ **Note**

- The connectors are coiled and tied above the PCB on the right.



B702I104

6. Fasten the slide drive unit [A] to finisher and connect it to the punch unit (🔩 x 2, 📌 x 1). Press in on the slide drive unit at ❶ when you attach screw ❷.
7. Make sure that the punch unit moves freely and is not blocked by the screws.



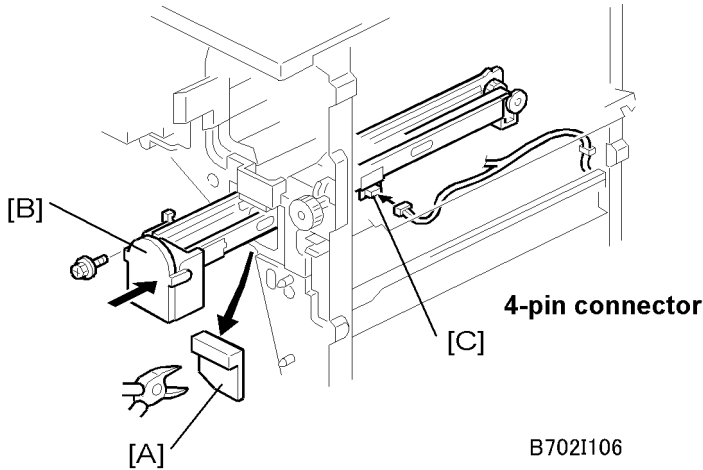
B702I105

8. Insert the side-to-side detection unit [A]. Make sure that the two pins are engaged correctly at the front.
9. Confirm that the side-to-side detection slides smoothly on its rails. If it does not, make sure that the rails are aligned with their grooves.
10. Fasten the side-to-side detection unit and connect it at the rear (🔩 x 2, 📌 x 1, 📌 x 1).

11. Pull the short connector out of the connector [B] then connect it (🔌 x 1).

↓ **Note**

- This is the 3-pin connector.



12. At the front, use a pair of nippers to remove the knockout [A]

13. Insert the punch waste transport unit [B] into the finisher.

↓ **Note**

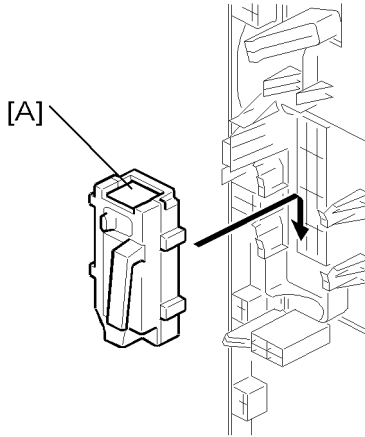
- Make sure that the punch waste transport unit slides smoothly on its rails. If it does not, make sure that the rails are aligned with the grooves.

14. Remove the short connector from the connector [C].

↓ **Note**

- This is the 4-pin connector.

15. Connect connector and fasten the punch waste transport unit (🔌 x 1, 🛠️ x 1, 🔩 x 1).



B7021107

16. Set the hopper [A] in its holder.

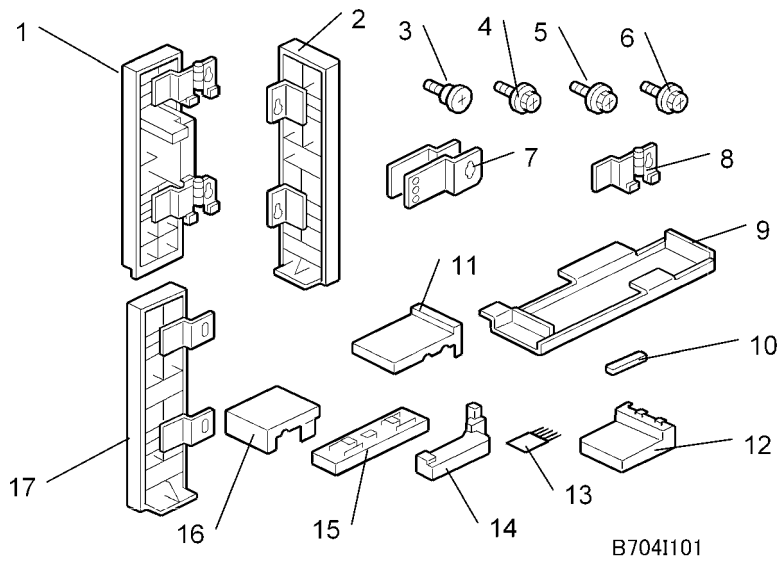
Cover Interposer Tray (B704)

Accessories

Check the accessories and their quantities against the following list.

2

	Description	Q'ty
1.	Front door extension (top)	1
2.	Rear cover extension (bottom)	1
3.	Shoulder screws	3
4.	Tapping screws – M4 x 8	9
5.	Tapping screws – M3 x 8	2
6.	Tapping screws – M3 x 6	5
7.	Adjuster plates	2
8.	Hinge Bracket	1
9.	Plate Extension (bottom)	1
10.	Gasket Seals	2
11.	Right Rear Cover Plate (D460 only)	1
12.	Spacer	1
13.	Anti-Static Brush	1
14.	Spacer (D460 only)	1
15.	Spacer (Not used)	1
16.	Right front corner plate (D460 only)	2
17.	Front door extension (bottom)	1



2

Installation Procedure

The Cover Interposer Tray B704 can be installed on only of the following finishers:

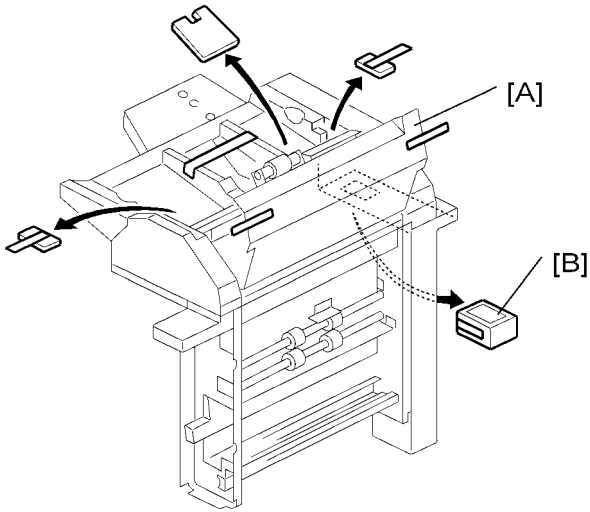
- 2000-Sheet Booklet Finisher D373
- 3000-Sheet Finisher D374
- 3000-Sheet Finisher D460

Removing Tapes and Retainers

⚠ WARNING

- Make sure that the finisher is disconnected from the main machine and that the copier is switched off and unplugged before starting the following procedure.

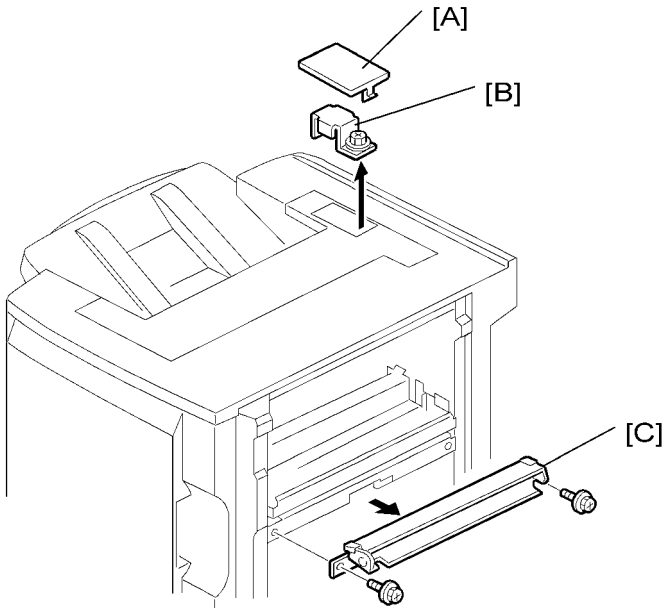
2



B7041102

1. If the finisher is connected to the machine, disconnect it.
2. Remove all tape and retainers from the cover interposer tray [A].
3. Remove the tape and cardboard [B] from the ground connector.

Preparing the Finisher (D373/D374/D460)



B7041103

1. Remove the cover [A] of the relay connector.
2. Loosen the screw of the bracket [B] (⚙ x 1) then remove the bracket.
3. Remove the guide plate [C]. (This guide plate will be attached to the cover interposer; do not discard it.)

★ Important

- If you are installing the cover interposer tray with a previously installed finisher D373/D374/D460, remove the sponge strip from the finisher and save it for re-attachment to the interposer tray.
4. Either:
 - If you are installing the D373/D374, attach the extensions to the finisher without modification. Go to "Attaching the Extensions for the D373/D374".
 - If you are installing the D460, modify the extensions and attach them to the finisher. Go to "Attaching the Extensions for the D460".

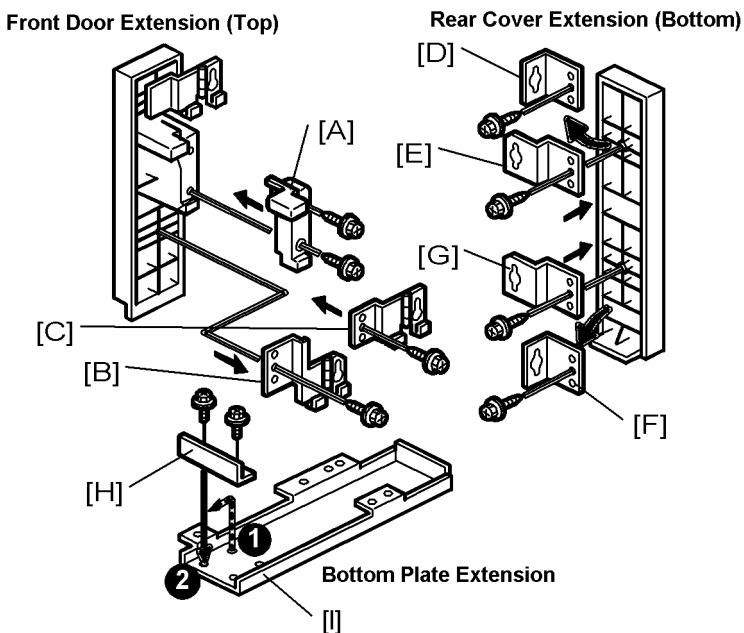
2

Attaching the Extensions for the D460

★ Important

- The procedures in this section are for installation of the cover interposer with the D460 only.
- If you are installing the cover interposer with the D373/D374, go to the next section.

Modify the Attachments for the D460



B704108

Front Door Extension:

1. Attach spacer [A] to the front door extension (top) (⚙ x 2).
2. Remove the lower hinge [B] and replace it with [C] (⚙ x 2).

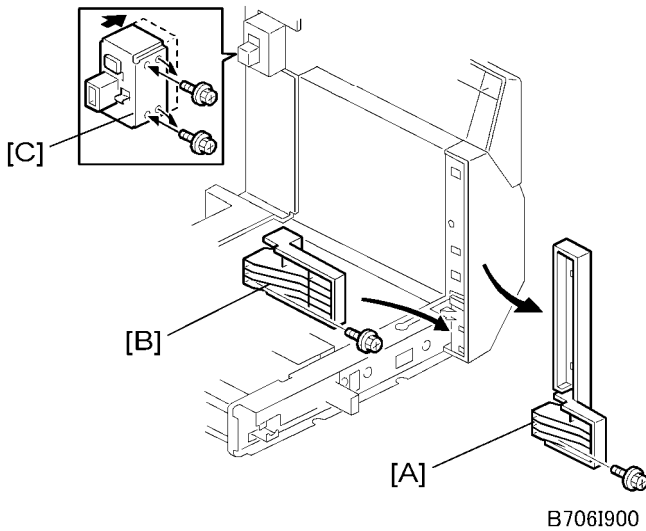
Rear Cover Extension (Bottom):

1. Remove [D] and replace it with [E] (⚙ x 1).
2. Remove [F] and replace it with [G] (⚙ x 1).

Plate Extension (Bottom):

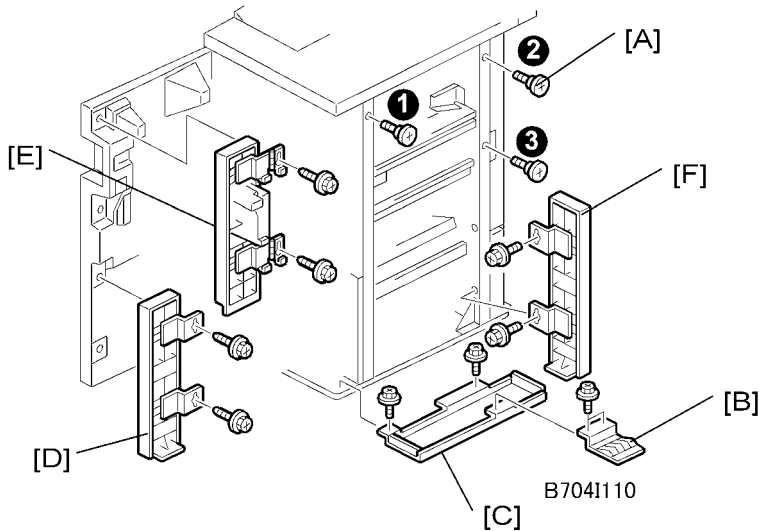
1. Remove bracket [H] from ❶ and attach it to ❷ at the end of the bottom plate extension (⚙ x 2).

Prepare the Cover Interposer for the D460



1. Remove spacer [A] (⚙ x 1).
2. Attach spacer [B] (⚙ x 1).
3. Remove the screws from the connector case [C] (⚙ x 2).
4. Push the connector case in the direction of the arrow until the second set of holes is aligned with the holes below, then attach the screws.

Attach the Extensions to the D460



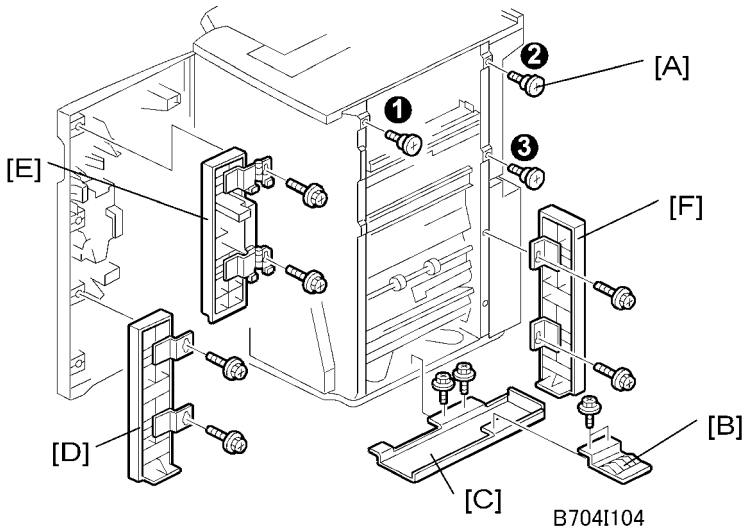
1. Attach the three shoulder screws [A] **123** (🔩 x 3).
2. If the finisher has been previously installed, remove the ground plate [B] from the finisher and keep the screws.
3. Attach the bottom plate [C] (🔩 x 2, M3 x 6).
4. Attach the ground plate to the bottom plate (🔩 x 2).
5. Attach the bottom front cover extension [D] (🔩 x 2, M4 x 8).

⬇ Note

- Attach this cover first.

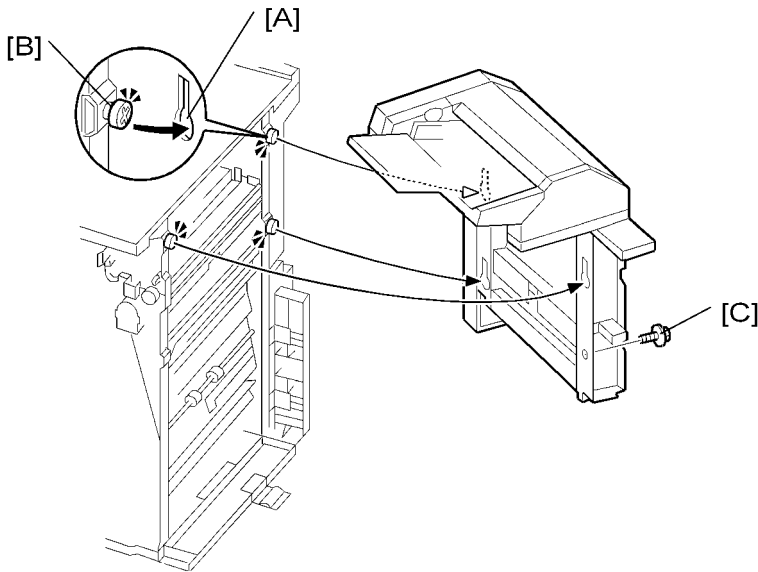
6. Attach the top front cover extension [E] (🔩 x 2, M4 x 8).
7. Set two screws into the holes provided for the rear cover extension [F] (🔩 x 2, M3 x 6).
8. Set the keyholes of the rear cover extension over of the heads of the screws.
9. Press up on the bottom of the rear cover extension to close the gap at the top of the cover, then tighten the screws.

Attaching the Extensions for the D373/D374



1. Attach the three shoulder screws [A] **123** (🔩 x 3).
2. If the finisher has been previously installed, remove the ground plate [B] from the finisher and save the screws
3. Attach the bottom plate [C] (🔩 x 2, M3 x 6) then attach the ground plate to the bottom plate (🔩 x 2).
4. Attach the bottom front cover extension [D] (🔩 x 2, M4 x 8).
5. Attach the top front cover extension [E] (🔩 x 2, M4 x 8).
6. Attach the rear cover extension [F] (🔩 x 2, M3 x 6).

Attaching the Interposer Tray (D373/D374/D460)



B704I105

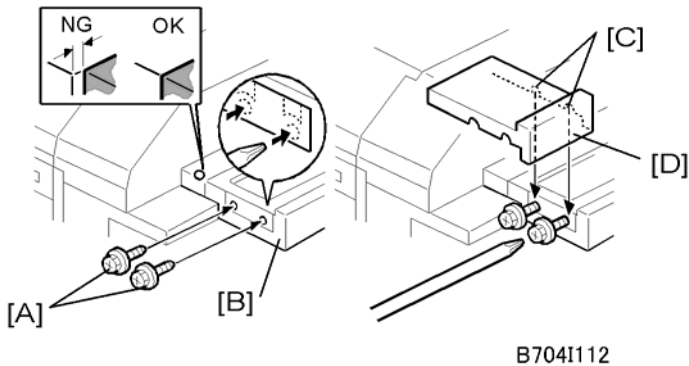
1. Pick up the cover interposer tray, align the keyholes [A] with the shoulder screws [B], then slide the cover interposer down onto the screws.
2. Secure the cover interposer with the screw [C] (x 1, M3 x 6).
3. Either:
 - If you are installing the cover interposer tray on the D373/D374, skip the next section and go directly to "Docking the Finisher and Interposer to the Machine".
 - If you are installing the cover interposer tray on the D460, go to the next section, install the corner plates on the D460, then go to "Docking the Finisher and Interposer to the Machine".

Attaching the Corner Plates for the D460

★ Important

- The corner plates are installed on the D460 only.

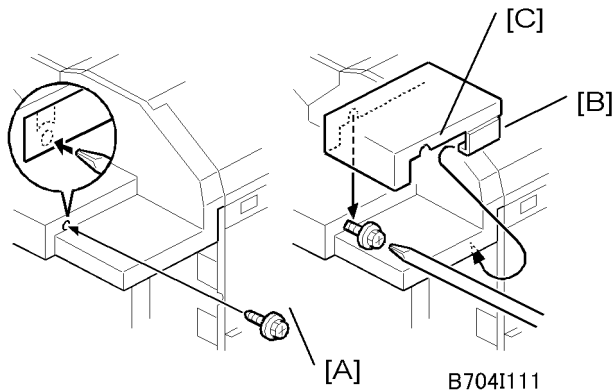
Right Rear Corner Plate (D460 only)



1. Temporarily attach the screws [A] (with about two turns) to the right end of the finisher extension table [B] (2 x 2, tapping M4 x 8)

Note

- The holes are not visible because they are covered with tape. Just punch the screws through the holes.
2. Align the cutouts [C] of the right rear corner plate [D] with the screws and attach the plate.
 3. With a long screw driver inserted through the cutouts in the right rear corner plate [D], tighten the screws to fasten the right rear corner plate to the table extension [B].



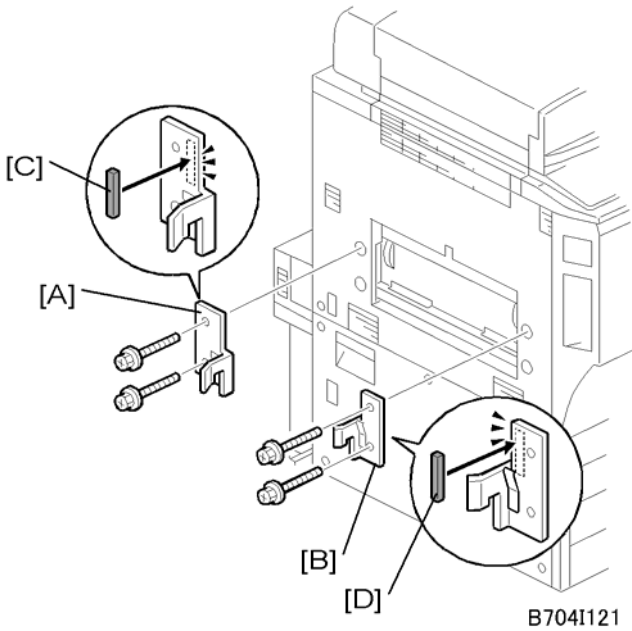
4. Temporarily attach the screw [A] (M4 x 8) with about two turns to fasten to the panel at the right front corner.

Note

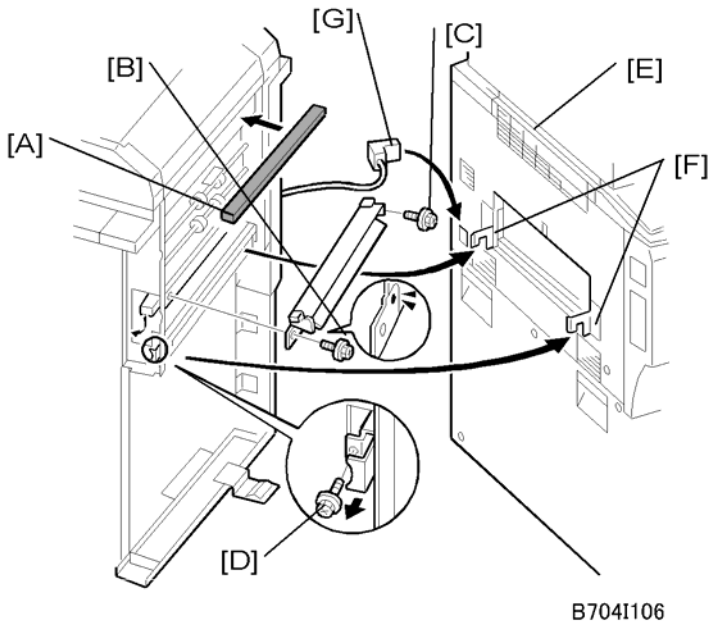
- The hole is not visible because it is covered with tape. Just punch the screw through the hole.
5. With the clamp [B] under the edge of the corner, align the cutout [C] in the right front corner plate with the screw, then snap it into position.
 6. With a long screwdriver inserted into the plate cutout [C], tighten the screw to fasten the right front corner plate.

Docking the Finisher and Interposer to the Machine (D373/D374/D460)

2



1. Attach the rear bracket [A] (2 x 2, M4 x14).
2. Attach the front bracket [B] (2 x 2, M4 x14).
3. Attach the gasket seals [C] and [D].



4. Attach the sponge strip [A] that is supplied with the finisher.
5. Attach the guide plate (removed from the finisher) to the cover interposer.
 - Attach the front end [B] of the plate (🔩 x 1).
 - Attach the rear end of the plate with the anti-static brush [C] (🔩 x 1).

★ Important

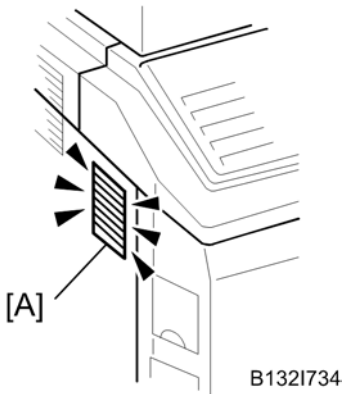
- Use the two small tapping screws that are supplied, and not the machine screws removed from the finisher guide plate.

6. Release the lock lever [D] (🔩 x 1).
7. Attach the pad [E]. (This pad is provided with the finisher.)
8. Slowly push the finisher against the side of the machine until the brackets [F] go into the slots.

★ Important

- Move the finisher carefully, or you will bend the entrance guide plates.

9. Attach the lock lever [D] (🔩 x 1).
10. Connect the connector [G] to the copier.



★ Important

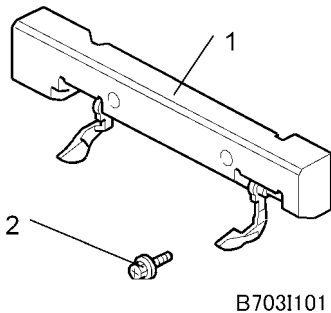
- Check the duct [A] on the left side of the machine.
- Make sure that the sponge does not prevent air flow through this duct.

Output Jogger Unit (B703)

Accessories

Check the accessories and their quantities against the following list.

	Description	Q'ty
1.	Jogger Unit	1
2.	Tapping Screws - M3 x 6	2



Installation Procedure

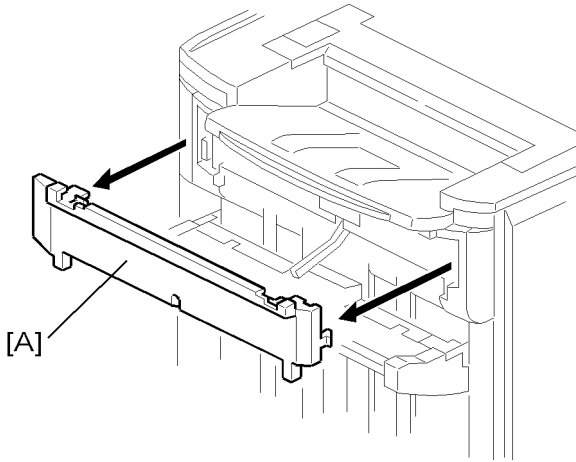
★ Important

- The Output Jogger Unit B703 can be installed only on the 2000/3000-Sheet Finisher D373/D374.

⚠ WARNING

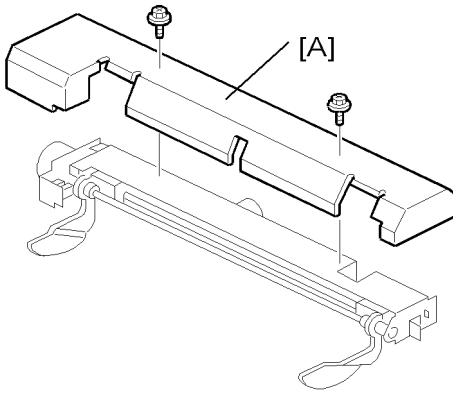
- Always switch the machine off and unplug the machine before doing any of the following procedures.
 - Turn the main machine switch off.
 - Disconnect the finisher from the main frame.

2



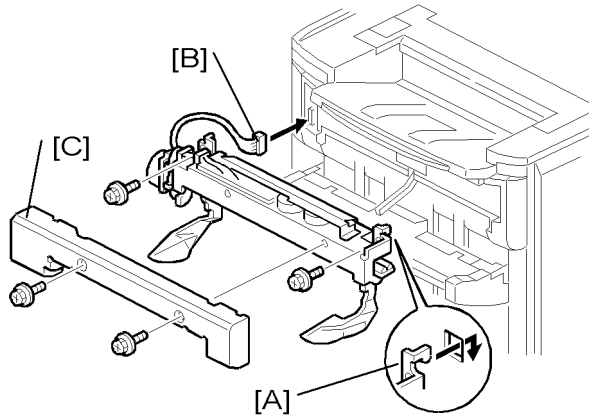
B703103

3. Use the flat head of a screwdriver to remove the left upper cover [A].



B703102

4. Remove the cover plate [A] (⚙ x 2). Keep the screws.



5. While you hold the jogger unit with the connector on the left, put the hooks of the frame of the jogger unit [A] into the holes in the left and right side of the finisher frame.
6. Fasten connector [B] to the socket (🔌 x 1).
7. Attach the jogger unit to the finisher (🔩 x 2).
8. Reattach the jogger unit cover [C] to the jogger unit (🔩 x 2).
9. Set SP 6118 to 1 after you install the B703 jogger unit.

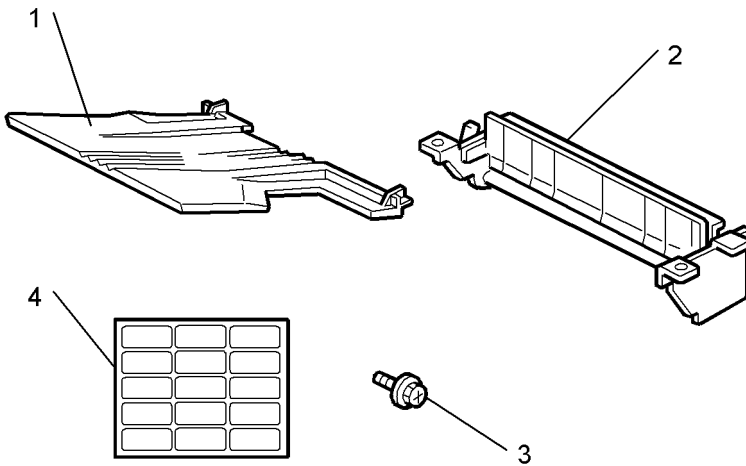
Mail Box (B762)

Accessory Check

2

Check the accessories and their quantities against the following list.

	Description	Q'ty
1.	Trays	9
2.	Guide plate	1
3.	Tapping screws - M3x8	6
4.	Decals (bin display)	1



b762i001a

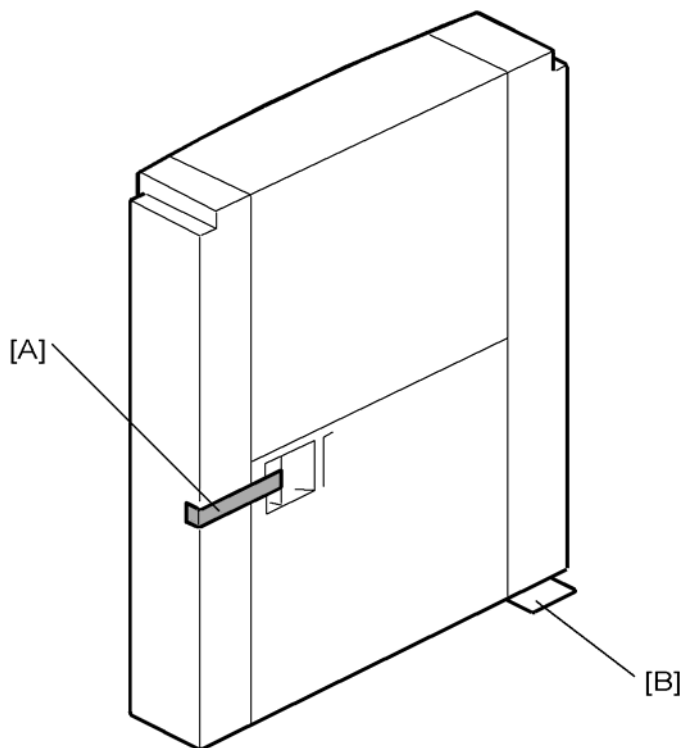
Installation Procedure

★ Important

- The Mail Box B762 can be installed only in the 2000/3000-Sheet Finisher D373/D374.

⚠ WARNING

- Switch the machine off and unplug the machine before starting the following procedure.

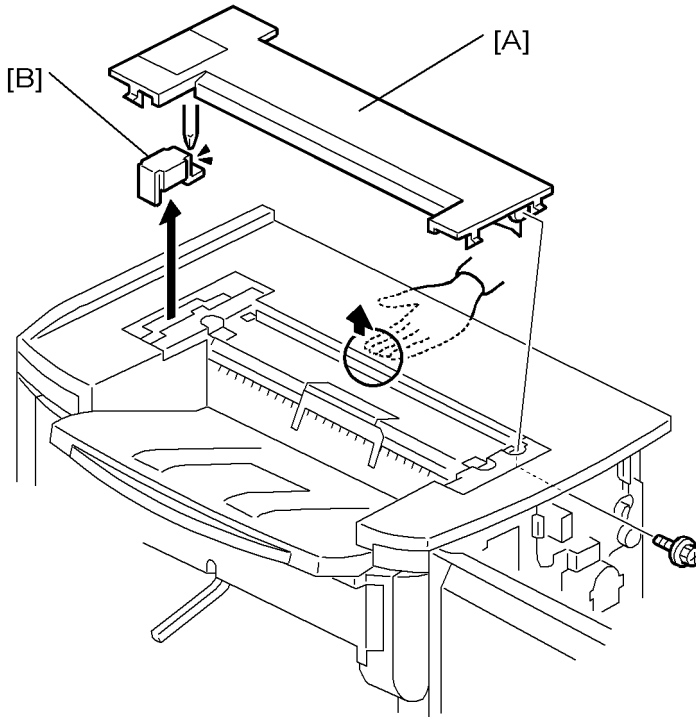


b762i101

1. Remove the filament tape [A].

★ Important

- Handle the mailbox carefully. The corner leaf [B] can be damaged easily.



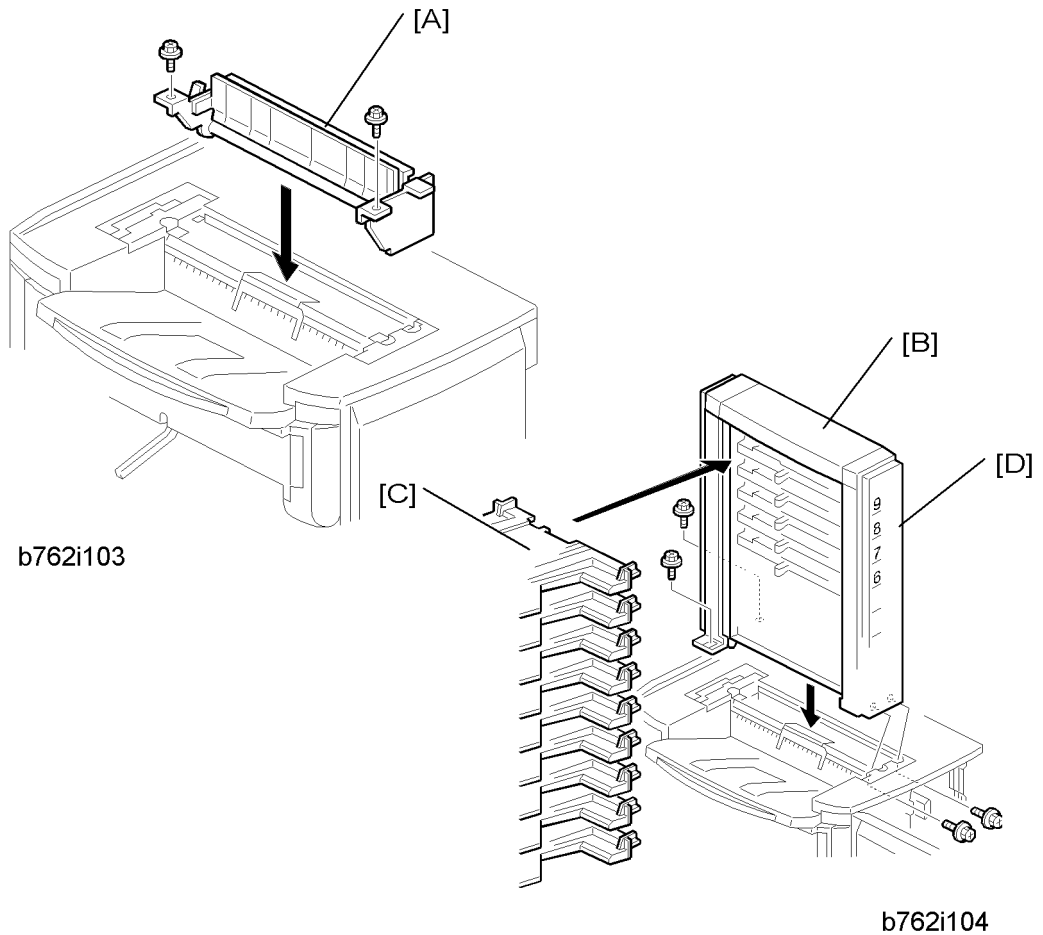
b762i102

2. If the Cover Interposer Tray B704 is installed on the D373/D374, remove it.

Note

- The cover interposer tray and mailbox cannot be installed on the finisher at the same time.

3. Remove the top cover [A] of the finisher (⚙ x 1).
4. Remove the bracket [B] (⚙ x 1).



5. Attach the guide plate [A] to the top of the finisher (⚙ x 2, M3x8).
6. Attach the mailbox [B] to the top of the finisher (⚙ x 4, M3x8).
7. Attach the 9 trays [C] to the mailbox.
8. Give the decals [D] to the customer for notation and attaching at the correct location.

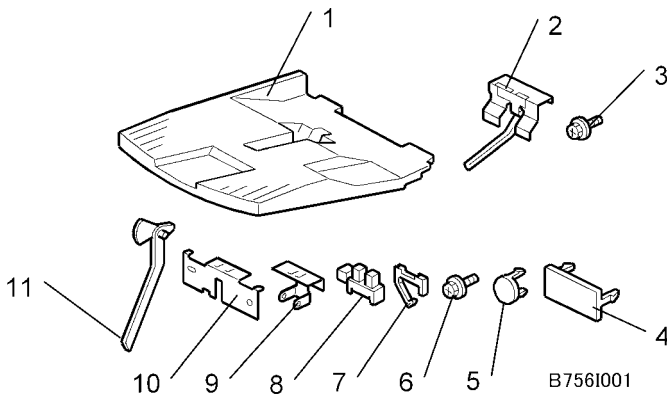
Copy Tray (B756)

Accessories

2

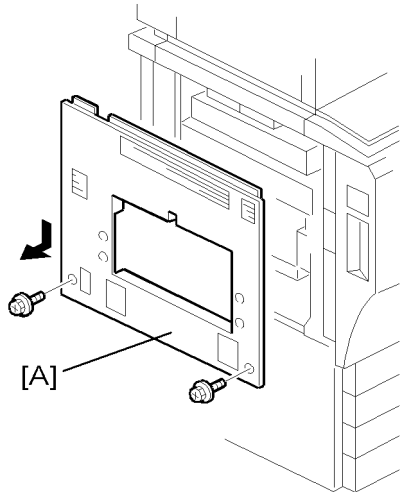
Check the accessories and their quantities against the following list.

	Description	Q'ty
1.	Copy Tray	1
2.	Actuator Arm and Bracket (not used)	1
3.	Tapping Screw (not used)	2
4.	Large Cap	1
5.	Small Cap	4
6.	Tapping Screw (M4 x 8)	1
7.	Harness Clamp	1
8.	Paper Height Sensor	1
9.	Actuator Arm Bracket	1
10.	Sensor Bracket	1
11.	Actuator Arm	1



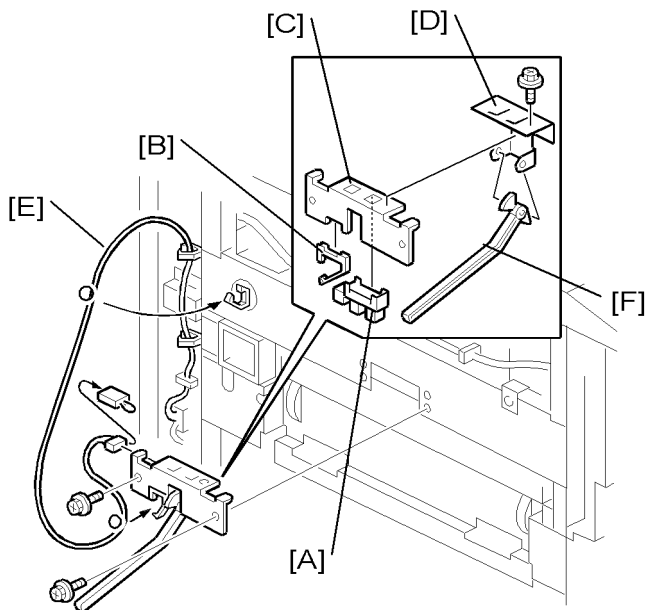
Installation

2



B756I101

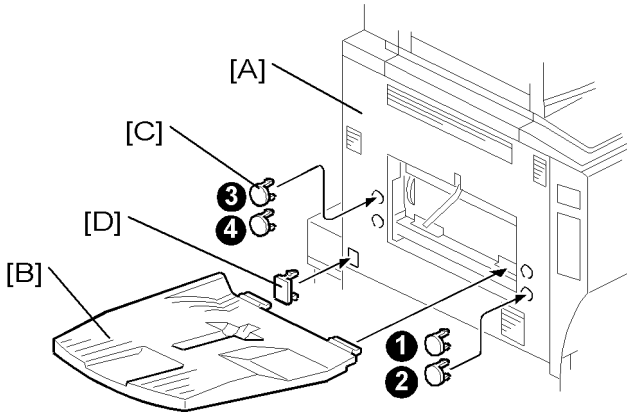
1. Remove the left upper cover [A] (🔩 x 2).



B756I003

2. Attach the paper height sensor [A] and harness clamp [B] to the sensor bracket [C].
3. Attach the sensor bracket and actuator arm bracket [D] to the copier (🔩 x 3).
4. Attach the sensor harness [E] (🔌 x 1, 🛠️ x 4).

5. Attach the actuator [F] to the arms of the actuator arm bracket.



B756I002

6. Reattach the left upper cover [A] (⚙️ x 2).
7. Attach the tray [B].
8. Attach the small caps [C] to the holes **1**, **2**, **3**, **4**.
9. Attach the large cap [D] to cover the finisher power connection point.

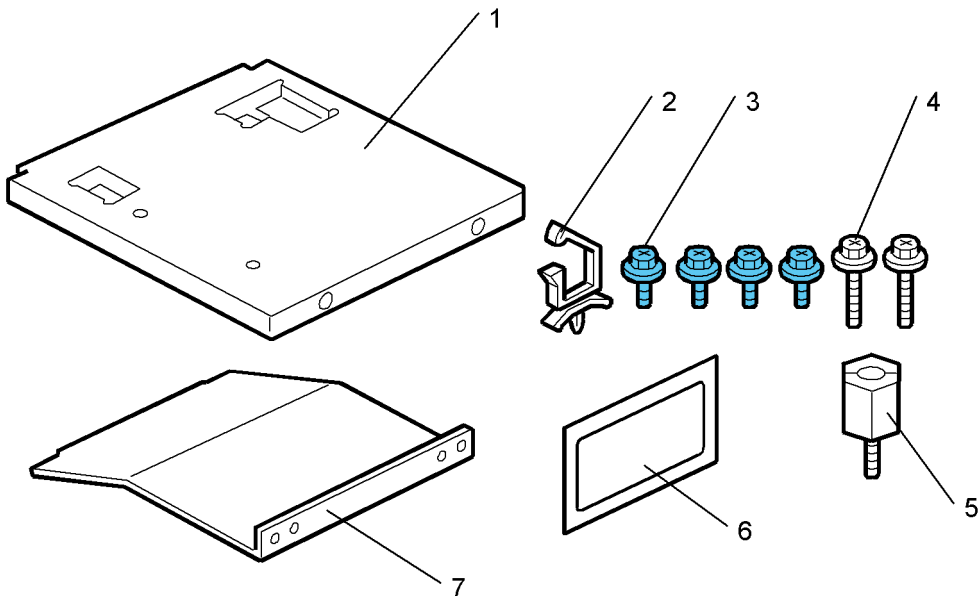
Key Card Bracket (B498), Key Counter Bracket (B452)

Key Card Bracket B498 Accessories

2

Check the accessories and their quantities against this list.

Description	Qty
1. Key Card Table	1
2. Harness Clamp	1
3. Tapping Screws (M3 x 8)	4
4. Tapping Screws (M4 x 14)	2
5. Stud	1
6. Decal	1
7. Key Card Table Support	1

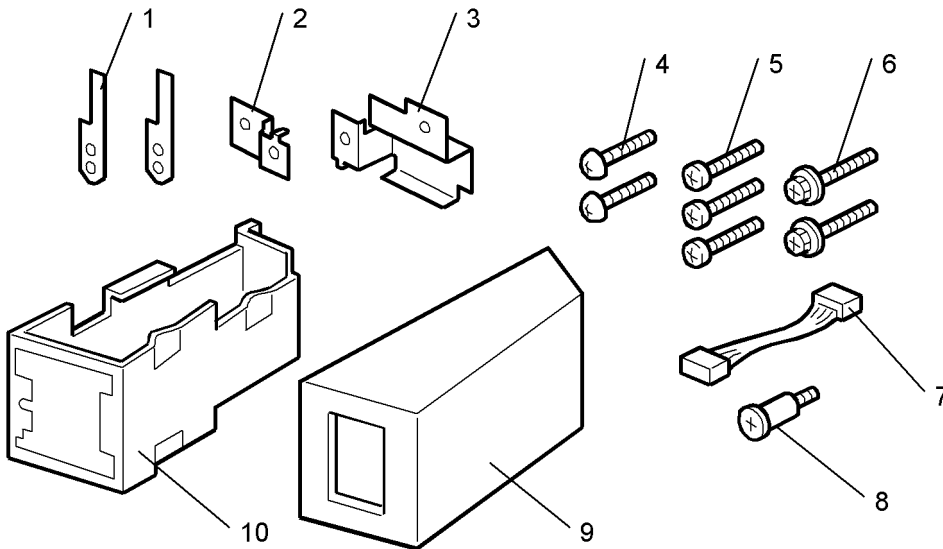


b498i001

Key Counter Bracket B452 Accessories

Check the accessories and their quantities against this list.

Description	Qty
1. Plate nuts	2
2. Rear Bracket	1
3. Front Bracket	1
4. Tapping Screws (M3 x 6)	2
5. Tapping Screws (M4 x 8)	3
6. Tapping Screws (M4 x 16)	2
7. Harness	1
8. Shoulder Screw	1
9. Key Counter Bracket Cover	1
10. Key Counter Bracket	1

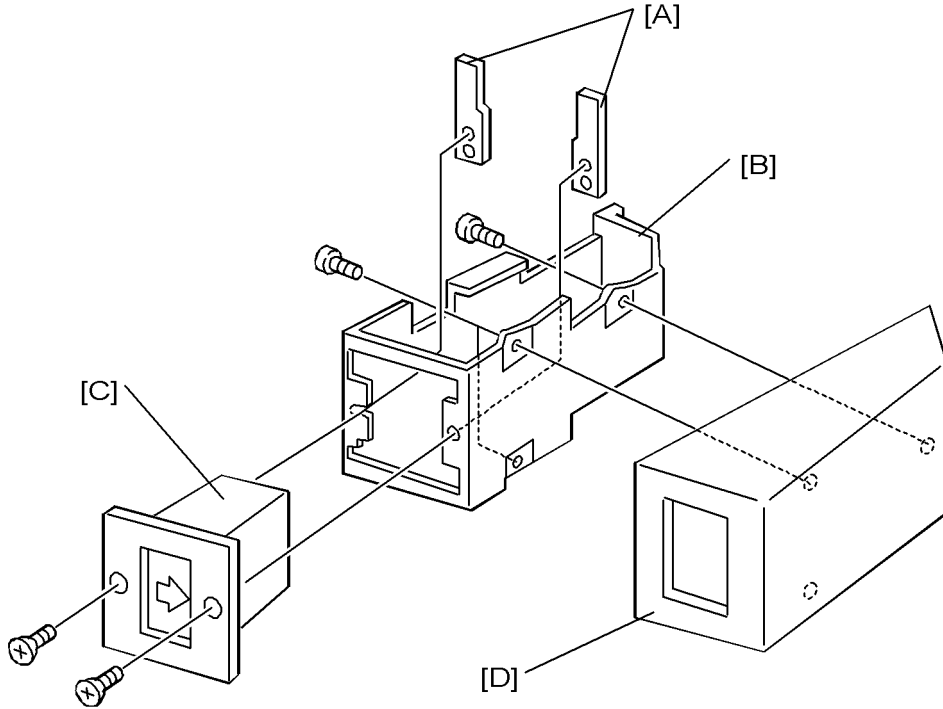


b452i001

Installation

Assemble the Key Counter Bracket

2



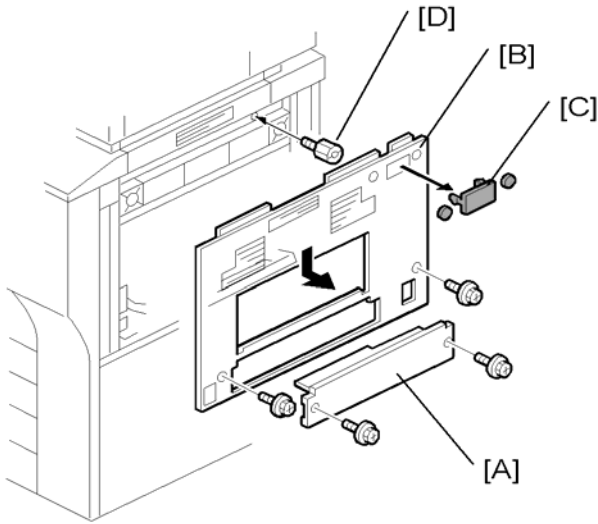
b452i002

1. Hold the key counter plate nuts [A] on the inner surface of the key counter bracket [B].
2. Attach the key counter holder [C] to the key counter bracket (⚙️ x2).
3. Attach the key counter bracket cover [D] (⚙️ x2).

Install the Key Card Bracket and Assembled Key Counter

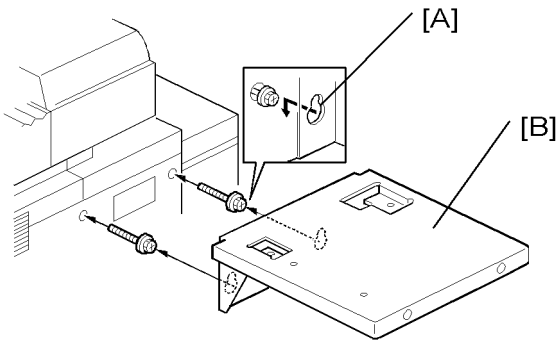
⚠️ WARNING

- Always turn the machine off and disconnect the machine power cord before you do this procedure.



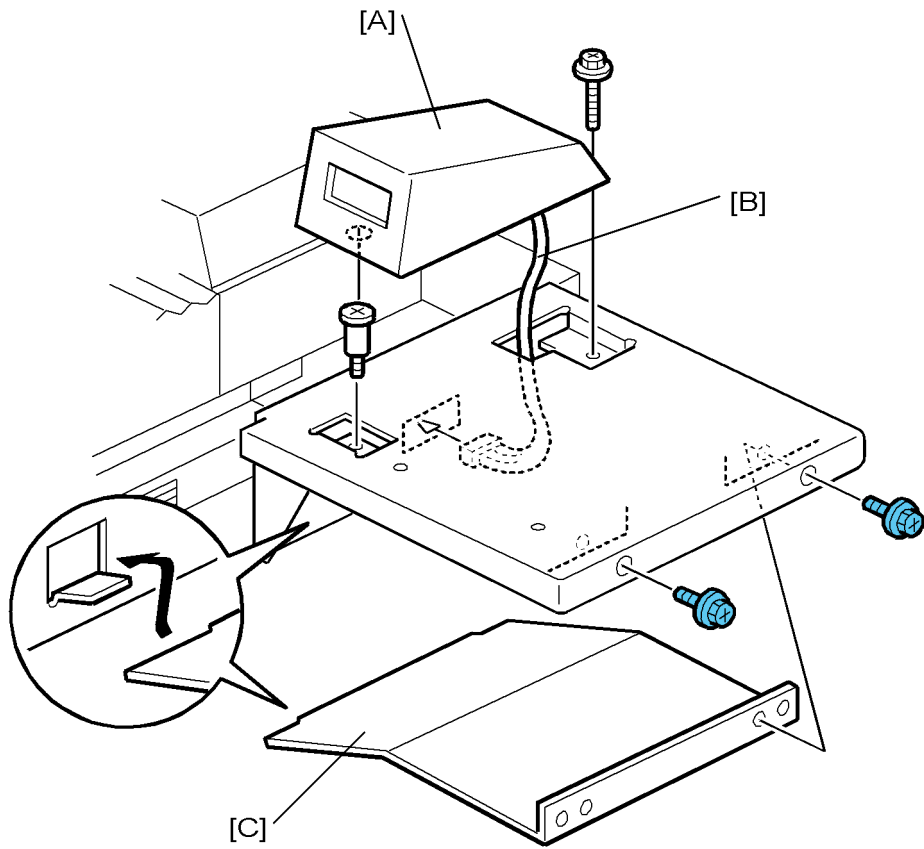
b498i002

1. Remove the cover [A] (🔩 x2).
2. Remove the right upper cover [B] (🔩 x2).
3. Remove the three caps [C].
4. Attach the stud [D].



b498i003

5. Put the keyholes [A] of the key card table [B] over the heads of the shoulder screws, as shown above. Then tighten the screws to attach the table (M4 x 14, 🔩 x2).



b498i004

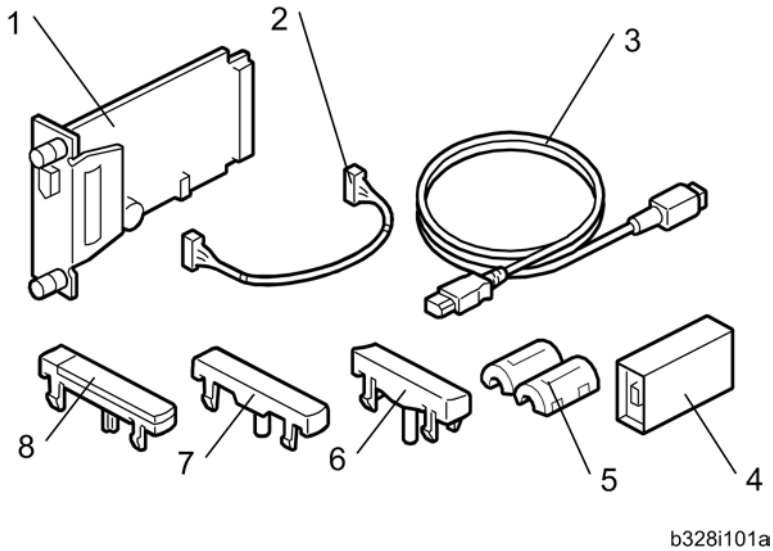
6. Attach the key counter bracket [A] (🔩 x 2).
7. Attach the harness [B] to the key counter bracket and the machine (🔌 x 1).
8. Attach the bracket support [C] to the side of the copier (🔩 x 2).

Copy Connector Kit (B328)

Accessories

2

	Description	Q'ty
1.	Copy Connector Board B328	2
2.	Power Repeater Cable	2
3.	Coupling Interface Cable 1394	3
4.	Repeater Hub 1394	2
5.	Ferrite Core	2
6.	Keytop for B-C3 (Not used)	4
7.	Keytop	4
8.	Keytop for V-C1 (Not used)	8



Preparation

Before you begin the installation procedure:

- Measure the distance between the machines to be connected.

- Confirm that the printer/scanner option is installed on the machines.

Determine the number of cables and repeater hubs that are necessary based on the distance measured between the machines.

Distance	Power Repeater Hubs Required	Interface Cables Required
Up to 4.5 m (14.8 ft.)	None	1
4.5 to 9.0 m (14.8 to 29.5 ft)	1	2
9.0 to 13.5 m (29.5 to 112.5 ft.)	2	3

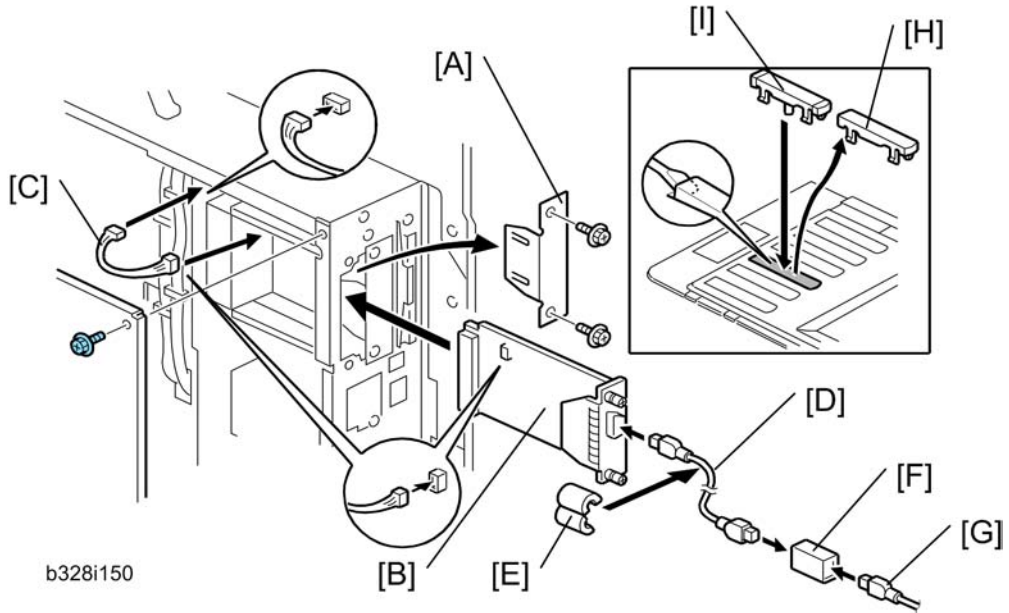
2

- Install the key labeled "Printer/Other Function + Scanner" (or its equivalent symbol key-top for EU) on a machine with the printer/scanner option installed.
- Install the key labeled "Other Function" (or its equivalent symbol key-top for EU) on a machine without the printer/scanner option.

Installation

1. Remove these parts:

- Rear upper cover (🔩 x2) (🔧 Replacement and Adjustment – Operation Panel and External Covers)
- Rear lower cover (🔩 x2) (🔧 Replacement and Adjustment – Operation Panel and External Covers)
- Controller box cover (🔩 x 13)



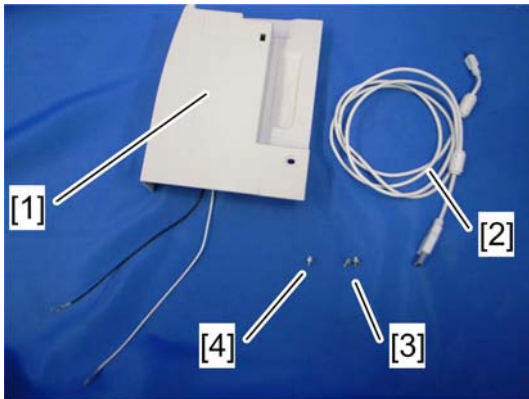
2. Remove the cover [A] of Slot B (2).
3. Install the Copier Connection Kit Board B328 [B] in Slot B and fasten it (2).
4. Connect the power repeater cable [C] to:
 - CN32 on the controller board
 - CN4 on the copy connector board
5. Reattach the controller box cover, rear upper and lower cover.
Repeat Steps 1 to 5 to install the connector kit on the second machine.
6. Connect the end of the interface cable [D] to the copy connector board.
7. Attach the ferrite cores [E] to both ends of the interface cable.
8. If additional cable is required, connect the cables [G] with repeater hubs [F].
9. On the operation panel of each machine, remove the third cover [H] from the bottom ("Printer").
10. Install the appropriate key on each machine.
11. Attach the "Printer/Other Function" key [I] (or its equivalent symbol for EU) if the printer/scanner option is installed.
12. -or-
13. Attach the "Other Function" key [I] (or its equivalent symbol for EU) if the printer/scanner option is not installed.
14. Attach the other end of the connection cable to the copy connector board installed in the other machine.

USB2.0/SD Slot Type C (D464)

Accessories

	Description	Q"ty
1.	USB2.0/SD Slot Type C	1
2.	USB Cable	1
3.	Tapping Screw	2
4.	Screw	1
5.	Decal	1

2

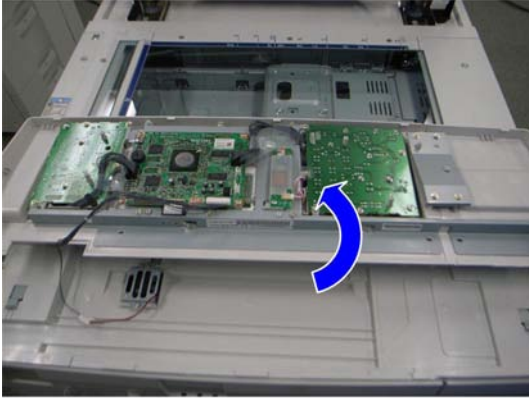


d062i934

Installation

1. Rear upper cover (p.175 "Rear Covers")
2. Right upper cover (p.173 "Right Covers")
3. Left upper cover (p.174)
4. Operation Panel (p.172)

2

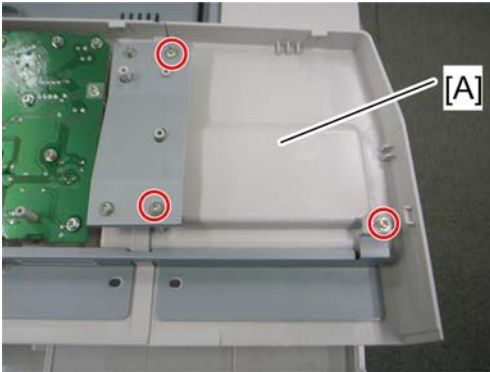


d062i920

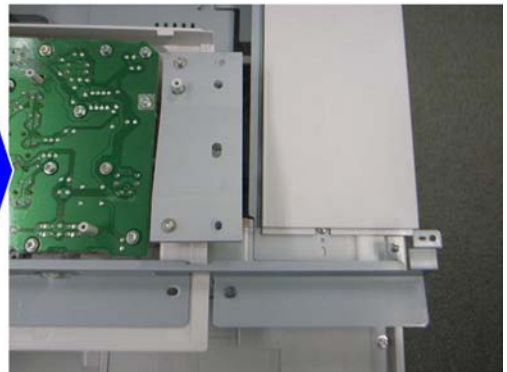
5. Turn the operation panel over and put it on the machine.

Note

- Put some cloths or sheets of paper between the machine and the operation panel, so as not to scratch the exposure glass.

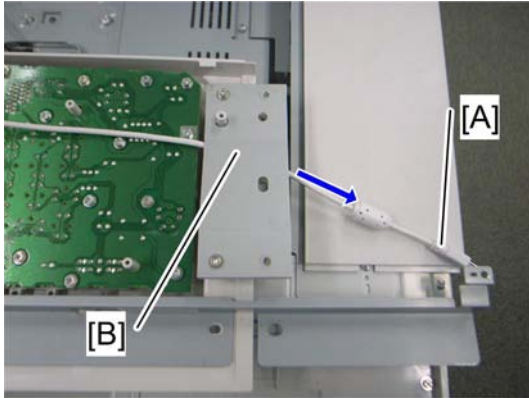


d062i921



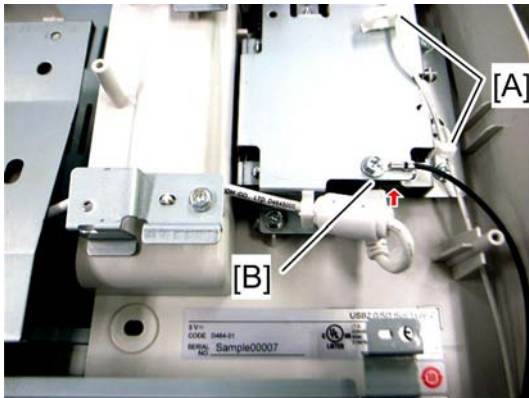
d062i922

6. Clip tray [A] (🔧 x 3)



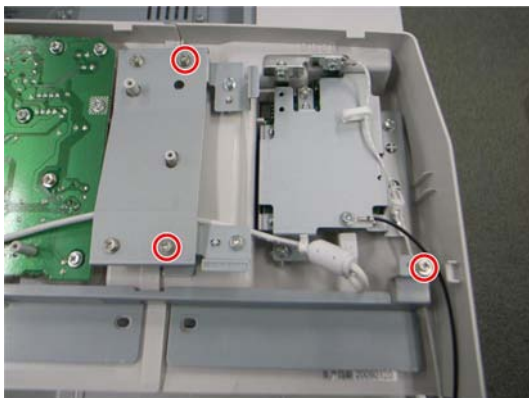
d062i923

7. Pass the USB cable [A] under the bracket [B].



d062r924

8. Secure the white ground wire with two clamps [A], and insert the USB Cable in the slot [B] on the USB2.0/SD Slot Type C.

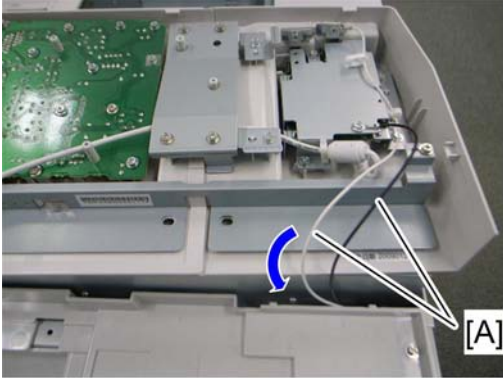


d062i925

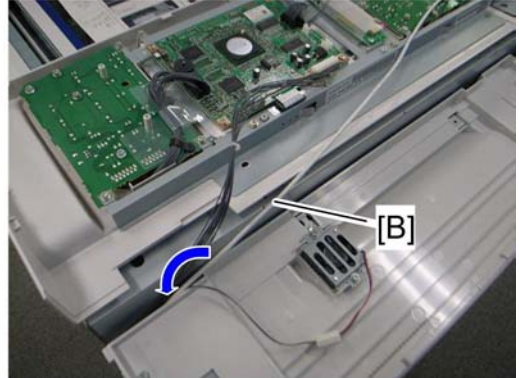
9. Install the USB2.0/SD Slot Type C on the operation panel (⚙ x 3)

Note

- Use three screws provided with this kit. Tapping screws must be used to attach the USB2.0/SD Slot Type C to bracket [A] of the operation panel. The other screw must be installed on the right side [B].

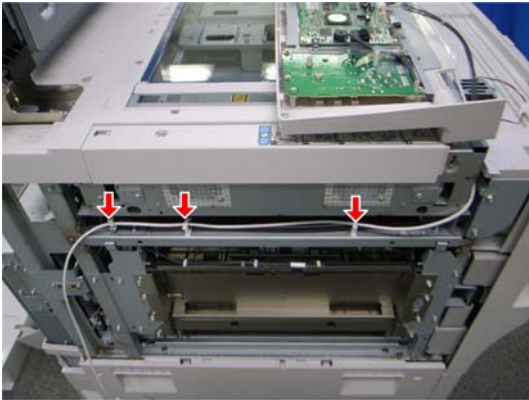


d062i926



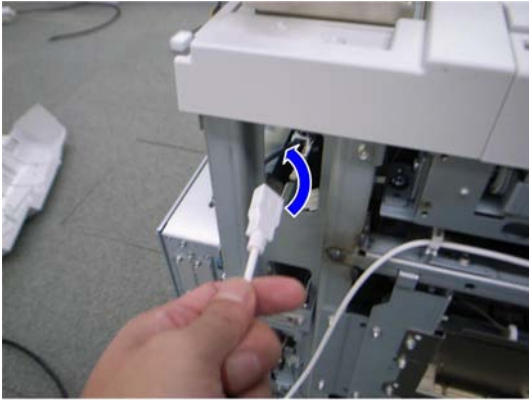
d062i927

10. Put the ground wires [A] and the USB Cable [B] into the machine as shown in the above diagrams.



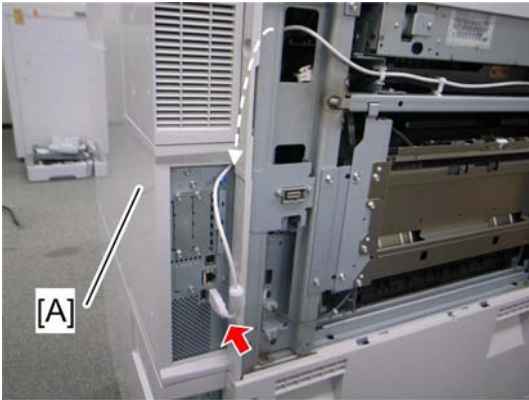
d062i928

11. Secure the USB Cable to the bracket (Ⓜ x 3).



d062i932

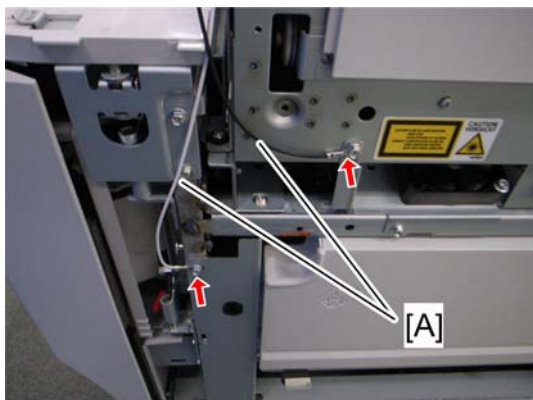
12. Pass the USB Cable to the rear side of the machine.






d062r933

13. Pass the USB Cable through the rear upper cover [A].
14. Install the rear upper cover (☞ p.175 "Rear Covers")
15. Insert the USB Cable in the USB slot on the controller box.
16. Re-install the left upper cover (☞ p.174 "Left Covers")

2



d062i930

17. Secure two ground wires [A] (each  x 1) on the right side of the machine.
18. Re-install the right upper cover ( p.173 "Right Covers").
19. Re-install the operation panel ( p.172).

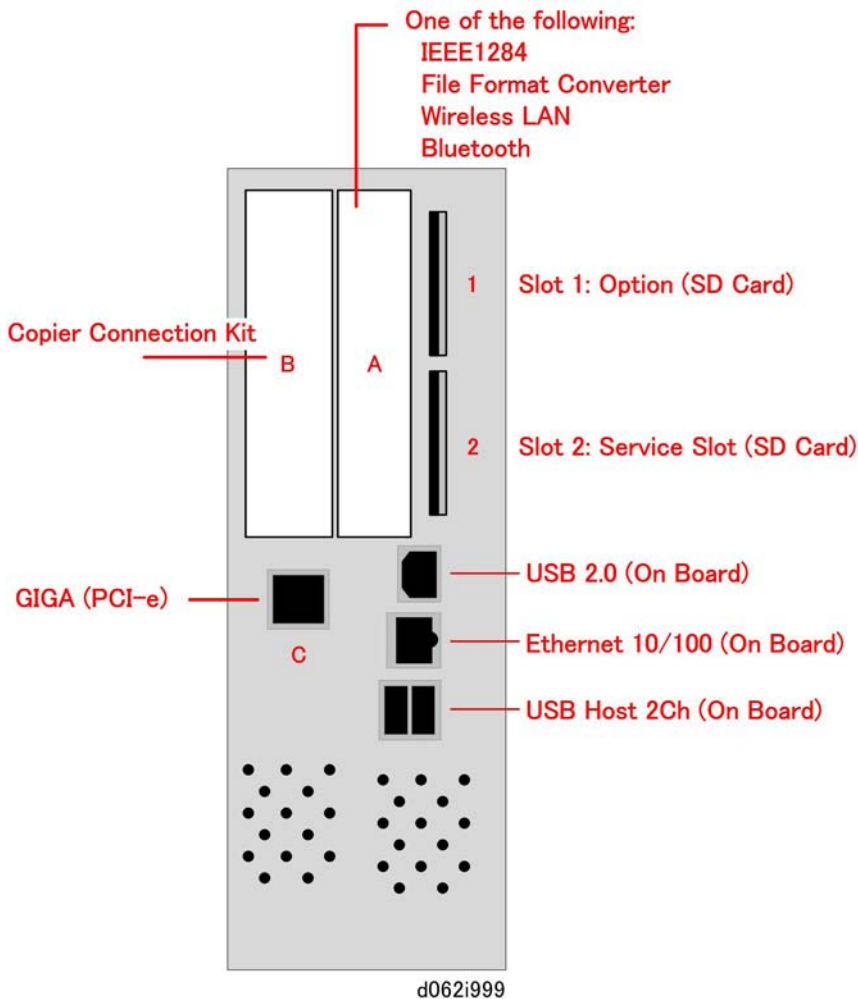
MFP Options

Merging Applications on One SD Card

2

Overview

Two slots for boards and two slots for SD cards are provided on the controller box. Each board or SC card must be inserted into its assigned slot. The slot assignment of each item is listed in the table below.



Note

- If the customer wants to use more than one application on SD cards, applications must be merged on the same SD card.

★ Important

- The data necessary for authentication is transferred with the application program to the target SD card.
- Do not use an SD card if it was used with a computer before this time. Correct operation is not guaranteed if this type of SD card is used.
- The SD card is the only evidence that the customer is licensed to use the application program. Also, the service technician may occasionally need to check the SD card and its data to solve problems. For these reasons SD cards must be stored with the machine.
- A licensing agreement prohibits copying of the PostScript SD card. However, you can copy any application from another SD card to the PS3 SD card.
- After an SD card has been used to move other applications onto that card, that SD card cannot be used for a different function.
- Never remove the System SD Card from Slot 1
- Before uploading to an SD card, always make sure that the write-protect switch is OFF. (It is very easy to accidentally turn on the write-protect switch when inserting or removing an SD card.)

Merging Applications

Do this procedure to put more than one application on one SD card.

1. Turn off the main machine.
2. Remove the SD card slot cover (🔑 x 1).
3. Put the Source SD card in Slot 2 (service slot). This card contains the application that you want to copy.

↓ Note

- The PS3 SD card cannot be the source card (it cannot be copied).
4. Check the target SD card and confirm that its write-protect switch is OFF.
 5. Insert the Target SD card into the SD card Slot 1.
 6. Open the front door.
 7. Turn the main machine on.
 8. Do SP5873 001.
 9. Touch "Execute".
 10. Follow the instructions on the display and touch "Execute" to start copying.
 11. When the display tells you copying is completed, touch "Exit".
 12. Turn the main machine off.
 13. Remove the Source SD card from Slot 2. Leave the target SD card in Slot 1.
 14. Turn the main machine on.

15. Go into the User Tools mode and check that all the applications on the SD card in Slot 1 are enabled:
 - User Tools> System Settings> Administrator Tools> Firmware Version
16. Turn the main machine off again.
17. Reattach the SD card slot cover.
18. Return copied SD cards to the customer for safekeeping, or tape the copied SD cards to the inside of the front door.

★ Important

- Do not remove copied SD cards from the machine site.

★ Important

- After an SD card has been copied, it can no longer be used. However, it must be stored in the machine to serve as proof of purchase by the customer.
- The original card can also be used to perform an undo procedure (SP 5873 002). Before you store an SD card, label it carefully so it can be identified easily if you need to do the undo procedure (see below).

Undo Exec

Do this procedure if you moved an option from the original SD card to another card by mistake and you need to restore the original SD card.

1. Turn the main switch OFF.
2. Put the SD card holding the merged applications in SD Card Slot 1.
3. Put the original destination SD card (the one removed from storage) into Slot 2

↓ Note

- The SD card in Slot 2 must be the original SD card of the application you want to move from Slot 1 to Slot 2. You cannot use a blank SD card in Slot 1.
4. Turn the main switch ON.
 5. Do SP5873-002 (Undo Exec).
 6. Follow the instructions of the operation panel messages.
 7. Turn the main switch OFF.
 8. Remove the SD cards from the slots.
 9. Turn the main switch ON.

Common Procedures

Inserting SD Cards

Insert SD cards with the notched corner down.

The insertion point for the SD cards are offset slightly to the left. Make sure the SD card is inserted correctly before you push it into the slot.

Pushing in the SD Card also releases it for removal. Make sure the SD Card is inserted and locked in place. If it is partially out of the slot, push it in gently until it locks in place.

Storing Copied SD Cards

Copied SD cards cannot be used. However, they must be stored at the site to server as proof of purchase by the customer.

Return copied SD cards to the customer for safekeeping, or tape the copied SD cards to the inside of the front door.

Do not remove copied SD cards from the machine site.

Printer Scanner Unit (D462)

Accessories

No.	Description	Q'ty
1.	Caution Decal	1
2.	Printer/Scanner SD Card	1
3.	Printer Keytops (English/Symbol)	2
4.	Scanner Keytops (English/Symbol)	2
5.	EULA Sheet	1
6.	FCC Decal	1
7.	Memory DIMM 1GB	1

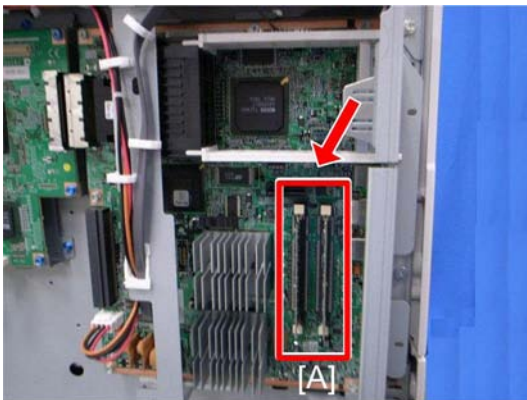
★ Important

- Only one Slot 1 is available for applications on SD cards. If more than one application is will be used, the applications must be moved onto one SD card with SP5873 -1.

Installation

⚠ CAUTION

- Make sure that the main machine is switched off and that its power cord is disconnected before doing the following procedure.

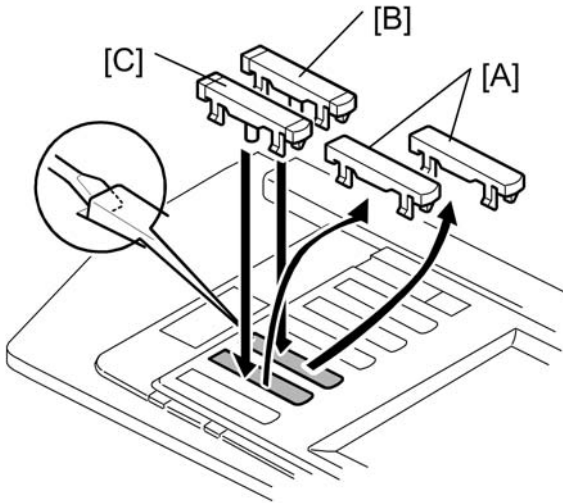


d062r681b

1. Switch the machine off.
2. Remove the controller box cover (see p.286 "CNT Board (Controller Board)").
3. Insert the memory DIMM in either slot [A].
4. Re-attach the controller box cover.
5. Insert the SD Card into Slot 1.

★ Important

- Push the SD Card in to release it for removal.
- Make sure the SD Card is inserted and locked in place. If it is partially out of the slot, push it in gently until it locks in place.



d462i107

6. On the operation panel, remove the dummy keytops [A] (second and third from the bottom) and discard them.
7. Install the "Printer" keytop [B] then the "Scanner" keytop [C]. Select either the English set or Symbol set for installation. The correct order is:
 - Printer (upper)
 - Scanner (lower)
8. Plug in the power cable and turn the main power switch on.
9. Change **SP5985 -1** and **-2** from "0" to "1".
10. Turn the main power switch off and on.
11. Follow the procedures in the Operation Instructions to complete the installation for the printer/scanner option.

Postscript3 Unit (D462-20/22/23)

Accessories

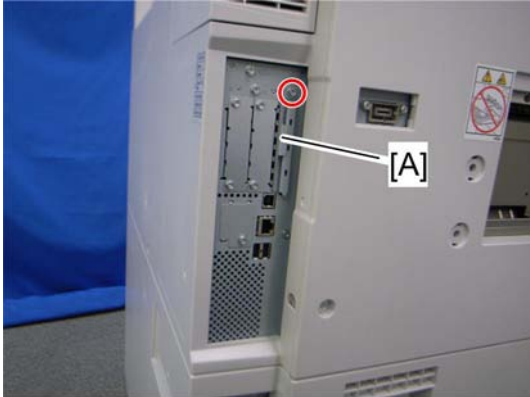
	Description	Q'ty
1.	PostScript3 Emulation SD Card	1
2.	Decal	1

★ Important

- Only Slot 1 is available for applications on SD cards. If more than one application will be used, the applications must be merged onto one SD card with SP5873 -1.

Installation

2



d063i500

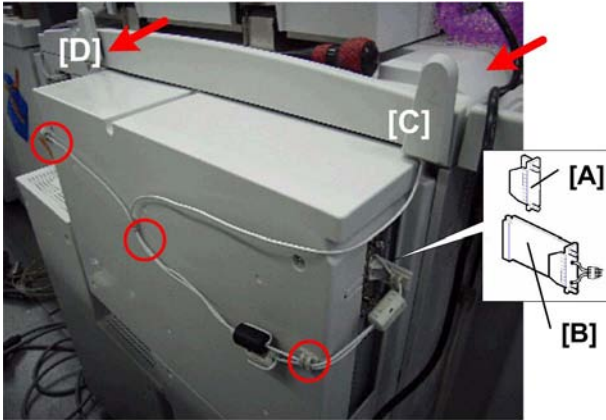
1. Switch the machine off.
2. Remove the SD card slot cover [A] (1 x 1).
3. Insert the PS3 SD Card [B] into Slot 1.
4. Switch the machine on.

IEEE802.11a/g Interface Unit Type J (D377)

Accessories

	Description	Q'ty
1.	Wireless LAN PCB (GW-WLAN)	1
2.	Clamps	8
3.	Velcro Fasteners	2
4.	Wireless LAN Instructions	1

Installation



d377i001

1. Remove the cover of the interface slot A [A] (⚙ x 2).
2. Touch a metal surface to discharge any static electricity from your hands.
3. Put the Wireless LAN board [B] in Slot A.
4. Confirm that the board is inserted completely, then fasten it (⚙ x 2).
5. Pull the antennas away from machine and make sure that they are not tangled.
6. Look at the markings on the antenna bracket.
 - **ANT1.** Antenna 1 transmits and receives. The ferrite core on the Antenna 1 cable is black. It must be installed on the left rear corner of the main machine where it will not be obstructed by the operation panel.
 - **ANT2.** Antenna 2 only receives. It is installed on the right rear corner of the machine.
7. Attach ANT1 [C] to the left rear corner.
8. Attach ANT2 [D] to the right rear corner.
9. Route the cables and use the clamps to attach them as shown.

SP Mode Settings for 802.11 a/g Wireless LAN

The following SP commands can be set for 802.11 a/g

1. Go into the SP mode
2. Touch "Copy SP" on the touch-panel to open the SP command selection screen.
3. Do SP5840-11.

SP No.	Name	Function
5840 011	WEP Key Select	Used to select the WEP key (Default: 00).

Bluetooth Interface Unit Type C (B826)

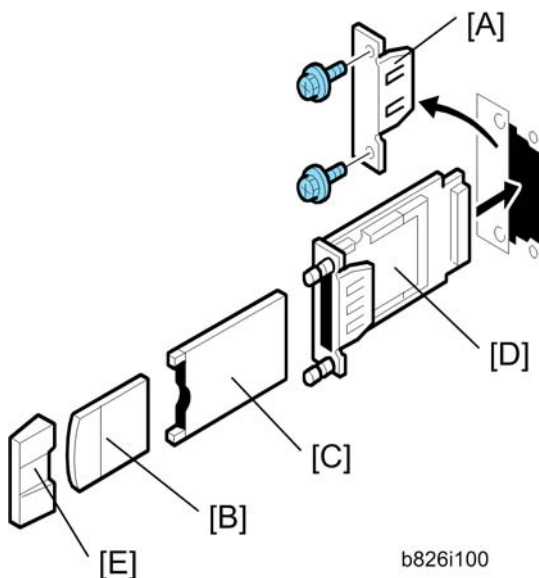
Accessories

Check the quantity and condition of the accessories.

No.	Description	Q'ty
1	Bluetooth card	1
2	Bluetooth card cover	1
3	Bluetooth board	1
4	Bluetooth card adapter	1

2

Installation



1. Switch the machine off.
2. Remove the cover of Slot A [A] (x2).
3. Touch a metal surface to discharge any static charge from your hands.
4. With both labels facing up, insert the Bluetooth card [B] into the adapter [C].
5. With the labels facing down, insert the adapter [C] into the Bluetooth board [D].
6. Insert the interface board (with card and adapter inserted) into Slot B2.

7. Attach the card cover [E] (used to prevent static electricity).
8. Confirm that Bluetooth is installed correctly:
User Tools> Printer Features> List/Test Print> Configuration Page

File Format Converter Type E (D377)

2

Accessory Check

Check the accessories and their quantities against this list:

	Description	Q'ty
1.	File Format Converter (MLB: Media Link Board)	1

Installation

1. Switch the machine off.
2. Remove the cover of Slot A (🔑 x 2).
3. Insert the file format converter board into Slot A and fasten it with the screws.
4. Switch the machine on.
5. Set **SP5836-3** to "1" to enable the print backup feature.
6. Confirm or set the following SP codes with the values in the table listed below.

SP No.	Setting	SP No.	Setting
5-836-1	1	5-836-73	0
5-836-2	0	5-836-85	1
5-836-3	1	5-836-86	2
5-836-72	0	5-836-91	50

7. Set the following SP codes according to the customer's needs.

SP No.	Setting	Comment
SP5-836-94	2	Selects JPEG2000 file format for documents copied from the document server to Palm2. Note: Files backed up to Palm2 in J2K format cannot be edited by other software applications.
	0	Selects the TIFF file format for documents copied from the document server to Palm2. Note: Select this so the backed up files can be used with other software applications (editing, OCR, etc.) with only slight loss in image quality.
SP-5836-98	1	Applies dot correction and eliminates ghost images transferred from the back sides of double-sided originals when files are copied to Palm2. This selection also reduces the size of the file. Note: This function is applied to both J2K and TIFF files and is particularly useful for copying large J2K documents quickly with only a slight loss in image quality.
	0	Does not apply the features of the "1" setting when files are copied to Palm2. Note: This setting preserves the quality of the original image, especially with J2K files, but also requires more time for copying and requires more disk space to store the larger files.

HDD Encryption Unit Type A (D377)

Accessory

Check the quantity and condition of the accessories in the box against the following illustration and list.

No.	Description	Q'ty
1.	SD Card	1

Before You Begin the Procedure

1. Make sure that the following settings are not at the factory default settings:
 - Supervisor login password
 - Administrator login name

- Administrator login password

Note

- These settings must be set up by the customer before the encryption option can be installed.

2. Confirm that "Admin. Authentication" is on:

[User Tools]> "System Settings"> "Administrator Tools"> "Administrator Authentication Management"> "Admin. Authentication"> "On"

If this setting is "Off" tell the customer that this setting must be "On" before you can do the installation procedure.

3. Confirm that "Administrator Tools" is selected and enabled:

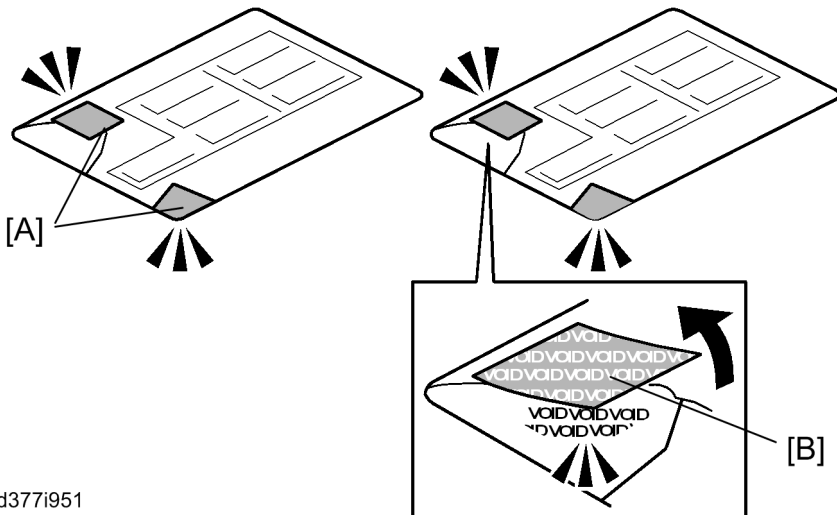
[User Tools]> "System Settings"> "Administrator Tools"> "Administrator Authentication Management"> "Available Settings"

Note

- "Available Settings" is not displayed until "Admin. Authentication" is switched on.

If this setting is not selected tell the customer that this setting must be selected before you can do the installation procedure.

Seal Check and Removal



d377i951

CAUTION

- You must check the box seals to make sure that they were not removed after the items were sealed in the box at the factory before you do the installation.

1. Check the box seals [A] on each corner of the box.

- Make sure that a tape is attached to each corner.

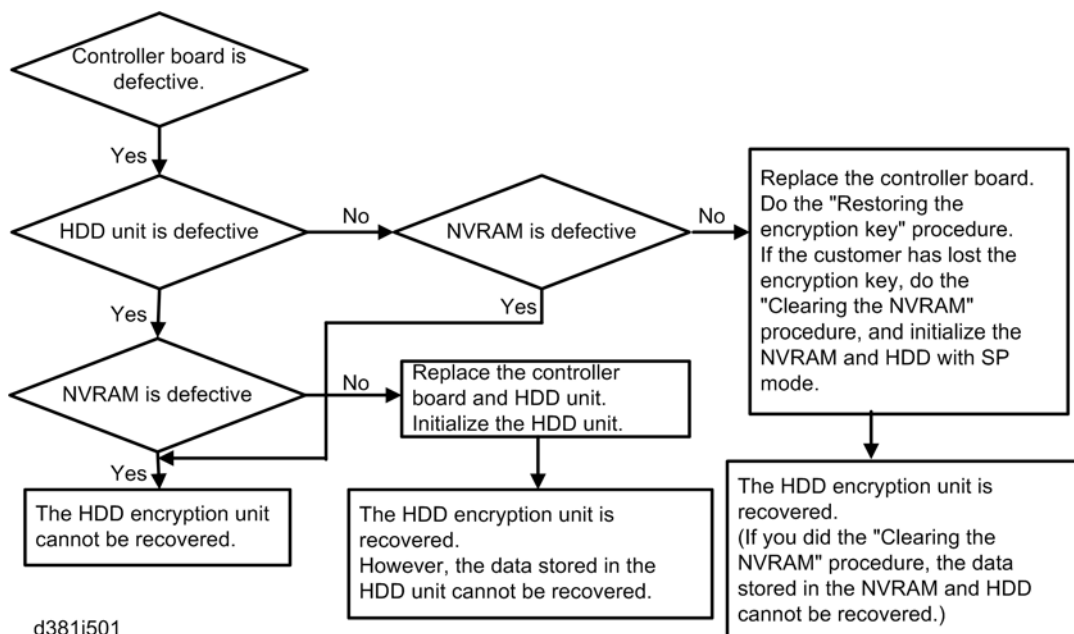
- The surfaces of the tapes must be blank. If you see "VOID" on the tapes, do not install the components in the box.
- If the surfaces of the tapes do not show "VOID", remove them from the corners of the box.
 - You can see the "VOID" marks [B] when you remove each seal. In this condition, they cannot be attached to the box again.

2

Installation Procedure

- Remove the SD card slot cover (A) (x 1).
- Insert the SD in SD Slot 1.
- Turn on the main power switch.
- Enter the SP mode.
- Select **SP5878-2** (Option Setup – Encryption Option), and then touch [Execute].
- Turn off the main power switch.
- Remove the SD card.
- Attach the slot cover [A] (x 1).
- Switch the machine on.

Recovery from a Device Problem



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 unit.
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. Insert the SD card that contains the encryption key into slot 2.
10. Turn on the main power switch, and the machine automatically restores the encryption key in the flash memory on the controller board.
11. Turn off the main power switch after the machine has returned to normal status.
12. Remove the SD card from slot 2.
13. Reinstall the HDD unit.

Clearing the NVRAM

When replacing the controller board for a model in which the HDD encryption unit has been installed 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 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 (SP5801-1) and HDD unit (SP5832-1) with SP mode.
14. The user must enable the HDD encryption unit with a user tool.

Data Overwrite Security Unit Type H (D377-06)

Accessories

No.	Description	Q'ty
1.	Data Overwrite Security SD Card	1
2.	Operating Instructions CD-ROM	1
3.	Comments Sheet (17 languages)	2

Before You Begin...

1. Confirm that the Data Overwrite Security unit SD card is the correct type for the machine. The correct type for this machine is type "H".
2. Make sure that the following settings are not at the factory default settings:
 - Supervisor login password
 - Administrator login name
 - Administrator login password

★ Important

- **These settings must be set up by the customer before the Data Overwrite Security unit can be installed.**
3. Confirm that "Admin. Authentication" is on:


```
[User Tools]>"System Settings">"Administrator Tools">"Administrator Authentication Management">"Admin. Authentication">"On"
```

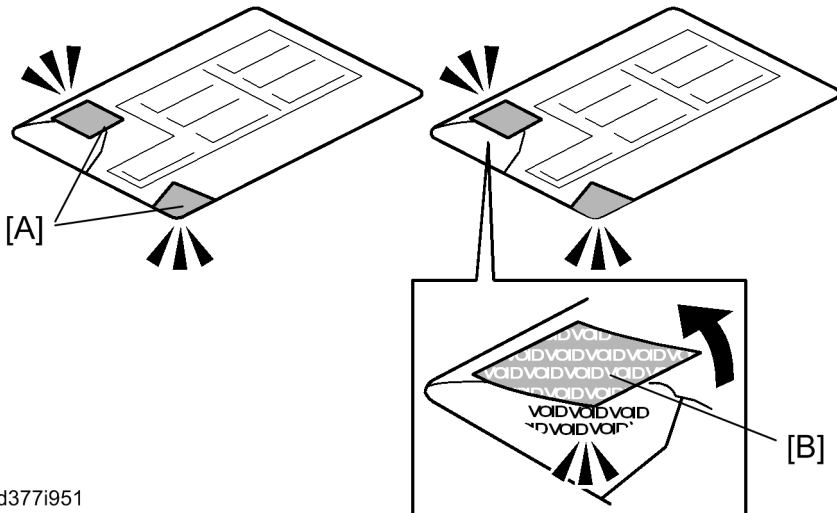
If this setting is "Off", tell the customer that this setting must be "On" before you can do the installation procedure.
 4. Confirm that "Administrator Tools" is selected and enabled:


```
[User Tools]>"System Settings">"Administrator Tools">"Administrator Authentication Management">"Available Settings"
```

Note

- "Available Settings" is not displayed until Step 2 is done.

If this setting is not selected, tell the customer that this setting must be selected before you can do the installation procedure.

2**Seal Check and Removal**

d377i951

⚠ CAUTION

- Turn off the main power switch and disconnect the power supply cord.
1. Check the two box seals [A] on the corners of the box.
 - Make sure that the seals are attached at both corners.
 - The surfaces of the tapes must be blank. If you see "VOID" on the tapes, do not install the components in the box. Contact your sales division.
 2. If the surfaces of the tapes do not show "VOID", remove them from the corners of the box.
 3. After you remove each seal, the "VOID" marks [B] become visible. This prevents them from being reattached to the box.

Installation**★ Important**

- The DOS SD card must be inserted in SD card Slot 1.
- If the PostScript3 option is also installed, you must move the DOS application to the PostScript3 SD card with SP5873 -1.

1. If the machine is on, turn off the main power switch.
2. Disconnect the network cable.
3. Turn the main power switch on.
4. Turn the operation switch and main power switch off.
5. Remove the SD card slot cover (🔑 x1).
6. Insert the SD card into SD card Slot 1.
7. Reconnect the network cable.
8. Turn the main power switch on.
9. Do **SP5878-001** and push [EXECUTE].
10. Go out of the SP mode.
11. Turn the operation switch off, then turn the main power switch off.
12. Do **SP5990-5** to print an SMC report.
13. Make sure the ROM number and firmware version in area [a] of the diagnostic report are the same as those in area [b].
 - Area [a]: "ROM Number/Firmware Version" – "HDD Format Option"
 - Area [b]: "Loading Program" - "GW4a_zoffyx"

Diagnostic Report:	"ROM No. / Firmware Version" [a]	"Loading Program" [b]
DataOverwriteSecurity Unit	HDD Format Option: D3775902A / 1.01x	GW4a_zoffyx: D3775902A / 1.01x

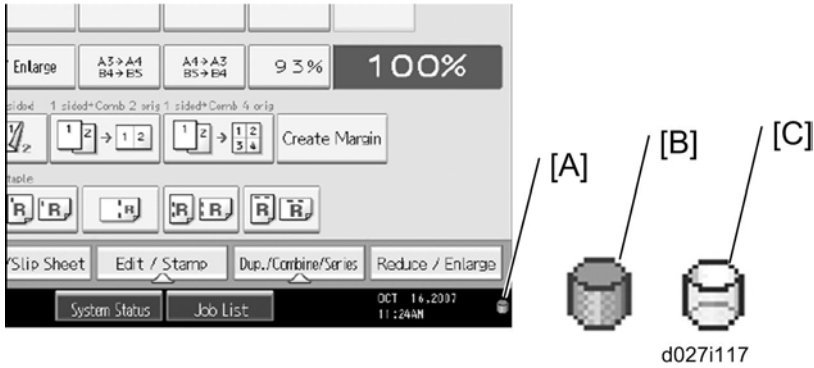
★ Important

- **The same two numbers must be listed in both sections of the SMC report**

If the numbers are not identical, this means the option was not installed correctly.

- Confirm that the label on the box of the DOS option says "H".
- Do the Data Overwrite Security unit installation again.

14. Turn "Auto Erase Memory Setting" on:
[User Tools]> "System Settings"> "Administrator Tools"> "Auto Erase Memory Setting"> "On"
15. Exit User Tools.



16. Check the display and make sure that the overwrite erase icon [A] is displayed.
17. Make a Sample Copy.
18. Check the overwrite erase icon [A].
 - The icon [B]: This icon is lit when there is temporary data to be overwritten, and blinks during overwriting.
 - The icon [C]: This icon is lit when there is no temporary data to be overwritten.

Browser Unit Type E (D430)

Accessories

	Description	Q'ty
1.	Browser Unit D430 SD Card	1

Installation

1. Switch the machine off.
2. Remove the SD card slot cover (🔧 x1).
3. Insert the SD card into SD card Slot 2.

Note

- Pushing in the SD Card also releases it for removal.
 - Make sure the SD Card is inserted and locked in place.
 - If it is partially out of the slot, push it in gently until it locks in place.
4. Turn the machine on.
 5. Push [User Tools].

6. Push [Login/Logout] on the operation panel
7. Login with the administrator user name and password.
8. Touch "Extended Feature Settings".
9. Touch "Extended Feature Settings" again.
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 you previous selection.
14. Touch "OK". You will see "Installing..." then "Completed".
15. Touch "Exit" twice to return to the copy screen.
16. Switch the machine off.
17. Replace the 6th key slot cover with the "Other Function" key cover.
18. Switch the machine on.
19. After the Copy screen appears, wait 30 sec. then press the "Other Function" key.
20. When you see this message: "The MFP Browser was successfully installed", switch the machine off and remove the SD card.

Copy Data Security Unit Type C (B829)

Accessories

	Description	Q'ty
1.	PCB IPU Option	1

Installation

In a new machine, the IPU does not have this application. You must always install a new IPU board when you install the Copy Data Security Unit option.

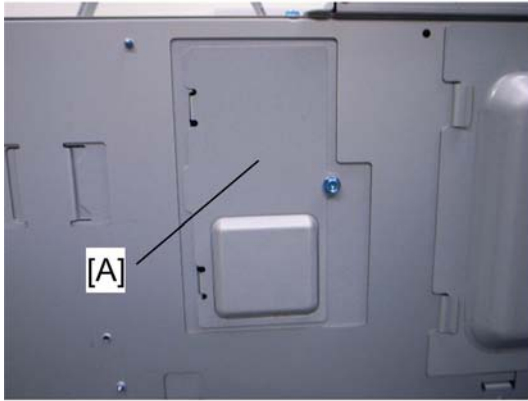
IPU

Remove:

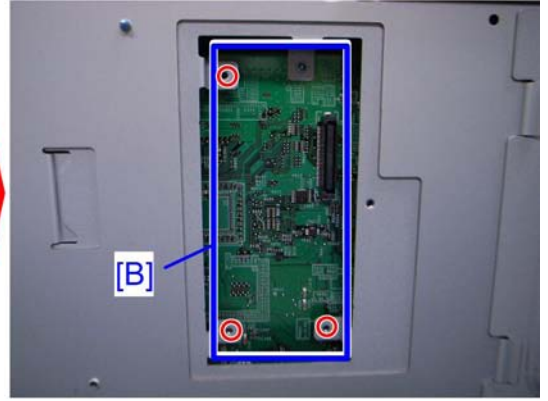
- Rear upper cover (🔩 x2) (🖨️ p.175)
- Rear lower cover (🔩 x2) (🖨️ p.175)

Remove:

- Screws and swing open the controller box (🔩 x 3).



d062r709a



d062r709b

- IPU left cover [A] (🔩 x1)

Install:

- Copy Data Security Unit Type C [B] (🔩 x 3)

After Replacing the Copy Data Security Unit.

1. Switch the machine on.
2. Login in as the System Administrator.
3. Push [User Tools].
4. Touch "System Settings".
5. Touch "Administrator Tools".
6. Touch next 2 or 3 times until you see "Data Security for Copying".
7. Touch "ON".
8. Touch "OK" to enable the setting.

VM Card (D463)

Accessories

	Description	Q'ty
1.	VM Card D463 SD Card	1

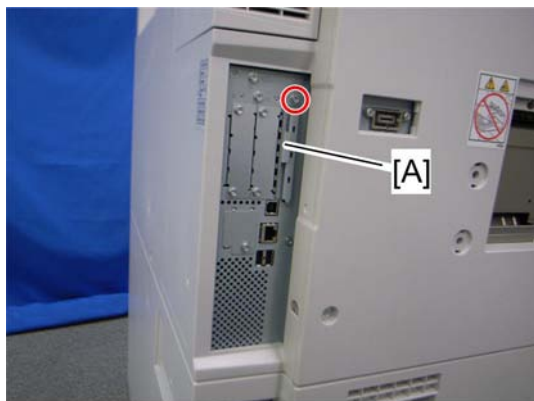
	Description	Q'ty
2.	Decal	1

★ Important

- Only one slot (C2) is available for applications on SD cards. If more than one application is will be used, the applications must be merged onto one SD card with SP5873 001.

2

Installation

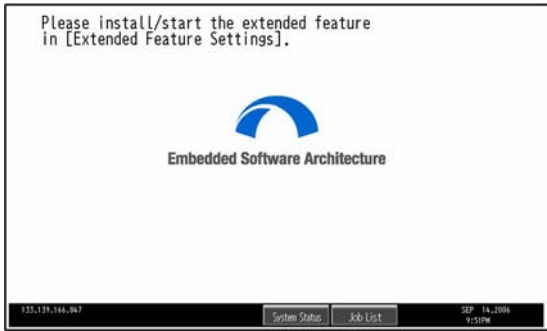


d063i500

1. Switch the machine off.
2. Remove the SD card slot cover [A] (🔧 x1).
3. Insert the SD card [B] into SD slot 2.
4. Switch the machine on. The installation will start automatically.

↓ Note

- The installation will take 5 to 10 minutes.
1. Replace the sixth key-slot cover with the "Other function" key.
 2. Wait five minutes, and then press the "Other function" key. You will hear two beeps.
 - If the screen does not change, this means the installation is not finished yet. Wait a few more minutes and then press the "Other function" key again.
 - When the installation is finished, the following screen will appear.



b861i101

3. Set the heap size and stack size for the application.
4. Install the application using the installation procedure provided with the application.

IEEE1284 (B679)

Accessories

	Description	Q'ty
1.	IEEE 1284 Centronics Board	1

Only one PCI slot (A) is available for one of these options:

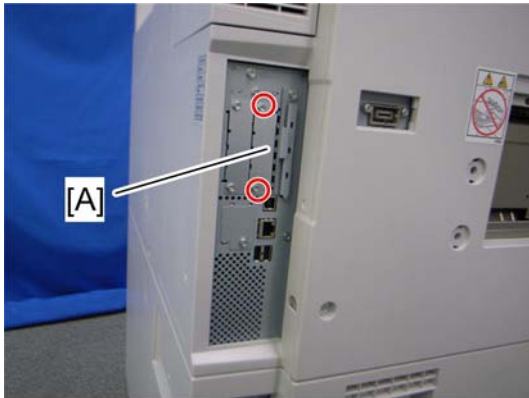
- Centronics 1284
- IEEE 801.11a/g, g (Wireless LAN) (D377)
- Bluetooth Interface Unit (B826)
- File Format Converter (D377)

Important

- If another card is installed in A, you must remove it before installing this card.

Installation

1. Switch the machine off.



d063i501

2. Remove the cover [A] of Slot A (2 x 2).
3. Insert the 1284 Centronics board [B] into Slot A and fasten it with the screws.

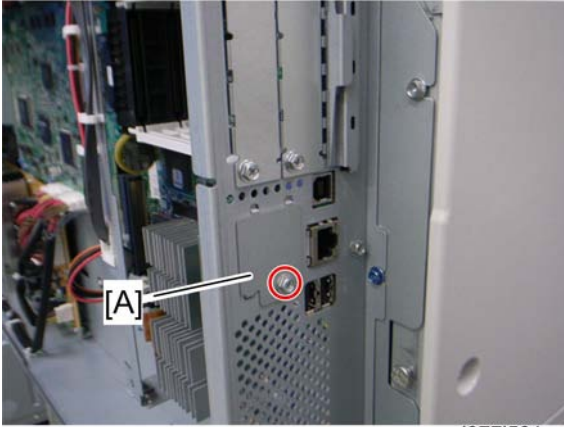
Gigabit Ethernet Type B (D377)

Accessories

	Description	Q'ty
1.	Gigabit Ethernet	1
2.	Ferrite Core	1
3.	Screw	2
4.	Cap for Network Slot	1

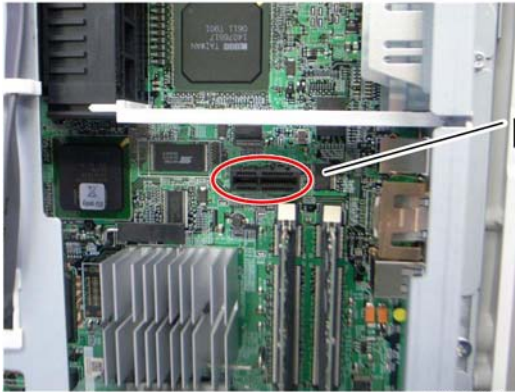
Installation

1. Switch the machine off.
2. Remove the controller box cover (see p.286 "CNT Board (Controller Board)").



d377i501

3. Remove the Gigabit Ethernet slot cover [A] (⚡ x 1).

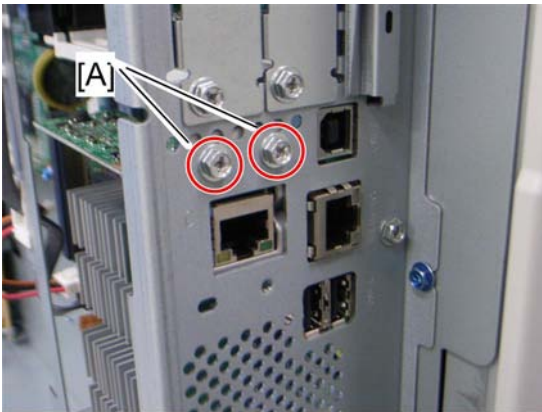


d377i502



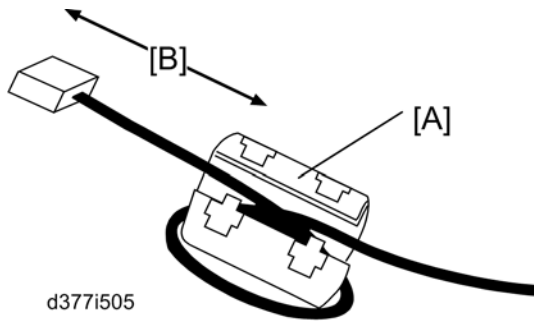
d377i503

4. Insert the Gigabit Ethernet board [A] in the slot [B] on the controller board.



d377i504

- 5. Fasten it with the screws [A].
- 6. Reassemble the machine.



7. Attach the ferrite core [A] to the network cable.
 - [B]: 30 mm or more
8. Connect the network cable to the slot for Gigabit Ethernet.
9. Print a configuration page to confirm that the machine recognizes the installed board for USB2.0:
User Tools > Printer Features > List/Test Print > Configuration Page

3. Preventive Maintenance

PM Tables

See "Appendices" for the following information:

- PM Tables

4. Replacement and Adjustment

General Cautions

CAUTION

- Never turn off the power switch while the machine is operating.
- If the machine is switched off during operation, the transfer belt, drum, or development unit could be damaged when it is removed or reinstalled in the machine.

Drum

An organic photoconductor (OPC) drum is more sensitive to light and ammonia gas than a selenium drum. Follow the cautions below when handling an OPC drum.

1. Never expose the drum to direct sunlight.
2. Never expose the drum to direct light of more than 1,000 Lux for more than a minute.
3. Never touch the drum surface with bare hands. When the drum surface is touched with a finger or becomes dirty, wipe it with a dry cloth or clean it with wet cotton. Wipe with a dry cloth after cleaning with wet cotton.
4. Never use alcohol to clean the drum; alcohol dissolves the drum surface.
5. Store the drum in a cool, dry place away from heat.
6. Take care not to scratch the drum as the drum layer is thin and is easily damaged.
7. Never expose the drum to corrosive gases such as ammonia gas.
8. Always keep the drum in the protective sheet when keeping the drum unit, or the drum itself, out of the machine. Doing so avoids exposing it to bright light or direct sunlight, and will protect it from light fatigue.
9. Dispose of used drums in accordance with local regulations.
10. When installing a new drum, execute SP2962 (Adjustment of Drum Conditions).

Drum Unit

1. Before pulling out the drum unit, place a sheet of paper under the drum unit to catch any spilt toner.
2. Make sure that the drum unit is set in position and the drum stay is secured with a screw before the main switch is turned on. If the drum unit is loose, poor contact of the drum connectors may cause electrical noise, resulting in unexpected malfunctions (RAM data change is the worst case).
3. To prevent drum scratches, remove the development unit before removing the drum unit.

Transfer Belt Unit

1. Never touch the transfer belt surface with bare hands.
2. Take care not to scratch the transfer belt, as the surface is easily damaged.
3. Before installing the new transfer belt, clean all the rollers and the inner part of the transfer belt with a dry cloth to prevent the belt from slipping.

Scanner Unit

4

1. When installing the exposure glass, make sure that the white paint is at the rear left corner.
2. Clean the exposure glass with alcohol or glass cleaner to reduce the amount of static electricity on the glass surface.
3. Use a cotton pad with water or a blower brush to clean the mirrors and lens.
4. Do not bend or crease the exposure lamp cable.
5. Do not disassemble the lens unit. Doing so will throw the lens and the copy image out of focus.
6. Do not turn any of the CCD positioning screws. Doing so will throw the CCD out of position.

Laser Unit

1. Do not loosen the screws that secure the LD drive board to the laser diode casing. Doing so would throw the LD unit out of adjustment.
2. Do not adjust the variable resistors on the LD unit, as they are adjusted in the factory.
3. The polygon mirror and F-theta lenses are very sensitive to dust. Do not open the optical housing unit.
4. Do not touch the glass surface of the polygon mirror motor unit with bare hands.
5. After replacing the LD unit, do the laser beam pitch adjustment. Otherwise, an SC condition will be generated.

Charge Corona

1. Clean the corona wires with a dry cloth. Do not use sandpaper or solvent.
2. Clean the charge corona casing with water first to remove NO_x based compounds. Then clean it with alcohol if any toner still remains on the casing.
3. Clean the end block with a blower brush first to remove toner and paper dust. Then clean with alcohol if any toner still remains.
4. Do not touch the corona wires with bare hands. Oil stains from fingers may cause uneven image density on copies.

5. Make sure that the wires are correctly between the cleaner pads and that there is no foreign material (iron filings, etc.) on the casing.
6. When installing new corona wires, do not bend or scratch the wire surface. Doing so may cause uneven charge. Also be sure that the corona wires are correctly positioned in the end blocks.
7. Clean the grid plate with a blower brush (not with a dry cloth).
8. Do not touch the charge grid plate with bare hands. Also, do not bend the charge grid plate or make any dent in it. Doing so may cause uneven charge.

Development

1. Be careful not to nick or scratch the development roller.
2. Place the development unit on a sheet of paper after removing it from the machine.
3. Never disassemble the development roller assembly. The position of the doctor plate is set with special tools and instruments at the factory to ensure the proper gap between the doctor blade and the development roller.
4. Clean the drive gears after removing used developer.
5. Dispose of used developer in accordance with local regulations.
6. Never load types of developer and toner into the development unit other than specified for this model. Doing so will cause poor copy quality and toner scattering.
7. Immediately after installing new developer, the TD sensor initial setting procedure should be performed with SP2801 (TD Sensor Initialization) to avoid damage to the machine. Do not perform the TD sensor initial setting with used developer. Do not make any copies before doing the TD sensor initial setting.
8. When using a vacuum cleaner to clean the development unit casing, always ground the casing with your fingers to avoid damaging the toner density sensor with static electricity.
9. When replacing the TD sensor, replace the developer, then execute SP2801 (TD Sensor Initialization) and SP2962 (Adjustment of Drum Conditions).

Cleaning

1. When servicing the cleaning section, be careful not to damage the edge of the cleaning blade.
2. Do not touch the cleaning blade with bare hands.
3. Before disassembling the cleaning section, place a sheet of paper under it to catch any toner falling from it.

Fusing Unit

1. After installing the fusing thermistor, make sure that it is in contact with the hot roller and that it is movable.
2. Be careful not to damage the edges of the hot roller strippers or their tension springs.
3. Do not touch the fusing lamp and rollers with bare hands.
4. Make sure that the fusing lamp is positioned correctly and that it does not touch the inner surface of the hot roller.

Paper Feed

4

1. Do not touch the surface of the pick-up, feed, and separation rollers.
2. To avoid paper misfeeds, the side fences and end fence of the paper tray must be positioned correctly to align with the actual paper size.

Used Toner

1. We recommend checking the amount of used toner at every EM.
2. Dispose of used toner in accordance with local regulations. Never throw toner into an open flame, for toner dust may ignite.

Special Tools and Lubricants

Special Tools

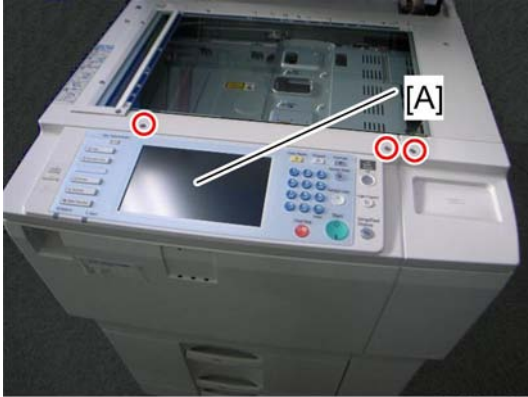
Part No.	Description
A0069104	Scanner Positioning Pin (4 pcs./set)
A2929500	Test Chart – S5S (10 pcs./set)
A0299387	Digital Multimeter – FLUKE 87
VSST9500	Test Chart – S5S – DF (10 Sheets/Set)
G0219350	Loop Back Connector
B6455010	SD (Secure Digital) Card – 64 MB

Lubricants

Part No.	Description
A2579300	Grease Barrierta – JFE 5 5/2
52039502	Silicon Grease G-501
54429101	Setting Powder

Operation Panel and External Covers

Operation Panel

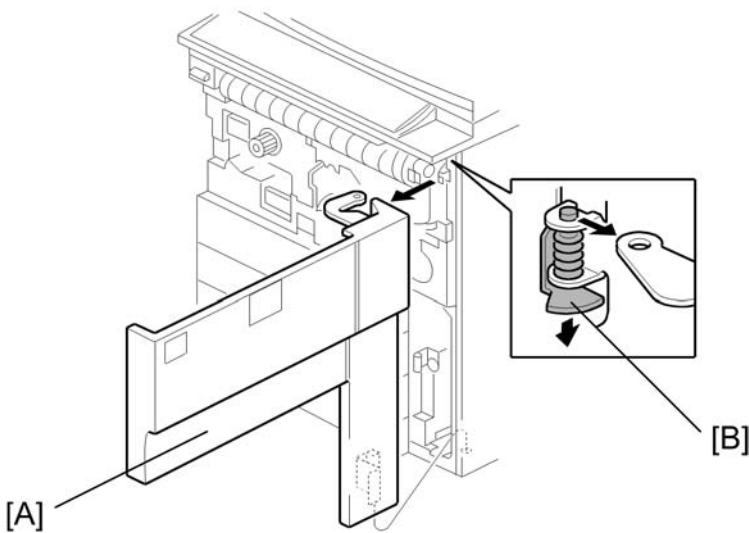


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4

1. Open the ADF.
2. Operation panel [A] (⚙️ x 3, 📄 x 1, ground cable x 1)

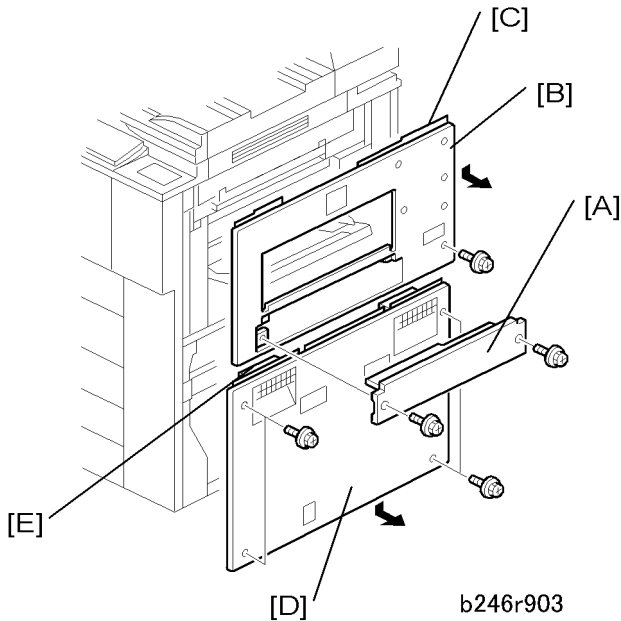
Front Door



d062r902a

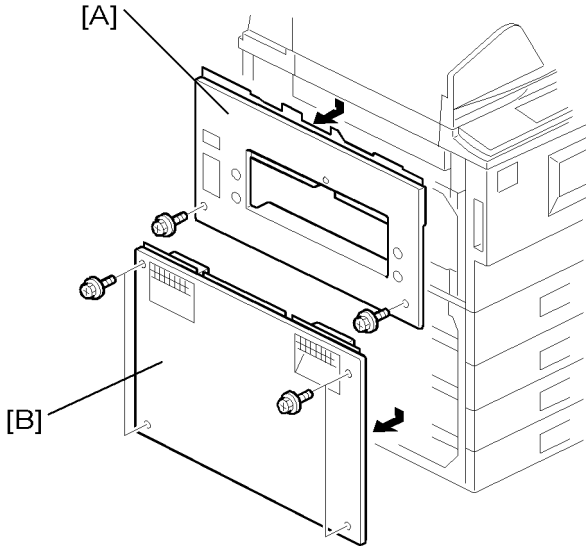
While supporting the front door [A] with one hand, press down on the hinge bracket [B] then raise the door slightly to remove it.

Right Covers



1. LCT entrance guide cover [A] (⚙️ x 2)
2. Right upper cover [B] (⚙️ x 2)
 - To remove the right cover, remove the LCT entrance guide plate, open the by-pass tray, then slide the right upper cover down to remove it.
 - Before tightening the screws when re-attaching, make sure that 1) the tabs [C] on the cover are engaged with the grooves on the machine, and 2) the catches on the cover are engaged with the shoulder screws.
3. Right lower cover [D] (⚙️ x 2)
 - After removing the screws, slide the cover down to remove it.
 - When re-attaching, before tightening the screws make sure that the tabs [E] on the cover are engaged with the grooves on the machine.

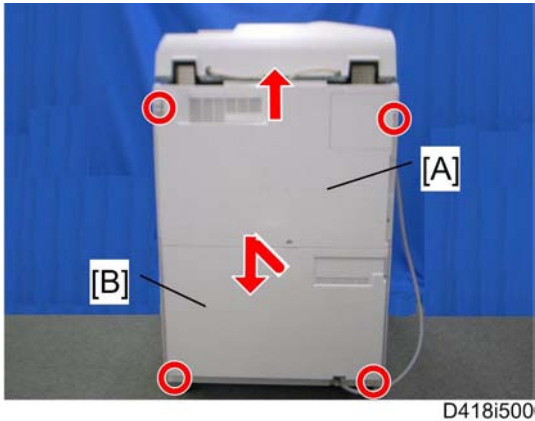
Left Covers



b246r904

1. Left upper cover [A] (🔩 x 2)
 - Slide down to remove.
 - When re-attaching, before tightening the screws make sure that 1) the tabs on the cover are engaged with the grooves on the machine, and 2) the catches on the cover are engaged with the shoulder screws.
2. Left lower cover [B] (🔩 x 2)
 - Slide down to remove.
 - When re-attaching, before tightening the screws make sure that the tabs on the cover are engaged with the grooves on the machine.

Rear Covers



D418i500

1. Rear upper cover [A] (🔩 x 2)
 - Slide down to remove.
 - When re-attaching, before tightening the screws make sure that the tabs on the cover are engaged with the shoulder screws.
2. Rear lower cover [B] (🔩 x 2)
 - When re-attaching, before tightening the screws make sure that the tabs on the cover are engaged with the shoulder screws.

Scanner

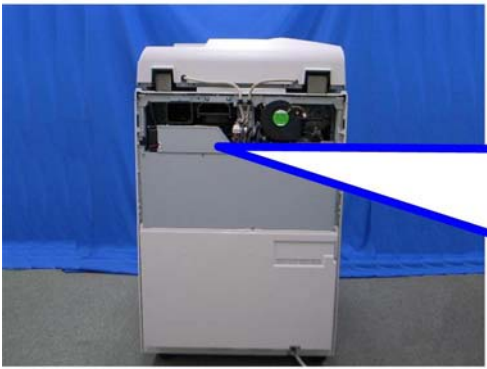
ADF and Top Covers

ADF

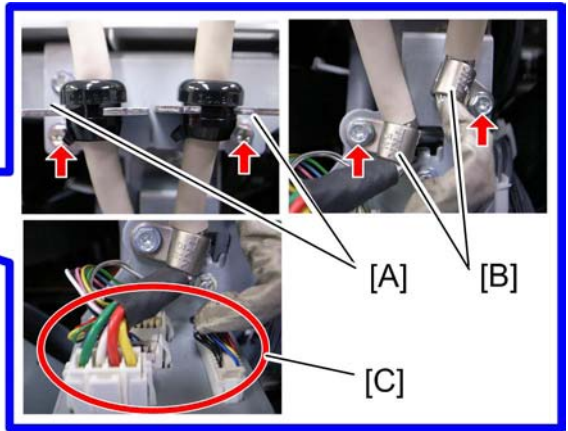
Remove the following parts:




1. Rear upper cover and rear lower cover (p.175 "Rear Covers")

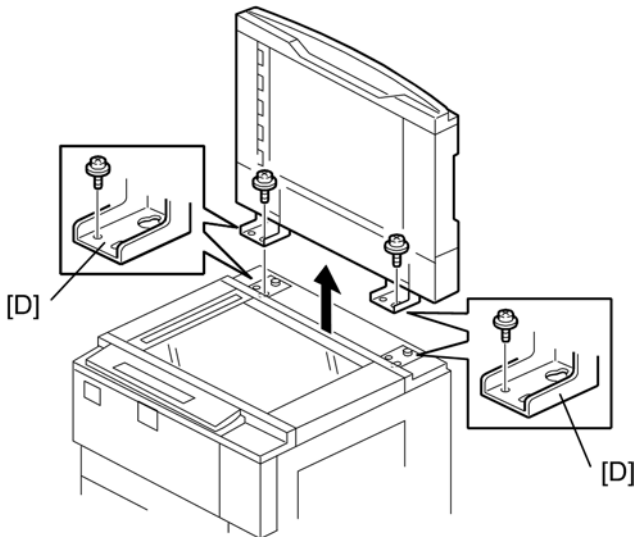
4



d062r608



2. Cable brackets [A] (each  x 1)
3. Nylon clamps [B] (each  x 1)
4. Connectors [C] ( x 4)

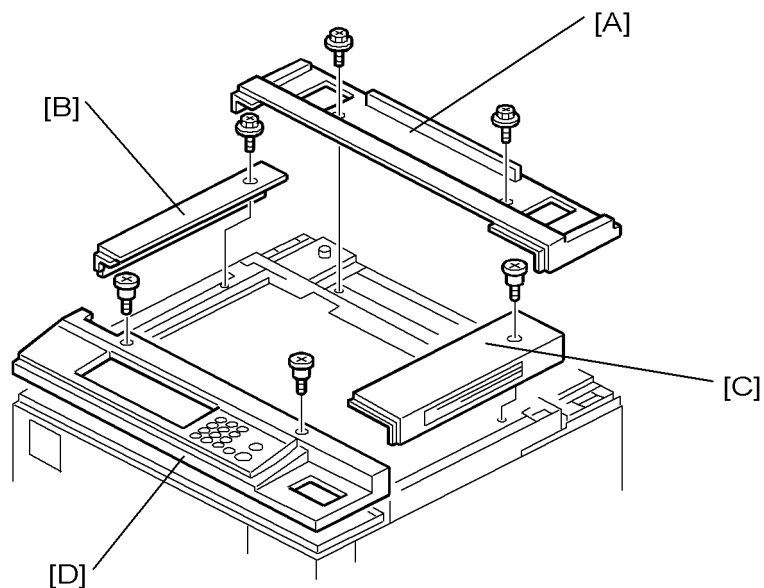


d052r907

5. ADF base left and right plates [D] (🔩 x 2)

- While holding the ADF firmly, slide the ADF back and lift the large end of the keyholes over the shoulder screws.

Top Covers

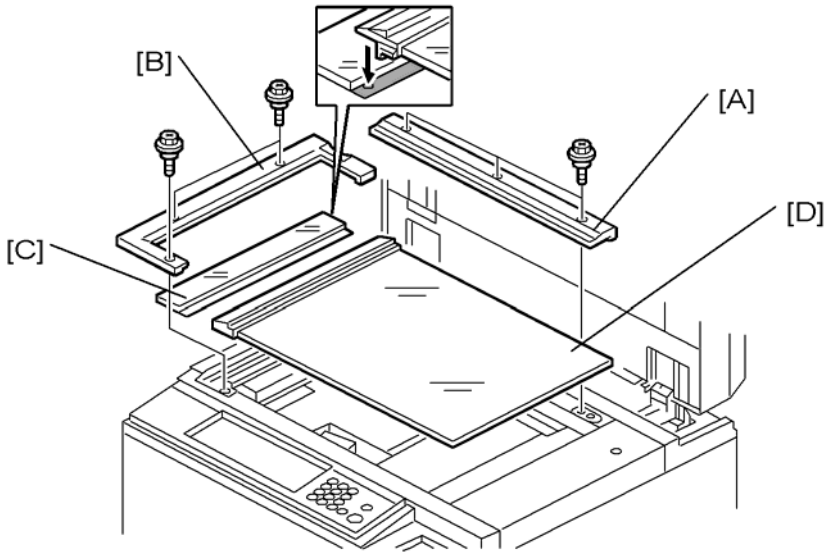


b246r908

Remove the following parts:

1. ADF (🔩 p.176)
2. Top inside cover [A] (🔩 x 2)
3. Top left cover [B] (🔩 x 1)
4. Top right cover [C] (🔩 x 1)
5. Operation panel [D] (🔩 x 3, 📡 x 1, ground cable x 1)

Exposure Glass



b246r909

4

1. Rear scale [A] (🔩 x 3)
2. Left cover [B] (🔩 x 3)
3. ADF exposure glass [C]
4. Exposure glass [D]

⬇ Note

- Lift out the exposure glass and left scale together. The left scale is permanently attached to the exposure glass with double-sided tape. Do not remove the left scale from the exposure glass.

When re-installing the exposure glass:

- Position the exposure glass first. Make sure that the arrow mark is in the upper left corner.
- When re-installing the left cover, make sure it is seated correctly.

Scanner Original Size Sensors

1. Exposure glass (🔩 p.178)



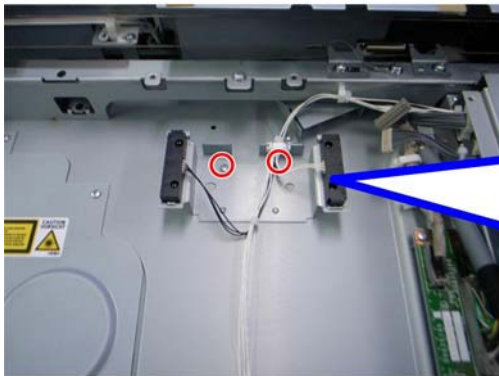
d062r804



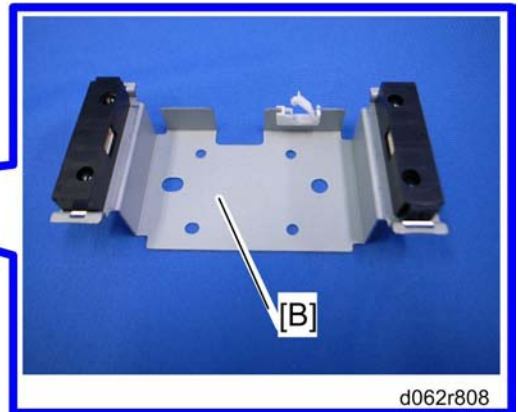
d062r805

2. Original width sensor [A] (🔧 x 1, 📏 x 1)
3. Lens block (🔧 p.180)

4



d062r807



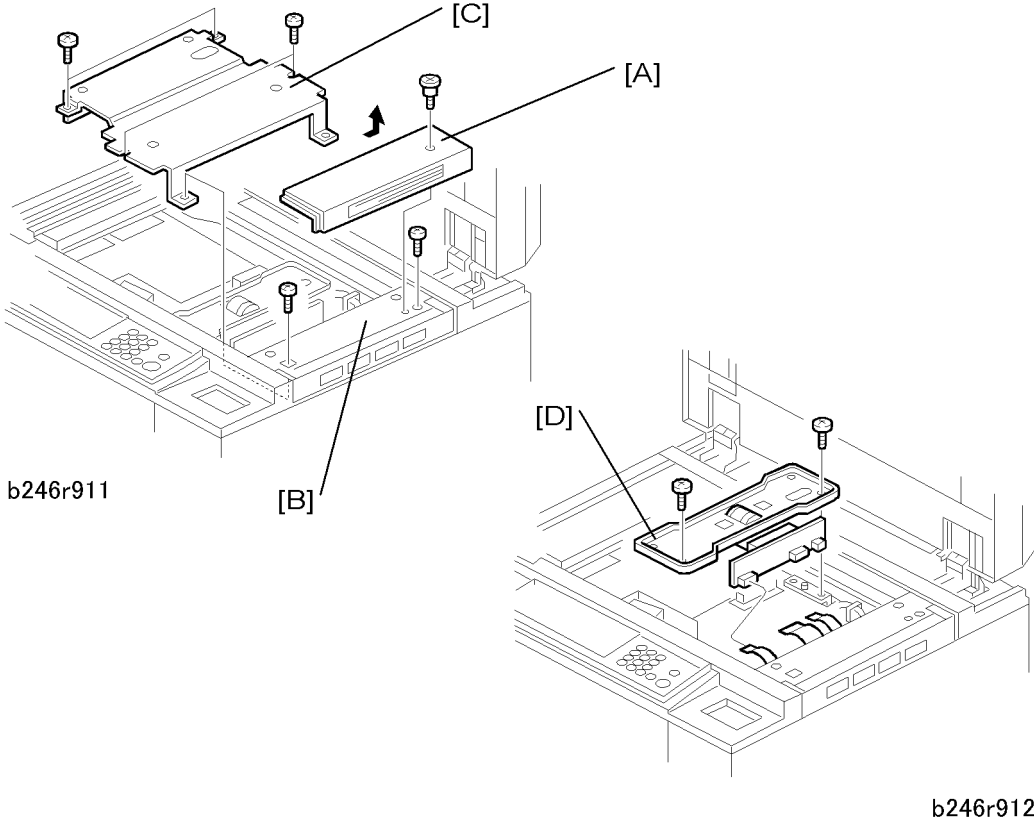
d062r808

4. Original length sensor bracket[B] (🔧 x 2, 📏 x 2)

⬇️ **Note**

- For EU: Length sensor x 1
- For NA: Length sensor x 2

Lens Block



1. Exposure glass (🔧 p.178)
2. Lens cover [C] (🔧 x 9)
3. Lens block [D] (🔧 x 4, 📦 x 4)

Note

- To avoid damaging the lens block, never set it down on the side with the PCB; turn it over with the PCB up.

4. Re-assemble the machine, then perform the scanner and printer adjustments. (🔧 p.318)

Exposure Lamp

1. Exposure glass (🔧 p.178)
2. Operation panel (🔧 p.172)
3. Push the 1st scanner [B] to the cutout [A] in the scanner frame.

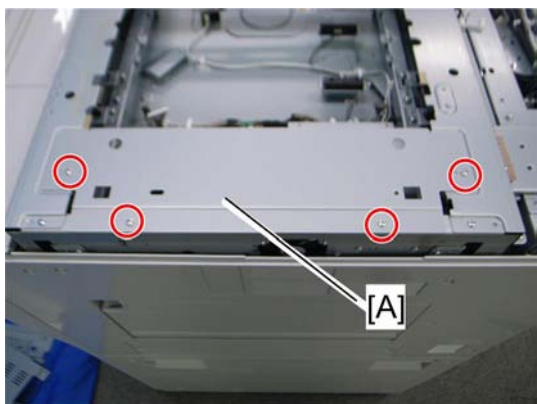
4. Exposure lamp [C] (🔧 x 1, 📄 x 1, 📄 x 1)

↓ **Note**

- Never touch the surface of the exposure lamp with bare fingers.

SIOB

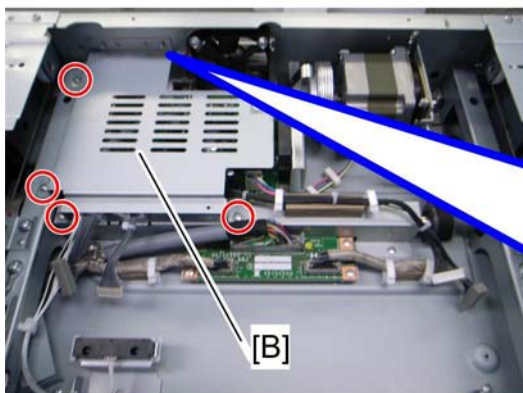
1. Lens block (📄 p.180)
2. Top right cover (📄 p.176 "ADF and Top Covers")



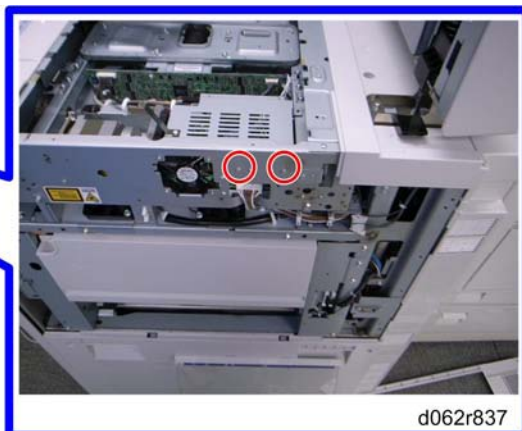
Right Side

d062r830

3. Top right bracket [A] (🔧 x 4)
4. Right upper cover (📄 p.173 "Right Covers")



d062r831



d062r837

5. SIOB cover [B] (🔧 x 6)



d062r834



d062r837

4

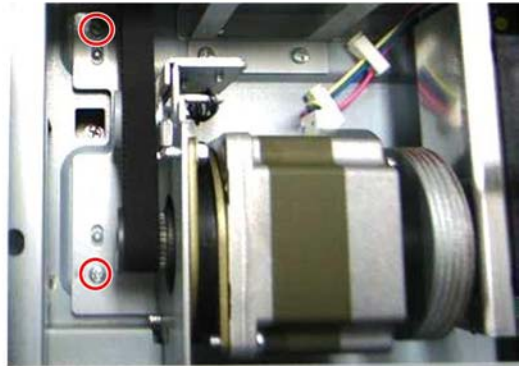
6. SIOB [C] (⚙ x 4, all ⚙s)

Scanner Motor

1. SIOB cover (🔧 p.181)

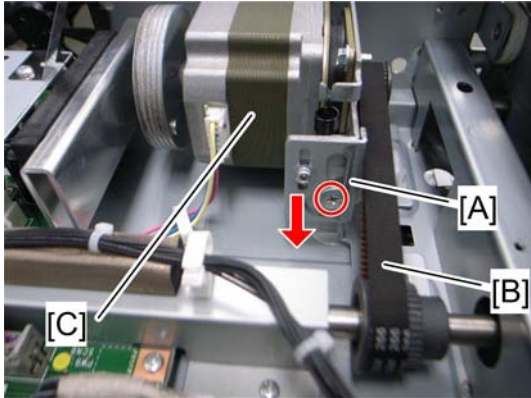


d062r884



d062r885

2. Remove three screws.



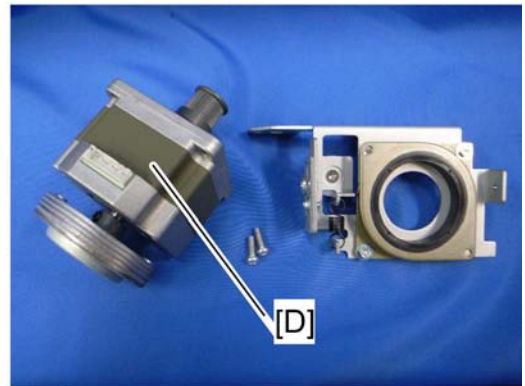
d062r880

3. Release a screw, move down the bracket [A], release the timing belt [B] and then remove the scanner motor bracket [C] (🔧 x 1).

4



d062r882

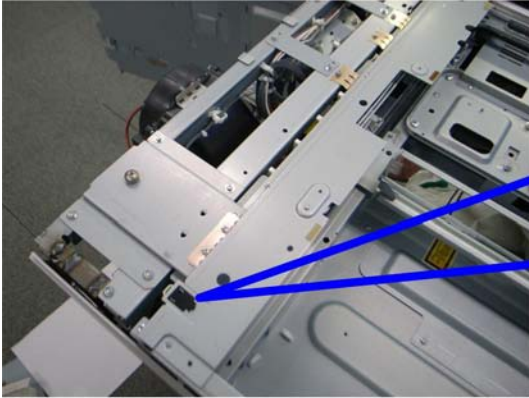


d062r883

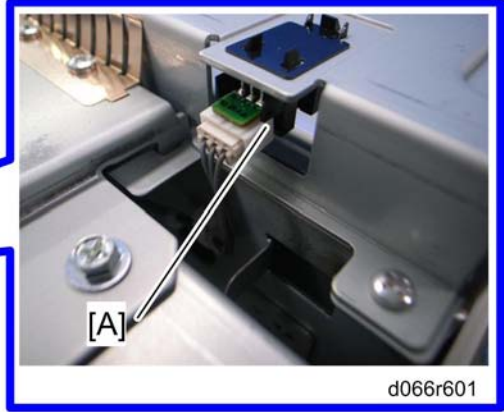
4. Scanner motor [D] (🔧 x 2).

Scanner HP Sensor

1. ADF (🔧 p.176)
2. Top inside cover (🔧 p.177 "Top Covers")
3. Top right cover (🔧 p.177 "Top Covers")



d066r600



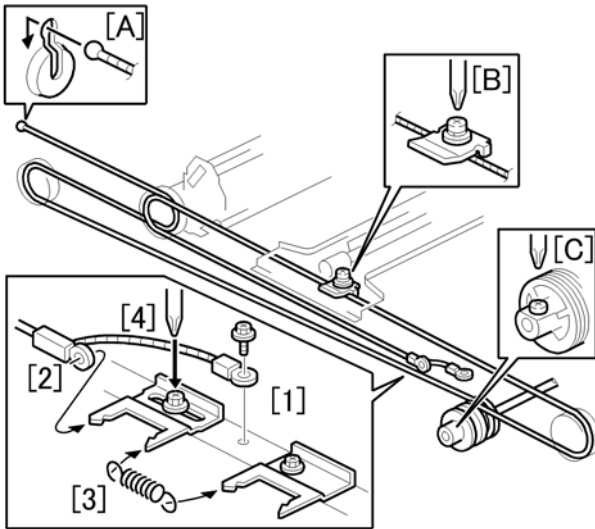
d066r601

4

- 4. Scanner HP Sensor [A] (🔌 x 1, all hooks)

Scanner Wire Replacement

Scanner Wire Removal

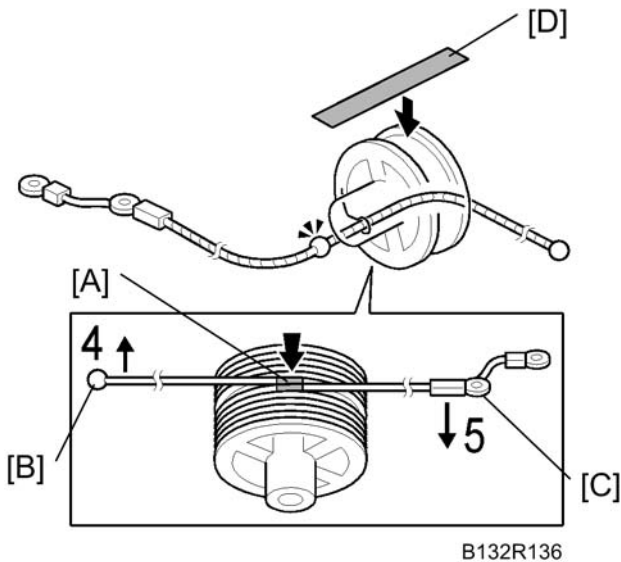


B132R137.WMF

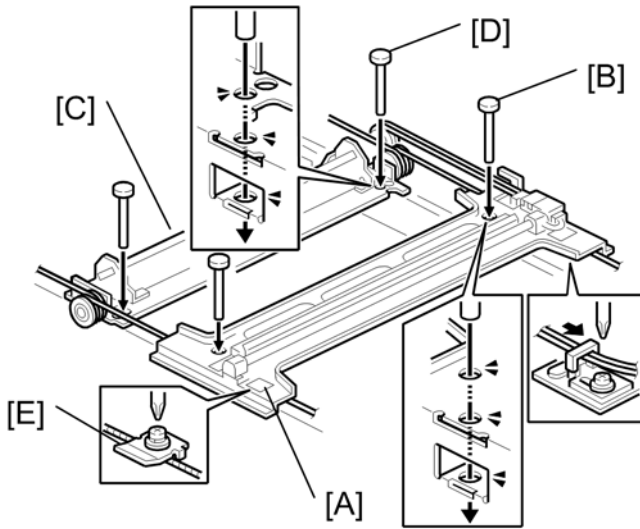
1. Disconnect ground wire [1] (🔌 x 1)
2. Disconnect the head of the wire [2] from tension bracket 1.
3. Remove spring [3].
4. Loosen the screw [4] of tension bracket 1.
5. Disconnect the end of the wire at [A].

6. Remove lock bracket [B] of the 1st scanner (🔧 x1).
7. Disconnect the wire from the pulley [C] (🔧 x1).
8. Remove the wire from the scanner.

Scanner Wire Reinstallation and Scanner Position Adjustment



1. Place the beads [A] on the middle of the wire in the openings in the pulley.
2. Wind the ball end of the wire [B] 4 times.
3. Wind the other end of the wire [C] 5 times.
4. Attach tape [D] across the pulley to temporarily hold the wires in place.



B132R138

4

5. Position the 1st scanner [A] so that the holes are aligned, and insert the positioning pins [B] (x4).
6. Position the 2nd scanner [C] so that its holes are aligned, and insert the positioning pins [D].
7. Attach the lock bracket [E] to fasten the wire to the 1st scanner.
8. Tighten the screw of the tension bracket.
9. Attach the pulley and tighten its lock screw.
10. Remove the positioning pins (x4).
11. Remove the tape from the pulley.
12. Slowly push the scanner left and right to confirm that the wires are engaged correctly. The 1st and 2nd scanners should move smoothly.

Laser Unit

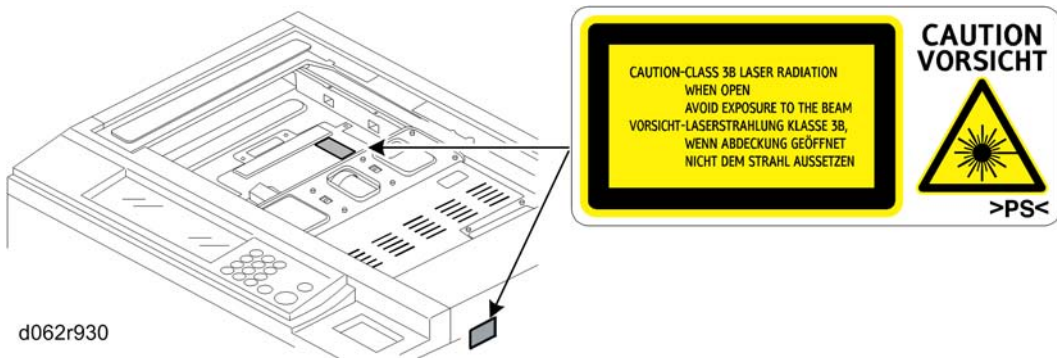
⚠ WARNING

- Turn off the machine and unplug its power cord before performing any procedure in this section. Laser beams can seriously damage the eyes.
- This laser unit uses four laser beams produced by a Class IIIb LDA with a wavelength of 660 nm and intensity of 15 mW. Direct exposure to the eyes could cause permanent blindness.
- Before performing any replacement or adjustment of the laser unit, push the machine power switch to switch the machine off. Then unplug the machine from the power source.
- Do not touch the machine for 10 minutes. This allows enough time for the fusing unit to cool and for the polygon motor to stop rotating.
- Never power on the machine with any of these components removed: 1) LD unit, 2) polygon motor cover, 3) synchronization detector.

4

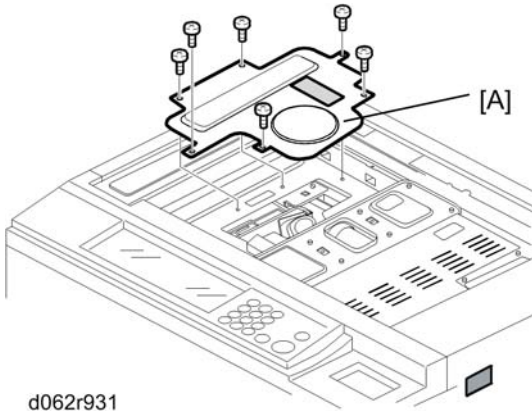
Caution Decals

Two caution decals are provided for the laser section.



LD Unit, Polygon Motor and Polygon Motor Drive Board

1. Exposure glass (see p.178)



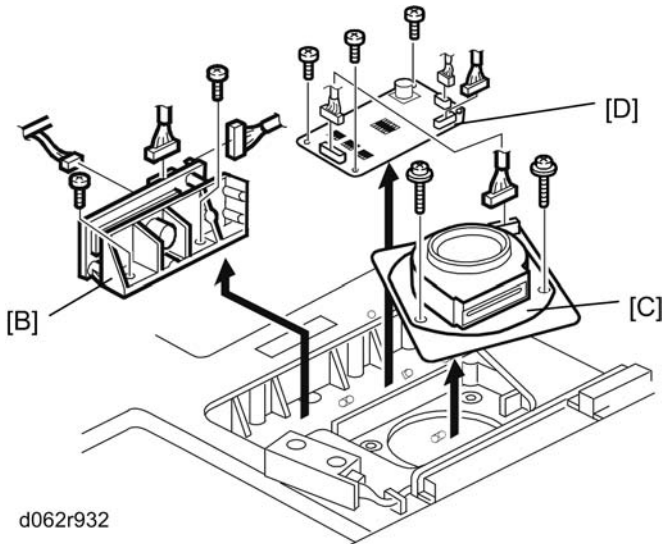
d062r931

4

2. Polygon motor cover [A] (⚙️ x 6)

⚠️ CAUTION

- An accidental static discharge could damage the LDB (Laser Diode Board). Touch a metal surface to discharge any static electricity from your hands.
- The polygon motor rotates at extremely high speed and continues to rotate after switching the machine off. To avoid damaging the motor, never remove the polygon motor within three minutes of switching off the machine and disconnecting its power plug.



d062r932

3. Remove;

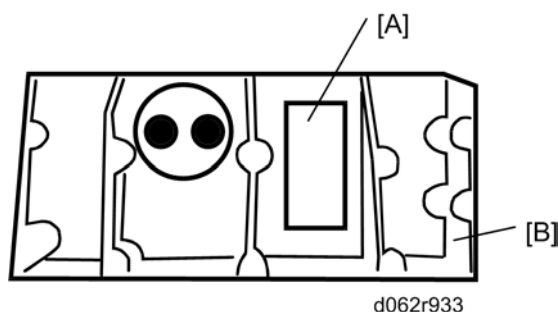
- LD unit [B] (⚙️ x 2, 📦 x 3)
- Polygon motor [C] (⚙️ x 3, 📦 x 1)
- Polygon motor drive board [D] (⚙️ x 3, 📦 x 3)

⚠ CAUTION

- Before fastening the polygon motor in place (🔩 x 3, 📄 x 1), make sure that the glass panel of the laser port is facing to the right (toward the mirrors in the optical path).

SP Adjustments

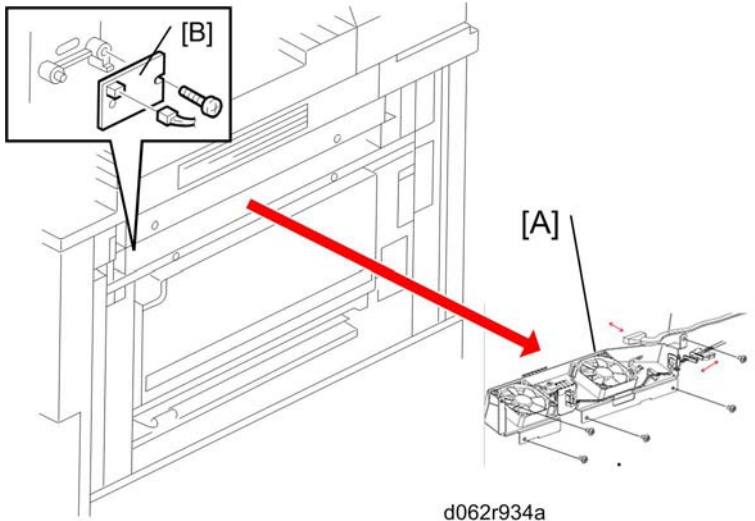
1. Execute SP2962 (Automatic Adjustment of Drum Conditions) after replacing the LD unit, but only if SP3901 - Auto Process Control - is on.
2. Read the label [A] attached to the LD unit [B]. Execute SP2115 (Main Scan Beam Pitch Adjustment) and enter the numbers printed on the label.



- The first line on the label is the machine number.
 - The second line on the label includes three numbers separated by slashes. Reading from left to right, these are the correct settings for SP2115 (Main Scan Beam Pitch Adjustment) 001 to 005.
 - Do not remove this label and make sure it is flat against the side of the LD unit.
3. Perform the printer adjustments. See "Print Image Adjustment"

Laser Synchronization Detector Replacement

1. Right side cover (📄 p.173 "Right Covers")
2. If the optional LCT is installed, disconnect it (🔩 x 1).



4

3. Development unit fans [A] (🔧 x 5, 📦 x 2)
4. Synchronization detector [B] (🔧 x 1, 📦 x 1)
5. After replacement, set SP1002-001 to 007 (Side-to-Side Registration) to the defaults.

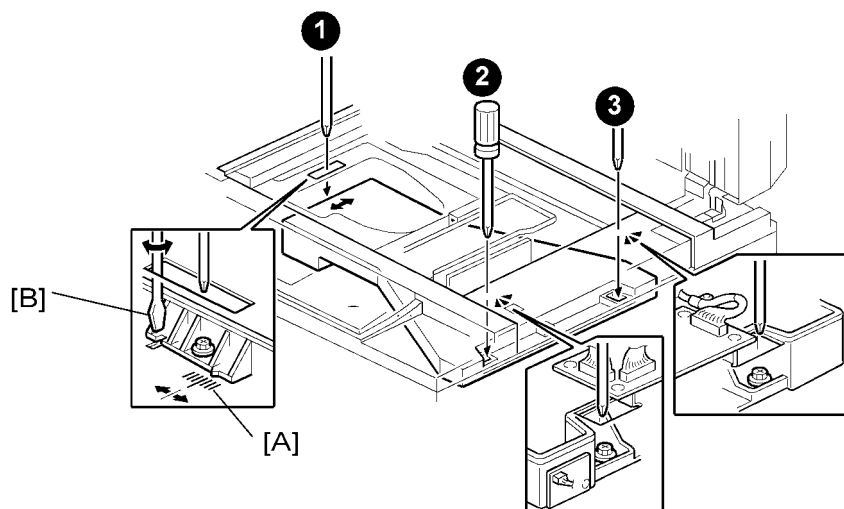
Laser Unit Alignment

⚠️ WARNING

- If you have just disassembled the LD unit, to avoid serious damage to the eyes from accidental exposure to laser beams you must confirm that the machine has been re-assembled completely before operation.

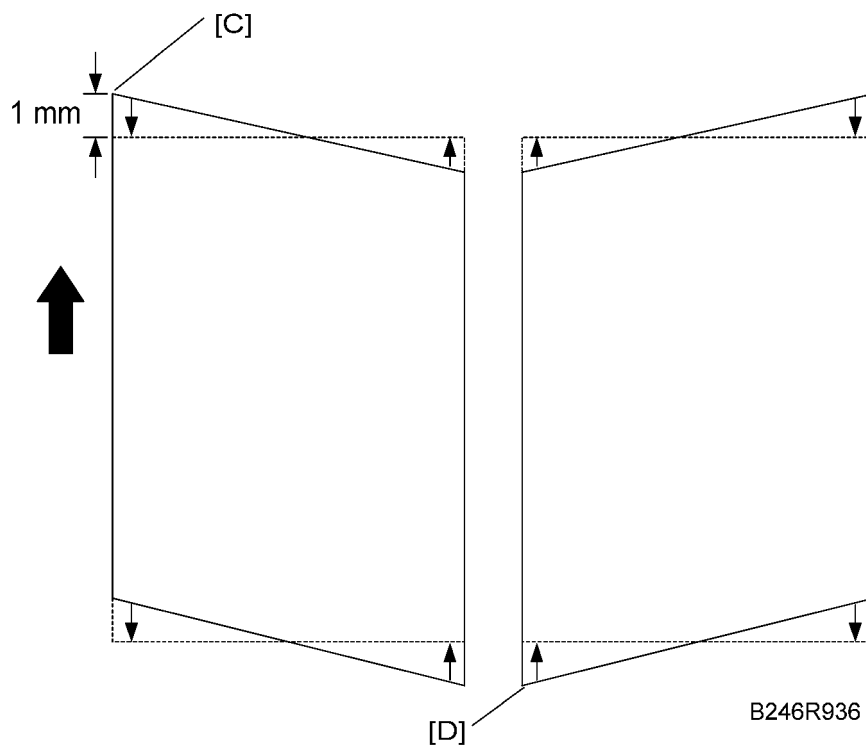
This adjustment corrects the parallelogram pattern to the desired rectangular pattern for printing; it does not correct the skew of scanned images.

1. Execute SP2902-003 (Test Pattern - Printing Test Pattern) 018 to print the A4 LEF pattern. Check the printed patterns and estimate the angle of adjustment required.
2. Remove the exposure glass. (📄 p.178)
3. Remove the polygon motor cover. (📄 p.187 "LD Unit, Polygon Motor and Polygon Motor Drive Board")
4. Remove the right cover. (📄 p.173 "Right Covers")



B246R935

5. Loosen the screws of the laser exposure unit (⌀ x 3).
6. While watching the scale [A], use a flathead screwdriver [B] to move the laser exposure unit left or right to adjust the position of the unit.



B246R936

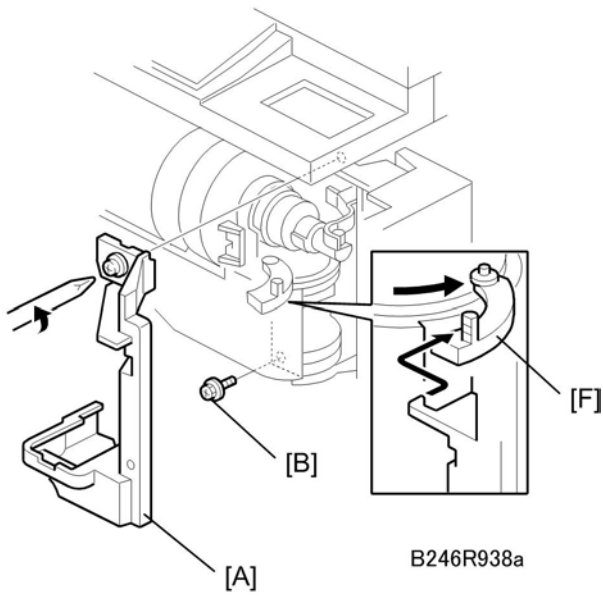
7. Adjust the position of the laser exposure unit.

- If the pattern is skewed at the corner of the leading edge [C], move the unit so it moves the pointer on the scale toward the back.
 - If the pattern is skewed at the lower left corner of the trailing edge [D], move the unit so it moves the pointer on the scale toward the front.
 - The scale is set for increments of 1 mm.
8. After adjustment, tighten the screws on the laser exposure unit, re-assemble the machine and print the pattern again with SP2902-003 No.18.
 9. Check the pattern. Repeat the procedure if more adjustment is required.

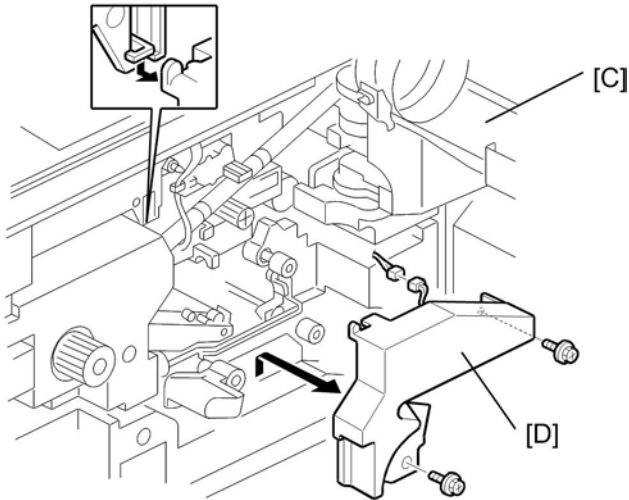
Drum Unit

Development Unit Removal

Drum Removal



1. Open the front door.
2. Shutter cover [A] (1 x 1)
3. Lock screw [B]

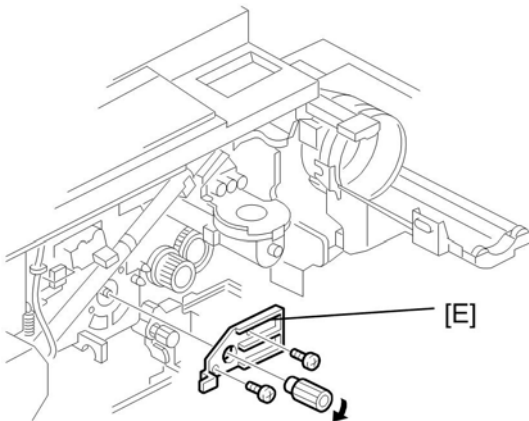


d062r507

4. Toner bottle [C]

- Pull the toner bottle holder out and swing the toner bottle holder to the right.

5. PCU inner cover [D] (⚙️ x 2, 📏 x 1)

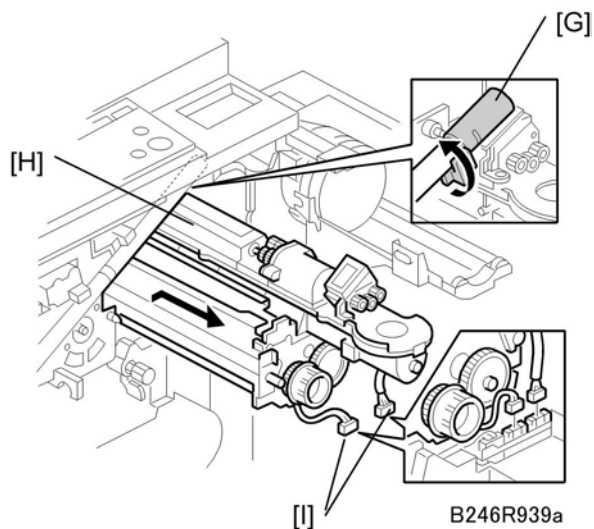


d062r508

6. Face plate (knob x 1, ⚙️ x 2) [E]

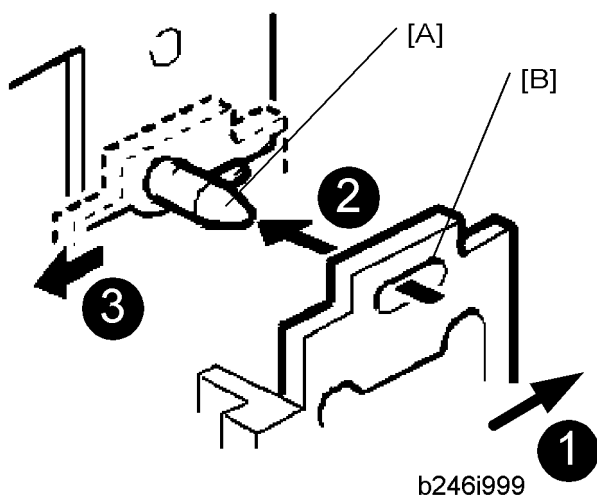
★ Important

- After re-installation, the tab [F] in the first illustration should be behind the stay and its pin below should be in the open track below.



7. Close the supply pipe shutter [G].
8. Development unit [H] (🔧 x 2 [I])
 - Allow the unit to slip to the right, then slowly pull it out of the machine.
 - If the LCT is installed, you may need to disconnect it so the front door can open far enough to allow removal of the development unit.

Drum Re-installation



1. Push the development unit to the right ❶.
2. While continuing to hold the unit to the right, push it into the machine.
3. Confirm that the pin [A] goes into the left side of the oval hole [B] in the development unit plate.

4. Push the development unit in completely ❷ until it stops, then push it to the left ❸.
5. Make sure you can see the horizontal pin in front of the plate as shown below.

Correct



Incorrect



b246i999a

4

★ Important

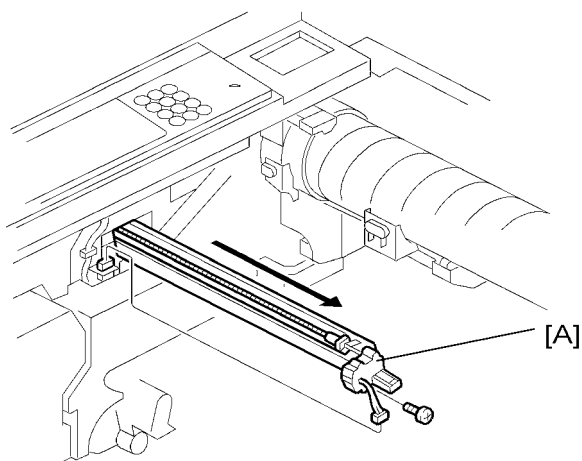
- If you cannot move the development unit plate behind the horizontal pin, turn the front gear of the unit to the left and try again.
 - Make sure the pipeline shutter is rotated down to the open position.
6. Reattach all removed parts.

Replacement with a Used Development Unit

When using a development unit from another machine for test purposes, execute the following procedure.

1. Check the value of SP2220 (Vref Manual Setting) in both the machine containing the test unit and the machine that you are going to move it to.
2. Install the test development unit, then input the V_{REF} for this unit into SP2220.
3. After the test, reinstall the old development unit, and change SP2220 back to the original value.

Charge Corona Unit

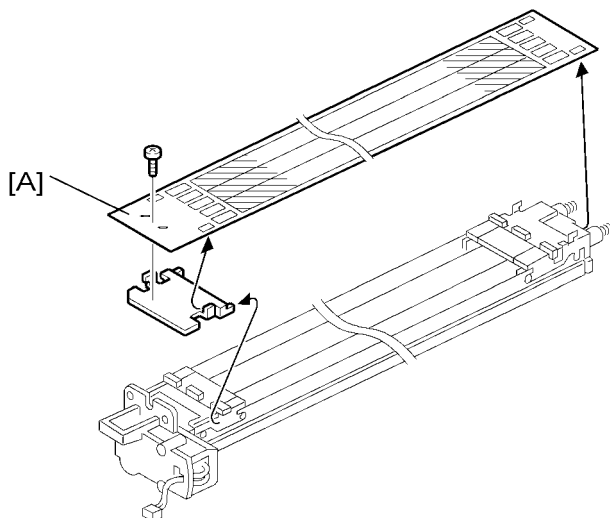


B246R941

- Remove the development unit. (p.193)

1. Charge corona unit [A] (x 1, x 1)

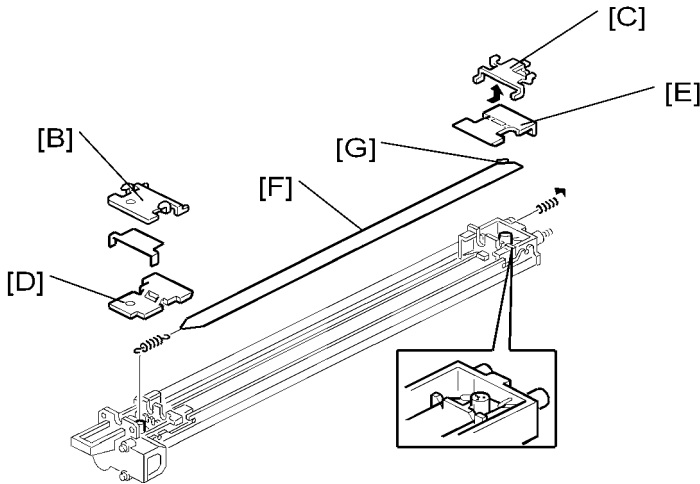
Charge Corona Wire and Grid



B246R942

- Remove the charge corona unit. (p.197)

1. Grid [A] (x 1)



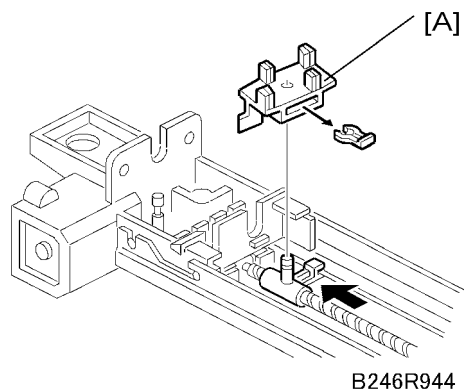
B246R943

2. Front bracket [B]
3. Rear bracket [C]
4. Front block cover [D]
5. Rear block cover [E]
6. Corona wire [F]
7. Disconnect the wire behind the grid bracket.

★ Important

- Never touch the charge corona wire with bare hands. Always protect it from dust, oil, etc.
- Never bend or knot the wire. Charge will not distribute evenly on a bent wire.
- Make sure that the wire seam [G] is as close as possible to the wire hook at the rear.
- At the front and back, make sure that the wire is threaded correctly into the grooves in the end blocks.
- After replacing the charge corona wire, make sure that the wire cleaner pads are engaged correctly with the wires.
- After replacing the wire, set SP2001-001 (Charge Roller Bias Adjustment – Applied Voltage for Image Processing) to the default.

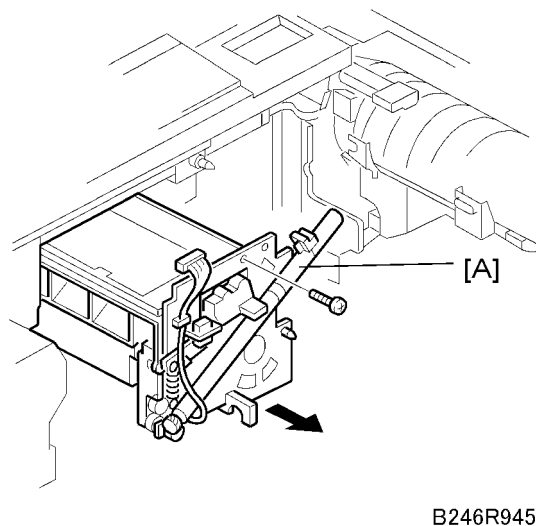
Charge Corona Wire Cleaning Pads



Remove:

- Charge corona unit (🔍 p.197).
 - Charge corona wire and grid (🔍 p.197)
1. Cleaning pad [A] (🔍 x 1)

OPC Drum Removal

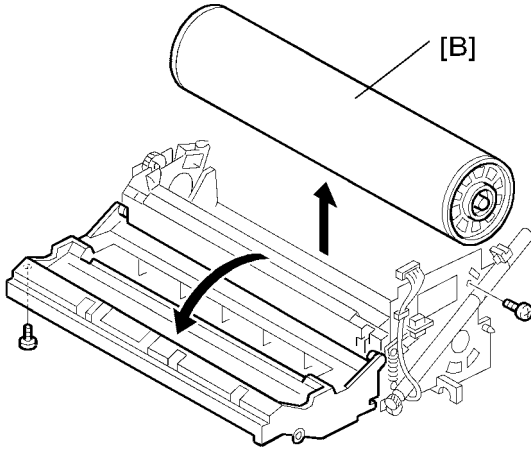


Remove

- Development unit (🔍 p.193).
- Charge corona unit (🔍 p.197).

1. Drum unit [A] (🔧 x 1, 📄 x 2)

- Grasp the drum unit by the knob to remove it from the machine.



B246R946

2. OPC drum [B]

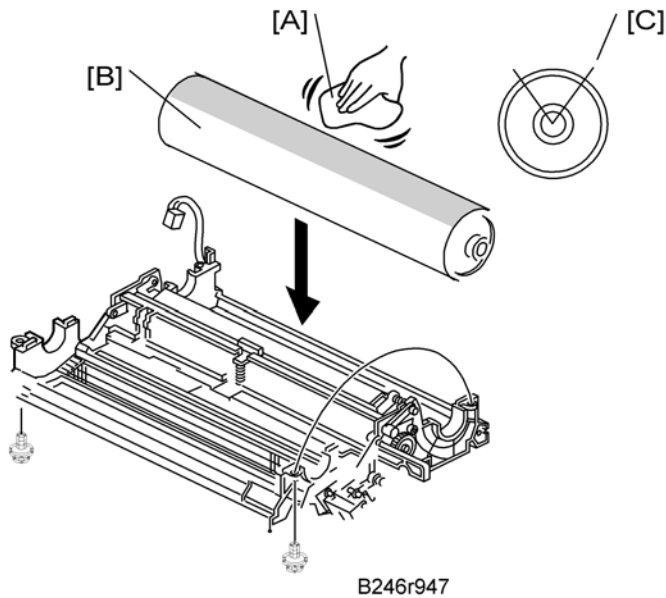
3. After replacing the drum, do the following SPs:

- Set SP2001-001 (Charge Roller Bias Adjustment – Applied Voltage for Image Processing) to the default setting.
- SP2962 (Adjustment of Drum Conditions), only if SP3901 (Auto Process Control) is on.

★ Important

- To avoid fingerprints on the surface of the OPC drum, never touch the surface of the drum with bare fingers.
- Never use alcohol to clean the surface of the OPC drum. Blow dry the OPC drum, then wipe clean with a clean, slightly damp cloth.
- Before installing a new drum, dust the surface of the OPC drum carefully with setting powder. (See below.)

Dusting the Drum Surface

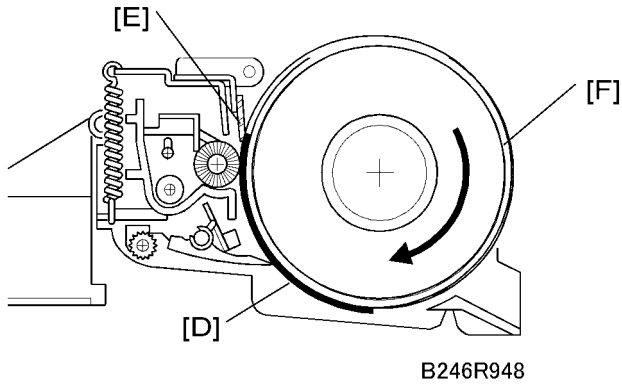


★ Important

- The surface of a new drum is less smooth, so you must apply Drum Setting Powder (P/N: 54429101) to the drum surface before installation.
 - Failure to apply the drum powder before installation could damage the drum cleaning blade or scour the drum surface.
1. Apply the setting powder by tapping the powder bag [A] across the surface of the drum [B].
 2. Cover the entire length of the drum over a 45-90 degree portion [C] (about 1/4 of the total drum surface). Apply enough powder so the area turns white.

↓ Note

- If setting powder is not available, use waste toner instead of drum setting powder. However, this could cause dirty backgrounds on the first copies.



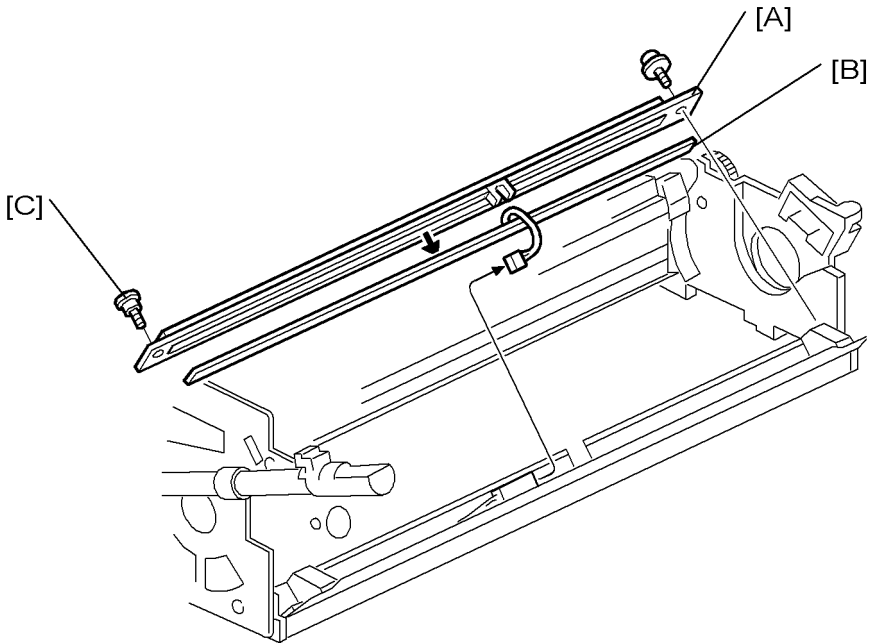
4

3. Install the new drum in the OPC unit so that the powdered surface [D] faces the cleaning blade [E].
4. Rotate the drum once clockwise [F] until it stops again at the same position.

★ Important

- Never rotate the drum anti-clockwise.

PTL



b246r949

Remove these parts:

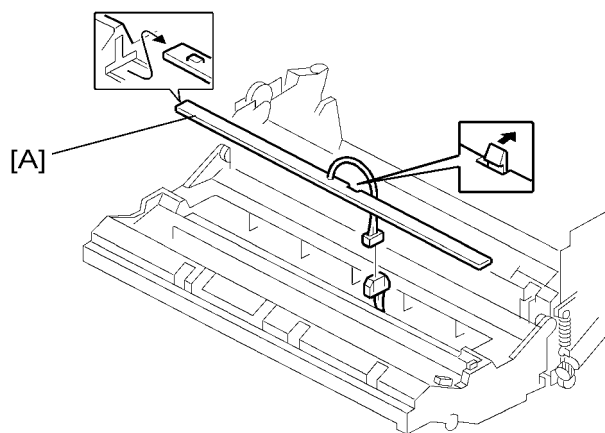
- OPC drum (p.199)

1. PTL bracket [A] (🔩 x 2)
2. PTL [B] (🔩 x 1)

Reinstallation

- The shoulder screw [C] must be attached again at its initial location.

Quenching Lamp



B246R950

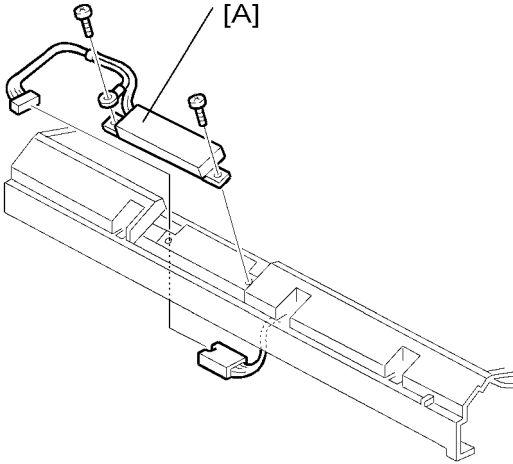
Remove:

- OPC drum (🔩 p.199).
1. Quenching lamp [A] (🔩 x 1)
 - At the center, push back the hook to release the quenching lamp.

⬇ Note

- Use only a blower brush to clean the quenching lamp.

Drum Potential Sensor

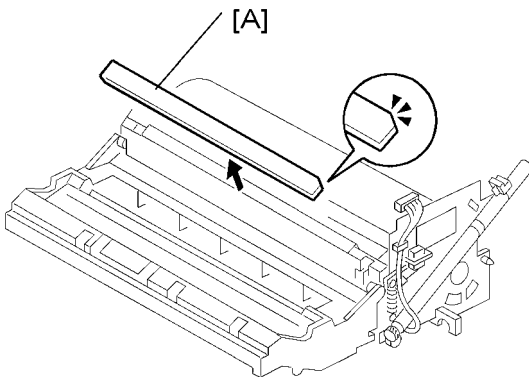


B246R951

Remove:

- OPC drum (🖨️ p.199).
1. Drum potential sensor [A] (🔧 x 2, 📏 x 1)
 2. After replacing the drum potential sensor, do SP2962 (Adjustment of Drum Conditions), only if SP3901 (Auto Process Control) is on).

Cleaning Filter



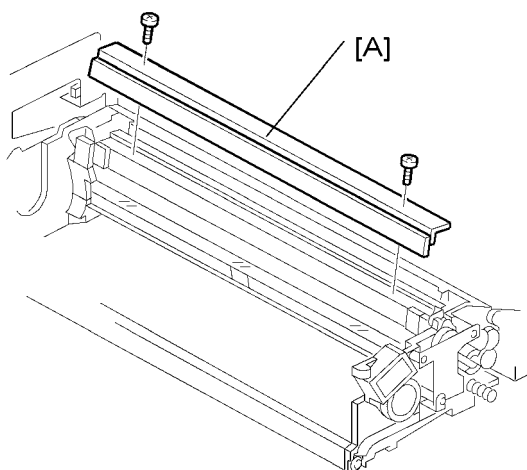
B246R952

Remove:

- OPC drum (🖨️ p.199)

1. Cleaning filter [A]

Cleaning Blade



B246R953

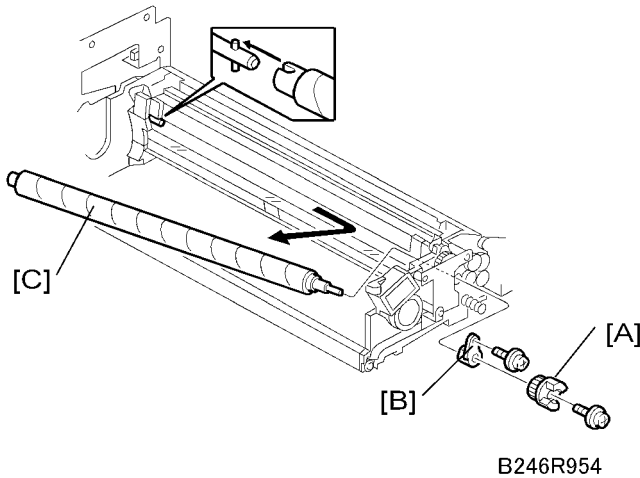
Remove:

- OPC drum (p.199).
- 1. Drum cleaning blade [A] (x 2)

★ Important

- Clean the blade edge carefully with only a soft, clean cloth.
- Handle the blade carefully to avoid nicking its edge.
- New blades are treated with special setting powder, so avoid touching the edge of a new cleaning blade. If the edge of a new blade is accidentally wiped clean, dust it lightly with some toner before installing it.
- Before installing a new blade, make sure that the blade side seals are not pinched by the blade.

Cleaning Brush



4

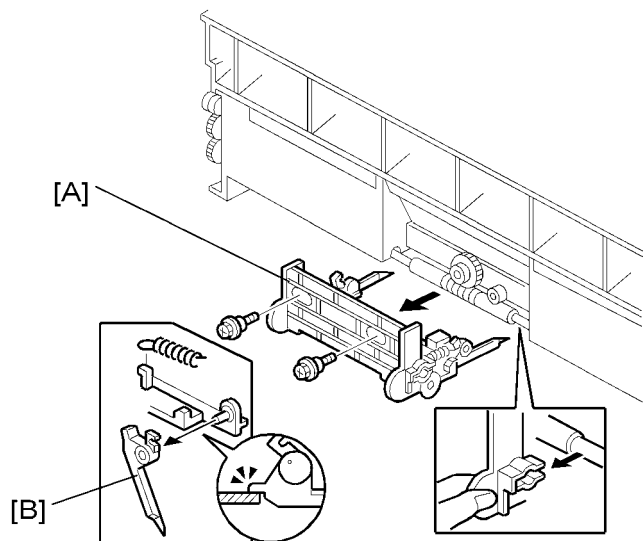
Remove:

- OPC drum (☞ p.199)
 - Drum cleaning blade (☞ p.205).
1. Coupling [A] (☞ x 1)
 2. Inner bushing [B] (☞ x 1)
 3. Cleaning brush [C]

★ Important

- Pull the shaft toward the rear to disengage the front of the shaft, then pull out.
- After replacing the cleaning brush, clean the ID sensor to make sure that it is clean and free of toner.
- Avoid touching the cleaning brush with bare hands.
- Check the entrance seals and confirm that they are not bent.

Pick-off Pawls

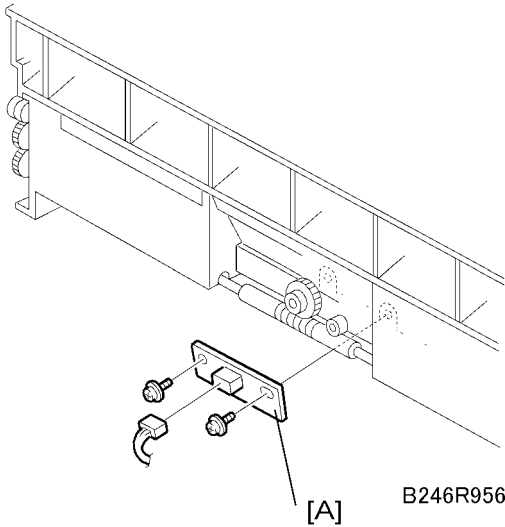


B246R955

Remove:

- OPC drum (p.199)
1. Pick-off pawl bracket [A] (x 2)
 2. Pick-off pawl [B] (spring x 1)

ID Sensor

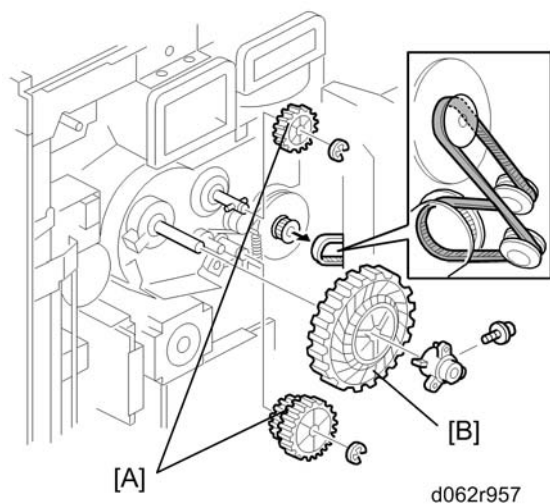


4

Remove:

- OPC drum (📄 p.193)
 - Pick-off pawls (📄 p.207)
1. ID sensor [A] (🔩 x 2, 📌 x 1)
 2. After replacing the sensor, do the following SPs:
 - SP2962 (Adjustment of Drum Conditions), only if SP3901 (Auto Process Control) is on.
 - SP3001-002 (ID Sensor Initialization Setting).

Drum Motor

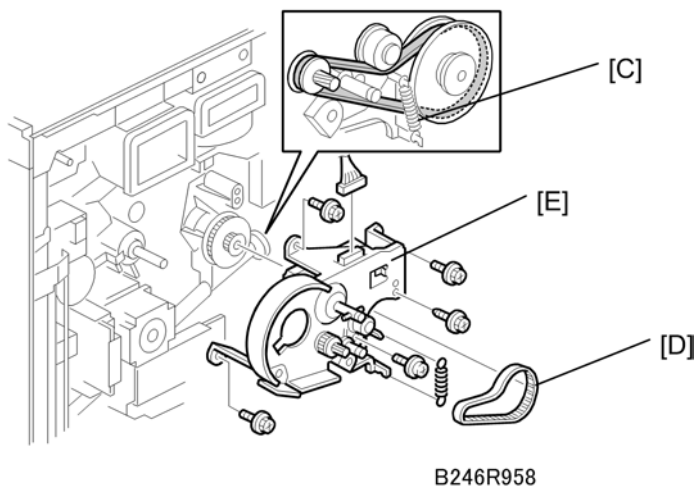


Remove:

- Rear covers (see p. 175)
 - Controller/IPU panel (2) (not shown). The panel swings open like a door. You do not need to remove it.
 - Flywheel (3) (not shown)
1. Three gears [A] [B] (1, 2, Timing belt x 1)

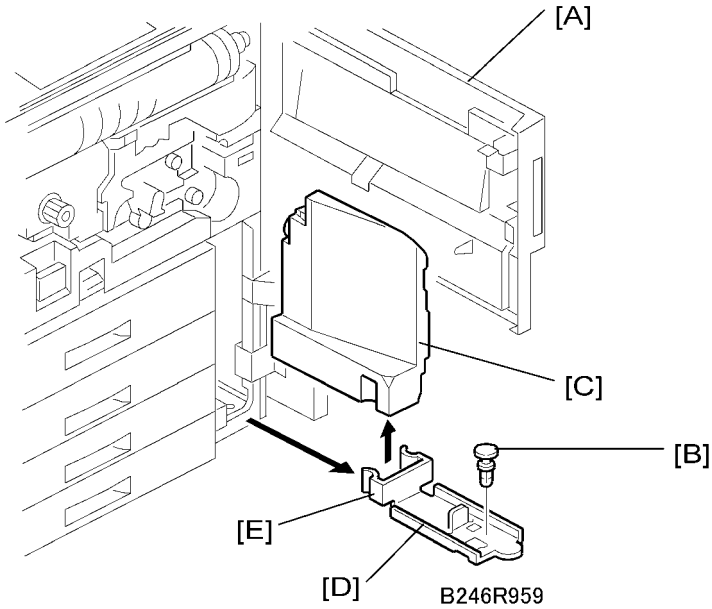
Note

- Gears [A] are different in each model.
- D062 and D063 have black gears, but D065 and D066 have white ones.



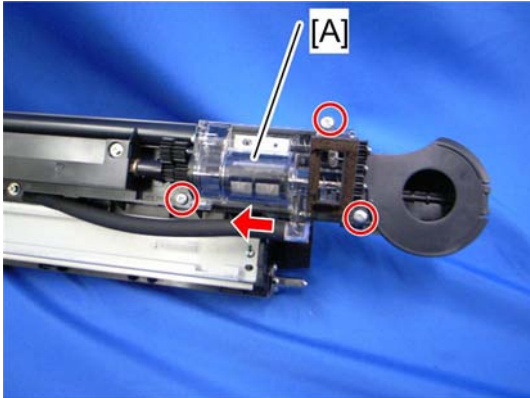
2. Spring [C]
3. Timing belt [D]
4. Drum motor [E] (🔌 x 1, 🛠️ x 5)

Toner Collection Bottle



1. Open the front door [A].
2. Remove the lock pin [B], then pull out the toner collection bottle [C] and its base [D].
3. Detach the bottle from the base clamp [E] and replace it.

Toner Separation Unit



d062r504

Remove:

- Development unit (see p.215 "Removal ")
- Pressure release tube, only for D066 (see p.215 "Developer Replacement")

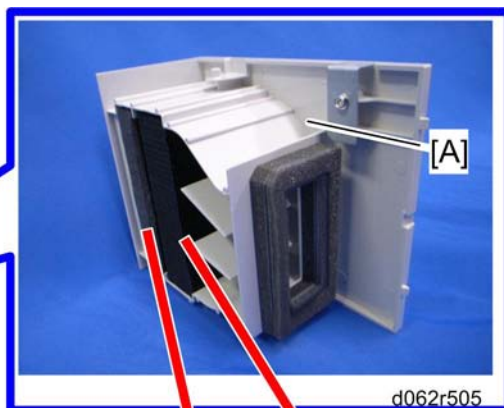
1. Toner separation unit [A] (see x 3, tube x 1)

Ozone Filters

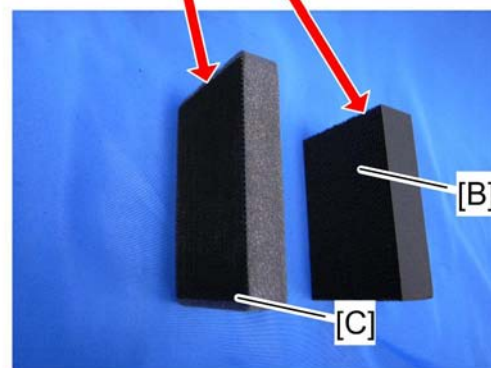
4



d418i500



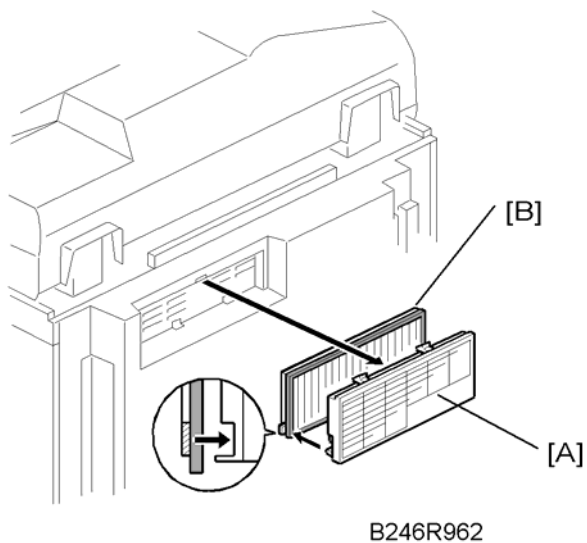
d062r505



d062r506

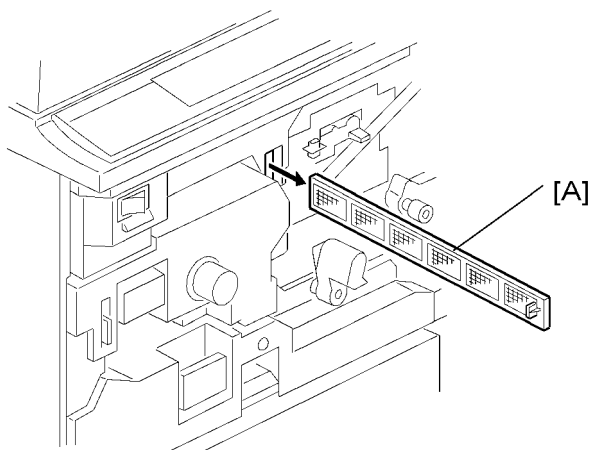
1. Filter cover [A] (1 x 1). (The filter cover is on the back of the machine.)
2. Ozone filter (right) [B]
3. Ozone filter (left) [C]

Optics Dust Filter



1. Filter cover [A]
2. Optics dust filter [B]

Internal Dust Filter



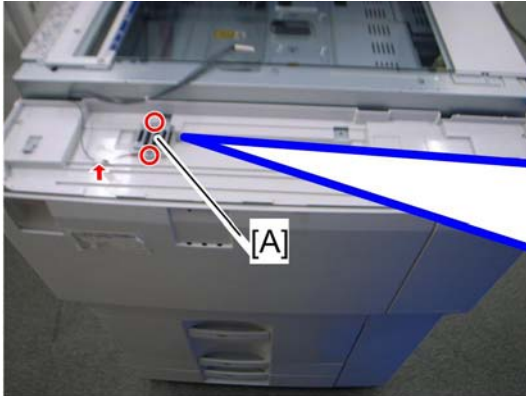
B2246R963

1. Open the front door.
2. Pull the toner bottle holder out and swing the toner bottle holder to the right.
3. Remove the PCU inner cover.

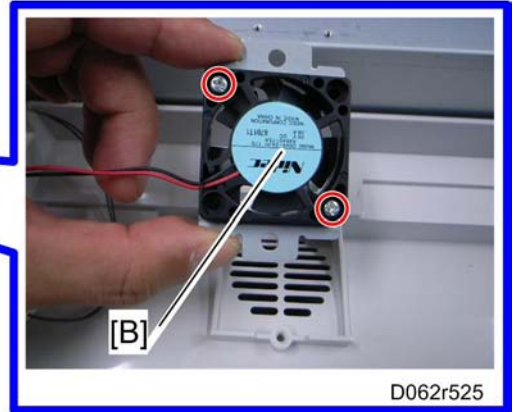
4. Pull out the internal dust filter [A].

Toner Cooling Fan

1. Operation panel (📖 p.172)



D062r524



D062r525

2. Toner cooling fan unit [A] (🔧 x 2, 📄 x 1).
3. Toner cooling fan [B] (🔧 x 2).

⬇ **Note**

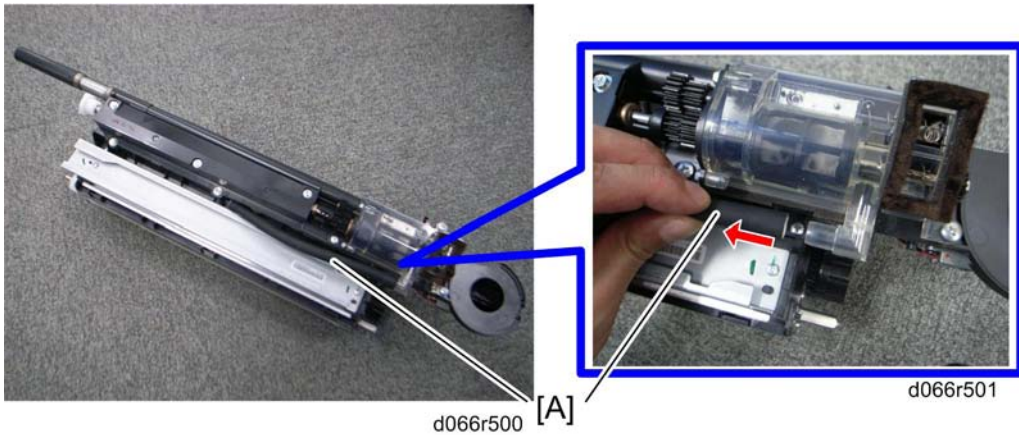
- Make sure the decal is facing down when reinstalled.

Development Unit

Developer Replacement

Preparation

For **D066 only**, the pressure release tube [A] should be removed before removing the development unit.



4

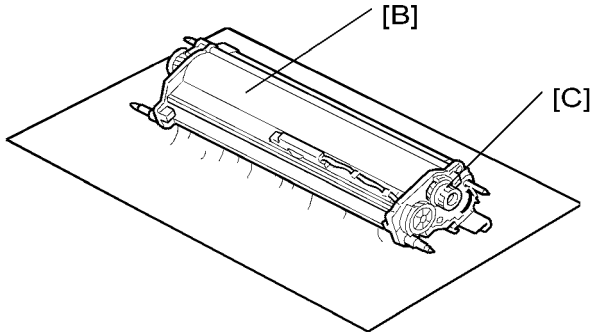
1. Development unit (Refer to p.193 "Development Unit Removal")
2. Pressure release tube [A]

Removal

1. Remove the toner hopper [A] (⚙️ x 2)



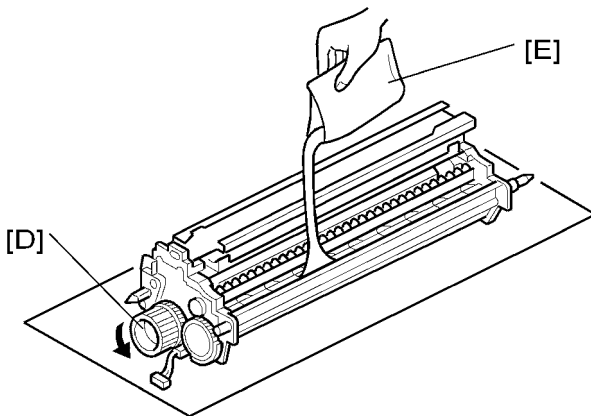
2. Rotate the toner hopper very slightly (10° to 20°) as you slide it up to remove it. To avoid toner spill, hold the hopper level as you remove it



B246R965

4

3. Hold the development [B] unit over a large sheet of paper, then slowly turn it upside down to empty the developer.
4. Turn the knob [C] through several complete rotations to empty all the developer in the development unit.
5. Clean the development sleeve and its side seals.
6. Turn the unit over and set it on another sheet of clean paper.
7. Note the developer lot number printed on the top edge of the bag. You will need the lot number when you input SP2801-2.
8. Clean the development roller shaft with a clean cloth and blower brush.



B246R966

9. While turning the knob [D] slowly, pour in one pack of developer [E] from one end of the development unit to the other.
10. Make sure that the developer is evenly distributed.
11. Continue to turn the knob several times to prevent clumping in the developer.

Reinstallation

1. Hold the hopper perfectly level when re-attaching it, to prevent toner from entering the rails of the development filter.








↓ Note

- Automatic process control starts automatically after the machine is switched on, so after replacing the developer, you should enter the SP mode and initialize the developer with SP2801 as soon as possible after switching the machine on.

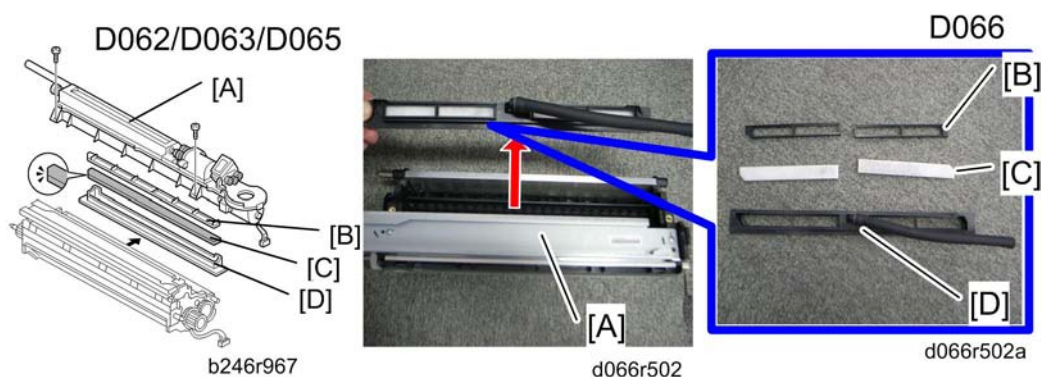
2. Do SP2801 (TD Sensor Initial Setting).

- Open the front door.
- Turn the machine on

↓ Note

- If you open the front door, auto process control will not start. SP2801 must be done before auto process control starts.
- Push Clear Modes 
- Enter the SP mode.
- Close the front door.
- Push "System SP" on the touch-panel.
- Push      to select SP2801-002.
- On the soft keys, enter the lot number from the pack of developer, then push .
- Do SP2801-1.

Development Filter



Remove:

- Development unit ( p.193 "Drum Removal")

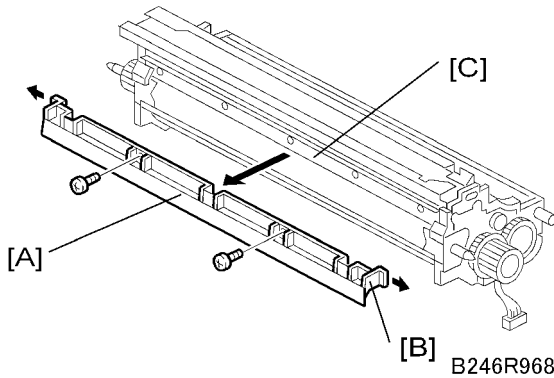
- Pressure release tube, only for D066 (see p.215 "Developer Replacement")
1. Toner hopper [A]
 2. Filter bracket top [B]
 3. Development filter [C]
 4. Filter bracket [D]
 - Make sure that the rails where the development filter bracket [C] connects to the development unit are clean and free of toner. If there is any toner in the rails, wipe them clean.
 - When installing a new filter, set the filter inside the filter case then place the case on top of the filter bracket [C]. The filter case closes any gaps at the edges of the filter to prevent toner scatter.

4

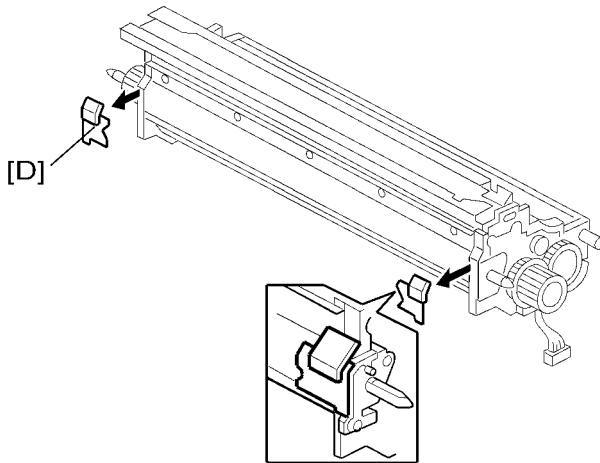
Entrance Seal and Side Seals

Removal

- Development unit (see p.193 "Development Unit Removal")



1. Entrance seal bracket [A] (2 x)
2. After removing the screws, press in the catches on either end [B] to release the entrance seal bracket, then remove it.
 - Clean the entrance seal bracket before re-installing it.
 - When re-installing, make sure the tabs [C] and notches are engaged at four locations.

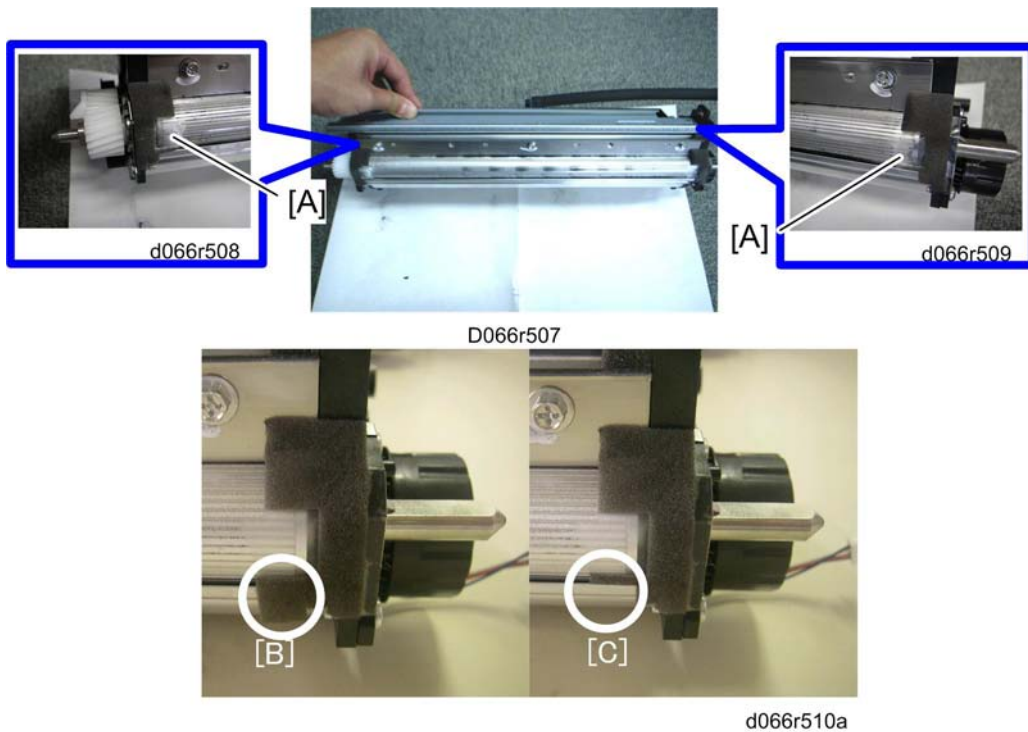


B246R969

3. Side seals [D]

- Remove the side seals from both ends, clean the area, and replace with new seals.

Reinstalling

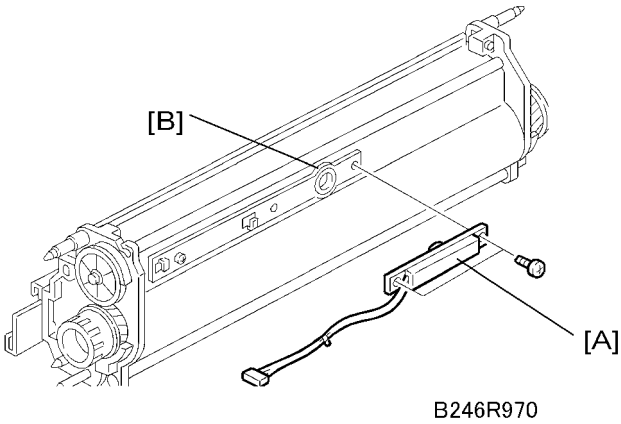


1. Attach the seals [A] as shown in the above diagrams.

2. Reinstall the entrance seal bracket.

- [B] is incorrect.
- [C] is correct.

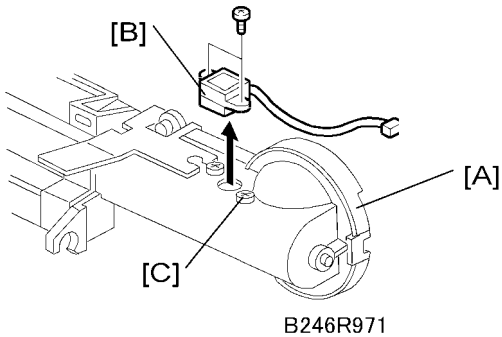
TD Sensor



Remove:

- Development unit (see p.193 "Development Unit Removal")
1. TD sensor (1 x 1) [A]
 2. Before installing a new TD sensor, clean the TD sensor port [B].
 3. After replacing the TD sensor, do these SPs:
 - SP2801 TD Sensor Initial Setting
 - SP2962 Auto Process Control (only if SP3901 – Auto Process Control – is on).

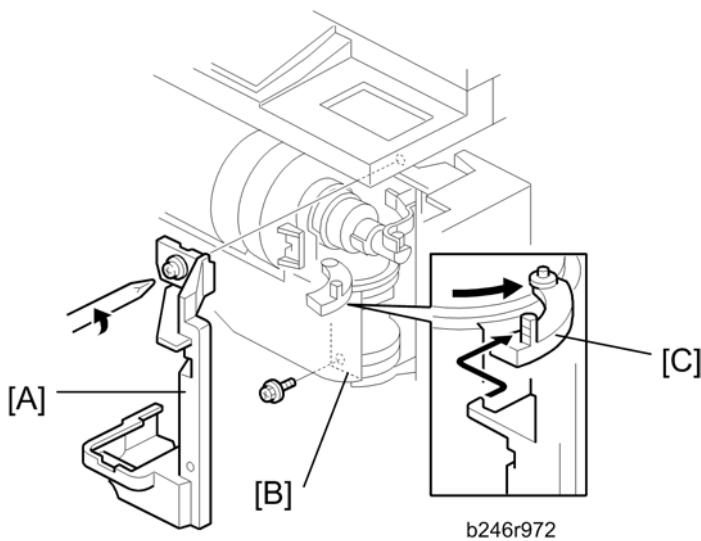
Toner End Sensor



Remove:

- Development unit (see p.215 "Removal")
1. Toner hopper [A] (⚙️ x 2)
 2. Toner end sensor [B] (⚙️ x 2)
 - Remove the screws carefully to avoid stripping the holes.
 - Before installing a new toner end sensor, clean the toner end sensor port [C].

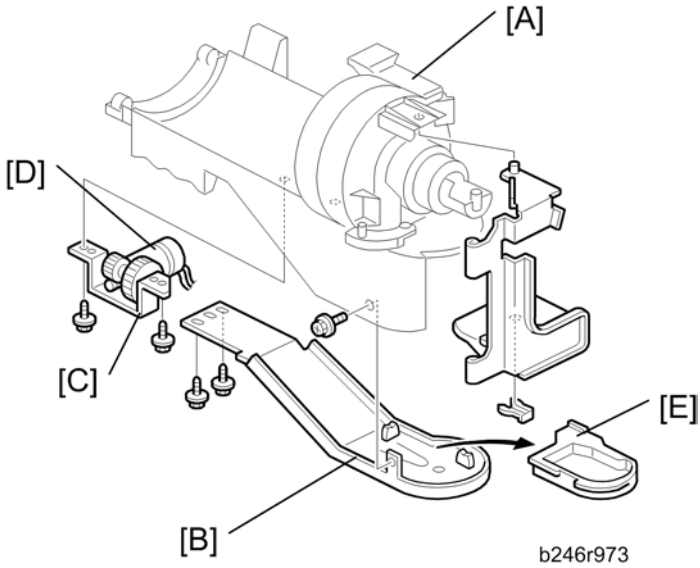
Toner Supply Motor



1. Open the front door.
2. Swing the toner unit out of the machine and remove the toner bottle.
3. Bracket [A] (⚙️ x 1)
4. Lock plate [B] (⚙️ x 1)

↓ Note

- After re-installation, the tab [C] should be behind the stay and its pin below should be in the open track below.



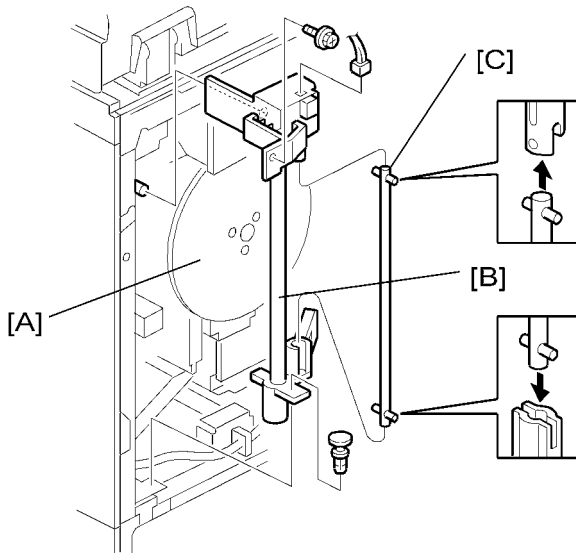
4

1. Toner bottle unit [A] (🔧 x 1, harness x 1, 🌀 x 1)
 - The c-clamp is under the toner unit.
 - Lift the toner bottle unit off the pegs and lay it on a piece of newspaper to avoid toner spill.
2. Bottom plate [B] (🔧 x 3, harnesses x 2)
 - 2 screws on the bottom, 1 screw on the side.
3. Toner supply motor bracket [C] (🔧 x 2)
4. Toner supply motor [D] (🔧 x 2)

Cleaning Requirement

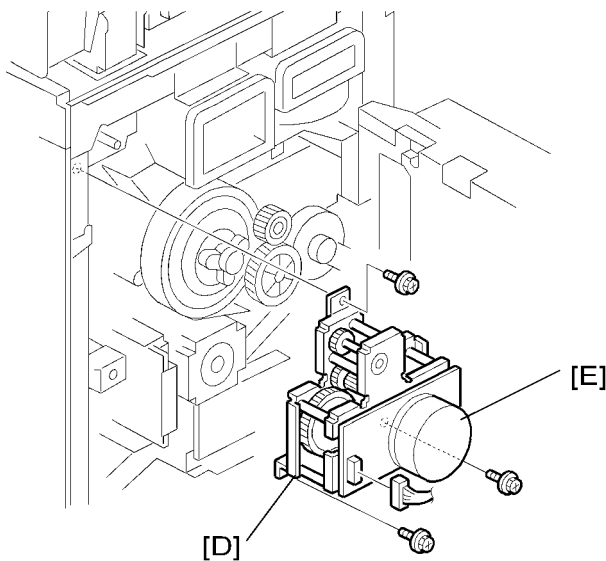
The toner pan [E] must be cleaned at every PM interval (300 K).

Development Motor






B246R975

1. Flywheel [A] (🔩 x 3)
2. Waste toner pump tube [B] (🔩 x 1, 📦 x 1)
3. Drive rod [C]
 - Lift the toner pump tube to disengage the drive rod, pull out the rod, and push the rubber tube aside.

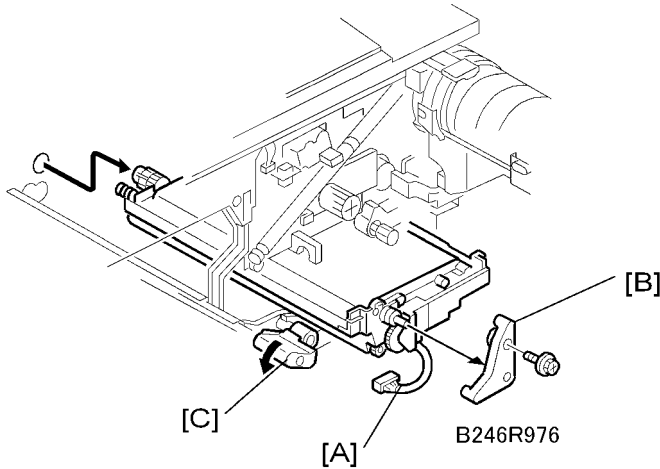


B246R974

4. Development motor bracket [D] ( x 3,  x 1)
5. Development motor [E] ( x 4)

Transfer Belt Unit

Transfer Belt Unit Removal

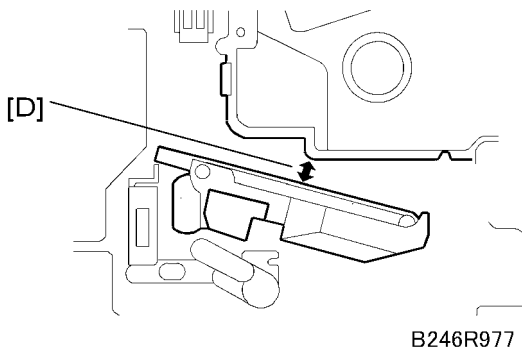


Note

- Before you begin, spread a mat or some clean paper on the floor where you intend to set the transfer belt unit.

Remove:

- OPC drum unit (p. 199)
1. Disconnect the transfer belt unit [A] (x 1).
 2. Remove the transfer belt unit stay [B] (x 1).
 3. While supporting the transfer belt unit with your hand, turn the release lever [C] counter-clockwise to release it, then pull the transfer belt unit out of the machine.

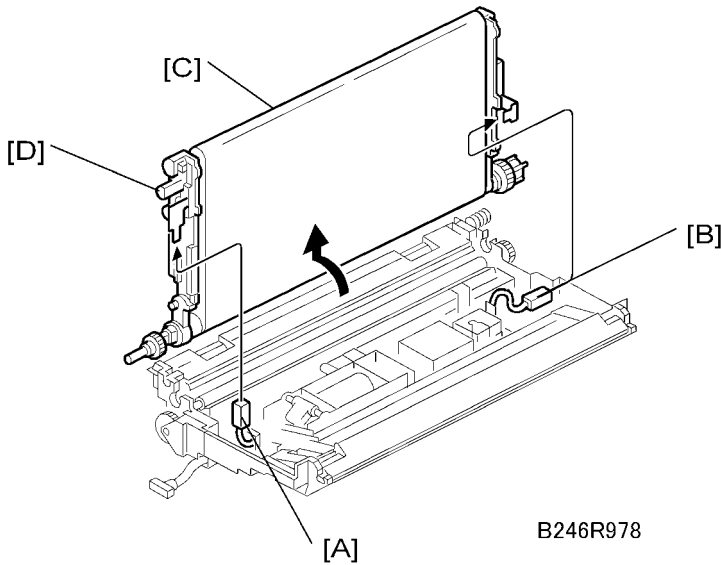


★ Important

- The transfer belt unit can be removed without removing the OPC drum unit.
- However, the transfer belt unit must be removed carefully to avoid scratching the surface of the transfer belt on the OPC drum unit [D].
- Avoid touching the belt with bare hands.

Transfer Belt Removal

4

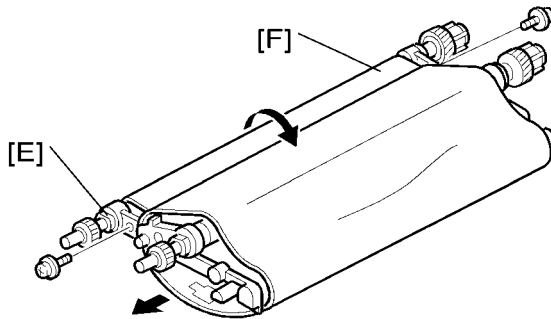


Remove:

- Transfer belt unit (🔧 p.225)
1. Disconnect the earth terminal [A] and transfer current terminal [B] (🔧 x 2). While doing this, hold the transfer belt unit [C] by its knobs [D].
 2. Raise and stand the belt perpendicular to the unit and remove it.

↓ Note

- To avoid scratching the belt on the guide, never rotate the belt unit farther than 90 degrees.



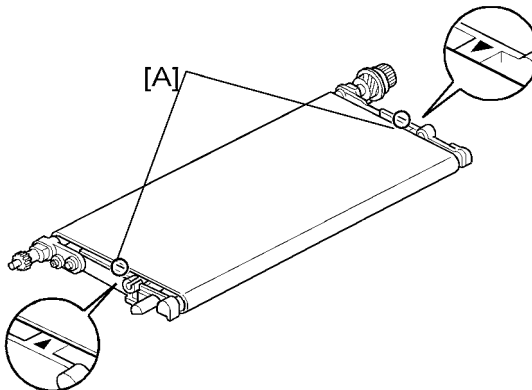
B246R979

3. Release the drive roller [E] (⚙ x 2).
4. Press in on the drive roller to collapse the unit into a "U" shape [F].
5. Remove the belt and replace it.

4

Re-installation

- Before re-assembling the transfer belt unit, use a clean cloth and alcohol to clean the contact points of the drive roller, idle roller, and transfer roller. Make sure these areas are clean and free from toner, paper dust, etc.
- Never touch the surface of the belt with bare hands and never apply alcohol to the surface of the belt. Clean it with a blower brush. Check the underside of the transfer belt and clean with the blower brush.

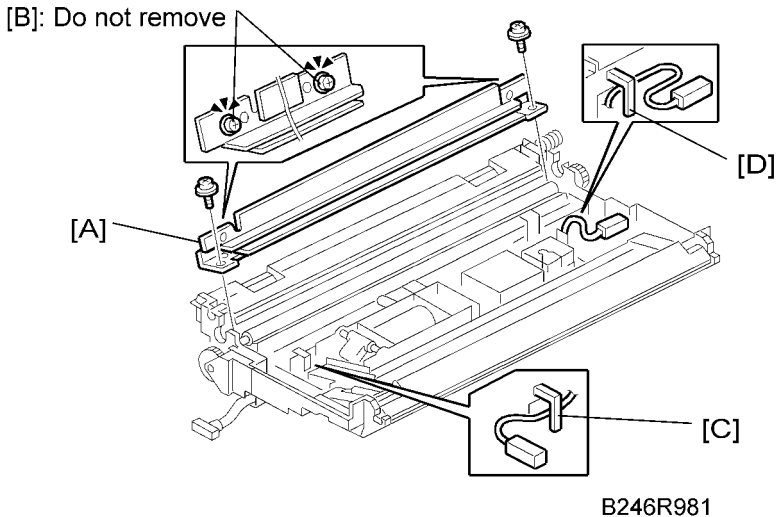


B246R980

- When re-assembling the transfer belt unit, make sure that the transfer belt is centered between the triangular marks [A] on either side of the unit.
- After re-assembly, make sure that the transfer belt is inside the transfer current terminal. The belt could be cut if it is not positioned correctly.
- Confirm that both the ground and transfer current terminal are connected and that the harnesses are not touching the release lever.

- After re-installing the transfer belt unit, turn the belt and confirm that the toner collection coil turns.
- The transfer belt and transfer roller cleaning blade must always be replaced together.

Transfer Roller Cleaning Blade



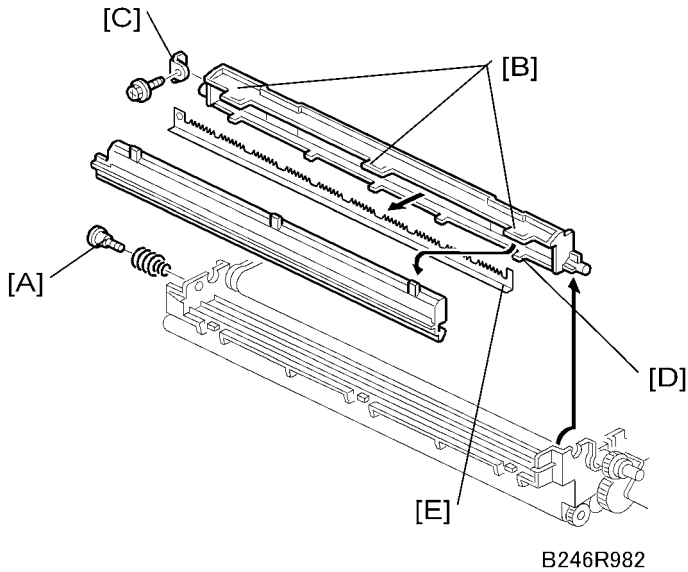
Remove:

- Transfer belt unit (🔧 p.225)
 - Disassemble the transfer belt unit (🔧 p.225)
1. Transfer roller cleaning blade [A] (🔧 x 2, 📏 x 2)

★ Important

- Never remove the inner lock screws [B] of the transfer roller cleaning blade.
- When re-assembling, make sure that the clamps [C] and [D] are arranged as shown above to avoid contact with the release lever.
- The transfer roller cleaning blade should always be replaced when the transfer belt is replaced.
- Never touch the edge of a new transfer roller cleaning blade. The edge of the blade is dusted with setting powder. If the setting powder is removed accidentally, dust the edge of the blade with toner. This is especially important when only the transfer roller cleaning blade must be replaced without replacing the transfer roller.
- Work carefully around the transfer power pack located inside the transfer belt unit, especially when cleaning with a vacuum cleaner, to avoid damaging the power pack with static electricity.

Discharge Plate

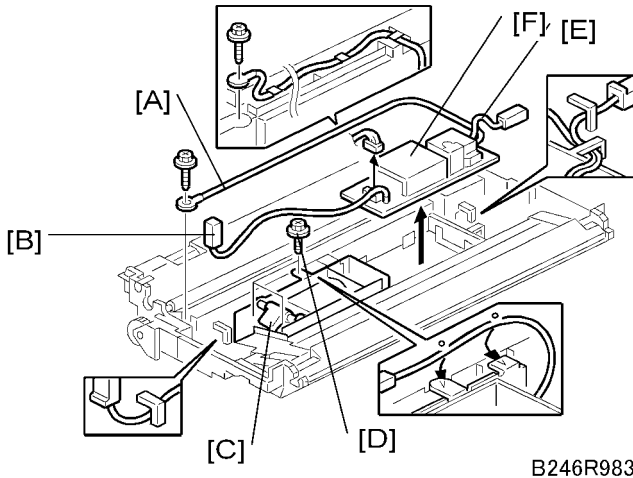


1. Remove the transfer belt unit (p.225)
2. Remove the shoulder screw and spring [A].
3. Rotate the discharge unit up, then lift it straight up to remove it.
4. Disconnect the three large tabs [B].
5. Remove the bracket [C] (x 1).
6. Disconnect the 6 small seal case tabs [D].
7. Remove the discharge plate [E].

Reinstallation

1. Set the discharge plate and make sure that it is perfectly flat before re-connecting the tabs.
2. Before re-attaching the bracket [C], make sure that all the tabs are connected.

Transfer Power Pack



B246R983

Remove:

- Transfer belt unit (p.225)
1. Wire (x 1) [A] (all wire guides)
 2. Ground terminal wire [B] (wire guide x 1)
 - This terminal wire does not disconnect from the power pack.
 - Loosen the two left screws of the transfer belt lift solenoid [C], and remove the top screw [D] to free the ground terminal wire.
 3. Transfer current terminal wire [E] (wire guides x 2)
 4. Transfer power pack [F] (x 1)
 - Disconnect the two standoffs on the right edge of the power pack and remove.

Re-installation

- Confirm that the left edge of the power pack is below the tabs on the left.
- Confirm that the transfer current terminal wire is below the wire guides on the right.
- Pass the ground terminal wire under the top connector of the solenoid bracket and tighten all the screws of the solenoid bracket.
- Make sure the wire is below all the wire guides at the top.

Fusing Unit

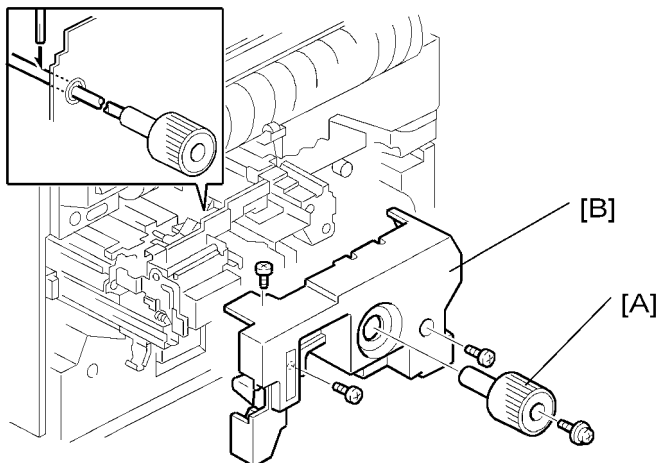
⚠ CAUTION

- Switch off the machine, remove the plug from the power source, then allow sufficient time for the fusing unit to cool before you remove it from the machine.

Fusing Unit Removal

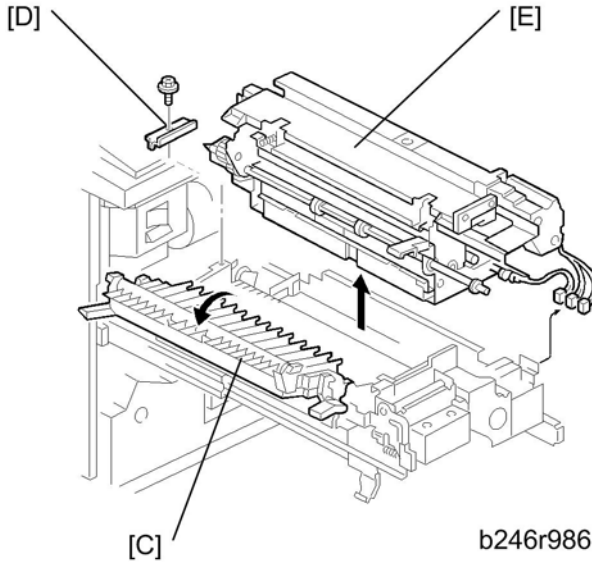
↓ Note

- Before you begin, spread a mat or some clean paper on the floor where you intend to set the fusing unit.



B246R984

1. Open the front door.
2. Pull out the transfer unit.
3. Knob [A] (🔧 x 1)
 - Open D3 and D4 until you can see the hole in the shaft.
 - Insert the tip of a screwdriver into the hole of the shaft to hold it in position as the knob is turned to remove or install it.
4. Inner cover [B] (🔧 x 3)
 - Pull the fusing unit release lever, then pull the unit out on the rail supports.
 - At reassembly, make sure that the harness of the web drive motor is not pinched by the inner cover.

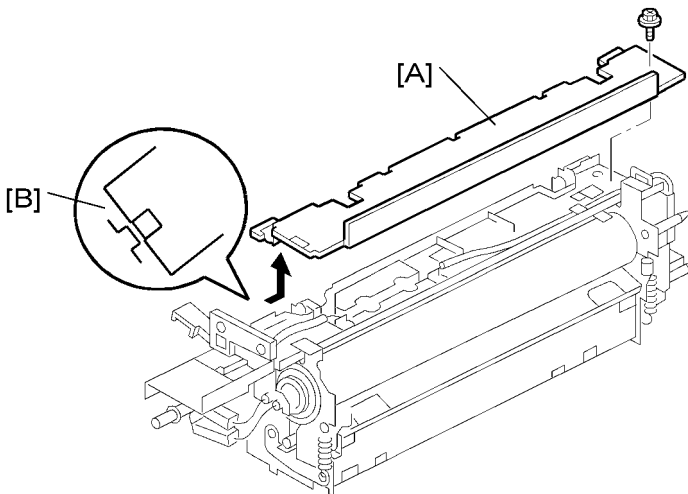


5. Open the exit separation pawl assembly [C].
6. Stopper bracket [D] (🔩 x 1)
7. Fusing unit [E] (🔧 x 2, 🛠️ x 2)

★ Important

- Support the bottom of the fusing unit with your hand as you remove it.

Fusing Unit Thermistors and Thermostats



- Remove the fusing unit (🔧 p.231)

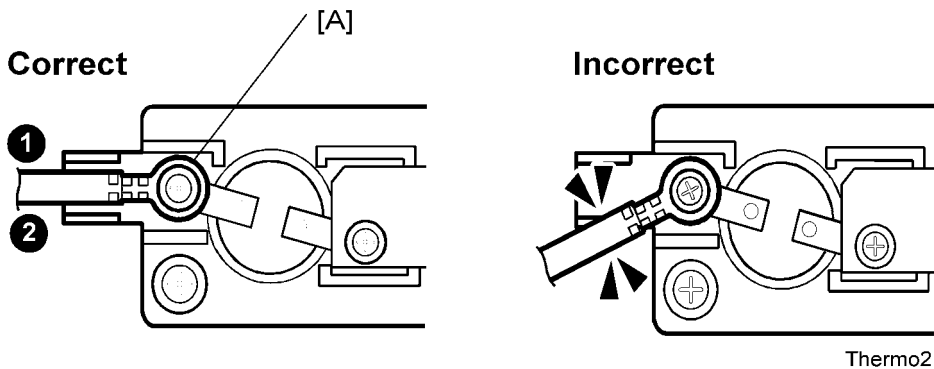
1. Upper cover [A] (🔩 x 1)
2. Press in on the internal pawls [B] to release them then remove them.

★ Important

- Make sure that the pawls [B] engage correctly when you reinstall the unit.

The thermistor-thermostats are replaced as one unit. A disassembly procedure is not required.

Reinstallation



- To prevent damage to a thermostat, never touch its detection surface.
- Place the end of the thermostat harness that has the round lead [A] in between the two ribs **1**, **2** in the bracket.
- Tighten the screw for the round lead [A] as tight as possible without damaging the screw or screw hole.

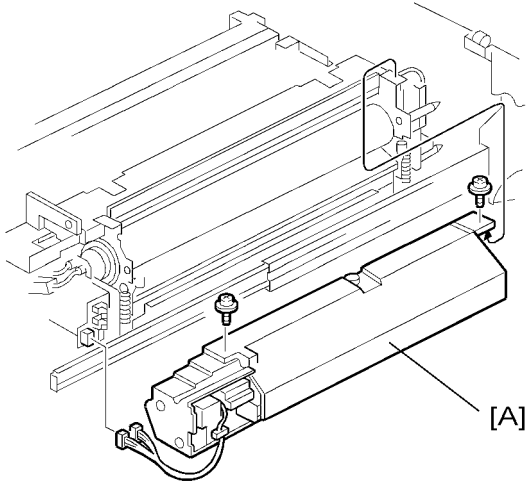
★ Important

- If the harness is not positioned between the between the bracket ribs **1**, **2** (as shown under "Incorrect" below), this could cause an error (SC542 or SC545).

Web Cleaning Roller

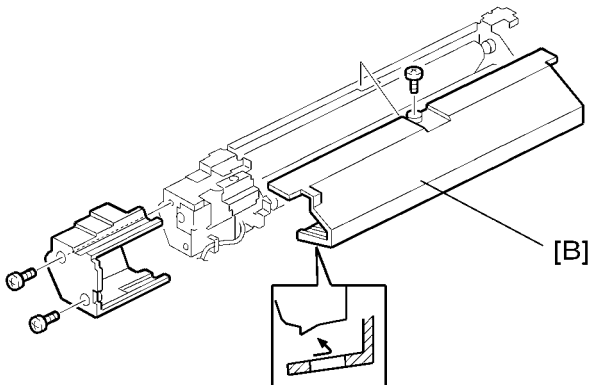
Web Unit Disassembly

4



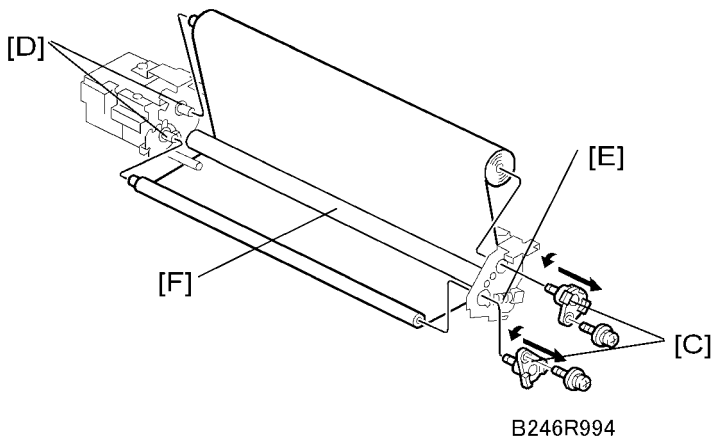
B246R993

1. Open the front door and pull out the fusing unit on its support rails.
2. Web unit [A] (🔧 x 2, 📏 x 2)
 - The web unit can be removed without removing the fusing unit from the machine.



B246R992

3. Upper cover [B] (🔧 x 1)
 - Rotate the cover down slightly to remove.



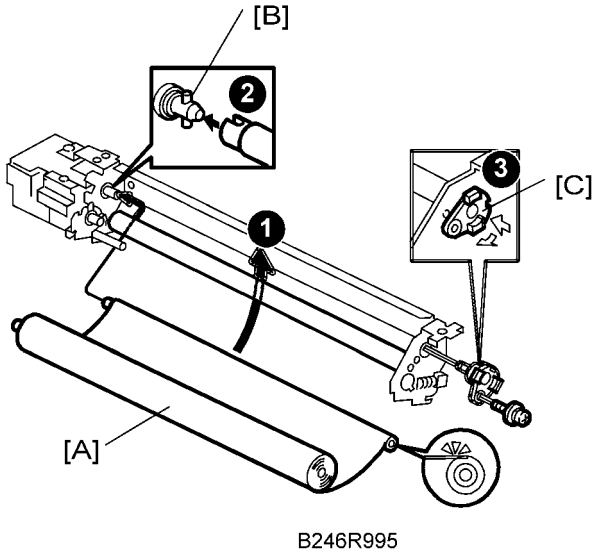
4. Web shafts [C] (x 2)
5. Remove the web cleaning rollers from the shaft driver pins [D].
6. Web bushing [E] (spring x 1)
7. Cleaning roller [F]

Reinstallation

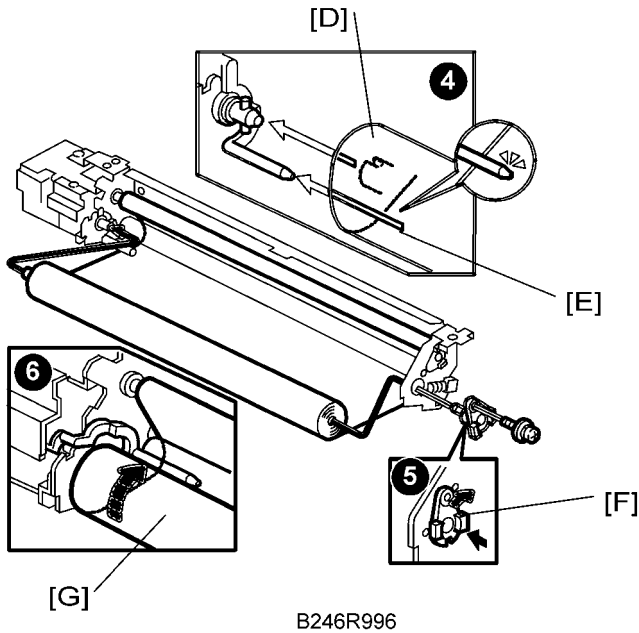
- After replacing the web with a new one, you must execute SP1902-001 (Fusing Web Used Area Display/Setting) to reset the web consumption count to zero. This SP code must be executed to release SC550.
- Be sure to print an SMC report before executing Memory All Clear (SP5801). After executing SP5801, be sure to re-enter the value recorded for SP1902-001 in the SMC report.

Web Unit Re-assembly

4



1. Attach the cleaning roller [A]
 - Insert the end of the web into the slot ❶.
2. Insert the drive pins [B] into the web shaft ❷.
3. After installing bushing [C], rotate the shaft right to lock it, then attach the lock screw ❸.



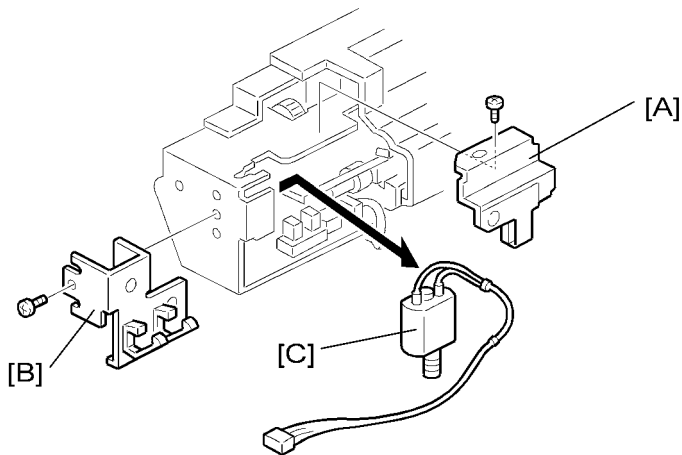
4. Set the web [D] under the feeler [E] of the web end sensor ④.
5. Attach bushing 2 [F] ⑤.
6. Attach the new web roll [G] and wind it tight so no slack remains ⑥.

★ Important

- Before reassembling the machine, confirm that 1) there is no slack in the web roll, 2) the web is below the feeler of the web end sensor.
7. Attach the upper cover.
 8. After installing a new web roll, reset SP1902-001 to zero.

Web Motor and Web End Sensor

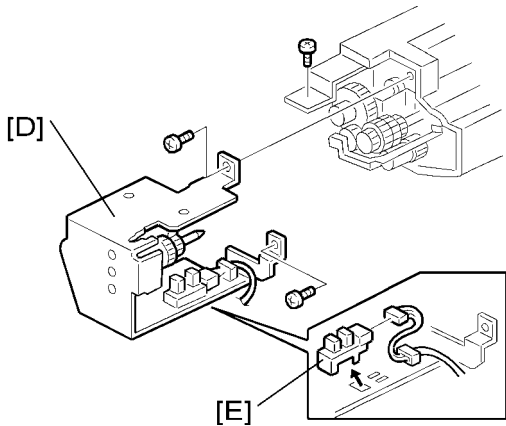
4



B246R997

Remove:

- Web unit and end cover (see p.234 "Web Unit Disassembly")
1. Bracket [A] (⚙ x 1)
 2. Web motor positioning bracket [B] (⚙ x 1)
 3. Web motor [C]



B246R999

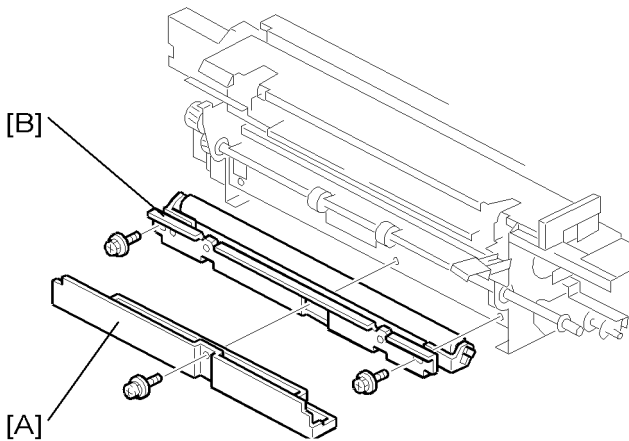
4

4. Web motor/sensor mount [D] (⚙️ x 3)
5. Web end sensor [E] (⚙️ x 1, harness x 1)

Reinstallation

- Make sure that the harness of the web driver motor is not pinched by the fusing inner cover

Pressure Roller Cleaning Unit



B246R1001

Remove:

- Fusing unit (⚙️ p.231)
1. Cover [A] (⚙️ x 1)
 2. Cleaning roller [B] (⚙️ x 2)

3. Cleaning roller [C] (1 x 1)

Reinstallation

- When attaching the lower cover of the pressure roller cleaning roller, make sure that the tab [D] engages with the groove [E].
- If the bushings are noisy after replacement, lubricate them on both ends and the holes where the bushings are attached with Barietta Grease L553R.

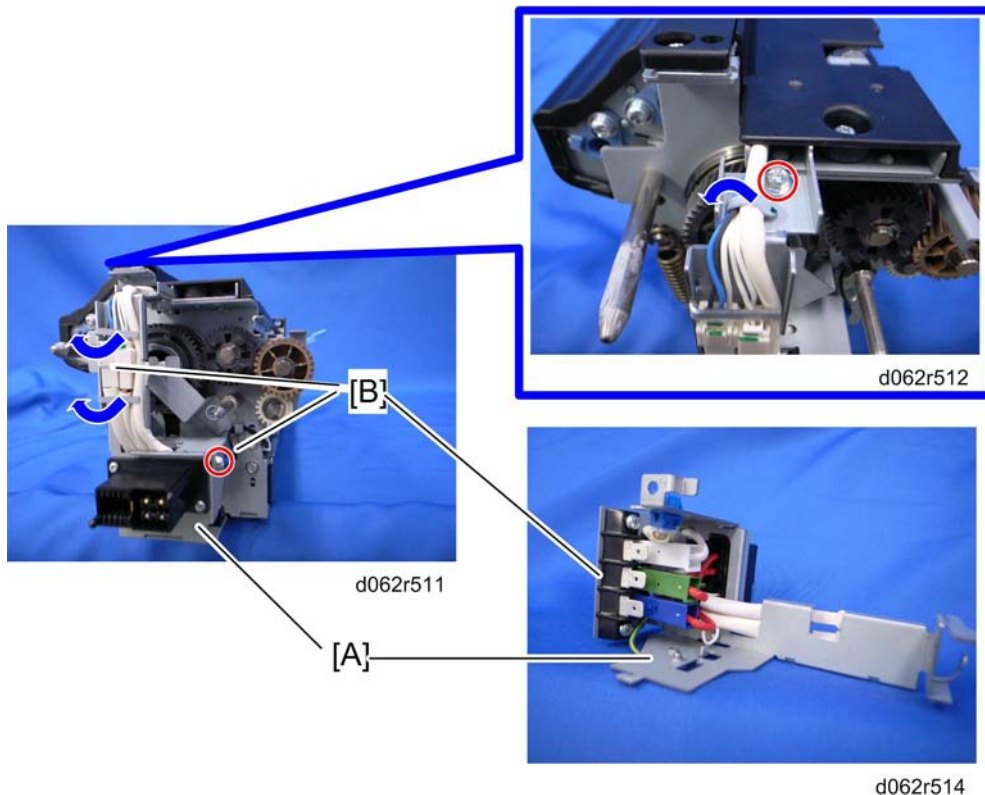
Fusing Lamps, Hot Roller, and Pressure Roller

Note

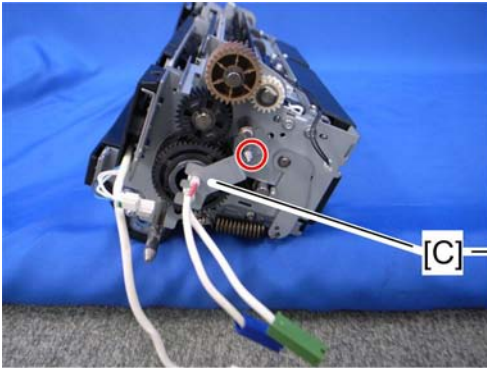
- If you wish to remove the pressure roller only, without removing the hot roller and fusing lamps, please do not use this procedure. Use the procedure in the next section.

Fusing Lamps

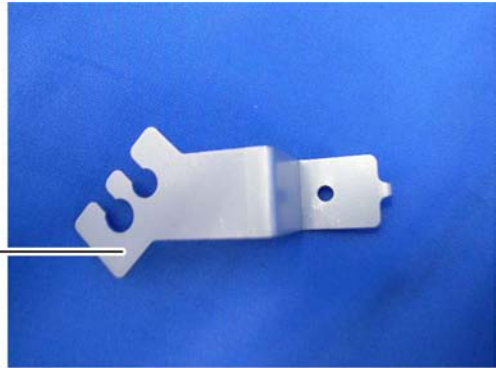
1. Fusing unit (p.231)



2. Rear terminal connector bracket [A] (🔩 x 2, metal clamp x 3, 📏 [B] x 6)



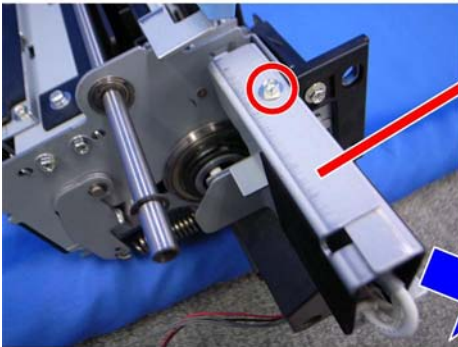
d062r515



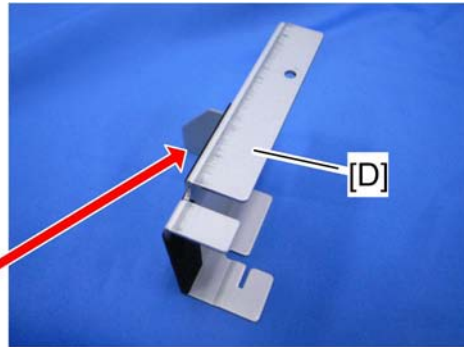
d062r516

4

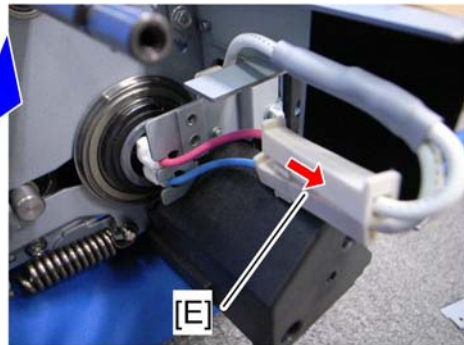
3. Rear fusing lamp holder [C] (🔩 x 1)



d062r517

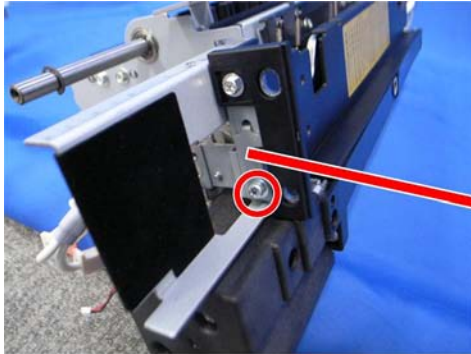


d062r518

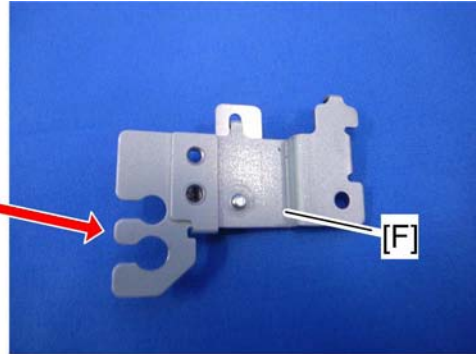


D062r519

4. Plate [D] (🔩 x 1)
5. Disconnect two harnesses [E]

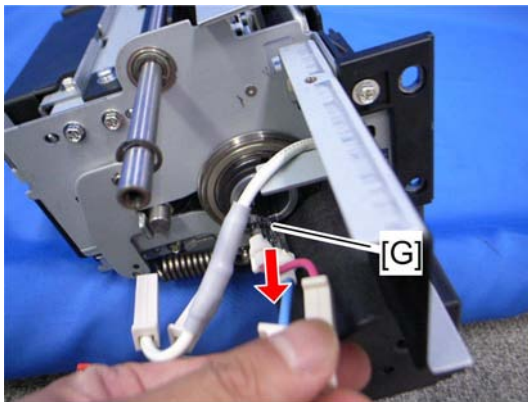


d062r520



d062r521

6. Front fusing holder [F] (1 x 1)



d062r522

7. Fusing lamps [G] (x 2)

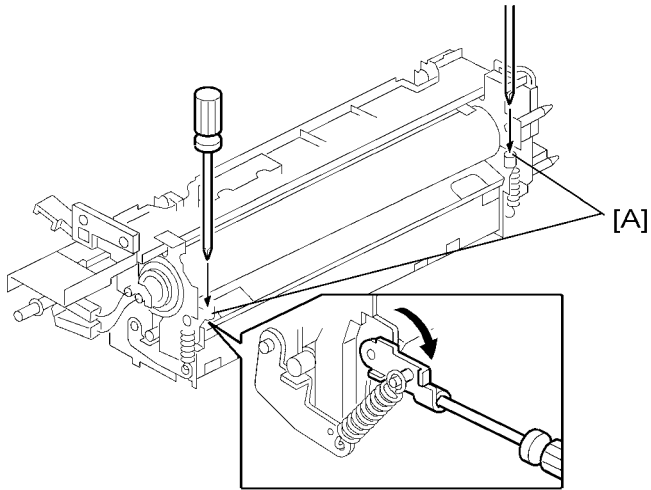
↓ Note

- Be careful when you move the fusing lamps. Do not break them. Do not touch them with bare hands.

Hot Roller and Pressure Roller

Use this procedure when you want to remove both rollers.

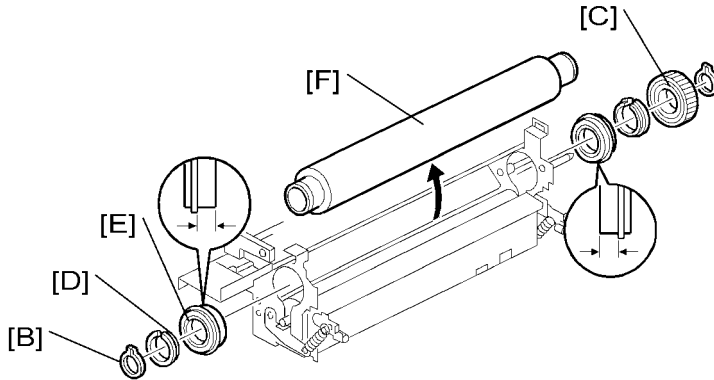
1. Remove the web unit (p.234)



B246R1008

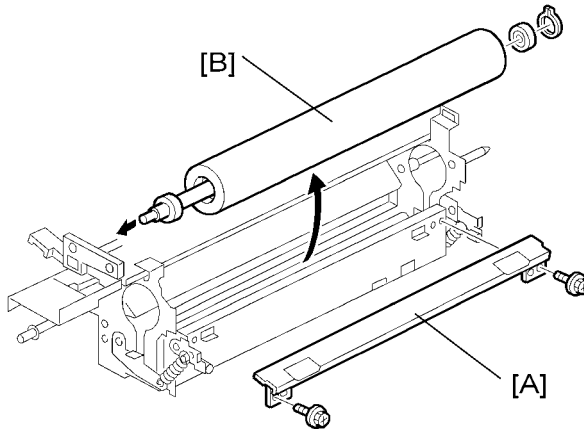
2. Pressure arm [A]

- Insert the tips of two screwdrivers and press down to release.



B246R1009

3. C-clamps (both ends) [B]
4. Drive gear [C]
5. Bushings (both ends) [D]
6. Bearings [E]
7. Hot roller [F]

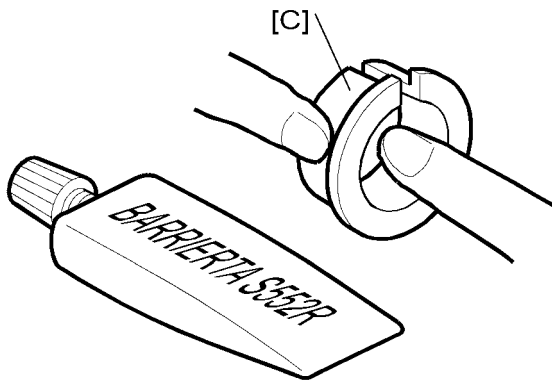


B246R1010

8. Entrance guide plate [A] (P x 2)
9. Pressure roller [B] (C x 2)

↓ **Note**

- The pressure roller and pressure roller bearing should always be replaced together.



B246R1011

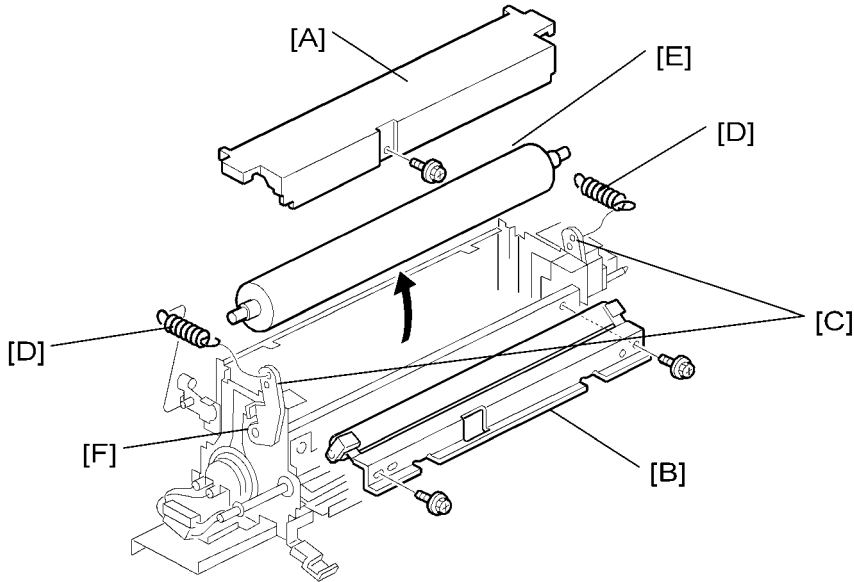
10. Lubricate the inner and outer surfaces [C] of the bushings with Barrierta S552R grease.

↓ **Note**

- If the bushings are warm, allow them to cool before applying the Barrierta grease. Applying the grease while the bushings are hot could generate gas.

Pressure Roller

Use this procedure if you need to remove only the pressure roller.



B246R1014

Remove:

- Fusing unit (p.231)
- 1. Turn the fusing unit upside down.
- 2. Lower cover [A] (1 x 1)
- 3. Pressure roller cleaning unit [B] (2 x 2)
- 4. Release the pressure arms [C]
- 5. Use screw driver to lower the pressure arms on both ends of the pressure roller.
- 6. Pressure roller springs [D]
- 7. Pressure roller [E]

★ Important

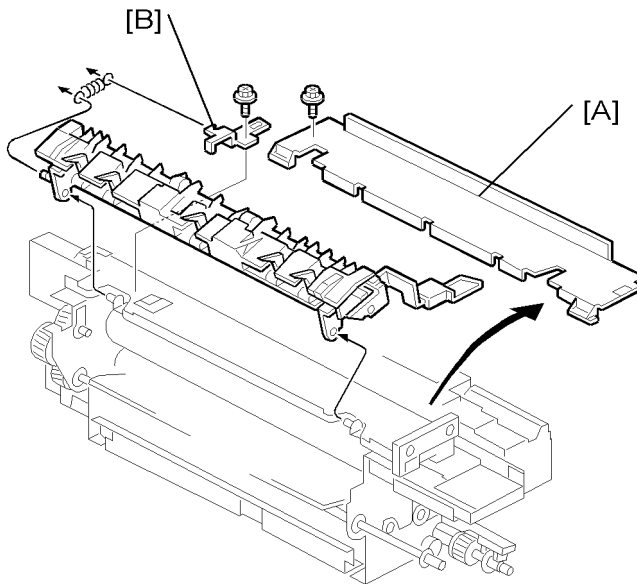
- The fusing lamps are fragile. Work carefully to avoid breaking them.
- During assembly, handle the roller carefully to avoid scratching it on the bracket.
- Make sure the tabs and grooves of the lower cover are engaged correctly before tightening the screw.

Spring Adjustment

- Two holes [F] are provided on each pressure arm for the springs.
- Normally the springs should be attached to the lower holes.

- Attaching the springs to the upper holes exerts less pressure on the hot roller. Attach the springs to the upper holes only for especially thin paper.

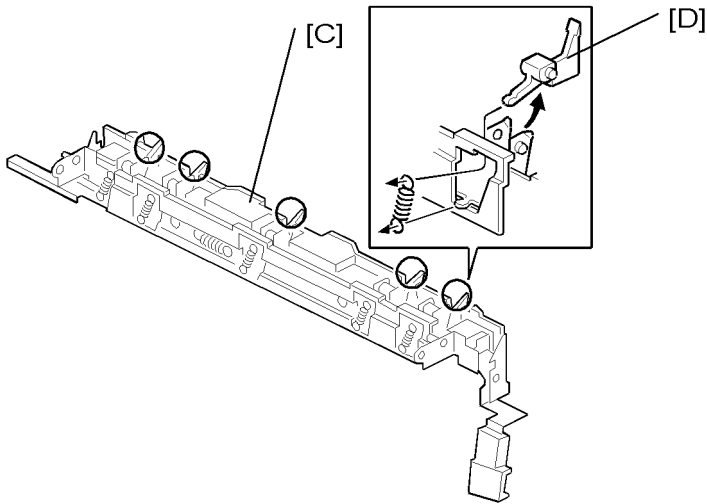
Stripper Pawls



B246R1017

Remove:

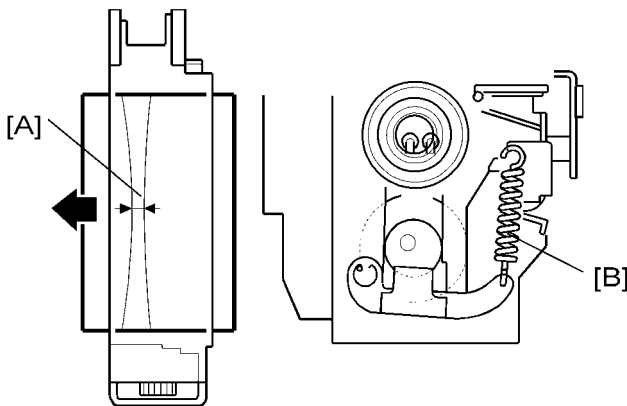
- Fusing unit (p.231)
1. Top cover [A]
 2. Bracket [B] (x 1, spring x 1)



B246R1019

3. Inner cover [C] (🔩 x 2)
4. Stripper pawl [D] (🔩 x 1)

Nip Band Width Adjustment



B246R1030

1. After the machine is powered on with the main switch, make an A4/LT LEF copy, then stop the machine while the paper is still in the fusing unit by switching it off.

Note

- This is easier with an OHP sheet. Use an OHP sheet if you have one available.
2. Open the front door, then turn the fusing knob to feed out the copy.

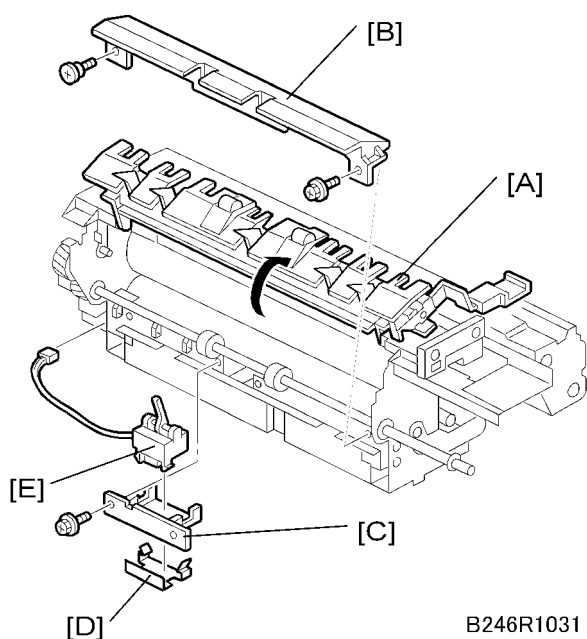
3. Measure the width of the band on the part of the image where it is particularly black. The band, called the nip band [A], should be 9.0 ± 0.7 mm at the center.

Note

- When the fusing is incorrect (wrinkles, offset, curl), measure the nip band width.
- The nip band width can be adjusted by changing the position of the springs [B] on either end of the pressure roller.
- The fusing temperature can also be adjusted with SP1105 (Fusing Temperature Adjustment) for Normal, OHP, and Thick Paper.

Fusing Unit Exit Sensor

4

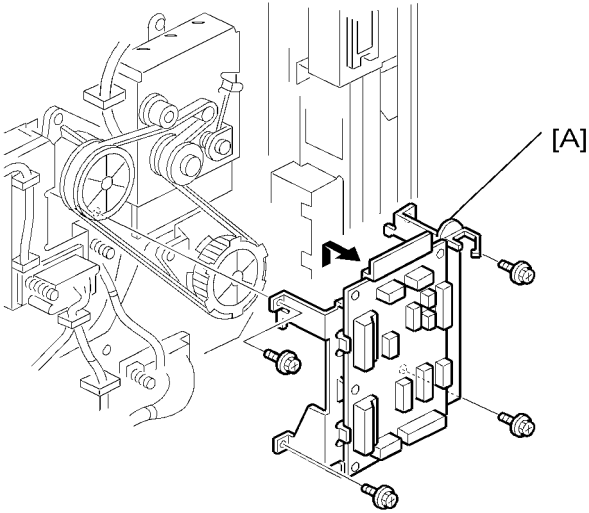


Remove:

- Fusing unit (p.231)
1. Open the hot roller stripper pawl unit [A]
 2. Exit guide plate [B] (x 2)
 3. Fusing exit sensor holder [C] (x 2)
 4. Plate spring [D]
 5. Fusing exit sensor [E] (x 1, x 3)

Fusing/Exit Motor

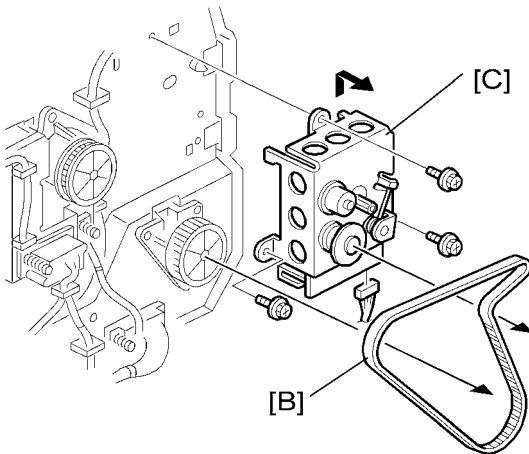
4



B246R1032

Remove:

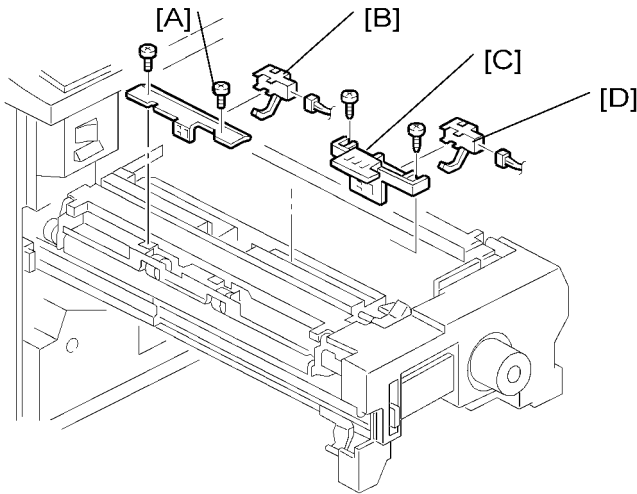
- Rear upper cover (see p.175 "Rear Covers")
- 1. Open the BCU (x 4)
- 2. CNB bracket [A] (x 4, x1, x all)



B246R1034

3. Timing belt [B]
4. Fusing/exit motor bracket [C] (x 3)
5. Fusing/exit motor (x 2) inside the bracket (not shown)

Fusing Exit Sensor and Exit Unit Entrance Sensors

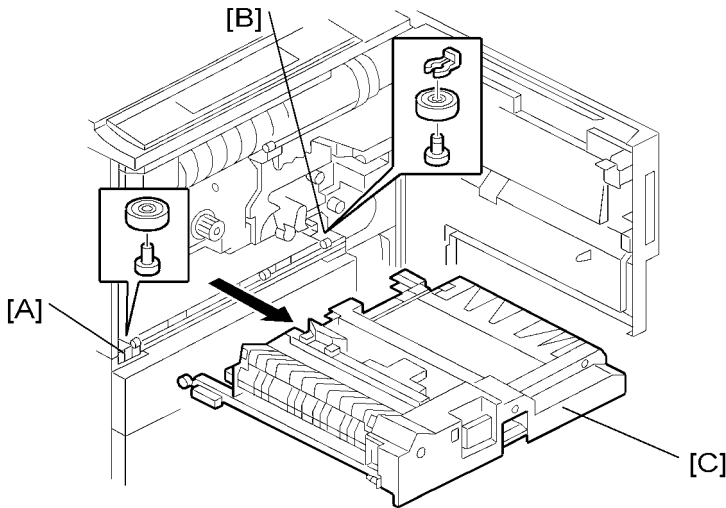


B246R1035

1. Open the front door and pull out the exit/inverter unit.
2. Fusing exit sensor bracket [A] (🔩 x 2)
3. Fusing exit sensor [B] (🔌 x 1)
4. Exit unit entrance sensor bracket [C] (🔩 x 2)
5. Exit unit entrance sensor [D] (🔌 x 1)

Duplex Unit

Duplex Unit Removal



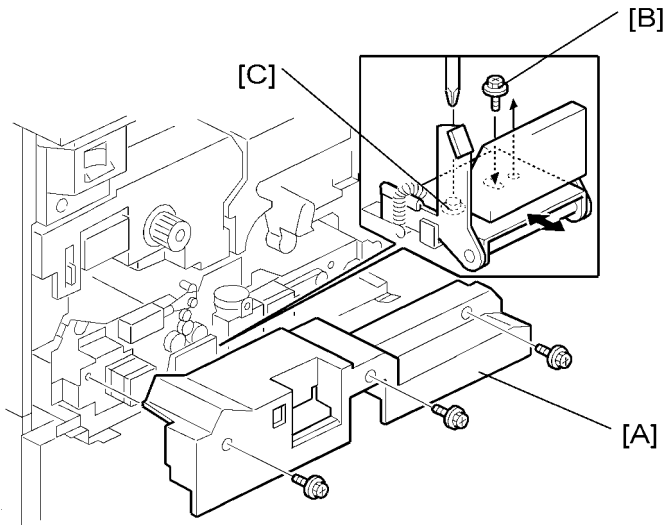
B246R1036

1. Open the front door and pull out the duplex unit.
2. Remove the slide rail roller on the left [A] and on the right [B] (⚙ x 1).
3. Lift out the duplex unit [C].

Reinstallation

- To re-install the duplex unit, insert the duplex unit partially, only until it enters the black guide rail, then re-attach each slide rail roller.
- Next, push the duplex unit into the machine completely. This method prevents interference from the guide plate during installation.

Duplex Unit Side-to-Side Adjustment



B246R1037

1. Remove the inner cover [A] (⚙️ x 3)
2. Move the handle lock screw [B] from the right to the center.
3. Loosen the left lock screw [C], then adjust the position of the duplex unit.

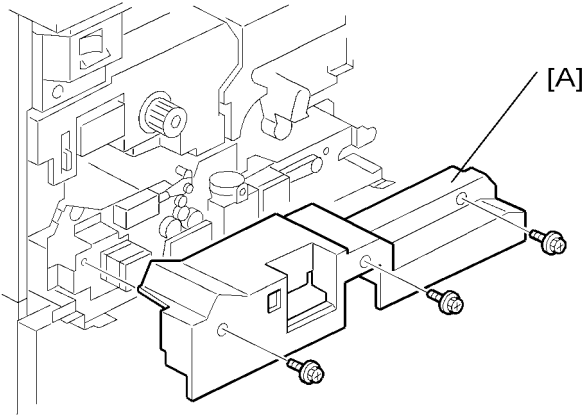
Jogger Fence Adjustment

SP1008	Duplex Fence Adjustment
	Execute this SP to adjust the distance between the jogger fences, if required. A smaller value shortens the distance. If the fences are too far apart, skewing may occur in the duplex tray. If the fences are too close, the paper may be creased in the duplex unit. For details, see "Service Tables".

Duplex Motors

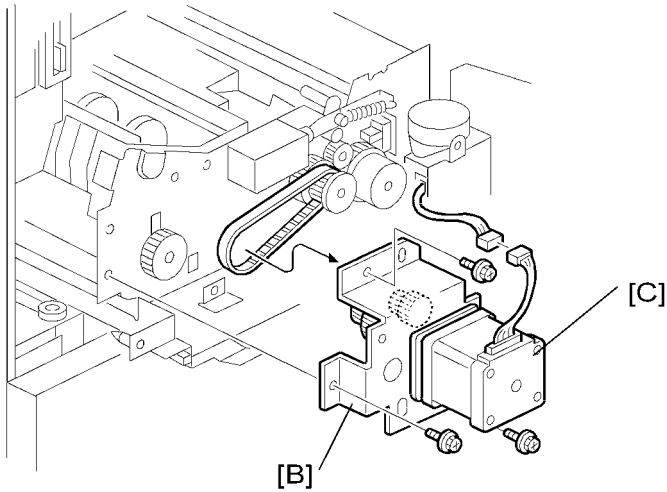
Duplex Inverter Motor

4



B246R1038

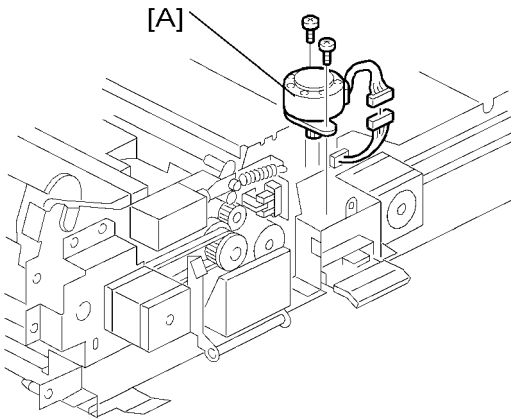
1. Remove the cover [A] (🔩 x 3)



B246R1039

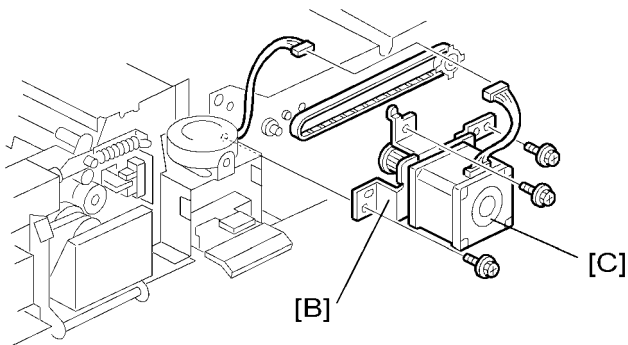
2. Inverter motor bracket [B] (🔩 x 3)
3. Inverter motor [C] (🔩 x 1, 🛠️ x 1, 🔩 x 2, timing belt x 1)

Duplex Jogger and Transport Motors



B246R1040

1. Jogger motor [A] (🔧 x 1, 🛠️ x 2)

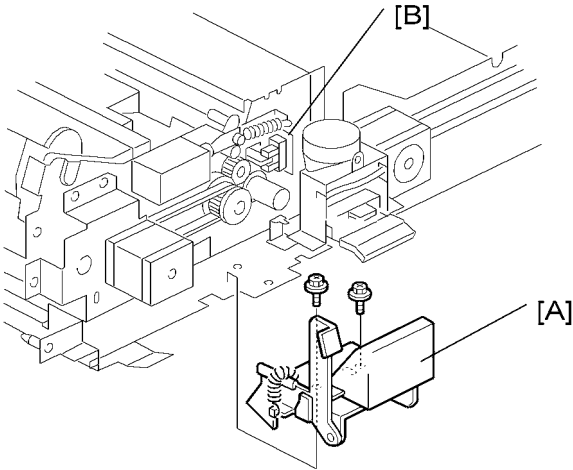


B246R1041

2. Transport motor bracket [B] (🔧 x 1, 🛠️ x 1, 🛠️ x 3, timing belt x 1)
 3. Transport motor [C] (🛠️ x 2)

Duplex Sensors

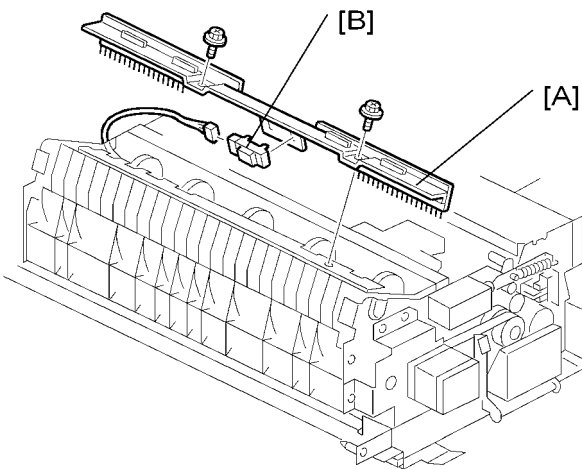
Jogger HP Sensor



G148R591

1. Duplex unit release lever [A] (🔩 x 2)
2. Jogger HP sensor [B] (🔩 x 1, 🔩 x 2, 📦 x 1)

Duplex Entrance Sensor

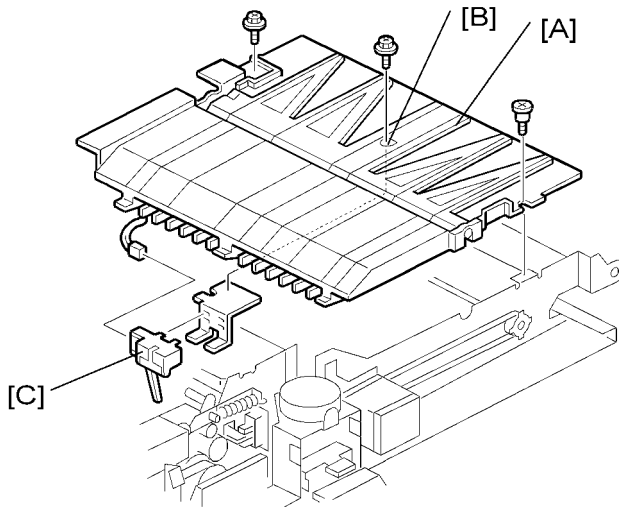


B246R1043

1. Bracket [A] (🔩 x 2)

- Duplex entrance sensor [B] (🔩 x 1)

Duplex Transport Sensor 3

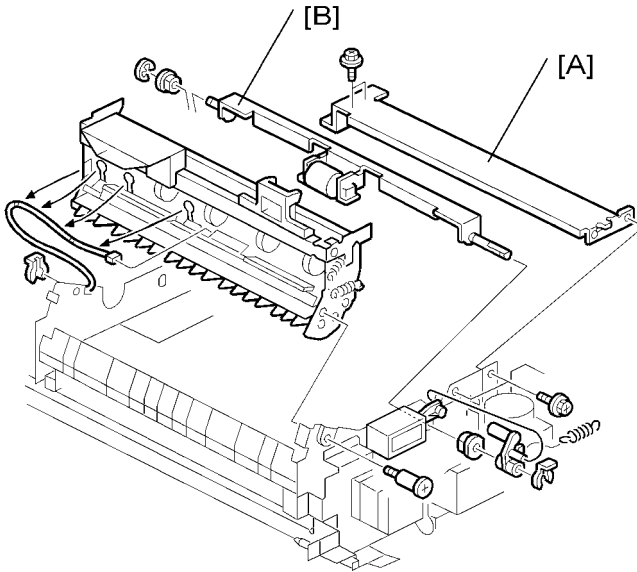


B246R1045

- Right half of table [A] (🔩 x 2, 📏 x 1)
 - The front screw is a shoulder screw. Insert the screws in the correct holes when re-attaching.
- Remove the screw [B] to release the sensor bracket below.
- Transport sensor 3 [C] (📏 x 1)

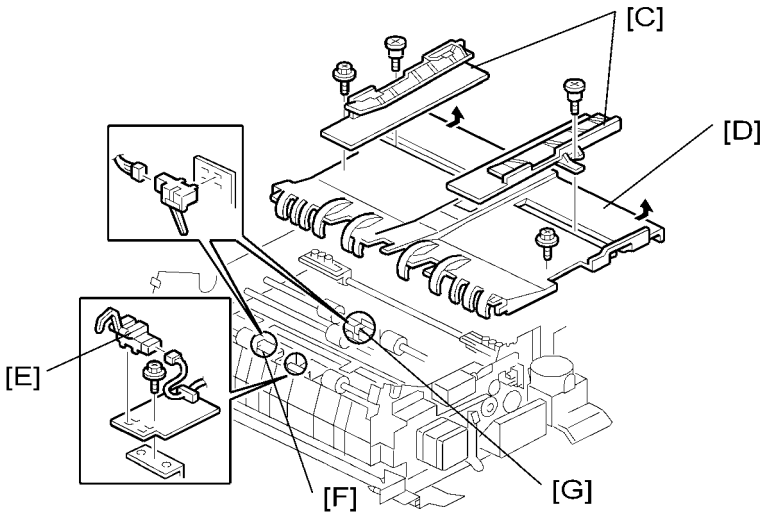
Inverter Exit Sensor, Transport Sensors 1 & 2

4



B246R1046

1. Cross-stay [A] (⚙️ x 4)
2. Reverse trigger roller shaft [B]



B246R1047

3. Jogger fences [C] (⚙️ x 1 each)
4. Left half of table [D] (⚙️ x 2)
 - The front screw is a shoulder screw. Insert the screws in the correct holes when re-attaching.

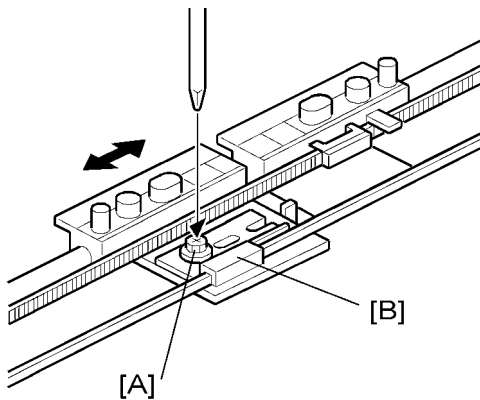
- To avoid breaking the tabs under the left edge of the table, pull the table to the right to disengage the tabs and then remove.

5. Inverter exit sensor [E] (🔧 x 1, 📏 x 1, 📏 x 1)

6. Transport sensor 1 [F] (📏 x 1, 📏 x 1)

7. Transport sensor 2 [G] (📏 x 1, 📏 x 1)

Duplex Jogger Belt Adjustment



B246R1049

Remove:

- Cross stay (🔧 p.256 "Inverter Exit Sensor, Transport Sensors 1 & 2")
- Reverse trigger roller shaft (🔧 p.256 "Inverter Exit Sensor, Transport Sensors 1 & 2")
- Left half of the table
- Jogger motor bracket

↓ Note

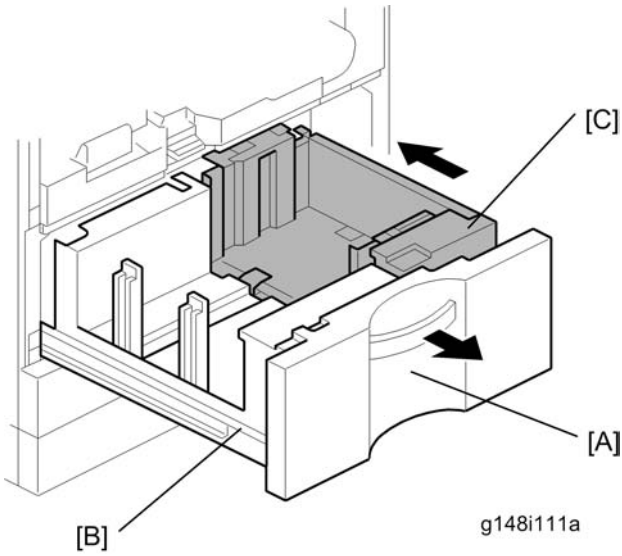
- Slip the one end of the belt around the gear below the jogger motor.
 - Slip the other end of the belt around the gear at the other side of the duplex unit.
1. If you are replacing the belt, set both jogger fence brackets at the center of the belt and tighten the screw [A].
 2. If you are adjusting the belt, loosen the screw and slide the plastic piece [B] on the belt to the left or right to adjust the position of the front fence, then tighten the screw.

Paper Feed

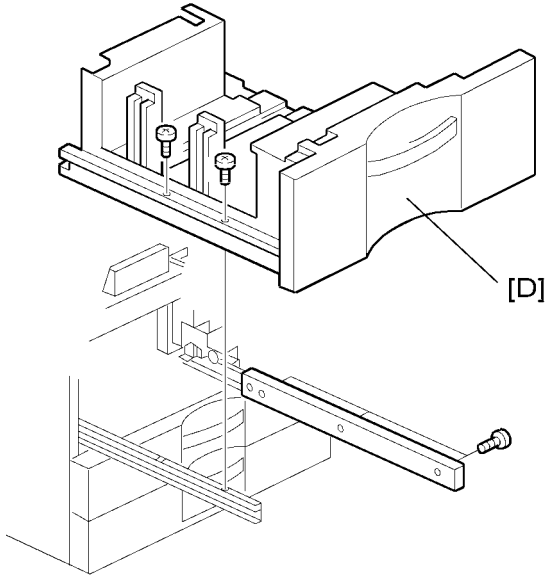
Paper Tray

Tandem Tray

4

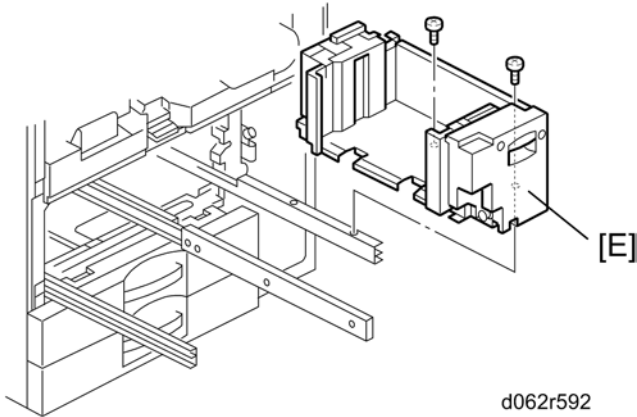


1. Open the front door.
2. Pull out the tandem tray drawer [A] completely to separate the left [B] and right [C] sides of the tandem tray.



B475i708b

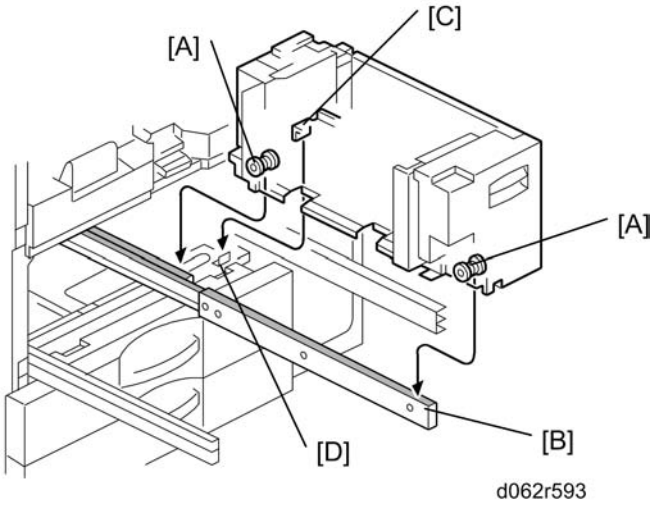
3. Remove the left tandem tray [D] (⚙ x 5).



d062r592

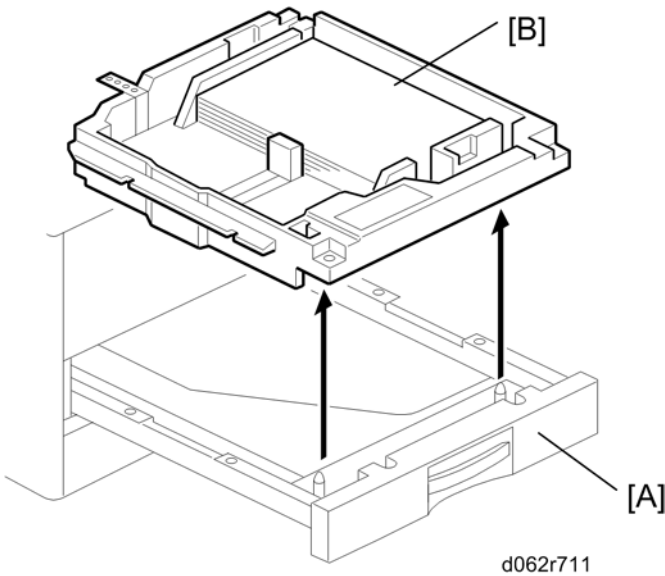
4. Right tandem tray [E] (⚙ x 2).

Reinstallation



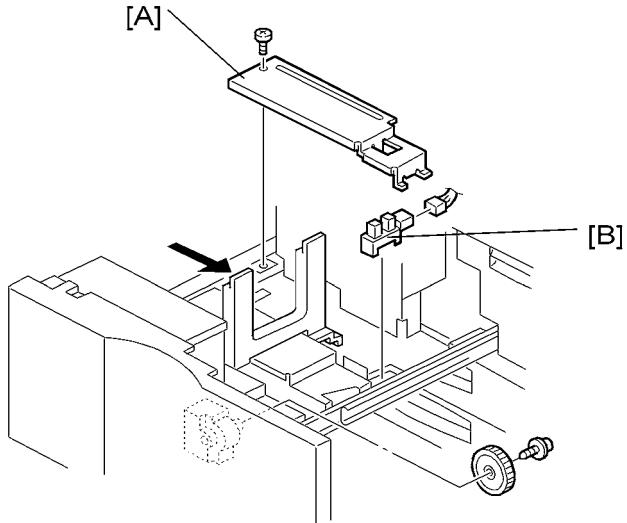
- When re-installing the right tandem tray, make sure that the wheels [A] ride on the slide rail [B].
- When re-installing the right tandem tray, make sure that the tandem tray stopper [C] is set behind the stopper [D] on the frame.

Universal Tray



1. Pull tray 2 or tray 3 [A].
2. Lift the tray [B] out of the drawer.

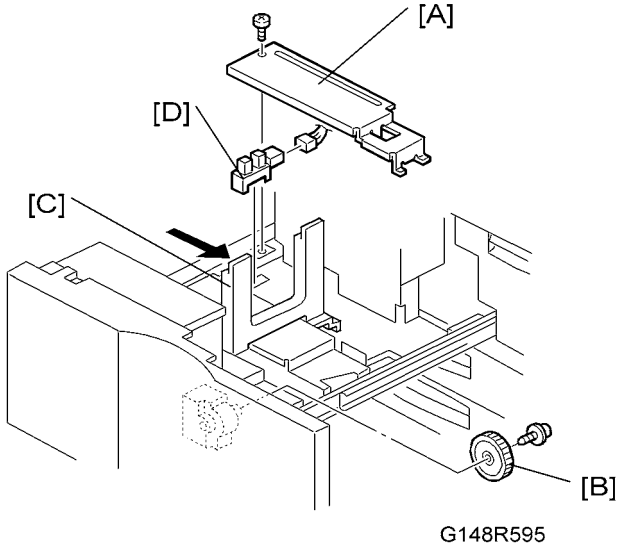
Rear Fence Return Sensor Replacement



G148R594

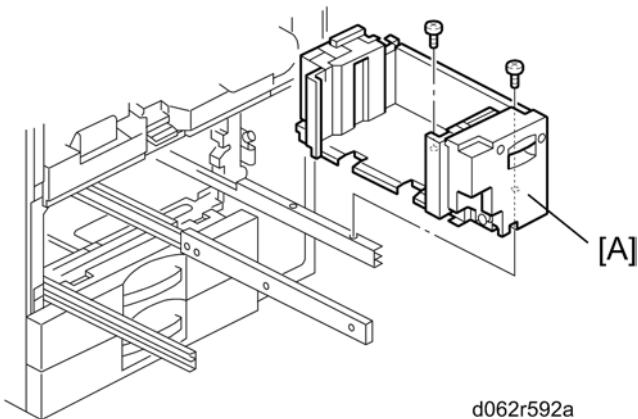
1. Turn off the machine.
2. Pull out the tandem feed tray.
3. Rear bottom plate [A] (🔩 x 1)
4. Return sensor [B] (🔌 x 1).

Rear Fence HP Sensor Replacement

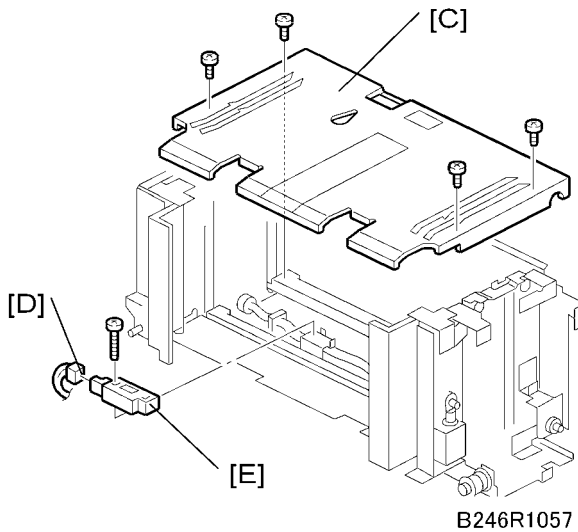


1. Turn off the machine.
2. Pull out the tandem feed tray.
3. Rear bottom plate [A] (1 x 1).
4. Back fence transport gear [B] (1 x 1)
5. Move the back fence [C] to the right.
6. Rear HP sensor [D] (1 x 1)

Tandem Right Tray Paper Sensor Replacement



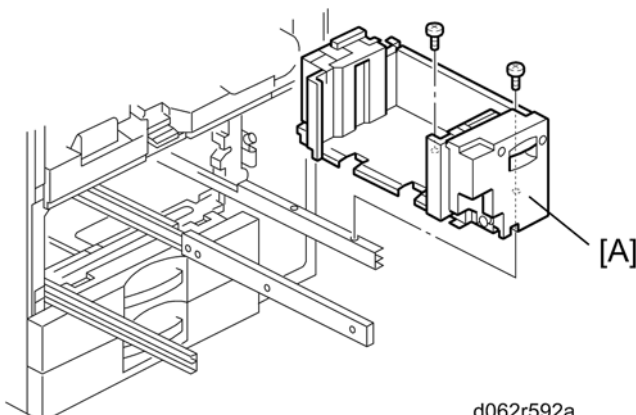
1. Turn off the machine.
2. Remove the right tandem tray (p.258)
3. Inner cover [A] (x 2)
4. Side fences [B] (x 1 each)



5. Bottom plate [C] (x 4)
6. Connector [D] (x 1)
7. Sensor [E] (x 1)

Bottom Plate Lift Wire Replacement

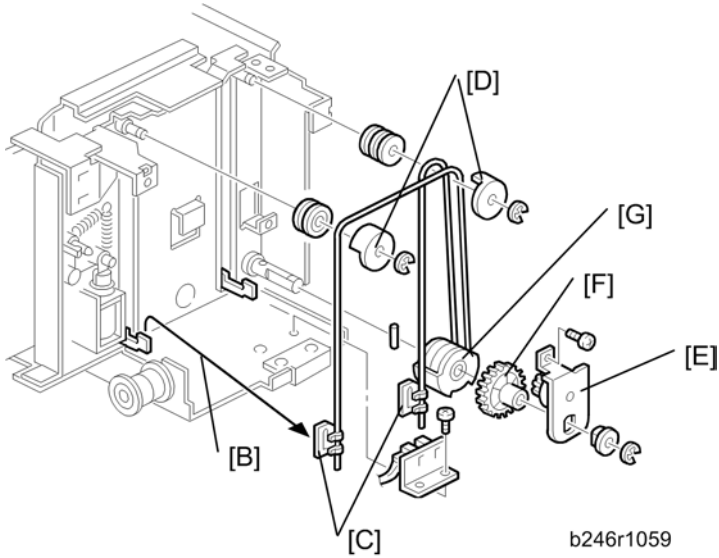
Before replacing the rear bottom plate lift wire, remove the front bottom plate lift wire. The shaft must be removed to replace the lift wire of the bottom plate.



Remove:

- Right tandem tray (see p.258 "Tandem Tray")

1. Remove the inner cover [A] (⚙️ x 2)



2. Remove the left stay [B].

3. Wire stoppers [C]

- Slightly lift the front bottom plate and unhook.

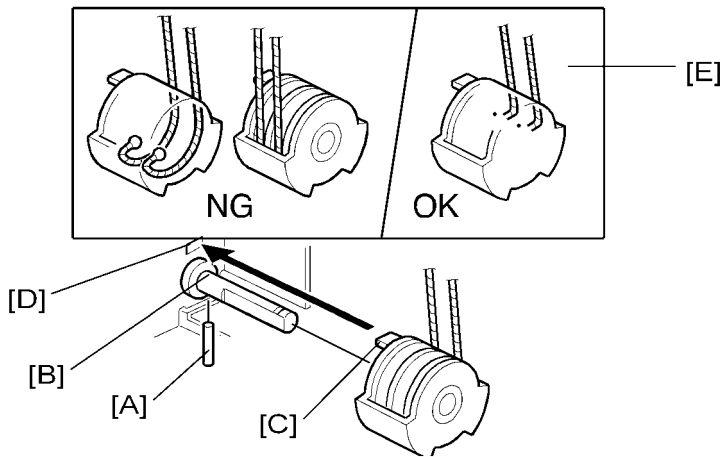
4. Wire covers [D] (Ⓢ x 1 each)

5. Bracket [E] (⚙️ x 1, Ⓢ x 1, bushing x 1)

6. Gear [F]

7. Bottom plate lift wire [G]

Reinstallation

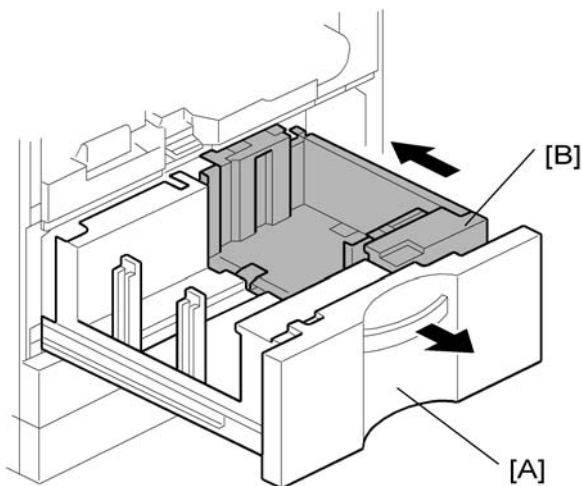


B246R1060

- Set the positioning pin [A] in the hole [B], and set the projection [C] in the hole [D].
- Position the wire as shown [E].
- Do not cross the wires.

Tandem Tray Paper Size Change

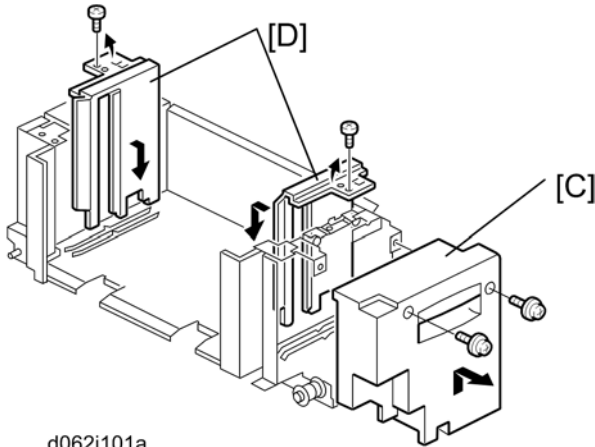
At the factory, this tray is set up for A4 or LT LEF. Only A4 or LT LEF paper can be used for tandem feed.



G148i111c

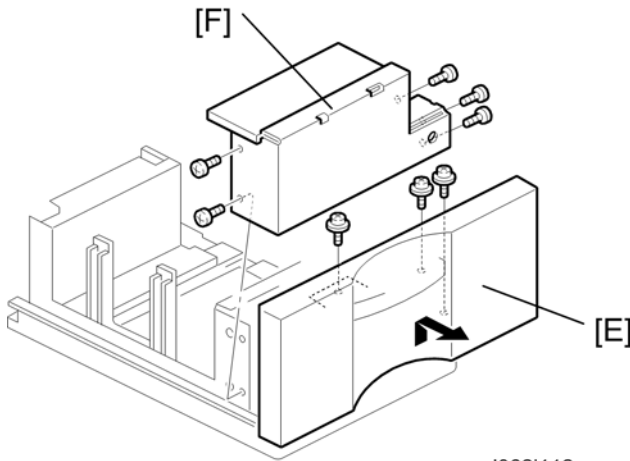
1. Open the front cover.

2. Completely pull out the tandem feed tray [A] to separate the right tandem tray [B] from the left tandem tray.

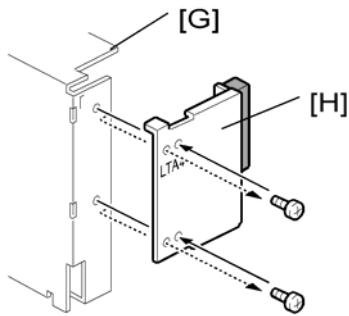


4

3. Remove the right tandem inner cover [C] (⚙️ x 2).
4. Re-position the side fences [D] (⚙️ x 1 each).
 - A4: Outer slot position
 - LT: Inner slot position
5. Re-install the right tandem inner cover.

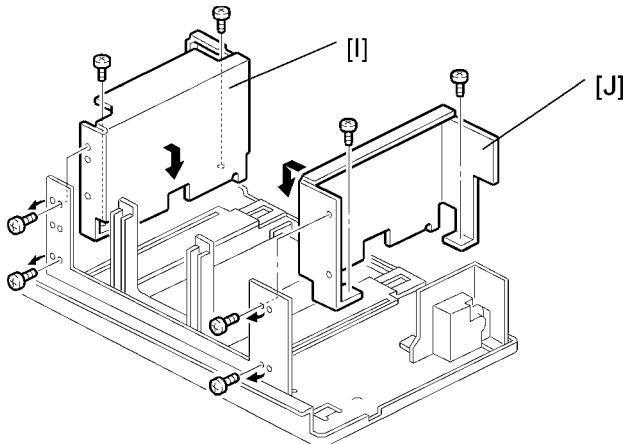


6. Remove the tray cover [E] (⚙️ x 3).
7. Remove the DC motor cover [F] (⚙️ x 5).



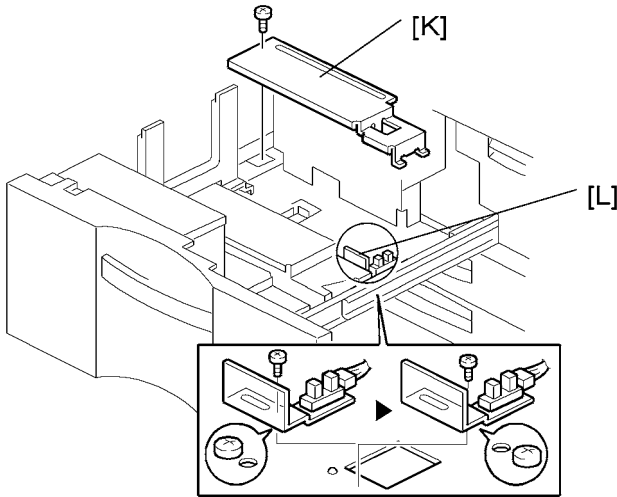
B246R1065

8. Remove the rear side fence [G] (⚙ x 4) and re-position the rear cover [H] (⚙ x 2).



B246R1064

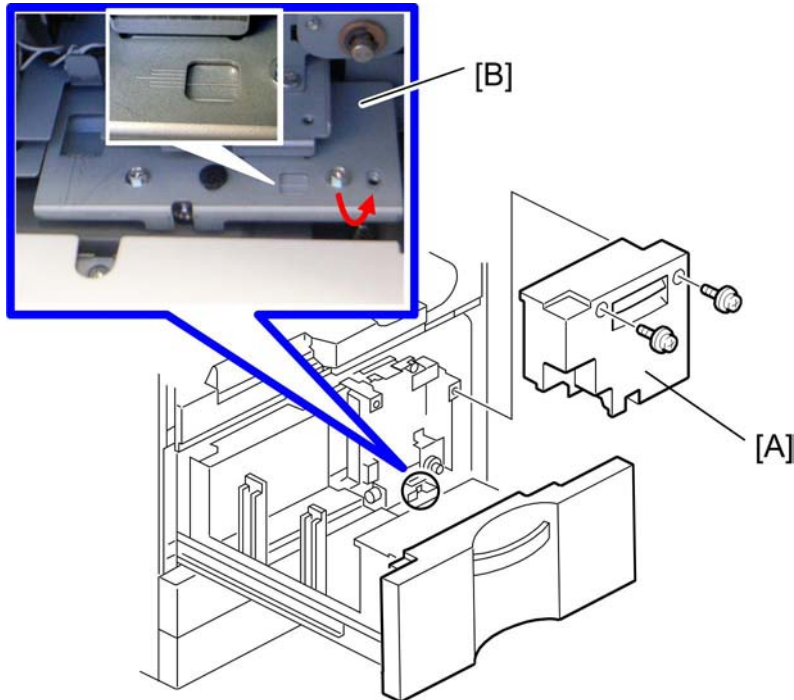
9. Re-position the side fences [I] [J] (⚙ x 4).
- A4: Outer slot position
 - LT: Inner slot position
10. Re-install the DC motor cover and the tray cover.



G148i113c

11. Remove the rear bottom plate [K] (⚙️ x 1).
12. Re-position the return position sensor bracket [L] (⚙️ x 1).
To use the paper tray for A4 size, set the screw in the left hole as shown. (For LT size, the screw should be placed on the right.)
13. Reinstall the rear bottom plate.
14. Input the new paper size into SP5959-001 (Paper Size – Tray 1).
15. Do the printer adjustments. See "Print Image Adjustment" at the end of this section.

Tandem Tray Side Registration



d062r996

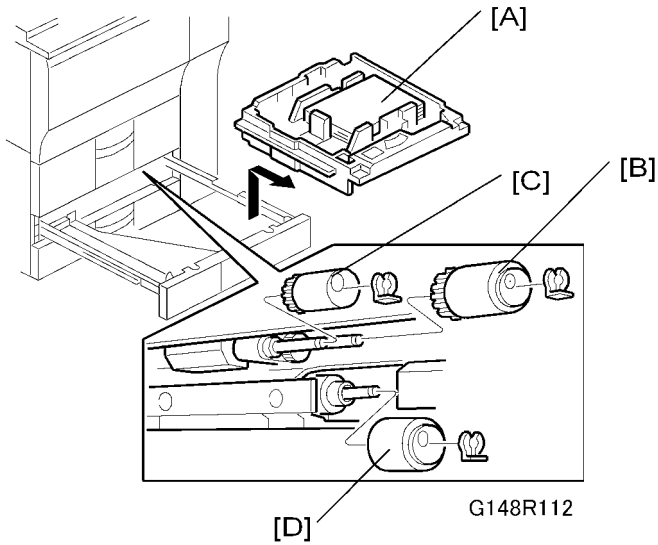
Normally the side registration of the image can be adjusted in the SP mode.

If the punch hole positions are not aligned from a particular feed station, however, you can manually adjust the side registration by changing the tray cover position for that tray, and then adjust the side registration of the image (☞ p.318 "Copy Image Adjustments: Printing/Scanning")

1. Pull out the tray and remove the right inner cover [A] (☞ x 2).
2. Loosen the screws and adjust the position of the plate [B].
 - Adjustment range: 0 ± 2.0 mm adjustment step: 1.0 mm/step

Pick-up, Feed, Separation Roller Replacement

1. Remove the tandem tray or universal tray (☞ p.258 "Paper Tray").



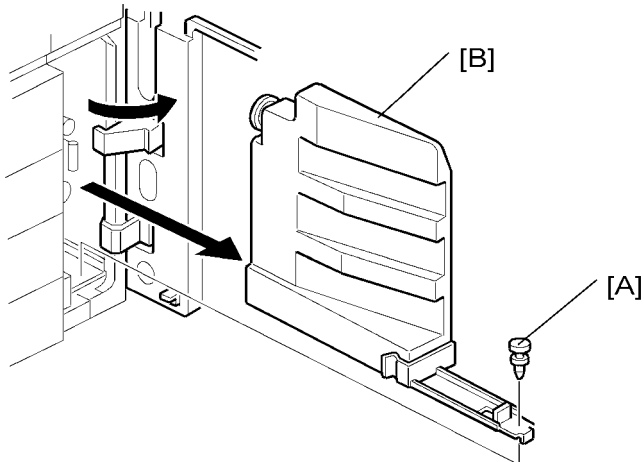
4

2. Feed roller [B] (🌀 x 1)
3. Pick-up roller [C] (🌀 x 1)
4. Separation roller [D] (🌀 x 1)

⬇ **Note**

- The operation of the FRR mechanisms for the tandem tray (Tray 1) and universal trays (Tray 2, Tray 3), are similar. These rollers are interchangeable.
- Do not touch the surface of new rollers during replacement.

Feed Unit

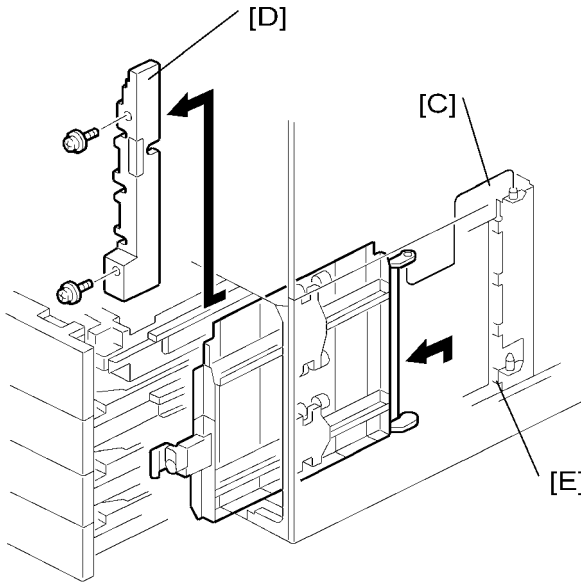


B246R1069

Remove:

- Front door (📄 p.172)
- LCT entrance guide cover and right lower cover (📄 p.277 "Relay Sensor")
- If the LCT is connected, disconnect it and pull it away from the machine.
- Pull out all three trays (do not remove).

1. Nylon peg [A]
2. Toner collection bottle [B]



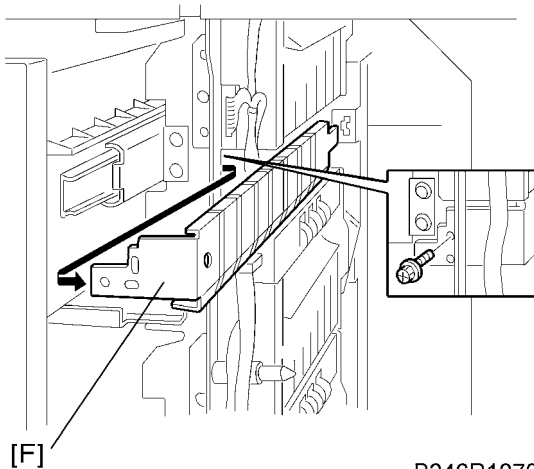
B246R1068

3. Vertical transport guide [C]

4. Inner cover [D] (⚙ x 2)

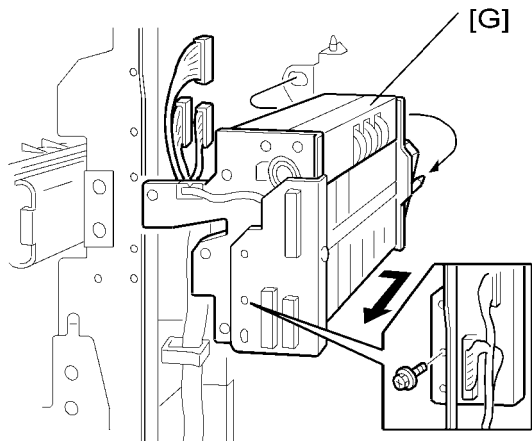
Reinstallation

- When re-installing the vertical transport guide, remove the lower right cover then insert from [E].



B246R1070

5. Guide plate [F] (⚙ x 1) (1st feed unit only)



B246R1078

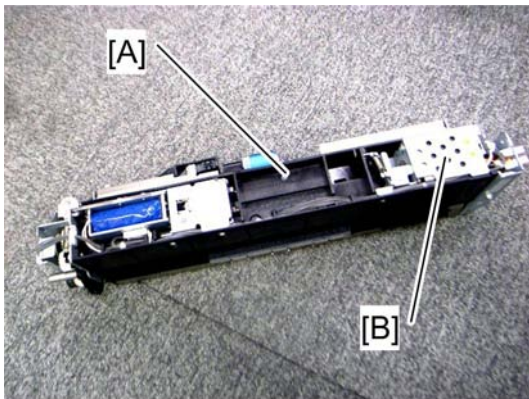
6. Feed unit [G] (⚙️ x 1, 📄 x 3 for D062/D063 or 📄 x 2 for D065/D066)

- Insert your hand from the right and pull the feed unit forward.
- To avoid hitting the unit on the sides of the machine, remove it carefully and slowly.

Paper Feed Motors

D062/D063 have the paper feed motor in each feed unit. However, D065/D066 have the feed motors at the rear of the machine.

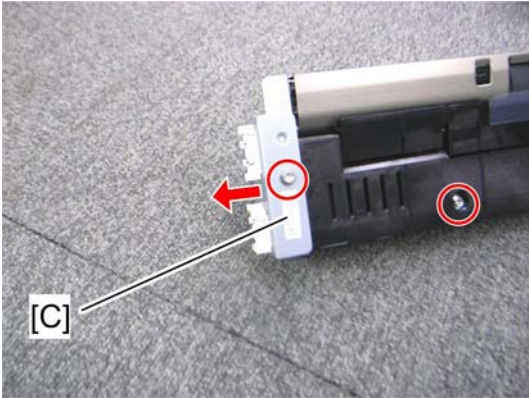
For D062/D063



d062r900

1. Feed unit [A] (📄 p.271 "Feed Unit")

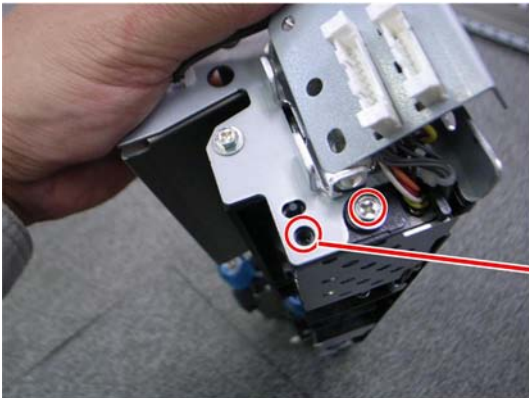
- Paper feed motor [B]



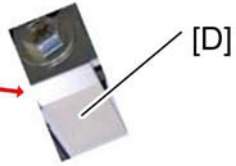
d062r901

4

2. Remove two screws and the connector bracket [C].
 - When removing bracket [C], no connectors need to be disconnected.

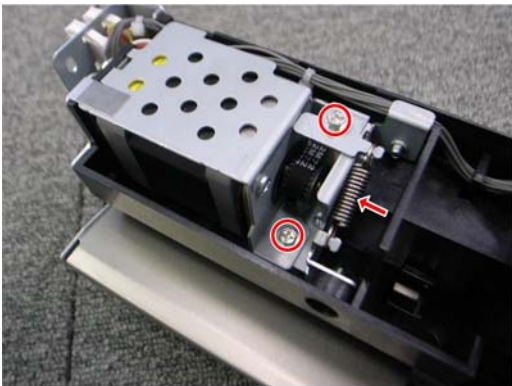


d062r902

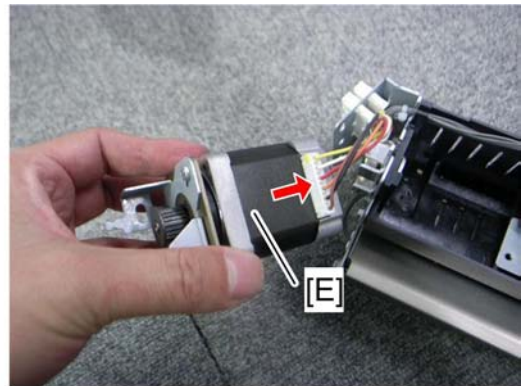


d062r903

3. Remove two screws and the bracket [D].



d062r904



d062r905

4. Remove two screws and a spring, and then remove the paper feed motor [E] (🔧 x 1).

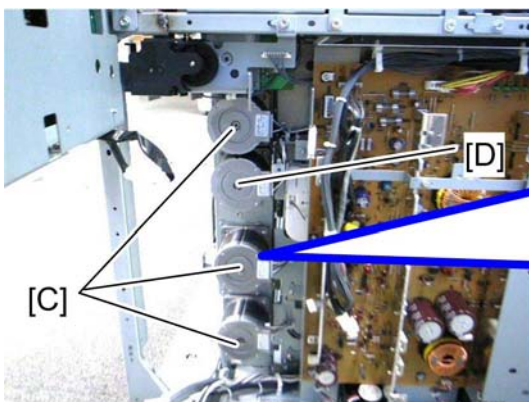
For D065/D066

1. Right lower cover (☞ p.173 "Right Covers")
2. Feed unit (☞ p.271)
 - Remove the feed unit corresponding to the motor which will be removed.



d062r906

3. Remove the right stay [A] (☞ x 4) and bracket [B] (☞ x 7).
4. Open the controller box (☞ p.291 "BCU")
5. PFB bracket (☞ p.294)



d062r907



d062r909

6. Paper feed motors [C] (☞ x 2 each, ☞ x 1).
7. Lower relay motor [D] (☞ x 2, ☞ x 1).

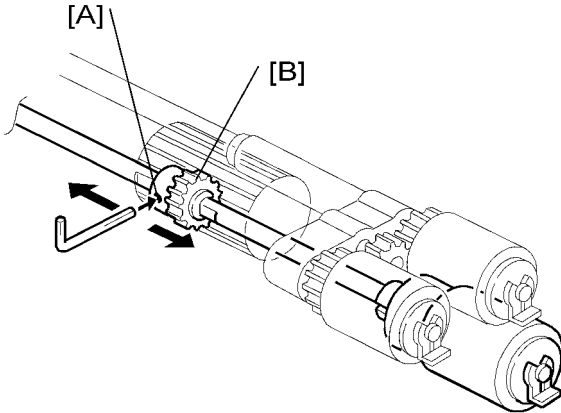
↓ Note

- The positions of the two screws which fasten the paper feed motor are different for each motor.
- Paper feed motor 1: Left upper and right lower.
- Paper feed motor 2 and 3: Right upper and left lower.

Separation Roller Pressure Adjustment

The position of the drive gear for the separation roller can be changed in order to change the amount of pressure exerted by the separation roller. This adjustment can be done:

- When feeding special paper, especially thick paper
- When the customer is experiencing feed problems

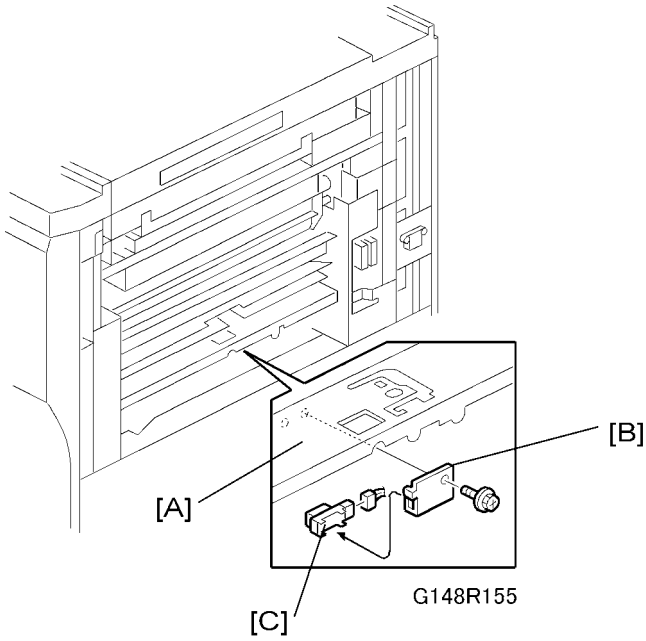


B246R1079

Remove:

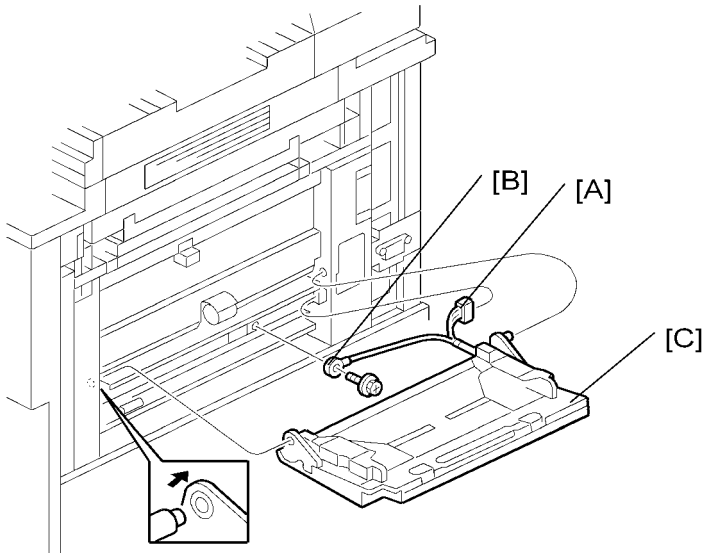
- Feed unit (p.271)
1. Loosen the hex screw [A].
 2. The separation roller gear [B] is positioned at the groove before shipping.
 3. Do one of the following:
 - To adjust for thick paper, move the separation roller gear [B] to the left to decrease the pressure.
 - To correct misfeeds, move the separation roller gear to the right to increase the pressure.

Relay Sensor



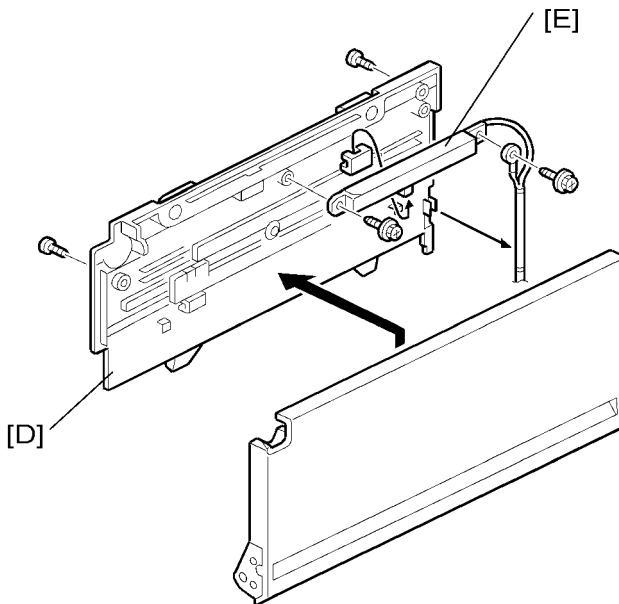
1. Remove the LCT entrance guide cover [A].
2. Relay sensor bracket [B] (🔧 x 1)
3. Relay sensor [C] (🔌 x 1)

By-Pass Paper Size Detection Board



B246R1091

1. Registration inner cover (🔩 x 2)
 - Not shown. This cover is directly below the by-pass tray.
2. Connector [A] (🔌 x 1)
3. Ground wire [B] (🔩 x 1)
4. By-pass tray [C]
 - Disconnect the by-pass tray from the pins on both sides.



B246R1090

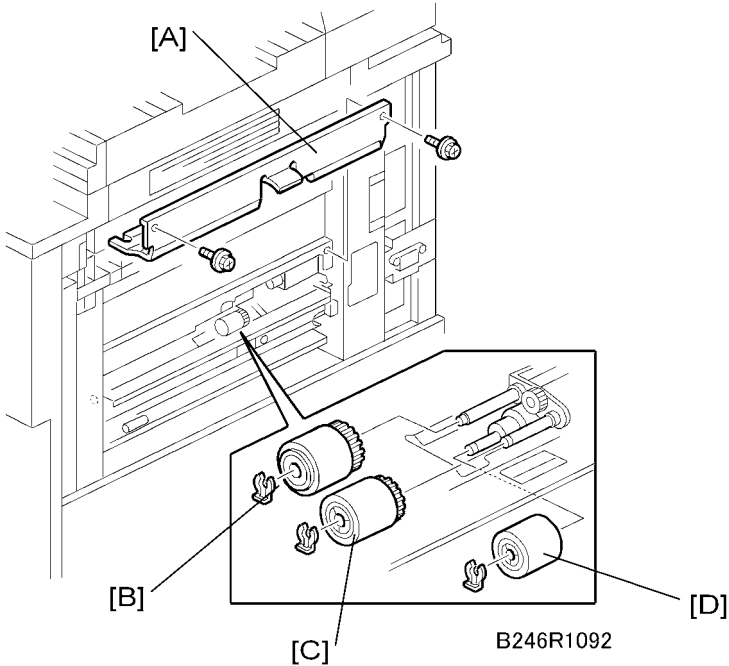
5. By-pass table [D] (🔩 x 2)
6. By-pass paper size detection board [E] (🔩 x 2)

Reinstallation

After installation, execute SP1904 to calibrate the maximum and minimum paper sizes for the side fences:

- SP1904-001 By-pass Tray Paper Size Detection – Minimum Size: Move the side fences to the minimum size, then execute this SP.
- SP1904-002 By-pass Tray Paper Size Detection – Maximum Size: Move the side fences to the maximum size, then execute this SP.

By-Pass Tray Rollers



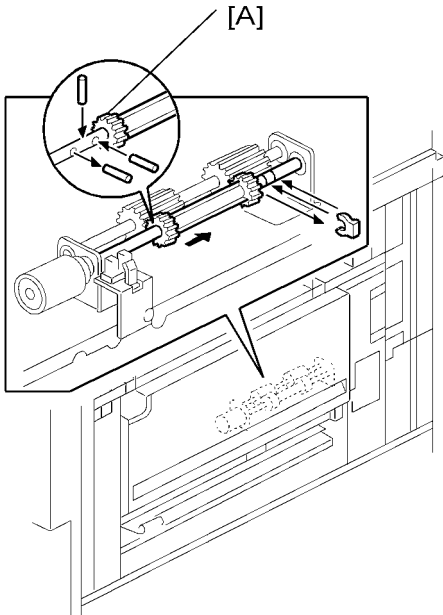
4

1. Right covers (☞ p.173)
2. By-pass tray (☞ p.278 "By-Pass Paper Size Detection Board")
3. By-pass cover [A] (☞ x 2)
4. Feed roller [B] (☞ x 1)
5. Pick-up roller [C] (☞ x 1)
6. Separation roller [D] (☞ x 1)

↓ Note

- Even though the FRR mechanisms for the tandem tray (Tray 1), universal trays (Tray 2, Tray 3) by-pass tray and ADF are similar, the only rollers that are interchangeable are the tandem and universal trays (Trays 1, 2, 3).
- Do not touch the surface of new rollers during replacement.

By-Pass Separation Roller Pressure Adjustment



B246R1093

1. Loosen the separation roller gear [A].

The position of the drive gear for the separation roller can be changed in order to change the amount of pressure exerted by the separation roller. This adjustment can be done:

- When feeding special paper, especially thick paper
- When the customer experiences feed problems

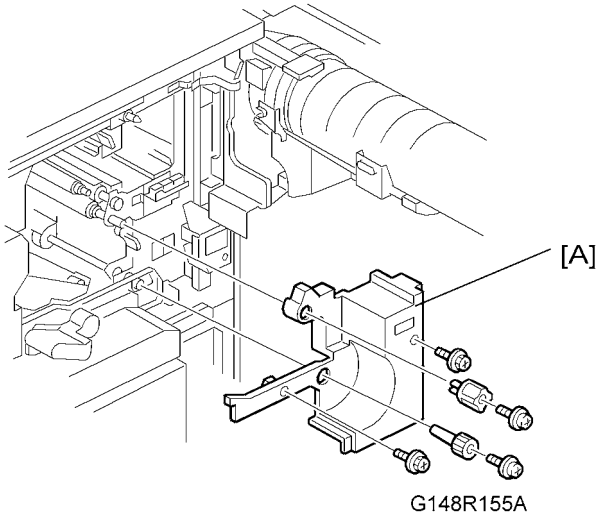
Note

- The separation roller gear is positioned at the groove before shipping.

2. Move the separation roller gear right to increase the pressure to correct misfeeds.

Registration Sensor

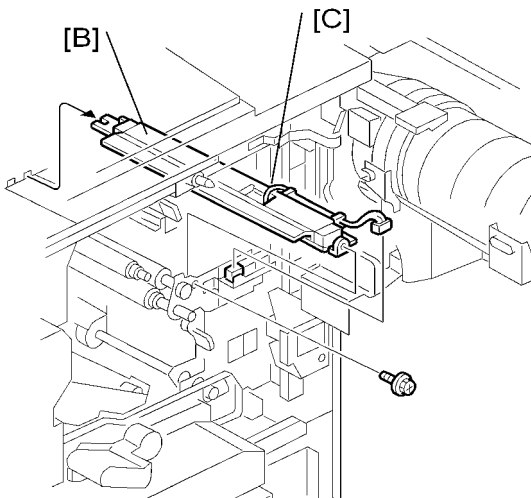
4



1. Inner cover [A] (🔩 x 4)

Remove:

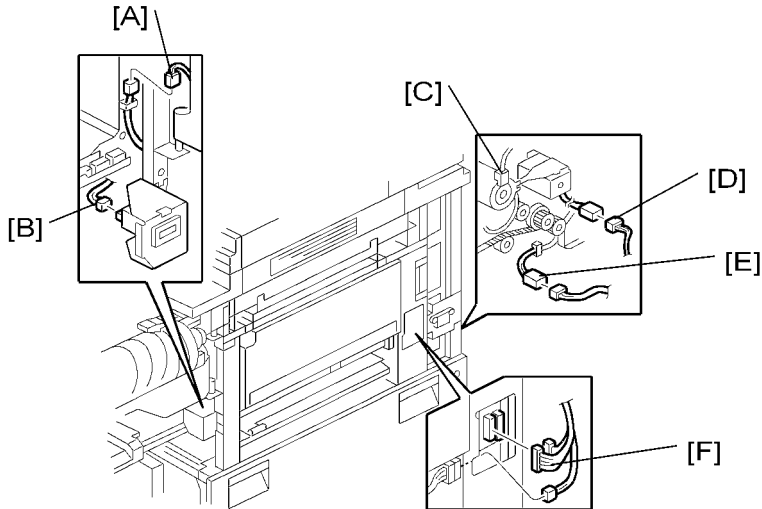
- Development unit (🔧 p.215 "Removal")
- Charge corona unit (🔧 p.197)
- OPC drum unit (🔧 p.199 "OPC Drum Removal")



2. Paper dust removal unit [B] (🔩 x 1, 📏 x 1)

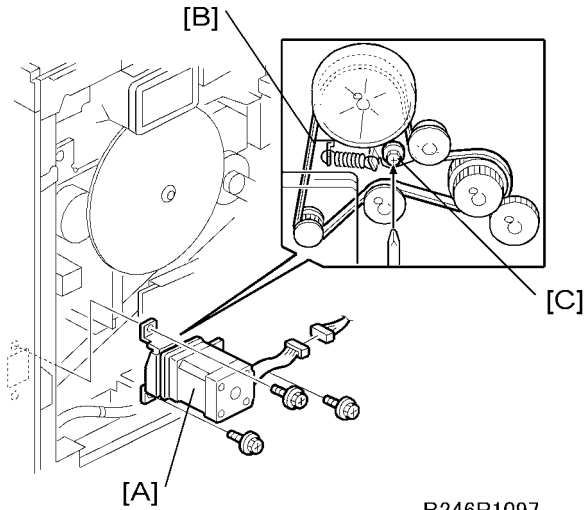
3. Registration sensor [C]

Registration and By-Pass Unit Removal



B246R1096

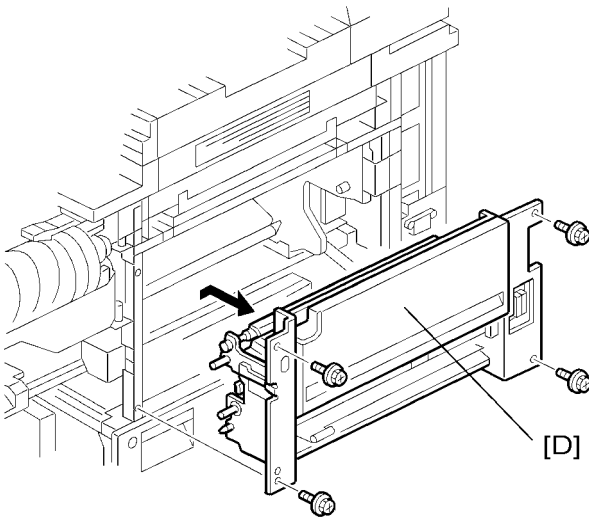
1. Remove the development unit. (☞ p.193 "Development Unit Removal")
2. Remove the inner cover. (☞ x 4)
3. Disconnect the toner bottle holder connector [A] and counter connector [B].
4. Pull out the duplex unit about 10 cm.
 - Confirm that the registration roller is separated from the positioning pin.
5. Remove the right upper cover. (☞ p.173 "Right Covers")
6. Rear upper cover (☞ p.175 "Rear Covers")
7. Disconnect the following connectors:
 - Relay clutch connector [C]
 - Guide plate solenoid connector [D]
 - Guide plate sensor connector [E]
 - By-pass tray unit connectors [F]



B246R1097

8. Remove the by-pass feed motor [A] (⚙️ x 3, 📦 x 1).

- At re-installation, if the tension of the belt [B] is slack, loosen the screw on the tension bracket [C], move the screw to put more tension on the belt, then tighten the screw at the new position.



B246R1098

9. Remove the by-pass unit [D] (⚙️ x 4).

When removing and installing the by-pass unit:

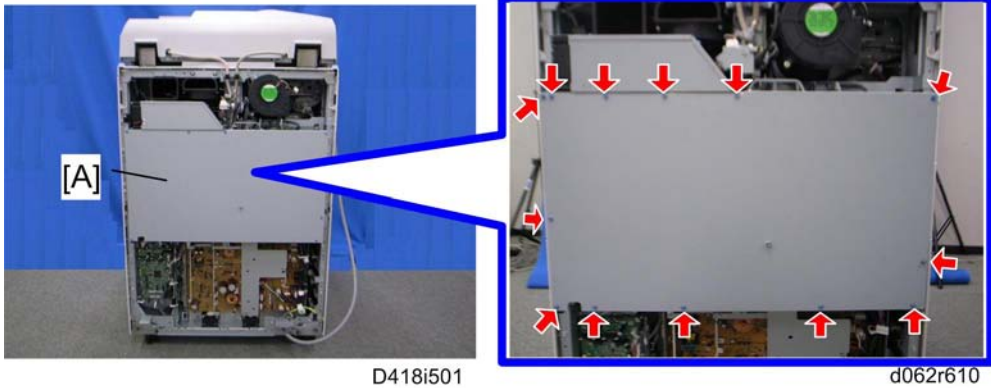
- Make sure that the unit does not catch on any harnesses.
- On re-installation, make sure that no harnesses are pinched between the unit and the machine frame.

- You must re-install the by-pass unit with the duplex unit open.

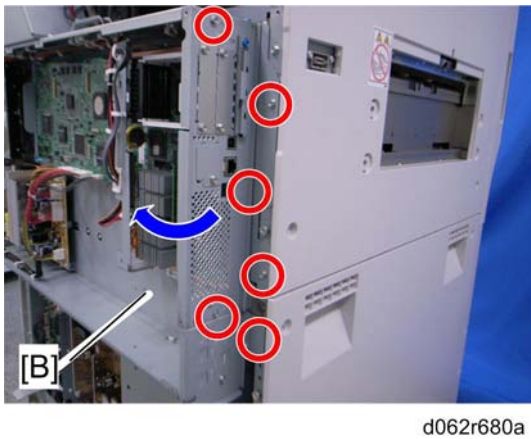
PCBs and HDD

CNT Board (Controller Board)

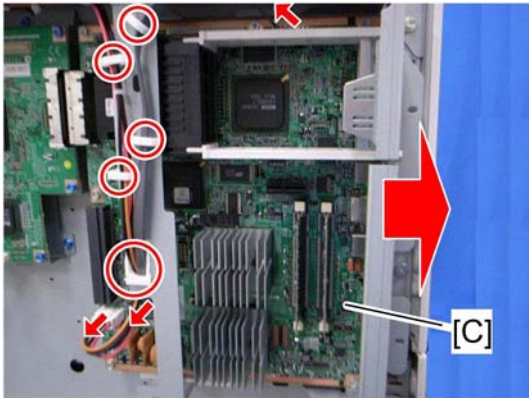
1. Rear upper cover and rear lower cover (🔧 p.175)



2. Controller box cover [A] (🔧 x 13)



3. Open the controller box [B] (🔧 x 6)



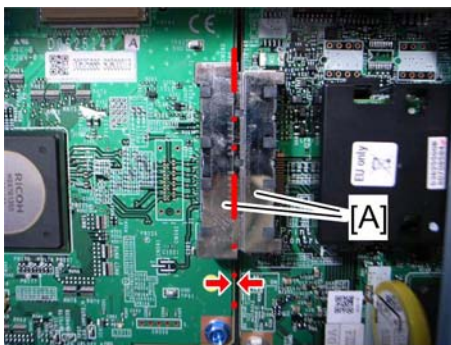
d062r681

4. CNT board [C] (CPU x 3, HDD x 5)

4

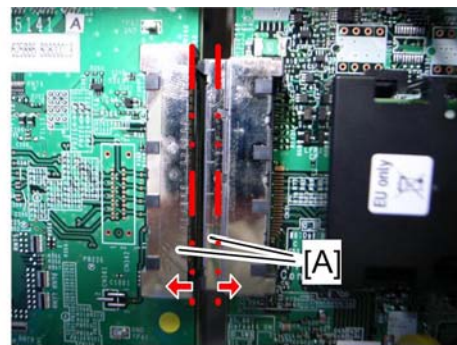
Reinstallation of CNT Board

1. Remove the NVRAM from the old CNT board, and then install it on the new CNT board.
2. Install the new CNT board.



correct

d062r707



Incorrect

d062r708

3. Make sure the relay connectors [A] are connected securely.

↓ Note

- Each model in this series has a different CNT board.
- If you install the wrong CNT board, the operation panel displays SC955-03.
- In this case, replace the CNT with the correct board.

NVRAM

This machine has an electronic counting device that uses software to monitor the number of copies. In addition to the electronic counter of the NVRAM on the CNT board, the machine is also equipped with a mechanical counter.

NVRAM on the BCU

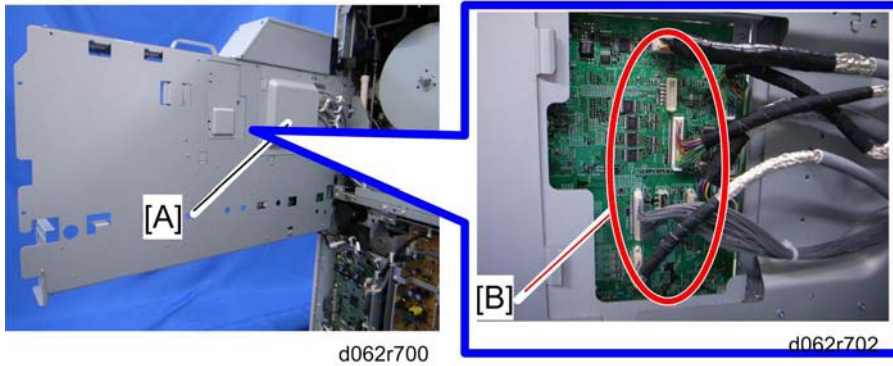
1. Make sure that you have the SMC report (factory settings). This report comes with the machine.
2. Output the SMC data (SP5-990-001) if possible.
3. Turn the main switch off.
4. Install an SD card into SD card slot 2. Then turn the main power on.
5. Copy the NVRAM data to an SD card (SP5-824-001) if possible.
6. Turn off the main switch. Then unplug the power cord.
7. Replace the NVRAM on the BCU and reassemble the machine.
8. Plug in the power cord. Then turn the main switch on.
9. SC195 occurs.
10. 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.

NVRAM on the Controller

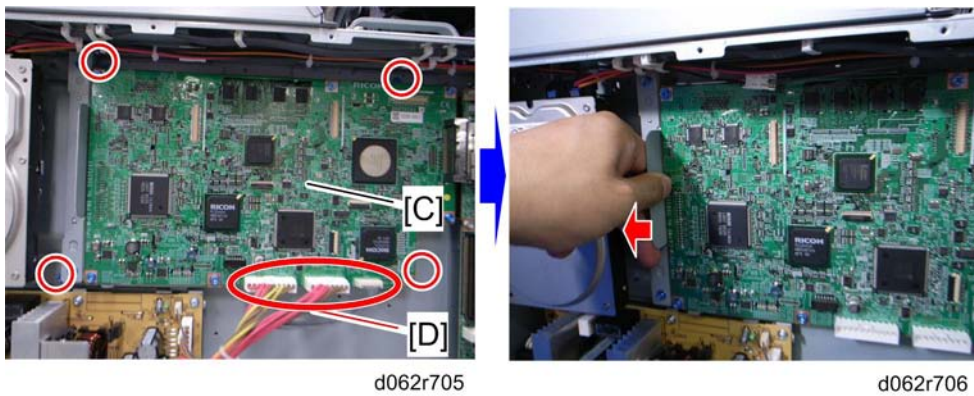
1. Make sure that you have the SMC report (factory settings). This report comes with the machine.
2. Output the SMC data (SP5-990-001) if possible.
3. Turn the main switch off. Then unplug the power cord.
4. Install a New NVRAM on the controller. Then reassemble the machine.
5. Turn the main switch on.
6. SC995-02 occurs and the machine rewrites SP5-811-005 automatically.
7. When the operation panel displays Copy Screen, turn the machine off and on.
8. Do the process control self-check.

IPU

1. Controller box cover (🔧 p.286)



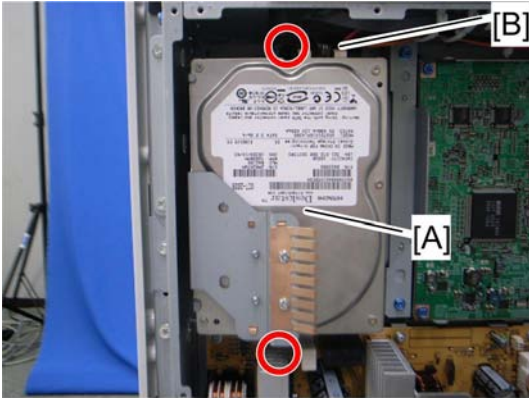
2. Open the controller box (🔧 x 3), then remove the bracket [A] (🔧 x 2)
3. Remove all harnesses [B]



4. IPU [C] (🔧 x 4, 📏 x 3 [D])
5. After removing screws and harnesses, pull the IPU to the left.

HDD

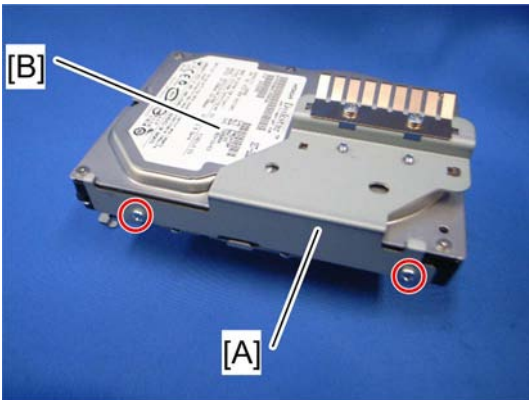
1. Controller box cover (🔧 p.286 "CNT Board (Controller Board)")



d062r710a

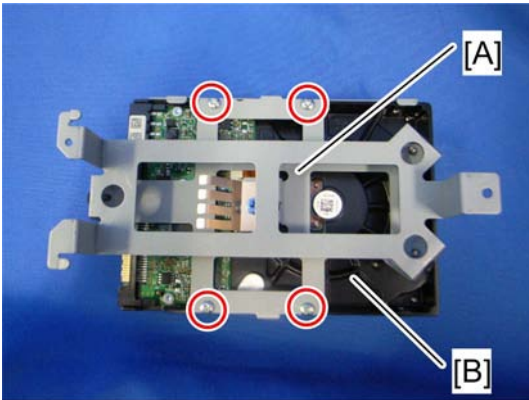
4

- 2. HDD assembly [A] (⚙️ x 2, 🛠️ x 2 [B])



d062r712a

- 3. Remove the bracket [A] (⚙️ x 2) from the HDD assembly [B]



d062r713a

- 4. HDD [B] (⚙️ x 4)

Reinstallation

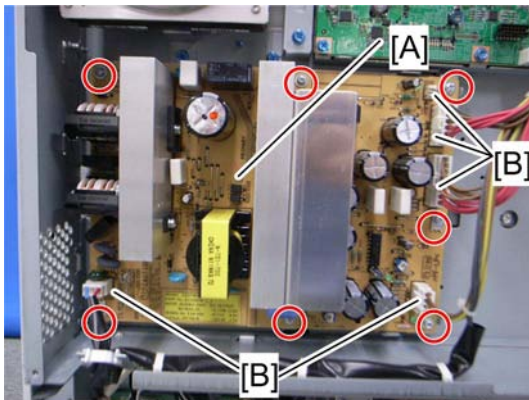
★ Important

- Explain to the customer that the following information stored on the HDD is lost when the HDD is replaced:
- Document server documents
- Custom-made stamps
- Document server address book
- The address book and document server documents (if needed) must be input again.
- If the customer is using the Data Overwrite Security feature, the DOS function must be set up again. For more, see "Installation".
- The browser unit must also be installed again.

1. HDD [B] (🔑 x 4)
2. After reinstalling a HDD, execute SP5832 001 (HDD Format – All) to format the hard disk.
3. Download the browser unit, see "Installation" of Brower Unit Type E.

CTL-PSU

1. Controller box cover (🔑 p.286 "CNT Board (Controller Board)")

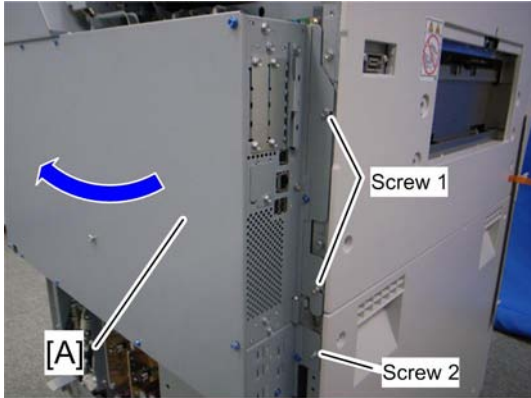


d062r720

2. CTL-PSU [A] (🔑 x 7, 📁 x 5 [B])

BCU

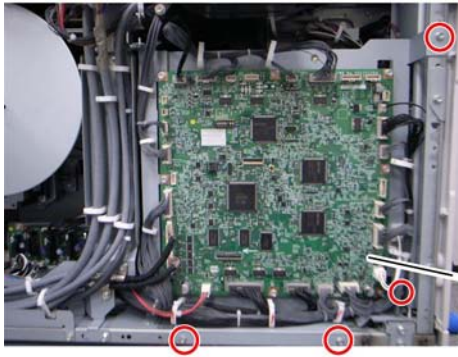
1. Rear upper cover and rear lower cover (🔑 p.175)



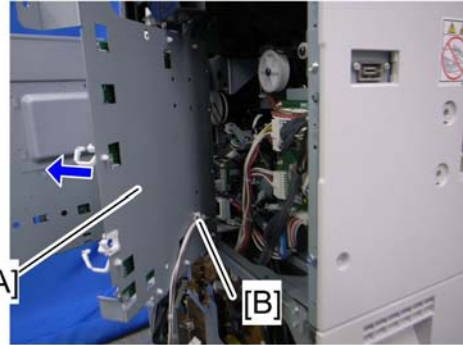
d062r603a

4

- 2. Open the controller box [A] (🔧 x 3)

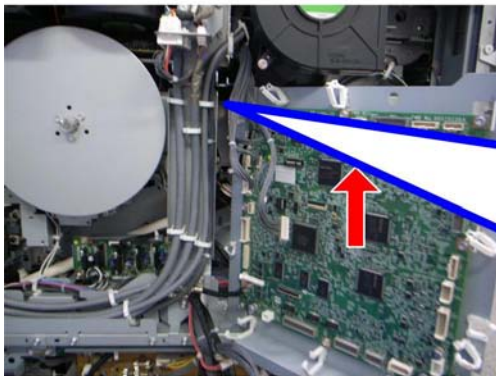


d062r622

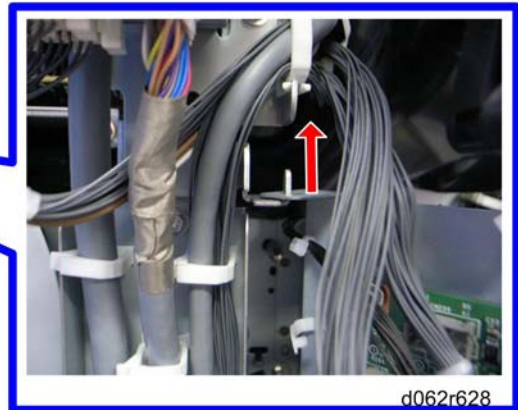


d062r625

- 3. Open the BCU bracket [A] (🔧 x 4, all 🛠️s, all 🛠️s)
- 4. Do not forget to release the clamp [B].



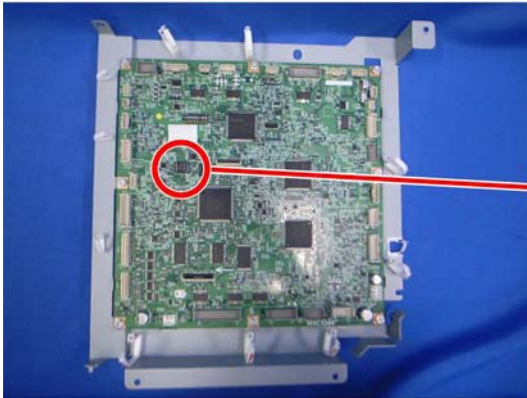
d062r626



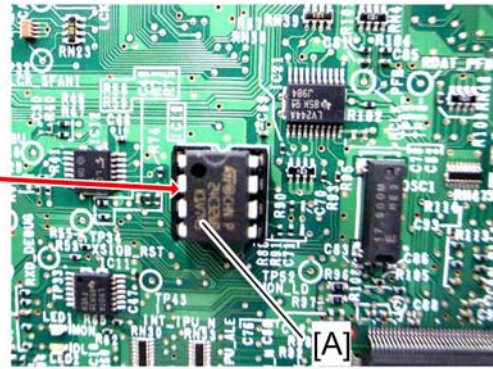
d062r628

- 5. Lift up the BCU bracket and remove it.

Replace the BCU.



d062r629



d062r624

4

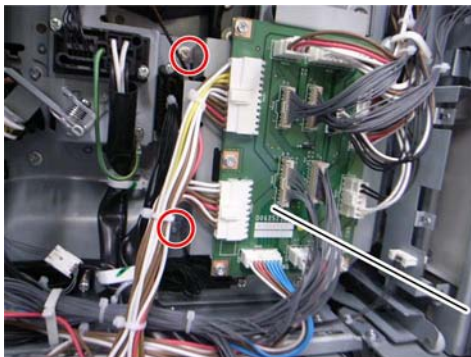
1. Remove the NVRAM from the old BCU, and then install it on the new BCU.
2. Install the BCU.
3. Turn on the machine, so that SC995-01 occurs.
4. Enter the SP mode (SP5-811-004), and then enter the machine code.
5. Exit the SP mode, and then reboot the machine.

↓ Note

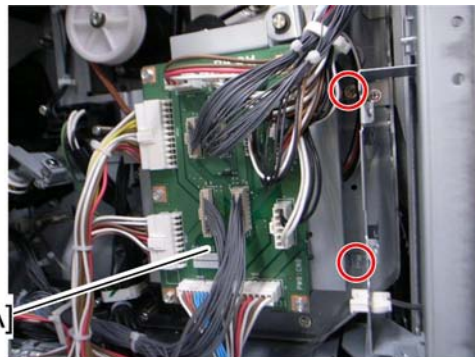
- When installing a new NVRAM, SC195 occurs. In this case, do SP5-811-002 and input the machine code.

CNB

1. Open the BCU bracket (see p.291 "BCU").
 - It is not necessary to release all the clamps and harnesses.



d062r633

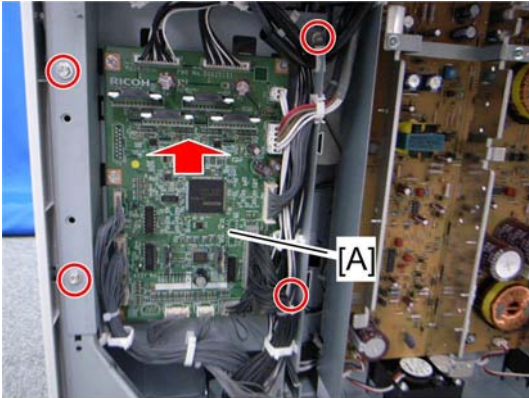


d062r632

- 2. CNB [A] (🔩 x 4, all harnesses)

PFB

- 1. Open the controller box (🔧 p.286 "CNT Board (Controller Board)")

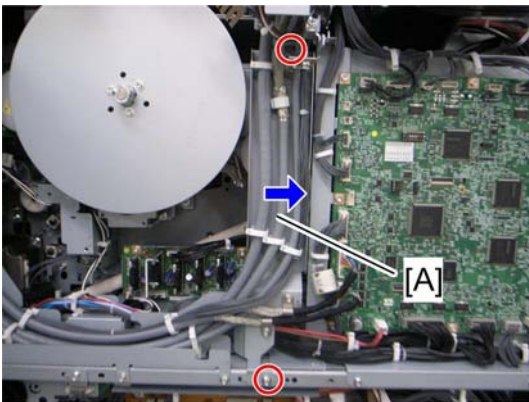


d062r650

- 2. PFB bracket [A] (🔩 x 4, all 📏s)

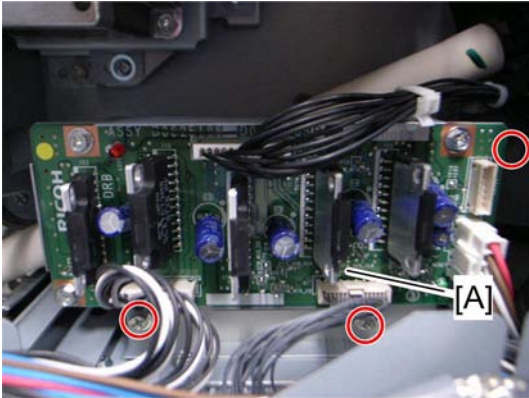
DRB

- 1. Open the controller box (🔧 p.286 "CNT Board (Controller Board)")



d062r641

- 2. Move the stay [A] slightly to the right (🔩 x 2)



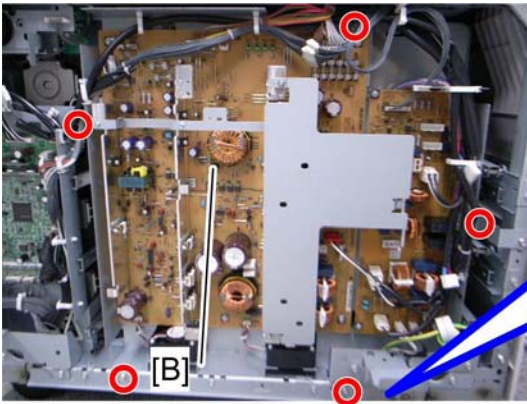
d062r640

3. DRB bracket [A] (🔩 x 3, all 📏s)

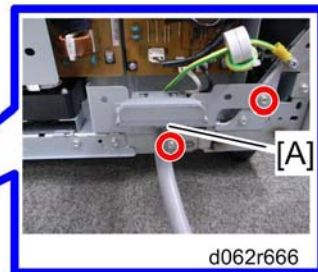
4

PSU

1. Open the controller box (🔧 p.286 "CNT Board (Controller Board)")



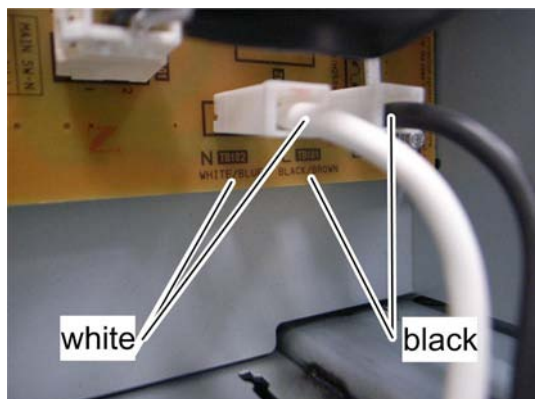
d062r662



d062r666

2. Power cord bracket [A] (🔩 x 2)
3. PSU assembly [B] (🔩 x 5)

Reinstallation of PSU

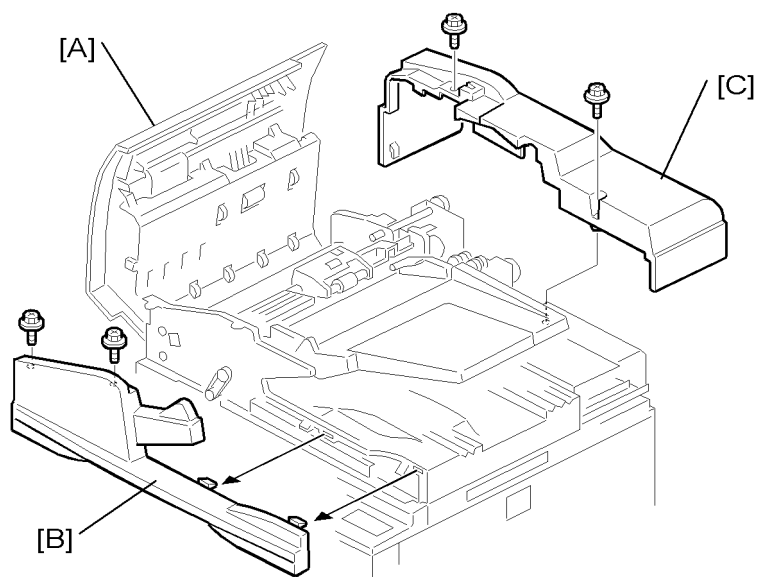


d062r670

Make sure the white cable and black cables are connected correctly.

ADF

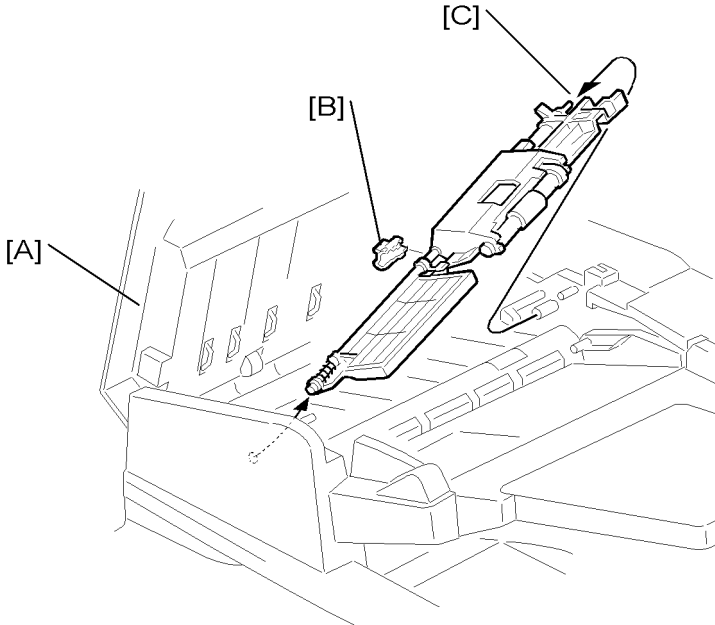
ADF Covers



b246r866

1. Feed cover [A] (⚙️ x 2, all 📌s, ground wire x 1).
2. Front cover [B] (⚙️ x 2)
 - Press down on the tabs to remove.
3. Rear cover [C] (⚙️ x 2)
 - Press down on the tabs to remove.

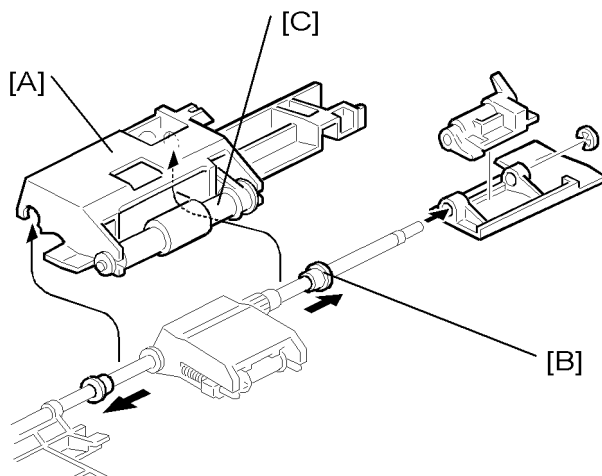
Feed Unit



b246r867

1. Open the feed cover [A].
2. Remove the snap fitting [B].
3. Push the feed unit slowly to the left to disengage the shaft [C] on the right, then lift it out.

Feed Belt and Pick-Up Roller

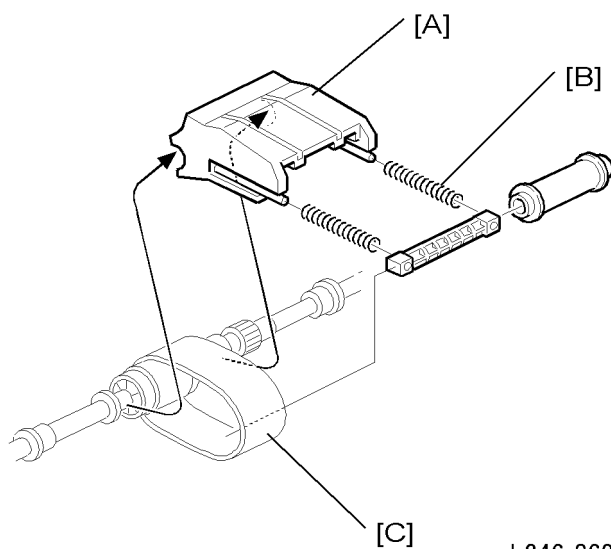


b246r868

1. Remove the feed unit (p.298).
2. Remove the pick-up roller unit [A].
3. Remove the bushings [B].
4. Remove the pick-up roller [C].

Note

- At re-assembly, make sure that the tab on the front guide plate is above the pick-up roller.



b246r869

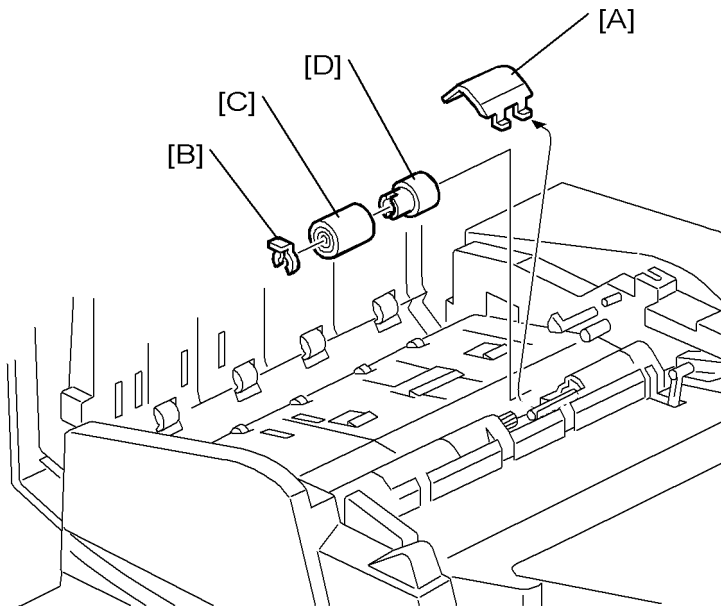
5. Hold the feed belt holder [A] by the left and right sides, then carefully pull it off the bushing. Do not let the springs [B] fall.
6. Remove the feed belt [C].

Note

- When re-assembling, set the pick-up roller springs first, then follow this procedure in reverse.

Separation Roller

4



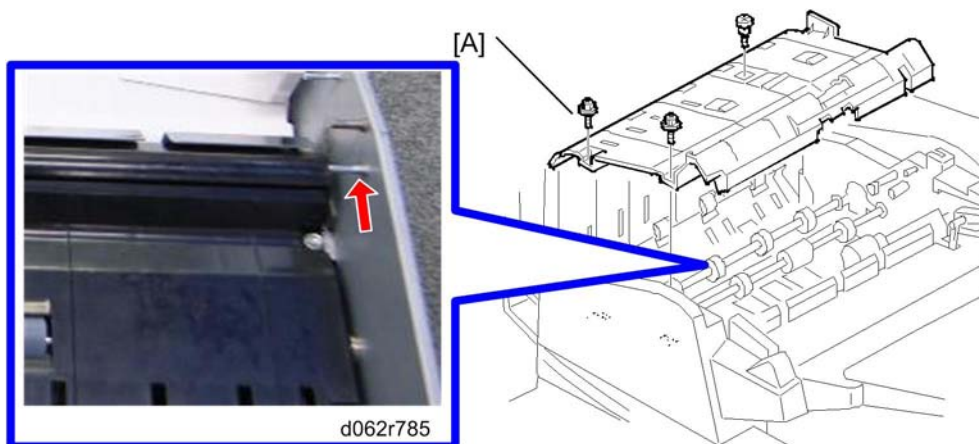
b246r870

1. Open the feed cover.
2. Remove the feed unit (see p.298)
3. Separation roller cover [A]
 - Use the tip of a screwdriver to push up the cover.
4. Clip [B] (x 1)
5. Separation roller [C]
6. Torque limiter clutch [D]

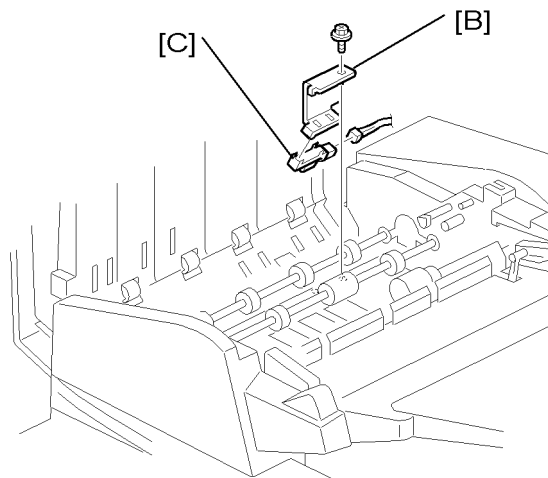
Registration Sensor

1. Open the feed cover.

2. Remove the feed unit (see p.298)

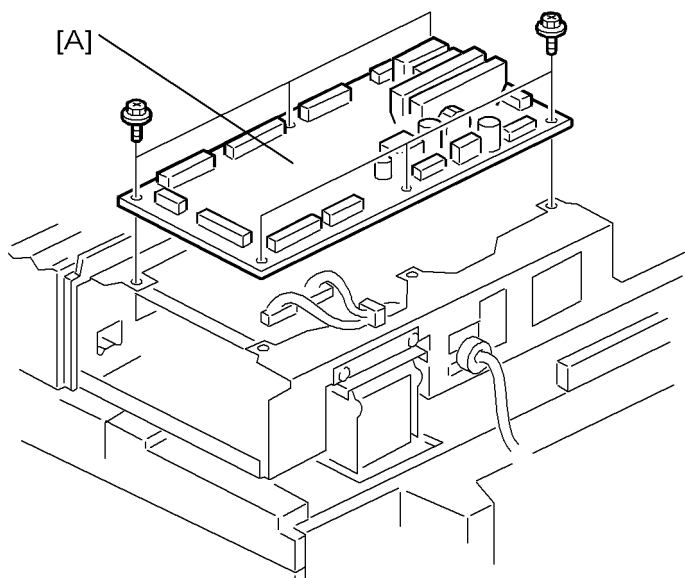


3. Remove the screw indicated above by a red arrow.
4. Guide plate [A] (3 x)



5. Registration sensor bracket [B] (1 x)
6. Registration sensor [C] (1 x)

ADF Control Board

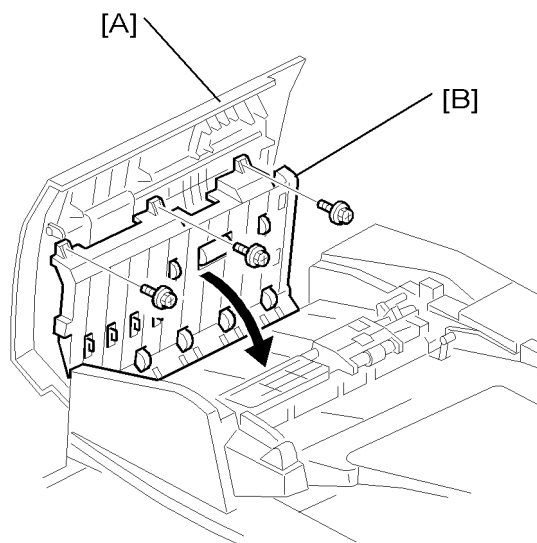


4

b246r873

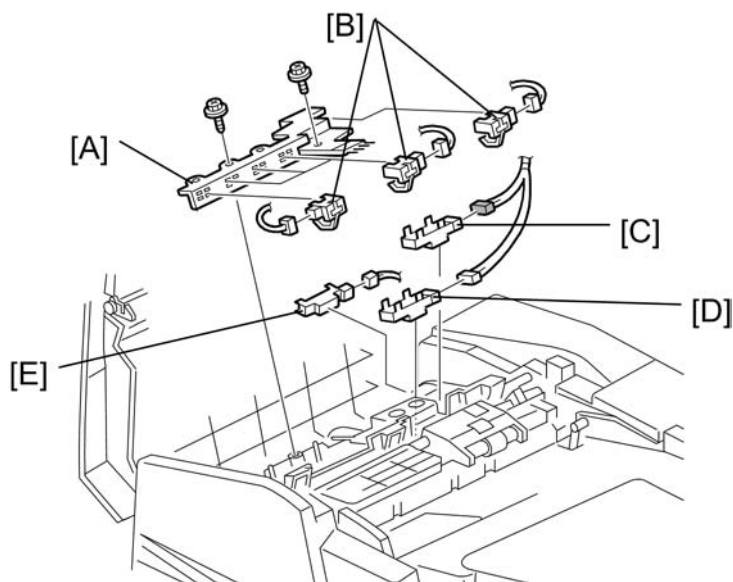
1. ADF rear cover (🔧 p.297)
2. ADF board [A] (🔧 x 4, all 📦s)

Original Width, Interval, Separation and Skew Correction Sensors



b246r874

1. Open the feed cover [A].
2. Guide plate [B] (🔩 x 3)

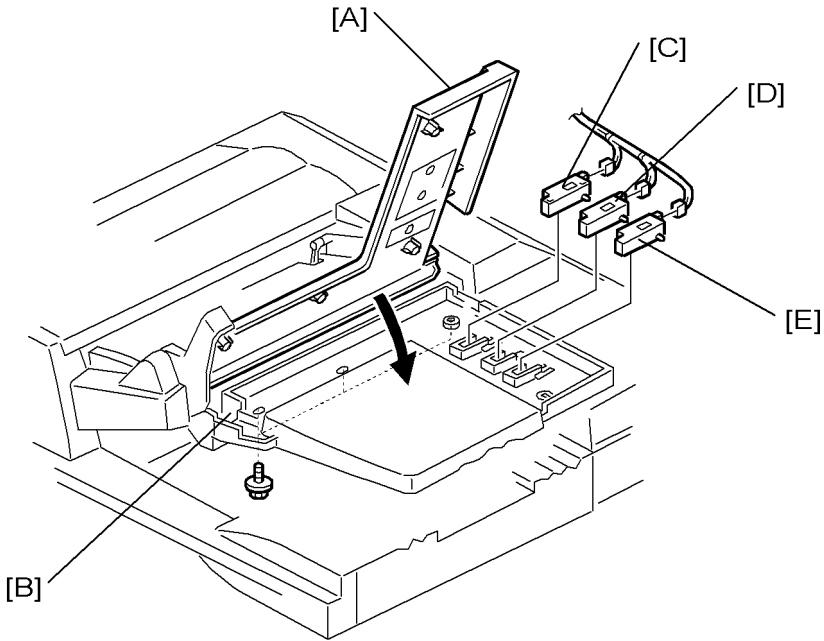


b132r111

3. Width sensor guide plate [A] (🔩 x 2)
4. Original width sensors [B] (x 5, 📏 x 5)

5. Separation sensor [C] (🔌 x 1)
6. Skew correction sensor [D] (🔌 x 1)
7. Interval sensor [E] (🔌 x 1)

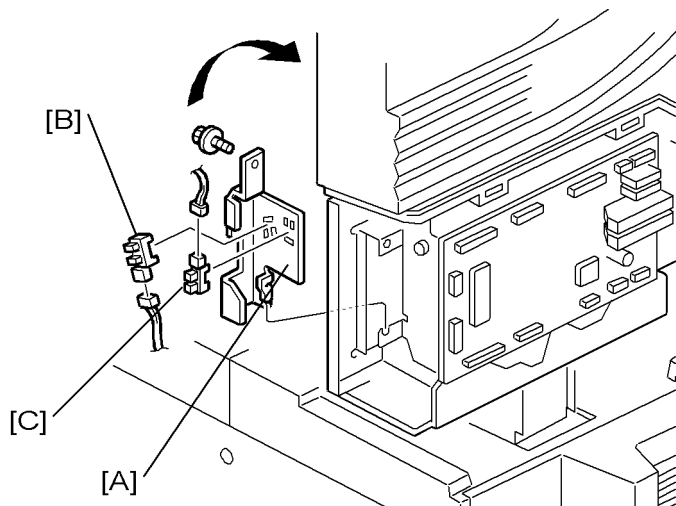
Original Length Sensors



b246r876

1. Open the original tray [A].
2. Lower cover [B] (🔩 x 4)
3. Original length sensor 1 – B5 [C] (🔌 x 1)
4. Original length sensor 2 – A4 [D] (🔌 x 1)
5. Original length sensor 3 – LG [E] (🔌 x 1)

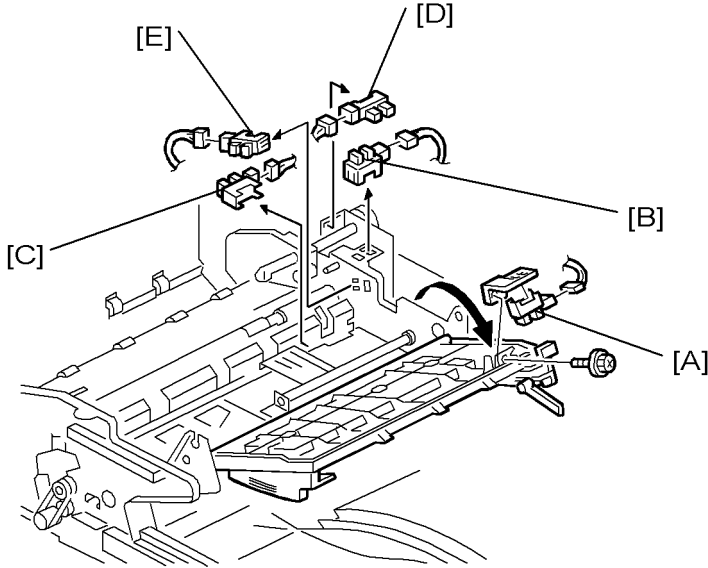
DF Position and APS Sensors



b246r877

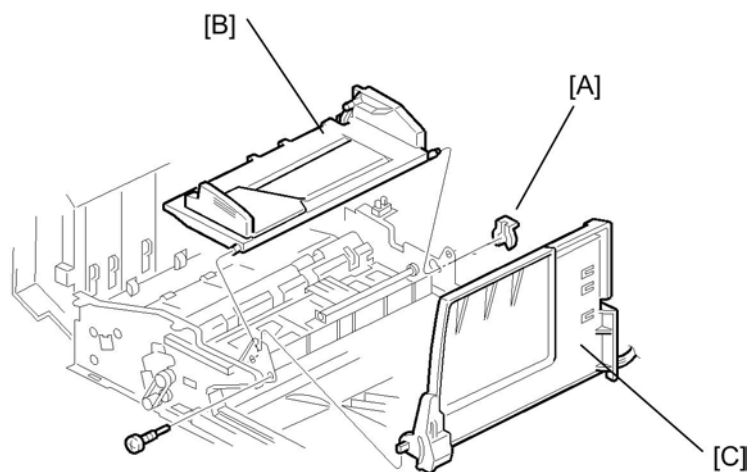
1. Open the ADF.
2. ADF rear cover (p.297)
3. Bracket [A] (x 1)
4. ADF position sensor [B] (x 1)
5. APS sensor [C] (x 1)

Other ADF Sensors



b246r878

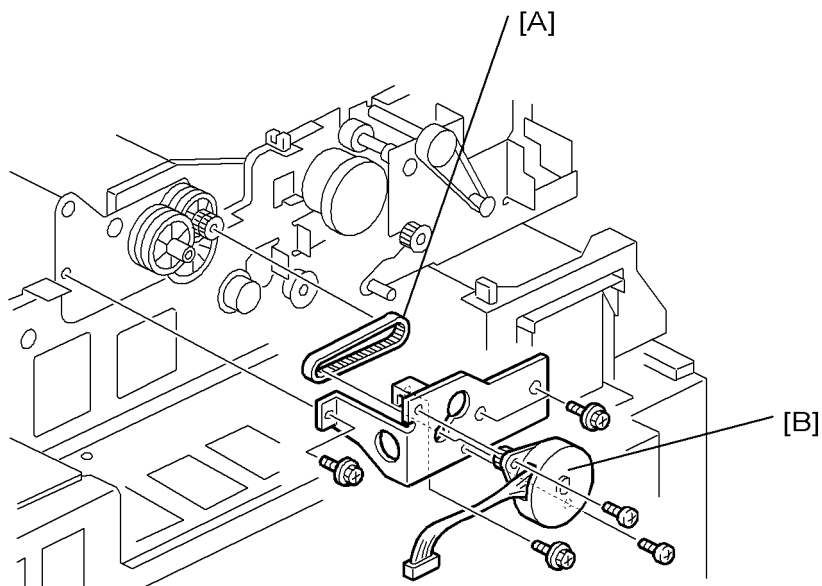
1. Open the feed cover.
2. Open the front door
3. Rear covers (🔩 x 4) (🔧 p.175)
4. Clips [A] (🔩 x 1)
5. Original tray [B] (🔧 x 1)
6. Bottom plate [C] (🔧 x 1)
7. Original set sensor [D] (🔩 x 1)
8. Feed cover sensor [E] (🔧 x 1)



b246r879

9. Bottom plate HP sensor [A] (📎 x 1)
10. Pick-up roller HP sensor [B] (📎 x 1)
11. Bottom plate position sensor [C] (📎 x 1)

Bottom Plate Lift Motor



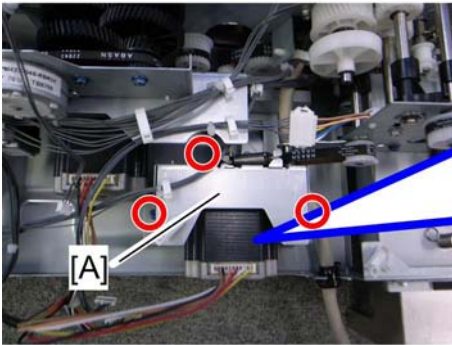
b246r880

1. Open the feed cover.

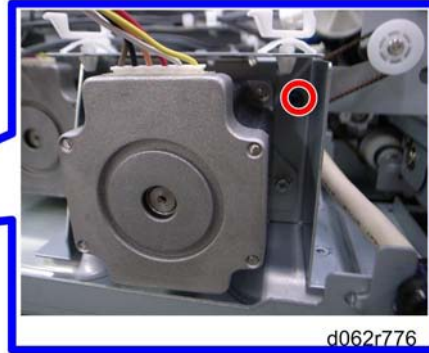
2. Rear cover (🔧 p.175)
3. Bottom plate lift motor bracket [A] (harness x 1, 📏 x 1, 🔧 x 3, timing belt x 1)
4. Bottom plate lift motor [B] (🔧 x 2)

Feed Motor

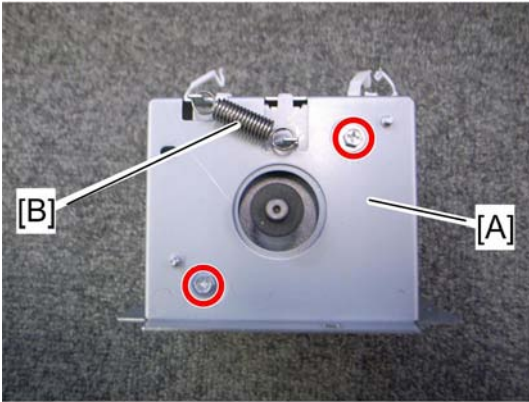
1. Rear cover (🔧 p.175)



d062r775



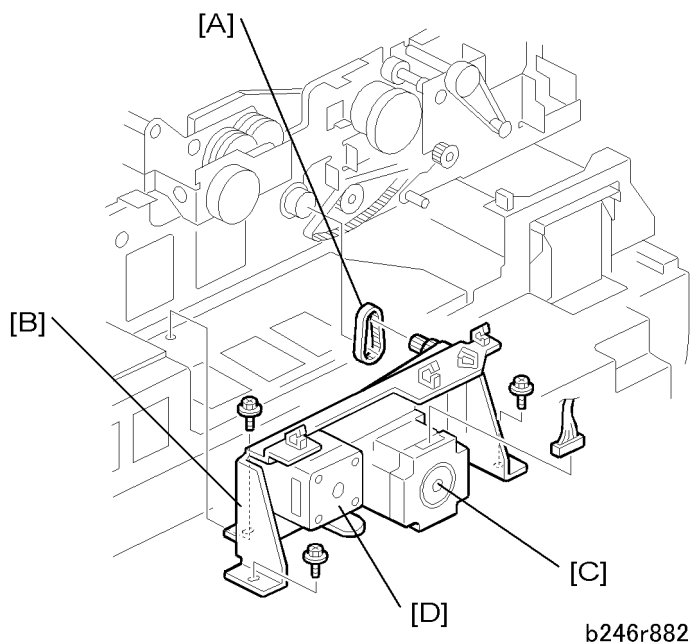
2. Feed motor bracket [A] (🔧 x 4, 📏 x 1, belt x 1)



d062r777

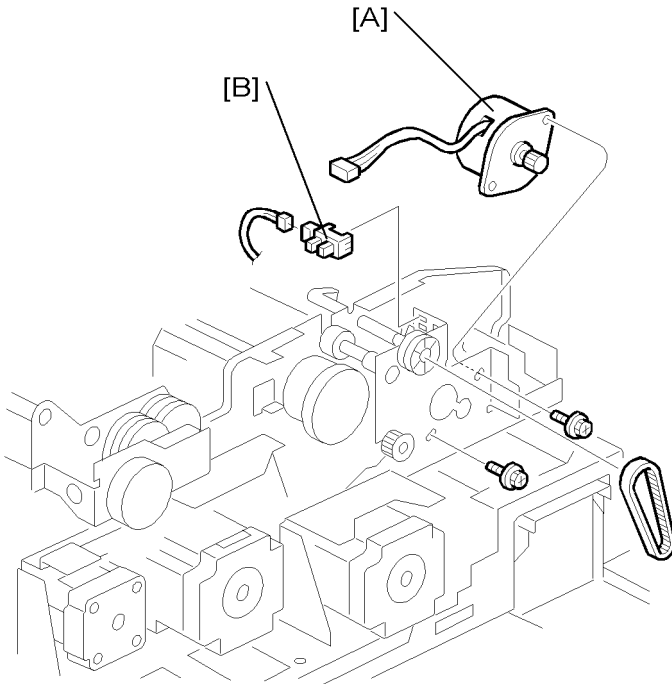
3. Feed motor (🔧 x 2, 📏 [B] x 1)

Exit Motor and Transport Motor



1. Open the feed cover.
2. ADF rear cover (🔧 p.297)
3. Bottom plate lift motor (🔧 p.307)
4. Timing belt [A]
5. Exit/transport motor unit [B] (🔧 x 3, 📦 x 2)
6. Transport motor [C] (🔧 x 2)
7. Exit motor [D] (🔧 x 2)

Pick-Up Roller Motor and HP Sensor



b246r883

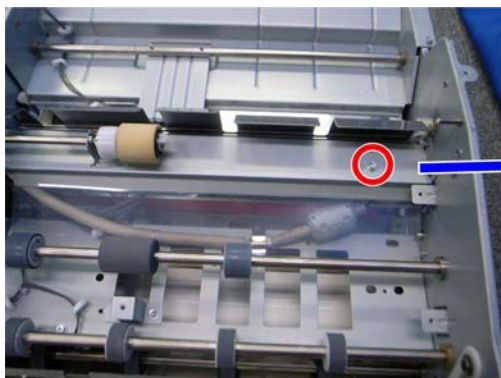
1. Open the feed cover.
2. ADF rear cover (🔧 p.297)
3. Pick-up roller lift motor [A] (🔧 x 2, 📦 x 1)
4. Pick-up roller HP sensor [B] (📦 x 1)

CIS Unit

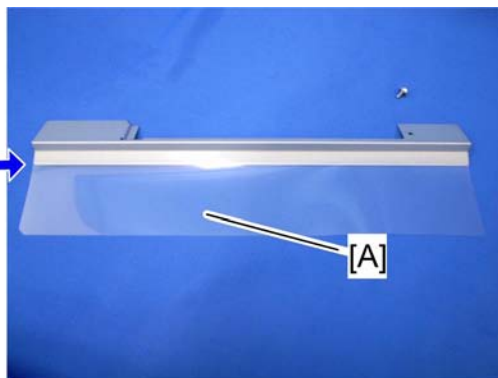
⚠️ WARNING

- Turn off the main power switch and unplug the machine before performing this procedure.

1. Open the feed cover.
2. Feed unit (🔧 p.298)
3. Guide plate (🔧 p.300)

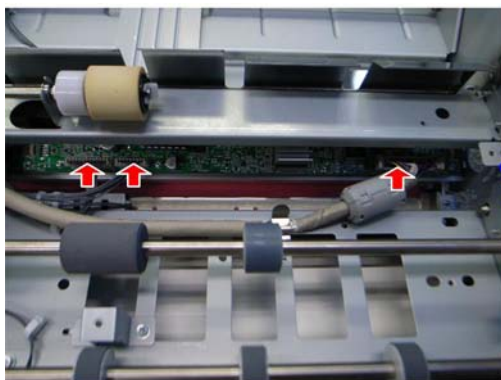


d062r778

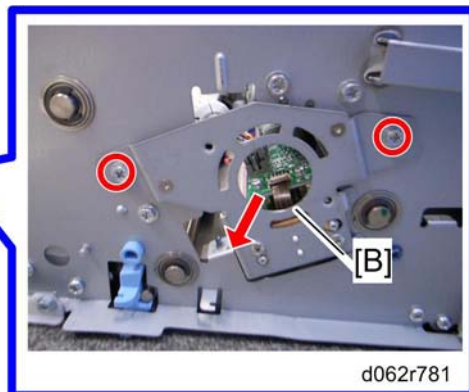


d062r779

4. Guide plate mylar [A] (🔩 x 1)



d062r780

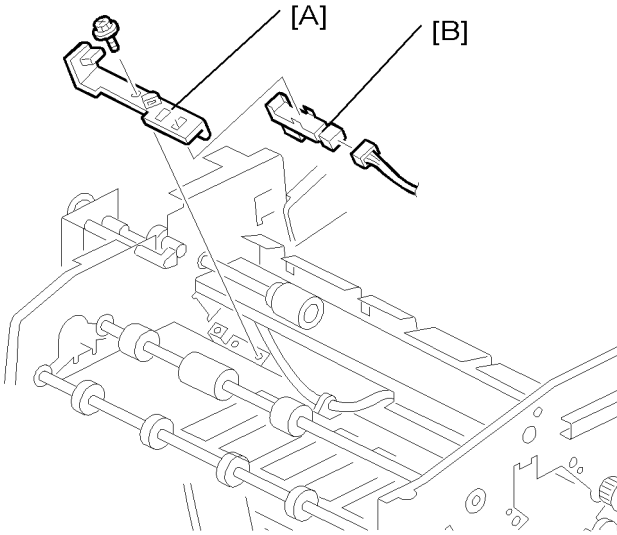


d062r781

5. CIS unit [B] (🔩 x 2, 📁 x 3)

- Pull out the CIS unit carefully to avoid scratching the glass.

ADF Exit Sensor

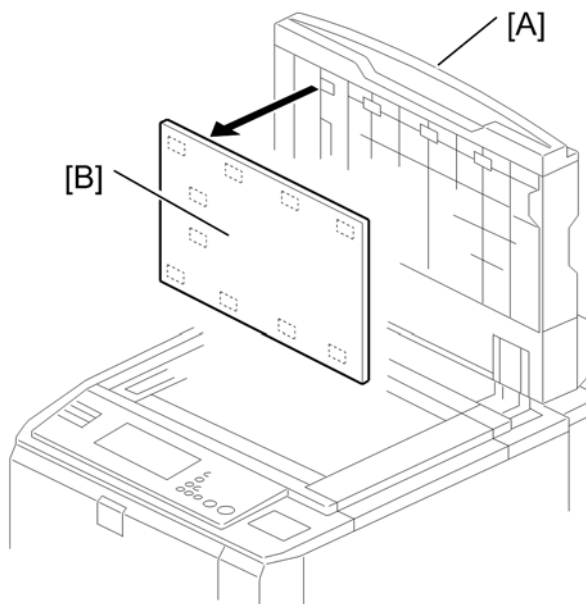


b246r886

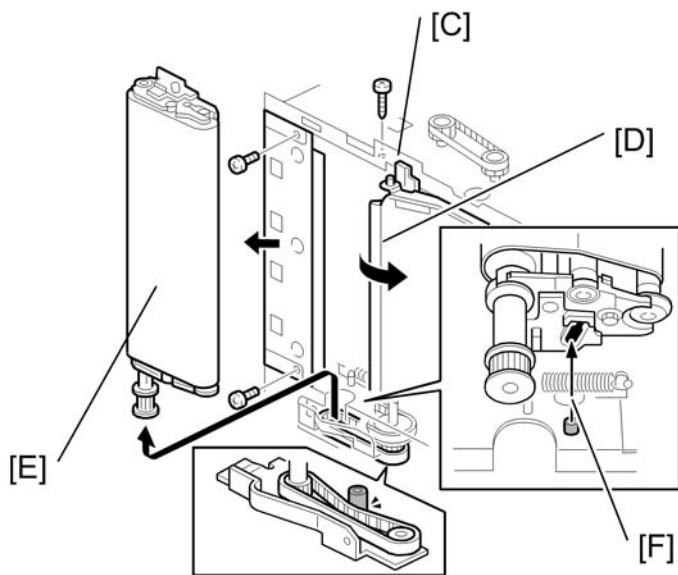
1. CIS Power Supply Board
2. Exit sensor bracket [A] (🔩 x 1)
3. Exit sensor [B] (🔌 x 1)

ADF Transport Belt Assembly

4




B132R102



b132r126

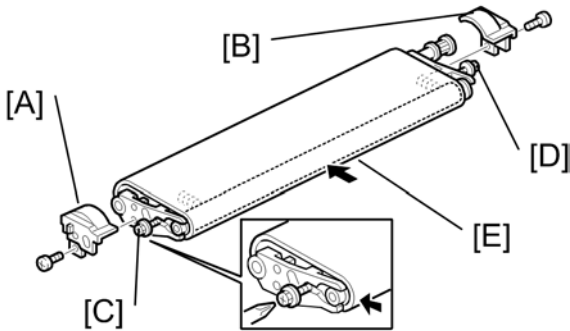
1. Open the ADF.
2. Raise the ADF [A] to the vertical position.
3. Pull off the white cover [B] (Velcro fasteners)

4. Release the stopper pin [C] of the transport guide [D].
5. Remove the transport belt unit [E] (Pin screw  x 1, Timing belt x 1)



Reinstallation

- Attach the timing belt as shown, then insert the pin screw [F] as shown.

Removing the Belt

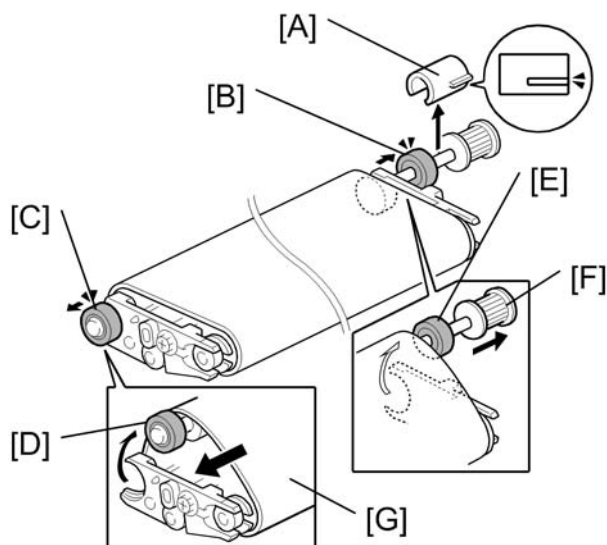


b132r127

1. Remove the front plastic cover [A] ( x 1)
2. Remove the rear plastic cover [B] ( x 1)
3. Loosen front lock screw [C]. Do not remove.
4. Loosen rear lock screw [D]. Do not remove. This releases the spring-loaded tension on the belt.
5. Grip the roller in the center [E], then squeeze the belt to bring the rollers together.
6. While squeezing the belt and rollers together in the center, tighten screws [C] and [D]. This compresses the spring and releases tension on the belt.

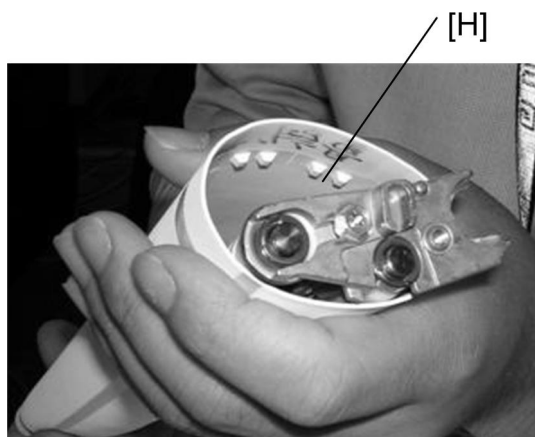
Important: To avoid stripping the threads of the screws, do not apply excessive torque to these screws!

7. Release the belt and make sure that the belt is loose and that the rollers do not move. Repeat Steps 5 and 6 if the rollers expand and tighten the belt.



b132r139

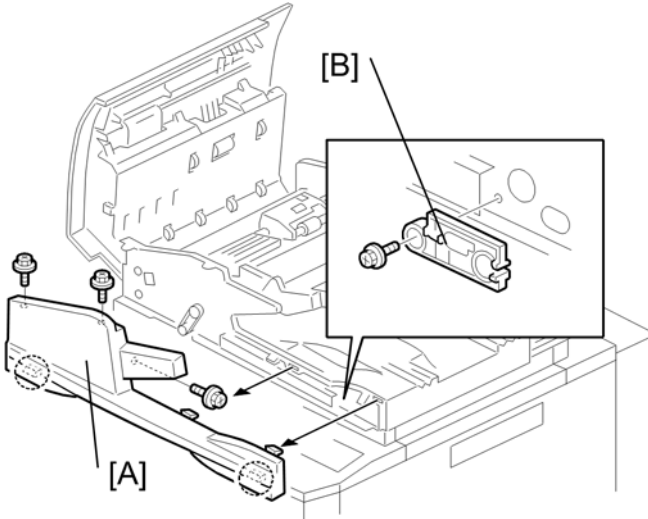
8. Remove the Teflon sleeve [A].
9. Push the rear shaft bearing [B] out of its bracket.
10. Push the front shaft bearing [C] out of its bracket.
11. Push the front end of the shaft [D] over the top of the bracket.
12. Push the rear end of the shaft [E] over the top of the bracket.
13. Pull the shaft [F] out of the belt.
14. Pull the belt [G] toward the front to remove it.
15. Slide the new belt over the assembly.
16. Insert the shaft [F] into the new belt, snap the shaft into its brackets, and push in the shaft bearings.



OrgB536

17. Make sure that studs on the underside of the belt [H] are aligned with the grooves in the Teflon rollers on each end of the shaft below.

Reinstalling the Belt

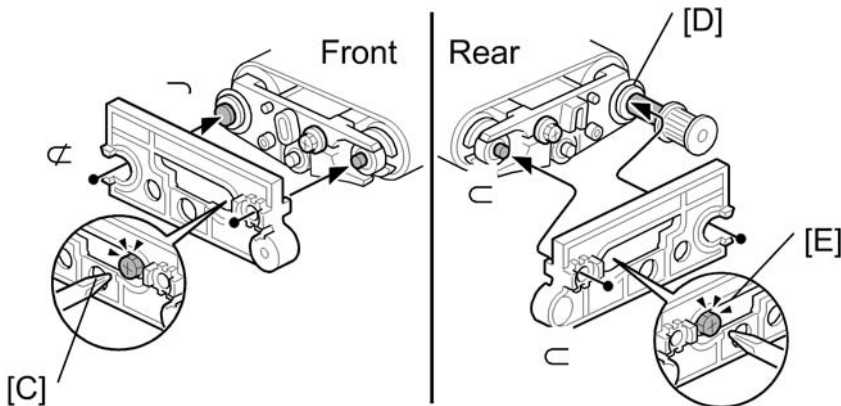


B132R104A

1. Remove the ADF front cover [A]
2. Take out the special tool [B].

Note

- The special tool [B] is attached to the front side plate. It is used to adjust the tension on the belt on both ends of the shaft.



B132R140

3. Fit the special tool onto the front (see "FRONT" in the above diagram).

- Slowly loosen the front lock screw [C] until you see the tip of the shaft ❶ aligned with the hole ❷, then tighten the screw.

★ Important

- To avoid stripping the threads of the screws, do not apply excessive torque.

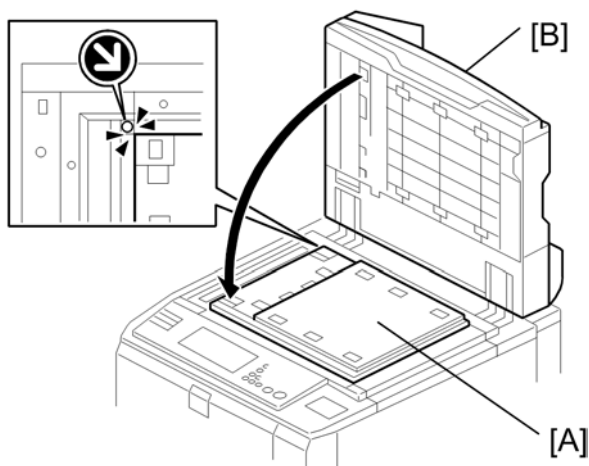
- Remove the special tool and fit it onto the rear (see "REAR" in the above diagram).

↓ Note

- If the Teflon sleeve has been reattached at [D], remove it. Do not reattach the sleeve until after adjusting the belt tension. (The special tool does not fit over the rear end with the Teflon sleeve attached.)

- Slowly loosen the rear lock screw [E] until you see the tip of the shaft ❸ aligned with the hole ❹, then tighten the screw.
- Re-install the Teflon sleeve.
- Re-install the front and rear plastic cover.
- Reinstall the transport belt assembly in the ADF.

Reattaching the White Cover



b132r103

- With its white side down, set the cover [A] on the exposure glass.
- Make sure the upper left corner is aligned with the arrow at the corner of the exposure glass.
- Close the ADF [B] on top of the cover.

Copy Image Adjustments: Printing/Scanning

These adjustments must be performed after replacing any of the following parts:

- Scanner wires
- Lens block
- Scanner motor
- Polygon motor
- Tandem tray side fences
- Memory All Clear

4

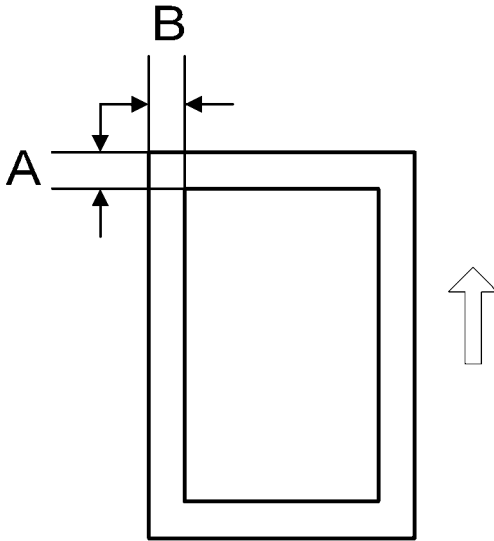
Image Adjustments: Printing

Preparation

1. Make sure paper is installed correctly in each paper tray before you start these adjustments.
2. Use the Trimming Area Pattern (SP2-902-3, No. 18 to print the test pattern for the following procedures.
3. After completing these printing adjustments, be sure to set SP 2-902-3 to 0 again.

Registration - Leading Edge/Side-to-Side

1. Check the leading edge registration, and adjust it using SP1-001.
Specification: 3 ± 2 mm.
2. Check side-to-side registration for each paper feed station, and adjust with the following SP modes.



B140r887

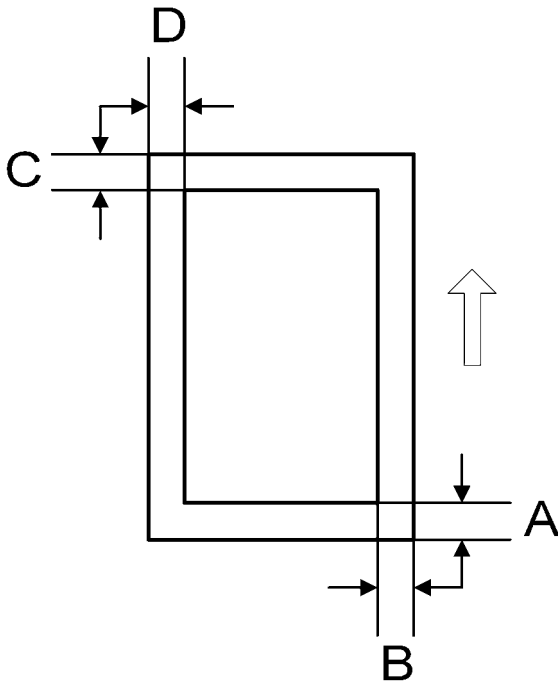
4

	SP mode	Specification
Tray 1 (Tandem Tray)	SP1002-001	0 ±1.5
Tray 2 (Universal Tray)	SP1002-002	
Tray 3 (Universal Tray)	SP1002-003	
Tray 4	SP1002-004	Japan Only
LCT	SP1002-006	0±1.5
Duplex Tray	SP1002-007	0±1.5

Blank Margin

If the leading edge/side-to-side registration cannot be adjusted within specifications, adjust the leading/left side edge blank margin.

1. Check the trailing edge and right edge blank margins, and adjust them with the following SP modes.



B140R888

Letter	What It Means
A	Trailing edge blank margin
B	Right edge blank margin
C	Leading edge blank margin
D	Left edge blank margin

SP2101 Print Erase Margin

	SP mode	Specification
Leading Edge	SP2101-001	2.5±2 mm
Trailing Edge	SP2101-002	
Left edge	SP2101-003	2±1.5 mm
Right edge	SP2101-004	

Registration Buckle Adjustment

When the customer is using special paper, buckle adjustment may be required if paper feed problems arise.

- If the buckle is too large, this can cause wrinkling, creasing, or jams caused by sheets overtaking the sheets ahead of them in the paper path.
 - If the buckle is too small, this can cause jams at the registration roller or skew during paper feed.
1. Enter the SP mode.
 2. Open SP1003.
 - To prevent wrinkling, creasing, or jams, set a smaller value.
 - To prevent jams at the registration roller or to eliminate skew, set a larger value.

SP1003-001	Registration Buckle Adjustment – Tray, LCT
SP1003-002	Registration Buckle Adjustment – Duplex Tray
SP1003-003	Registration Buckle Adjustment – Bypass Tray
Adjustment range	-9 mm → +9 mm (small → large buckle)
Initial value	0 mm (Buckle = 10 mm)

4

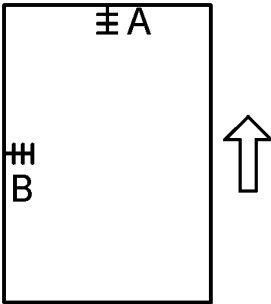
Image Adjustments: Scanning

Before doing the following scanner adjustments, perform or check the printing registration/side-to-side adjustment and the blank margin adjustment.

↓ Note

- Use an S-5-S test chart to perform the following adjustments.

Registration: Platen Mode



b140r889

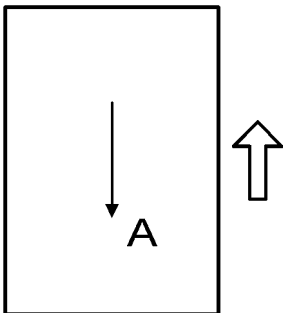
4

1. Place the test chart on the exposure glass and make a copy from one of the feed stations.
2. Check the leading edge and side-to-side registration, and adjust them with the following SP modes if necessary.

SP No.	Name	Initial	Comment
SP401 0	Scanner Leading Edge Registration	0	A positive value shifts the image away from the leading edge, a negative value shifts it toward the leading edge.
SP401 1	Scanner Side-to-Side Registration	0	A positive value shifts the image toward the right edge, a negative value shifts it toward the left edge.

Magnification

Use an S-5-S test chart to perform the following adjustment.



b140r890

Main Scan Magnification

1. Place the test chart on the exposure glass and make a copy from one of the feed stations.

2. Check magnification, and then SP2909-001 (Main Scan Magnification - Copy) to adjust magnification if required. Specification: $\pm 2\%$.

Sub Scan Magnification

1. Place the test chart on the exposure glass and make a copy from one of the feed stations.
2. Check the magnification ratio. Use SP4008 (Scanner Sub Scan Magnification) to adjust if necessary. Specification: $\pm 0.9\%$.

ADF Scanning Adjustments

4

Vertical Black Lines

Vertical black lines in scanned images may be caused by dust or scratches on the ADF exposure glass. If the problem cannot be solved by cleaning the ADF exposure glass, execute SP4018 (Scanner Optical Axis Adjustment).

1. Adjust the scanner stopping position with SP4018-003 (just input a new value).
2. Store this value in the machine with SP4018-004.
3. Adjust the ADF registration for the front side scan with SP6006-003.
4. Make a test copy to check that the problem has been solved.

DIP Switch Settings (ADF Main Board)

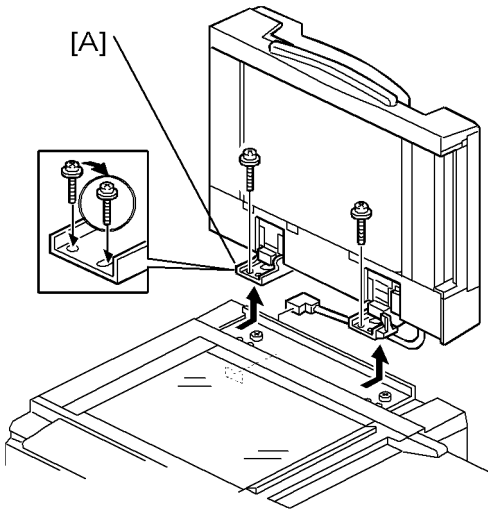
SW 101				Operation Mode
1	2	3	4	
OFF	OFF	OFF	OFF	I/F Operation
ON	OFF	OFF	OFF	Free run (Simplex: each sheet stopped for registration)
OFF	ON	OFF	OFF	Free run (Simplex: continuous scanning)
ON	ON	OFF	OFF	Free run (Duplex: no registration) SP6009 (ADF Free Run)
ON	OFF	ON	OFF	Not used.
OFF	ON	ON	OFF	
ON	ON	ON	OFF	
OFF	OFF	OFF	ON	

SW 101				Operation Mode
ON	OFF	OFF	ON	Free run (Entrance mode * 1, simplex, no registration)
OFF	ON	OFF	ON	Free run (Entrance mode, simplex, continuous scanning)
OFF	ON	ON	ON	Motor test (feed, transport, exit motors)

* 1: The entrance mode disregards paper size. Skew correction is performed at the scanning roller.

ADF Skew Correction

4



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If the skew with A4 SEF paper is more than 0.5/200 mm in the main scan direction, you can adjust the position of the ADF hinge [A] or adjust the appropriate SP codes below.

600 6*	ADF Registration Adjustment
001	ADF Horizontal Registration (Front) Adjusts the side-to-side registration for the front in ADF mode. [-3 to +3/0.1 mm]
002	ADF Horizontal Registration (Back) Adjusts the side-to-side registration for the back in ADF mode. [-3 to +3/0.1 mm]

003	<p>ADF Vertical Registration (Front)</p> <p>Adjusts the vertical registration for the front in ADF mode.</p> <p>[-30 to +24/1 mm]</p> <p>-30 = -5.1 mm</p> <p>+24 = +4.1 mm</p>
004	<p>ADF Vertical Registration (Back)</p> <p>Adjusts the vertical registration for the back in ADF mode.</p> <p>[-30 to +30/1 mm]</p> <p>-30 = -5.1 mm</p> <p>+30 = +5.1 mm</p>
005	<p>ADF Buckle Adjustment 1</p> <p>Adjusts the roller timing at the skew correction sensor/entrance roller. A larger setting causes more buckling.</p> <p>[-12.0 to +12/1 mm]</p> <p>-12 = -3.0 mm</p> <p>+12 = +3.0 mm</p>
006	<p>ADF Buckle Adjustment 2</p> <p>Adjusts the roller timing at the interval sensor/scanning roller. A larger setting causes more buckling.</p> <p>[-8.0 to +8/1 mm]</p> <p>-8 = -2 mm</p> <p>+8 = +2 mm</p>
007	<p>ADF Trailing Edge Erase Margin (Front)</p> <p>These settings adjust the erase margin for the trailing edges for the front.</p> <p>[-20 to +20/1 mm]</p> <p>-20 = -10 mm</p> <p>+20 = +10 mm</p>
008	<p>ADF Trailing Edge Erase Margin (Back)</p> <p>These settings adjust the erase margin for the trailing edges for the back.</p> <p>[-20 to +20/1 mm]</p> <p>-20 = -10 mm</p> <p>+20 = +10 mm</p>

Note

- Normally, the interval sensor detects the leading edge of small originals (B6, A5, HLT), or originals for duplex copying, and delays the start of the scanning roller for the prescribed number of pulses to buckle the paper and correct skew. This feature can be switched on for all paper sizes with SP6020 (ADF Contact Mode In/Out). However, switching this feature on for all sizes reduces scanning speed slightly.

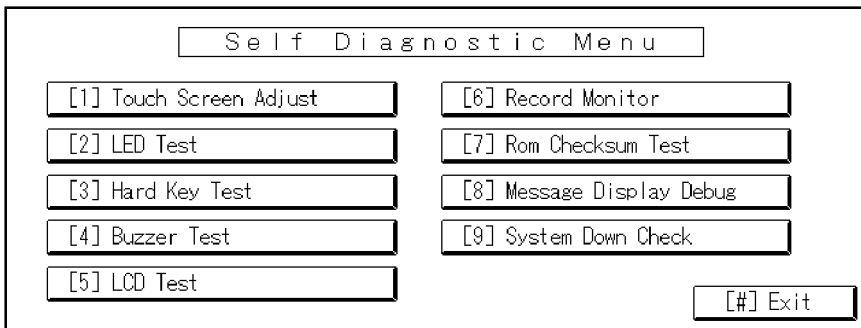
Touch Screen Calibration

After clearing the memory, or if the touch screen detection function is not working correctly, follow this procedure to calibrate the touch screen.

↓ Note

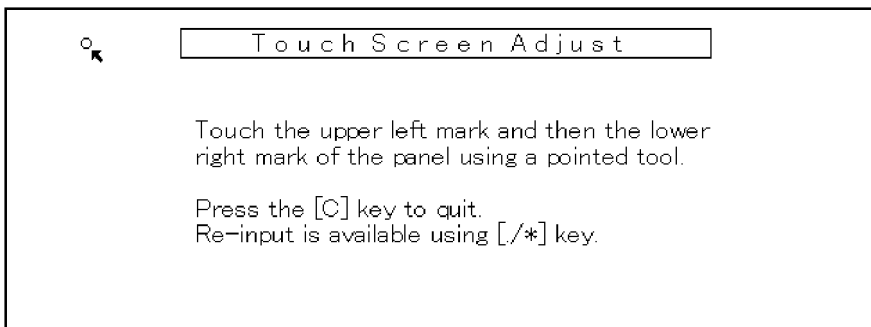
- Do not attempt to use items [2] to [9] on the Self-Diagnostic Menu. These items are for design use only. To avoid causing an error, do not touch the Reset key while doing this procedure.

- Press , press    , and then press  5 times to open the Self-Diagnostics menu.






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- On the touch screen press "Touch Screen Adjust" (or press .



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- Use a pointed (not sharp!) tool to press the upper left mark .
- Press the lower right mark  after it appears.
- Touch a few spots on the touch screen to confirm that the marker (+) appears exactly where the screen is touched.
If the + mark does not appear where the screen is touched, press Cancel and repeat from Step 2.
- When you are finished, press [#] OK on the screen (or press .
- Touch [#] Exit on the screen to close the Self-Diagnostic menu and save the calibration settings.

5. System Maintenance

Service Program Mode

General Notes

The service program (SP) mode is used to check electrical data, change modes, and adjust values.

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.

Service Mode Lock/Unlock

5


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 do servicing on 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.
2. If you must use the printer bit switches, go into the SP mode and set SP 5169 to "1".
3. After machine servicing is completed:
 - Change SP 5169 from "1" to "0".
 - Turn the machine off and on. Tell the administrator that you completed servicing the machine.
 - The Administrator will then set the "Service Mode Lock" to ON.

To Enter and Exit the Service Program Mode

Ask your supervisor how to enter and/or exit the service program mode.

To Switch to the Copy Window for Test Printing

1. In the SP mode display, press Copy Window to switch to the copy operation screen when you need to select paper for a test print.
2. Use the copy window (copier mode) to select the appropriate settings (paper size, etc.) for the test print.
3. Press Start  to execute the test print.
4. Press SP Mode (highlighted) to return to the SP mode screen and repeat from step 1.






Using the SP Mode

SP command numbers can be entered directly (if you know the entire number) or the command can be selected from the menus.


5

Direct Entry



SP5831 (Initial Setting Clear) an executable SP that initializes the User Tools settings, can be executed immediately by just entering the numbers.

1. Press    .
2. Press Enter .
3. Press "Execute" on the touch panel.

If you know all seven digits of the SP code, enter the seven numbers and press Execute.

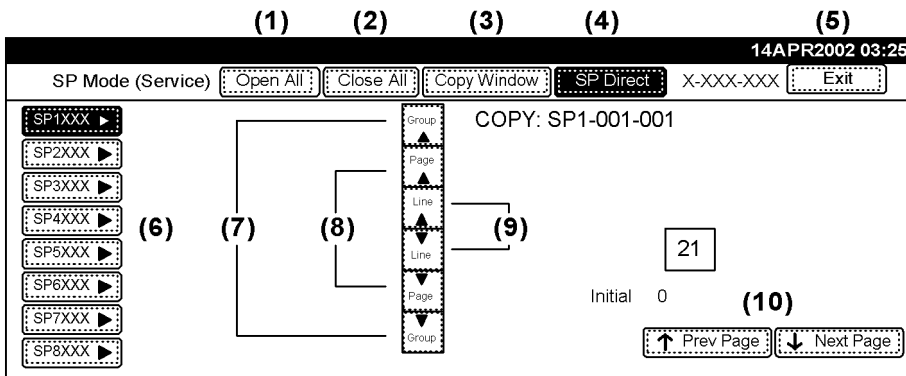
However, if you do not know all the numbers, enter only the first four numbers of the seven-digit SP and press Enter . The display goes immediately to the first SP of that group. Then you can use the buttons to browse to the desired selection.

Button Selection Entry

1. Refer to the SP Mode Tables at the end of this section to find the SP that you want to adjust.
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 display 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 . The small entry box on the right is activated and displays the default or the current setting below.
5. To enter a setting
 - Press  to enter a minus sign. Then use the keypad to enter the appropriate number. The number you enter will write over the previous setting.

- Press **#** to enter the setting. (If you enter a number that is out of range, the key press is ignored.)
 - When you are prompted to complete the selection, press Yes.
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 **#** twice, then press SP Mode (highlighted) in the copy window to return to the SP mode display.
 7. When you are finished, press Exit twice to return to the copy window.

SP Mode Button Summary



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Here is a short summary of the touch-panel buttons.

(1): Open All.

Opens all SP groups and sublevels.

(2): Close All.

Closes all open groups and sublevels and restores the initial SP mode display.

(3): Copy Window.

Opens the copy window (copy mode) so you can make test copies. To return to the SP mode screen, press SP Mode (highlighted) in the copy window.

(4): SP Direct.

Enter the SP code directly with the number keys if you know the SP number, then press **#**. (SP Direct must be highlighted before you can enter the number. Just press SP Direct if it is not highlighted.)

(5): Exit.

Press twice to leave the SP mode and return to the copy window to resume normal operation.

(6): SPnxxx.

Press any group number to open a list of SP codes and titles for that group. For example, to open the SP code list for SP1-nnn, press SP1XXX. If an SP has sublevels, it is marked with a right pointing triangle.

(7): Group.

Press to scroll the display to the previous or next group.

(8): Page.

Press to scroll to the previous or next display in segments the size of the screen display (page).

(9): Line.

Press to scroll the display to the previous or next line, line by line.

(10): Prev Page or Next Page.

Press to move the highlight on the left to the previous or next selection in the list.

SP Mode Print (SMC Print)

You can print an SMC Report to check the machine's condition. The SMC Report gives a list of the SP commands and their settings.

5

	SP Print Mode (SMC Print)
599 0	In the SP mode, push "Copy Window" to move to the copy screen, select the paper size, then push Start. Select A4/LT (Sideways) or larger to make sure that all the information is printed. Push "SP Window" to go back to the SP mode, select the necessary SP Print Mode, and push Execute.
001	All (Data List)
002	SP (Mode Data List)
003	User Program Data
004	Logging Data
005	Self-Diagnostic Report
006	Non-Default (Prints only SPs that are set to values other than defaults.)
007	NIB Summary (Configuration, Systemlog, Nvramlog)
008	Capture Log
021	Copier User Program (Copy Management Report)
022	Scanner SP
023	Scanner User Program (Scanner Management Report)

Resets

Memory All Clear: SP5801

Before shipping, the SP mode data settings are printed in an SMC Report and attached to the exposure glass of the machine for your reference. Store this report in a safe place (next to the toner collection bottle, for example). It is a list of all the SP initial settings. Refer to this list if you need to initialize one or more SPs. The initial SP settings are also written in the SP mode tables at the end of this section.

As a rule, you should always print an SMC Report before initializing or adjusting the SP settings. The SMC Report provides a concise list of all the SP commands and their current settings. The report can be used for reference if the service manual is not available.

Executing Memory All Clear resets all the settings stored in the NVRAM to their default settings except the following:

SP5811-001	Machine serial number
SP5907	Plug & Play Brand Name and Production Name Setting

1. Execute SP5990 to print out all SMC Data Lists.
2. Open SP mode 5801.
3. Press the number for the item that you want to initialize. The number you select determines which application is initialized. For example, press 1 if you want to initialize all modules.

5801	Memory Clear	
	Resets NVRAM data to the default settings. Before executing any of these SP codes, print an SMC Report.	
001	All Clear	Initializes items 2 to 15 below.
002	Engine Clear	Initializes all registration settings for the engine and copy process settings.
003	SCS	Initializes default system settings, SCS (System Control Service) settings, operation display coordinates, and ROM update information.
004	IMH Memory Clear	Initializes the image file system. (IMH: Image Memory Handler)
005	MCS	Initializes the automatic delete time setting for stored documents. (MCS: Memory Control Service)

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	Initializes the printer defaults, programs registered, the printer SP bit switches, and the printer CSS counter.
009	Scanner application	Initializes the defaults for the scanner and all the scanner SP modes.
010	Web Service/ Network application	Deletes the Netfile (NFA) management files and thumbnails, and initializes the Job login ID. Netfiles: Jobs to be printed from the document server using a PC and the DeskTopBinder software
011	NCS	Initializes the system defaults and interface settings (IP addresses also), the SmartNetMonitor for Admin settings, WebStatusMonitor settings, and the TELNET settings. (NCS: Network Control Service)
012	R-FAX	Initializes the job login ID, SmartNetMonitor 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 Clear	Initializes the SRM (System Resource Manager) settings.
019	LCS Clear	Initializes the LCS (Log Count Service) settings.

4. Press Execute, then follow the prompts on the display to complete the procedure.
5. Make sure that you perform the following settings:
 - Execute SP2115 – Laser Beam Pitch Adjustment
 - Do the printer and scanner registration and magnification adjustments (See "Replacement and Adjustment – Copy Image Adjustments: Printing/Scanning").
 - Do the touch screen calibration (See "Replacement and Adjustment – Touch Screen Calibration").

- Referring to the SMC data lists, re-enter any values, which had been changed from their factory settings.
 - Execute SP3001-002 – ID Sensor Initial Setting
 - Make sure that SP 5112 is set to 'enabled', or the user will not be able to use non-standard paper sizes.
 - Set SP 1902 001 (amount of fusing unit web used so far) to the most recent setting (see the SMC list).
6. Check the copy quality and the paper path, and do any necessary adjustments.



Software and Setting Reset

Software Reset

The software can be rebooted when the machine hangs up. Do one of these two steps.

Turn the main power switch off and on.

-or-

Push and hold down   together for over 10 seconds. When the machine beeps once, release both buttons. After "Now loading. Please wait" is displayed for a few seconds, the copy window will open. The machine is ready for operation.

Resetting the System

The system settings in the UP mode can be reset to their defaults with this procedure.

1. Make sure that the machine is in the copier standby mode.
2. Press the User Tools key.
3. Hold down the "#" key and touch the "System Setting" key.
4. A confirmation message will be displayed, then press "Yes".

Resetting Copy/Document Server Features Only

The copy/document server settings in the UP mode can be reset to their defaults with this procedure.

1. Make sure that the machine is in the copier standby mode.
2. Push the User Tools key.
3. Hold down the "#" key and touch the "Copy/Document Server Features" key.
4. A message will be displayed, then press "Yes".

Resetting Scanner Features Only

The scanner settings in the UP mode can be reset to their defaults with this procedure

1. Make sure that the machine is in the copier standby mode.
2. Push the User Tools key.
3. Hold down the "#" key and touch "Scanner Features" key.
4. A message will be displayed, then press "Yes"

Test Pattern Printing

Printing Test Pattern: SP2902-003

Some of these test patterns are used for copy image adjustments but most are used primarily for design testing. These test patterns do not use the IPU.

Note

- Do not operate the machine until the test pattern is printed out completely. Otherwise, an SC may occur.
1. Enter the SP mode and select SP2902-003.
 2. Enter the number for the test pattern that you want to print and press **#**. (See the table below.)
 3. When you are prompted to confirm your selection, press Yes to select the test pattern for printing.
 4. Press Copy Window to open the copy window, then select the settings for the test print (paper size, etc.)
 5. Press Start **#** twice (ignore the "Place Original" messages) to start the test print.
 6. After checking the test pattern, press SP Mode (highlighted) to return to the SP mode display.
 7. Exit the SP mode.

5

Test Pattern Table

These patterns can be selected for SP2902-003

No.	Test Pattern
0	None
1	Alternating Dot Pattern (1-dot)
2	Alternating Dot Pattern (2-dot)
3	Alternating Dot Pattern (4-dot)
4	Alternating Dot Pattern (1024-dot)
5	Grid Pattern (1-dot): 0ch
6	Grid Pattern (1-dot): 1ch
7	Grid Pattern (1-dot): 2ch
8	Grid Pattern (1-dot): 3ch

No.	Test Pattern
9	Grid Pattern (1-dot pair)
10	Checkered Flag Pattern
11	Horizontal Line (2-dot)
12	Vertical Line (2-dot)
13	Horizontal Line (1-dot)
14	Vertical Line (1-dot)
15	Cross Stitch (Horizontal)
16	Cross Stitch (Vertical)
17	Argyle Pattern
18	Trimming Area
19	Full Dot Pattern
20	Black Band (Vertical)
21	Black Band (Horizontal)
22	Stair
23	Blank Image
24	Grid Pattern (1-dot): Och (with external data)
25	Trimming Area (with external data)
26	Argyle Pattern (with external data)
27	Outside Data

IPU Front/Back Test Patterns: SP2902-001,002

- Front side pattern (SP2902-001). Generated by the IPU in place of data scanned from the front side of an original (CCD→SBU). Generated in the scanner image correction circuit.
- Back side pattern. (SP2902-002. Generated by the IPU in place of data scanner from the back side of an original (CIS→SBU). Generated in the scanner image correction circuit.

The IPU test patterns are primarily used for design purposes. However, they can be used as follows:

- To confirm that the IPU is processing images correctly.
 - To fine tune the image processing parameters
 - To help trace the causes of poor images. For example, if the IPU test patterns are normal when the machine is producing poor quality images, then the problem must be after the IPU.
1. Enter the SP mode, select SP2902.
 2. Select 001 to print a test pattern for the front side, or select 002 to print a test pattern for the back side.
 3. Scroll then select the number of the test pattern that you want to print (see the table below).
 4. Press **#**.
 5. Press Copy Window to open the copy window, then select the settings for the test print (paper size, etc.)
 6. Press Start **⏏** to start the test print.
 7. Press SP Mode (highlighted) to return to the SP mode display.

Note

- Patterns 6, 8, 9, and 11 are the best choices for testing and confirming the operation of the IPU.

Test Pattern Table

These patterns can be selected for both SP2902-001 and 002.

No.	Test Pattern
0	None
1	Vertical Line (1-dot)
2	Vertical Line (2-dot)
3	Horizontal Line (1-dot)
4	Horizontal Line (2-dot)
5	Independent Dot (1-dot)
6	Grid Pattern (1-dot)
7	Vertical Stripes
8	Grayscale Horizontal (16-level)
9	Grayscale Vertical (16-level)
10	Grayscale Vertical-Horizontal (16-level)


No.	Test Pattern
11	Cross Pattern
12	Argyle Pattern
13	Density Patch (256-level)
14	Density Patch (64-level)
15	Trimming Area
16	Bandwidth (Vertical)
17	Bandwidth (Horizontal)
18	Auto Create Vertical 1-dot Line (Main Scan)
19	Auto Create Horizontal 1-dot Line (Sub Scan)
20	Auto Create Vertical 2-dot Line (Main Scan)
21	Auto Create Horizontal 2-dot Line (Sub Scan)
22	Auto Create 1-dot Independent Dots
23	Auto Create Grid 1-dot Line
24	Auto Create Vertical Stripes
25	Auto Create Horizontal Stripes
26	Auto Create Grayscale Horizontal (20 mm)
27	Auto Create Grayscale Horizontal (40 mm)
28	Auto Create Grayscale Vertical (20 mm)
29	Auto Create Grayscale Vertical (40 mm)
30	Auto Create Argyle

IPU Printing Test Pattern: SP2902-004


This test pattern is generated in the application input processing circuit in the IPU. The operation path is as follows:

Application input → Memory → Printer

This test pattern is primarily used for design purposes, but it can also be used to trace the source of problems beyond the IPU (in the application input) which are causing poor print quality.

1. Enter the SP mode and select SP2902-004.
2. Enter the number for the test pattern that you want to print and press . (See the table below.)

No.	Pattern
0	Off
1	Vertical Grayscale 20
2	Horizontal Grayscale 40
3	Horizontal Grayscale 20
4	Horizontal Grayscale 25
5	Caterpillar

1. When you are prompted to confirm your selection, press Yes to select the test pattern for printing.
2. Press Copy Window to open the copy window, then select the settings for the test print (paper size, etc.)
3. Press Start  twice (ignore the "Place Original" messages) to start the test print.
4. Press SP Mode (highlighted) to return to the SP mode display.
5. Switch the machine off and on.

Updating the Firmware

Software Update

Software Update Procedure

SD cards are used to update the software and to back up important data. Here is a list of the firmware modules that can be updated or restored from an SD card:


- GW controller software
- BCU software
- LCDC (operation panel) software
- Network Sys (network) software
- Web Sys (Web Image Monitor)
- Document Server software
- NFA (Net File) software
- Printer application software
- Scanner application software
- DESS (encryption module) software

Important

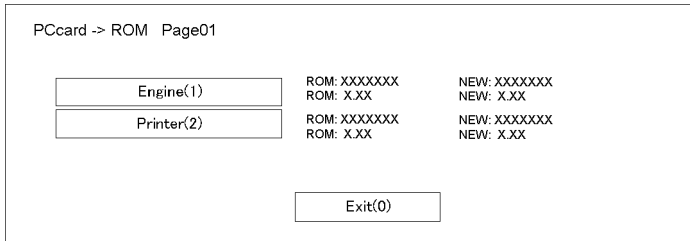
- **Never connect or remove an IC card or SD card with the machine power turned on.**
- **Never turn the power off while the machine is downloading data from an IC card or SD card.**
- **The IC cards and SD card are precision items. Use them carefully.**
- **Never store IC cards or SD cards in a location where they are exposed to high temperature, high humidity, or direct sunlight.**
- **Never bend an IC card or SD card, scratch it, or expose it to strong vibration.**
- **Before uploading data to an SD card, always confirm that its write-protect switch is off.**

Doing the Software Update Procedure

An SD card with the software downloaded to it is necessary for this procedure.

1. Turn the main switch off.
2. Remove the SD card slot cover ( x 1).
3. Hold the SD card (the surface with printing must be away from the front of the machine), and install the SD card in slot 2.

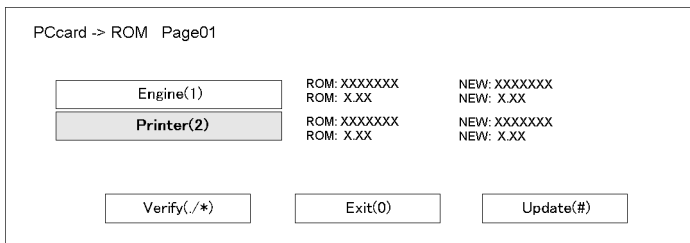
4. Turn the main power switch on.
5. Stop until the version update screen is displayed. If the SD card contains more than one software application, the screen will be almost the same as the one below. The screen below shows that the SC card contains two applications: "Engine" and "Printer".



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6. To select the item for upgrade, touch the selection on the touch panel, or push the corresponding key on the 10-key pad (1 to 5) of the operation panel. The number in parentheses tells you which key to push. When you make a selection, the [Verify(./*)] and [Update(#)] buttons come on the screen.

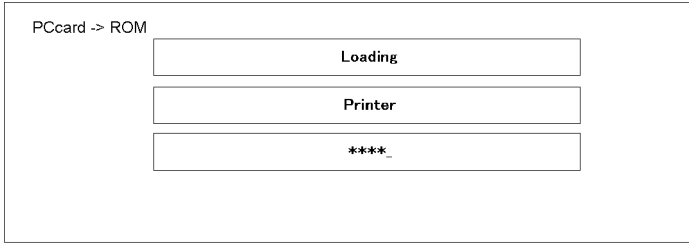
5



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- If you push [Exit] (or the [0] key), you go back to the usual operation screen.
 - Push the [Start] key on the operation panel to select and download all the options shown on the screen.
 - Push the [Clear] key on the operation panel if you want to cancel your selections and make new ones.
 - "ROM": This is the number and other version information of the ROM firmware installed in the machine at this time.
 - "NEW": This is the number and other version information of the firmware on the SD card.
7. With the selected items shown in reverse color, push the [Update] button or the [#] key on the operation panel to start the update.

After you push [Update]:



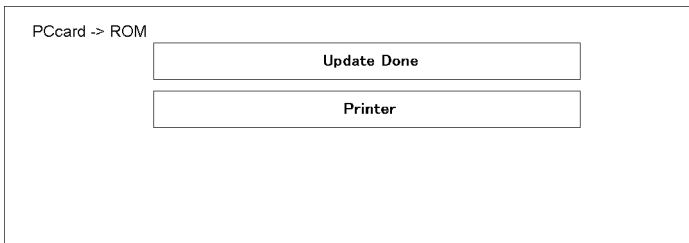
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The middle bar shows the name of the module that the machine updates at this time. (The example above shows that the machine updates the "Printer" module at this time.)

The bottom bar is a progress bar. The " _ " marks in the progress bar are replaced by "*" marks. This progress bar cannot be displayed during the firmware update for the operation panel. But, the LED of the [Start] key on the operation panel changes from red to green to show that the update of the operation panel firmware continues.

5

When the update is completed, you will see this screen.

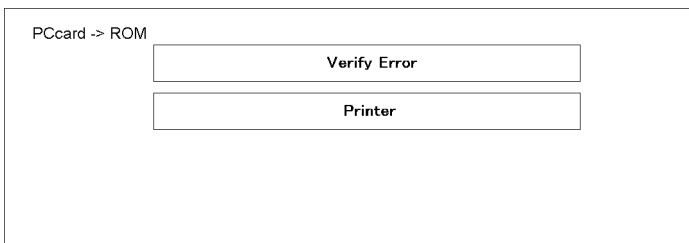


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After the firmware update, you will see "Update Done" in the first bar. The name of the module in the bottom bar is the name of the last module that was updated (only the name of the last module is shown, if several modules were been updated).

- Turn the power off and on. Then, select the items that you updated, and then push the [Verify] button. This is to check that the modules were updated correctly.

If you see "Verify Error" in the first bar on the screen, then you must do the procedure again for the module shown in the bottom bar.

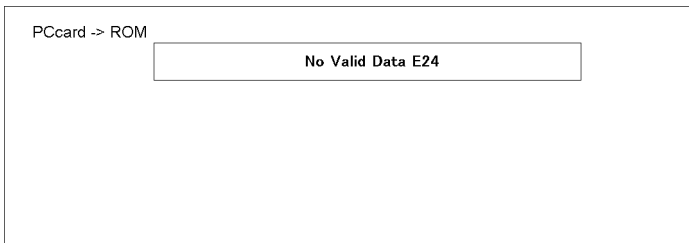


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Note

- The "Verify" procedure is not necessary but it is strongly recommended.
9. After the firmware is correctly updated, turn the main power switch off.
 10. Push the SD card in a small distance to release it, then pull it out of the slot.
 11. Turn the main power switch on, and check that the machine operates correctly.

Errors During Firmware Update



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If an error occurs during a download, an error message will appear. The error code consists of the letter "E" and a number ("E20", for example).

Error Message Table

No.	meaning	Solution
20	Cannot map logical address	Make sure the SD card is installed correctly, or use a different SD card.
21	Cannot access memory	HDD connection not correct, or replace hard disk.
22	Cannot decompress compressed data	The ROM data on the SD card is not correct, or data is damaged.
23	Error occurred when ROM update program started	Controller program defective. If the second attempt fails, replace the controller board.
24	SD card access error	Make sure the SD card is installed correctly, or use a different SD card.
30	No HDD available for stamp data download	HDD connection not correct or replace hard disks.
31	Data incorrect for continuous download	Install the SD card with the remaining data necessary for the download, then re-start the procedure.

32	Data incorrect after download interrupted	Do the recovery procedure for the module, then repeat the installation procedure.
33	Incorrect SD card version	The ROM data on the SD card is not correct, or data is damaged.
34	Module mismatch - Correct module is not on the SD card	The data on the SD is not correct. Get the correct data (Japan, Overseas, OEM, etc.) then install again.
35	Module mismatch – Module on SD card is not for this machine	SD update data is not correct. The data on the SD card is for a different machine. Get the correct data then install again.
36	Cannot write module – Cause other than E34, E35	SD update data is not correct. The data on the SD card is for a different machine. Get the correct data then install again.
40	Engine module download failed	Replace the data for the module on the SD card and try again, or replace the BCU board.
42	Operation panel module download failed	Replace the data for the module on the SD card and try again, or replace the LCDC.
43	Stamp data module download failed	Replace the data for the module on the SD card and try again, or replace the hard disk.
44	Controller module download failed	Replace the data for the module on the SD card and tray again, or replace the controller board.
50	Electronic confirmation check failed	SD update data is not correct. The data on the SD card is for a different machine. Get the correct data then install again.

Updating the LCDC for the Operation Panel

1. Use this procedure to update the LCDC (LCD Control Board).
2. Turn the copier main switch off.
3. Put the SD card into slot 2.
4. Turn the copier main switch on.
5. Stop until the card utility screen is displayed.
After approximately 10 seconds, the initial screen opens in English.
6. Touch [Opepanel.DOM].
7. Touch [UpDate(#)] to start the update.

While the data downloads, the operation panel goes off.

The LED on the [Start] key flashes red at 1/2 second intervals for approximately 6 minutes.

When the update is completed, the [Start] key starts to flash at 1-second intervals.

8. Turn the copier main power switch off, remove the SD card, then turn the copier on again.

Downloading Stamp Data

After you replace or format the HDD, download the stamp data from the controller firmware to the hard disk.

1. Go into the SP mode.
2. Select SP5853 then press "Execute".
3. Obey the instructions on the screen to complete the procedure.

Uploading/Downloading NVRAM Data

5

Uploading Content of NVRAM to an SD card

Do this procedure to upload SP code settings from NVRAM to an SD card.

↓ Note

- Always upload this data to an SD card before you replace the NVRAM.
1. Before you turn the machine off, do SP5990 001 (SMC Print). This gives you a record of the NVRAM settings if the upload fails.
 2. Turn the copier main power switch off.
 3. Put the SD card into slot 2, then turn the copier on.
 4. Do SP5824 001 (NVRAM Data Upload) then push the "Execute" key

When uploading is completed, a file is copied to the NVRAM folder on the SD card. The file is saved to this path and filename:

NVRAM\<<serial number>.NV

Here is an example for Serial Number "B0700017":

NVRAM\B0700017.NV

5. To prevent an error during the download, write the serial number of the machine on the SD card.

↓ Note

- This is necessary because NVRAM data from more than one machine can be uploaded to the same SD card.



Downloading an SD Card to NVRAM

Do this procedure to download SP data from an SD card to the NVRAM in the machine.

- If the SD card with the NVRAM data is damaged, or if the connection between the controller and BCU is defective, the NVRAM data download will not complete correctly.
- If the download does not complete correctly, do the download procedure again.
- If this does not complete correctly, input the NVRAM data manually from the SMC print that you made before you uploaded the NVRAM data.

1. Turn the copier main power switch off.
2. Put the SD card with the NVRAM data into slot 2.
3. Turn the copier main power switch on.
4. Do SP5825-001 (NVRAM Data Download) and push the "Execute" key.

Note

- This procedure also downloads the C/O, P/O Count data to the NVRAM:
- The serial number of the file on the SD card must match the serial number of the machine. If the serial numbers do not match, the download will not complete correctly.

Service Program Mode Tables

SP Tables

See "Appendices" for the following information:

- System SP Tables
- Printer SP Tables
- Scanner SP Tables

Input/Output Check

See "Appendices" for the following information:

- Input/Output Check

Using the Debug Log

This machine provides a debug log feature that allows the service technician to save and retrieve error information for analysis.

Every time an error occurs, debug information is recorded in RAM 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.

When a user is experiencing problems with the machine, follow the procedures below to set up the machine so the error information is saved automatically to the HDD. Then attempt to duplicate the problem so the error data will be stored.

5

Setting Up "Save Debug Log"

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

To Switch Debug Log On

1. To enter the SP mode, press $\Delta \nabla$ together (5s), release, then press [#Enter].
2. Select SP5857.

```
SP5857 >>
Save Debug Log
```

3. Push [#Enter].

```
SP5857-001
On/Off
```

4. Push [#Enter].

```
<On/Off>
*OFF
```

5. Push ∇ .

<On/Off>

ON

6. Push [#Enter].

<On/Off>

*ON

7. Push [Esc].

SP5857-001

On/Off

Do the next procedure to select the target.

5

To Select the Target for the Debug Log File

You can select either the HDD (default) or the SD card as the target. This procedure shows you how to select the SD card.

1. Push ▾.

SP587-002

Target

2. Push [#Enter].

<Target>

*2:HDD

3. Push ▾.

<Target>

3:SD

4. Push [#Enter].

<Target>

*3:SD

5. Push [Esc] twice.

```
SP5857 >>
Save Debug Log
```

- Do the next procedure to select the events that you want to record in the debug log file.

To Select Events

- Push ∇ .

```
SP5858 >>
DebugSaveWhen
```

- Push [#Enter].

```
SP5858-001
EngineSC Error
```

Here is a list of the events that you can select. Any number of events can be selected.

SP No.	Name	What It Does
SP5858-001	EngineSC Error	Saves error data when an engine-related SC code occurs.
SP5858-002	SystemSC Error	Saves error data when a controller-related SC Code occurs.
SP5858-003	Any SC Error	Saves error data only for the SC code that you specify by manually entering the SC code number.
SP5858-004	Jam	Saves error data for jams.

Example 1: To Select Items 001, 002, or 004

- Push \triangle or ∇ to select 001, 002, or 003. This example shows the selection of 001.

```
SP5858-001
EngineSC Error
```

- Push [#Enter].

```
<EngineSC Error>
*OFF
```

- Push ∇ .

```
<EngineSC Error>
ON
```

4. Push [#Enter].

```
<EngineSC Error>
*ON
```

5. Push [Esc].

```
SP5858-001
EngineSC Error
```

6. Repeat this procedure to select either 002 or 004.

Example 2: To set an SC code with 003

This example shows you how to enter "672" for SC672.

Note

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

1. Select "SP5858-003".

```
SP5858-003
Any SC Code
```

2. Push [#Enter].

```
0000000
-
```

3. Push [#Enter] to toggle the on the number display in the 2nd line.

```
0000000
0
```

4. Push Δ or ∇ to display "2".

```
0000000
2
```

5. Push [#Enter] to enter the "2" in the line above.


```
0000002
_
```

6. Push Δ or ∇ to move the cursor to the next digit.

```
.0000002
_
```

7. Repeat Steps 2 to 6 to enter the "7".

```
.0000072
_
```

8. Repeat Steps 2 to 6 to enter the "6".

```
.0000672
_
```

9. Push [Esc] twice.

```
SP5858 >>
DebugSaveWhen
```

10. Do the next procedure to select one or more memory modules for the debug error data recording.

To select one or more memory modules for recording in the debug log file

1. Select SP5859.

```
SP5859 >>
LogSaveKey No.
```

2. Push [#Enter].

```
SP5859
Key 1
```

3. Push [#Enter].

```
0000000
_
```

Note

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

4. Select the number from the table below, then use these key presses to enter the number.

0002222
—

Key Press	What It Does
△ or ▽	Moves the cursor to select the digit in the line above.
[#Enter]	Enters the number entry mode (displays a "0" at the cursor).
△ or ▽	Selects the number to enter at the digit position in the line above.
[#Enter]	Enters the selected number in the line above and exits the entry mode you can select the next position with △ or ▽

5. Refer to the table below for the 4-digit numbers to enter for each key. (The acronyms in parentheses indicate the names of the modules.)

4-Digit Entries for Keys 1 to 10

Key No.	Printer	Web
1	2222 (SCS)	
2	2223 (SRM)	
3	256 (IMH)	
4	1000 (ECS)	
5	1025 (MCS)	
6	4400 (GPS)	5682 (NFA)
7	4500 (PDL)	6600 (WebDB)
8	4600 (GPS-PM)	3300 (PTS)
9	2000 (NCS)	6666 (WebSys)
10	2224 (BCU)	2000 (NCS)

Key to Acronyms

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

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

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

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

Retrieving the Debug Log from the HDD

1. Insert the SD card into SD slot 2.
2. Enter the SP mode and execute SP5857-009 (HDD for SD (4MB)) 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, or just send the SD card by mail.

More About Debug Log

SP5857-015: SD to SD (Any)

This SP copies the log on an SD card (the file that contains the information written directly from shared memory) to a log specified by key number. The copy operation is executed in the log directory of the SD card inserted in the same slot. (This function does not copy from one slot to another.)

Each SD card can hold up to 4 MB of file data. Unique file names are created for the data during the copy operation to prevent overwriting files of the same name. This means that log data from more than one machine can be copied onto the same SC card.

This command does not execute if there is no log on the HDD for the name of the specified key.

SP5857-016: Make HDD LogFile

This SP creates a 32 MB file to store a log on the HDD. However, this is not a completely empty file. The created file will hold the number "2225" as the SCS key number and other non-volatile information.

Even if this SP is not executed, a file is created on the HDD when the first log is stored on the HDD, but this operation takes time. This creates the possibility that the machine may be switched off and on before the log can be created completely.

If you execute this SP to create the log file beforehand, this will greatly reduce the amount of time required to acquire the log information and save onto the HDD. With the file already created on the HDD for the log file, the data only needs to be recorded; a new log file does not require creation.

To create a new log file, execute SP5857-011 to delete the debug log data from the HDD and then execute this SP (SP5857-016).

SP5857-017: Make SD Log File

This SP creates a 4 MB file to store a log on an SD card. However, this is not a completely empty file. The created file will hold the number "2225" as the SCS key number and other non-volatile information.

Even if this SP is not executed, a file is created on the SD card when the first log is stored on the SD card, but this operation takes time. This creates the possibility that the machine may be switched off and on before the log can be created completely.

If you execute this SP to create the log file beforehand, this will greatly reduce the amount of time required to acquire the log information and save onto the SD card. With the file already created on the SD card for the log file, the data only needs to be recorded; a new log file does not require creation.

To create a new log file, execute SP5857-012 to delete the debug log data from the SD card and then execute this SP (SP5857-017).

DIP Switch Tables

BCU (Base Engine Control Unit)

BCU Base Board DIP SW101

No.	Function	Default	Comments
1	DFU	-	
2	DFU	OFF	
3	DFU	OFF	
4	DFU	OFF	
5	DFU	OFF	
6	Region Selection	-	Japan: 6, 7, 8/ OFF, OFF, OFF
7	Region Selection	-	NA (115V): 6, 7, 8/ ON, OFF, OFF
8	Region Selection	-	EU (220/240V): 6, 7, 8/ OFF, ON, OFF

DFU: Design, Factory Use only. Do not change these settings.

6. Troubleshooting

Service Call Conditions

For "Service Call Conditions" information, see "Appendices".

Important SP Codes

SP5802	Free Run Mode	Execute this SP to force base engine to run in the free run mode for testing.
SP5803	Input Check	Displays the signals received from sensors and switches. Refer to the detailed tables in "Service Tables".
SP5804	Output Check	Switches electrical components one by one for testing. Refer to the detailed tables in "Service Tables".
SP5990	SMC Printout	Prints the SMC Report. Some SC codes (logged SPs) are shown only in the SMC Report and do not show on the operation panel display.
SP7801	ROM Version Display.	Displays the version number of the main machine and connected peripherals.
SP7832	Self-Diagnostic Result Display	Execute this SP to display a list of error codes. No errors have occurred if nothing is displayed.
SP7801	Firmware Version	Displays the current numbers of all versions of the firmware in the system.
SP7403	Status of Issued SC	Execute to display the following information about the most recently issued SC: 1) Source file name, 2) SC number, 3) Result

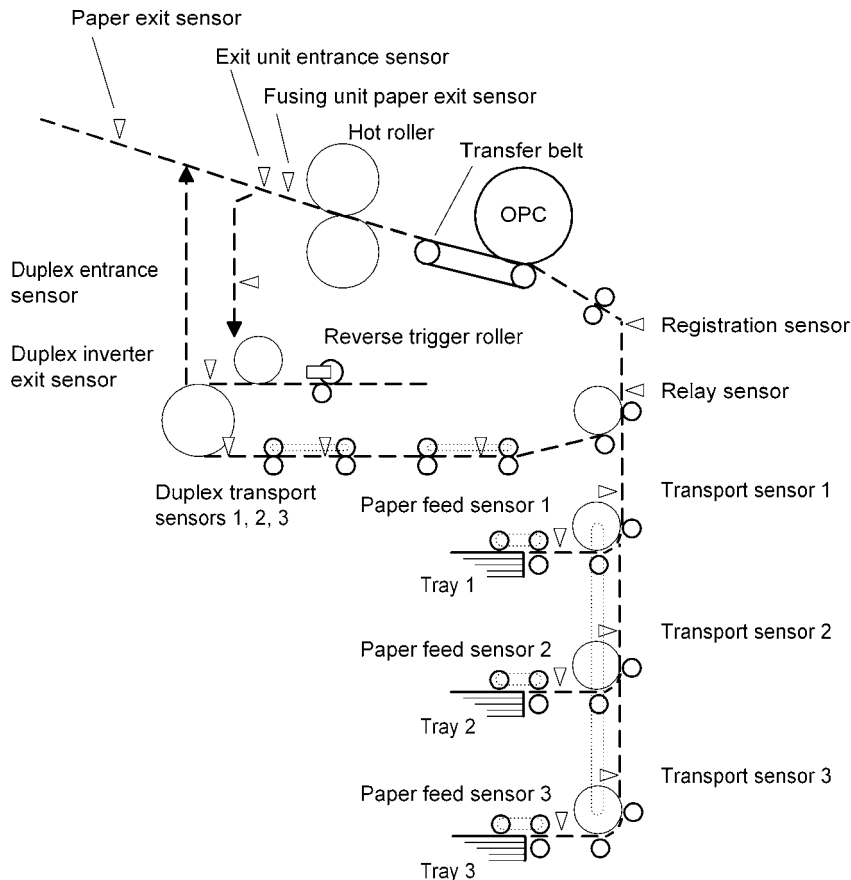
↓ Note

- For more information about these and other SP codes, see "Service Tables".

Jam Detection

Sensor Locations

The illustration below shows the locations of the jam sensors.



B246T901

Frequent Paper Jams

If there are frequent paper jams, check SP7504 in "Service Tables". If these locations have frequent jams, do the procedures described below.

Symptom 1: Jams when paper is fed from a by-pass tray that is not used frequently

If the customer does not use the by-pass tray frequently, the rollers can become worn.

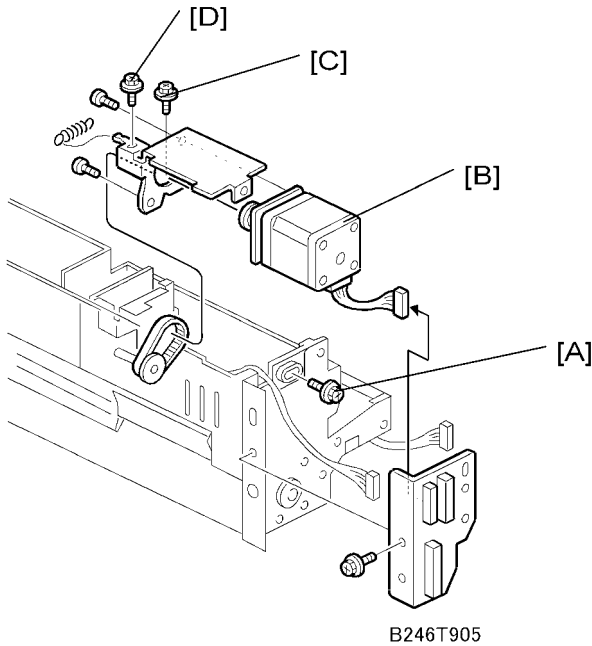
1. Visually check the by-pass tray pick-up, feed, and separation rollers.

- If these rollers are paler than the rollers in paper trays that are more frequently used, replace the rollers in the by-pass tray.

Note

- For more details, see Replacement and Adjustment - By-Pass Tray Rollers.

Symptom 2: Jams with noise from the paper feed unit



- Remove the paper feed unit.
- Loosen screw [A].
- Push the motor [B] toward the tray side, then tighten the screw [A].
- Loosen screws [C] and [D], let the spring move the unit to the correct position, then tighten the screws.

Symptom 3: Other

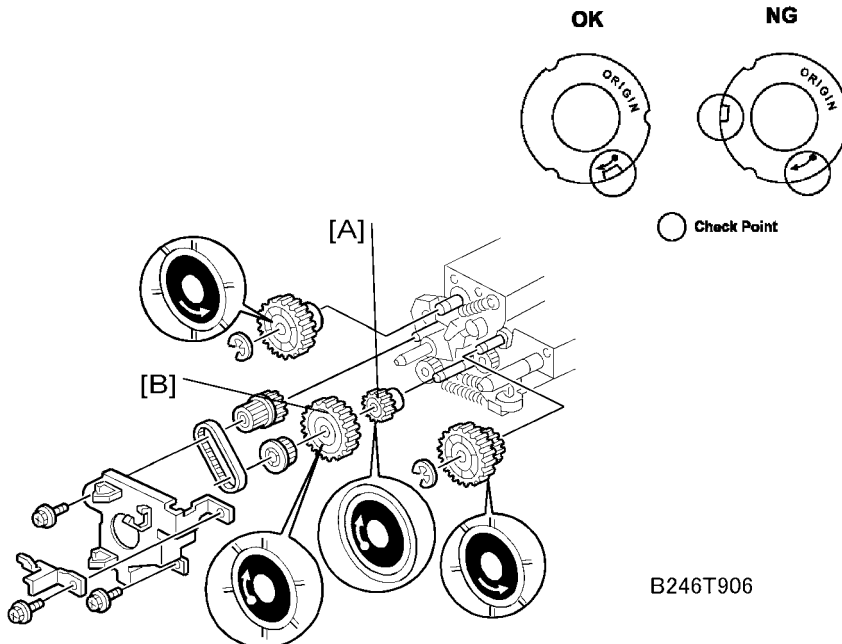
If none of the two symptoms 1 or 2 applies, do this procedure.

- Use SP7504 to check the jam counts and find which SPs have high counts.
- From the table and illustration below, find which gears must be replaced.
Example: For tray 1, if SP7504-012 is high, replace gear A, or if SP7504-008 is high, replace gear B.

Tray	SP7504 12	SP7504 8	SP7504 9	SP7504 10	SP7504 11
Tray 1	Gear [A]	Gear [B]			
Tray 2		Gear [A]	Gear [B]		

Tray	SP7504 12	SP7504 8	SP7504 9	SP7504 10	SP7504 11
Tray 3			Gear [A]	Gear [B]	
Tray 4				Gear [A]	Gear [B]

- Clean the shafts and replace the necessary gears.
- Replace a gear if its cutout and arrow are not in the same position.



- When you replace Gear [A] or Gear [B], be sure to put the metal face on the outer side, and the arrow must be in view.
- If a replacement gear is not available, do this as a temporary procedure:
 - Remove the paper feed unit.
 - Remove the gear.
 - Clean the gear shaft and inside the gear.
 - Attach the gear.
 - Install the paper feed unit.

Program Download

Here are some important points to keep in mind when downloading software:

- If an error interrupts download processing, the machine cannot operate normally with the program software only partially downloaded.
- When download processing execution starts, a progress bar ("*** ____") is displayed until the download completes successfully.
- If the download is interrupted while the asterisks are displayed, the machine does not attempt a re-try.
- The program that downloads firmware from an SD card is part of the GW controller software. If downloading this software is interrupted, the program stored in the machine may become corrupted. If this occurs, it may not be possible to restart the downloading program.
- If the GW controller software cannot be downloaded, software on other SD cards cannot be downloaded as well.
- If such problems occur, it may be possible to restart the program without replacing the controller board by setting controller DIP SW 1 to ON and then re-starting.

6

Recovery Methods

When an error occurs during downloading, an error code is displayed on the operation panel.

- If the download procedure can be re-started, re-start the download procedure.
- If the download procedure cannot be downloaded for other than the GW controller, replace the board where the downloaded program is stored.
- If the download procedure cannot be downloaded for the GW controller, set DIP SW 1 to ON. Power the machine off and on to start the downloading program. After downloading has completed, set the DIP SW to OFF then power the machine off and on again.

Download Error Codes

	Display	Details	Recovery
01	Reboot after card insert E01 Module ID Card No. xx/xx	Controller ROM update error 1 When the update break data is stored in NVRAM, the break module information and the decompression module capable of writing do not match.	<ul style="list-style-type: none"> • Use the correct card

	Display	Details	Recovery
02	Download Error E02 Power off/on	Controller ROM update error 2.	<ul style="list-style-type: none"> Turn the machine off/on to rewrite
		Error occurs during ROM update program initialization.	
03	Download Error E03 Power off/on	Controller ROM update error 3	<ul style="list-style-type: none"> Turn the machine off/on Install the missing ROM DIMM
		The ROM for the write operation does not exist.	
04	Download Error E04 Power off/on	Controller ROM update error 4	<ul style="list-style-type: none"> Turn the machine off/on Set DIP SW 1 to ON and retry Replace RAM DIMM Replace controller board
		GZIP data confirmation fails. (CRC value check)	
05	Download Error E05 Power off/on	Controller ROM update error 5	<ul style="list-style-type: none"> Turn the machine off/on Set DIP SW 1 to ON and retry Replace RAM DIMM Replace controller board
		Error occurs when writing to the device.	
06	Download Error E06 Power off/on	Controller ROM update error 6	<ul style="list-style-type: none"> Turn the machine power off/on. Set controller DIPSW-1 to ON to force the machine to write to ROM. If you cannot force the machine to write, replace the controller board.
		CPU clock error.	
19	Download Error E19 Power off/on	Controller ROM update error 7	<ul style="list-style-type: none"> Software defective
		Schedule data is unclear.	

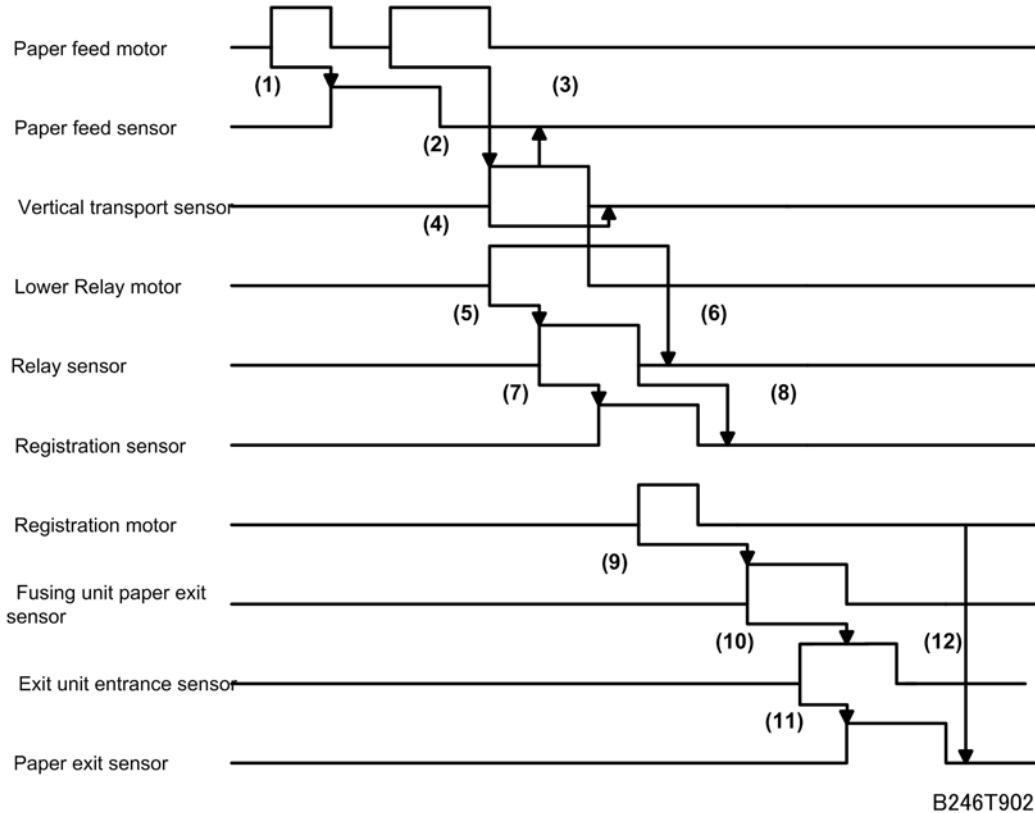
	Display	Details	Recovery
20	Down Error E20 Power Off/On	System error 1 (+SC991)	<ul style="list-style-type: none"> • Turn the machine off/on and re-try • Replace controller board
		The physical address cannot be mapped. Software/hardware is defective	
21	Download Error E21 Power Off/On	System error 2 (+SC991)	<ul style="list-style-type: none"> • Turn the machine off/on and re-try. • Replace RAM • Replace the controller board
		There is not sufficient memory to download.	
22	Download Error E22 Module ID Card No xx/xx	System error 3 (+SC991)	<ul style="list-style-type: none"> • Turn the machine off/on and re-try. • Replace card • Replace controller board
		Data fails to decompress. Card defective.	
23	SC991	System error 4	<ul style="list-style-type: none"> • Turn the machine off/on and re-try • Set DIP SW 1 to ON and re-try • Replace the controller board
		"Selfupdate" does not execute. Software defective.	
23	Download Error E24 Power Off/On	System error 5	<ul style="list-style-type: none"> • Turn the machine off/on and re-try • Replace the card • Replace the controller board
		Card read/write error. Software or card defective.	
30	No Valid Data E30	Download dysfunction 1	<ul style="list-style-type: none"> • HDD defective • HDD harness disconnected, defective
		Print download is not possible. Cannot download to HDD because HDD not installed or defective.	
31	Reboot After Card Insert E31 Module ID Card No. xx/xx	Download dysfunction 2	<ul style="list-style-type: none"> • Set the correct cards in the correct order
		Download continuity error with more than one card. The second or later card is not compatible.	

	Display	Details	Recovery
32	Reboot After Card Insert E32 Module ID Card No. xx/xx	Download dysfunction 3	<ul style="list-style-type: none"> • Use the correct card • If power failure caused the failure, remove the card and insert another.
		Download interrupted because card is not correct, or power failure interrupted download.	
33	No Valid Data E33	Download dysfunction 4	<ul style="list-style-type: none"> • Use the correct card
		Card version error. Attempted to download program using a card with the wrong version number.	
34	No Valid Data E34	Download dysfunction 5	<ul style="list-style-type: none"> • Use the correct card
		Specification error. DOM card set in EXP machine, or vice versa.	
35	No Valid Data E35	Download dysfunction 6	<ul style="list-style-type: none"> • Use the correct card
		Wrong model. The inserted card is for another model.	
36	No Valid Data E36	Download dysfunction 7	<ul style="list-style-type: none"> • Use the correct card, inserted correctly • Install a ROM DIMM if none is installed
		Module error. The program that you are attempting to download does not exist on the machine, or the contact points at the card and the machine slot are not connected.	
37	No Valid Data E37	Download dysfunction 8	<ul style="list-style-type: none"> • Use an unused card
		Edit option card error. You attempted to employ a used card.	
40	Download Error E40 Module ID Card No. xx/xx	Download result failure 1	<ul style="list-style-type: none"> • Turn the machine off/on and re-try
		Engine download failure.	
41	Download Error E41 Module ID Card No. xx/xx	Download result failure 2	<ul style="list-style-type: none"> • Turn the machine off/on and re-try
		Fax download failure.	

	Display	Details	Recovery
42	Download Error E42 Module ID Card No. xx/xx	Download result failure 3	<ul style="list-style-type: none"> Turn the machine off/on and re-try
		Operation panel or language download failed. For this error, sometimes the message may not be displayed.	
43	Download Error E43 Module ID Card No. xx/xx	Download result failure 4	<ul style="list-style-type: none"> Turn the machine off/on and re-try
		Print download failed.	
44	Download Error E44 Module ID Card No.	Download result failure 5	<ul style="list-style-type: none"> Turn the machine power off/on. Set controller DIPSW-1 to ON to force the machine to write If you cannot force the machine to write, replace the controller board.
		The data targeted for the write operation could not be accessed.	
50	No Valid Data E50	Download invalid	<ul style="list-style-type: none"> Use the correct SD card.
		The source data for the update could not be authenticated.	
51	(no display)	Remote ROM update failure 1	<ul style="list-style-type: none"> Turn the machine power off/on and try again.
		The source data for the ROM update is corrupted because the machine is operating and an SC code has been issued.	
52	(no display)	Remote ROM update failure 2	<ul style="list-style-type: none"> Try again with the correct data.
		The source data received for the ROM update is corrupted; it failed a SUM check due to its abnormal length.	
53	(no display)	Download result failure 6	<ul style="list-style-type: none"> Do the download procedure again.
		The previous download in progress was cancelled.	

Timing Charts

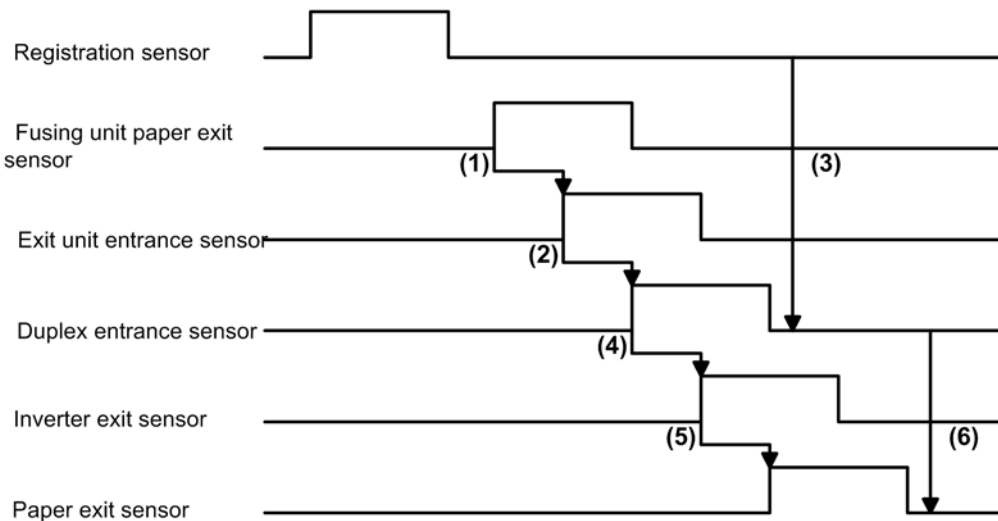
Feed, Transport, Feed Out: Face-up



(1):	Paper feed motor ON > Paper feed sensor does not switch ON at the correct time.
(2):	Paper feed motor ON > Vertical transport sensor does not switch ON at the correct time.
(3):	Vertical transport sensor ON > Paper feed sensor does not switch OFF at the correct time.
(4):	Vertical transport sensor ON > Vertical transport sensor does not switch OFF at the correct time.
(5):	Lower relay motor ON > Relay sensor does not switch ON at the correct time.
(6):	Vertical transport sensor OFF > Relay sensor does not switch OFF at the correct time.
(7):	Relay sensor ON > Registration sensor does not switch ON at the correct time.
(8):	Relay sensor OFF > Registration sensor does not switch OFF at the correct time.

(9):	Registration motor ON > Fusing unit paper exit sensor does not switch ON at the correct time.
(10):	Fusing unit paper exit sensor ON > Exit unit entrance sensor does not switch ON at the correct time.
(11):	Exit unit entrance sensor ON > Paper exit sensor does not switch ON at the correct time.
(12):	Registration motor OFF > Paper exit sensor does not switch OFF at the correct time.

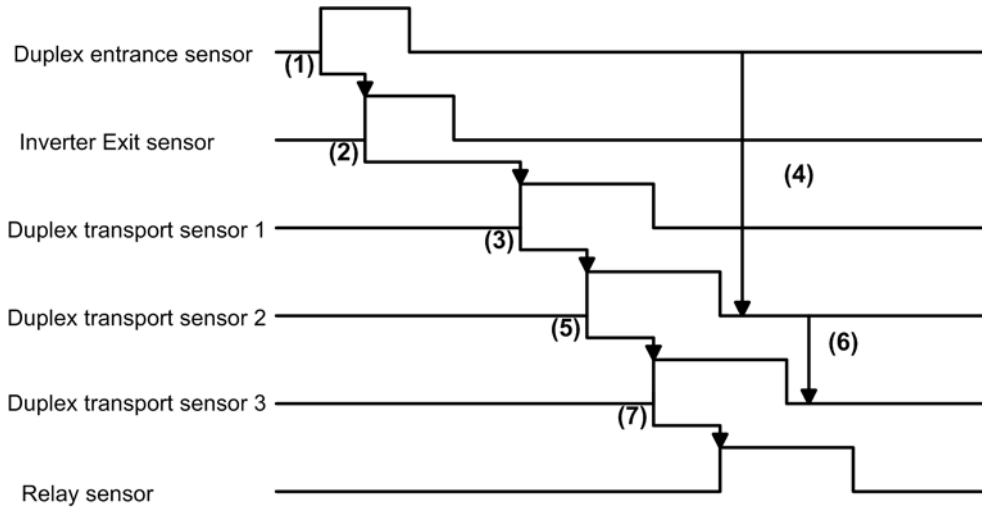
Transport, Inverter, Feed Out: Face-down



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(1):	From the registration sensor to the fusing unit exit, jam detection is the same as face-up feed out.
(2):	Exit unit entrance sensor ON > Duplex entrance sensor does not switch OFF at the correct time.
(3):	Registration sensor OFF > Duplex entrance sensor does not switch OFF at the correct time.
(4):	Duplex entrance sensor ON > Inverter exit sensor does not switch OFF at the correct time.
(5):	Inverter exit sensor ON > Paper exit sensor does not switch ON at the correct time.
(6):	Duplex entrance sensor OFF > Paper exit sensor does not switch OFF at the correct time. (Paper remains at the duplex unit exit.)

Duplex Transport



B246T904

(1):	Duplex entrance sensor ON > Inverter exit sensor does not switch ON at the correct time.
(2):	Inverter exit sensor ON > Duplex transport sensor 1 does not switch on at the correct time.
(3):	Duplex transport sensor 1 ON > Duplex transport sensor 2 does not switch on at the correct time.
(4):	Duplex entrance sensor ON > Duplex transport sensor 2 does not switch OFF at the correct time.
(5):	Duplex transport sensor 2 ON > Duplex transport sensor 3 does not switch ON at the correct time.
(6):	Duplex transport sensor 2 OFF > Duplex transport sensor 3 does not switch OFF at the correct time.
(7):	Duplex transport sensor 3 ON > Relay sensor does not switch on at the correct time.

Other Problems

Blown Fuse Conditions

Fuse	Rating		Symptom at Power On
	115 V	210~230V	
FU1	2A/125V	6.3A/250V	Anti-condensation heater does not operate.
FU101	12A/125V	6.3A/250V	No response.
FU103	6.3A/125V	6.3A/250V	SC510 is displayed.
FU104	6.3A/125V	6.3A/250V	Nothing displayed on LCD.
FU105	6.3A/125V	6.3A/250V	"Door Open" is displayed.
FU106	6.3A/125V	6.3A/250V	ADF does not operate.
FU107	6.3A/125V	6.3A/250V	SC121 is displayed.
FU108	6.3A/125V	6.3A/250V	Finisher does not work.
FU109	6.3A/125V	6.3A/250V	"Door Open" is displayed.
FU110	6.3A/125V	6.3A/250V	SC510 is displayed.
FU111	6.3A/125V	6.3A/250V	Nothing is displayed on LCD.

Common Problems

Problem	Check	Inspect, Clean, Replace
Dirty Copies	Fusing Unit	Pressure roller
Jam – Fusing Unit	Fusing Unit	Hot roller
Jam – Fusing Unit	Fusing Unit	Hot roller strippers
Jam – Original	ADF	Pick-up, paper feed, separation rollers
Lines (black or white)	Around the Drum	Cleaning blade, cleaning brush
Misfeed – Fusing Unit	Fusing Unit	Hot roller

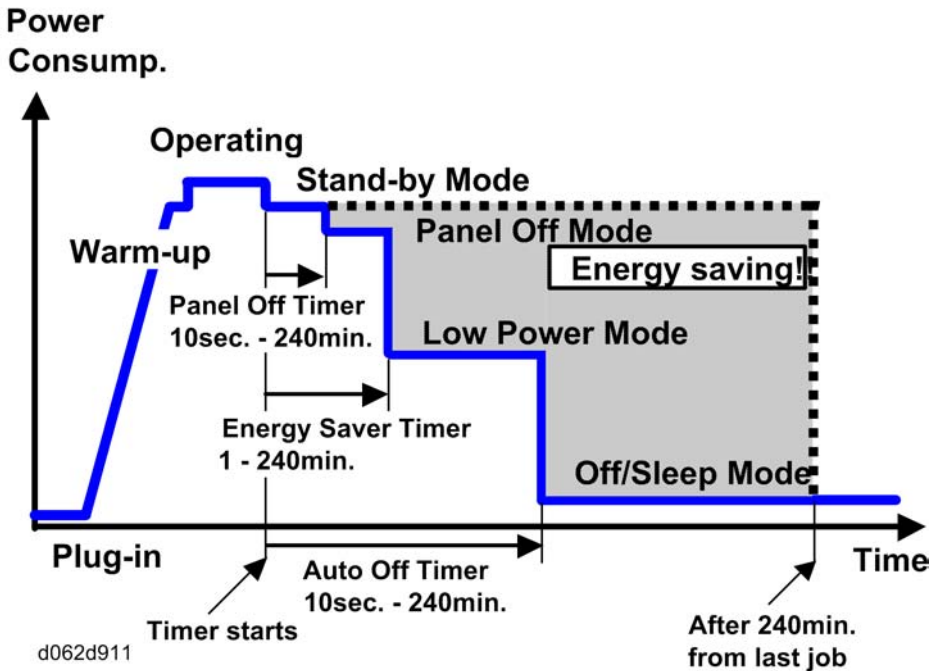
Offset	Fusing Unit	Hot roller
Poor separation	Transfer Belt Unit	Transfer belt, transfer belt cleaning blade
SC300 ~ SC306	Around the Drum	Charge corona wire, charge corona grid, charge corona wire cleaner.
Skew – Original	ADF	Pick-up, paper feed, separation rollers
Toner on transfer belt	Transfer Belt Unit	Transfer belt, transfer belt cleaning blade
Wrinkling	Fusing Unit	Pressure roller

7. Energy Saving

Energy Save

Energy Saver Modes

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



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

Timer Settings

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

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

Default settings:

MT-C4a/b:	1 min.
MT-C4d:	16 min.
MT-C4e:	15 min.

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

Example

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

Return to Stand-by Mode

Low Power Mode

The recovery time depends on the model and the region.

- MT-C4-a/b/d: 10 sec.
- MT-C4e: 30 sec.

Off/Sleep Mode

Recovery time.

- MT-C4a/b: Max 30 sec.
- MT-C4d: Max 60 sec.
- MT-C4e: Max 300 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.

Energy Save Effectiveness

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

- 8941-001: Operating mode
- 8941-002: Standby mode
- 8941-003: Panel off mode
- 8941-004: Low power mode
- 8941-005: 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
① Operating mode	1081.8	001: Operating Time	21089.0	21386.0	297.0	321294.6

② Ready mode (stand by)	214.0	002: Standby Time	306163.0	308046.0	1883.0	402962.0
③ Energy mode (Panel off)	214.0	003: Energy Save Time	71386.0	75111.0	3725.0	797150.0
④ Low power mode	153.0	004: Low power Time	154084.0	156340.0	2256.0	345168.0
⑤ 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

Paper Save

Effectiveness of Duplex/Combine Function

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

1. Duplex:

Reduce paper volume in half!



d062d102

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2. Combine mode:

Reduce paper volume in half!



d062d100

3. Duplex + Combine:

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



d062d101

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

The total counter counts all pages printed.

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

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

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

7

MT-C4

- 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

Originals	Simplex Sheet used	Duplex Sheets used	Paper Saved	Total counter SP8501-001	Duplex counter SP8411-001
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

Originals	Simplex Sheet used	Duplex Sheets used	Paper Saved	Total counter SP8501-001	Duplex counter SP8421-005
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

**Model MT-C4
Machine Codes:
D062/D063/D065/D066
Appendices**

10th April, 2009

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1. Appendix: General Specifications

General Specifications

1

Copier

Engine

Configuration	Console	
	<p>Original: Sheet/Book/Objects</p> <p>Original Size</p> <p>Max. A3/11" x 17"</p> <p>Min. B6 SEF/5.5" x 8.5" (using ADF)</p> <p>Original Alignment: Rear left corner</p>	
Copy Paper Size	Paper tray, Duplex	A3/11" x 17" – A5/ 5.5" x 8.5"
	Bypass tray	A3/11" x 17" – A6 SEF/5.5" x 8.5"
	Non-standard sizes	<p>Width: 139.7 – 297 mm (5.5" x 11.7")</p> <p>Length: 139.7 – 432 mm (5.5" x 17")</p>
Copy Paper Weight	Paper Tray	52.3 to 127.9 g/m ² (14 to 34 lb.)
	Duplex	64 to 127.9 g/m ² (17 to 34 lb.)
		<p>By-pass</p> <ul style="list-style-type: none"> Standard: 52.3 to 157 g/m² (14 to 43 lb.) Thick Paper mode: 52.3 to 216 g/m² (14 to 58 lb.)
Reproduction Ratios	<p>7 reduction ratios, 5 enlargement ratios</p> <p>Metric (%): 400, 200, 141, 122, 115, 93, 82, 75, 71, 65, 50, 25</p> <p>Inch (%): 400, 200, 155, 129, 121, 93, 85, 78, 73, 65, 50, 25</p>	

Copying Speed	C4a: 60ppm C4b: 70ppm C4d: 80ppm C4e: 90ppm (A4, LT LEF)		
First Copy Time	C4a	4.2 s	(Tray 1, A4/LT LEF face-up, contact glass mode, APS off)
	C4b	3.5 s	
	C4d	3.5 s	
	C4e	3.3 s	
Warm-up Time	C4a/b: Less than 30 seconds C4d: Less than 60 seconds C4e: Less than 300 seconds From power on at 23°C (73.4°F)		
	Less than 30 sec. at return from power off mode		
Continuous Copying	1 to 999 (Operation panel entry)		
Paper Capacity	Tray 1 (tandem tray)	3100 sheets (1550 x2)	
	Tray 2	550 sheets	
	Tray 3	550 sheets	
	Bypass tray	100 sheets (80 g/m ² , 20 lb.)	
Paper Output	A4/8.5" x 11" and smaller	500 sheets	
	B4 and larger	250 sheets	
Power Source	North America	C4a/b/d: 120V, 60Hz, 20A C4e: 208-240, 60Hz, 12A	
	Europe/Asia	C4a/b/d: 220-240V, 50/60Hz, 10A C4e: 220-240V, 50/60Hz, 10A	
	CHN/KOR/Taiwan	C4a/b/d: 110V, 60Hz, 20A C4e: 220V, 60Hz, 12A	

Power Consumption	Full System	NA: C4a/b: Max. 1.8 kW C4d/e: Max. 1.8 kW EU: C4a/b: Max. 1.9 kW C4d: Max. 1.95 kW C4e: Max. 1.9 kW
Energy Start	Implemented	
Memory	512 MB / 1.5GB (Copy Printer model)	
HDD Capacity	160 GB	
Allowed voltage fluctuation	10%	
Dimensions (W x D x H)	690 x 790 x 1165 mm (27.2 x 31.1 x 45.9 in.)	
Weight	Approx. 217 kg (478.4 lb.)	
Resolution	1200 dpi (printing) 600 dpi (scanning)	
Gradation	256 levels (scanning and printing)	
Toner Replenishment	Cartridge exchange (1100 g)	
Total Counter	Electric Counter	

ADF

Original Size	Simplex: A3/11" x 17" – B6/5.5" x 8.5" Duplex: A3/11" x 17" – B5/5.5" x 8.5"
Original Weight	Simplex: 40 to 128 g/m ² (11 to 34 lb.) Duplex: 52 to 128 g/m ² (14 to 34 lb.)
Table Capacity	250 sheets: 69g/m ² (150 sheets: 80g/m ² , 20 lb. Bond)
Original Standard Position	Rear left corner
Separation	Feed belt and separation roller

Original Transport	Roller transport
Original Feed Order	From top original
Reproduction Range	100%
Power Source	DC 24 V from the main machine
Power Consumption	Less than 110 W
Rated Voltage of Output Connector	Max. DC 24 V
Permissible voltage fluctuation	±10%
Dimensions (W x D x H)	680 x 560 x 180 mm (26.8" x 22.0" x 7.1")
Weight	18 kg (39.6 lb.)

Power Consumption

NA: 120V Model

	Mainframe Only	Full System
Warm-up	C4a/b: Approx. 1.41 kW C4d: Approx. 1.40 kW C4e: Approx. 1.71 kW	C4a/b: Approx. 1.43 kW C4d: Approx. 1.42 kW C4e: Approx. 1.73 kW
Stand-by	C4a/b: Approx. 294 kW C4d: Approx. 278 kW C4e: Approx. 310 kW	C4a/b: Approx. 317 kW C4d: Approx. 301 kW C4e: Approx. 333 kW
Printing	C4a/b: Approx. 1.55 kW C4d: Approx. 1.56 kW C4e: Approx. 1.75 kW	C4a/b: Approx. 1.67 kW C4d: Approx. 1.68 kW C4e: Approx. 1.87 kW
Maximum	C4a/b: Approx. 1.80 kW C4d/e: Approx. 1.90 kW	C4a/b: Approx. 1.80 kW C4d/e: Approx. 1.90 kW

EU: 220V to 240V Model

	Mainframe Only	Full System
--	----------------	-------------

Warm-up	C4a/b: Approx. 1.47 kW C4d: Approx. 1.51 kW C4e: Approx. 1.71 kW	C4a/b: Approx. 1.50 kW C4d: Approx. 1.53 kW C4e: Approx. 1.73 kW
Stand-by	C4a/b: Approx. 279 kW C4d: Approx. 288 kW C4e: Approx. 310 kW	C4a/b: Approx. 302 kW C4d: Approx. 311 kW C4e: Approx. 333 kW
Printing	C4a/b: Approx. 1.57 kW C4d: Approx. 1.58 kW C4e: Approx. 1.75 kW	C4a/b: Approx. 1.69 kW C4d: Approx. 1.77 kW C4e: Approx. 1.85 kW
Maximum	C4a/b: Approx. 1.90 kW C4d: Approx. 1.95 kW C4e: Approx. 1.90 kW	C4a/b: Approx. 1.90 kW C4d: Approx. 1.95 kW C4e: Approx. 1.90 kW

Noise Emission

Noise Emission: Sound Power Level (NA)

	C4a	C4b	C4d	C4e
Mainframe Only				
Standby	Less than 48.3 dB (A)	Less than 48.4 dB (A)	Less than 50.8 dB (A)	Less than 51.2 dB (A)
Printing	Less than 69.7 dB (A)	Less than 70.0 dB (A)	Less than 71.5 dB (A)	Less than 72.2 dB (A)
Complete System				
Standby	Less than 49.0 dB (A)	Less than 49.1 dB (A)	Less than 52.9 dB (A)	Less than 52.9 dB (A)
Printing	Less than 74.8 dB (A)	Less than 75.0 dB (A)	Less than 75.5 dB (A)	Less than 76.3 dB (A)

Noise Emission: Sound Pressure Level (NA)

	C4a	C4b	C4d	C4e
Mainframe Only				

Standby	Less than 35.8 dB (A)	Less than 35.9 dB (A)	Less than 37.7 dB (A)	Less than 38.0 dB (A)
Printing	Less than 54.5 dB (A)	Less than 57.6 dB (A)	Less than 58.5 dB (A)	Less than 58.7 dB (A)
Complete System				
Standby	Less than 37.2 dB (A)	Less than 37.3 dB (A)	Less than 48.4 dB (A)	Less than 40.1 dB (A)
Printing	Less than 60.7 dB (A)	Less than 60.2 dB (A)	Less than 61.0 dB (A)	Less than 61.6 dB (A)

Noise Emission: Sound Power Level (EU)

	C4a	C4b	C4d	C4e
Mainframe Only				
Standby	Less than 48.3 dB (A)	Less than 48.8 dB (A)	Less than 50.8 dB (A)	Less than 51.2 dB (A)
Printing	Less than 69.7 dB (A)	Less than 70.0 dB (A)	Less than 71.5 dB (A)	Less than 72.2 dB (A)
Complete System				
Standby	Less than 49.0 dB (A)	Less than 49.1 dB (A)	Less than 52.9 dB (A)	Less than 52.9 dB (A)
Printing	Less than 74.8 dB (A)	Less than 75.0 dB (A)	Less than 75.5 dB (A)	Less than 76.3 dB (A)

Noise Emission: Sound Pressure Level (EU)

	C4a	C4b	C4d	C4e
Mainframe Only				
Standby	Less than 35.8 dB (A)	Less than 35.9 dB (A)	Less than 37.7 dB (A)	Less than 38.0 dB (A)
Printing	Less than 54.5 dB (A)	Less than 57.6 dB (A)	Less than 58.5 dB (A)	Less than 58.7 dB (A)
Complete System				

Standby	Less than 37.2 dB (A)	Less than 37.3 dB (A)	Less than 48.4 dB (A)	Less than 40.1 dB (A)
Printing	Less than 60.7 dB (A)	Less than 60.2 dB (A)	Less than 61.0 dB (A)	Less than 61.6 dB (A)

Note

- The above measurements were made in accordance with ISO 7779. Full system measurements include the Mainframe + Finisher + LCT + Cover Interposer + Punch.

Optional Equipment

1

A3/11" x 17" Tray Type 9001 (D482)

Paper Size	A3, B4, 11" x 17", 8.5" x 14", A4 SEF, A4 LEF, 8.5" x 11" SEF, 11" x 8.5" LEF
Paper Weight	52 to 163 g/m ² 16 to 40 lb. Bond 50 to 60 lb. Cover 90 lb. Index (no Tab)
Tray Capacity	1,000 sheets (80 g/m ² , 20lb)

RT43 (A4 LCT) (B473)

Paper capacity	4,000 sheets
Paper Sizes	A4 LEF, B5 LEF, 8.5" x 11" LEF * 1
Paper Weight	52 to 128 g/m ² (14 to 34 lb)
Pick-up and Feed	FRR (Feed and Reverse Roller)
Power Consumption	Less than 50 W (Max.)
Power Supply	DC24 V, 5V (powered by the main unit)
Rated Voltage of Output Connector	Max. DC 24 V
Dimensions (W x D x H)	314 x 458 x 659 mm (12.4" x 18.1" x 25.9")
Weight	20.0 kg (44 lb.)

* 1: In platen mode, APS (Auto Paper Select) with the original length and original width sensors are not used.

Finisher SR4050 (3K Finisher D460)

Upper Tray

Paper Capacity (80 g/m ²)	500 sheets (A4, 8.5" x 11" and smaller)
	250 sheets (B4, 8.5" x 14" and larger)
Paper Size	A3 to A6 SEF, 11" x 17" to 5.5" x 8.5", 12" x 18"
Paper Weight	52 to 216 g/m ² (14 to 58 lb)
Upper Tray Full Detection	Provided

Shift Tray

Paper Capacity (80 g/m ²)	3000 sheets (A4 LEF, B5 LEF, 8.5" x 11" LEF)
	1500 sheets (A3, A4 SEF, B4 and B5 SEF, 11" x 17", 8.5" x 14", 8.5" x 11" SEF, 12" x 18")
	500 sheets (A5 LEF, 5.5" x 8.5" LEF)
	100 sheets (A5 SEF, 5.5" x 8.5" SEF)
Paper Size	A3 to A5, 11" x 17" to 5.5" x 8.5", 12" x 18" (including tab paper)
Paper Weight	52 to 216 g/m ² (14 to 58 lb)
Shift Tray Full Detection	Provided

Stapler

Stapling Stack Size	A4, B5, 8.5" x 11" (Max. 100 Sheets)
	A3, B4, 11" x 17", 8.5" x 14" (Max. 50 sheets)
Stapling Paper Size	A3 to B5
	11" x 17" to 8.5" x 11"
Stapling Paper Weight	64 to 80 g/m ² (17 to 20 lb)

Staple Position	4 Modes <ul style="list-style-type: none"> • 1 Staple: Front, Rear, Rear-Oblique • 2 Staples: 2 locations 		
Staple Capacity	5000 staples/cartridge		
Staple Supply	Cartridge or Staple Replacement		
Stapled Stack Size	Sheets	Sets	Sizes
	10 to 100	200 to 30	A4 SEF, B5 SEF, 8.5" x 11" SEF
	2 to 9	150	A4 LEF, B5 LEF, 8.5" x 11" LEF
	10 to 50	150 to 30	A3, B4, 11" x 17", 8.5" x 14"
2 to 9	150		
Trim Waste Staple Capacity	30,000 or more		
Waste Staple Hopper Full Detection	Provided		
Power Consumption	Less than 100 W		
Power Source	DC 24 V (From Mainframe)		
Size (W x D x H)	800 x 730 x 980 mm (31.5" x 28.7" x 38.6")		
Weight	Less than 65 kg (143 lb.)		

Punch Unit Type 1075 (B531)

The Punch Unit B531 is installed in the Finisher SR4050 (D460).

Punch Hole Positions	2/3-hole (North America) 2/4-hole (Europe)
Punch Paper Size	
2-Hole (NA)	A5 to A3 SEF, 11" x 17" to 5.5" x 8.5" SEF A5 to A4 LEF, 8.5" x 11" LEF, 5.5" x 8.5" LEF
3-Hole (NA)	A3 SEF, B4 SEF, 11" x 17" SEF A4 LEF, B5 LEF, 8.5" x 11" LEF

4-Hole (EUR/A)	A3 SEF, 11" x 17" SEF A4 LEF, 8.5" x 11" LEF
Paper Weight	
2-Hole (NA)	52 g/m ² to 163 g/m ² (14 to 43 lb)
3-Hole (NA)	52 g/m ² to 163 g/m ² (14 to 43 lb)
4-Hole (EUR/A)	52 g/m ² to 128 g/m ² (14 to 34 lb)
Punch Waste Hopper Capacity	
2-Hole (NA)	10K
3-Hole (NA)	15K
4-Hole (EUR/A)	15K
Operation Modes	All (Shift, Proof, Staple)

DIP SW Settings

The correct DIP SW settings of the Punch Unit 531 are provided in the table below for your reference only. The DIP switches of these punch units do not need to be changed at installation, or adjusted for operation.

Punch Unit	Unit No.	DIP SW Settings			
		1	2	3	4
2/3-Hole (NA)	B531-17	1	0	1	0
2/4-Hole (EUR/A)	B531-27	1	0	0	1

0: OFF, 1: ON

Punch Unit Type 850 (A812)

The Punch Unit A812 is installed in the Finisher SR4050 (D460).

Punch Hole Positions	2-hole, 3-hole (NA) 4-hole (EUR/A) 4-hole (North Europe)
Punch Paper Size	

2-Hole	A5 to A3 SEF, 11" x 17" to 8.5" x 11" SEF A5 to A4 LEF, 8.5" x 11" LEF
3-Hole (NA)	A3 SEF, B4 SEF, 11" x 17" SEF A4 LEF, B5 LEF, 8.5" x 11" LEF
4-Hole (EUR/A)	A3 SEF, 11" x 17" SEF A4 LEF, 11" x 17" LEF
4-Hole (North Europe)	B5 to A3 SEF, 8.5" x 11" to 11" x 17" SEF A5 to A4 LEF, 8.5" x 11" LEF, 5.5" x 8.5" LEF
Paper Weight	
2-Hole, 3-Hole (NA)	52 g/m ² to 163 g/m ² (14 to 43 lb)
4-Hole (Europe/North Europe)	52 g/m ² to 128 g/m ² (14 to 34 lb)
Punch Waste Hopper Capacity	
2-Hole	40K
3-Hole (NA)	15K
4-Hole (EUR/A)	15K
4-Hole (North Europe)	15K
Power Supply	DC 24 V (From Finisher)
Power Consumption	60 W
Weight	Less than 2.4 K (5.3 lb.)
Operation Modes	All (Shift, Proof, Staple)

DIP SW Settings

The correct DIP SW settings of the Punch Unit A812 are provided in the table below for your reference only. The DIP switches of these punch units do not need to be changed at installation, or adjusted for operation.

Punch Unit	Unit No.	DIP SW Settings			
		1	2	3	4
2-Hole (EUR/A)	A812-40/A812-67	0	0	0	0

Punch Unit	Unit No.	DIP SW Settings			
		1	2	3	4
3-Hole (NA)	A812-57	1	0	0	0
4-Hole EUR/A)	A812-30	0	1	0	0
4-Hole (North Europe)	A812-31	0	0	1	0
2-Hole (NA)	A812-32	0	0	0	1

0: OFF, 1: ON

Output Jogger Unit Type 1075 (B513)

The Jogger Unit B513 is installed above the shift tray of the Finisher SR4050 (D460).

Paper Size	A3 SEF, B4 SEF, 11" x 17" SEF A4 LEF, B5 LEF, 8.5" x 11" LEF
Paper Weight	52 g/m ² to 216 g/m ² (14 to 58 lb)
Weight	Less than 1.7 kg (3.7 lb.)
Dimensions (W x D x H)	125 mm x 450 mm x 100 mm (5" x 17.7" x 4")
Power Supply	DC 24 V, DC 5V (From Finisher)
Power Consumption	24 W

LG Size Tray Type 1075 (B474)

Paper Size	B4, 8.5" x 14", A4 SEF, 8.5" x 11" SEF
Paper Weight	52 to 128 g/m ² (14 to 34 lb)
Tray Capacity	1,000 sheets (80 g/m ² , 20lb)

Finisher SR4030 (3K Finisher D374)

This finisher provides corner stapling only.

Finisher

Dimensions (W x D x H)	657 x 613 x 960 mm		
Weight	Less than 54 kg Less than 56 kg with Punch Unit		
Power Consumption	Less than 96 W		
Noise	Less than 75 db		
Configuration	Console type attached base-unit		
Power Source	From base-unit		
Proof Tray	Stack Capacity*	250 sheets	A4, 8.5"x11" or smaller
		50 sheets	B4, 8.5"x14" or larger
	Paper Size	A5-A3 SEF, A6 SEF, A6 SEF 5.5"x8.5"-11"x17"SEF, 12"x18" SEF	
	Paper Weight	52 g/m ² -163 g/m ² 14 lb Bond- 43 lb Bond / 90 lb Index / 60 lb Cover	
Shift Tray	Stack Capacity*	3,000 sheets	A4 LEF, 1/2" x11" LEF
		1,500 sheets	A3 SEF, A4 SEF, B4 SEF, B5, 11"x17" SEF, 8 1/2" x14" SEF, 8 1/2" x 11" SEF, 12"x18" SEF
		500 sheets	A5 LEF**
		100 sheets	A5 SEF, B6 SEF, A6 SEF, 5 1/2" x 8 1/2",SEF
	Paper Size	A5 - A3 SEF, A6 SEF, B6 SEF, 5 1/2" x 8 1/2" - 11"x17" SEF, 12" x 18" SEF	
	Paper Weight	52 g/m ² -256 g/m ² 14 lb Bond- 68 lb Bond / 140 lb Index / 90 lb Cover	

Stapler

Paper Size	B5-A3 8.5"x11"-11"x17", 12"x18"		
Paper Weight	64 g/m ² -90 g/m ² 17 lb Bond-28 lb Bond		
Staple Position	Top, Bottom, 2 Staple, Top-slant		
Stapling Capacity	Same Paper Size	50 sheets	A4, 1/2" x 11" or smaller
		30 sheets	B4, 1/2" x 14" or larger
	Mixed Paper Size	30 sheets	A4 LEF + A3 SEF, B5 LEF + B4 SEF, 8 1/2" x 11" LEF + 11" x 17" SEF
Staple Replenishment	Cartridge exchange / 5000 pins per cartridge		
Stapled Stack Capacity (same size)	Paper Size	Pages/Set	Sets
	A4 LEF, 8.5"x11" LEF	20-50 pages	150-60 sets
		2-19 pages	150 sets
	A4 SEF, B5, 8.5"x11" SEF	15-50 pages	100-30 sets
		2-14 pages	100 sets
	Others	15-30 pages	100-33 sets
		2-14 pages	100 sets
Stapled Stack Capacity (mixed sizes)	A4 LEF & A3 SEF, B5 LEF & B4 SEF, 8.5"x11" LEF, 11" x 17" SEF	2-30 pages	50 set

Finisher SR4040 (2K Booklet Finisher D373)

This finisher provides booklet as well as corner stapling. Equipped with two trays, the upper tray holds stapled and shifted copies, and the lower tray holds booklet stapled and folded copies.

Finisher

Dimensions (W x D x H)	657 x 613 x 960 mm (25.9 x 24.1 x 37.8")		
Weight	Less than 63 kg (138.6 lb.) (no punch unit) Less than 65 kg (143 lb.) (with punch unit)		
Power Consumption	Less than 96 W		
Noise	Less than 75 db		
Configuration	Console type attached base-unit		
Power Source	From base-unit		
Proof Tray	Stack Capacity*	250 sheets A4, 8.5"x11" or smaller 50 sheets B4, 8.5"x14 or larger	
	Paper Size	A5-A3 SEF, A6 SEF, A6 LEF 5 1/2" x 8 1/2" to 11" x 17" SEF, 12"x18" SEF	
	Paper Weight	52 g/m ² -163 g/m ² 14 lb Bond- 43 lb Bond / 90 lb Index / 60 lb Cover	
Shift Tray	Stack Capacity*	2,000 sheets	A4 LEF, 8.5"x11" LEF
		1,000 sheets	A3 SEF, A4 SEF, B4 SEF, B5 11"x17" SEF, 8 1/2" x 14" SEF, 8 1/2" x 11" SEF, 12"x18" SEF
		500 sheets	A5 LEF
		100 sheets	A5 SEF, B6 SEF, A6 SEF, 5 1/2" x 8 1/2" SEF
	Paper Size	A5 - A3 SEF, A6 SEF, B6 SEF 5 1/2" x 8 1/2" to 11" x 17" SEF, 12" x 18" SEF	
	Paper Weight	52 g/m ² -256 g/m ² 14 lb Bond- 68 lb Bond / 140 lb Index / 90 lb Cover	

Stapler

Paper Size	B5-A3, 8.5"x11"-11"x17", 12"x18"		
Paper Weight	64 g/m ² -90 g/m ² , 17 lb Bond-28 lb Bond		
Staple Position	Top, Bottom, 2 Staple, Top-slant		
Staples Capacity*	Same Paper Size	50 sheets	A4, 8 $\frac{1}{2}$ " x 11" or smaller
		30 sheets	B4, 8 $\frac{1}{2}$ " x 14" or larger
	Mixed Paper Size	30 sheets	A4 LEF & A3 SEF, B5 LEF & B4 SEF, 8 $\frac{1}{2}$ "x11" LEF & 11" x17" SEF
	Booklet Stapling	15 sheets	A4 SEF, A3 SEF, B5 SEF, B4 SEF, 8.5"x11" SEF, 8.5"x14" SEF, 11"x17" SEF, 12"x18" SEF
Staple Replenishment	Corner staple	5,000 staples per cartridge	
	Booklet staple	2,000 staples per cartridge	
Corner Staple Capacity	Same Size	A4 LEF, 8.5"x11" LEF	13-50 pages 2-12 pages
		A4 SEF, B5, 8.5"x11" SEF	10-50 pages 2-9 pages
		Others	10-30 pages 2-9 pages
	Mixed Size	A4 LEF + A3 SEF B5 LEF + B4 SEF 8.5"x11" LEF + 11" x17" SEF	2-30 pages
Booklet Staple Capacity	A4 SEF, A3 SEF, B5 SEF, B4 SEF 8.5"x11" SEF, 8.5"x14" SEF, 11"x17" SEF 12"x18" SEF	2-5 pages 6-10 pages 11-15 pages	

D373/D374 Paper Specifications

Paper Size	Plain Paper			Paper Type	
	Copier PPC	Used Paper	Recycled Paper	Colored Paper	Translucent Blueprint
A3 SEF	●	—	●	●	▲
B4 SEF	●	▲	●	●	▲
A4 SEF	●	▲	●	●	▲
A4 LEF	◆	▲	◆	◆	▲
B5 SEF	●	▲	●	●	▲
B5 LEF	◆	▲	◆	◆	▲
A5 SEF	○	—	—	—	—
A5 LEF	○	—	—	—	—
B6 SEF	▲	—	—	—	—
B6 LEF	▲	—	—	—	—
12" x 18" SEF	●	—	●	●	—
11" x 17" SEF	●	—	●	●	▲
8 $\frac{1}{2}$ " x 14"	●	—	●	●	▲
8 $\frac{1}{2}$ " x 11" SEF	●	—	●	●	▲
8 $\frac{1}{2}$ " x 11" LEF	◆	▲	◆	◆	▲
5 $\frac{1}{2}$ " x 8 $\frac{1}{2}$ "	○	—	—	○	—
5 $\frac{1}{2}$ " x 8 $\frac{1}{2}$ "	○	—	—	○	—

◆: Corner stapling, Shift, YES

●: Booklet stapling/folding, Shift, YES

○: Shift ONLY

▲: Shift NO

—: Not available

Punch Unit Type 3260 (B702)

This punch unit is designed for use with the Finisher SR4040 (D373: both corner and booklet stapling) and Finisher SR4030 (D374: corner stapling only).

Available Punch Units	NA	2/3 hole switchable	
	EU	2/4 holes switchable	
	Scandinavia	4 holes	
Punch Waste Replenishment	NA 2-hole	Up to 5,000 sheets	
	NA 3-hole	Up to 5,000 sheets	
	EU 2-hole	Up to 14,000 sheets	
	EU 4-hole	Up to 7,000 sheets	
	Scandinavia 4-hole	Up to 7,000 sheets	
Paper Weight	52 g/m ² -163 g/m ² , 14 lb Bond to 43 lb Bond / 90 lb Index / 60 lb Cover		
Paper Sizes	NA 2-hole	SEF	A5 to A3, 5 1/2" x 8 1/2" to 11" x 17"
		LEF	A5 - A4, 5 1/2" x 8 1/2", 8 1/2" x 11"
	NA 3-hole	SEF	A3, B4, 11" x 17"
		LEF	A4, B5, 8 1/2" x 11"
	EU 2-hole	SEF	A5 - A3, 5 1/2" x 8 1/2" to 11" x 17"
		LEF	A5 to A4, 5 1/2" x 8 1/2", 8 1/2" x 11"
	EU 4-hole	SEF	A3, B4, 11" x 17"
		LEF	A4, B5, 8 1/2" x 11"
	Scandinavia 4-hole	SEF	A5 to A3, 5 1/2" x 8 1/2" to 11" x 17"
		LEF	A5 - A4, 5 1/2" x 8 1/2", 8 1/2" x 11"

9-Bin Mailbox (B762)

The mailbox can be installed on top of the Finisher SR4030 (D374), the Finisher SR4040 (D373), or the Finisher SR4050 (D460).

1

Dimensions (w x d x h)	540 x 600 x 660 mm (21.3 x 23.6 x 26 in.)
Weight	Less than 15 kg (33 lb.)
Power Consumption	Less than 48 W
Noise	Less than 74 dB
Number of Bins	9 bins
Stack Capacity of each Bin	100 sheets*
Paper Size	A5, A4, A3
	5 1/2" x 8 1/2", 8 1/2" x 11", 8 1/2" x 14", 11" x 17"
Paper Weight	52 - 128g/m ²
	14 lb – 34 lb Bond

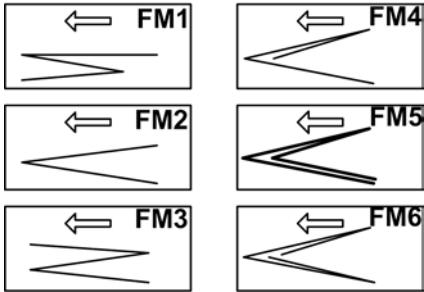
Cover Interposer Tray Type 3260 (B704)

Dimension (W x D x H)	500 x 600 x 600 mm (19.7 x 23.6 x 23.6 in.)	
Weight	Less than 12 Kg (26.4 lb.)	
Power Consumption	Less than 43 W	
Noise	Less than 65 db	
Stack Capability*	200 Sheets	
Paper Size	A5-A3, 5 1/2" x 8 1/2" - 11" x 17"	
Paper Weight	64 g/m ² -216 g/m ² 17 lb. Bond- 80 lb. b Cover	
Original Set Position	Center	
Original Set	Normal Feed	Face-up
	Booklet Feed	Face-down

Mutli-Folding Unit FD5000 (D454)

General

Dimensions (W × D × H)	470 × 980 × 730 mm (18.6 × 38.6 × 28.8 in.)	
Weight	Approx. 92 kg (202.9 lb.)	
Power Consumption	Maximum 270 W (A separate power source is required.)	
Power Source	220 - 240 V, 50/60 Hz, 1.2 A	
Operating Environment	Temperature and humidity ranges: Same as main machine.	
Paper Weight	Single sheet mode: 64 to 103 g/m ² (17 lb. Bond - 28 lb. Bond) Multiple sheets mode: 64 to 80 g/m ² (17 lb. Bond - 20 lb. Bond)	
Folding Methods	6 (see below)	
Speed	Straight-Through	100 to 700 mm/s
	Folding	270 to 700 mm/s
Straight-Through Feed	Size	Postcard to 13x19.2"
	Type	Used paper: A3, A4, B4, B5 OHP: A4, B5 Tap paper: A4 LEF, LT LEF
Folding Methods	6 (FM1 to FM6)	



FM1: Z-Folding
 FM2: Half Fold
 FM3: Letter Fold-out
 FM4: Letter Fold-in
 FM5: Double Parallel Fold
 FM6: Gate Fold

d454v900

Paper Sizes (Folding)	FM1	A3, B4, DLT, LG, A4, LT, 12x18", 8-kai
	FM2	A3, B4, DLT, LG, A4, B5, LT 12x18", 12.6x18.5", 12.6x19.2", 13x18", 13x19", 13x19.2", 226x310 mm, 310x432 mm, SRA3, SRA4, 8-kai
	FM3	A3, B4, DLT, LG, A4, LT, B5, 12x18", 8-kai
	FM4	
	FM5	
	FM6	
Paper Weights (Folding)	FM1	64 to 105 g/m ²
	FM2	
	FM3	
	FM4	
	FM5	
	FM6	
Multiple Folding	FM1	Not allowed
	FM2	Max. 3 (64 to 80 g/m ² only)
	FM3	Max. 3 (64 to 80 g/m ² only)

	FM4	Max. 3 (64 to 80 g/m ² , B4, A4, LT, B5 only)
	FM5	Not allowed
	FM6	
Line Speed (Only FM1 Z-Folded paper can exit downstream)		
No Fold	350 mm/sec. to top tray To downstream: Same as main machine.	
FM1	700 mm/sec. to top tray (paper ≤ 355.6 mm long) 450 mm/sec. to top tray (paper < 355.6 mm long) To downstream: Same as main machine.	
FM2	1 Sheet: Same as main machine 2-3 Sheets: 454 mm/sec. 700 mm/sec. to top tray (paper ≤ 355.6 mm long) 350 mm/sec. to top tray (paper ≤ 279.4 < 355.6 mm long) 250 mm/sec. to top tray (paper < 279.4 mm long)	
FM3 FM4	1 Sheet: Same as main machine 2-3 Sheets: 454 mm/sec. to top tray 350 mm/sec. to top tray (paper ≤ 420 mm long) 250 mm/sec. to top tray (paper < 420 mm long)	
FM5	1 Sheet: Same as main machine 350 mm/sec. to top tray (paper ≤ 420 mm long) 250 mm/sec. to top tray (paper < 420 mm long)	
FM6	1 Sheet: Same as main machine as far as 3rd Stopper. At 3rd stopper feeds 50 mm at 100 mm/sec. 350 mm/sec. to top tray (paper ≤ 420 mm long) 250 mm/sec. to top tray (paper < 420 mm long)	
Power Supply	NA	AC 120V 60 Hz, 15A
	EU	AC 220 to 240V, 50/60 Hz 10A
Power Consumption	270 W	
Size (w x d x h)	466 x 980 x 730 mm (18.4 x 38.6 x 28.7 in.)	

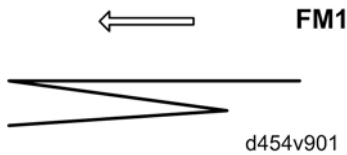
Level	Less than 5 mm deviation at front/back, left/right		
Weight	92 kg (203 lb)		
Noise Level (dB A)	Mode	Alone	System
	No Folding	< 76 dB	---
	Folding	< 78 dB	< 83 dB

Tray Capacity

The capacity of the tray on top of the unit for folded paper is determined by these variables:

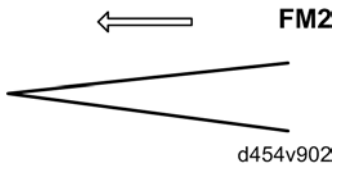
- Folding Methods (FM1 to FM6)
- Paper size
- Paper weight

Folding Mode FM1



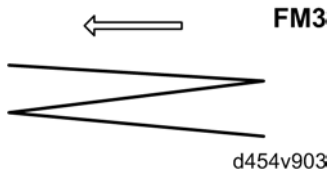
Size	Weight (Standard) 64 to 80 g/m ²	Weight (Heavy) 64 to 80 g/m ²
8-kai	35	20
12x18"	35	20
A3 SEF	35	20
DLT	35	20
B4 SEF	35	20
LG SEF	35	20
A4 SEF	30	20
LT SEF	30	20

Folding Mode FM2



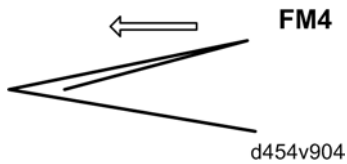
Size	Weight (Standard) 64 to 80 g/m ²	Weight (Heavy) 64 to 80 g/m ²
13x19.2"	40	25
13x19"	40	25
12.6x19.2"	40	25
12.6x18.5"	40	25
13x18"	40	25
SRA3 (320x450 mm)	40	25
SRA4 (225x320 mm)	40	25
226x310 mm	40	25
310x432 mm	40	25
8-kai	40	25
12x18"	40	25
A3 SEF	40	25
DLT	40	25
B4 SEF	40	25
LG SEF	40	25
A4 SEF	50	50
LT SEF	50	50
B5 SEF	50	50

Folding Mode FM3



Size	Weight (Standard) 64 to 80 g/m ²	Weight (Heavy) 64 to 80 g/m ²
8-kai	30	20
12x18"	30	20
A3 SEF	30	20
DLT	30	20
B4 SEF	30	20
LG SEF	30	20
A4 SEF	40	30
LT SEF	40	30
B5 SEF	40	30

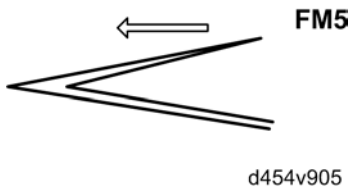
Folding Mode FM4



Size	Weight (Standard) 64 to 80 g/m ²	Weight (Heavy) 64 to 80 g/m ²
8-kai	40	20
12x18"	40	20
A3 SEF	40	20
DLT	40	20
B4 SEF	40	20

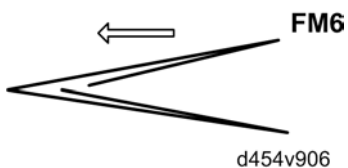
Size	Weight (Standard) 64 to 80 g/m ²	Weight (Heavy) 64 to 80 g/m ²
LG SEF	40	20
A4 SEF	50	40
LT SEF	50	40
B5 SEF	50	40

Folding Mode FM5



Size	Weight (Standard) 64 to 80 g/m ²	Weight (Heavy) 64 to 80 g/m ²
8-kai	30	20
12x18"	30	20
A3 SEF	30	20
DLT	30	20
B4 SEF	30	20
LG SEF	30	20
A4 SEF	30	30
LT SEF	30	30
B5 SEF	30	30

Folding Mode FM6



1

Size	Weight (Standard) 64 to 80 g/m ²	Weight (Heavy) 64 to 80 g/m ²
8-kai	50	20
12x18"	50	20
A3 SEF	50	20
DLT	50	20
B4 SEF	50	20
LG SEF	50	20
A4 SEF	30	30
LT SEF	30	30
B5 SEF	30	30

2. Appendix: PM Tables

PM Tables

The amounts mentioned (K=1,000) as the PM interval indicate the number of prints or copies unless stated otherwise. These numbers are based on the PM counter.

Symbol key: C: Clean, R: Replace, L: Lubricate, I: Inspect, EM: Emergency Maintenance, AN: As necessary, Exp.: Expected Life (K)

⚠ WARNING

- Turn off the power switch and unplug the power cord before performing any procedure in this section. Laser beams can seriously damage the eyes.

Main Machine

Scanner Optics

	300K	450K	600K	AN	Exp.	Note
1st, 2nd, 3rd Mirror				C		Optics cloth
Exposure Glass	C			C		Damp cloth
Scanner Guide Rails				C/L		After cleaning with alcohol, lubricate scanner guide rails with Launa Oil.
Toner Shield Glass	C			C		Optics cloth
Reflector				C		Optics cloth
Dust Filters				C		Blower brush

Around the Drum

	300K	450K	600K	AN	Exp.	Note
Charge Corona Grid	R				300	
Charge Corona Wire	R			C	450	Alcohol cloth

	300K	450K	600K	AN	Exp.	Note
Charge Wire Cleaning Pad	R				450	
Cleaning Blade	R				500	
Cleaning Brush	R					
Charge Corona Casing	C			C		Damp cloth
Internal Dust Filter				C		Blower brush
ID Sensor	C			C		Blower brush. Do SP 3001 002 after cleaning.
Pick-off Pawls	I			I		Replace if necessary.
Potential Sensor	C			C		Blower brush
OPC Drum					1,200	Replace when an image problem occurs.
Quenching Lamp	C			C		Dry cloth
Transfer Entrance Stay	C			C		Dry cloth
Ozone Filter (Rear)					4,500	
Ozone Filter (Front)	R					
Cleaning Filter	R					
Cleaning Side Seal				C		Dry cloth
Cleaning Entrance Seal				C		Dry cloth
PTL	C			C		Dry cloth
Toner Collection Bottle				I	1,500	
Toner Pan	C			C		Dry cloth

Development Unit

	300K	450K	600K	AN	Exp.	Note
Developer	R					PM cycle is 350K.

	300K	450K	600K	AN	Exp.	Note
Development Filter	R			I		
Development Roller	C					Dry cloth
Side Seals	C			C		Blower brush, dry cloth
Entrance Seal	C			C		Blower brush, dry cloth
Toner Hopper	C			C		Dry cloth
Toner Bottle Holder	C			C		Dry cloth
Toner Trap	C			C		Dry cloth
Drive Gears	C			C		Blower brush.
Development Roller Drive Shaft	C			C		Clean with blower brush and dry cloth every time the developer is replaced.
Development Unit	C			C		Dry cloth.
Paddle Roller Shaft	C			C		Blower brush, dry cloth.
Used Toner Separation Unit	I		R			

Paper Feed

	300K	600K	1000K	AN	Exp.	Note
Registration Rollers	C					Alcohol
Relay Rollers	C					Alcohol
Paper Dust Mylar	C			C		Dry cloth
Registration Sensor	C					Blower brush
Relay Sensor	C					Blower brush
Bypass Paper End Sensor	C					Blower brush
Grip Rollers	C					Dry cloth, blower brush
Vertical Guide Plate	C					Dry cloth

	300K	600K	1000K	AN	Exp.	Note
Paper Feed Guide Plate	C					Dry cloth
Vertical Transport Rollers	C	C				Alcohol
Paper Feed Sensors	C	C				Blower brush
Paper End Sensors	C	C				Blower brush
Feed Rollers			R		1000	See Notes below this table.
Pick-up Rollers			R		1000	
Separation Rollers			R		1000	

Notes:

- Always replace pick-up, feed and separation rollers as a set.
- The target service life of the feed, pick-up, and separation rollers is 1000 K. However, they should be replaced sooner if the machine begins to jam or double-feed.

Transfer Belt Unit

	300K	450K	600K	AN	Exp.	Note
Transfer Belt			R		750	Use dry cloth to clean transfer belt. Always replace transfer belt and transfer roller cleaning blade together.
Transfer Roller Cleaning Blade			R		750	
Transfer Entrance Guide Plate	C					Dry cloth
Transfer Drive Roller	C					Dry cloth
Transfer Idle Roller	C					Dry cloth
Transfer Bias Roller	C					Dry cloth
Transfer Exit Guide Plate	C					Dry cloth
Discharge Plate	R					
Transfer Belt Unit Casing	C					Dry cloth
Slide Rail Bracket	C					

Fusing Unit and Paper Exit

	300K	450K	900K	AN	Exp.	Note
Fusing Entrance Guide Plate	C					Dry cloth
Fusing Exit Guide Plate	C					Dry cloth
Fusing Lamps	I					
Hot Roller		R			450	
Hot Roller Bearings		R			450	
Pressure Roller		R			450	
Pressure Roller Bearings		R			450	
Pressure Cleaning Roller		R			450	Replace as a set.
Pressure Cleaning Roller Bearings		R			450	
Hot Roller Strippers		R			450	
Thermistors x2		R				
Cleaning Web		R				
Cleaning Web Pressure Roller		R				Replace roller and bushings together.
Cleaning Web Pressure Roller Bearings			R		900	
De-Curler Rollers	C					Alcohol
Exit Static Discharge Brush	I					
Exit Rollers (Top, Bottom)	C					Alcohol
Transport Rollers	C					Alcohol

Duplex

	300K	450K	600K	AN	Exp.	Note
Entrance Sensor	C			C		Blower brush

	300K	450K	600K	AN	Exp.	Note
Inverter Exit Rollers	C					Alcohol
Reverse Trigger Rollers	C					Dry cloth
Transport Rollers	C					Dry cloth
Inverter Entrance Roller	C					Dry cloth
Entrance Anti-Static Brush	C					Dry cloth
Reverse Junction Gate	C					Dry cloth

ADF

The PM interval is for the number of originals that have been fed.

	300K	400K	600K	AN	Exp.	Note
Pick-up Roller			R			Alcohol, belt cleaner to clean paper feed belt. Replace these items together.
Separation Roller			R			
Paper Feed Belt			R			
ADF Transport Belt			R			
CIS Glass	C	C	C			Dry cloth
White Guide Plate		R		C		Alcohol or dry cloth
Sensors	C	C	C			Blower brush.
Platen Cover Sheet	C	C	C			Water or alcohol
Drive Gears	L	L	L			Grease G501.
Transport Belt	C	C	C			Water or alcohol
Entrance Roller	C	C	C			
White Platen Roller	C	C	C			
Pre-Scanning Roller	C	C	C			
Scanning Roller	C	C	C			
Exit Roller	C	C	C			

Optional Peripheral Devices

RT43 (A4 LCT) (B473)

	300K	450K	1000K	Exp.	Note
Pick-up Roller			R	1000	Always replace these rollers as a set. The target service life of the feed, pick-up, and separation rollers is 1000 K. However, they should be replaced sooner if the machine begins to jam or double-feed
Feed Roller			R	1000	
Separation Roller			R	1000	

2

Cover Interposer Tray Type 3260 (B704)

The cover interposer tray can be used with the Finisher SR4030 (D374), SR4040 (D373) or Finisher SR4050 (D460). The interposer tray is installed between the main machine and the finisher.

Note: The PM interval is for the number of sheets that have been fed.

	60K	120K	180K	Exp.	Note
Feed Belt	R	R	R		Replace as a set.
Pick-up Roller	R	R	R		
Separation Roller	R	R	R		
Driver Rollers	C	C	C		Damp clean cloth.
Idle Rollers	C	C	C		Damp clean cloth.
Discharge Brush	C	C	C		Damp clean cloth.
Sensors	C	C	C		Blower brush.

Finisher SR4050 (3K Finisher D460)

	350K	700K	1050K	Exp.	Note
Drive rollers	I	I	I		Alcohol
Idle rollers	I	I	I		
Discharge brush	I	I	I		
Bushings	I	I	I		Lubricate with silicone oil if noisy.
Sensors	I	I	I		Blow brush.
Jogger fences	I	I	I		Make sure screws are tight.
Staple waste hopper	C	C	C		Empty staple waste.

Finisher SR4030 (D374)/ SR4040 (D373)

	2400K	3000K	4000K	Exp.	Note
Covers				I/C	Alcohol or water, dry cloth
Drive Rollers				C	Damp cloth, dry cloth
Idle Rollers				C	Damp cloth, dry cloth
Anti-Static Brush				C	Dry cloth
Sensors				C	Blower brush
Corner Stapler			R		Print an SMC report with SP5990. Replace the unit if the staple count is 500K.
Booklet Stapler			R		Print an SMC report with SP5990. Replace the unit if the staple count is 200K.

Punch Unit Type 3260 (B702) for Finisher SR4030 (D374)/ SR4040 (D373)

	2400K	3000K	4000K	EM	Note
Punch Waste Hopper	I	I	I	I	Remove and empty

	2400K	3000K	4000K	EM	Note
Punch Unit				C	Replace after 1000k punches.

Multi-Folding Unit FD5000 (D454)

Part	PM Visit	Notes
Rollers (drive, idle rollers)	I/C	Alcohol, clean cloth
Anti-static brush	I/C	
Shafts	I/C	Lubricate with silicone oil if noisy.
Sensors	I/C	Blower brush
Positioning roller	I/C	Inspect for scratches or nicks
Fold rollers (1st, 2nd, 3rd)	I/C	Alcohol, clean cloth
Crease rollers (drive, idle roller)	I/C	

Related SP Codes

This is a list of the PM related SP codes. For details, refer to "Service Tables" in the "Appendices".

SP7803	PM Counter Display	Displays the PM count since the last PM.
SP7804	PM Counter Reset	Resets the PM count.

3. Appendix: Service Call Conditions

Service Call Conditions

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.

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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 do servicing on 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.
2. If you must use the printer bit switches, go into the SP mode and set SP 5169 to "1".
3. After machine servicing is completed:
 - Change SP 5169 from "1" to "0".
 - Turn the machine off and on. Tell the administrator that you completed servicing the machine.
 - The Administrator will then set the "Service Mode Lock" to ON.

Service Call Conditions

There are 4 levels of service call conditions.

Level	Definition	Reset Procedure
A	Fusing unit SCs displayed on the operation panel. The machine is disabled. The user cannot reset the SC.	Enter SP mode, do SP5810, then turn the power switch off/on.
B	SCs that disable only the features that use the defective item. Although these SCs are not shown to the user under normal conditions, they are displayed on the operation panel only when the defective feature is selected.	Turn the main power switch off/on.
C	SCs that are not shown on the operation panel. They are internally logged.	Logging only

Level	Definition	Reset Procedure
D	Turning the operation switch or the main power switch off/on resets SCs Displayed on the operation panel. These are re-displayed if the error occurs again.	Turn the operation switch or main power switch off/on.

SC Code Descriptions

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★ Important

- If a problem concerns electrical circuit boards, always disconnect then reconnect the connectors before replacing the PCBs.
- If a motor lock error occurs, first check the mechanical load before replacing motors or sensors.
- When a Level "A" or "B" SC occurs while in an SP mode, the display does not display the SC number. If this occurs, check the SC number after leaving the SP mode.

SC100: Scanning System

	D	Exposure Lamp Error
		At trigger on, the lamp was not detected on.
101	-	<ul style="list-style-type: none"> • SBU board defective • SIOB board defective • IPU board defective • BCU board defective • Exposure lamp defective • Lamp stabilizer defective • Lamp stabilizer harness damaged, disconnected • Standard white plate dirty, disconnected or has condensation • DF white belt dirty • DF glass dirty or has condensation • Scanner mirror dirty, out of position or has condensation • Lens dirty, out of position

120	D	Scanner home position error 1
		The scanner HP sensor does not detect the OFF condition during initialization or copying.
	-	<ul style="list-style-type: none"> • BCU, SIOB defective • Scanner motor defective • Scanner HP sensor defective. • Harness between BCU, SIOB, scanner motor disconnected. • Harness between scanner HP sensor and BCU disconnected. • Scanner wire, timing belt, pulley, or carriage installed incorrectly.
121	D	Scanner home position error 2
		The scanner HP sensor does not detect the ON condition during initialization or copying.
	-	<ul style="list-style-type: none"> • BCU, SIOB defective • Scanner motor defective • Scanner HP sensor defective • Harness between BCU, SIOB, scanner motor disconnected • Harness between scanner HP sensor and BCU disconnected • Scanner wire, timing belt, pulley or carriage installed incorrectly.
141	D	Black level detection error
		The black level cannot be adjusted within the target during auto gain control.
		<ul style="list-style-type: none"> • Harness between SBU – SIOB is disconnected. • Harness between SIOB – BCU is disconnected. • Defective SBU • Defective BCU
		<ol style="list-style-type: none"> 1. Check the SBU-SIOB/SIOB-BCU harness connections or replace these harnesses. 2. Replace the SBU. 3. Replace the BCU

142	D	White level detection error
		The white level cannot be adjusted to the second target level within the target during auto gain control.
	-	<ul style="list-style-type: none"> • Dirty exposure lamp or optics section • SBU board defective • SIOB defective • IPU board defective • BCU board defective • Harnesses are disconnected. • Exposure lamp defective • Lamp stabilizer defective • Scanner motor defective
		<ol style="list-style-type: none"> 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. 4. Replace the exposure lamp. 5. Replace the scanner motor. 6. Replace the SBU board, SIOB, IPU board or BCU board.

143	C	SBU auto gain error
		The white level cannot be adjusted to the first target level within the target during auto gain control.
-		<ul style="list-style-type: none"> • SBU board defective • SIOB board defective • IPU board defective • BCU board defective • Scanner motor defective • Exposure lamp defective • Exposure lamp stabilizer defective • Harness between exposure lamp and lamp stabilizer is disconnected • Harness between lamp stabilizer – SIOB is disconnected • Harness between SBU - SIOB is disconnected • Harness between SIOB - BCU is disconnected • Harness between SBU – IPU is disconnected • Harness between IPU - BCU is disconnected • White plate is installed incorrectly or is dirty • Scanning mirrors of the exposure unit are dirty or out of position

144	D	SBU transmission error
		<p>After the SBU switches on, the BCU detects one of the following conditions on the SBU:</p> <ul style="list-style-type: none"> • 1 s after power on, the SYDO signal does not go high, even after 1 retry. • 1 s after power on, the SYDO signal goes high, but the SBU ID could not be read after 3 attempts.
-		<ul style="list-style-type: none"> • SBU defective • SIOB defective • BCU defective • Harness between the SBU - SIOB is disconnected • Harness between the SIOB - BCU is disconnected • Harness between the SIOB – PSU is disconnected

161	D	IPU error
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001	D	The error result of self-diagnostic by the ASIC on the BICU is detected.
		<ul style="list-style-type: none"> Defective BICU Defective connection between BICU and SBU
		<ol style="list-style-type: none"> Check the connection between BICU and SBU. Replace the BICU.
002	D	The machine detects an error during an access to the Ri.
		<ul style="list-style-type: none"> Defective BICU board
		Replace the BICU board.
003	D	The IPU fails to configure or initialize the DRAM.
		<ul style="list-style-type: none"> Defective BICU board
		Replace the BICU board.
165	D	Copy data security unit error B829
		The copy data security option is installed by not operating correctly.
		<ul style="list-style-type: none"> Copy data security card corrupted The board is not installed or the board is defective
181	D	Inverter Fan Error
		When the exposure lamp is triggered on, the inverter fan motor does not rotate.
	-	<ul style="list-style-type: none"> SIOB defective BCU defective Inverter fan motor defective Harness between the inverter fan motor - SIOB is disconnected Harness between the SIOB – BCU is disconnected Harness between the SIOB – PSU is disconnected

182	D	Scanner Fan Error: Right Side
		The fan located on the right side of the exposure unit is not rotating.
	-	<ul style="list-style-type: none"> • Check the fan connections • Fan defective • Check SBU connection • SBU defective
185	D	CIS transmission error
		Error caused during ASIC register's automatic initialization on the CIS, or during transmission between the CIS – DF.
	-	<ul style="list-style-type: none"> • Harness between the CIS – DF is disconnected • CIS defective
186	D	CIS LED error
		<p>LED on the CIS causes error</p> <ul style="list-style-type: none"> • During initializing, the ration of the average between leading-edge area and rear-edge is beyond the permissible level (0.7 – 1.43). • During scanning, the shading data peak is under 32(8bit).
		<ul style="list-style-type: none"> • Harness CN210 and CN220 on ADF are disconnected. • Otherwise, replace CIS.
187	D	CIS BK level error
		<p>The BK level scanned by CIS is abnormal.</p> <p>The BK level average of R, G or B is/are not from 2 to 62.</p> <p>$0 < \text{Calibrated BK data level} < 255(10\text{bit})$.</p>
		<ul style="list-style-type: none"> • Turn off the machine. • Make sure CN210 and CN220 are connected firmly. • Turn on the machine.

188	D	CIS white level error
		The shading data peak detected from the CIS is abnormal. <ul style="list-style-type: none"> • CIS defective
	-	<ol style="list-style-type: none"> 1. Make sure CN210 and CN220 are connected firmly. 2. Replace the CIS.

3

189	D	CIS gray balance adjustment error
		The adjustment error occurs during the test after adjusting the gray balance. <ul style="list-style-type: none"> • CIS defective
		<ol style="list-style-type: none"> 1. Retry the gray balance adjustment. 2. If the machine does not recover, do the following steps. <ul style="list-style-type: none"> • Turn off the machine. • Make sure CN210 and CN220 are connected firmly. • Turn on the machine. 3. If the machine does not recover, replace the CIS.

195	D	Machine serial number error
		The number registered for the machine serial number does not match.
	-	<ol style="list-style-type: none"> 1. Confirm the correct serial number of the machine in the specifications. <p>Important: When SC195 occurs, the serial number must be input. Contact your technical supervisor.</p>

SC200: Exposure

202	D	Polygon mirror motor error 1: Timeout at ON
		The polygon mirror motor unit did not enter "Ready" status within 20 sec. after the motor was turned on,
-		<ul style="list-style-type: none"> • The polygon mirror motor PCB connector is loose, broken, or defective • Polygon mirror motor PCB defective • Polygon mirror motor defective • IPU defective
203	D	Polygon mirror motor error 2: Timeout at OFF
		The polygon mirror motor did not leave "Ready" within 3 sec. after the motor was switched off. (The XSCRDY signal did not go HIGH (inactive) within 3 sec.)
-		<ul style="list-style-type: none"> • The polygon mirror motor PCB connector is loose, broken, or defective • Polygon mirror motor PCB defective • Polygon mirror motor defective • IPU defective
204	D	Polygon mirror motor error 3: XSCRDY signal error
		The polygon mirror motor "Ready" signal goes inactive (HIGH) while images are being produced or the synchronization signal is being output.
-		<ul style="list-style-type: none"> • Polygon mirror motor PCB connector loose, broken, defective • Polygon mirror motor PCB defective • Polygon mirror motor defective
205	D	Polygon mirror motor error 4: Unstable timeout
		The "Ready" signal (XSCRDY) was detected as unstable for more than 20 sec. while the polygon mirror motor was operating at normal speed.
-		<ul style="list-style-type: none"> • Electrical noise on the line with the motor signals • Polygon mirror motor PCB connector loose, broken, defective • Polygon mirror motor PCB defective • IPU defective

220	D	<p>Laser synchronization detection error</p> <p>The 1st laser synchronization detection unit could not detect the line synchronization signal (DETP0) within 500 ms while the polygon mirror motor was operating at normal speed.</p> <p>Note: The unit polls for the signal every 50 ms. This SC is issued after the 10th attempt fails to detect the signal.</p>
	-	<ul style="list-style-type: none"> • Laser synchronization board connector loose, broken, defective • Laser synchronization detection board is not installed correctly (out of alignment) • Laser synchronization board defective • IPU defective

221	D	<p>Laser Synchronization Detector Error: K Leading Edge (Not LD0)</p> <p>While the polygon motor is rotating normally, no synchronizing detection signal is output for black, leading edge for any LD other than LD0.</p>
	-	<ul style="list-style-type: none"> • Harness between the laser synchronizing detector and I/F unit is disconnected, defective • Check all connections between LD unit, LDB, IPU • LD unit • LDB defective • IPU defective

230	D	<p>FGATE ON error: K</p>
		<p>The PFGATE ON signal does not assert within 5 seconds after processing the image in normal job or MUSIC for start position [K].</p>
		<ul style="list-style-type: none"> • Defective ASIC • Poor connection between controller and BICU. • Defective BICU
		<ol style="list-style-type: none"> 1. Check the connection between the controller board and the BICU. 2. Replace the BICU. 3. Replace the controller board.

231	D	FGATE OFF error: K
		<ul style="list-style-type: none"> The PFGATE ON signal still asserts within 5 seconds after processing the image in normal job or MUSIC for end position [K]. The PFGATE ON signal still asserts when the next job starts.
		See SC 230 for troubleshooting details.

240	C	LD error: K
		The BICU detects LDB error a few times consecutively when LDB unit turns on after LDB initialization.
		<ul style="list-style-type: none"> Worn-out LD Disconnected or broken harness of the LD
		<ol style="list-style-type: none"> Replace the harness of the LD. Replace the laser optics housing unit. Replace the BICU.

3

SC300: Image Development System (1)

300	D	Charge corona output error
		The feedback voltage from the charge corona unit is detected too high 9 times.
	-	<ul style="list-style-type: none"> Charge corona power pack defective Charge corona harness disconnected Poor charge corona unit connection

303	D	Charge corona grid leak
		When the high voltage is output to the corona grid, feedback voltage exceeds the prescribed value 9 times.
	-	<ul style="list-style-type: none"> Charge corona power pack defective Charge corona harness disconnected Poor charge corona unit connection

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304	D	Charge grid circuit open
		When high voltage goes to the corona grid, feedback voltage is more than the set value 9 times. This feedback voltage is used to update PWM for output control.
	-	<ul style="list-style-type: none"> • Charge corona unit defective or disconnected • Charge corona harness defective • Charge corona power pack is defective.

305	D	Charge corona wire cleaner error 1
		The charge cleaner pad does not arrive at the home position: Motor locked within 4 s after switching on, or does not lock within 30 s. Motor locked within 10 s after reversing, or does not lock within 30 s.
	-	<ul style="list-style-type: none"> • Charge corona wire cleaner motor defective • Motor driver defective

306	C	Charge corona wire cleaner error 2
		Charge corona motor is disconnected. (The current at the charge corona motor is detected less than 83 mA.)
	-	<ul style="list-style-type: none"> • Charge corona wire cleaner motor connector is defective or disconnected.

Note

- When SC310 to SC317 are logged, the machine halts without displaying the SC number. These SC codes log an abnormal condition at the potential sensor only when SP3901 (Auto Process Control) is set to on.

310	C	Potential sensor calibration error 1
		During drum potential sensor calibration, the drum potential sensor output voltage does not meet specification when test voltages (-100V, -800V) are applied to the drum.
	-	<ul style="list-style-type: none"> • Potential sensor defective • Potential sensor harness disconnected • Potential sensor connector defective or disconnected • IOB defective • OPC connector defective • Development power pack defective

311	C	Potential sensor calibration error 2
		During drum potential sensor calibration, the drum potential sensor output voltage does not meet specification when test voltages (-100V, -800V) are applied to the drum.
	-	<ul style="list-style-type: none"> • Potential sensor defective • Potential sensor harness disconnected • Potential sensor connector defective or disconnected • IOB defective • OPC connector defective • Development power pack defective

312	C	<p>Potential sensor calibration error 3</p> <p>During drum potential sensor calibration when adjusting the drum potential (VD), the drum potential sensor detects VD higher than VG (grid voltage).</p> <p>-or-</p> <p>When adjusting VD (drum surface potential of black areas after exposure), even after 5 adjustments of VG (charge corona grid potential), VD could not be set in the target range ($-800 \pm 10 + VL + 130V$)</p>
	-	<ul style="list-style-type: none"> • Potential sensor defective • Potential sensor harness disconnected • Potential sensor connector defective or disconnected • IOB defective • OPC connector defective • Development power pack defective • Charge corona unit worn out, dirty

314	C	<p>Potential sensor calibration error 4</p> <p>During drum potential sensor calibration when adjusting the drum potential (VH) for LD power adjustment, the first time the VH pattern is made, the drum potential sensor detects that VH is more than 500V:</p> <p>$VH > -500 + VL + 130 V$</p>
	-	<ul style="list-style-type: none"> • Potential sensor defective • Potential sensor harness disconnected • Potential sensor connector defective or disconnected • IOB defective • OPC connector defective • LD defective

315	C	Potential sensor calibration error 5 During drum potential sensor calibration, when -100V is applied to the drum, the output value is out of the prescribed range.
	-	<ul style="list-style-type: none"> • Potential sensor defective • Potential sensor harness disconnected • Potential sensor connector defective or disconnected • IOB defective • OPC connector defective • Development power pack defective

316	C	Potential sensor calibration error 6 During drum potential sensor calibration, when -800V is applied to the drum, the output value is out of the prescribed range.
	-	<ul style="list-style-type: none"> • Potential sensor defective • Potential sensor harness disconnected • Potential sensor connector defective or disconnected • IOB defective • OPC connector defective • Development power pack defective

317	C	Potential sensor calibration error 7 During drum potential sensor calibration, when VL is adjusted, the pattern surface potential VL pattern is not within range 0V to -400V. (VL is the potential after exposing a white pattern.)
	-	<ul style="list-style-type: none"> • Potential sensor defective • Potential sensor harness disconnected • Potential sensor connector defective or disconnected • IOB defective • OPC connector defective • Charge corona power pack defective • Development power pack defective

340	C	<p>TD sensor output error</p> <p>TD sensor output voltage (Vt), measured during each copy cycle, is detected 10 times at one of the following levels:</p> <p>Vt = 0.5 volts or lower</p> <p>Vt = 4.0 volts or higher</p>
	-	<ul style="list-style-type: none"> • TD sensor defective • TD sensor harness disconnected • TD sensor connector disconnected or defective • IOB defective • Toner bottle motor defective <p>Note: When the TD sensor is defective, the toner supply is controlled using pixel count and the ID sensor.</p>

341	D	<p>TD sensor adjustment error 1</p> <p>During the TD sensor auto adjustment, the TD sensor output voltage (Vt) is 2.5 volts or higher even though the control voltage is set to the minimum value (PWM = 0). When this error occurs, SP2-906-1 reads 0.00V.</p> <p>Note:</p> <p>This SC is released only after correct adjustment of the TD sensor has been achieved. Switching the machine off and on will cancel the SC display, but does not release ID sensor toner supply.</p>
	-	<ul style="list-style-type: none"> • TD sensor defective • TD sensor harness disconnected • TD sensor connector disconnected or defective • IOB defective • Toner bottle motor defective <p>Note:</p> <p>When the TD sensor is defective, the toner supply is controlled using pixel count and the ID sensor.</p>

342	D	<p>TD sensor adjustment error 2</p> <p>During the TD sensor auto adjustment, the TD sensor output voltage (V_t) does not enter the target range ($3.0 \pm 0.1V$) within 20 s. When this error occurs, the display of SP2-906-1 reads 0.00V.</p> <p>Note:</p> <p>This SC is released only after correct adjustment of the TD sensor has been achieved. Switching the machine off and on will cancel the SC display, but does not release ID sensor toner supply.</p>
	-	<ul style="list-style-type: none"> • TD sensor defective • TD sensor harness disconnected • TD sensor connector disconnected or defective • IOB defective
345	D	<p>Development output abnormal</p> <p>The high voltage applied to the development unit is detected 10 times higher than the upper limit (45%) of PWM.</p>
	-	<ul style="list-style-type: none"> • Development power pack defective • Development bias leak due to poor connection, defective connector

350	C	<p>ID sensor error 1</p> <p>One of the following ID sensor output voltages was detected twice consecutively when checking the ID sensor pattern.</p> <p>Vsp greater than or equals 2.5V</p> <p>Vsg less than 2.5</p> <p>Vsp = 0V</p> <p>Vsg = 0</p>
	-	<ul style="list-style-type: none"> • ID sensor defective • ID sensor harness disconnected • ID sensor connector defective • IOB defective • ID sensor pattern not written correctly • Incorrect image density • Charge power pack defective • ID sensor dirty

351	C	<p>ID sensor error 2</p> <p>The ID sensor output voltage is 5.0V and the PWM signal input to the ID sensor is 0 when checking the ID sensor pattern.</p>
	-	<ul style="list-style-type: none"> • ID sensor defective • ID sensor harness disconnected • ID sensor connector defective • IOB defective • ID sensor pattern not written correctly • Incorrect image density • Charge power pack defective • ID sensor dirty

352	C	ID sensor error 3 For 2 s during the ID sensor pattern check, the ID sensor pattern edge voltage is not 2.5V or the pattern edge is not detected within 800 ms.
	-	<ul style="list-style-type: none"> • ID sensor defective • ID sensor harness disconnected • ID sensor connector defective • IOB defective • ID sensor pattern not written correctly • Incorrect image density • Charge power pack defective • ID sensor dirty
353	C	ID sensor error 4 One of the following ID sensor output voltages is detected at ID sensor initialization. Vsg less than 4.0V when the maximum PWM input (255) is applied to the ID sensor. Vsg greater than or equal to 4.0V when the minimum PWM input (0) is applied to the ID sensor.
	-	<ul style="list-style-type: none"> • ID sensor defective • ID sensor harness disconnected • ID sensor connector defective • IOB defective • ID sensor pattern not written correctly • Incorrect image density • Charge power pack defective • ID sensor dirty

354	C	ID sensor error 5
		Vsg falls out of the adjustment target (4.0 ±0.2V) during Vsg checking.
	-	<ul style="list-style-type: none"> • ID sensor defective • ID sensor harness disconnected • ID sensor connector defective • IOB defective • ID sensor pattern not written correctly • Incorrect image density • Charge power pack defective • ID sensor dirty

355	C	ID sensor error 6
		The Vp value, which measures the reflectivity of the ID sensor pattern, was not in the range of -70V to -400V.
	-	<ul style="list-style-type: none"> • Potential sensor defective • Potential sensor harness defective • Potential sensor disconnected • IOB defective • OPC unit connector defective • Charge corona power pack defective • Charge corona wire dirty, broken

SC400: Image Development (2)

401	D	Transfer output abnormal
		When the transfer is output, the feedback voltage remains higher than 4V for 60 ms.
	-	<ul style="list-style-type: none"> • Transfer power pack defective • Transfer current terminal, transfer power pack disconnected, damaged connector

402	D	Transfer output abnormal release detection	
		When the transfer is output, there is hardly any feedback voltage within 60 ms even with application of 24% PWM.	
	-	<ul style="list-style-type: none"> • Transfer power pack defective • Transfer unit harness disconnected • Transfer connector loose, defective 	
430	C	Quenching lamp error	
		At the completion of auto process control initialization, the potential of the drum surface detected by the potential sensor is more than -400V, the prescribed value.	<ul style="list-style-type: none"> • Quenching lamp defective • Quenching lamp harness disconnected • Quenching lamp connector loose, defective
440	D	Main motor lock	
		The main motor lock signal remains low for 2 seconds while the main motor is on.	<ul style="list-style-type: none"> • Drive mechanism overloaded • Motor driver board defective
441	D	Development motor lock	
		The development motor lock signal remains high for 2 seconds while the development motor is on.	<ul style="list-style-type: none"> • Drive mechanism overloaded due to toner clumping in the wasted toner path • Motor driver board defective
		If this SC is returned on a machine in the field, inspect the toner supply unit coil. If the gear is not damaged replace the coil. If the gear is damaged, the gear shaft is probably deformed, so replace the entire unit.	
490	D	Main fan error	
		The main fan motor lock signal goes high for 5 s while the fan is on.	<ul style="list-style-type: none"> • Fan motor overloaded due to obstruction • Fan connector disconnected

495	D	Toner recycling unit error	
		Encoder pulse does not change for 3 s after the main motor switches on.	<ul style="list-style-type: none"> Waste toner transport has stopped due to motor overload Toner end sensor defective, disconnected
496	D	Toner collection bottle error	
		The toner collection bottle set switch remains off when the front door is closed.	<ul style="list-style-type: none"> No toner collection bottle set Poor connection of the switch connector
497	D	Toner collection motor error	
		The toner collection motor connector set signal remains off for 1 s.	<ul style="list-style-type: none"> Toner pump motor defective Motor connector loose, disconnected

SC500: Feed, Transport, Duplexing, and Fusing Systems

501	B	Tray 1 lift malfunction	
		<ul style="list-style-type: none"> The lift sensor is not activated within 10 s after the tray lift motor starts lifting the bottom plate. When the tray lowers, the tray lift sensor does not go off within 1.5 s. Tray overload detected when the tray is set. The lower limit sensor of the LCT does not detect the lower limit within 10 s. 	<ul style="list-style-type: none"> Tray lift motor defective, disconnected Paper or other obstacle trapped between tray and motor Pick-up solenoid disconnected, blocked by an obstacle Too much paper loaded in tray <p>Note</p> <ul style="list-style-type: none"> At first, the machine displays a message asking the operator to reset the tray. This SC will not display until the operator has pulled the tray out and pushed it in 3 times. If the operator turns the machine off/on before the 3rd opening and closing of the tray, the 3-count is reset.

502	B	Tray 2 lift malfunction	
		<ul style="list-style-type: none"> • The lift sensor is not activated within 10 s after the tray lift motor starts lifting the bottom plate. • When the tray lowers, the tray lift sensor does not go off within 1.5 s. • Tray overload detected when the tray is set. 	<ul style="list-style-type: none"> • Tray lift motor defective or disconnected • Paper or other obstacle trapped between tray and motor • Pick-up solenoid disconnected or blocked by an obstacle • Too much paper loaded in tray <p>Note</p> <ul style="list-style-type: none"> • At first, the machine displays a message asking the operator to reset the tray. • This SC will not display until the operator has pulled the tray out and pushed it in 3 times. • If the operator turns the machine off/on before the 3rd opening and closing of the tray, the 3-count is reset.

503	B	Tray 3 lift malfunction	
		<ul style="list-style-type: none"> • The lift sensor is not activated within 10 s after the tray lift motor starts lifting the bottom plate. • When the tray lowers, the tray lift sensor does not go off within 1.5 s. • Tray overload detected when the tray is set. 	<ul style="list-style-type: none"> • Tray lift motor defective or disconnected • Paper or other obstacle trapped between tray and motor • Pick-up solenoid disconnected or blocked by an obstacle • Too much paper loaded in tray <p>Note</p> <ul style="list-style-type: none"> • At first, the machine displays a message asking the operator to reset the tray. • This SC will not display until the operator has pulled the tray out and pushed it in 3 times. • If the operator turns the machine off/on before the 3rd opening and closing of the tray, the 3-count is reset.

504	B	Tray 4 lift malfunction	
		<ul style="list-style-type: none"> The lift sensor is not activated within 10 s after the tray lift motor starts lifting the bottom plate. When the tray lowers, the tray lift sensor does not go off within 1.5 s. Tray overload detected when the tray is set. 	<ul style="list-style-type: none"> Tray lift motor defective or disconnected Paper or other obstacle trapped between tray and motor Pick-up solenoid disconnected or blocked by an obstacle Too much paper loaded in tray <p>Note</p> <ul style="list-style-type: none"> At first, the machine displays a message asking the operator to reset the tray. This SC will not display until the operator has pulled the tray out and pushed it in 3 times. If the operator turns the machine off/on before the 3rd opening and closing of the tray, the 3-count is reset.

507	B	LCT feed motor malfunction	
		<p>One of the following conditions is detected:</p> <ul style="list-style-type: none"> The LD signal from the feed motor is detected abnormal for 50 ms after the motor switches on. At power on, the motor is detected loose or disconnected. 	<ul style="list-style-type: none"> Feed motor defective Feed motor connector disconnected Obstacle interfering with mechanical movement of motor.

510	B	LCT tray malfunction	
		<p>One of the following conditions is detected:</p> <ul style="list-style-type: none"> • When the bottom plate is lifted, the upper limit sensor does not come on for 18 s. • When the bottom plate is lowered, the lower limit sensor does not come on for 18 s. • After lift begins, the upper limit sensor does not switch on before the pick-up solenoid switches on. • The paper end sensor switches on during lift and the upper limit sensor does not switch on for 2.5 s, and a message prompts user to reset paper. 	<ul style="list-style-type: none"> • Tray lift motor defective or connector disconnected • Lift sensor defective or disconnected • Pick-up solenoid defective or disconnected • Paper end sensor defective

515	B	Tandem rear fence motor error	
		<p>One of the conditions is detected:</p> <ul style="list-style-type: none"> • The return sensor does not switch on within 10 s. after the rear fence motor switches on. • The HP sensor does not switch on 10 s. after the rear fence motor switches on. • The HP sensor and return sensor switch on at the same time. 	<ul style="list-style-type: none"> • Rear fence motor defective or poor connection • Paper or other obstacle interfering with operation of the sensors • Paper or other obstacle trapped between tray and motor • Motor mechanical overload due to obstruction • Return sensor or HP sensor defective or dirty <p>Note</p> <ul style="list-style-type: none"> • This problem will not issue the SC code on the operation panel. • The machine will prompt the operator to reset tray by opening and closing it. • If the problem persists, the machine will display again and the tray cannot be used.

520	C	Duplex jogger motor error 1	
		When the jogger fence moves to the home position, the jogger HP sensor does not turn on even if the jogger fence motor has moved the jogger fence 153.5 mm.	<ul style="list-style-type: none"> • Paper or other obstacle has jammed mechanism • Sensor connector disconnected or defective • Sensor defective
521	C	Duplex jogger motor error 2	
		When the jogger fence moves from the home position, the jogger fence HP sensor does not turn off even if the jogger motor has moved the jogger fence 153.5 mm.	<ul style="list-style-type: none"> • Paper or other obstacle has jammed mechanism • Sensor connector disconnected or defective • Sensor defective
531	D	Fusing exit motor error	
		The PLL lock signal was low for 2 s during motor operation.	<ul style="list-style-type: none"> • Motor lock caused by physical overload • Motor drive PCB defective
541	A	Fusing thermistor open	
		The fusing temperature detected by the center thermistor was below 0°C for 7 s.	<ul style="list-style-type: none"> • Thermistor open • Thermistor connector defective • Thermistor damaged, or out of position • Fusing temperature – 15% less than the standard input voltage

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542	A	Fusing temperature warm-up error	
		<p>One of the following occurred:</p> <ul style="list-style-type: none"> • After power on, or after closing the front door, the hot roller does not reach the 100°C control temperature within 25 s. • 5 sec. after temperature rise started, temperature remained below 21°C after 5 samplings. • Fusing unit did not attain reload temperature within 48 s. of the start of fusing temperature control. 	<ul style="list-style-type: none"> • Fusing lamp disconnected • Thermistor warped, out of position • Thermostat not operating
543	A	Fusing lamp overheat error 1 (software)	
		<p>Central thermistor detected a temperature of 240°C at the center of the hot roller. Fusing temperature control software error</p>	<ul style="list-style-type: none"> • PSU defective • IOB defective • BICU defective
544	A	Fusing lamp overheat error 1 (hardware)	
		<p>The center thermistor or an end thermistor detected a temperature of 250°C on the hot roller.</p>	<ul style="list-style-type: none"> • PSU defective • IOB defective • BICU defective
545	A	Fusing lamp overheat error 2	
		<p>After hot roller reaches warmup temperature, the fusing lamps remained on at full capacity for 11 samplings (1.8 s. duration) while the hot roller was not rotating.</p>	<ul style="list-style-type: none"> • Thermistor damaged, or out of position • Fusing lamp disconnected

547	D	Zero cross signal malfunction	
		<p>One of the following conditions is detected 10 times:</p> <ul style="list-style-type: none"> When the main switch is on, the frequency measured by the number of zero cross signals for 500 ms is larger than 66Hz or smaller than 45 Hz. The interval between one zero cross signal and the next is 7.5 ms or shorter 3 times consecutively for 500 ms. 	<ul style="list-style-type: none"> Noise on the ac power line
551	A	Fusing thermistor error 1	
		<p>The end thermistor (contact type) was less than 0C (32F) for more than 7 seconds.</p>	<ul style="list-style-type: none"> Thermistor disconnected Thermistor connector defective
552	A	Fusing thermistor error 2	
		<p>The end thermistor (contact type) could not detect:</p> <ul style="list-style-type: none"> 100°C 25 seconds after the start of the warmup cycle. A change in temperature more than 16 degrees for 5 seconds. The reload temperature with 56 seconds after the start of the fusing temperature control cycle. 	<ul style="list-style-type: none"> Fusing lamp disconnected Thermistor bent, damaged Thermistor position incorrect
553	A	Fusing thermistor error 3	
		<p>The end thermistor (contact type) was at 240°C (464°F) for more than 1 second. The temperature is read 10 times every second. (at 0.1 s intervals).</p>	<ul style="list-style-type: none"> PSU defective IOB control board defective BICU control board defective

555	A	Fusing lamp error	
		After the start of the warmup cycle, a fusing lamp was at full power for 1.8 s but the hot roller did not turn.	<ul style="list-style-type: none"> • Thermistor bent, out of position • Fusing lamp disconnected • Circuit breaker opened
557	C	Zero cross signal error	-
		High frequency noise was detected on the power line.	<ul style="list-style-type: none"> • No action required. The SC code is logged and the operation of the machine is not affected.
559	A	Fusing jam: 3 counts	
		At the fusing exit sensor the paper was detected late for three pulse counts (lag error), and SP1159 was on.	<ul style="list-style-type: none"> • If this SC occurs, the machine cannot be used until the service technician cancels the SC code. • This SC occurs only if SP1159 has been set to "1" (On). (Default: 0 (Off)).
569	D	Fusing pressure release motor error	
		During copying, the HP sensor could not detect the actuator, tried again 3 times and could not detect.	<ul style="list-style-type: none"> • Motor lock because of too much load • Motor driver defective • HP sensor defective, disconnected, connector defective, harness damaged
590	D	Toner collection motor error	
		The toner collection motor sensor output does not change for 3 s while the toner collection motor is on.	<ul style="list-style-type: none"> • Motor lock due to obstruction • Motor driver board defective • Motor connection loose, defective • Toner collection motor sensor disconnected, sensor defective • Rotational transmission shaft ($\phi 6 \times 30$) missing

599	D	1-bin Exit Motor Error (Japan Only)	
		The transport lock sensor output does not change within 300 ms after the motor switches on.	<ul style="list-style-type: none"> • Motor overload • Motor driver defective


SC600: Data Communication

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620	D	BICU/ADF communication/timeout error	
		After 1 data frame is sent to the finisher MBX, an ACK signal is not received within 100 ms, and is not received after 3 retries.	<ul style="list-style-type: none"> • Serial line connection unstable • External noise on the line

621	D	BICU/Finisher communication/break error	
		During communication with the finisher MBX, the BICU received a break (Low) signal from the finisher.	<ul style="list-style-type: none"> • Serial line connection unstable • External noise on the line

623	D	BICU/Tray 1 to 4 communication/timeout error	
		After 1 data frame is sent to the trays, an ACK signal is not received within 100 ms, and is not received after 3 retries.	<ul style="list-style-type: none"> • Serial line connection unstable • External noise on the line

625	B	 VBCU-DTMB (DMC1) communication error	
		Communication between the VBCU and DMC (main) was interrupted. An ACK/NAK signal was not received within 100 ms after a data frame was sent and three retries failed.	<ul style="list-style-type: none"> • Check the DTMB harness connections at the DTMB and VBCU • DTMB defective • PSU defective • VBCU defective • 5V power supply defective

626	D	BICU, LCT communication/timeout error	
		After 1 data frame is sent to the LCT, an ACK signal is not received within 100 ms, and is not received after 3 retries.	<ul style="list-style-type: none"> Serial line connection unstable External noise on the line

627	D	BICU, LCT communication/break reception error	
		During communication with the LCT, the BICU received a break (Low) signal.	<ul style="list-style-type: none"> Serial line connection unstable External noise on the line

628	B	Fan folder communication error 1	
		The main machine issued a timeout three failed attempts to communicate with the fan folder unit. Possible causes:	
		<ul style="list-style-type: none"> There was no answer from the fan folder within 100 ms in response to data sent from the main machine. The fan folder unit was switched off while folding was in progress. The main machine received an illegal command from the fan folder. 60 sec. after the main machine fed the document to the fan folder, the fan folder failed to notify the main machine that the folded document has exited the fan folder. 	
		<ul style="list-style-type: none"> Fan folder not connected to main machine Fan folder main control unit connector loose, broken, defective Fan folder main control unit defective 	

629	B	Fan folder communication error 2: Cross Folder	
		There was no answer from the fan folder within 100 ms in response to data sent from the main machine.	
		<ul style="list-style-type: none"> Fan folder not connected to main machine Fan folder main control unit connector loose, broken, defective Fan folder main control unit defective 	

632	B	Charge Unit Device Error 1	Japan Only	GW
633	B	Charge Unit Device Error 2	Japan Only	GW

634	B	Charge Unit Device Error 3	Japan Only	GW
635	B	Charge Unit Device Error 4	Japan Only	GW

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. There is no DESS module in the machine.		
		<ul style="list-style-type: none"> • No expanded authentication module • Defective SD card • No DESS module 		
		<ol style="list-style-type: none"> 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.		
		<ul style="list-style-type: none"> • Incorrect module version 		
		<ol style="list-style-type: none"> 1. Install the correct file of the expanded authentication module. 		

641	B	Engine-to-controller communication error	GW
		The controller sent a frame to the main machine engine but there was no response as demanded by RAPI protocol. The frame was sent 3 times at 100 ms intervals. This SC was issued after the 3rd attempt failed.	
		<ul style="list-style-type: none"> • Examine the connection between the controller and the engine board. • Replace the engine board if the error is frequent. 	

650	D	NRS Modem Communication Error	GW
		<p>One of the following factors could be the cause of this error:</p> <ul style="list-style-type: none"> • In the User Tools, check the settings for the dial-up user name and dial-up password. • Modem has been disconnected. • Modem board disconnected. 	
		<p>Check the following for a machine that is using Cumin (NRS modem):</p> <ul style="list-style-type: none"> • An error was returned during the dialup connection • A network was detected at startup • At startup, the machine detected that the NIB was disabled, or did not detect a modem board 	

For more details about this SC code error, execute SP5990 to print an SMC report so you can read the error code. The error code is not displayed on the operation panel. Here is a list of error codes:

Error	Problem	Solution
1	Failure to certify dial-up	In the User Tools, check the dial-up user and dial-up password settings
4	Illegal modem setting	Check the setting of SP5816 160 to determine whether the setting for the AT command is correct. If this SP setting is correct, then the problem is a bug in the software.
5	Poor connection due to low power supply on the line.	The problem is on the external power supply line, so there is no corrective action on the machine.
11	Data in the NVRAM became corrupted when the network enable switch and Cumin-M were enabled at the same time.	Use SP5985 1 and set the NIC to "0" (Disable) to disable the network board.
12	The modem board could not enable the NIB.	Replace the modem board.

651	C	Illegal Remote Service Dial-up	GW
		An expected error occurred when Cumin-M dialed up the NRS Center.	
		<ul style="list-style-type: none"> • Software bug • No action is required because only the count is logged 	

670	B	Engine Startup Error	GW
		<p>At power on or after the machine leaves the energy conservation mode:</p> <ul style="list-style-type: none"> • ENGRDY signal does not assert • IPURDY signal does not assert <p>After power on and the prescribed time has elapsed:</p> <ul style="list-style-type: none"> • No EC response from the engine • No PC response from the engine • No SC response from the engine <p>During machine operation mode:</p> <ul style="list-style-type: none"> • Write to Rapi drive failure (could not locate destination on the PCI) • After the /ENGRDY signal asserts with no effect. 	
		<ul style="list-style-type: none"> • BICU Ö Controller Board disconnected • BICU board defective • Controller board defective • Mother board defective • Software error; switch off/on, if that fails, change the engine firmware • PSU-E or PSU-C defective 	
671	D	Illegal Engine Board	GW
		An illegal engine board was detected by the firmware at power on.	
		<ul style="list-style-type: none"> • Replace BICU 	

672	B	Controller Startup Error	GW
		<p>The line between the controller board and the operation panel does not open correctly when the machine is powered on, or after the machine was powered on communication between the controller and operation panel is suspended.</p> <p>The controller board and operation panel could not exchange the handshake (FDH) and acknowledge (FEH) signals within 15 s of the operation panel reset after power on, or after 2 retries there was no response to the transmission line confirmation command issued every 30 s from the operation panel to the controller board.</p>	
		<ul style="list-style-type: none"> • Controller board defective • Controller board installed incorrectly • Operation panel harness connection loose or incorrect 	

SC700: Peripherals

701	D	ADF bottom plate motor error	
		<ul style="list-style-type: none"> • Bottom plate position sensor does not detect the plate after the bottom plate lift motor switches on to lift the plate. • Bottom plate HP sensor does not detect the plate after the bottom plate motor reverses to lower the plate. 	<ul style="list-style-type: none"> • Bottom plate position sensor defective • Bottom plate HP sensor defective • Bottom plate motor defective • ADF main board defective

705	D	ARDF bottom plate lift motor	
		<p>The bottom plate HP sensor does not detect the home position of the bottom plate after the bottom plate lift motor switches on and lowers the bottom plate.</p> <p>The bottom plate position sensor does not detect the position of the plate after the lift motor switches on and raises the bottom plate.</p>	
		<ul style="list-style-type: none"> • ARDF feed motor disconnected, defective • Bottom plate HP sensor disconnected, defective • ARDF main board defective 	

720	D	Finisher transport motor error	
		The encoder pulse of the finisher transport motor does not change state (high/low) within 600 ms and does not change after 2 retries.	<ul style="list-style-type: none"> • Finisher transport motor defective • Transport motor harness disconnected, or defective • Finisher main board defective

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721	B	Finisher jogger motor error	
		<ul style="list-style-type: none"> • The finisher jogger HP sensor remains de-activated for more 1,000 pulses when returning to home position. • The finisher jogger HP sensor remains activated for more than 1,000 pulses when moving away from home position. 	<ul style="list-style-type: none"> • Jogger HP sensor defective • Jogger mechanism overload • Jogger motor defective (not rotating) • Finisher main board defective • Harness disconnected or defective

724	B	Finisher staple hammer motor error (D460)	
		The staple hammer motor did not return to the home position within the prescribed time (340 ms).	<ul style="list-style-type: none"> • Staple hammer HP sensor loose, broken, defective • Electrical overload on the stapler drive PCB elect • Staple hammer motor defective • Finisher main board defective



725	B	Exit guide motor	
		The status of the exit guide sensor did not change at the prescribed time during operation of the exit guide.	<p>Exit guide open sensor loose, broken, defective.</p> <p>Exit guide motor defective</p> <p>Finisher main board defective</p>

726	B	Front shift jogger motor error (B703)	
		The sides fences do not retract within the prescribed time after the shift jogger motor switches on. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.	<ul style="list-style-type: none"> • Shift jogger motor disconnected, defective • Shift jogger motor overloaded due to obstruction • Shift jogger HP sensor disconnected, defective
727	B	Rear shift jogger motor (B703)	
		The side fences do not retract within the prescribed time after the shift jogger motor switches on. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.	<ul style="list-style-type: none"> Motor harness disconnected, loose, defective Motor defective Motor overload HP defective
728	B	Shift jogger retraction motor error (B703)	
		The side fences do not retract within the prescribed time after the retraction motor switches on. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.	<ul style="list-style-type: none"> • Motor harness disconnected, loose, defective • Motor defective • Motor overload • HP defective
740	B	Finisher corner stapler motor error	
		The stapler motor does not switch off within the prescribed time after operating. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.	<ul style="list-style-type: none"> • Staple jam • Number of sheets in the stack exceeds the limit for stapling • Stapler motor disconnected, defective

741	B	Finisher corner stapler rotation motor error	
		The stapler does not return to its home position within the specified time after stapling. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.	<ul style="list-style-type: none"> • Stapler rotation motor disconnected, defective • Stapler rotation motor overloaded due to obstruction • Stapler rotation HP sensor disconnected, defective
742	B	Finisher stapler movement motor error	
		The stapler HP sensor is not activated within the specified time after the stapler motor turned on. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.	<ul style="list-style-type: none"> • Stapler movement motor disconnected, defective • Stapler movement motor overloaded due to obstruction • Stapler HP sensor disconnected, defective
743	B	Booklet stapler motor error 1	
		The front stapler unit saddle-stitch motor does not start operation within the specified time. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.	<ul style="list-style-type: none"> • Front motor disconnected, defective • Front motor overloaded due to obstruction
744	B	Booklet stapler motor error 2	
		The rear stapler unit saddle-stitch motor does not start operation within the specified time. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.	<ul style="list-style-type: none"> • Rear motor disconnected, defective • Rear motor overloaded due to obstruction
745	D	Feed-Out Belt Motor Error (D373/B830)	
		The stack feed-out belt HP sensor does not activate within the specified time after the stack feed-out belt motor turns on. The 1st detection failure causes a jam error, and the 2nd failure causes this SC code.	

		<p>If the motor is operating</p> <ol style="list-style-type: none"> 1. Stack feed-out HP sensor harness loose, broken, defective 2. Stack feed-out HP sensor defective <p>If the motor is not operating:</p> <ol style="list-style-type: none"> 1. Feed-out motor blocked by an obstruction 2. Feed-out motor harness loose, broken, defective 3. Feed-out motor defective 4. Booklet finisher main board defective
746	D	<p>Stack Plate Motor Error 1: Front Motor (B830)</p> <p>The stack plate HP sensor (front) does not activate within 500 ms after the motor turns on. The 1st detection failure causes a jam error, and the 2nd failure causes this SC code.</p>
		<p>If the motor is operating</p> <ol style="list-style-type: none"> 1. Front stack plate HP sensor harness loose, broken, defective 2. Front stack plate HP sensor defective <p>If the motor is not operating:</p> <ol style="list-style-type: none"> 1. Motor blocked by an obstruction 2. Motor harness loose, broken, defective 3. Motor defective 4. Booklet finisher main board defective
747	D	<p>Stack Plate Motor Error 2: Center Motor (B830)</p> <p>The stack plate HP sensor (center) does not activate within 500 ms after the motor turns on. The 1st detection failure causes a jam error, and the 2nd failure causes this SC code.</p>
		<p>If the motor is operating</p> <ol style="list-style-type: none"> 1. Center stack plate HP sensor harness loose, broken, defective 2. Center stack plate HP sensor defective <p>If the motor is not operating:</p> <ol style="list-style-type: none"> 1. Motor blocked by an obstruction 2. Motor harness loose, broken, defective 3. Motor defective 4. Booklet finisher main board defective

748	D	Stack Plate Motor Error 3: Rear Motor (B830)	
		The stack plate HP sensor (rear) does not activate within 500 ms after the motor turns on. The 1st detection failure causes a jam error, and the 2nd failure causes this SC code.	
		<p>If the motor is operating</p> <ol style="list-style-type: none"> 1. Rear stack plate HP sensor harness loose, broken, defective 2. Rear stack plate HP sensor defective <p>If the motor is not operating:</p> <ol style="list-style-type: none"> 1. Motor blocked by an obstruction 2. Motor harness loose, broken, defective 3. Motor defective 4. Booklet finisher main board defective 	
750	B	Finisher tray 1 (upper tray lift) motor error	
		<p>The upper tray paper height sensor does not change its status with the specified time after the tray raises or lowers. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.</p>	<ul style="list-style-type: none"> • Tray lift motor disconnected, defective • Upper tray paper height sensor disconnected, defective • Finisher main board connection to motor loose • Finisher main board defective
753	B	Return roller motor error	
		<p>Occurs during the operation of the lower tray pressure motor.</p>	<ul style="list-style-type: none"> • Motor harness disconnected, loose, defective • Motor overloaded • Home position sensor harness disconnected, loose, defective • Home position defective
755	D	Shift Motor Error: 3K Finisher (B830)	
		<p>The shift tray half-turn sensors: Failed twice to detect the shift tray at the home position at the specified time. -or- Failed twice to detect that the shift tray had left the home position.</p>	

		<p>If the motor is operating</p> <ol style="list-style-type: none"> 1. Half-turn sensor 1, 2 harnesses loose, broken, defective 2. One of the half-turn sensors is defective <p>If the motor is not operating:</p> <ol style="list-style-type: none"> 1. Motor blocked by an obstruction 2. Motor harness loose, broken, defective 3. Motor defective 4. Finisher main board defective 	
760	D	Finisher punch motor error	
		<p>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.</p>	<ul style="list-style-type: none"> • Punch HP sensor disconnected, defective • Punch motor disconnected, defective • Punch motor overload due to obstruction
761	B	Finisher folder plate motor error	
		<p>The folder plate 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.</p>	<ul style="list-style-type: none"> • Folder plate HP sensor disconnected, defective • Folder plate motor disconnected, defective • Folder plate motor overloaded due to obstruction.
763	D	Punch movement motor error	
		<p>Occurs during operation of the punch unit. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.</p>	<ul style="list-style-type: none"> • Motor harness disconnected, loose, defective • Motor defective
764	D	Paper position sensor slide motor error	
		<p>Occurs during operation of the punch unit. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.</p>	<ul style="list-style-type: none"> • Motor harness disconnected, loose, defective • Motor defective

765	B	Folding unit bottom fence lift motor	
		The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.	<ul style="list-style-type: none"> • Motor harness disconnected, loose, defective • Motor defective
766	B	Clamp roller retraction motor error	
		The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.	<ul style="list-style-type: none"> • Motor harness disconnected, loose, defective • Motor defective
767	B	Stack junction gate motor error	
		Occurs during operation of the punch unit. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.	<ul style="list-style-type: none"> • Motor harness disconnected, loose, defective • Motor overload • Motor defective
770	B	Cover interposer tray bottom plate motor error	
		<p>After the motor starts to raise the bottom plate, the bottom plate position sensor does not detect the plate at the specified time (3 s).</p> <p>After the motor starts to lower the bottom plate, the bottom plate HP sensor does not detect the bottom plate.</p>	<ul style="list-style-type: none"> • Bottom plate position sensor, disconnected, defective • Bottom plate HP sensor disconnected, defective
775	B	Jogger Top Fence Motor: 3K Finisher B830	
		<p>The top fence HP sensor detected that:</p> <p>The top fence did not arrive at the home position within the specified number of pulses.</p> <p>-or-</p> <p>The top fence failed to leave the home position within the specified number of pulses.</p>	

		<p>If the jogger top fence motor is operating:</p> <ol style="list-style-type: none"> 1. Top fence HP sensor harness loose, broken, defective 2. Top fence HP sensor defective <p>If the jogger top fence motor is not operating:</p> <ol style="list-style-type: none"> 1. Motor blocked by an obstruction 2. Motor harness loose, broken, defective 3. Motor defective 4. Finisher main board defective
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776	B	Jogger Bottom Fence Motor (B830)
		<p>The bottom fence HP sensor detected that:</p> <p>The bottom fence did not arrive at the home position at the specified time.</p> <p>-or-</p> <p>The bottom fence failed to leave the home position at the specified time.</p>
		<p>If the jogger bottom fence motor is operating:</p> <ol style="list-style-type: none"> 1. Bottom fence HP sensor harness loose, broken, defective 2. Bottom fence HP sensor defective <p>If the jogger bottom fence motor is not operating:</p> <ol style="list-style-type: none"> 1. Motor blocked by an obstruction 2. Motor harness loose, broken, defective 3. Motor defective 4. Finisher main board defective

778-1	D	Horizontal Transport Motor Error	Multi Folder (D454)
		The motor drive PCB detected an error at the motor.	
		<ul style="list-style-type: none"> • Motor harness or connector loose, broken, defective • Motor or motor drive board defective 	

778-2	D	Top Tray Exit Motor	Multi Folder (D454)
		The motor drive PCB detected an error at the motor.	
		<ul style="list-style-type: none"> • Motor harness or connector loose, broken, defective • Motor or motor drive board defective 	

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778-3	D	Top Tray JG Motor	Multi Folder (D454)
		The top tray JG HP sensor did not detect the top tray junction gate at (or out of) its home position. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code.	
		<ul style="list-style-type: none"> • Top tray JG HP sensor dirty • Sensor harness or connector loose, broken, defective • Top tray JG motor harness or connector loose, broken, defective • Sensor defective • Motor or motor drive board defective 	

778-4	D	Entrance JG Motor	Multi Folder (D454)
		The entrance junction gate HP sensor did not detect the entrance junction gate at (or out of) its home position. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code.	
		<ul style="list-style-type: none"> • Entrance JG HP sensor dirty • Sensor harness or connector loose, broken, defective • Entrance JG motor harness or connector loose, broken, defective • Sensor defective • Motor or motor drive board defective 	

779	B	Z-fold stopper 1 Motor error	
		<p>The bottom fence HP sensor detected that:</p> <p>The bottom fence did not arrive at the home position at the specified time.</p> <p>-or-</p> <p>The bottom fence failed to leave the home position at the specified time.</p>	<ul style="list-style-type: none"> • Motor overcurrent • Motor driver overheat • Motor harness loose
780	B	Z-Fold feed motor error	
		<p>The feed motor does not attain the prescribed speed within the specified time.</p>	<ul style="list-style-type: none"> • Feed motor disconnected, defective • Feed motor overloaded due to obstruction • Feed motor lock
781	B	Z-Fold lower stopper motor	
		<p>The lower stopper motor does not attain the prescribed speed within the specified time.</p>	<ul style="list-style-type: none"> • Lower stopper motor disconnected, defective • Lower stopper motor overloaded due to obstruction • Lower stopper HP sensor disconnected, defective
782	B	Z-Fold upper stopper motor	
		<p>The upper stopper was not detected at the home position after the motor remained on long enough to move it 128.7 mm.</p>	<ul style="list-style-type: none"> • Upper stopper motor disconnected, defective • Upper stopper motor overloaded due to obstruction • Upper stopper HP sensor disconnected, defective

783-1	B	2nd Stopper Motor Error	Multi Folder (D454)
		The 2nd stopper HP sensor did not detect the 2nd stopper in (or out of) its home position within the prescribed time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code.	
		<ul style="list-style-type: none"> • 2nd stopper HP sensor dirty • Sensor harness or connector loose, broken, defective • 2nd stopper motor harness or connector loose, broken, defective • Sensor defective • Motor or motor drive board defective 	

783-2	B	3rd Stopper Motor Error	Multi Folder (D454)
		The 3rd stopper HP sensor did not detect the 3rd stopper in (or out of) its home position within the prescribed time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code.	
		<ul style="list-style-type: none"> • 3rd stopper HP sensor dirty • Sensor harness or connector loose, broken, defective • 3rd stopper motor harness or connector loose, broken, defective • Sensor defective • Motor or motor drive board defective 	

783-3	B	1st Fold Motor Error	Multi Folder (D454)
		The motor drive PCB detected an error at the motor.	
		<ul style="list-style-type: none"> • Motor harness or connector loose, broken, defective • Motor or motor drive board defective 	

783-4	B	2nd Fold Motor Error	Multi Folder (D454)
		The motor drive PCB detected an error at the motor.	
		<ul style="list-style-type: none"> • Motor harness or connector loose, broken, defective • Motor or motor drive board defective 	

783-5	B	Crease Motor Error	Multi Folder (D454)
		The motor drive PCB detected an error at the motor.	
		<ul style="list-style-type: none"> • Motor harness or connector loose, broken, defective • Motor or motor drive board defective 	
783-6	B	Dynamic Roller Transport Motor Error	Multi Folder (D454)
		The motor drive PCB detected an error at the motor.	
		<ul style="list-style-type: none"> • Motor harness or connector loose, broken, defective • Motor or motor drive board defective 	
783-7	B	Reg. Roller Transport Motor Error	Multi Folder (D454)
		The motor drive PCB detected an error at the motor.	
		<ul style="list-style-type: none"> • Motor harness or connector loose, broken, defective • Motor or motor drive board defective 	
783-8	B	Dynamic Roller Lift Motor Error	Multi Folder (D454)
		The dynamic roller HP sensor did not detect the dynamic roller in (or out of) its home position within the prescribed time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code.	
		<ul style="list-style-type: none"> • Dynamic roller HP sensor dirty • Sensor harness or connector loose, broken, defective • Dynamic roller lift motor harness or connector loose, broken, defective • Sensor defective • Motor or motor drive board defective 	

783-9	B	Registration Roller Release Motor Error	Multi Folder (D454)
		The registration roller HP sensor did not detect the registration roller in (or out of) its home position within the prescribed time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code.	
		<ul style="list-style-type: none"> • Registration roller HP sensor dirty • Sensor harness or connector loose, broken, defective • Registration roller release motor harness or connector loose, broken, defective • Sensor defective • Motor or motor drive board defective 	

783-10	B	Fold Plate Motor Error	Multi Folder (D454)
		The fold plate HP sensor did not detect the fold plate in (or out of) its home position within the prescribed time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code.	
		<ul style="list-style-type: none"> • Fold plate HP sensor dirty • Sensor harness or connector loose, broken, defective • Fold plate motor harness or connector loose, broken, defective • Sensor defective • Motor or motor drive board defective 	

783-11	B	Jogger Fence Motor	Multi Folder (D454)
		The jogger fence HP sensor did not detect the jogger fence in (or out of) its home position within the prescribed time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code.	
		<ul style="list-style-type: none"> • Jogger fence HP sensor dirty • Sensor harness or connector loose, broken, defective • Jogger fence motor harness or connector loose, broken, defective • Sensor defective • Motor or motor drive board defective 	

783-12	B	Positioning Roller Motor Error	Multi Folder (D454)
		The positioning roller HP sensor did not detect the positioning roller in (or out of) its home position within the prescribed time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code.	
		<ul style="list-style-type: none"> • Positioning roller HP sensor dirty • Sensor harness or connector loose, broken, defective • Positioning roller motor harness or connector loose, broken, defective • Sensor defective • Motor or motor drive board defective 	
783-13	B	FM2 Direct-Send JG Motor	Multi Folder (D454)
		The direct-send JG HP sensor did not detect the direct-send JG in (or out of) its home position within the prescribed time. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code.	
		<ul style="list-style-type: none"> • FM2 direct-send JG HP sensor dirty • Sensor harness or connector loose, broken, defective • FM2 direct-send JG motor harness or connector loose, broken, defective • Sensor defective • Motor or motor drive board defective 	
783-14	B	FM6 Pawl Motor	Multi Folder (D454)
		The FM6 pawl HP sensor did not detect the FM6 pawl in (or out of) its home position. The 1st occurrence causes a jam, and the 2nd occurrence causes this SC code.	
		<ul style="list-style-type: none"> • FM6 pawl HP sensor dirty • Sensor harness or connector loose, broken, defective • FM6 pawl motor harness or connector loose, broken, defective • Sensor defective • Motor or motor drive board defective 	

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784	B	Z-fold timing unit fold timing sensor adjustment error	
		The A/D (Digital/ Analog) input value did not change even after the D/A (Digital/ Analog) output value changed.	<ul style="list-style-type: none"> • Fold timing sensor connector loose, broken, defective • Fold timing sensor defective • Fold timing sensor, mylar covered with paper dust • Mylar disconnected.
785	B	Z-fold leading edge sensor adjustment error	
		The A/D input value did not change even after the D/A output value changed.	<ul style="list-style-type: none"> • Leading edge sensor connector loose, broken, defective • Leading edge sensor defective • Leading edge sensor, mylar covered with paper dust • Mylar disconnected.
786	B	Z-fold EEPROM error	
		The write operation to the Z-folding EEPROM failed after 2 attempts	<ul style="list-style-type: none"> • EEPROM defective
789	B	Z-fold top tray exit motor error	
		The motor driver detects an error.	<ul style="list-style-type: none"> • Motor overcurrent • Motor driver overheat
790	B	Finisher staple trimming hopper full	
		The staple waste hopper is full of cut staples.	<ul style="list-style-type: none"> • If the hopper is full, empty the hopper • If the hopper is not full, the hopper full sensor is disconnected, defective

SC800: Overall System



816	D	Energy save I/O subsystem error	
		The energy save I/O subsystem is defective or this system detects the controller board error.	<ul style="list-style-type: none"> • Reboot the machine. • Replace the controller board.

817	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.	<ul style="list-style-type: none"> • OS Flash ROM data defective; change the controller firmware • SD card data defective; use another SD card

3

Error Codes

Code	Meaning
0x0000 0000	BIOS boot error
0x0000 0001	Primary boot start load error
0x0000 0002	Secondary boot load error (Boot3.Elf)
0x0000 0003	Self-diagnostic module error (Diag.Elf)
0x0000 0004	Kernel start error (Netbsd)
0x0000 0005	Root file system file read error (Rootfs)
0xffff ffff	Other error

Example: Data in the self-diagnostic module, system kernel, or root system files are corrupted or do not exist in OS flash ROM or on the SD card

Files in the self-diagnostic module, kernel, or root file system on the SD card have been falsified or altered

- Before discarding the SD card, try to update the data on the card. If the error occurs again, the card may be defective.
- Be sure to use an SD card that contains the correct electronic signature.



3

819	D	Fatal kernel error		
		Due to a control error, a RAM overflow occurred during system processing. One of the following messages was displayed on the operation panel.		<ul style="list-style-type: none"> • System program defective • Controller board defective • Optional board defective • Replace controller firmware
		0x5032	HAIC-P2 error	
		0x5245	Link-up fail	
		0x5355	L2 Status Time Out	
		0x696e	gwinit died	
		0x766d	Vm_pageout: VM is full	
		554C	USB loader defect	
		Other		

820	D	0008	Self-diagnostic Error: CPU: System Call Exception	GW
		0612	Self-diagnostic Error: CPU: ASIC Interrupt Error	GW
		<ul style="list-style-type: none"> • System program defective • Controller board defective • Optional board defective • Replace controller firmware <p>Note: For more details about this SC code error, execute SP5990 to print an SMC report so you can read the error code. The error code is not displayed on the operation panel.</p>		

Note

- For more details about this SC code error, execute SP5990 to print an SMC report so you can read the error code. The error code is not displayed on the operation panel.

821	D	Self-diagnostic error: ASIC		<ul style="list-style-type: none"> • Replace the controller board
		The Write & Verify check of the ASIC returned an error. Note: The main ASIC module on the controller board controls the bus of the ROM device.		
		0B00	ASIC register check error	
		0x0Bnn	ASIC is not detected.	

Note

- For more details about this SC code error, execute SP5990 to print an SMC report so you can read the error code. The error code is not displayed on the operation panel.

822	B	Self-diagnostic error: HDD		
		3003	<p>Check performed when HDD is installed:</p> <ul style="list-style-type: none"> • HDD device busy for over 31 s. • After a diagnostic command is set for the HDD, but the device remains busy for over 6 s. <p>A diagnostic command is issued to the HDD device but the result is an error</p>	<ul style="list-style-type: none"> • HDD defective • HDD harness disconnected, defective • Controller board defective
		3004	No response to the self-diagnostic command from the ASIC to the HDDs	<ul style="list-style-type: none"> • HDD defective
		3013	Mandolin does not respond, the HDD device remains BUSY for more than 31 s, or the BUSY signal does not drop within 6 s after the diagnostic command is issued to the HDDs.	<ul style="list-style-type: none"> • HDD defective • HDD connector loose or defective • Controller defective
		3014	Error returned from HDD in response to the self-diagnostic command, Mandolin could not be located due to a read/write error at the HDD register.	<ul style="list-style-type: none"> • HDD defective

823	CTL B	Self-diagnostic error: NIB [XXXX]: Detailed error code
[6101]		<p>MAC address check sum error</p> <p>The result of the MAC address check sum does not match the check sum stored in ROM.</p>
[6104]		<p>PHY IC error</p> <p>The PHY IC on the controller cannot be correctly recognized.</p>

[6105]	PHY IC loop-back error An error occurred during the loop-back test for the PHY IC on the controller.
-	1. Replace the controller.

824	D	Self-diagnostic error 4: NVRAM	
		<p>One or more of the following conditions exist:</p> <ul style="list-style-type: none"> • NVRAM not present. • NVRAM damaged • NVRAM socket damaged 	<ul style="list-style-type: none"> • NVRAM defective • Controller board defective • NVRAM backup battery exhausted • NVRAM socket damaged <p>Note: In every case, the controller board must be replaced.</p>

829	D	Self-diagnostic Error: Optional RAM	<ul style="list-style-type: none"> • Replace the optional memory board • Controller board defective
		The optional RAM returned an error during the self-diagnostic test.	

Note

- For more details about SC 833, SC834 and other errors, execute SP5990 to print an SMC report so you can read the error code. The error code is not displayed on the operation panel. The additional error codes (0F30, 0F31, etc. are listed in the SMC report.

833	D	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.	<ul style="list-style-type: none"> • ASCI (Mandolin) for system control is defective • Interface between North Bridge and AGPI is defective • Replace the mother board
0F41		The read/write check done for resident RAM on the mother board could not be done correctly.	<ul style="list-style-type: none"> • Memory device defective • Replace the mother board
50B1		Could not initialize or read the bus connection.	<ul style="list-style-type: none"> • Bus connection defective, loose • SSCG defective • Replace the mother board

50B2		Value of the SSCG register is incorrect.	<ul style="list-style-type: none"> • Bus connection loose, defective • SSCG defective • Replace the mother board
834	D	Self-diagnostic error 9: Optional Memory RAM DIMM	
5101		The write/verify check for the optional RAM chip on the engine mother board gave an error.	<ul style="list-style-type: none"> • Controller defective • Mother board defective
838	D	Self-diagnostic Error: Clock Generator	
		A verify error occurred when setting data was read from the clock generator via the I2C bus.	<ul style="list-style-type: none"> • Replace the controller board
851	B	IEEE 1394 I/F error	
		Driver setting incorrect and cannot be used by the 1394 I/F.	<ul style="list-style-type: none"> • NIB (PHY), LINK module defective; change the Interface Board • Controller board defective
853	B	Wireless LAN Error 1	
		During machine start-up, the machine can get access to the board that holds the wireless LAN, but not to the wireless LAN card (802.11b or Bluetooth).	<ul style="list-style-type: none"> • Wireless LAN card missing (was removed)
854	D	Wireless LAN Error 2	GW
		The board that holds the wireless LAN card can be accessed, but the wireless LAN card (802.11b/Bluetooth) itself could not be accessed while the machine was operating.	
		<ul style="list-style-type: none"> • Wireless LAN card has been removed. 	

855	D	Wireless LAN Error 3	GW
		An error is detected for the wireless LAN card (802.11b or Bluetooth).	
		<ul style="list-style-type: none"> Wireless LAN card defective Wireless card connection not tight 	

856	D	Wireless LAN Error 4	GW
		An error is detected for the wireless LAN board (802.11b or Bluetooth).	
		<ul style="list-style-type: none"> Wireless LAN card board defective. PCI connector loose (External controller interface board). 	

857	D	USB I/F Error 1	GW
		The USB driver is unstable and generated an error. The USB I/F cannot be used.	
		<ul style="list-style-type: none"> USB board or controller board defective 	

858	B	Data Encryption Error 1	
		These are errors of the HDD Data Encryption Option D377.	
	0	Key Acquisition	Key could be acquired. <ul style="list-style-type: none"> Replace the controller board
	1	HDD Key Setting Error	The key was acquired but the HDD could not be set. <ul style="list-style-type: none"> Turn the machine power off/on several times. Replace the controller board.
	2	NVRAM Read Error	NVRAM data conversion failed (mismatch with nvram.conf) <ul style="list-style-type: none"> Replace the NVRAM
	30	NVRAM Before Replace Error	DFU. May occur during development. <ul style="list-style-type: none"> Turn the machine power off/on several times. Replace the controller board.
	31	Other Error	An unexpected error occurred while data was being converted. This error is the same as SC991. See SC991 below.

859	B	Data Encryption Error 2	
		These are errors of the HDD Data Encryption Option D377.	
	8	HDD Check Error	<p>Data conversion was attempted with no HDD unit present.</p> <ul style="list-style-type: none"> • Confirm that HDD unit installed correctly • Initialize HDD with SP5832-1 <p>Note: After installation, a new HDD should be formatted with SP5832-1</p>
	9	Power Loss During Data Conversion	<p>Data conversion stopped before NVRAM/HDD data was converted.</p> <ul style="list-style-type: none"> • Format HDD with SP5832-1
	10	Data Read Command Error	<p>More than two illegal DMAC communications were returned.</p> <ul style="list-style-type: none"> • HDD defective • Format HDD with SP5832-1 • Replace HDD

860	B	HDD startup error at power on	
		<p>HDD is connected but a driver error is detected.</p> <p>The driver does not respond with the status of the HDD within 30 s.</p>	<ul style="list-style-type: none"> • HDD is not initialized • Level data is corrupted • HDD is defective

861	B	HDD Error 2: HDD Startup	GW
		The hard disks were detected at power on, but the disks were not detected within 30s after recovery from the energy conservation mode.	
		<ul style="list-style-type: none"> • Cable between the hard disks and controller board disconnected or loose • Hard disk power connector loose • One of the hard disks is defective • Controller defective 	

862	D	Bad sector overflow	
		There more 100 bad sectors in image storage area of the HDD.	<ul style="list-style-type: none"> • HDD defective • Format HDD with SP4911-2
863	D	HDD data read failure	
		The data written to the HDD cannot be read normally, due to bad sectors generated during operation.	<ul style="list-style-type: none"> • HDD defective <p>Note: If the bad sectors are generated at the image partition, the bad sector information is written to NVRAM, and the next time the HDD is accessed, these bad sectors will not be accessed for read/write operation.</p>
864	D	HDD data CRC error	
		During HDD operation, the HDD cannot respond to a CRC error query. Data transfer did not execute normally while data was being written to the HDD.	<ul style="list-style-type: none"> • HDD defective
865	D	HDD access error	
		HDD responded to an error during operation for a condition other than those for SC863, 864.	<ul style="list-style-type: none"> • HDD defective.

866	B	SC card error 1: Confirmation	
		<p>The machine detects an electronic license error in the application on the SD card in the controller slot immediately after the machine is turned on.</p> <p>The program on the SD card contains electronic confirmation license data. If the program does not contain this license data, or if the result of the check shows that the license data in the program on the SD card is incorrect, then the checked program cannot execute and this SC code is displayed.</p>	<ul style="list-style-type: none"> • Program missing from the SD card • Download the correct program for the machine to the SD card
867	D	SD card error 2: SD card removed	
		<p>The SD card in the boot slot when the machine was turned on was removed while the machine was on.</p>	<ul style="list-style-type: none"> • Insert the SD card, then turn the machine off and on.
868	D	SD card error 3: SC card access	
		<p>An error occurred while an SD card was used.</p>	<ul style="list-style-type: none"> • SD card not inserted correctly • SD card defective • Controller board defective <p>Note: If you want to try to reformat the SC card, use SD Formatter Ver 1.1.</p>

870	B	Address Book Data Error	GW
		<p>Address book data stored on the hard disk was detected as abnormal when it was accessed from either the operation panel or the network.</p> <p>The address book data cannot be read from the HDD or SD card where it is stored, or the data read from the media is defective.</p>	
		<ul style="list-style-type: none"> • Software defective, switch off/on, and change the controller firmware if the problem is not solved. • HDD defective <p>Recommended Recovery</p> <ul style="list-style-type: none"> • Execute SP5846 050 (UCS Settings – Initialize all Directory Info.) to initialize all address book data. • Initialize the user information with SP5832 006 (HDD Formatting – User Information 1) and SP5832 007 (HDD Formatting – User Information 2) • Replace the HDDs. • Boot the machine from the SD card. 	
872	D	HDD mail RX data error	GW
		<p>An HDD error was detected immediately after power on. The HDD may be defective or the machine was accidentally powered off while the HDD was being accessed.</p>	
		<ul style="list-style-type: none"> • Reformat the HDD with SP5832-7 (Mail RX Data) • Replace the HDD 	
873	D	HDD mail send data error	GW
		<p>An error was detected on the HDD immediately after the machine was turned on, or power was turned of while the machine used the HDD.</p>	
		<ul style="list-style-type: none"> • Do SP5832-007 (Format HDD – Mail TX Data) to initialize the HDD. • Replace the HDD. 	

874	D	Delete All Error 1: HDD		GW
		A data error was detected for the HDD/NVRAM after the "Delete All" option was used. Note: The source of this error is the Data Overwrite Security Unit running from an SD card.		
		<ul style="list-style-type: none"> • Turn the main switch off/on and try the operation again. • Install the Data Overwrite Security Unit again. For more, see section "MFP Options" in "Installation". • HDD defective. 		
875	D	Delete All Error 2: Data area		GW
		An error occurred while the machine deleted data from the HDD Note: The source of this error is the Data Overwrite Security Unit running from an SD card.		
		<ul style="list-style-type: none"> • Turn the main switch off/on and try the operation again. 		
876	D	Log data abnormal		
		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.	<ul style="list-style-type: none"> • Software error. Update the firmware • NVRAM defective • HDD defective 	
877	B	Data Overwrite Security SD card error		GW
		An error occurred, preventing successful execution of the Data Overwrite Security function, even though it has been set up and enabled.	<ul style="list-style-type: none"> • DOS card is not inserted completely into the SD card slot • DOS card has been removed from the SD card slot. • DOS card is damaged. Note: <ul style="list-style-type: none"> • If the SD card has been removed (or was not installed correctly), switch the machine off, insert the SD card, then switch on the machine again. • If the SD card has been damaged, procure a new SD card, replace the NVRAM, then do the DOS option installation. 	

878	D	TPM electronic authentication error	
		The system hash value registered in TPM and the value registered in USB flash memory are not same during system booting.	<ul style="list-style-type: none"> The system module was updated through the prescribed update root, so the controller board became defective. USB flash memory did not work correctly.

880	D	Media Link Board Error	GW
		A request for access to the Media Link Board was not answered within the specified time.	<ul style="list-style-type: none"> Media Link Board defective.

3

SC900: Miscellaneous

900	C	Electrical Total Counter Error	
		The total counter contains data that is not a number.	<ul style="list-style-type: none"> NVRAM disturbed unexpectedly. NVRAM defective NVRAM data corrupted.

901	D	Mechanical total counter error	
		The mechanical counter is not connected.	<ul style="list-style-type: none"> Mechanical total counter defective Mechanical total counter connector not connected

HDD Status Codes Displayed on Debug Console

Display	Meaning
(-1)	HDD not connected
(-2)	HDD not ready
(-3)	No level
(-4)	Partition type incorrect
(-5)	Error returned during level read or check
(-6)	Error returned during level read or check

(-7)	"filesystem" repair failed
(-8)	"filesystem" mount failed
(-9)	Drive does not answer command
(-10)	Internal kernel error
(-11)	Size of drive is too small
(-12)	Specified partition does not exist
(-13)	Device file does not exist

Recovery Procedure 1

If the machine returns SC codes for HDD errors (SC860 ~ SC865), please follow the recovery procedures described for these SC codes.

Recovery Procedure 2

If the machine does not return one of the five HDD errors (SC860 ~ SC865), turn the machine off and on. If this does not solve the problem, then initialize the NetFile partition on the HDD with SP5832 011 (HDD Formatting – Ridoc I/F).

NetFiles: Jobs printed from the document server using a PC and DeskTopBinder

Before initializing the NetFile partition on the HDD please inform the client that:

1. Received faxes on the delivery server will be lost
2. All captured documents will be lost
3. DeskTopBinder/Print Job Manager/Desk Top Editor job history will be cleared
4. Documents stored on the document server will not be lost.
5. The first time the network accesses the machine, the management information must be reconfigured (this will require a significant amount of time).
6. Execute SP5832 011 then turn the machine off and on.

Recovery Procedure 3

If "Procedure 2" does not solve the problem, execute SP5832 001 (HDD Formatting - All), then turn the machine off and on.

Executing SP5832 001 erases all document and address book data stored on the hard disks. Be sure to consult with the customer before executing this SP code.

Recovery Procedure 4

If "Recovery Procedures 1 to 3" fail to correct the problem, replace the HDD.

910	D	External Controller Error 1
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911	D	External Controller Error 2
912	D	External Controller Error 3
913	D	External Controller Error 4
914	D	External Controller Error 5
		The external controller alerted the machine about an error.
		Please refer to the instructions for the external controller.

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919	B	External Controller Error 6
		While EAC (External Application Converter), the conversion module, was operating normally, the receipt of a power line interrupt signal from the FLUTE serial driver was detected, of BREAK signal from the other station was detected.
		<ul style="list-style-type: none"> • Power outage at the EFI controller. • EFI controller was rebooted. • Connection to EFI controller loose.

920	D	Printer Error 1
		An internal application error was detected and operation cannot continue.
		<ul style="list-style-type: none"> • Software defective, switch off/on, or change the controller firmware if the problem is not solved. • Insufficient memory

921	D	Printer Error 2
		When the printer application started, the font to use could not be found on the SD card.
		<ul style="list-style-type: none"> • The font is not on the SD card

925	D	Net File Function Error
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953	D	Scanner image setting error
		<p>The settings required for image processing using the scanner are not sent from the IPU.</p> <ul style="list-style-type: none"> • Software defective

954	D	Printer image setting error	<ul style="list-style-type: none"> • Software defective
		The settings required for image processing using the printer controller are not sent from the IPU.	
955	D	Memory setting error	<ul style="list-style-type: none"> • Software defective
		The settings that are required for image processing using the memory are not sent from the IPU.	
964	D	Printer ready error	<ul style="list-style-type: none"> • Software defective
		The print ready signal is not generated for more than 17 seconds after the IPU received the print start signal.	
984	D	Print image data transfer error	<ul style="list-style-type: none"> • Controller (SIMAC) board defective • BICU defective • BICU/controller disconnected
		After a data transfer begins from the controller to the engine via the PCI bus, the transfer does not end within 15 s.	
985	D	Scanned image data transmission error	<ul style="list-style-type: none"> • Controller (SIMAC) board defective • BICU defective • BICU/controller disconnected
		After a data transfer begins from the engine to the controller via the PCI bus, the transfer does not end within 3 s.	
986	D	Software error 1	<ul style="list-style-type: none"> • Controller (SIMAC) board defective • BICU defective • BICU/controller disconnected
		The write parameter received by the write module at the beginning of the setting table is NULL.	



990	B	Software Performance Error 1	GW
		An unexpected operation was encountered by the software.	
		<ul style="list-style-type: none"> • Software crash, reboot the machine • If the HDDs have just been replaced, be sure to download the stamp data (SP 5853). • With SP5990 004(SMC Report – Logging Data), print the most recent information for SC990. • The SC990 information displays the file name, line number, and value. Report this information to your technical supervisor. For example: Funciton.c LINE: 123 VAL: 0 	

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991	C	Software Error	GW
		The software performs an unexpected function and the program cannot continue. Recovery processing allows the program to continue.	
		<ul style="list-style-type: none"> • Software defective, re-boot* 1 	

* 1: In order to get more details about SC991:

1. Execute SP7403 or print an SMC Report (SP5990) to read the history of the 10 most recent logged errors.
2. If you press the zero key on the operation panel with the SP selection menu displayed, you will see detailed information about the recently logged SC991, including the software file name, line number, and so on. Of these two methods, 1) is the recommended method, because another SC could write over the information for the previous SC.

992	C	Undefined Error (No SC Code)	GW
		An error not controlled by the system occurred (the error does not come under any other SC code).	
		<ul style="list-style-type: none"> • Software defective • Turn the machine power off and on. The machine cannot be used until this error is corrected. • Re-install firmware 	

994	C	Operation Panel Management Records Exceeded	GW
		An error occurred because the number of records exceeded the limit for images managed in the service layer of the firmware. This can occur if there are too many application screens open on the operation panel.	
		No action required because this SC does not interfere with operation of the machine.	



997	B	Application Selection Error	GW
		An application did not start after pressing the appropriate key on the operation panel.	
		<ul style="list-style-type: none"> • Software bug; change the firmware for the application that failed • A RAM or DIMM option required by the application is not installed or not installed correctly. 	

998	CTL D	Application start error	
		No applications start within 60 seconds after the power is turned on.	
		<ul style="list-style-type: none"> • Loose connection of RAM-DIMM, ROM-DIMM • Defective controller • Software problem 	
		<ol style="list-style-type: none"> 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. 	

Additional SC Codes Printed in SMC Report

These codes are also used in the SMC report. Codes that have the same number in this series are identified by an additional 4-digit hexadecimal number.

820	0001	TLB conversion (store) exception error	<ul style="list-style-type: none"> • Unexpected error in CPU device: • Controller board defective • Boot monitor or self-diagnostic program corrupted
820	0002	TLB miss (load) exception error	
820	0003	TLB miss (store) exception error	
820	0004	Read address exception error	
820	0005	Write address exception error	
820	0006	Command bus exception error	
820	0007	Data bus exception error	
820	0008	System call exception error	
820	0009	Break exception error	
820	000A	Illegal command exception error	
820	000B	Potential sensor exception error	
820	000C	Overflow exception error	
820	000D	UTLB miss exception error	
820	0010	Allocation 0 error	
820	0011	Allocation 1 error	
820	0012	Allocation 2 error	
820	0013	Allocation 3 error	
820	0014	Allocation 4 error	
820	0015	Allocation 5 error	
820	00FF	Non-initialization allocation error	<ul style="list-style-type: none"> • CPU defective • Local bus defective • Controller board defective

820	0601	Read address exception error	<ul style="list-style-type: none"> • CPU device error • Controller board defective
820	0602	Write address exception error	
820	0605	System call exception error	
820	0606	Break point exception error	
820	0607	Illegal command exception error	
820	060A	Allocation 0 mask exception error	<ul style="list-style-type: none"> • CPU device error • ASIC device error • Controller board defective
820	060B	Allocation 1 mask exception error	
820	060C	Allocation 2 mask exception error	
820	060D	Allocation 3 mask exception error	
820	060E	Allocation 4 mask exception error	
820	0610	CPU timer 2 allocation set error	<ul style="list-style-type: none"> • CPU device error • Controller board defective
820	0612	ASIC allocation error	<ul style="list-style-type: none"> • ASIC device error • Controller board defective • Peripheral device defective
820	06FF	CPU master clock error	<ul style="list-style-type: none"> • CPU device error • Error in CPU initialization data (ASIC error) • Controller board defective
820	0702	Command cache error	<ul style="list-style-type: none"> • CPU cache defective • Controller board defective • Memory error (insufficient speed)
820	0709	Data cache error	<ul style="list-style-type: none"> • CPU device error • Boot mode setting for CPU error • Controller defective • Insufficient memory
820	070A	Data cache clear error	

820	0801	TLB virtual address error	<ul style="list-style-type: none"> • CPU device defective (controller board defective)
820	0804	TLB global error	
820	0807	UTLB miss error	
820	0808	TLB read miss error	
820	0809	TLB write miss error	
820	080A	TLB mode file error	
820	4002	Single-precision calculation error	<ul style="list-style-type: none"> • CPU error (controller board defective)
820	4003	Double-precision calculation error	
820	4004	Exception error	
820	4005	Exception mask error	
822	3003	HDD timeout	<ul style="list-style-type: none"> • HDD defective • HDD connector disconnected, defective • ASIC device error (controller board defective)
822	3004	Self-diagnostic command error	<ul style="list-style-type: none"> • HDD defective
823	6101	MAC address SUM error	<ul style="list-style-type: none"> • NIB (PHY) board defective • Controller board defective
823	6104	PHY chip ID illegal	
823	6105	PHY loopback error	
824	1401	NVRAM verify error	<ul style="list-style-type: none"> • NVRAM defective
826	1501	Clock error	<ul style="list-style-type: none"> • Optional NVRAM defective
826	15FF	RTC non-detection error	<ul style="list-style-type: none"> • Incompatible NVRAM installed • NVRAM battery defective
826	0201	Resident memory verify error	<ul style="list-style-type: none"> • Memory on controller board defective • RAM DIMM defective

828	0101	Boost trap code (CODE) error	<ul style="list-style-type: none"> • Software storage error (re-install software) • Controller board defective
828	0104	ROM FS error	<ul style="list-style-type: none"> • ROM device error
828	0105	Forgery prevention error	<ul style="list-style-type: none"> • Forgery prevention chip defective • Forgery prevention chip error • Replace the controller, ROM, or RAM DIMM
829	0301	Option memory 0 verify error	<ul style="list-style-type: none"> • Controller board internal memory error • RAM DIMM defective
829	0302	Option memory 0 configuration information error	

835	1102	Verify error	<ul style="list-style-type: none"> • Loopback connector error (controller board defective)
835	110C	DMA verify error	<ul style="list-style-type: none"> • Loopback connector error
			<ul style="list-style-type: none"> • Controller board defective
835	1120	Loopback connector non-detection	<ul style="list-style-type: none"> • Loopback connector not set
			<ul style="list-style-type: none"> • Loopback connector error
			<ul style="list-style-type: none"> • Controller board defective
836	1601	Font ROM 0 error	
837	1602	Font ROM 1 error	
838	2701	Verify error	
853	D	IEEE802 11b card startup error	Not used.
854	D	IEEE802 11b card access error	Not used.
855	D	IEEE802 11b card error	Not used.
856	D	IEEE802 11b card connection board error	Not used.

870	B	Address book data error
		<p>The address book in the hard disk is accessed. An error is detected in the address book data; address book data is not read; or data is not written into the address book.</p> <p>NOTE: To recover from the error, do any of the following countermeasures:</p> <p>Format the address book by using SP5-832-008 (all data in the address book—including the user codes and counters—is initialized)</p> <p>Initialize the user data by using SP5-832-006 and -007 (the user codes and counters are recovered when the main switch is turned on).</p> <p>Replace the hard disk (the user codes and counters are recovered when the main switch is turned on).</p>
		<ul style="list-style-type: none"> • Data corruption • Defective hard disk • Defective software

900	C	Electrical Total Counter Error
		<p>The total counter contains data that is not a number.</p> <ul style="list-style-type: none"> • NVRAM disturbed unexpectedly • NVRAM defective • NVRAM data corrupted

920	D	Printer error
		<p>The printer program cannot be continued.</p> <ul style="list-style-type: none"> • Defective hardware • Data corruption • Defective software

925	D	Net file error
		<p>The management file for net files is corrupted; net files are not normally read.</p> <p>Netfiles: Jobs to be printed from the document server using a PC and the DeskTopBinder software</p> <ul style="list-style-type: none"> • Defective hardware • Data corruption • Defective software

992	C	Other system SCs	
		The controller received an unknown SC code from the engine.	<ul style="list-style-type: none"> Contact your product specialist.
993	D	Network error	
		The ASIC program of GW controller cannot be continued.	<ul style="list-style-type: none"> Defective ASIC Defective GW controller

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Jam Codes

Here are lists of SC codes that are printed in the SMC report; they do not appear on the operation panel display.

ADF: Paper Jam Errors

No.	Location	Position Code
003	Separation Sensor: On	P1
004	Skew Correction Sensor: On	P1
005	Interval Sensor: On	P2
006	Registration Sensor: On	P2
007	Exit Sensor: On	P2
053	Separation Sensor: Off	P1
054	Skew Correction Sensor: Off	P1
055	Interval Sensor: Off	P2
056	Registration Sensor: Off	P2
057	Exit Sensor: Off	P2

Main Unit and LCT (B474): Paper Jam Errors

No.	Location	Position Code
1	Initial Jam (Power On)	A1
3	1st Paper Feed SN: Late	A1
4	2nd Paper Feed SN: Late	A1
5	3rd Paper Feed SN: Late	A1
6	4th Paper Feed SN: Late (Japan Only)	A1
7	LCT Feed SN: Late	U
8	1st Vertical Transport SN: Late	A1
9	2nd Vertical Transport SN: Late	A1
10	3rd Vertical Transport SN: Late	A1
11	4th Vertical Transport SN: Late (Japan Only)	A1
12	Relay SN: Late	B
13	Registration SN: Late	B/C
14	Fusing Exit SN: Late	D
15	Exit Unit Entrance SN: Late	E
16	Paper Exit SN: Late	E
19	Duplex Entrance SN: Late	E
20	Duplex Transport SN 1: Late	F
21	Duplex Transport SN 2: Late	F
22	Duplex Transport SN 3: Late	F
23	Duplex Exit SN: Late	E
24	LCT Relay SN: Late	U
34	By-pass Paper Feed SN: Late	A2
45	Sort Tray: Paper Exit SN: Late	R

No.	Location	Position Code
46	Sort Tray: Tray Lift Motor	R
47	Sort Tray: Shift Tray Motor	R
53	1st Paper Feed SN: Lag	A1
54	2nd Paper Feed SN: Lag	A1
55	3rd Paper Feed SN: Lag	A1
56	4th Paper Feed SN: Lag (Japan Only)	A1
57	LCT Feed SN: Lag	U
58	1st Vertical Transport SN: Lag	A1
59	2nd Vertical Transport SN: Lag	A1
60	3rd Vertical Transport SN: Lag	A1
61	4th Vertical Transport SN: Lag (Japan Only)	A1
62	Relay SN: Lag	B
63	Registration SN: Lag	B/C
-	-	-
66	Paper Exit SN: Lag	E
69	Duplex Entrance SN: Lag	E
-	-	-
71	Duplex Transport SN 2: Lag	F
72	Duplex Transport SN 3: Lag	F
-	-	-
74	LCT Relay SN: Lag	B
84	By-pass Paper Feed SN: Lag	A2

Finisher D374: Jam Codes

No.	Location	Position Code
101	Entrance Sensor	R1 to R4
102	Proof Tray Exit Sensor	R1 to R4
103	Exit Sensor	R1 to R4
104	Staple Entrance Sensor	R5 to R8
105	Exit After Jogging	R5 to R8
106	Corner Stapling	S1
109	Shift Tray Motor	R1 to R4
110	Jogger Fence Motor	R5 to R8
111	Shift Roller Motor	R1 to R4
112	Stapler Shift Motor	R5 to R8
113	Stapler Motor	R5 to R8
115	Feed Out Belt Motor	R5 to R8
116	Paper Punch Motor	R1 to R4

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Finisher D373: Jam Codes

No.	Location	Position Code
121	Entrance Sensor	R1 to R4
122	Proof Tray Exit Sensor	R1 to R4
123	Exit Sensor	R1 to R4
124	Staple Entrance Sensor	R5 to R7
125	Exit After Jogging	R8 to R12
126	Corner Stapling	S1
127	Saddle Stapling	S2

No.	Location	Position Code
128	Paper Folding	R8 to R12
129	Shift Tray Motor	R1 to R4
130	Jogger Fence Motor	R8 to R12
131	Shift Roller Motor	R1 to R4
132	Stapler Shift Motor	R8 to R12
133	Stapler Motor	R8 to R12
134	Folder Plate Motor	R8 to R12
135	Feed Out Belt Motor	R8 to R12
136	Paper Punch Motor	R1 to R4

Finisher B830: Jam Codes

No.	Location	Position Code
151	Entrance Sensor	R1 to R3
152	Proof Tray Exit Sensor	R1 to R3
153	Shift Exit Sensor	R1 to R3
154	Stapler Exit Sensor	R4 to R7
155	Pre-Stack	R4 to R7
156	Feed Out	R4 to R7
158	Upper Trans Motor	R1 to R3
159	Shift Tray Motor	R1 to R3
160	Positioning Roller Motor	R4 to R7
161	Jogger Fence Motor	R4 to R7
162	Stack Plate Motor (Center)	R4 to R7
163	Stack Plate Motor (Front)	R4 to R7

No.	Location	Position Code
164	Stack Plate Motor (Rear)	R4 to R7
165	Shift Motor	R1 to R3
166	Drag Drive Motor	R1 to R3
167	Shift Tray Jogger Motor	R1 to R3
168	Shift Tray Jogger Retraction Motor	R1 to R3
169	Exit Guide Motor	R4 to R7
170	Staple Hammer Motor	-
171	Stapler Movement Motor	R4 to R7
172	Stapler Rotation Motor	R4 to R7
173	Stack Feed-Out Belt Motor	R4 to R7
174	Punch Motor	R1 to R3
175	Top Fence Motor	R4 to R7
176	Bottom Fence Motor	R4 to R7
197	Main Machine Set. Incorrect	R1 to R3 / R4 to R7

Mailbox B471: Jam Codes

No.	Location	Position Code
201	Vertical Transport Sensor 1	W
202	Vertical Transport Sensor 2	W
203	Vertical Transport Sensor 3	W
204	Vertical Transport Sensor 4	W
205	Vertical Transport Sensor 5	W

Cover Interposer Tray B470: Jam Codes

No.	Location	Position Code
251	Paper Feed Sensor	Q
252	Vertical Transport Path	Q1 to Q3
253	Bottom Plate Position Sensor	Q

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Multi-Folding Unit D454: Jam Codes

No.	Location	Position Code
351	Entrance SN: Late	N1 to N5
352	Entrance SN: Lag	N1 to N5
353	Top Tray Exit SN: Late	N1 to N5
354	Top Tray Exit SN: Lag	N1 to N5
355	Horizontal Path Exit SN: Late	N1 to N5
356	Horizontal Path Exit SN: Lag	N1 to N5
357	1st Stopper HP SN: Late	N6 to N22
358	1st Stopper HP SN: Lag	N6 to N22
359	2nd Stopper HP SN: Late	N6 to N22
360	2nd Stopper HP SN: Lag	N6 to N22
361	3rd Stopper HP SN: Late	N6 to N22
362	3rd Stopper HP SN: Lag	N6 to N22
363	Skew Correction Jam	N6 to N22
364	Folded Paper Path Jam	N1 to N5
366	Entrance JG Motor Jam	N1 to N5
367	Fold JG Motor Jam	N1 to N5
368	1st Stopper Motor Jam	N6 to N22

No.	Location	Position Code
369	2nd Stopper Motor Jam	N6 to N22
370	3rd Stopper Motor Jam	N6 to N22
371	Dynamic Roller Trans. Motor Jam	N6 to N22
372	Registration Roller Release Motor Jam	N6 to N22
373	Fold Plate Motor Jam	N6 to N22
374	Jogger Fence Motor Jam	N6 to N22
375	Positioning Roller Motor Jam	N6 to N22
376	Direct-Send JG Motor Jam	N6 to N22
377	FM6 Pawl Motor Jam	N6 to N22
399	Main Machine Set. Incorrect	N1 to N5 / N6 to N22

Z-Folding Unit B660 Jam Codes

No.	Location	Related SC Code
169	Paper Feed Sensor: Paper Late	---
170	Paper Feed Sensor: Paper Remains	---
171	Fold Timing Sensor: Paper Late	---
172	Fold Timing Sensor: Paper Remains	---
173	Leading Edge Exit Sensor: Paper Late	---
174	Leading Edge Exit Sensor: Paper Remains	---
175	Upper Stopper Path Sensor: Paper Late	---
176	Upper Stopper Path Sensor: Paper Remains	---
177	Lower Exit Sensor: Paper Late	---
178	Lower Exit Sensor: Paper Remains	---

No.	Location	Related SC Code
181	Upper Exit Sensor: Paper Late	---
182	Upper Exit Sensor: Paper Remains	---
183	Paper Fold Motor Lock	---
184	Lower Stopper Motor Lock	---
185	Upper Stopper Motor Lock	---

4. Appendix: Service Program Mode Tables

Service Program Mode Tables

Service Table Key

Notation	What it means
[range/step]	Example: [-9 to +9/0.1 mm] The default setting can be adjusted in 0.1 mm steps in the range ±9.
<i>Italics</i>	Comments added for reference.
*	An asterisk marks the SP's that are reset to their factory default settings after an NVRAM reset.
DFU	Denotes "Design or Factory Use". Do not change this value.
Japan Only	The feature or item is for Japan only. Do not change this value.
SEF	Short Edge Feed
LEF	Long Edge Feed
NIA	No Information Available (May 2009)

System SP Tables

SP1xxx Feed

1001 *	Leading Edge Registration
	Adjusts the printing leading edge registration using the trimming area pattern (SP2902-003, No.18). [-9 to +9/0/0.1 mm] Specification: 3±2mm

1002 *	Side-to-Side Registration	
	Adjusts printing side-to-side registration for each feed station, using test pattern (SP2902-003, No.18). These SP's should be adjusted after replacing the laser synchronization detector or the laser optical unit.	
001	Tray-1	[-9 to +9/0/0.1 mm]
002	Tray-2	
003	Tray-3	
004	Tray-4 (Japan Only)	
005	By-pass Tray	
006	LCT	
007	Duplex Tray	

1003	Registration Buckle Adjustment	
	Adjusts the registration motor timing. This timing determines the amount of paper buckle at registration. (A higher setting causes more buckling.) [-9 to +9/0/1 mm]	
001 *	Tray LCT	
002	Duplex Tray	
003 *	By-pass Tray	

1007	By-pass Feed Paper Size Display	
-001	Use this SP to confirm the size of the paper detected in the by-pass tray if paper is skewing during feeding.	

1008 *	Duplex Fence Adjustment	
	Adjusts the distance between front and rear fences. A smaller value shortens the distance. If the fences are too far apart, skewing may occur in the duplex tray. If the fences are too close, the paper may be creased in the duplex unit. [-5 to +5/0/0.1 mm]	

1102	Fusing Temperature Adjustment
	Adjusts the temperature of the fusing units.
001	Duplex Actual Temperature [0 to 1 /0/1]
002	Duplex Balance Temp (Center Thermistor) [-30 to 0/-15/1]
003	Duplex Balance Temp (End Thermistor) [-30 to 0/-15/1]

1103	Fusing Idling
001	IdlingTime (Normal) C4ab: [0 to 300 /0/1sec] *For only TWN [0 to300/8/1sec] C4d: [0 to 300 /26/1sec] *For only TWN [0 to300/28/1sec] C4e: [0 to 300 /160/1sec]
-002	IdlingTime (Low) C4ab: [0 to 300 /66/1sec] *For only TWN [0 to300/68/1sec] C4d: [0 to 300 /86/1sec] *For only TWN [0 to300/88/1sec] C4e: [0 to 300 /200/1sec]
003	IdlingTime (LowPower) C4abe: [0 to 300 /0/1sec] C4d: [0 to 300 /15/1sec]
004	Japan only IdlingTime (LowVoltage) *For only C4c (DOM): [0 to 300 /8/1sec]
005	Japan only IdlingTime (CapacitorLowVoltage) *For only C4c (DOM): [0 to 300 /90/1sec]

1105*	Fusing Temperature Adjustment
	Adjusts the fusing temperature of the hot roller for plain paper, OHP or thick paper.

001	Normal Time (Center Thermistor)	Fusing temperature during the ready condition and during printing. C4abd: [180 to 205/ 190 /1 degree C] C4e: [180 to 205/ 185 /1 degree C]
002	Normal Time (End Thermistors)	Fusing temperature during the ready condition C4abd: [150 to 205/ 190 /1 degree C] C4e: [150 to 200/ 185 /1 degree C]
003	OHP (Center Thermistor)	Fusing temperature during printing: C4abd: [150 to 205/ 190 /1 degree C] C4e: [150 to 200/ 170 /1 degree C]
004	OHP (End Thermistor)	Fusing temperature during printing: C4abd: [150 to 205/ 190 /1 degree C] C4e: [150 to 200/ 170 /1 degree C]
005	Thick Paper (Center Thermistor)	Fusing temperature during printing: C4abd: [180 to 205/ 200 /1 degree C] C4e: [150 to 200/ 195 /1 degree C]
006	Thick Paper (End Thermistors)	Fusing temperature during printing: C4abd: [180 to 205/ 200 /1 degree C] C4e: [150 to 200/ 195 /1 degree C]
007	Normal Paper (Center Thermistor)	Fusing temperature during printing: C4abd: [150 to 230/ 190 /1 degree C] C4e: [150 to 200/ 185 /1 degree C]
008	Normal Paper (End Thermistor)	Fusing temperature during printing: C4abd: [150 to 205/ 190 /1 degree C] C4e: [150 to 200/ 185 /1 degree C]
009	Small Size – Normal Paper (Center)	Fusing temperature at center of hot roller when printing on normal paper: C4abd: [150 to 205/ 190 /1 degree C] C4e: [150 to 200/ 185 /1 degree C]

010	Small Size – Thick Paper (Center)	Fusing temperature at center of hot roller when printing on thick paper: C4abd: [150 to 205/ 190 /1 degree C] C4e: [150 to 200/ 195 /1 degree C]
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1106	Fusing Temperature Display	
001	Center Temperature	Shows the temperature of the hot roller detected by the thermistor at the center of the hot roller.
002	End Temperature	Shows the temperature of the hot roller detected by the thermistors at the ends of the hot roller.
003	Pressure Roller Temperature	Shows the temperature of the hot roller detected by the thermistors at the pressure roller.

1107	Start Fusing Adjustment	
	This SP allows you to set when to start the fusing temperature adjustment for the center and end heating lamps.	
001	Center Lamp Temperature	C4abd: [150 to 205/ 205 /1 deg C]
002	End Lamp Temperature	C4e: [150 to 190/ 190 /1 deg C]
003	Center Lamp Actual Time	C4abd: [0 to 120/ 60 /1 sec.] C4e: [0 to 60/ 10 /1 sec.]
004	End Lamp Actual Time	C4abd: [0 to 120/ 55 /1 sec] *For Only TWN [0 to 120/ 60 /1 sec] C4e: [0 to 60/ 10 /1 sec]
005	Center Lamp Temp (Small Size Paper)	C4abd: [180 to 205/ 205 /1 deg C] C4e: [175 to 190/ 190 /1 deg C]
006	End Lamp Actual Time (Small Size Paper)	C4abd: [0 to 120/ 60 /1 sec.] C4e: [0 to 60/ 10 /1 sec]
007	Center Lamp Temp (Thick Paper)	C4abd: [180 to 205/ 205 /1 deg C] C4e: [175 to 200/ 200 /1 deg C]

008	End Lamp Actual Time (Thick Paper)	C4a: [0 to 120/ 0 /1 sec.] C4bd: [0 to 120/ 5 /1 sec.] C4e: [0 to 120/ 10 /1 sec.]
009	Japan only Capacitator for Check Start Fusing Temperature	C4 c: [170 to 205/ 200 /1 deg C]
010	Japan only Capacitator for Check Start Fusing Lamp ON Time	C4c: [0 to 120/ 0 /1 sec.]

1109	Measure Nip Width	
001	Execute	0 or 1
002	Adjust Value	[200 to 400/ 300 /10mm]

1112	Hot Roller Temperature for Auto Process Control	
001	Sets the temperature of the hot roller for auto process control to start. [70 to 150/ 140 /1 °C] DFU	

1159	Fusing Jam: SC Setting	
001	<p>This SP determines what the machine does if paper jams occur in the fusing unit for three consecutive sheets of paper.</p> <p>0: (default): A jam alert is shown on the screen. The customer can remove the jam and the machine works normally after that.</p> <p>1: SC559 occurs. The technician must remove the jam.</p>	

1901 *	CPM Down Setting for Special Paper	
	Selects the speed (copies per minute) for copying on thick paper or tab sheets. A slower speed makes fusing better. This setting has no effect on fusing temperature.	

001	Thick Paper	C4abd: [0 to 4/ 2 /1 step] C4e: [0 to 4/3/1 step] 0: 25 cpm 1: 35 cpm 2: 40 cpm 3: 45 cpm 4: 55 cpm
002	Tab Sheet	[0 to 4/ 0 /1 step] 0: 25 cpm 1: 35 cpm 2: 40 cpm 3: 45 cpm 4: 55 cpm

1902*	Fusing Web Motor Control	
001	Fusing Web Used Area Display/Setting	
	Displays the percentage of the web consumption in 1% steps (0% to 100%). This setting must be reset to zero after the web is replaced. [0 to 120/ 0 /1 %]	
002	Fusing Web Motor Operation Interval	
	Adjusts the interval of copy operation time (seconds) after which the web motor is driven. C4a: [5 to 50/ 18 /1 s] C4b: [5 to 50/ 16 /1 s] C4d: [5 to 50/ 15 /1 s] C4e: [5 to 50/ 14 /1 s]	
004	Web Near End Value	
	Adjusts the timing of the web near end alert by changing the amount of web that has been used before the alert is triggered. [0 to 100/ 80 /1 %]	
005	Web Roll Coefficient	

	Determines the coefficient of the web take-up time from cleaning toner from the roller while taking into consideration the take-up time for web buckle. DFU [10 to 20/9/1]
006	Web Length (0: 20m 1: 22.7m 2:28.5m 3:32m)
	Set the length of web. [0 to 3 / x /1] C4a/b/d: x = 3, C4e: x = 2

4

1903*	Web Job End
001	Yes/No
	This determines whether the web motor is driven at the end of a job. [0 to 1/1] 0: Off 1: On Enable when too much paper dust is causing copies to blacken.
002	Job End Condition (Continuous PPC Time)
	At the end of a job, the web motor is driven if the job lasted longer than the value of this SP mode. Only valid if SP1903-001 is set to 'On'. [1 to 99/7/1s]
003	Job End Frequency
	If the web motor is driven at the end of a job, this SP determines how many times the web motor operation is executed. [1 to 5/2/1]

1904	By-pass Tray Paper Size Correction
001	Minimum Size
	Calibrates the minimum paper width position of the sensor (100 mm). Move the side fences to the 100 mm position then press Execute.
002	Maximum Size
	Calibrates the maximum paper width position of the sensor (A3). Move the side fences to the A3 position then press Execute.

190 5*	Thick Paper – By-pass Tray
	Adjusts the by-pass feed clutch operation for thick paper. [0 to 1/1/1] 1: On: 30 ms 0: Off:
	This setting switches the by-pass feed clutch on for 30 ms when the registration motor turns on. It only happens when thick paper is selected, to help this paper pass through the registration rollers.

1906	Temperature/Humidity Sensor
001	Temperature Sensor

1907	Pre-Fusing Idling On/Off	
	Pre-fusing idling: The hot roller turns freely to increase its temperature before thick paper or OHP goes through the fusing unit. [0 to 1/1/1] 0: Pre-fusing idling is not done. 1: The fusing motor turns the hot roller with no paper in the fusing unit. This ensures that the hot roller reaches the correct temperature. It is only done for thick paper or OHP. In this mode, the paper stops at the registration roller, then roller resumes its rotation after the hot roller reaches the correct temperature.	
001	Thick Mode (1:ON/0:OFF)	Thick Paper Normal Size
002	Thick Mode: Small Paper Size (1:ON/0:OFF)	Thick Paper Small Size
003	Normal Mode (1:ON/0:OFF)	Normal Paper Normal Size
004	Normal Mode: Small Paper Size (1:ON/0:OFF)	Normal Paper Small Size
005	Middle Thick (1:ON/0:OFF)	Middle Thick Paper Normal Size
006	Middle Thick: Small Paper Size (1:ON/0:OFF)	Middle Thick Paper Small Size

1908	Pre-Fusing Idling
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001	1:ON/0:OFF
002	This SP is for only C4e. Low Temp. Standby (Pre-Idling) [0 to 180 /0/ 1sec]
003	This SP is for only C4e. Low Temp. Sleep Mode (Pre-Idling) [0 to 180/60/ 1sec]

4

1909	LowSpeedMode
001	LowSpeedMode (Not used)
002	LowSpeedMode ProcessControl(Not used)

1910	Capacitator Status: Japan only
001	Latest Capacity
002	Current Voltage
003	Charge Time
004	Worn-out Counter
005	Charged Power

1920	Capacitator Charge Setting: Japan only
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1926	Capacitator Discharge: S-Size: Japan only
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1927	Capacitator Discharge Setting: Japan only
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1921	Idling Control: Japan only
-001	After Job Interval C4c: [0 to 30 /0/1sec]
-002	After Job Target Temperature C4c: [190 to 205/200/1deg]

1922	Heater Full Power Setting: Japan only
-001	0: OFF/1: ON
1923	HV Fusing Temp Cont
-001	0: OFF/1: ON
1924	10 Sec. Recovery Temperature: Japan only
-001	Temperature Sensor C4c: [15 to 25/ 20 /1]
1925	Idling Setting: Japan only
-001	Power On Middle Thick 0 or 1
-002	Power On Thick 0 or 1

SP2xxx Drum

2001 *	Charge Roller Bias Adjustment
001	Applied Voltage for Image Processing
	Adjusts the voltage applied to the grid plate during copying when auto process control is off. [600 to 1500/ 900 /10 V] After replacing the charge corona wire or the drum, reset to the factory default setting.
002	ID Sensor Pattern: Adjustment of Applied Voltage
	Adjusts the voltage applied to the grid plate when the ID sensor pattern is created. [600 to 1500/ 800 /10 V]
003	Setting for Total Bias Current
	Adjusts the total current applied to the charge corona wire. DFU [900 to 1500/ 1300 /10 μ A]

004	Setting for Total Bias Current of Grid
	Adjusts the voltage applied to the grid plate during copying when auto process control is on. [600 to 1500/ 900 /10 V] This voltage changes every time auto process control starts up (every time the machine is switched on).
005	Total Bias Grid Voltage: OHP Total
	Adjusts the voltage applied to the grid plate when OHP mode is selected. [600 to 1500/ 650 /10 V] Use this if there is a copy quality problem when making OHP's.
006	Total Bias Grid Current: Photo Mode Total
	Adjusts the voltage applied to the grid plate when Photo mode is selected. [1400 to 2800/ 1500 /10 μ A]

2101 *	Printing Erase Margin
	These settings adjust the erase margin for the leading, trailing, left, and right edges.
001	Leading Edge [0 to 9/ 2.5 /0.1 mm], Specification: 3 \pm 2 mm
002	Trailing Edge [0 to 9/ 2 /0.1 mm], Specification: 3 \pm 2 mm
003	Left Edge
004	Right Edge [0 to 9/ 2 /0.1 mm], Specification: 2 \pm 1.5 mm

2103	LD Power Adjustment DFU
	Note: This is an SSP mode. To enter SSP mode, push [Reset], enter "107", then hold down [Clear] for at least 3 sec. When you see "Copy SP" on the touch panel, press and hold down [#] then touch "Copy SP".

001	LD0 Power Adjustment	These SP codes allow adjustment of the laser intensity for each of the four channels. [-64 to +64/0/1]
002	LD1 Power Adjustment	
003	LD2 Power Adjustment	
004	LD3 Power Adjustment	
005	LD0 Adjustment Start/End	These SP codes allow adjustment of the start/end timing of the adjustments performed for SP2103 001-004. [0 to 1/0/1] 0: LD beam OFF 1: LD beam ON
006	LD1 Adjustment Start/End	
007	LD2 Adjustment Start/End	
008	LD3 Adjustment Start/End	

2104*	Small Pitch Banding Reduction
001	Reduction Mode On/Off Setting: 1200 dpi
	Switches on/off the setting that corrects uneven images generated during 1200 dpi printing. [0 to 1/1] 1: On 0: Off Unevenness may appear in dot patterns or narrowly spaced horizontal lines, i.e. some areas may appear lighter or darker than others.
002	Reduction Mode On: 1200 dpi Printing
	Adjusts the amount of correction for uneven images generated during 1200 dpi printing. [-20 to +10/-8/1]
003	Reduction Mode On/Off: 1200 dpi Copying

	Switches on/off the setting that corrects uneven images generated during 1200 dpi copying. [0 to 1/1] 1: On 0: Off
004	Reduction Mode On: 1200 dpi Copying
	Adjusts the amount of correction of uneven image generated during 1200 dpi copying. [-20 to +10/0/1]

4

2111	FCI Shade Detection	
	Allows shading detection if FCI (Fine Character Adjustment) smoothing is on. With this SP switched on, photos and painted areas are detected, and FCI is not applied in these areas. FCI is used for outputs in printer mode.	
001	Matrix Size (>600 dpi)	[0 to 128/18/1]
002	Threshold Value (>600 dpi)	[0 to 128/4/1]
003	Matrix Size (<400 dpi)	[0 to 128/18/1]
004	Threshold Value (<400 dpi)	[0 to 128/4/1]

2114*	Binary Edge Processing Parameter	
	Allows setting a parameter for binary edge processing for the printer application with FCI switched off. The value for this SP is enabled only when the printer is initialized. In all other cases, the data registered in the software are enabled. This SP allows adjustment of image quality if the desired effect cannot be achieved with the default settings for edge processing. However, some settings could cause defective images on white paper.	
001	Leading Edge Pixel Level (1200 dpi)	[2 to 15/7/1]
002	Trailing Edge Pixel Level (1200 dpi)	[2 to 15/14/1]
003	Continuous Pixel Level (1200 dpi)	[2 to 15/15/1]
004	Independent Dot Pixel Level (1200 dpi)	[2 to 15/15/1]
005	Leading Edge Pixel Level (600 dpi)	[2 to 15/7/1]

006	Trailing Edge Pixel Level (600 dpi)	[2 to 15/15/1]
007	Continuous Pixel Level (600 dpi)	
008	Independent Dot Pixel Level (600 dpi)	

2115	Main Scan Beam Pitch Adjustment	
	A label attached to the LD unit service part lists the correct settings. Refer to these settings when adjusting the beam pitch for LD0 to LD3.	
001	Pitch Adjustment Between LD0 and LD2	[-100 to 100/0/1 μm]
002	Pitch Adjustment Between LD1 and LD3	[-100 to 100/0/1 μm]
003	Pitch Adjustment Between LD0 and LD1	[-999 to 999/0/1 μm]
004	Main Scan: Front Between LD0 and LD1	[-100 to 100/0/1 μm]
005	Main Scan: Rear Between LD0 and LD1	[-100 to 100/0/1 μm]

2201 *	Development Bias Adjustment	
001	Dev. Bias (Image)	
	Adjusts the development bias for copying when process control is off [100 to 800/550/10 V] Adjust as a temporary measure to compensate for an aging drum until the old drum can be replaced.	
002	Dev. Bias (ID Sensor Pattern)	
	Adjusts the development bias used to create the ID sensor pattern. DFU [100 to 800/360/10 V] This SP and SP2201-004 must be changed together by the same amount.	
003	Dev. Bias (OHP)	
	Adjusts the development bias for copying with OHP sheets. [100 to 800/300/10 V]	
004	ID Sensor Pattern Dev. Potential	

	<p>Adjusts the development potential to create the ID sensor pattern. DFU [140 to 380/240/10 V] This SP and SP2201-002 must be changed together by the same amount.</p>
005	Vb Target Voltage Setting
	<p>Sets the Vb target development bias voltage (Vb). DFU [100 to 800/550/1 V]</p>
2207*	Forced Toner Supply
001	<p>Rotates the toner bottle to supply toner to the toner supply unit. Press Execute to force toner supply. Use to determine if toner supply is operating correctly. If forcing toner supply with this SP does not darken the image, then toner supply is not operating correctly.</p>
2208*	Toner Supply Mode
001	<p>Selects the toner supply mode: Sensor Control or Image Pixel Count. [0 to 1/1] 0: Sensor Control 1: Pixel Count Select Image Pixel Count only if the TD sensor has failed and cannot be replaced immediately, so that the customer can use the machine. Return the setting to Sensor Control after replacing the sensor.</p>
2209*	Toner Supply Rate
001	<p>Adjusts the toner supply rate. [50 to 2000/850/5 mg per sec] Increasing this value reduces the time the toner supply clutch remains on. Use a lower value if the user tends to make many copies that have large areas of black.</p>
2210*	ID Sensor Pattern Interval
001	<p>Adjusts the time interval between making ID sensor patterns onto the drum for Vsp/Vsg detection. [0 to 200/10/1] Reduce the interval for copies that contain a high proportion of black.</p>

2220*	Vref Manual Setting
	<p>Adjusts the TD sensor reference voltage (Vref) manually.</p> <p>[1 to 4/2.5/0.01 V]</p> <p>Change this value after replacing the development unit with another one that already contains toner. For example, when using a development unit from another machine for test purposes, do the following:</p> <ul style="list-style-type: none"> • Check the value of SP2220 in both the machine containing the test unit and the machine that you are going to move it to. • Install the test development unit, then input the VREF for this unit into SP2220. • After the test, put back the old development unit, and change SP2220 back to the original value.

2223*	Vt Display
	<p>Displays the current TD sensor output voltage.</p> <p>[0 to 5 / 4 / 0.02 V]</p>

2301*	Transfer Current Adjustment	
	<p>Adjusts the current applied to the transfer belt during copying.</p> <p>Note: If this SP is too high, toner on the paper can go back to the drum.</p>	
001	Main: Image: Front	C4a: [10 to 200/ 50 /1 μA]
002	Main: Image: Back	C4bd: [10 to 200/ 65 /1 μA] C4e: [10 to 200/ 80 /1 μA]
003	By-pass Image: Front	C4abd: [10 to 200/ 75 /1 μA] C4e: [10 to 200/ 80 /1 μA]
004	Postcard (Japan Only)	[10 to 200/ 165 /1 μA]
005	Paper Interval	[10 to 200/ 15 /1 μA]
006	Tab Paper	C4abd: [10 to 200/ 75 /1 μA] C4e: [10 to 200/ 80 /1 μA]
007	Thick Paper: Front	[10 to 200/ 120 /1 μA]
008	OHP: Front Side	C4abd: [10 to 200/ 75 /1 μA] C4e: [10 to 200/ 80 /1 μA]

009	Tracing Paper: Front	[10 to 200/120/1 μA]
010	Image Leading Edge Front	C4a: [10 to 200/50/1 μA] C4bd: [10 to 200/65/1 μA] C4e: [10 to 200/80/1 μA]
011	Image Trailing Edge Front	
012	Image Leading Edge Back	
013	Image Trailing Edge Back	
014	Bypass Image Leading Edge	C4abd: [10 to 200/75/1 μA]
015	Bypass Image Trailing Edge	C4e: [10 to 200/80/1 μA]
016	Image Leading Edge: Postcard	[10 to 200/165/1 μA]
017	Image Trailing Edge: Postcard	
018	Image Leading Edge: Tab Paper	C4abd: [10 to 200/75/1 μA]
019	Image Trailing Edge: Tab Paper	C4e: [10 to 200/80/1 μA]
020	Image Leading Edge: Thick Paper	[10 to 200/120/1 μA]
021	Image Trailing Edge: Thick Paper	
022	Image Leading Edge: OHP	C4abd: [10 to 200/75/1 μA]
023	Image Trailing Edge: OHP	C4e: [10 to 200/80/1 μA]
024	Image Leading Edge: Tracing Paper	[10 to 200/120/1 μA]
025	Image Trailing Edge: Tracing Paper	

2506*	Continuous Operation Time Cleaning Setting
001	Operation Setting
	<p>Determines whether multiple copy jobs are stopped at regular intervals for: 0) Stopping and reversing the drum motor to clean the cleaning blade edge, and 1) creating an ID sensor pattern to correct toner density control.</p> <p>[0 to 1/1]</p> <p>0: No</p> <p>1: Yes</p> <p>The interval is set with SP2506-002. Use if the drum gets dirty or images get too pale or too dark during a long job.</p>

002	Time Setting	
	Selects the interval at which multi-copy jobs are stopped. [1 to 100/ 15 /1 min.]	
2507*	ID Sensor Patterning During Job	
001	Operation Setting	
	Determines whether an ID sensor pattern is created during copy jobs. [0 to 1/1] 0: Off 1: On	
002	No. of Copies	
	Selects the interval (number of copies) between ID sensor patterns when 1 is selected for SP2507-001 [0 to 10,000/ 100 /1]	
2602	PTL Setting (1st /2nd Copy Side)	
	Turns the PTL off and on. The PTL (Pre-Transfer Lamp) decreases the charge on the drum to make better separation of the paper from the drum, and prevents stripper pawl marks on the leading edges of copies. Note: <ul style="list-style-type: none"> • The PTL operates only when copying with plain paper or translucent paper. It does not operate when copying with OHP, index sheets, or thick paper. • If blurring occurs in images at the leading edges of copies, switch SP2602-001 off (set to "0"). 	
001	ON/OFF Setting (1st Side)	Turns the PTL lamp on/off during transfer to the front side of the paper at normal speed. This setting is always off when thick paper or OHPs are fed. [0 to 1/1] 0: Off 1: On The timing can be adjusted with SP2602-002.

002	OFF Timing (1st Side)	Adjusts the length of the space from the leading edge where PTL quenching is applied to the front side at normal speed. For example, if you select +3, then quenching will be done 3 mm from the leading edge on the front side. [-10 to 20/ 3 /1 mm]
003	ON/OFF Setting (2nd Side)	Turns the PTL lamp on/off during transfer to the front side of the paper at normal speed. [0 to 1/1] 0: Off 1: On
004	OFF Timing (2nd Side)	Adjusts the length of the space from the leading edge where PTL quenching is applied to the back side at normal speed. For example, if you select +3, then quenching will be done 3 mm from the leading edge on the back side. [-10 to 20/ 3 /1 mm]

2801 *	TD Sensor Initial Setting
-001	Press the EXECUTE button to do the TD sensor initial setting. This SP mode controls the voltage applied to the TD sensor to make the TD sensor output about 3.0 V. When SP2967 is on, the TD sensor output is set to about 2.5 V. Note: Execute this SP only after replacing the TD sensor or developer.
-002	TD Sensor Initial Setting Developer Lot Number Input

2803	Charge Cleaner Start Time
001	Press EXECUTE button to clean the charge corona wire manually. When copy density across the paper is uneven, clean the wire with this mode.

2804	Charge Cleaner Operation Setting
001	Operation Mode

	<p>Determines whether the charge corona wire is cleaned at regular intervals.</p> <p>[0 to 1/1]</p> <p>0: No</p> <p>1: Yes</p> <p>The time interval between cleaning is set with SP2804-002.</p>
002	Number of Sheets
	<p>Sets the interval (number of sheets printed) between charge corona wire cleanings.</p> <p>[100 to 10,000/5000/100]</p>

2813	Exposure Gamma Table DFU
	<p>Is the gamma table is used when the printing test pattern is done with SP2902 003.</p> <p>[0 to 1/1]</p> <p>0: Gamma table used in the printing test pattern.</p> <p>1: Forces test pattern output with SP2902 003. The write exposure gamma table is not applied. Current image mode selection or other settings are ignored.</p>



2901	Humidity Control
001	<p>0: OFF 1:ON</p> <p>[0 or 1 / 0 / -]</p>
002	<p>Humidity Thresh: Trans. Bias</p> <p>[0 to 100 / 70 / 1%]</p>

2902	Test Pattern Printing
003	<p>Test Pattern</p> <p>Produces the printer test patterns. (See "Test Pattern Printing" in the Main Chapters.)</p> <p>[0 to 26 / 0 / 1]</p>

2906*	TD Sensor Control Voltage and Check
001	TD Sensor Control Voltage

	Adjustment mode for production. DFU [4.0 to 12.0/9.7/0.1 V]	
002	Auto Adjust Set	
	Displays the TD sensor data stored when SP2801 (TD Sensor Initial Settings) is executed. [4.0 to 12.0/9.7/0.1 V]	
2909*	Main Scan Magnification	
001	Copy	
	Adjusts magnification in the main scan direction for copying. [-2.0 to +2.0/0/0.1%]	
2910*	Writing Sub Scan	
001	Adjusts magnification in the main scan direction for copying. [-1.0 to +1.0/0/0.1%]	
2912*	Drum Reverse Rotation	
001	Rotation Amount	
	Sets the length of time the drum is reversed to clean the drum cleaning blade. [1 to 3/1/1] To calculate the actual time of reverse rotation, multiply the selected value by 15 ms.	
002	Rotation Interval	
	Determines the frequency of drum reverse rotation for blade cleaning. [0 to 6/0/1 min.]	
2913*	Temperature & Humidity Display	
001	Ambient Temperature	Shows the internal temperature of the machine. [-128 to 127/0/ 1°C]
2920*	LD Off Check	

	<p>Checks if the LD turns off or on when the front door is opened. DFU</p> <p>[0 to 1/1]</p> <p>0: On</p> <p>1: Off</p>
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2930*	Transfer Idle Cleaning
	<p>When resolution changes from 400 to 600 dpi, the LD writes a pattern on the drum. Toner is applied, and this must be cleaned off the belt. This SP mode determines whether bias is applied to the transfer belt cleaning bias roller at this time. DFU</p> <p>[0 to 1/1]</p> <p>0: Off</p> <p>1: On</p> <p>Switching this function on adds 3 s to the job time.</p>

2931*	Transfer Current On/Off Timing: LCT	
001	La1 (Front)	<p>Adjusts on transfer current ON timing for front side copying.</p> <p>[-30 to +30/20/1 mm]</p>
002	La1f (Front)	<p>Adjusts the area where the transfer is applied for the leading edge during front side copying.</p> <p>[0 to +20/0/1 mm]</p>
003	Lc1r (Front)	<p>Adjusts the area where the transfer current is applied for the trailing edge during front side copying.</p> <p>[0 to +20/0/1 mm]</p>
004	Off Timing: Lc1 (Front)	<p>Adjusts the transfer current OFF timing for front side copying.</p> <p>[-30 to +30/20/1 mm]</p>
005	On Timing: La2 (Back)	<p>Adjusts on transfer current ON timing for back side copying.</p> <p>[-30 to +30/0/1 mm]</p>
006	Leading Edge: La2f (Back)	<p>Adjusts the area where the transfer current is applied for the leading edge during back side copying.</p> <p>[0 to +20/0/1 mm]</p>

007	Trailing Edge: Lc2r (Back)	Adjusts the area where the transfer current is applied for the trailing edge during back side copying. [0 to +20/0/1 mm]
008	On Timing: Lc2 (Back)	Adjusts the transfer current ON timing for back side copying. [-30 to +30/20/1 mm]
009	On Timing: Thick Paper	Adjusts on transfer current ON timing for copying thick paper from the LCT. [-30 to +30/0/1 mm]
010	Leading Edge: Thick Paper	Adjusts the area where the transfer current is applied for the leading edge during copying with thick paper from the LCT. [0 to +20/0/1 mm]
011	Trailing Edge: Thick Paper	Adjusts the area where the transfer current is applied for the trailing edge during copying with thick paper from the LCT. [0 to +20/0/1 mm]
012	Timing: Thick Paper Lc	Adjusts the transfer current OFF timing for copying thick paper from the LCT. [-30 to +30/15/1 mm]
013	On Timing: M-Thick	Adjusts the transfer current ON timing for copying with M-thick paper from the LCT. [-30 to +30/0/1 mm]
014	Leading Edge: M- Thick	Adjusts the area where the transfer current is applied for the leading edge during copying with M-thick paper from the LCT. [0 to +20/0/1 mm]
015	Trailing Edge:M- Thick	Adjusts the area where the transfer current is applied for the trailing edge during copying with M-thick paper from the LCT. [0 to +20/0/1 mm]
016	Off Timing: M-Thick	Adjusts the transfer current OFF timing for copying with M-thick paper from the LCT. [-30 to +30/15/1 mm]
017	On Timing: After Punch	Adjusts the transfer current ON timing for copying with punch from the LCT. [-30 to +30/20/1 mm]

018	Leading Edge: After Punch	Adjusts the area where transfer current is applied for the leading edge during copying with punch. [0 to +20/ 0 /1 mm]
019	Trailing Edge: After Punch	Adjusts the area where transfer current is applied for the trailing edge during copying with punch. [0 to +20/ 0 /1 mm]
020	Off Timing: After Punch	Adjusts the transfer current OFF timing for copying with punch from the LCT. [-30 to +30/ -16 /1 mm]

2932	Transfer Current On/Off Timing: Tray 1	
001	La1 (Front)	Adjusts on transfer current ON timing for front side copying. [-30 to +30/ 20 /1 mm]
002	La1f (Front)	Adjusts the area where the transfer is applied for the leading edge during front side copying. [0 to +20/ 0 /1 mm]
003	Lc1r (Front)	Adjusts the area where the transfer current is applied for the trailing edge during front side copying. [0 to +20/ 0 /1 mm]
004	Off Timing: Lc1 (Front)	Adjusts the transfer current OFF timing for front side copying. [-30 to +30/ 20 /1 mm]
005	On Timing: La2 (Back)	Adjusts on transfer current ON timing for back side copying. [-30 to +30/ 0 /1 mm]
006	Leading Edge: La2f (Back)	Adjusts the area where the transfer current is applied for the leading edge during back side copying. [0 to +20/ 0 /1 mm]
007	Trailing Edge: Lc2r (Back)	Adjusts the area where the transfer current is applied for the trailing edge during back side copying. [0 to +20/ 0 /1 mm]
008	On Timing: Lc2 (Back)	Adjusts the transfer current ON timing for back side copying. [-30 to +30/ 20 /1 mm]

009	On Timing: Thick Paper	Adjusts on transfer current ON timing for copying thick paper f. [-30 to +30/ 0 /1 mm]
010	Leading Edge: Thick Paper	Adjusts the area where the transfer current is applied for the leading edge during copying with thick paper. [0 to +20/ 0 /1 mm]
011	Trailing Edge: Thick Paper	Adjusts the area where the transfer current is applied for the trailing edge during copying with thick paper.. [0 to +20/ 0 /1 mm]
012	Timing: Thick Paper Lc	Adjusts the transfer current OFF timing for copying thick paper. [-30 to +30/ 15 /1 mm]
013	On Timing: M-Thick	Adjusts the transfer current ON timing for copying with M-thick paper. [-30 to +30/ 0 /1 mm]
014	Leading Edge: M-Thick	Adjusts the area where the transfer current is applied for the leading edge during copying with M-thick paper. [0 to +20/ 0 /1 mm]
015	Trailing Edge:M-Thick	Adjusts the area where the transfer current is applied for the trailing edge during copying with M-thick paper. [0 to +20/ 0 /1 mm]
016	Off Timing: M-Thick	Adjusts the transfer current OFF timing for copying with M-thick paper. [-30 to +30/ 15 /1 mm]
017	On Timing: After Punch	Adjusts the transfer current ON timing for copying with punch. [-30 to +30/ 20 /1 mm]
018	Leading Edge: After Punch	Adjusts the area where transfer current is applied for the leading edge during copying with punch. [0 to +20/ 0 /1 mm]
019	Trailing Edge: After Punch	Adjusts the area where transfer current is applied for the trailing edge during copying with punch. [0 to +20/ 0 /1 mm]
020	Off Timing: After Punch	Adjusts the transfer current OFF timing for copying with punch. [-30 to +30/ -16 /1 mm]

2933	Transfer Current On/Off Timing: Tray2	
001	La1 (Front)	Adjusts on transfer current ON timing for front side copying. [-30 to +30/ 20 /1 mm]
002	La1f (Front)	Adjusts the area where the transfer is applied for the leading edge during front side copying. [0 to +20/ 0 /1 mm]
003	Lc1r (Front)	Adjusts the area where the transfer current is applied for the trailing edge during front side copying. [0 to +20/ 0 /1 mm]
004	Off Timing: Lc1 (Front)	Adjusts the transfer current OFF timing for front side copying. [-30 to +30/ 20 /1 mm]
005	On Timing: La2 (Back)	Adjusts on transfer current ON timing for back side copying. [-30 to +30/ 0 /1 mm]
006	Leading Edge: La2f (Back)	Adjusts the area where the transfer current is applied for the leading edge during back side copying. [0 to +20/ 0 /1 mm]
007	Trailing Edge: Lc2r (Back)	Adjusts the area where the transfer current is applied for the trailing edge during back side copying. [0 to +20/ 0 /1 mm]
008	On Timing: Lc2 (Back)	Adjusts the transfer current ON timing for back side copying. [-30 to +30/ 20 /1 mm]
009	On Timing: Thick Paper	Adjusts on transfer current ON timing for copying thick paper f. [-30 to +30/ 0 /1 mm]
010	Leading Edge: Thick Paper	Adjusts the area where the transfer current is applied for the leading edge during copying with thick paper. [0 to +20/ 0 /1 mm]
011	Trailing Edge: Thick Paper	Adjusts the area where the transfer current is applied for the trailing edge during copying with thick paper.. [0 to +20/ 0 /1 mm]
012	Timing: Thick Paper Lc	Adjusts the transfer current OFF timing for copying thick paper. [-30 to +30/ 15 /1 mm]

013	On Timing: M-Thick	Adjusts the transfer current ON timing for copying with M-thick paper. [-30 to +30/ 0 /1 mm]
014	Leading Edge: M-Thick	Adjusts the area where the transfer current is applied for the leading edge during copying with M-thick paper. [0 to +20/ 0 /1 mm]
015	Trailing Edge:M-Thick	Adjusts the area where the transfer current is applied for the trailing edge during copying with M-thick paper. [0 to +20/ 0 /1 mm]
016	Off Timing: M-Thick	Adjusts the transfer current OFF timing for copying with M-thick paper. [-30 to +30/ 15 /1 mm]
017	On Timing: After Punch	Adjusts the transfer current ON timing for copying with punch. [-30 to +30/ 20 /1 mm]
018	Leading Edge: After Punch	Adjusts the area where transfer current is applied for the leading edge during copying with punch. [0 to +20/ 0 /1 mm]
019	Trailing Edge: After Punch	Adjusts the area where transfer current is applied for the trailing edge during copying with punch. [0 to +20/ 0 /1 mm]
020	Off Timing: After Punch	Adjusts the transfer current OFF timing for copying with punch. [-30 to +30/ -16 /1 mm]

2934	Transfer Current On/Off Timing: Tray3	
001	La1 (Front)	Adjusts on transfer current ON timing for front side copying. [-30 to +30/ 20 /1 mm]
002	La1f (Front)	Adjusts the area where the transfer is applied for the leading edge during front side copying. [0 to +20/ 0 /1 mm]
003	Lc1r (Front)	Adjusts the area where the transfer current is applied for the trailing edge during front side copying. [0 to +20/ 0 /1 mm]

004	Off Timing: Lc1 (Front)	Adjusts the transfer current OFF timing for front side copying. [-30 to +30/20/1 mm]
005	On Timing: La2 (Back)	Adjusts on transfer current ON timing for back side copying. [-30 to +30/0/1 mm]
006	Leading Edge: La2f (Back)	Adjusts the area where the transfer current is applied for the leading edge during back side copying. [0 to +20/0/1 mm]
007	Trailing Edge: Lc2r (Back)	Adjusts the area where the transfer current is applied for the trailing edge during back side copying. [0 to +20/0/1 mm]
008	On Timing: Lc2 (Back)	Adjusts the transfer current OFF timing for back side copying. [-30 to +30/20/1 mm]
009	On Timing: Thick Paper	Adjusts on transfer current ON timing for copying thick paper f. [-30 to +30/0/1 mm]
010	Leading Edge: Thick Paper	Adjusts the area where the transfer current is applied for the leading edge during copying with thick paper. [0 to +20/0/1 mm]
011	Trailing Edge: Thick Paper	Adjusts the area where the transfer current is applied for the trailing edge during copying with thick paper.. [0 to +20/0/1 mm]
012	Timing: Thick Paper Lc	Adjusts the transfer current OFF timing for copying thick paper. [-30 to +30/15/1 mm]
013	On Timing: M-Thick	Adjusts the transfer current ON timing for copying with M-thick paper. [-30 to +30/0/1 mm]
014	Leading Edge: M-Thick	Adjusts the area where the transfer current is applied for the leading edge during copying with M-thick paper. [0 to +20/0/1 mm]
015	Trailing Edge:M-Thick	Adjusts the area where the transfer current is applied for the trailing edge during copying with M-thick paper. [0 to +20/0/1 mm]

016	Off Timing: M-Thick	Adjusts the transfer current OFF timing for copying with M-thick paper. [-30 to +30/15/1 mm]
017	On Timing: After Punch	Adjusts the transfer current ON timing for copying with punch. [-30 to +30/20/1 mm]
018	Leading Edge: After Punch	Adjusts the area where transfer current is applied for the leading edge during copying with punch. [0 to +20/0/1 mm]
019	Trailing Edge: After Punch	Adjusts the area where transfer current is applied for the trailing edge during copying with punch. [0 to +20/0/1 mm]
020	Off Timing: After Punch	Adjusts the transfer current OFF timing for copying with punch. [-30 to +30/-16/1 mm]

2935*	Transfer Current On/Off Timing: Tray 4 Japan Only	
001 To 020		

2936	Transfer Current On/Off Timing: Bypass Tray	
001	On Timing: La1 (Front)	Adjusts on transfer current ON timing for front side copying. [-30 to +30/20/1 mm]
002	La1f (Front)	Adjusts the area where the transfer is applied for the leading edge during front side copying. [0 to +20/0/1 mm]
003	Lc1r (Front)	Adjusts the area where the transfer current is applied for the trailing edge during front side copying. [0 to +20/0/1 mm]
004	Off Timing: Lc1 (Front)	Adjusts the transfer current OFF timing for front side copying. [-30 to +30/20/1 mm]
005	On Timing: La2 (Back)	Adjusts on transfer current ON timing for back side copying. [-30 to +30/0/1 mm]

006	Leading Edge: La2f (Back)	Adjusts the area where the transfer current is applied for the leading edge during back side copying. [0 to +20/ 0 /1 mm]
007	Trailing Edge: Lc2r (Back)	Adjusts the area where the transfer current is applied for the trailing edge during back side copying. [0 to +20/ 0 /1 mm]
008	On Timing: Lc2 (Back)	Adjusts the transfer current ON timing for back side copying. [-30 to +30/ 20 /1 mm]
009	On Timing: Thick Paper	Adjusts on transfer current ON timing for copying thick paper f. [-30 to +30/ 0 /1 mm]
010	Leading Edge: Thick Paper	Adjusts the area where the transfer current is applied for the leading edge during copying with thick paper. [0 to +20/ 0 /1 mm]
011	Trailing Edge: Thick Paper	Adjusts the area where the transfer current is applied for the trailing edge during copying with thick paper.. [0 to +20/ 0 /1 mm]
012	Off Timing: Thick Paper Lc	Adjusts the transfer current OFF timing for copying thick paper. [-30 to +30/ 20 /1 mm]
013	On Timing: OHP	Adjusts on transfer current ON timing for copying with OHP. [-30 to +30/ 0 /1 mm]
014	Leading Edge: OHP	Adjusts the area where the transfer current is applied for the leading edge during copying with OHP. [0 to +20/ 0 /1 mm]
015	Trailing Edge: OHP	Adjusts the area where the transfer current is applied for the trailing edge during copying with OHP. [0 to +20/ 0 /1 mm]
016	Off Timing: OHP	Adjusts the transfer current OFF timing for copying with OHP. [-30 to +30/ 20 /1 mm]
017	On Timing: M-Thick	Adjusts the transfer current ON timing for copying with M-thick paper. [-30 to +30/ 0 /1 mm]

018	Leading Edge: M-Thick	Adjusts the area where the transfer current is applied for the leading edge during copying with M-thick paper. [0 to +20/0/1 mm]
019	Trailing Edge: M-Thick	Adjusts the area where the transfer current is applied for the trailing edge during copying with M-thick paper. [0 to +20/0/1 mm]
020	Off Timing: M-Thick	Adjusts the transfer current OFF timing for copying with M-thick paper. [-30 to +30/15/1 mm]
021	On Timing: After Punch	Adjusts the transfer current ON timing for copying with punch. [-30 to +30/20/1 mm]
022	Leading Edge: After Punch	Adjusts the area where transfer current is applied for the leading edge during copying with punch. [0 to +20/0/1 mm]
023	Trailing Edge: After Punch	Adjusts the area where transfer current is applied for the trailing edge during copying with punch. [0 to +20/0/1 mm]
024	Off Timing: After Punch	Adjusts the transfer current OFF timing for copying with punch. [-30 to +30/-16/1 mm]

2940*	Reface Mode	
	Determines if a blade bend prevention pattern is made when the ID sensor pattern is made. This setting controls the pattern count. DFU [0 to 100/0/1] Increase the setting if the rotation of the drum is not smooth, that is, when drum rotation is making noise.	

2950	Vh Pattern Create	Vh Pattern Creation Setting DFU
001	Exposure Level	[0 to 15/7/1]
002	Offset Light Amount	[-100 to 0/-45/1]

2960	Process Interval Additional Time. DFU
	[0 to 7/0/1 sec]
2961	Developer Adjust Mode DFU
2962	Automatic Adjustment of Drum Conditions
	Push [Execute] to execute the process control cycle manually. Note: This SP executes only if SP3901 is enabled.
2963	Installation Mode
	Use the keyboard display to enter the lot number of the developer. (The lot number is embossed on the top edge of the developer pack.) Press "Execute" to initialize the developer and force toner supply to the toner hopper at machine installation. Important: After you replace developer in a machine that has been already installed, do not use SP2963 to initialize the developer. Use SP2801 (TD Sensor Initial Setting) to initialize the TD sensor.
001	Execute
002	Developer Lot Number Input
2964*	Transfer Cleaning Blade Forming
001	Pattern Interval Setting
	Selects the interval for application of a strip of toner across drum and transfer belt to prevent the drum cleaning blade and belt cleaning blade from sticking and bending against the drum or belt. [0 to 200/0/1] DFU If set to zero, then no pattern is created.
002	Pattern Light Amount Setting
	Adjusts the intensity of light that is used to create the blade protection pattern. [0 to 4/2/1] DFU
003	Transfer Current On/Off Setting

	<p>Determines whether transfer current is switched on or off while the blade protection pattern is created. DFU</p> <p>Sets Off, toner is applied to the entire cleaning area and drum cleaning blade.</p> <p>[0 to 1/1]</p> <p>0: Off</p> <p>1: On</p>
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2966*	Drum Conditions: Periodic Adjustment Interval Setting
002	<p>Sets the time interval between automatic adjustments.</p> <p>[1 to 24/24/1 hour]</p>

2967*	Developer Density Adjustment Mode
	<p>Determines whether the amount of toner is checked during auto process control with only the TD sensor. With this feature on, the machine uses the TD sensor only.</p> <p>[0 to 1/1]</p> <p>0: Off</p> <p>1: On</p> <p>During auto process control execution after the main switch is turned on, the toner amount in the development unit is normally checked and adjusted using the ID sensor. However, in some environments, such as where there could be traces ammonia in the air, copies could appear dirty or too dark because the ID sensor reading is not reliable.</p>

2968	Toner Exit Mode
	<p>Press Execute to force used toner into the toner collection bottle. The moving components of the cleaning and toner collection areas will rotate for about 60 sec. with the transfer belt released.</p>

2969*	Toner Bottle Revolution	
001	Copy Count Setting	<p>Sets the standard number of copies by using the number of toner bottle rotations. DFU</p> <p>[50 to 500/100/1]</p>
002	Count Reset	<p>Press "Execute" to reset the toner bottle rotation count. DFU</p>

003	Copy Count Display 1	Used to check the number of toner bottle rotations. [0 to 0xFFFF/0/0]
2970	Transfer Belt Resistance: Display DFU	
	[0 to 0xFFFF/0/0 Mohm]	
2971	Trans. Interval Output DFU	
001	Voltage	[0 to 0xFFFF/0/0 V]
002	Current	[0 to 0xFFFF/0/0 μA]
2972*	Toner Bottle Cool. Fan Drive Control	
001	Switches fan control On/Off. [0 to 1/1]	
	0: Off. The toner bottle fan switches off when the machine's operation switch is turned off and when the machine enters the night mode. 1: On: Toner bottle fan remains on. Switch on in an extremely hot environment to prevent the toner from overheating and clumping.	

SP3xxx Processing

3001*	ID Sensor Initial Setting	
001	ID Sensor PWM Setting	
	Recovers the machine when an SC is logged because the ID Sensor Initial Setting is not done after doing an NVRAM Clear or replacing the NVRAM. Reset this SP to the factory setting in this case. [0 to 255/70/1]	
002	ID Sensor Initialization	

	<p>Performs the ID sensor initial setting. The ID sensor output for the bare drum (VSG) is adjusted to $4.0 \pm 0.2V$.</p> <p>Press "Execute".</p> <p>This SP mode should be performed after:</p> <p>(1) Replacing or cleaning the ID sensor, (2) Replacing the NVRAM, (3) Clearing NVRAM, (4) Replacing the BICU board.</p>
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3103*	ID Sensor Output Display
001	Vsg
	<p>Displays the current value of the ID sensor output after checking the bare drum surface.</p> <p>[0 to 5/0/0.01 V]</p>
002	Vsp
	<p>Displays the current value of the ID sensor output after checking the ID sensor pattern image.</p> <p>[0 to 5/0/0.01 V]</p>
003	Vpdp
	<p>Displays the current value of the ID sensor output immediately after Vsp is output when the charge potential drops. This reading is used to test and determine characteristics for design.</p> <p>[0 to 5/0/0.01 V]</p> <p>Note: If the ID sensor output is abnormal, an SC is logged and the displays change:</p> <ul style="list-style-type: none"> • SC350-01 logged: Vsp/Vsg/Vsdp = 0.00/0.00/0.00 • SC350-02 logged: Vsp/Vsg/Vsdp = 5.00/5.00/5.00 • SC350-03 logged: Vsp/Vsg/Vsdp = 0.01/0.01/0.01

3901*	Auto Process Control On/Off Setting
	<p>Determines whether the machine checks and corrects the drum potential (Vd) and LD power when the fusing temperature is lower than 100°C at power-on.</p> <p>[0 to 1/1/1]</p> <p>0: Off</p> <p>1: On</p> <p>This setting attempts to change the Vd setting consistent with the OPC, the charge corona unit, and environment to improve the reliability of the system.</p>

3902*	Drum Condition Display
001	Auto Process Control On/Off
	<p>Displays whether auto process control is switched on or off (0:Off, 1:On)</p> <p>When auto processing control is turned on, displays only when the potential sensor is calibrated correctly. Auto process control is not executed when this SP is switched off.</p> <p>[0 to 1/1/1]</p> <p>0: Off</p> <p>1: On</p>
002	Vd
	<p>Displays drum dark potential, the standard potential, electrical potential of the black areas after exposure.</p> <p>[100 to 970/800/1]</p>
003	Vh
	<p>Displays standard halftone drum potential, used for laser power adjustment.</p> <p>[100 to 500/300/1]</p>
004	Vg
	<p>Displays the charge grid voltage resulting from the latest Vd adjustment.</p> <p>[0 to 0xFFFF/0/0]</p>
005	LD Level
	<p>Displays the LD power correction value as a result of the latest Vh adjustment.</p> <p>[-127 to 127/0/0]</p>
006	ID Sensor Pattern Potential
	<p>Displays Vid, the latest drum surface voltage measured on the ID sensor pattern.</p> <p>[0 to 0xFFFF/0/0]</p>
007	Vql
	<p>Displays the drum potential after quenching.</p> <p>[0 to 0xFFFF/0/0]</p>
008	VI

	Shows the standard electrical potential of white areas on the drum after exposure. [-32767 to 32768/0/0]
3903*	Drum Rotation Time Extension Mode
001	(0:OFF/1:ON)
	Turns on the drum rotation mode. This increases the time that the drum turns freely after the machine is turned on. After this function is turned on with this SP, it will be enabled only when SP3904 001 is set to "2". If SP3904 001 is set to "0" or "1", the extra drum rotation mode will not be enabled. [0 to 1/1] 0: Extra drum rotation mode is off. 1: After auto process control, the drum continues to turn until the fusing unit gets to its operation temperature. Use this setting to decrease out-of-focus copy images when the machine is used immediately after power-on.
002	Drum Rotation Time
	Sets the amount of time the drum turns in the drum rotation mode before the first copy after the machine is turned on. SP3903-001 must be on or this setting has no effect. [120 to 600/240/1]
3904	Warm Up Short Mode

	<p>Controls when corona wire cleaning is done to adjust the length of time that is necessary for startup.</p> <p>[0 to 2/0/1]</p> <p>0: Charge corona wire not cleaned when the machine is turned on. Warmup Time: 30 sec. (Short Process Control is done)</p> <p>1: Charge corona wire cleaned only when the machine is turned on. Warmup Time: 30 sec. + 40 sec. (for cleaning) = 70 sec. (Short Process Control is done)</p> <p>2: Normal startup procedure at power on: Warmup Time: 240 sec. (Full process control is done)</p> <ul style="list-style-type: none"> • Potential sensor calibrated • Drum starts to turn when fusing unit gets to the warmup temperature (not done during Short Process Control) • Potential sensor readings are used to adjust development bias, grid voltage, laser diode. • ID sensor calibrated (not done during Short Process Control) • TD sensor calibrated (not done during Short Process Control)
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SP4xxx Scanner

	Sub Scan Magnification Adj
4008*	<p>Fine adjusts the magnification in the sub scan direction for scanning by changing the speed of the scanner motor.</p> <p>[-1.0 to +1.0/0.1 %]</p> <p>Setting a lower value reduces the speed of the motor and lengthens the image in the sub scan direction (direction of paper feed).</p> <p>Setting a higher value increases the speed of the motor speed and shortens the image in the sub scan direction.</p>

	Sub Scan Registration Adj
4010*	<p>Adjust the registration of the leading edge for scanning in the sub scan direction.</p> <p>[-3.0 to +3.0/0.1 mm]</p> <p>This setting ensures that the point where the original strikes the registration roller matches the point where the F-GATE signal will trigger the start of scanning in the main scan direction.</p> <p>Setting a larger value shifts the image away from the leading edge, and a smaller value shifts the image toward the leading edge.</p>

401 1*	Scanner Main Scan Registration Adj	
	Adjusts the side-to-side registration for scanning in the main scan direction across the page. [-2.5 to 2.5/0.1 mm] Setting a negative value shifts the image toward the left edge, and setting a positive value shifts the image toward the right edge.	

4012*	Set Scale Mask	
	These settings adjust the margins (erase margins) of the scanned area on the sheet. The leading, trailing, right, and left margins can be set independently.	
001	Book: Sub Scan: Leading Edge	[0 to 3/0.1 mm]
002	Book: Sub Scan: Trailing Edge	
003	Book: Main Scan: Leading Edge (Rear)	
004	Book: Main Scan: Trailing Edge (Front)	
005	ADF: Sub Scan: Leading Edge	
007	ADF: Main Scan: Leading Edge (Rear)	
008	ADF: Main Scan: Trailing Edge (Front)	

4013	Scanner Free Run	
	Switches on/off a scanner free run. The scanning area is A3. Press "On" or "Off".	
001	Book Mode: Lamp Off	Performs a scanner free run with the exposure lamp off.
002	Book Mode: Lamp On	Performs a scanner free run with the exposure lamp on.

4014*	Scan	
001	Execute 1 scan with HP detection On.	

4020	DF Dust Check	
	This feature checks the ADF exposure glass for dust that can cause black lines in copies. If dust is detected, a message is displayed, but the process does not stop.	

001	<p>Dust Detect: On/Off: Front</p> <p>Issues a warning if there is dust on the narrow scanning glass of the ADF when the original size is detected before a job starts. This function can detect dust on the white plate above the scanning glass, as well as dust on the glass. Sensitivity of the level of detection is adjusted with SP4020-002.</p> <p>[0 to 1/1]</p> <p>0: Off. No dust warning.</p> <p>1: On. Dust warning. This warning does not stop the job.</p> <p>Note: Before switching this setting on, clean the ADF scanning glass and the white plate above the scanning glass.</p>
002	<p>Detect Level: Front</p> <p>Adjusts the sensitivity for dust detection on the ADF scanning glass. This SP is available only after SP4020-001 is switched on.</p> <p>[0 to 8/1]</p> <ul style="list-style-type: none"> • If you see black streaks in copies when no warning has been issued, raise the setting to increase the level of sensitivity. • If warnings are issued when you see no black streaks in copies, lower the setting. • Dust that triggers a warning could move be removed from the glass by the originals in the feed path. If the dust is removed by passing originals, this is not detected and the warning remains on.
003	<p>Correction Level: Front</p> <p>Sets the level for vertical line correction (the black vertical lines caused by dust on the ADF exposure glass).</p> <p>[0 to 7/1]</p> <p>0: No vertical line correction.</p> <p>1-7: Enables and sets the level for vertical line correction. If you select a higher number, this can decrease the unwanted lines caused by dust. But, it can also erase thin vertical lines of the original.</p>

011	<p>Detect Level: Rear</p> <p>Adjusts the sensitivity for dust detection on the ADF scanning glass. This SP is available only after SP4020-001 is switched on.</p> <p>[0 to 1/1]</p> <ul style="list-style-type: none"> • If you see black streaks in copies when no warning has been issued, raise the setting to increase the level of sensitivity. • If warnings are issued when you see no black streaks in copies, lower the setting. <p>Dust that triggers a warning could move be removed from the glass by the originals in the feed path. If the dust is removed by passing originals, this is not detected and the warning remains on.</p>
012	Correction Level: Rear
	<p>Sets the level for vertical line correction (the black vertical lines caused by dust on the ADF exposure glass).</p> <p>[0 to 8/1]</p> <p>0: No vertical line correction.</p> <p>1-7: Enables and sets the level for vertical line correction. If you select a higher number, this can decrease the unwanted lines caused by dust. But, it can also erase thin vertical lines of the original.</p>
4301	<p>Operation Check APS Sensor</p> <p>Displays the APS sensor output signals when an original is placed on the exposure glass. If a non-standard size is placed on the glass, asterisks (*) are displayed.</p>
4303*	<p>Set Minimum Size for APS</p> <p>Selects whether or not the copier determines that the original is A5/HLT size when the APS sensor does not detect the size.</p> <p>[0 to 1/1]</p> <p>0: Not detected</p> <p>1: A5 SEF (5 1/2" x 8 1/2")</p> <p>If "1" is selected, paper sizes that cannot be detected by the APS sensors are detected as A5 SEF. If "0" is selected, "Cannot detect original size" will be shown.</p>
4305	8K/16K Detection

	<p>Changes APS size detection</p> <p>[0 to 3 / 0 / 1]</p> <p>0 : Normal</p> <p>1 : A4-LEF LT-SEF</p> <p>If the paper is LEF, detects A4, if SEF detects LT</p> <p>2 : LT-LEF A4 SEF</p> <p>If paper is LEF, detects LT, if SEF detects A4.</p> <p>3: 8-kai, 16-kai</p> <ul style="list-style-type: none"> • A3, B4 > 8-kai SEF • A4 SEF, B5 SEF, A5 SEF > 16-kai SEF • A4 LEF, B5 LEF, A5 LEF > 16-kai LEF
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4400	Original Edge Mask Setting	
	<p>This SP sets the mask area to remove shadows when scanning originals from the exposure glass in Book mode.</p> <p>Note: "LE" denotes "leading edge" and "TE" denotes "trailing edge".</p>	
001	Book:Sub Scan:Leading Edge	[0 to 3/0/0.1 mm]
002	Book:Sub Scan:Trailing Edge	
003	Book:Main Scan:Leading Edge (Rear)	
004	Book:Main Scan:Trailing Edge (Front)	
005	ADF: Sub Scan: Leading Edge	[0 to 3/2/0.1 mm]
007	ADF: Main Scan: Leading Edge (Rear)	[0 to 3/0/0.1 mm]
008	ADF: Main Scan: Trailing Edge (Front)	

4417	IPU Test Pattern Setting	
001	0	Scanner Data
	1	256-Gradation: Main Scan A
	2	256-Gradation: Main Scan B
	3	256-Gradation: Main Scan C

	4	256-Gradation: Main Scan D
	5	256-Gradation: Sub Scan
	6	Small Grid Pattern
	7	Slanted Grid Pattern
	8	256 Gradations: K
	9	16-Step Check Pattern
	10	Gray Patch 1: 16-Step
	11	Gray Patch 2: 16-Step
	12	Gray Patch: 64-Step
	13	Large Grid
	14	Uneven Density Check
	15	Banding Check 1
	16	Banding Check 2
	17	Overall Coverage
	18	Shading Check
	19	Text Check
	20	Scan Image + Grid B
	21	Scan Image + Black Grade B
	22	Scan Image + Density Uneven C
	23	Scan Image + Slanted Grid C
	24	Scan Image + Slanted Grid D
	25	18-Level Grayscale: Text
	26	18-Level Grayscale: Photo
	27	256-Level Grayscale: Text
	28	256-Level Grayscale: Photo

4429	Select Copy Data Security
001	Copying [0 to 3/ 3 / 1]
002	Scanning [0 to 3/ 3 / 1]
003	Fax Operation [0 to 3/ 3 / 1]

4460	Digital AE	
	This SP sets the lower limit and level for background removal when background removal is selected with a scanner application.	
001	Low Limit Value	[0 to 1023/ 392 /1]
002	Background level	[0 to 1023/ 972 /1]

4540	Print Coverage Correction	
001	RY Phase: Option [0 to 255/ 0 / 1]	
002	RY Phase: R [0 to 255/ 0 / 1]	
003	RY Phase: G [0 to 255/ 0 / 1]	
004	RY Phase: B [0 to 255/ 0 / 1]	
005	YR Phase: Option [0 to 255/ 0 / 1]	
006	YR Phase: R [0 to 255/ 0 / 1]	
007	YR Phase: G [0 to 255/ 0 / 1]	

008	YR Phase: B [0 to 255/ 0 / 1]
009	YG Phase: Option [0 to 255/ 0 / 1]
010	YG Phase: R [0 to 255/ 0 / 1]
011	YG Phase: G [0 to 255/ 0 / 1]
012	YG Phase: B [0 to 255/ 0 / 1]
013	GY Phase: Option [0 to 255/ 0 / 1]
014	GY Phase: R [0 to 255/ 0 / 1]
015	GY Phase: G [0 to 255/ 0 / 1]
016	GY Phase: B [0 to 255/ 0 / 1]
017	GC Phase: Option [0 to 255/ 0 / 1]
018	GC Phase: R [0 to 255/ 0 / 1]
019	GC Phase: G [0 to 255/ 0 / 1]
020	GC Phase: B [0 to 255/ 0 / 1]
021	CG Phase: Option [0 to 255/ 0 / 1]

022	CG Phase: R [0 to 255/ 0 / 1]
023	CG Phase: G [0 to 255/ 0 / 1]
024	CG Phase: B [0 to 255/ 0 / 1]
025	CB Phase: Option [0 to 255/ 0 / 1]
026	CB Phase: R [0 to 255/ 0 / 1]
027	CB Phase: G [0 to 255/ 0 / 1]
028	CB Phase: B [0 to 255/ 0 / 1]
029	BC Phase: Option [0 to 255/ 0 / 1]
030	BC Phase: R [0 to 255/ 0 / 1]
031	BC Phase: G [0 to 255/ 0 / 1]
032	BC Phase: B [0CBo 255/ 0 / 1]
033	BM Phase: Option [0 to 255/ 0 / 1]
034	BM Phase: R [0 to 255/ 0 / 1]
035	BM Phase: G [0 to 255/ 0 / 1]

036	BM Phase: B [0 to 255/ 0 / 1]
037	MB Phase: Option [0 to 255/ 0 / 1]
038	MB Phase: R [0 to 255/ 0 / 1]
039	MB Phase: G [0 to 255/ 0 / 1]
040	MB Phase: B [0 to 255/ 0 / 1]
041	MR Phase: Option [0 to 255/ 0 / 1]
042	MR Phase: R [0 to 255/ 0 / 1]
043	MR Phase: G [0 to 255/ 0 / 1]
044	MR Phase: B [0 to 255/ 0 / 1]
045	RM Phase: Option [0 to 255/ 0 / 1]
046	RM Phase: R [0 to 255/ 0 / 1]
047	RM Phase: G [0 to 255/ 0 / 1]
048	RM Phase: B [0 to 255/ 0 / 1]
4550	Scanning: Text/Drawing
4551	Scanning: Text

4552	Scanning: Test Dropout Color
4553	Scanning: Text/Photo
4554	Scanning: Photo
4565	Scanning: Grayscale
4570	Scanning: Color Text/Photo
4571	Scanning: Color Gloss Photo
4572	Scanning: Auto Color
005	MTF Level: 0-15 (0:OFF, 15:High)
	Sets the MTF level (Modulation Transfer Function) designed to improve image contrast. Set higher for stronger effect, lower for weaker effect. [0 to 15/8/1]
006	Smoothing Level: 0-7 (0:Low, 7:High)
	Use to remove "jaggies" if they appear. Set higher for smoother. [0 to 7/4/1]
007	Brightness: 1-255
	Set higher for darker, set lower for lighter. [1 to 255/128/1]
008	Contrast: 1-255
	Set higher for more contrast, set lower for less contrast. [1 to 255/128/1]
009	Independent Dot Erase: 0-7 (0:Low, 7 High)
	This SP sets the level for removing dots when a color original is scanned with a scanner software application. The higher the setting, the greater the effect applied for removing background dots. [0 to 7/0/1]
4580	FAX Application: Text/Chart
4581	FAX Application: Text

4582	FAX Application: Text/Photo
4583	FAX Application: Photo
4584	FAX Application: Original 1
4585	FAX Application: Original 2
005	MTF Level: 0-15 (0:OFF, 15:High)
	Sets the MTF level (Modulation Transfer Function) designed to improve image contrast. Set higher for stronger effect, lower for weaker effect. [0 to 15/8/1]
006	Smoothing Level: 0-7 (0:Low, 7:High)
	Use to remove "jaggies" if they appear. Set higher for smoother. [0 to 7/4/1]
007	Brightness: 1-255
	Set higher for darker, set lower for lighter. [1 to 255/128/1]
008	Contrast: 1-255
	Set higher for more contrast, set lower for less contrast. [1 to 255/128/1]
009	Independent Dot Erase: 0-7 (0:Low, 7 High)
	This SP sets the level for removing dots when a color original is scanned with a scanner software application. The higher the setting, the greater the effect applied for removing background dots. [0 to 7/0/1]
010	Texture Erase: 0-2
	[0 to 2/0/1]
460 0*	Display the ID of ASIC

001	Displays the VSBCNT ID code confirmed by reading the SBU after the SBU adjusts automatically at power on. [0 to FFh/1]
002	Displays the DAGL_L ID code confirmed by reading the SBU after the SBU adjusts automatically at power on. [0 to FFh/1]
003	Displays the DAGL_F ID code confirmed by reading the SBU after the SBU adjusts automatically at power on. [0 to FFh/1]

4609*	Gray Balance Adj Value: R DFU
001	Displays the reference voltage for Red adjusted by gray balance adjustment.
4610*	Gray Balance Adj Value: G DFU
001	Displays the reference voltage for Green adjusted by gray balance adjustment.
4611	Gray Balance Adj Value: B DFU
001	Displays the reference voltage for Blue adjusted by gray balance adjustment.

4615	Gray Balance Adj Value: R (Factory Setting) DFU
001	Displays the reference voltage for Red adjusted at factory.
4616	Gray Balance Adj Value: G (Factory Setting) DFU
001	Displays the reference voltage for Green adjusted at factory.
4617	Gray Balance Adj Value: B (Factory Setting) DFU
001	Displays the reference voltage for Blue adjusted at factory.

4628	Gain Range Adj Value: R DFU
001	R FC:F:R
003	R FC:L:R
005	R BK:F:R
007	R BK:L:R

4629	Gain Range Adj Value: G DFU
001	R FC:F:G
003	R FC:L:G
005	R BK:F:G
007	R BK:L:G

4630	Gain Range Adj Value: B DFU
001	R FC:F:B
003	R FC:L:B
005	R BK:F:B
007	R BK:L:B

4631	Gain Adj Value R DFU
001	R FC:F:RE
002	R FC:F:RO
003	R FC:L:RE
004	R FC:L:RO
005	R BK:F:RE
006	R BK:F:RO
007	R BK:L:RE
008	R BK:L:RO

4632	Gain Adj Value G DFU
001	R FC:F:GE
002	R FC:F:GO
003	R FC:L:GE
004	R FC:L:GO

005	R BK:F:GE
006	R BK:F:GO
007	R BK:L:GE
008	R BK:L:GO

4633	Gain Adj Value B DFU
001	R FC:F:BE
002	R FC:F:BO
003	R FC:L:BE
004	R FC:L:BO
005	R BK:F:BE
006	R BK:F:BO
007	R BK:L:BE
008	R BK:L:BO

4641	Loop Number: White Level DFU
001	FC
002	BK

4646	Error Flag Auto – Adj Scanner
001	Gain1:First
	<p>Displays the error flag for the gain 1 first data.</p> <p>0: No error, 1: Error</p> <p>b11: GAIN_ERR1_BK_F_BO</p> <p>b10: GAIN_ERR1_BK_F_BE</p> <p>b 9: GAIN_ERR1_FC_F_BO</p> <p>b 8: GAIN_ERR1_FC_F_BE</p> <p>b 7: GAIN_ERR1_BK_F_GO</p> <p>b 6: GAIN_ERR1_BK_F_GE</p>

002	Gain1:Last
	<p>Displays the error flag for the gain 1 last data.</p> <p>0: No error, 1: Error</p> <p>b11: GAIN_ERR1_BK_L_BO</p> <p>b10: GAIN_ERR1_BK_L_BE</p> <p>b 9: GAIN_ERR1_FC_L_BO</p> <p>b 8: GAIN_ERR1_FC_L_BE</p> <p>b 7: GAIN_ERR1_BK_L_GO</p> <p>b 6: GAIN_ERR1_BK_L_GE</p>
003	Gain2:First
	<p>Displays the error flag for the gain 1 first data.</p> <p>0: No error, 1: Error</p> <p>b11: GAIN_ERR2_BK_F_BO</p> <p>b10: GAIN_ERR2_BK_F_BE</p> <p>b 9: GAIN_ERR2_FC_F_BO</p> <p>b 8: GAIN_ERR2_FC_F_BE</p> <p>b 7: GAIN_ERR2_BK_F_GO</p> <p>b 6: GAIN_ERR2_BK_F_GE</p>
004	Gain2:Last
	<p>Displays the error flag for the gain 1 last data.</p> <p>0: No error, 1: Error</p> <p>b11: GAIN_ERR2_BK_L_BO</p> <p>b10: GAIN_ERR2_BK_L_BE</p> <p>b 9: GAIN_ERR2_FC_L_BO</p> <p>b 8: GAIN_ERR2_FC_L_BE</p> <p>b 7: GAIN_ERR2_BK_L_GO</p> <p>b 6: GAIN_ERR2_BK_L_GE</p>
005	Black Level :First :FC

	<p>Displays the error flag for the first full color data at the black level adjustment.</p> <p>0: No error, 1: Error</p> <p>b11: BLACK_ERR_FC_F_BOO</p> <p>b10: BLACK_ERR_FC_F_BEO</p> <p>b9: BLACK_ERR_FC_F_BOE</p> <p>b8: BLACK_ERR_FC_F_BEE</p> <p>b7: BLACK_ERR_FC_F_GOO</p> <p>b6: BLACK_ERR_FC_F_GEO</p>
006	Black Level :Last :FC
	<p>Displays the error flag for the last full color data at the black level adjustment.</p> <p>0: No error, 1: Error</p> <p>b11: BLACK_ERR_FC_L_BOO</p> <p>b10: BLACK_ERR_FC_L_BEO</p> <p>b9: BLACK_ERR_FC_L_BOE</p> <p>b8: BLACK_ERR_FC_L_BEE</p> <p>b7: BLACK_ERR_FC_L_GOO</p> <p>b6: BLACK_ERR_FC_L_GEO</p>
007	Black Level :First :BK
	<p>Displays the error flag for first B/W data at the black level adjustment.</p> <p>0: No error, 1: Error</p> <p>b11: BLACK_ERR_BK_F_BOO</p> <p>b10: BLACK_ERR_BK_F_BEO</p> <p>b9: BLACK_ERR_BK_F_BOE</p> <p>b8: BLACK_ERR_BK_F_BEE</p> <p>b7: BLACK_ERR_BK_F_GOO</p> <p>b6: BLACK_ERR_BK_F_GEO</p>
008	Black Level :Last :BK

	<p>Displays the error flag for last B/W data at the black level adjustment.</p> <p>0: No error, 1: Error</p> <p>b11: BLACK_ERR_BK_L_BOO</p> <p>b10: BLACK_ERR_BK_L_BEO</p> <p>b9: BLACK_ERR_BK_L_BOE</p> <p>b8: BLACK_ERR_BK_L_BEE</p> <p>b7: BLACK_ERR_BK_L_GOO</p> <p>b6: BLACK_ERR_BK_L_GEO</p>
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4647	[Read Hard Error]
001	Power-ON
	<p>Displays the result of the SBU connection check.</p> <p>[0 to 35535 / 0 / 1 digit /step]</p> <p>0: OK, Other: SBU connection check failure</p> <p>If the SBU connection check fails, SC144 occurs.</p>

4677	Gain Range Adj Value DFU
001	FC:F:R:Factory Setting
003	FC:L:R:Factory Setting
005	BK:F:R:Factory Setting
007	BK:L:R:Factory Setting

4678	Gain Range Adj Value DFU
001	FC:F:G:Factory Setting
003	FC:L:G:Factory Setting
005	BK:F:G:Factory Setting
007	BK:L:G:Factory Setting

4679	Gain Range Adj Value DFU
001	FC:F:B:Factory Setting

003	FC:L:B:Factory Setting
005	BK:F:B:Factory Setting
007	BK:L:B:Factory Setting

4680	Gain Range Adj Value DFU
001	FC:F:RE:Factory Setting
002	FC:F:RO:Factory Setting
003	FC:L:RE:Factory Setting
004	FC:L:RO:Factory Setting
005	BK:F:RE:Factory Setting
006	BK:F:RO:Factory Setting
007	BK:L:RE:Factory Setting
008	BK:L:RO:Factory Setting

4681	Gain Range Adj Value DFU
001	FC:F:GE:Factory Setting
002	FC:F:GO:Factory Setting
003	FC:L:GE:Factory Setting
004	FC:L:GO:Factory Setting
005	BK:F:GE:Factory Setting
006	BK:F:GO:Factory Setting
007	BK:L:GE:Factory Setting
008	BK:L:GO:Factory Setting

4682	Gain Range Adj Value DFU
001	FC:F:BE:Factory Setting
002	FC:F:BO:Factory Setting

003	FC:L:BE:Factory Setting
004	FC:L:BO:Factory Setting
005	BK:F:BE:Factory Setting
006	BK:F:BO:Factory Setting
007	BK:L:BE:Factory Setting
008	BK:L:BO:Factory Setting

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4690	White Level Peak Data DFU
001	FC:F:RE
002	FC:F:RO
003	FC:L:RE
004	FC:L:RO
005	BK:F:RE
006	BK:F:RO
007	BK:L:RE
008	BK:L:RO

4691	White Level Peak Data DFU
001	FC:F:GE
002	FC:F:GO
003	FC:L:GE
004	FC:L:GO
005	BK:F:GE
006	BK:F:GO
007	BK:L:GE
008	BK:L:GO

4692	White Level Peak Data DFU
001	FC:F:BE
002	FC:F:BO
003	FC:L:BE
004	FC:L:BO
005	BK:F:BE
006	BK:F:BO
007	BK:L:BE
008	BK:L:BO

4693	Black Level Data DFU
001	FC:F:REE
002	FC:F:ROE
003	FC:F:REO
004	FC:F:ROO
005	FC:L:REE
006	FC:L:ROE
007	FC:L:REO
008	FC:L:ROO
009	BK:F:REE
010	BK:F:ROE
011	BK:F:REO
012	BK:F:ROO
013	BK:L:REE
014	BK:L:ROE
015	BK:L:REO

016	BK:L:ROO
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4694	Black Level Data DFU
001	FC:F:GEE
002	FC:F:GOE
003	FC:F:GEO
004	FC:F:GOO
005	FC:L:GEE
006	FC:L:GOE
007	FC:L:GEO
008	FC:L:GOO
009	BK:F:GEE
010	BK:F:GOE
011	BK:F:GEO
012	BK:F:GOO
013	BK:L:GEE
014	BK:L:GOE
015	BK:L:GEO
016	BK:L:GOO

4695	Black Level Data DFU
001	FC:F:BEE
002	FC:F:BOE
003	FC:F:BEO
004	FC:F:BOO
005	FC:L:BEE
006	FC:L:BOE

007	FC:L:BEO
008	FC:L:BOO
009	BK:F:BEE
010	BK:F:BOE
011	BK:F:BEO
012	BK:F:BOO
013	BK:L:BEE
014	BK:L:BOE
015	BK:L:BEO
016	BK:L:BOO

4700*	Display CIS ID
	Reads and displays the ID of the CIS board at power.

4705	GB
001*	Operation
	Displays whether density adjustment was executed for the CIS, using the white roller. [0 to 1/1] 0: Not executed, 1: Executed
002	Result Operation
	Starts the standard white density adjustment for the CIS. Place 5 sheets of A3 on the exposure glass, then press Execute. A message is displayed to indicate the success or failure of the adjustment. DFU

4706*	GB Target R DFU
001	[0 to 1023 / 689 / 1 digit]
4707*	GB Target G DFU
001	[0 to 1023 / 684 / 1 digit]

4708*	GB Target B DFU
001	[0 to 1023 / 669 / 1 digit]

4709*	GB Chart Level R
001	Displays the GB chart level for Red signal: [0 to 1023 / - / 1 digit]
4710*	GB Chart Level G
001	Displays the GB chart level for Green signal: [0 to 1023 / - / 1 digit]
4711*	GB Chart Level B
001	Displays the GB chart level for Blue signal: [0 to 1023 / - / 1 digit]

4712*	GB Adj Value R DFU
4713*	GB Adj Value G DFU
4714*	GB Adj Value B DFU
001	[-512 to 512 / 0 / -]

4745	Image Level ErrorFlag
	Displays the image error flag.
4746	GB Adj ErrorFlag
	Displays the GB adjustment error flag.
4747	CIS Hardware Error Flag
	Displays the CIS error flag.

4748	Main Scan White Level: AVG R
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001	Leading Edge
	Displays the average level of the main scan white for the leading edge of Red signal. [0 to 255 / - / 1 digit]
002	Trailing Edge
	Displays the average level of the main scan white for the trailing edge of Red signal. [0 to 255 / - / 1 digit]

4749	Main Scan White Level: AVG G
001	Leading Edge
	Displays the average level of the main scan white for the leading edge of Green signal. [0 to 255 / - / 1 digit]
002	Trailing Edge
	Displays the average level of the main scan white for the trailing edge of Green signal. [0 to 255 / - / 1 digit]

4750	Main Scan White Level: AVG B
001	Leading Edge
	Displays the average level of the main scan white for the leading edge of Blue signal. [0 to 255 / - / 1 digit]
002	Trailing Edge
	Displays the average level of the main scan white for the trailing edge of Blue signal. [0 to 255 / - / 1 digit]

4784*	White Level Peak Range R
001	Min: FC
	Adjusts the lower limit threshold for the white level peak range of Red signal in the full color mode. [0 to 255 / 64 / 1 digit]

002	Max: FC
	Adjusts the upper limit threshold for the white level peak range of Red signal in the full color mode. [0 to 255 / 245 / 1 digit]
003	Min: BK
	Adjusts the lower limit threshold for the white level peak range of Red signal in the B/W mode. [0 to 255 / 64 / 1 digit]
004	Max: BK
	Adjusts the upper limit threshold for the white level peak range of Red signal in the B/W mode. [0 to 255 / 245 / 1 digit]

4785*	White Level Peak Range G
001	Min: FC
	Adjusts the lower limit threshold for the white level peak range of Green signal in the full color mode. [0 to 255 / 64 / 1 digit]
002	Max: FC
	Adjusts the upper limit threshold for the white level peak range of Green signal in the full color mode. [0 to 255 / 245 / 1 digit]
003	Min: BK
	Adjusts the lower limit threshold for the white level peak range of Green signal in the B/W mode. [0 to 255 / 64 / 1 digit]
004	Max: BK
	Adjusts the upper limit threshold for the white level peak range of Green signal in the B/W mode. [0 to 255 / 245 / 1 digit]

4786*	White Level Peak Range G
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001	Min: FC
	Adjusts the lower limit threshold for the white level peak range of Blue signal in the full color mode. [0 to 255 / 64 / 1 digit]
002	Max: FC
	Adjusts the upper limit threshold for the white level peak range of Blue signal in the full color mode. [0 to 255 / 245 / 1 digit]
003	Min: BK
	Adjusts the lower limit threshold for the white level peak range of Blue signal in the B/W mode. [0 to 255 / 64 / 1 digit]
004	Max: BK
	Adjusts the upper limit threshold for the white level peak range of Blue signal in the B/W mode. [0 to 255 / 245 / 1 digit]

4787*	White Level Peak Data R
001	Factory: FC
	Displays the factory setting data of white level peak data for Red in the full color mode. [0 to 255 / - / 1 digit]
002	Factory: BK
	Displays the factory setting data of white level peak data for Red in the B/W mode. [0 to 255 / - / 1 digit]

4788*	White Level Peak Data G
001	Factory: FC
	Displays the factory setting data of white level peak data for Green in the full color mode. [0 to 255 / - / 1 digit]

002	Factory: BK
	Displays the factory setting data of white level peak data for Green in the B/W mode. [0 to 255 / - / 1 digit]

4789*	White Level Peak Data G
001	Factory: FC
	Displays the factory setting data of white level peak data for Green in the full color mode. [0 to 255 / - / 1 digit]
002	Factory: BK
	Displays the factory setting data of white level peak data for Green in the B/W mode. [0 to 255 / - / 1 digit]

4790	White Level Peak Data R
001	FC
	Displays the current red data of white level peak data for Red in the full color mode. [0 to 255 / - / 1 digit]
002	BK
	Displays the current red data of white level peak data for Red in the B/W mode. [0 to 255 / - / 1 digit]

4791	White Level Peak Data G
001	FC
	Displays the current red data of white level peak data for Green in the full color mode. [0 to 255 / - / 1 digit]
002	BK
	Displays the current red data of white level peak data for Green in the B/W mode. [0 to 255 / - / 1 digit]

4792	White Level Peak Data G
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001	FC
	Displays the current red data of white level peak data for Green in the full color mode. [0 to 255 / - / 1 digit]
002	BK
	Displays the current red data of white level peak data for Green in the B/W mode. [0 to 255 / - / 1 digit]

4793	Black Level Data R
4794	Black Level Data G
4795	Black Level Data B
001 to 024	Displays the current red data of black level for each color signal and chip. [0 to 255 / - / 1 digit]

4796*	Chip Color Stripe Correct DFU
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4797*	Digital AE: Back DFU
001	Low Limit Value [0 to 1023/ 392 / 1 digit]
002	Background level [0 to 1023/ 972 / 1 digit]

4798	LED Lighting Duty: Back DFU
001	FC
002	BK

4799	TEST Pattern
001	Select
	[0 to 4 / 0 / 1]
002	Fixed Value Setting
	[0 to 1023 / 512 / 1 digit]

4800	DF Density Adj Value DFU
001	RED [0 to 255 / 94 / 1 digit]
002	GREEN [0 to 255 / 91 / 1 digit]
003	BLUE [0 to 255 / 85 / 1 digit]

4802	Scanner Free run
001	DF mode :Lamp Off
	Execute the scanner free run with the lamp off.
002	DF mode :Lamp On
	Execute the scanner free run with the lamp on.

4803*	Home Position Adj Value
001	Adjusts the caridge HP position. [-3 to 3 / 0 / 0.1 mm] + value: The home position of the caridge unit is moved away from the leading edge. -value: The home position of the caridge unit is moved close to the leading edge.

4804	Home Position Operation
001	Executes the homing movement of the caridge unit.

4806*	FL Correction ON/OFF
	Turns on or off the FL correction for each color.. [0 or 1 / 0 / 1] 0: OFF, 1: ON
	001 RED
	002 GREEN
	003 BLUE

4808	Result FL Detection
	Displays the each data of the FL correction. [0 to 1023 / - / 1]
001 to 020	FR1 to FR20
021 to 040	LR1 to LR20
041 to 060	FG1 to FG20
061 to 080	LG1 to LG20
081 to 100	FB1 to FB20
101 to 120	LB1 to LB20

4809	Result FL Correction
	Displays the each confirmation data of the FL correction. [0 to 1023 / - / 1]
001 to 020	FR1 to FR20

021 to 040	LR1 to LR20
041 to 060	FG1 to FG20
061 to 080	LG1 to LG20
081 to 100	FB1 to FB20
101 to 120	LB1 to LB20

4903	Image Quality Adjustment	
	These SP codes adjust the sharpness and granularity of printed images.	
001	Independent Dot Erase: Text	[0 to 7 / 0 / 1]
002	Independent Dot Erase: Copy/Original	0: Softest 1: Soft Mode 4: Normal (Default) 6: Sharp Mode 7: Sharpest

4905	Gradation Processing Selection DFU
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4907	SBU Test Pattern
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001	Select Test Pattern	0: Normal 1: Fixed Value 2: Main Scan Grayscale 3: Sub Scan Grayscale 4: Checked Pattern
002	Set Output Level	Output level in case of setting SP4-907-1 to 1. [0 to 1023/512/1]

4918	Manual Gamma Adjustment DFU
-009	

4991	IPU Image Pass Selection RGB Frame Memory DFU
	[0 to 11/2/1]

4993	High Light Correction DFU
	[0 to 9/4/1]
001	Sensitivity Selection
002	Range Selection

4994	Adj Text/Photo recognition Level High Compression PDF DFU
	[0 to 2/1/1]

SP5xxx Mode

5024	mm/inch Display Selection
	Selects whether mm or inches are used in the display. Note: After selecting the number, you must turn the main power switch off and on. Europe/Asia model: [0 = mm / 1 = inch] American model: [0 = mm / 1 = inch]

5037	Status Lamp Mode
	0: OFF / 1: ON Not Used

5045	Accounting Counter
	<p>Selects the counting method if the meter charge mode is enabled with SP5-930-001.</p> <p>Note: You can change the setting only one time.</p> <p>[0 to 1/ 1]</p> <p>0: Development counter. Shows the total counts for color (Y, M, C) and black (K).</p> <p>1: Paper counter. Shows the total page counts for: Black Total, Black Copies, Black Prints.</p>

5047	Paper Display
001	Backing Paper Display
	<p>Determines whether the tray loaded with paper printed on one side is displayed on the operation panel.</p> <p>[0 to 1/0/1]</p> <p>0: Not displayed, 1: Displayed</p>
002	Punched Paper
	<p>Determines whether the tray loaded with punched paper is displayed on the operation panel.</p> <p>[0 to 1/1/1]</p> <p>0: Disabled, 1: Enabled</p>

5055	Display IP Address
	<p>Switches the banner display of MFP device display on and off.</p> <p>[0 to 1 / 0 / 1]</p> <p>[OFF] ON</p>

5056	Coverage Counter Display
	<p>Displays or does not display the coverage counter in the counter list for the machine administrator.</p> <p>[0 to 1/0/1]</p> <p>0: Not displayed, 1: Displayed</p>

	Part Replacement Alert Display
5062	Enables/disables the appearance of the PM parts in the yield list on the operation panel. PM parts can be selected independently for display. [ON] OFF Note: SP5066 must be set to "1: Display".
001	#Development Unit
002	Developer
003	#Drum Unit
004	Drum Pick-off Pawls
005	#Drum Cleaning Unit
006	Cleaning Blade
007	Cleaning Brush
008	Drum Cleaning Unit Filter
009	#Charge Unit
010	Grid Plate
011	Charge Corona Wire
012	Cleaning Pad
013	Cushion
014	#Pre-Charge Unit
015	Pre-Charge Corona Wire
016	Pre-Charge Grid Plate
017	#Fusing Unit
018	Hot Roller Strippers
019	Hot Roller
020	Pressure Roller
021	#Fusing Cleaning Unit

022	Web Roll
023	Web Cleaning Roll
024	Web Brake Pad
025	Toner Suction Bottle
026	Toner Suction Motor
027	Tray 1 Roller Assembly
028	Feed Roller – Tray 1
029	Pick-up Roller – Tray 1
030	Separation Roller – Tray 1
031	Tray 2 Roller Assembly
032	Feed Roller – Tray 2
033	Pick-up Roller – Tray 2
034	Separation Roller – Tray 2
035	Tray 3 Roller Assembly
036	Feed Roller – Tray 3
037	Pick-up Roller – Tray 3
038	Separation Roller – Tray 3
040	Transfer Belt
041	Transfer Belt Cleaning Blade
042	Toner Filter
043	ADF Transfer Belt
044	ADF Separation Roller
045	ADF Feed Belt
046	ADF Pick-up Roller
047	Tray 4 Roller Assembly
048	Feed Roller – Tray 4

049	Pick-up Roller – Tray 4
050	Separation Roller – Tray 4
051	Tray 5 Roller Assembly
052	Feed Roller – Tray 5
053	Pick-up Roller – Tray 5
054	Separation Roller – Tray 5
055	Tray 6 Roller Assembly
056	Feed Roller – Tray 6
057	Pick-up Roller – Tray 6
058	Separation Roller – Tray 6
059	Tray 7 Roller Assembly
060	Feed Roller – Tray 7
061	Pick-up Roller – Tray 7
062	Separation Roller – Tray 7
063	Toner Collection Unit
100	Blade Cradle
101	Blade
102	Glue Vat Unit

5066	PM Parts Display
	<p>Determines whether the PM parts button is displayed on the initial screen. [*0: No Display] [1: Display]</p> <p>Note: Individual PM parts can be selected for display or no display with SP5062.</p>

	Part Replacement Operation Type
5067	Configures the PM parts display for either the customer engineer (Service) or user. [*0: Service] [1: User] Note: SP5066 must be set to "1: Display".
001	#Development Unit
002	Developer
003	#Drum Unit
004	Drum Pick-off Pawls
005	#Drum Cleaning Unit
006	Cleaning Blade
007	Cleaning Brush
008	Drum Cleaning Unit Filter
009	#Charge Unit
010	Grid Plate
011	Charge Corona Wire
012	Cleaning Pad
013	Cushion
014	#Pre-Charge Unit
015	Pre-Charge Corona Wire
016	Pre-Charge Grid Plate
017	#Fusing Unit
018	Hot Roller Strippers
019	Hot Roller
020	Pressure Roller
021	#Fusing Cleaning Unit
022	Web Roll

023	Web Cleaning Roll
024	Web Brake Pad
025	Toner Suction Bottle
026	Toner Suction Motor
027	Tray 1 Roller Assembly
028	Feed Roller – Tray 1
029	Pick-up Roller – Tray 1
030	Separation Roller – Tray 1
031	Tray 2 Roller Assembly
032	Feed Roller – Tray 2
033	Pick-up Roller – Tray 2
034	Separation Roller – Tray 2
035	Tray 3 Roller Assembly
036	Feed Roller – Tray 3
037	Pick-up Roller – Tray 3
038	Separation Roller – Tray 3
040	Transfer Belt
041	Transfer Belt Cleaning Blade
042	Toner Filter
043	ADF Transfer Belt
044	ADF Separation Roller
045	ADF Feed Belt
046	ADF Pick-up Roller
047	Tray 4 Roller Assembly
048	Feed Roller – Tray 4
049	Pick-up Roller – Tray 4

050	Separation Roller – Tray 4
051	Tray 5 Roller Assembly
052	Feed Roller – Tray 5
053	Pick-up Roller – Tray 5
054	Separation Roller – Tray 5
055	Tray 6 Roller Assembly
056	Feed Roller – Tray 6
057	Pick-up Roller – Tray 6
058	Separation Roller – Tray 6
059	Tray 7 Roller Assembly
060	Feed Roller – Tray 7
061	Pick-up Roller – Tray 7
062	Separation Roller – Tray 7
063	Toner Collection Unit
100	Blade Cradle
101	Blade
102	Glue Vat Unit

5112	Non-Std. Paper Sel
	<p>Determines whether a non-standard paper size can be input for the universal cassette trays (Tray 2, Tray 3)</p> <p>[0 to 1/1]</p> <p>0: No</p> <p>1: Yes. If "1" is selected, the customer will be able to input a non-standard paper size using the UP mode.</p>

5113	Optional Counter Type
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001	Default Optional Counter Type
	<p>Selects the type of counter:</p> <p>0: None</p> <p>1: Key Card (RK3, 4)</p> <p>2: Key Card Down</p> <p>3: Pre-paid Card</p> <p>4: Coin Lock</p> <p>5: MF Key Card</p> <p>11: Exp Key Card (Add)</p> <p>12: Exp Key Card (Deduct)</p> <p>Note: Items 1, 2, 3, 5, 5 are for Japan Only</p>
002	External Optional Counter Type
	<p>Enables the SDK application. This lets you select a number for the external device for user access control.</p> <p>Note: "SDK" refers to software on an SD card.</p> <p>[0 to 3/1]</p> <p>0: None</p> <p>1: Expansion Device 1</p> <p>2: Expansion Device 2</p> <p>3: Expansion Device 3</p>
5114	Optional Counter I/F
	<p>This SP sets the machine for the MF Key Card Extension.</p> <p>0: OFF, 1: ON</p>
5118	Disable Copying
	<p>Temporarily denies access to the machine. Japan Only</p> <p>[0 to 1/1]</p> <p>0: Release for normal operation</p> <p>1: Prohibit access to machine</p>

5120	Mode Clear Opt. Counter Removal
	<p>Do not change. Japan Only</p> <p>[0 to 2/ 0 / 1]</p> <p>0: Yes. Normal reset</p> <p>1: Standby. Resets before job start/after completion</p> <p>2: No. Normally no reset</p>
5121	Counter Up Timing SSP
	<p>Determines whether the optional key counter counts up at paper feed-in or at paper exit.</p> <p>[0 to 1/1]</p> <p>0: Feed count, 1: No feed count</p>
5126	Set F-size Document
	<p>Sets the original size that the machine detects for F sizes.</p> <p>[0 to 2/1]</p> <p>0: 8hf x 13</p> <p>1: 8hf x 13qr</p> <p>2: 8 x 13</p> <p>Note: hf = 1/2, qr = 1/4</p>
5127	APS OFF Mode
	<p>This SP can be used to switch APS (Auto Paper Select) off when a coin lock or pre-paid key card device is connected to the machine.</p> <p>[0 to 1/1]</p> <p>0: On, 1: Off</p>
5129	F Paper Size Selection

	<p>Sets the paper size that the machine detects when the 8 x 13 dial setting on a paper cassette is used (LT/DLT version).</p> <p>[0 to 2/1]</p> <p>0: 8 x 13</p> <p>1: 8hf x 13</p> <p>2: 8qr x 13</p> <p>Note: hf = 1/2, qr = 1/4</p>
5131*	<p>Paper Size Type Selection</p> <p>Selects the paper size type (for originals and copy paper). (Only needs to be adjusted if the optional printer controller is installed)</p> <p>[0 to 3/1]</p> <p>0: JP</p> <p>1: NA</p> <p>2: EU, AA, TWN, KOR</p> <p>3: CH (China)</p> <p>After changing the value, turn the power switch off and on.</p>
5150	<p>Bypass Length Setting</p>
5162	<p>App. Switch Method</p> <p>Controls if the application screen is changed with a hardware switch or a software switch.</p> <p>[0 to 1/1]</p> <p>0: Soft Key Set, 1: Hard Key Set</p>
5167	<p>Fax Printing Mode at Optional Counter Off</p> <p>Determines the Fax print mode when the optional counter is off.</p> <p>0: Print automatically.</p> <p>1: Not do auto-print.</p>

5169	CE Login
	<p>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.</p> <p>[0 to 1/1]</p> <p>0: Off. Printer bit switches cannot be adjusted.</p> <p>1: On. Printer bit switches can be adjusted.</p>
5179	By-pass tray paper size error display
	<p>Set the by-pass tray paper size error display to ON/OFF.</p> <p>0: OFF / 1: ON</p>
5182	HDD Page Mgmt
	<p>These SP codes are used to change the configuration of the TEMP partition for raw data on the HDD so the local storage (LS) area can be expanded.</p> <ul style="list-style-type: none"> • The SP codes below cannot be set together. • If one is selected that SP is enabled and the other reset to its default value. • For example, if 002 is set to on (1) when 001 is already set to on (1), 002 will be set to on (1) and 001 will automatically reset to its default value (0: Normal).
001	Release LS Limit
	<p>Normally LS can handle up to 15,000 pages. Use this SP code to select expansion of the page storage area.</p> <p>[0 to 1/0/1]</p> <p>0: Normal, 1: Allow Expansion</p>
002	Change Pages/Doc
	<p>The configuration of the TEMP area on the HDD must be changed in order to increase the number of pages that 1 document can hold when it is stored on the HDD. If the size of the LS area is increased, the size of the TEMP area must be decreased. Changing this SP increases the default value for the size of the LS area from 5,000 pages to 20,000 pages. A larger setting is not possible.</p> <p>[0 to 1/0/1]</p> <p>0: Normal, 1: Allow Expansion</p>
5188	Copy NV Version

	<p>Copies NV version to another NVRAM.</p> <p>Note: NVRAM version management automatically initializes the NV for each machine.</p>
5191	<p>Mode Set</p> <p>This setting determines whether the machine is allowed to move into energy save mode.</p> <p>1: Allowed 0: Not allowed</p>
5195	<p>Limitless SW</p> <p>Selects the paper feed mode priority (productivity or tray). This is activated only when a customer selects the "Auto paper Select".</p> <ul style="list-style-type: none"> • Productivity priority. Changes the feed station as soon as the machine detects the priority tray even the paper still remains in the current tray. • Tray priority. This changes the feeding tray after the paper in the tray where the machine has been feeding paper has run out of paper. <p>[0 to 1/0/1] 0: Productivity priority 1: Tray priority</p>
5196	<p>CE Login</p> <p>0: Does not execute CE Login or 1: Execute CE login</p>
5199	<p>Paper Set After Staple End</p> <p>Enables or disables feeding out of the finisher without stapling. [0: OFF] [1:ON]</p> <p>0: OFF Paper feeds out with stapling at the maximum number of the finishing stapling when the machine gets a multiple printing job (over maximum number).</p> <p>1: ON Paper feeds out without stapling at the maximum number of the finisher stapling when the machine gets a multiple printing job (over maximum number)</p>
5212	<p>Page Numbering</p>

003	Duplex Printout Left/Right Position
	Horizontally positions the page numbers printed on both sides during duplexing. [-10 to +10/1 mm] 0 is center, minus is left, + is right.
004	Duplex Printout High/Low Position
	Vertically positions the page numbers printed on both sides during duplexing. [-10 to +10/1 mm] 0 is center, minus is down, + is up.
5227	Page Numbering (Bates Stamp)
	Change Page No. Display
220	This SP code determines whether the page number adjustment display is on or off. [0 to 1/0/1] 0: Display off, 1: Display on
221	Allow Page No. Entry
	This SP specifies the number of digits to display for the entry of the starting page number. [2 to 9/9/1]
	Zero Surplus Setting
222	This setting determines whether page numbers are prefixed with excess zeros when the number is smaller than the number of assigned digits. For example, with this setting on and 3 digits have been specified, the number "3" appears as "003". With this setting off, the number "3" will appear as a "3" without the zeros. [0 to 1/0/1] 0: No excess zeros, 1: Excess zeros displayed

5302	Set Time DFU
	<p>Sets the time clock for the local time. This setting is done at the factory before delivery. The setting is GMT expressed in minutes.</p> <p>[−1440 to 1440/1 min.]</p> <p>JA: +540 (Tokyo) NA: -300 (NY) EU: +6- (Paris) CH: +480 (Peking) TW: +480 (Taipei) AS: +480 (Hong Kong)</p>

5307	Summer Time	
	<p>Lets you set the machine to adjust its date and time automatically with the change to Daylight Savings time in the spring and back to normal time in the fall. This SP lets you set these items:</p> <p>Day and time to go forward automatically in April. Day and time to go back automatically in October. Set the length of time to go forward and back automatically. The settings for 002 and 003 are done with 8-digit numbers:</p>	
	Digits	Meaning
	1st, 2nd	Month. 4: April, 10: October (for months 1 to 9, the first digit of 0 cannot be input, so the eight-digit setting for 002 or 003 becomes a seven-digit setting)
	3rd	Day of the week. 0: Sunday, 1: Monday
	4th	The number of the week for the day selected at the 3rd digit. If "0" is selected for "Sunday", for example, and the selected Sunday is the start of the 2nd week, then input a "2" for this digit.
	5th, 6th	The time when the change occurs (24-hour as hex code). Example: 00:00 (Midnight) = 00, 01:00 (1 a.m.) = 01, and so on.
	7th	The number of hours to change the time. 1 hour: 1
8th	If the time change is not a whole number (1.5 hours for example), digit 8 should be 3 (30 minutes).	

001	Setting	Enables/disables the settings for 002 and 003. [0 to 1/1] 0: Disable, 1: Enable
003	Rule Set (Start)	The start of summer time.
004	Rule Set (End)	The end of summer time.

5401	Access Control DFU	
	This SP adjusts the settings below when installing and SDK application. Note: "SDK" is the "Software Development Kit". This data can be converted from SAS (VAS) when installed or uninstalled.	
103	Default Document ACL	
	Used to assign the default access user access privileges to their own documents on the document server.	
162	Extend Certification Detail	
	Logout without an IC card. [0 to 1/0/1] 0: Not allowed (default) 1: Allowed	
200	SDK1 Unique ID	
201	SDK1 Certification Method	
210	SDK2 Unique ID	
211	SDK2 Certification Method	
220	SDK3 Unique ID	
221	SDK3 Certification Method	
230	SDK(Type TF) Unique ID	
240	Detail Option: Unique ID	

5404	User Code Count Clear
	Clears the counts for the user codes assigned by the key operator to restrict the use of the machine. Press [Execute] to clear.
5411	LDAP Certification
004	Easy Certification
	Determines whether easy LDAP certification is done. [0 or 1 / 1 / 1] 1: On, 0: Off
005	Password Null Not Permit
	Enabled only when SP5411-4 is set to "1" (On). [0 or 1 / 0 / -] 0: Password NULL not permitted. 1: Password NULL permitted.
5413	Lockout Setting
001	Lockout On/Off
	Switches the local address book account lock on/off. [0 or 1 / 0 / -] 0: Off, 1: On
002	Lockout Threshold
	Sets a limit on the frequency of lockouts for account lockouts. [1 to 10 / 5 / 1/step]
003	Cancellation On/Off
	Determines whether the system waits the prescribed time for input of a correct user ID and password after an account lockout has occurred. [0 or 1 / 0 / -] 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

	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./step]
005	Counter Clear Time
	Not used.

5414	Access Mitigation
001	Mitigation On/Off
	Switches on/off masking of continuously used IDs and passwords that are identical. [0 or 1 / 0 / -] 0: Off, 1: On
002	Mitigation Time
	Sets the length of time for excluding continuous access for identical user IDs and passwords. [0 to 60 / 15 / 1 min./step]

5415	Password Attack
001	Permissible Number
	Sets limit on the number of attacks on the system with random passwords to gain illegal access to the system. [0 to 100 / 30 / 1 attempt/step]
002	Detect Time
	Sets the time limit to stop a password attack once such an attack has been detected. [1 to 10 / 5 / 1 sec./step]

5416	Access Information
001	Access Use Max Num
	Limits the number of users used by the access exclusion and password attack detection functions. [50 to 200 / 200 / 1 users/step]
002	Access Password Max Num

	Limits the number of passwords used by the access exclusion and password attack detection functions. [50 to 200 / 200 / 1 password/step]
003	Monitor Interval
	Sets the processing time interval for referencing user ID and password information. [1 to 10 / 3 / 1 sec./step]

5417	Access Attack
001	Access Permissible Number
	Sets a limit on access attempts when an excessive number of attempts are detected for MFP features. [0 to 500 / 100 / 1/step]
002	Attack Detect Time
	Sets the length of time when the frequency of access to MFP features are monitored. [10 to 30 / 10 / 1 sec./step]
003	Productivity Fall Wait
	Sets the wait time to slow down the speed of certification when an excessive number of access attempts have been detected. [0 to 9 / 3 / 1 sec./step]
004	Attack Max Number
	Sets a limit on the number of requests received for certification in order to slow down the certification speed when an excessive number of access attempts have been detected. [50 to 200 / 200 / 1 attempt/step]

5420	User Authentication
	These settings should be done with the System Administrator. Note: These functions are enabled only after the user access feature has been enabled.
001	Copy

	Determines whether certification is required before a user can use the copy applications. [0 or 1/ 0 /1] 0: On, 1: Off	
011	Document Server	
	Determines whether certification is required before a user can use the document server. [0 or 1/ 0 /1] 0: On, 1: Off	
031	Scanner	
	Determines whether certification is required before a user can use the scanner applications. [0 or 1/ 0 /1] 0: On, 1: Off	
041	Printer	
	Determines whether certification is required before a user can use the printer applications. [0 or 1/ 0 /1] 0: On, 1: Off	
051	SDK1	Determines whether certification is required before a user can use the SDK application. [0 or 1 / 0 / 1] 0: ON. 1: OFF
061	SDK2	
071	SDK3	
5430	Auth Dialog Message Change	
001	Message Change On/Off	
002	Message Text Download	
003	Message Text ID	
	[0 to 1/0/1 0: OFF 1: ON	
5431	External Auth User Preset	

	Allows or does not allow the copying for each data. [0 or 1 / 1 / -] 0: Not allowed copying, 1: Allowed copying
010	Tag
011	Entry
012	Group
020	Mail
030	Fax
031	FaxSub
032	Folder
033	ProtectCode
034	SmtAuth
035	LdapAuth
036	Smb Ftp Fldr Auth
037	AcntAcl
038	Document Acl
040	CertCrypt

5481	Authentication Error Code
	These SP codes determine how the authentication failures are displayed.
001	System Log Disp
	Determines whether an error code appears in the system log after a user authentication failure occurs. [0 or 1 / 0 / 1] 0: Off, 1: On
002	Panel Disp

	<p>Determines whether an error code appears on the operation panel after a user authentication failure occurs.</p> <p>[0 or 1 / 0 / 1]</p> <p>0: Off, 1: On</p>
5490	<p>MF Key Card</p> <p>Sets operation of the MF key card.</p> <p>[0 to 1 / 0 / 1]</p> <p>1: Allowed</p> <p>0: Not allowed</p> <p>1: Certification executes with a user code (9999 9999). Printing executes and the counter increments for the user code.</p> <p>0: Certification executes without a user code but printing is cancelled.</p>
5501	<p>PM Alarm</p> <p>Sets the count level for the PM alarm.</p> <p>[0 to 9999 / 0 / 1]</p> <p>0: Alarm disabled</p> <p>The PM alarm goes off when the print count reaches this value multiplied by 1,000.</p>
5504	<p>Jam Alarm Japan Only</p> <p>Sets the alarm to sound for the specified jam level (document misfeeds are not included). RSS use only</p> <p>[0 to 3 / 3 / 1 step]</p> <p>0: Zero (Off)</p> <p>1: Low (2.5K jams)</p> <p>2: Medium (3K jams)</p> <p>3: High (6K jams)</p>
5505	<p>Error Alarm</p> <p>Sets the error alarm level. Japan only DFU</p> <p>[0 to 255 / 50 / 100 copies per step]</p>

5507	Supply Alarm
001	Paper Supply Alarm
	<p>Switches the control call on/off for the paper supply. DFU</p> <p>0: Off, 1: On</p> <p>0: No alarm.</p> <p>1: Sets the alarm to sound for the specified number transfer sheets for each paper size (A3, A4, B4, B5, DLT, LG, LT, HLT)</p>
002	Staple Supply Alarm
	<p>Switches the control call on/off for the stapler installed in the finisher. DFU</p> <p>0: Off, 1: On</p> <p>0: No alarm</p> <p>1: Alarm goes off for every 1K of staples used.</p>
003	Toner Supply Alarm
	<p>Switches the control call on/off for the toner end. DFU</p> <p>0: Off, 1: On</p> <p>If you select "1" the alarm will sound when the copier detects toner end.</p>
080	Toner Call Timing
	<p>Changes the timing of the "Toner Supply Call" via the NRS, when the following conditions occur.</p> <p>0: Toner is replaced (default)</p> <p>1: Toner near end or End</p>

128	Interval: Others	<p>The "Paper Supply Call Level: nn" SPs specify the paper control call interval for the referenced paper sizes. [00250 to 10000 / 1000 / 1 Step]</p>
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 Japan Only	
001	Jam Remains	<p>Enables/disables initiating a call. [0 to 1/1] 0: Disabled, 1: Enabled</p>
002	Continuous Jams	
003	Continuous Door Open	
011	Jam Detection: Time Length	
	<p>Sets the length of time to determine the length of an unattended paper jam. [03 to 30/1] This setting is enabled only when SP5508-004 is enabled (set to 1).</p>	
012	Jam Detection Continuous Count	
	<p>Sets the number of continuous paper jams required to initiate a call. [02 to 10/1] This setting is enabled only when SP5508-004 is enabled (set to 1).</p>	
013	Door Open: Time Length	
	<p>Sets the length of time the remains opens to determine when to initiate a call. [03 to 30/1] This setting is enabled only when SP5508-004 is enabled (set to 1).</p>	

5513	Parts Alarm Level Count Japan Only
001	Normal
	Sets the parts replacement alarm counter to sound for the number of copies. [1 to 9999 / 350 / 1]
002	DF
	Sets the parts replacement alarm counter to sound for the number of scanned originals. [1 to 9999 / 350 / 1]

5515	SC/Alarm Setting	
	With NRS (New Remote Service) 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 to 1/1/1] 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
008	Alarm Notice	1: On
010	Supply Automatic Ordering Call	[0 to 1/0/1]
011	Supply Management Report Call	
012	Jam/Door Open Call	[0 to 1/1/1]

5801	Memory Clear	
	Resets NVRAM data to the default settings. Before executing any of these SP codes, print an SMC Report.	
001	All Clear	Initializes items 2 to 15 below.
002	Engine Clear	
	Initializes all registration settings for the engine and copy process settings.	

003	SCS	
		Initializes default system settings, SCS (System Control Service) settings, operation display coordinates, and ROM update information.
005	MCS	
		Initializes the automatic delete time setting for stored documents. (MCS: Memory Control Service)
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	
		Initializes the printer defaults, programs registered, the printer SP bit switches, and the printer CSS counter.
009	Scanner application	
		Initializes the defaults for the scanner and all the scanner SP modes.
010	Web Service/Network application	
		Deletes the Netfile (NFA) management files and thumbnails, and initializes the Job login ID. Netfiles: Jobs to be printed from the document server using a PC and the DeskTopBinder software
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 Clear
	Initializes the SRM (System Resource Manager) settings.
019	LCS Clear
	Initializes the LCS (Log Count Service) settings.
020	Web Uapl
	NIA
021	ECS
	Initializes the ECS settings.

	Printer Free Run
5802	Make a base engine free run.
-001	[0 to 1/0/1] 0: Release free run mode, 1:Enable free run mode Return this setting to off (0) after testing is completed. Finisher connectors should be disconnected and duplex mode should be off.

5803	Input Check
	See "p.348 "Copier Input Check: SP5803"" in the "Input/Output Check" section.

5804	Output Check
	See "p.356 "Copier Output Check: SP5804"" in the "Input/Output Check" section.

5807	Option Connection Check
	This SP displays whether the devices listed below are connected or not. 1: Connected, 0: Not connected.
001	ADF (1: Connect)

002	Bank (1: Connect)
003	LCT (1: Connect)
004	Fin (1: Connect)

5811 -001	Machine Serial Number Set SSP
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5812	Service Tel. No. Setting
001	Service
	Inputs the telephone number of the CE (displayed when a service call condition occurs.)
002	Facsimile
	Use this to input the fax number of the CE printed on the Counter Report (UP mode).
003	Supply
	Displayed on the initial SP screen.
004	Operation
	Sales representative telephone number.

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
	<p>Performs the CE Call at the start or end of the service.</p> <p>[0 or 1 / 0 / 1 /step]</p> <p>0: Start of the service 1: End of the service</p> <p>NOTE: This SP is activated only when SP 5816-001 is set to "2".</p>
003	Function Flag
	<p>Enables or disables the remote service function.</p> <p>[0 to 1 / 0 / 1 /step]</p> <p>0: Disabled, 1: Enabled</p> <p>NOTE: This SP setting is changed to "1" after @Remote register has been completed.</p>
007	SSL Disable
	<p>Uses or does not use the RCG certification by SSL when calling the RCG.</p> <p>[0 to 1 / 0 / 1 /step]</p> <p>0: Uses the RCG certification 1: Does no use the RCG certification</p>
008	RCG Connect Timeout
	<p>Specifies the connect timeout interval when calling the RCG.</p> <p>[1 to 90 / 10 / 1 second /step]</p>
009	RCG Write Timeout
	<p>Specifies the write timeout interval when calling the RCG.</p> <p>[1 to 100 / 60 / 1 second /step]</p>
010	RCG Read Timeout
	<p>Specifies the read timeout interval when calling the RCG.</p> <p>[1 to 100 / 60 / 1 second /step]</p>
011	Port 80 Enable
	<p>Enables/disables access via port 80 to the SOAP method.</p> <p>[0 or 1 / 0 / -]</p> <p>0: Disabled, 1: Enabled</p>

013	RFU (Remote Firmware Update) Timing
	<p>Selects the RFU timing.</p> <p>[0 or 1 / 1 / -]</p> <p>0: RFU is executed whenever update request is received.</p> <p>1: RFU is executed only when the machine is in the sleep mode.</p>
021	RCG – C Registered
	<p>This SP displays the Embedded RC Gate installation end flag.</p> <p>0: Installation not completed</p> <p>1: Installation completed</p>
022	RCG – C Regist Detail
	<p>This SP displays the Embedded RC Gate installation status.</p> <p>0: RCG device not registered</p> <p>1: RCG device registered</p> <p>2: Device registered</p>
023	Connect Type (N/M)
	<p>This SP displays and selects the Embedded RC Gate connection method.</p> <p>[0 or 1 / 0 / 1 /step</p> <p>0: Internet connection</p> <p>1: Dial-up connection</p>
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	<p>Proxy Host</p> <p>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.</p> <p>Note</p> <ul style="list-style-type: none"> 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	<p>Proxy Port Number</p> <p>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.</p> <p>Note</p> <ul style="list-style-type: none"> This port number is customer information and is not printed in the SMC report.
065	<p>Proxy User Name</p> <p>This SP sets the HTTP proxy certification user name.</p> <p>Note</p> <ul style="list-style-type: none"> 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	<p>Proxy Password</p> <p>This SP sets the HTTP proxy certification password.</p> <p>Note</p> <ul style="list-style-type: none"> 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.

	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.
067	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 (_). Asterisks (*) 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. Asterisks () 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		
	<p>Displays a number that indicates the status of the @Remote service device.</p> <p>0: Neither the @Remote device nor Embedded RCG Gate is set.</p> <p>1: The Embedded RCG Gate is being set. Only Box registration is completed. In this status, @Remote device cannot communicate with this device.</p> <p>2: The Embedded RCG Gate is set. In this status, the @Remote device cannot communicate with this device.</p> <p>3: The @Remote device is being set. In this status the Embedded RCG Gate cannot be set.</p> <p>4: The @Remote module has not started.</p>		
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		

	<p>Displays a number that indicates the result of the confirmation executed with SP5816-203.</p> <ul style="list-style-type: none"> 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	
	<p>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.</p>	
206	Register Execute	Executes "Embedded RCG Registration".
207	Register Result	
	<p>Displays a number that indicates the registration result.</p> <ul style="list-style-type: none"> 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	
	<p>Displays a number that describes the error code that was issued when either SP5816-204 or SP5816-207 was executed.</p>	

	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
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	NVRAM Data Upload		
	<p>Uploads the UP and SP mode data (except for counters and the serial number) from NVRAM on the control board to an SD card.</p> <p>Note: While using this SP mode, always keep the front cover open. This prevents a software module accessing the NVRAM during the upload.</p>		

5825	NVRAM Data Download		
	Downloads data from an SD card to the NVRAM in the machine. After downloading is completed, remove the SD card and turn the machine power off and on.		

5828	Network Setting	*CTL	-
050	1284 Compatibility (Centro)	<p>Enables or disables 1284 Compatibility.</p> <p>[0 or 1 / 1 / 1 / step]</p> <p>0: Disabled, 1: Enabled</p>	

052	ECP (Centro)	<p>Enables or disables ECP Compatibility. [0 or 1 / 1 / 1 / step] 0: Disabled, 1: Enabled</p> <p>Note</p> <ul style="list-style-type: none"> This SP is activated only when SP5-828-50 is set to "1".
065	Job Spooling	<p>Enables/disables Job Spooling. [0 or 1 / 0 / 1 / step] 0: Disabled, 1: Enabled</p>
066	Job Spooling Clear: Start Time	<p>Treatment of the job when a spooled job exists at power on. 0: ON (Data is cleared) 1: OFF (Automatically printed)</p>
069	Job Spooling (Protocol)	<p>Validates or invalidates the job spooling function for each protocol. 0: Validates 1: Invalidates</p> <p>bit0: LPR bit1: FTP bit2: IPP bit3: SMB bit4: BMLinkS bit5: DIPRINT bit6: sftp bit7: (Reserved)</p>
090	TELNET (0: OFF 1: ON)	<p>Enables or disables the Telnet protocol. [0 or 1 / 1 / -] 0: Disable, 1: Enable</p>
091	Web (0: OFF 1: ON)	<p>Enables or disables the Web operation. [0 or 1 / 1 / -] 0: Disable, 1: Enable</p>

145	Active IPv6 Link Local Address	<p>This is the IPv6 local address link referenced on the Ethernet or wireless LAN (802.11b) in the format: "Link Local Address" + "Prefix Length"</p> <p>The IPv6 address consists of a total 128 bits configured in 8 blocks of 16 bits each.</p>
147	Active IPv6 Stateless Address 1	<p>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"</p> <p>The IPv6 address consists of a total 128 bits configured in 8 blocks of 16 bits each.</p>
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	<p>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"</p> <p>The IPv6 address consists of a total 128 bits configured in 8 blocks of 16 bits each.</p>
158	IPv6 Gateway Address	<p>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.</p>
161	IPv6 Stateless Auto Setting	<p>Enables or disables the automatic setting for IPv6 stateless. [0 or 1 / 1 / 1 /step] 0: Disable, 1: Enable</p>
236	Web Item Visible	<p>Displays or does not display the Web system items. [0 x 0000 to 0 x ffff / 0 x ffff] 0: Not displayed, 1: Displayed</p> <p>bit0: Net RICOH bit1: Consumable Supplier bit2-15: Reserved (all)</p>

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 Link 1 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 Link 1 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 Link 1 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 Link 2 Name	Same as "-239"
243	Web Link 2 URL	Same as "-240"
244	Web Link 2 visible	Same as "-241"

5831 -002	Initial Setting Mode Clear
	Press [EXECUTE] to restore the initial settings of all SP codes to their initial (factory) settings. Note: This SP does not reset time settings or user tool settings.

5832	HDD
	Enter the SP number for the partition to initialize, then press #. When the execution ends, cycle the machine power off and on.
	001 HDD Formatting (All)
	002 HDD Formatting (IMH)

003	HDD Formatting (Thumbnail)
004	HDD Formatting (Job Log)
005	HDD Formatting (Printer Fonts)
006	HDD Formatting (User Info 1)
007	Mail RX Data
008	Mail TX Data
009	HDD Formatting (Data for Design)
010	HDD Formatting (Log)
011	HDD Formatting (Ridoc I/F) (for Ridoc Desk Top Binder)
5836	Capture Setting
001	Capture Function (0:Off 1:On)
	With this function disabled, the settings related to the capture feature cannot be initialized, displayed, or selected. [0 to 1/1] 0: Disable, 1: Enable
002	Panel Setting
	Determines whether each capture related setting can be selected or updated from the initial system screen. [0 to 1/1] 0: Disable, 1: Enable The setting for SP5836-001 has priority.
003	Print Back-up Function
	Determines whether the print back-up function setting can be changed. [0 to 1/1] 0: Disable, 1: Enable
072	Reduction for Copy B&W Text [0 to 6/1] 0: 1, 1: 1/2, 2: 1/3, 3: 1/4, 6: 2/3

073	Reduction for Copy B&W Other [0 to 6/1] 0: 1, 1: 1/2, 2: 1/3, 3: 1/4, 6: 2/3
075	Reduction for Printer B&W [0 to 6/1] 0: 1, 1: 1/2, 2: 1/3, 3: 1/4, 6: 2/3
076	Reduction for Printer B&W HQ [0 to 6/1] 0: 1, 1: 1/2, 2: 1/3, 3: 1/4, 6: 2/3
081	Format for Copy Color [0 to 3/1] 0: JFIF/JPEG, 1: TIFF/MMR, 2: TIFF/MH, 3: TIFF/MR
082	Format for Copy B&W Text [0 to 3/1] 0: JFIF/JPEG, 1: TIFF/MMR, 2: TIFF/MH, 3: TIFF/MR
083	Format for Copy B&W Other [0 to 3/1] 0: JFIF/JPEG, 1: TIFF/MMR, 2: TIFF/MH, 3: TIFF/MR
084	Format for Printer Color [0 to 3/1] 0: JFIF/JPEG, 1: TIFF/MMR, 2: TIFF/MH, 3: TIFF/MR
085	Format for Printer B&W [0 to 3/1] 0: JFIF/JPEG, 1: TIFF/MMR, 2: TIFF/MH, 3: TIFF/MR
086	Format for Printer B&W HQ [0 to 3/1] 0: JFIF/JPEG, 1: TIFF/MMR, 2: TIFF/MH, 3: TIFF/MR
091	Default for JPEG [5 to 95/1] Sets the JPEG format default for documents sent to the document management server with the MLB, with JPEG selected as the format. Enabled only when optional File Format Converter (MLB: Media Link Board) is installed.

092	Hgih Quality for JPEG
	Determines the quality level of JPEG images for high quality sent to the Document Server via the MLB (Media Link Board) [5 to 95/60/1]
093	Low Quality for JPEG
	Determines the quality level of JPEG images for low quality sent to the Document Server via the MLB (Media Link Board) [5 to 95/40/1]
094	Default Format for Back Up Files
	Sets the format for backup files created when the print backup function is used. [0 to 4/0/1] 0: TIFF 1: JPEG 2: J2K 3: PDF Single 4: PDF Multi
095	Default Resolution for Back Up Files
	Sets the resolution for backup files (JPEG, TIFF) when the print backup function is used. This SP can be used only after JPEG or TIFF is selected for SP5836-094 [0 to 6/2/1] 0: 1/1 1: 1/2 3: 1/4 6: 2/3 (Unavailable for some models)
096	Default User Name for Backup Files
	Sets the user name when the print backup function is used. Limit: 8 alphanumeric characters.

097	Default Compression for Backup Files
	This SP sets the compression rate for JPEG backup files when the print backup function is used. This SP operates only after SP5826-094 has been set for "1" (JPEG). [0 to 2/0/1]
098	Back Projection Removal
	Removes the ghost images transferred from the back sides of double-sided originals. 1: Enable, 0: Disable
101	Primary srv IP address
	Sets the IP address of the PC designated to operate as the primary capture server (CS). [000.000.000.000]
102	Primary srv scheme
	Sets the IO device of the primary CS remotely. Max. characters: 6
103	Primary srv port number
	Use to set the IO device for the primary CS remotely. [1 to 65535/80/1]
104	Primary srv URL path
	Use to set the IO device for the primary CS remotely. Max. characters: 16
111	Secondary srv IP address
	Sets the IP address of the PC designated to operate as the secondary capture server (CS). [000.000.000.000]
112	Secondary srv scheme
	Sets the IO device of the secondary CS remotely. Max. characters: 6
113	Secondary srv port number
	Sets the IO device of the secondary CS remotely. Max. characters: 6

114	Secondary srv URL path
	Sets the IO device of the secondary CS remotely. Max. characters: 6
120	Default Reso Rate Switch
	Sets the IO device of the CS remotely. [0 to 1/0/1]
121	Reso: Copy (Color)
	Sets the IO device of the CS remotely. [0 to 6/3/1] 0: 600dpi, 1: 400dpi, 2: 300dpi, 3: 200dpi, 4: 150dpi, 5: 100dpi, 6: 75dpi
122	Reso: Copy (Mono)
	Sets the IO device of the CS remotely: [0 to 6/3/1] 0: 600dpi, 1: 400dpi, 2: 300dpi, 3: 200dpi, 4: 150dpi, 5: 100dpi, 6: 75dpi
123	Reso: Print (Color)
	Sets the IO device of the CS remotely: [0 to 6/3/1] 0: 600dpi, 1: 400dpi, 2: 300dpi, 3: 200dpi, 4: 150dpi, 5: 100dpi, 6: 75dpi
124	Reso: Print (Mono)
	Sets the IO device of the CS remotely: [0 to 6/3/1] 0: 600dpi, 1: 400dpi, 2: 300dpi, 3: 200dpi, 4: 150dpi, 5: 100dpi, 6: 75dpi
125	Reso: Fax (Color)
	Sets the IO device of the CS remotely: [0 to 6/3/1] 0: 600dpi, 1: 400dpi, 2: 300dpi, 3: 200dpi, 4: 150dpi, 5: 100dpi, 6: 75dpi

126	Reso: Fax (Mono)
	0: 600dpi, 1: 400dpi, 2: 300dpi, 3: 200dpi, 4: 150dpi, 5: 100dpi, 6: 75dpi
127	Reso: Scan (Color)
	0: 600dpi, 1: 400dpi, 2: 300dpi, 3: 200dpi, 4: 150dpi, 5: 100dpi, 6: 75dpi
128	Reso: Scan (Mono)
	0: 600dpi, 1: 400dpi, 2: 300dpi, 3: 200dpi, 4: 150dpi, 5: 100dpi, 6: 75dpi
141	All addr Info Switch
	Expands the scope of used resources and performance. Switch this off if this feature is not being used. [0 to 1/1/1] 1: ON 0: OFF
142	Stand-by Doc Max Number
	Expands the scope of used resources and performance. Switch this off if this feature is not being used. [0 to 1/1/1] 1: ON 2: OFF
5840	IEEE 802.11
006	Channel MAX
	Sets the maximum range of the bandwidth for the wireless LAN. This bandwidth setting varies for different countries. [1 to 14/1]

007	Channel MIN
	<p>Sets the minimum range of the bandwidth for operation of the wireless LAN. This bandwidth setting varies for different countries.</p> <p>[1 to 14/1]</p>
011	WEP Key Select
	<p>Determines how the initiator (SBP-2) handles subsequent login requests.</p> <p>[0 to 1/1]</p> <p>0: If the initiator receives another login request while logging in, the request is refused.</p> <p>1: If the initiator receives another login request while logging in, the request is refused and the initiator logs out.</p> <p>Note: Displayed only when the wireless LAN card is installed.</p>
042	Fragment Thresh
	<p>Adjusts the fragment threshold for the IEEE802.11 card.</p> <p>[256 to 2346 / 2346 / 1]</p> <p>This SP is displayed only when the IEEE802.11 card is installed.</p>
043	11g CTS to Self
	<p>Determines whether the CTS self function is turned on or off.</p> <p>[0 to 1 / 1 / 1] 0: Off, 1: On</p> <p>This SP is displayed only when the IEEE802.11 card is installed.</p>
044	11g Start Time
	<p>Selects the slot time for IEEE802.11.</p> <p>[0 to 1 / 0 / 1] 0: 20 mm, 1: 9 mm</p>
045	WPA Debug Lvl
	<p>Selects the debug level for WPA authentication application.</p> <p>[1 to 3 / 3 / 1] 1: Info, 2: warning, 3: error</p> <p>This SP is displayed only when the IEEE802.11 card is installed.</p>
5841	Supply Name Setting
	<p>Press the [User Tools] key. These names appear when the user presses the Inquiry button on the User Tools screen.</p>

001	Toner Name Setting: Black
008	Paste Name
011	Staple Std 1
012	Staple Std 2
013	Staple Std 3
014	Staple Std 4
021	Staple Bind 1
022	Staple Bind 2
023	Staple Bind 3
031	Ring Name (50/black)
032	Ring Name (50/white)
033	Ring Name (100/black)
034	Ring Name (100/white)

5842	GWS Analysis Setting DFU
	This settings select the output mode for debugging information as each network file is processed.
001	Setting 1
	Default: 00000000 Do not change Netfiles: Jobs to be printed from the document server using a PC and the DeskTopBinder software
002	Setting 2
	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
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001	Transfer Rate
	Sets the speed for USB data transmission. [Full Speed] [Auto Change]
002	Vendor ID
	Sets the vendor ID: Initial Setting: 0x05A Ricoh Company [0x0000 to 0xFFFF/1] DFU
003	Product ID
	Sets the product ID. [0x0000 to 0xFFFF/1] DFU
004	Device Release No.
	Sets the device release number of the BCD (binary coded decimal) display. [0000 to 9999/1] Enter as a decimal number. NCS converts the number to hexadecimal number recognized as the BCD.
005	Fixed USB Port
	Selects the PnP name standardization mode. [0 to 2 / 0 / 1/step] 0: Disable 1: Level 1 2: Level 2
006	PnP Model Name
	Specifies PnP name for USB device.
007	PnP Serial Number
	Specifies PnP serial number for USB device.
100	Notify Unsupport

	Displays or does not display USB unsupported message. [0 or 1 / 1 / -] 0: Not 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 exists	
	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-byte 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.	
<p>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.</p>		
Procedure		
<ol style="list-style-type: none"> 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	<p>Displays the slot number where an address book data is in.</p> <p>[0 to 30 / - /1]</p> <p>0: Unconfirmed</p> <p>1: SD Slot 1</p> <p>2: SD Slot 2</p> <p>4: USB Flash ROM</p> <p>20: HDD</p> <p>30: Nothing</p>
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	<p>Deletes the address book data from the SD card in the service slot.</p> <p>Deletes only the files that were uploaded from this machine.</p> <p>This feature does not work if the card is write-protected.</p> <p>Note</p> <ul style="list-style-type: none"> • 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	<p>This SP uses bit switches to set up the fuzzy search options for the UCS local address book.</p> <p>Bit: Meaning</p> <p>0: Checks both upper/lower case characters</p> <p>1: Japan Only</p> <p>2: Japan Only</p> <p>3: Japan Only</p> <p>4 to 7: Not Used</p>

062	Complexity Option 1	
	<p>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.</p> <p>[0 to 32 / 0 / 1 /step]</p> <p>Note</p> <ul style="list-style-type: none"> 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	<p>Specifies the FTP port for getting a distribution server address book that is used in the identification mode.</p> <p>[0 to 65535 / 3671 / 1 /step]</p>
094	Encryption Stat	Shows the status of the encryption function for the address book data.

5847	Resolution Reduction	
	<p>5847-002 through 5847-006 changes the default settings of image data sent externally by the Net File page reference function. [0 to 2/1]</p> <p>5847 21 sets the default for JPEG image quality of image files controlled by NetFile. "Repository" refers to jobs to be printed from the document server with a PC and the DeskTopBinder software.</p>	

002	Rate for Copy B&W Text	[0 to 6/1]
003	Rate for Copy B&W Other	0: 1x
005	Rate for Printer B&W	1: 1/2x 2: 1/3x
007	Rate for Printer B&W 1200dpi	3: 1/4x 4: 1/6x 5: 1/8x 6: 2/3x1 "6: 2/3x" applies to 003, 005 only.
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 95/1]	

5848	Web Service	
	5847 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. 5847 100 sets the maximum size of images that can be downloaded. The default is equal to 1 gigabyte.	
002	Acc. Ctrl.: Repository (only Lower 4 Bits)	0000: No access control 0001: Denies access to DeskTop Binder.
003	Acc. Ctrl.: Doc. Svr. Print (Lower 4 Bits)	Switches access control on/off. 0000: OFF, 0001: ON
004	Acc. Ctrl.: User Directory (Lower 4 Bits)	
009	Acc. Ctrl.: Job Control (Lower 4 Bits)	
011	Acc. Ctrl: Device Management (Lower 4 Bits)	
021	Acc. Ctrl: Delivery (Lower 4 Bits)	
022	Acc. Ctrl: User Administration (Lower 4 Bits)	
100	Repository: Download Image Max. Size	[1 to 1024/1 K]

210	Setting: Log Type: Job 1	Switches access control on/off. 0000: OFF, 0001: ON
211	Setting: Log Type: Job 2	
212	Setting: LogType Access	
213	Setting: Primary Srv DFU	
214	Setting: Secondary Srv	
	Specifies the maximum size of the image data that the machine can download. [1 to 1024 / 1024 / 1 MB /step]	
215	Setting: Start Time	-
216	Setting: Interval Time	
217	Setting: Timing	

5849	Installation Date	
	Displays or prints the installation date of the machine.	
001	Display	
	The "Counter Clear Day" has been changed to "Installation Date" or "Inst. Date".	
002	Switch to Print	
	Determines whether the installation date is printed on the printout for the total counter. [0 to 1/1] 0: No Print, 1: Print	
003	Total Counter	
	Displays the total count from the day set with SP5849-001. [0 to 9999 9999]	

5850	Address Book Function	
003	Not used	

5851	Bluetooth Mode
	Sets the operation mode for the Bluetooth unit. Press either key. [0: Public] [1: Private]

5853	Stamp Data Download
	Push [Execute] to download the fixed stamp data from the machine ROM onto the hard disk. Then these stamps can be used by the system. If this is not done, the user will not have access to the fixed stamps ("Confidential", "Secret", etc.). You must always execute this SP after replacing the HDD or after formatting the HDD. Always switch the machine off and on after executing this SP.

5856	Remote ROM Update
	When set to "1" allows reception of firmware data via the local port (IEEE 1284) during a remote ROM update. This setting is reset to zero after the machine is cycled off and on. Allows the technician to upgrade the firmware using a parallel cable. [0 to 1/1] 0: Not allowed, 1: Allowed

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
	These SPs select the content of the debugging information to be saved to the destination selected by SP5857-002. SP5858-003 stores one SC specified by number.
001	Engine SC Error (0:OFF 1:ON)
	Stores SC codes generated by copier engine errors.
002	Controller SC Error (0:OFF 1:ON)
	Stores SC codes generated by GW controller errors.
003	Any SC Error (0:OFF 1:ON)
	[0 to 65535 / 0 / 1]
004	Jam (0:OFF 1:ON)
	Stores jam errors.

5859	Debug Log Save Function
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001	Key 1	<p>These SPs allow you to set up to 10 keys for log files for functions that use common memory on the controller board.</p> <p>[-9999999 to 9999999/1]</p>
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
020	<p>Partial Mail Receive Timeout</p> <p>[1 to 168/72/1]</p> <p>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.</p>
	<p>MDN Response RFC2298Compliance</p> <p>Determines whether RFC2298compliance is switched on for MDN reply mail.</p> <p>[0 to 1/1]</p> <p>0: No, 1: Yes</p>
022	<p>SMTP Auth. From Field Replacement</p> <p>Determines whether the FROM item of the mail header is switched to the validated account after the SMTP server is validated.</p> <p>[0 to 1/1]</p> <p>0: No. "From" item not switched.</p> <p>1: Yes. "From" item switched.</p>

025	SMTP Auth Direct Sending	
	<p>Occasionally, all SMTP certifications may fail with SP5860 006 set to "2" to enable encryption during SMTP certification for the SMTP server. This can occur if the SMTP server does not meet RFC standards. In such cases you can use this SP to set the SMTP certification method directly. However, this SP can be used only after SP5860 003 has been set to "1" (On).</p> <p>Bit0: LOGIN Bit1: PLAIN Bit2: CRAM_MD5 Bit3: DIGEST_MD5 Bit4 to Bit 7: Not Used</p>	
026	S/MIME: MIME Header Settings	
	<p>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</p>	
5866	E-Mail Report	
	This SP controls operation of the email notification function.	
001	Report Validity	
	<p>Enables or disables the e-mail notification to @Remote. [0 or 1 / 0 / 1] 0: Enable, 1: Disable</p>	
005	Add Date Field	
	<p>Disables and re-enables the addition of a date field to the email notification. [0 to 1/0/1]</p>	
5870	Common Key Info Writing	
	Writes to flash ROM the common proof for validating the device for NRS specifications.	
001	Writing	Note: These SPs are for future use and currently are not used.

003	Initialize	<p>Initializes the set certification.</p> <p>When the GW controller board is replaced with a new one for repair, you must execute the "Inititalize (-003)" and "Writing (-001)" just after the new board replacement.</p> <p>NOTE: Turn off and on the main power switch after the "Inititalize (-003)" and "Writing (-001)" have been done.</p>
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5873	SD Card Appli Move	
	Allows you to move applications from one SD card another.	
001	Move Exec	Executes the move from one SD card to another.
002	Undo Exec	This is an undo function. It cancels the previous execution.

5875	SC Auto Reboot	
	<p>This SP determines whether the machine reboots automatically when an SC error occurs.</p> <p>Note: The reboot does not occur for Type A and C SC codes.</p>	
001	Reboot Setting	
	<p>[0 to 1/0/1]</p> <p>0: On, 1: Off</p> <p>On: default: 0 (Reboots automatically) 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.</p> <p>OFF: 1 (Does not reboot automatically. Changing this setting to "0" sets the machine to reboot automatically after an SC occurs.</p>	
	Reboot Type	
002	<p>This setting determines how the machine reboots after an SC code is issued.</p> <p>[0 to 1/0/1]</p> <p>0: Allows manual reboot, 1: Automatic reboot</p>	

5878	Option Setup	
	This SP enables the DOS application (Data Overwrite Security). Do this SP after installing Data Overwrite Security Unit.)	
001	Data Overwrite Security	

	Enables the Data Overwrite Security unit. Touch [EXECUTE] on the operation panel. Then cycle the machine off/on.	
002	HDD Encryption	
	Enables the Copy Data Security unit. Touch [EXECUTE] on the operation panel. Then cycle the machine off/on.	
5881	Fixed Phase Block Erasing	
	Touch [EXECUTE] on the operation panel. Then erase all the fixed phase block.	
5885	WIM Settings DFU	
020	Doc Svr Acc Ctrl	
	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	
101	Set Encryption	
	Determines whether the scanned documents with the WIM are encrypted when they are transmitted by an e-mail. [0 or 1 / 0 / -] 0: Not encrypted, 1: Encrypted	
5887	SD Get Counter	
	This SP determines whether the ROM can be updated.	

	-	*CTL	
001	<p>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.</p> <ol style="list-style-type: none"> 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		
	<p>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)</p>		

5893	SDK Application Counter		
	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 Charge Unit Setting Switch Charge Mode		
	[0 to 2/0/1]		

5896	Copy/Printer Priority		
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5899	PM Double Count
	<p>This SP sets the PM counter to count double for paper longer than 420 mm.</p> <p>[0 to 1/0/1]</p> <p>0: OFF</p> <p>1: PM registers a double-count for paper longer than 420 mm in the sub scan direction.</p>
5907	Plug & Play Maker/Model Name
	<p>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.</p> <p>After selecting, press the "Original Type" key and "#" key at the same time. When the setting is completed, the beeper sounds five times.</p>
5913	Switchover Permission Time
	<p>If no key is pressed when there is an application with display control rights, these SP settings allow the system to shift to the application standing by after the specified time as elapse.</p>
001	Print Application Timer
	<p>This SP switches the switchover permission timer on/off.</p> <p>[0 to 1/1/1]</p> <p>0: OFF</p> <p>1: ON</p>
5915	Mechanical Counter Detection
	<p>Displays whether the mechanical counter is installed in the machine.</p> <p>[0 to 2]</p> <p>0: Not detected</p> <p>1: Detected</p> <p>2: Unknown</p>
5952	Fact Adjust Mode

5959	Paper Size	
	001	Tray 1
		Select a paper size for the tray 1. [0 or 1 / NA: 1, Others: 0 / 1] 0: A4, 1: 8 ¹ / ₂ ×11
	005	Tray 4 (LCT) Japan only
	006	Cover Sheet

5967	Copy Server: Set Function	
	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. [0 to 1/1] 0: ON, 1: OFF	

5974	Cherry Server	
	Selects which version of the Scan Router application program, "Light" or "Full (Professional)", is installed. [0 to 1 / 0 / 1 /step] 0: Light version (supplied with this machine) 1: Full version (optional)	



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
	002	On Board USB
		0: Disable, 1: Enable

	SP Print Mode	SMC Print
5990	In the SP mode, press Copy Window to move to the copy screen, select the paper size, then press Start. Select A4/LT (Sideways) or larger to ensure that all the information prints. Press SP Window to return to the SP mode, select the desired print, and press Execute.	
001	All (Data List)	
002	SP (Mode Data List)	
003	User Program Data	
004	Logging Data	
005	Diagnostic Report	
006	Non-Default (Prints only SPs set to values other than defaults.)	
007	NIB Summary	
008	Capture Log	
021	Copier User Program	
022	Scanner SP	
023	Scanner User Program	

SP6xxx Peripherals

600 6*	ADF Registration Adjustment	
001	ADF S-to-S Registration (Front)	Adjusts the side-to-side registration for the front in ADF mode. [-3 to +3/0/0.1 mm]
002	ADF S-to-S Registration (Back)	Adjusts the side-to-side registration for the back in ADF mode. [-3 to +3/0/0.1 mm]
003	ADF L-Edge Registration (Front)	Adjusts the vertical registration for the front in ADF mode. [-5 to +5/0/0.1 mm]

004	ADF L-Edge Registration (Back) Adjusts the vertical registration for the back in ADF mode. [-5 to +5/ 0 /0.1 mm]
005	ADF Buckle Adjustment 1 Adjusts the roller timing at the skew correction sensor/entrance roller. A higher setting causes more buckling. [-3 to +3/ 0 /0.1 mm]
006	ADF Buckle Adjustment 2 Adjusts the roller timing at the interval sensor/scanning roller. A higher setting causes more buckling. [3 to -2/ 0 /0.1 mm]
007	ADF Trailing Edge Erase Margin (Front) These settings adjust the erase margin for the trailing edges for the front. [-5 to +5/ -1 /0.1 mm]
008	ADF Trailing Edge Erase Margin (Back) These settings adjust the erase margin for the trailing edges for the back. [-5 to +5/ -1 /0.1 mm]
6007	ADF Input Check See "p.360 "ADF Input Check: SP6007"" in the "Input/Output Check" section.
6008	ADF Output Check See "p.361 "ADF Output Check: SP6008"" in the "Input/Output Check" section.
6009	DF Free Run Performs an ADF free run in duplex original mode.
6010	Stamp Position Adj. Adjust the position of "Finished" stamp. [-5 to 5 / 0 / 0.1 mm]



6016	Original Size Determination Priority
	Allows selection of alternate settings for automatic original size detection. [0 to 255/ 0 /1]

6017	Sheet Through Magnification
	Allows settings for the velocity of the sheet through. [-5 to 5/ 0 /0.1]

4

602 0*	ADF Skew Correction Mode In/Out
	<p>If the original is small (B6, A5, HLT), the delay sensor detects the leading edge of the sheet and delays the original at the entrance roller for the prescribed number of pulses to buckle the leading edge and correct skew.</p> <p>[0 to 1/1]</p> <p>0: Delay skew correction only for small originals</p> <p>1: Delay skew correction for all originals, regardless of size. (May reduce the scanning speed of the ADF)</p>

6101	Punch Hole Position Adjustment
	<p>Adjusts the punch hole positions in the direction of paper feed.</p> <p>NA: North America</p> <p>JPN: Japan</p> <p>EU: Europe</p> <p>NEU: Northern Europe (Scandinavia)</p>

001	JPN/EU: 2-Hole	<p>[-7.5 to +7.5/0.5 mm]</p> <p>+ Value: Shifts punch unit in the direction of feed.</p> <p>- Value: Shift punch unit against direction of feed.</p> <p>B132S921</p>
002	JPN/NA: 3-Hole	
003	EU: 4-Hole	
004	NEU: 4-Hole	
005	NA: 2-Hole	
006	JPN: 1-1 Hole	

6102	Punch Hole Position Adjustment	
	<p>Adjusts the punch position perpendicular to the direction of feed.</p> <p>[-2 to +2/0/0.4 mm]</p> <p>+ Value: Shifts punch unit toward back of the finisher.</p> <p>- Value: Shift punch unit toward front of the finisher.</p> <p>NA: North America</p> <p>JPN: Japan</p> <p>EU: Europe</p> <p>NEU: Northern Europe (Scandinavia)</p>	
001	JPN: 2-Hole	<p>B132S922</p>
002	JPN/NA: 3-Hole	
003	EU: 4-Hole	
004	NEU: 4-Hole	
005	NA: 2-Hole	

6103	Skew Correction: Buckle Adj.
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	This SP corrects punch hole alignment by correcting the skew of each sheet. To do this, it adjusts the amount of time the finisher entrance roller remains off while the exit roller of the machine remains on. This buckles the leading edge of the sheet slightly against the finisher entrance roller while it remains off.	
001	A3 SEF	[-5 to +5/0/0.25 mm]
002	B4 SEF	+ Value: Increases the time that the finisher entrance roller remains off. - Value: Decreases the time that the finisher entrance roller remains off.
003	A4 SEF	
004	A4 LEF	
005	B5 SEF	
006	B5 LEF	
007	DLT SEF	
008	LG SEF	
009	LT SEF	
010	LT LEF	
011	12" x 18"	
012	Other	
6104	Skew Correction Control	
	This SP determines whether the finisher entrance roller stops to correct skew when paper enters the finisher.	

001	A3 SEF	<p>[0 to 1/0/1]</p> <p>0: No adjustment. Quickly restores the default setting if you forget what the other settings do.</p> <p>0: Paper stops for skew correction</p> <p>1: Paper does not stop</p>
002	B4 SEF	
003	A4 SEF	
004	A4 LEF	
005	B5 SEF	
006	B5 LEF	
007	DLT SEF	
008	LG SEF	
009	LT SEF	
010	LT LEF	
011	12" x 18"	
012	Other	

6105	Jogger Fence Fine Adjust
	This SP adjusts the distance between the jogger fences and the sides of the stack on the finisher stapling tray. The adjustment is done perpendicular to the direction of paper feed.

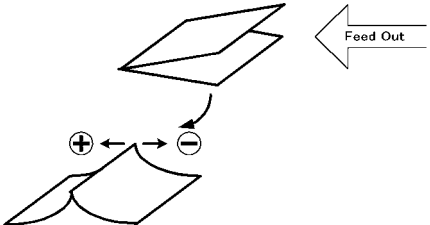
001	A3 SEF	<p>[-1.5 to +1.5/0/0.5 mm]</p> <p>+ Value: Increases the distance between jogger fences and the sides of the stack.</p> <p>- Value: Decreases the distance between the jogger fences and the sides of the stack.</p>
002	B4 SEF	
003	A4 SEF	
004	A4 LEF	
005	B5 SEF	
006	B5 LEF	
007	DLT SEF	
008	LG SEF	
009	LT SEF	
010	LT LEF	
011	12" x 18"	
012	Other	

6106	Adjust Output Jog Position
	<p>Use this SP code to adjust the positions of the jogger fences when the pages are aligned (jogged) horizontally in the optional output jogger unit. The jogger fences close in on the sides of the stack on the paper tray. These side fences move in and out perpendicular to the direction of paper feed.</p> <p>[-1.5 to +1.5 / 0 / 0.5 mm]</p> <ul style="list-style-type: none"> • The higher the setting, the narrower the jogger span and the smaller the gaps between the fences and the edges of the paper. Stacking is tighter. • The lower the setting, the wider the jogger span and the wider the gaps between the fences and the edges of the paper. Stacking is not as tight.

001	A3 SEF	<p>The settings are done for each paper size. SEF denotes "Short Edge Feed". LEF denotes "Long Edge Feed".</p>
002	B4 SEF	
003	A4 SEF	
004	A4 LEF	
005	B5 LEF	
006	A5 LEF	
007	DLT SEF	
008	LG SEF	
009	LT SEF	
010	LT LEF	
011	HLT LEF	
012	Other	

6109	Staple Position Adjustment
	<p>Use this SP to shift the position of the stapling done by the corner stapler of the finisher. This SP shifts the staple position forward and back across the direction of paper feed.</p> <ul style="list-style-type: none"> • Use the "●" key to toggle between + and –. • A larger value shifts the stapling position to shift forward. • A smaller value shifts the stapling position backward. • The settings are done for each paper size. <p>[-3.5 to +3.5 / 0 / 0.5 mm]</p>

001	A3 SEF	<p>The settings are done for each paper size. SEF denotes "Short Edge Feed". LEF denotes "Long Edge Feed".</p>
002	B4 SEF	
003	A4 SEF	
004	A4 LEF	
005	B5 SEF	
006	B5 LEF	
007	DLT SEF	
008	LG SEF	
009	LT SEF	
010	LT LEF	
011	12" x 18"	
012	Other	

6113	Folder Position Adj. (Sub-Scan)	
		This SP corrects the folding position when paper is stapled and folded.
001	A3 SEF	<p>[-3 to +3/0.2 mm] + Value: Shifts staple position toward the crease. - Value: Shifts staple position away from the crease.</p>  <p style="text-align: right;">B132S924</p>
002	B4 SEF	
003	A4 SEF	
004	B5 SEF	
005	DLT SEF	
006	LG SEF	
007	LT SEF	
008	12" x 18"	
009	Other	

6114	Folding Number A3 SEF
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001	A3 SEF	<p>This SP sets the number of times the folding rollers are driven forward and reverse to sharpen the crease of a folded booklet before it exits the folding unit of the Booklet Finisher. When set at the default (0):</p> <ul style="list-style-type: none"> • The folding blade pushes the center of the stack into the nip of the folding roller. • The folding rollers rotate ccw to crease the booklet, reverse cw, then rotate ccw again to crease the booklet fold twice before feeding to the folding unit exit rollers. <p>[1 to 6/0/1]</p> <p>0:2, 1:5, 2:10, 3:15, 4:20, 5:25, 6:30 (passes)</p>
002	B4 SEF	
003	A4 SEF	
004	B5 SEF	
005	DLT SEF	
006	LG SEF	
007	LT SEF	
008	12" x 18"	
009	Other	

6115	Pre-stack Number	
001	A4 LEF	<p>This SP sets the number of sheets sent to the pre-stack tray. With this SP set to the default (3):</p> <p>3 sheets are sent to the pre-stack tray.</p> <p>When the 4th sheet feeds, the 4th sheet and 3 sheets from the pre-stack tray are sent to the stapling tray together.</p> <p>Note: You may need to adjust this setting or switch it off when feeding thick or slick paper.</p> <p>[0 to 4/3/1]</p> <p>0: None</p> <p>1: 1 sheet</p> <p>2: 2 sheets</p> <p>3: 3 sheets</p> <p>4: 4 sheets</p>
002	LT LEF	
003	B5 LEF	
004	10.5"x7.25"	
005	A4 SEF	
006	LT SEF	
007	B5 SEF	
008	10.5"x7.25"	
009	Other	

6118	Jogger Off/On (B706)
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001	A3 SEF	<p>This SP switches the jogging operation of the output jogger unit attached to the side of the finisher off and on.</p> <p>[0 to 1/0/1] 0: Off, 1: On</p> <p>Note: After installation of the Output Jogger Unit B703, this SP must be set to "1" for the jogging motor to operate the jogging fences.</p>
002	B4 SEF	
003	A4 SEF	
004	A4 LEF	
005	LT LEF	
006	B5 LEF	
007	DLT SEF	
008	LG SEF	
009	LT SEF	
010	LT LEF	
011	HLT LEF	
012	Other	

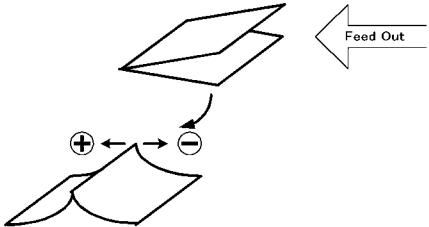
6120*	Finisher Free Run (D373/D374)		
	Selects the free run mode during testing.		
001	Free Run 1 VIC	Stapling Mode	Stapling only
002	Free Run 2 VIC	All Mode	All finisher operation is tested
003	Free Run 3 VIC	Packing Mode	Before you move the finisher to a new location, do this SP. When you switch on the machine after you moved it, the finisher automatically goes to the ready condition.

6121	Finisher Input Check: Finisher 1 (Finisher D373/D374)		
	See "p.361 "Finisher 1 Input Check: SP6121 (D373/D374)"" in the "Input/Output Check" section.		

6122	Finisher Input Check: Finisher 2 (Finisher D460)		
	See "p.365 "Finisher 2 Input Check: SP6122"" in the "Input/Output Check" section.		

6124	Finisher Output Check: Finisher 1 (Finisher D373/D374)
	See "p.364 "Finisher 1 Output Check: SP6124"" in the "Input/Output Check" section.

6125	Finisher Output Check: Finisher 2 (Finisher D460)
	See "p.367 "Finisher 2 Output Check: SP6124"" in the "Input/Output Check" section.

6126	Fold Position Setting (D373)	
	This SP corrects the folding position when paper is stapled and folded in the D373Booklet Finisher.	
001	A3 SEF	<p>[-3 to +3/0/0.2 mm]</p> <ul style="list-style-type: none"> • + Value: Shifts staple position toward the crease. • - Value: Shifts staple position away from the crease.  <p>B132S924</p>
002	B4 SEF	
003	A4 SEF	
004	B5 SEF	
005	DLT SEF	
006	LG SEF	
007	LT SEF	
008	12"x18" SEF	
009	Custom Size	

6127	Staple Jogging Times (Finisher D460)
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001	A3 SEF	<p>Touch [1:+1 Time] to have the jogger fences press against the sides of the stack on the staple tray one more time to align the stack for corner stapling.</p> <p>[*0:Default] or [1:+1 Time]</p>
002	B4 SEF	
003	A4 SEF	
004	A4 LEF	
005	B5 SEF	
006	B5 LEF	
007	DLT SEF	
008	LG SEF	
009	LT SEF	
010	LT LEF	
011	Other	

6250	Finisher Input Check	
001	SortTray Transport Sensor	<p>Turn on the electrical components of the finisher individually for test purposes.</p>
002	SortTray Shift Sensor	
003	SortTray Lower Limit Sensor	
004	SortTray Paper Height Sensor	
005	SortTray Door Switch	
006	SortTray Spare Sensor	

6251	Finisher Output Check	
001	SortTray Transport Motor: Continuous	<p>Turn on the electrical components of the finisher individually for test purposes.</p>
002	SortTray Transport Motor: 1 Operation	
003	SortTray Shift Tray Motor: 1 Operation	
004	SortTray Tray Lift Motor: Up	
005	SortTray Tray Lift Motor: Down	
006	SortTray Tray Lift Motor: 1 Operation	

6252	Finisher Free Run: SortTray
	Turn on the electrical components of the finisher individually for test purposes.

6300	Z-Fold Position Adjustment (Finisher: D454)	
001	A3 SEF	[2 to 40 / 2 / 1 mm]
002	B4 SEF	
003	A4 SEF	
004	DLT SEF	
005	LG SEF	
006	LT SEF	
007	12"x18"	
008	Other	

6301	Fine Adjust Z-Fold (Finisher: D454)
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001	1st Fold A3 SEF	[-4 to 4 / 0 / 0.2 mm]
002	1st Fold B4 SEF	
003	1st Fold A4 SEF	
004	1st Fold DLT SEF	
005	1st Fold LG SEF	
006	1st Fold LT SEF	
007	1st Fold 12"x18"	
008	1st Fold Other	
009	2nd Fold A3 SEF	
010	2nd Fold B4 SEF	
011	2nd Fold A4 SEF	
012	2nd Fold DLT SEF	
013	2nd Fold LG SEF	
014	2nd Fold LT SEF	
015	2nd Fold 12"x18"	
016	2nd Fold Other	

6309	Fold Unit (D454) Input Check
	See "p.369 "Finisher 3 Input Check: SP6309"" in the "Input/Output Check" section.

6310	Fold Unit (D454) Output Check
	See "p.371 "Finisher 3 Output Check: SP6310"" in the "Input/Output Check" section.

6311	Fold Unit (D454) Free Run
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001	Free Run 1	
002	Free Run 2	
003	Free Run 3	
004	Free Run 4	

6312	Fine Adjust Z-Fold 1 (D454)	
001	A3 SEF	[-4 to 4 / 0 / 0.2 mm]
002	B4 SEF	
003	A4 SEF	
004	DLT SEF	
005	LG SEF	
006	LT SEF	
007	12"x18"	
008	8-Kai	
019	Other	

6313	Fine Adjust Z-Fold 2 (D454)	
001	A3 SEF	[-4 to 4 / 0 / 0.2 mm]
002	B4 SEF	
003	A4 SEF	
004	DLT SEF	
005	LG SEF	
006	LT SEF	
007	12"x18"	
008	8-Kai	
019	Other	

6314	FM2 Equal Halves Fold Fine Adj. (D454)	
001	A3 SEF	[-4 to 4 / 0 / 0.2 mm]
002	B4 SEF	
003	A4 SEF	
004	DLT SEF	
005	LG SEF	
006	LT SEF	
007	12"x18"	
008	8-Kai	
009	B5 SEF	
010	13"x19.2"	
011	13"x19"	
012	12.6"x19.2"	
013	12.6"x18.5"	
014	13"x18"	
015	SRA3	
016	SRA4	
017	226x310	
018	310x432	
019	Other	

6315	FM3 Equal 3rds Fold1 Fine Adj. (D454)
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001	A3 SEF	[-4 to 4 / 0 / 0.2 mm]
002	B4 SEF	
003	A4 SEF	
004	DLT SEF	
005	LG SEF	
006	LT SEF	
007	12"x18"	
008	8-Kai	
009	B5 SEF	
019	Other	

6316	FM3 Equal 3rds Fold2 Fine Adj. (D454)	
001	A3 SEF	[-4 to 4 / 0 / 0.2 mm]
002	B4 SEF	
003	A4 SEF	
004	DLT SEF	
005	LG SEF	
006	LT SEF	
007	12"x18"	
008	8-Kai	
009	B5 SEF	
019	Other	

6317	FM4 3rds 1 Flap In Fold1 Fine Adj. (D454)	
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001	A3 SEF	[-4 to 4 / 0 / 0.2 mm]
002	B4 SEF	
003	A4 SEF	
004	DLT SEF	
005	LG SEF	
006	LT SEF	
007	12"x18"	
008	8-Kai	
009	B5 SEF	
019	Other	

6318	FM4 3rds 1 Flap In Fold2 Fine Adj. (D454)	
001	A3 SEF	[-4 to 4 / 0 / 0.2 mm]
002	B4 SEF	
003	A4 SEF	
004	DLT SEF	
005	LG SEF	
006	LT SEF	
007	12"x18"	
008	8-Kai	
009	B5 SEF	
019	Other	

6319	FM5 4ths "V" Center Fold1 Fine Adj. (D454)	
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001	A3 SEF	[-4 to 4 / 0 / 0.2 mm]
002	B4 SEF	
003	A4 SEF	
004	DLT SEF	
005	LG SEF	
006	LT SEF	
007	12"x18"	
008	8-Kai	
009	B5 SEF	
019	Other	

6320	FM5 4ths "V" Center Fold2 Fine Adj. (D454)	
001	A3 SEF	[-4 to 4 / 0 / 0.2 mm]
002	B4 SEF	
003	A4 SEF	
004	DLT SEF	
005	LG SEF	
006	LT SEF	
007	12"x18"	
008	8-Kai	
009	B5 SEF	
019	Other	

6321	FM6 4ths 2 Flaps In Fold1 Fine Adj. (D454)	
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001	A3 SEF	[-4 to 4 / 0 / 0.2 mm]
002	B4 SEF	
003	A4 SEF	
004	DLT SEF	
005	LG SEF	
006	LT SEF	
008	8-Kai	
009	B5 SEF	
019	Other	

6322	FM6 4ths 2 Flaps In Fold2 Fine Adj. (D454)	
001	A3 SEF	[-4 to 4 / 0 / 0.2 mm]
002	B4 SEF	
003	A4 SEF	
004	DLT SEF	
005	LG SEF	
006	LT SEF	
008	8-Kai	
009	B5 SEF	
019	Other	

6323	FM6 4ths 2 Flaps In Fold3 Fine Adj. (D454)	
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001	A3 SEF	[-4 to 4 / 0 / 0.2 mm]
002	B4 SEF	
003	A4 SEF	
004	DLT SEF	
005	LG SEF	
006	LT SEF	
007	12"x18"	
008	8-Kai	
009	B5 SEF	
019	Other	

6324	Jogger Fence Position Adjust (D454)	
001	A3 SEF	[-2 to 2 / 0 / 0.5 mm]
002	B4 SEF	
003	A4 SEF	
004	DLT SEF	
005	LG SEF	
006	LT SEF	
007	12"x18"	
008	8-Kai	
009	B5 SEF	
019	Other	

6325	Registration Buckle Adjust (D454)	
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001	A3 SEF	[-4 to 2 / 0 / 1 mm]
002	B4 SEF	
003	A4 SEF	
004	DLT SEF	
005	LG SEF	
006	LT SEF	
007	12"x18"	
008	8-Kai	
009	B5 SEF	
019	Other	

6326	Registration Buckle Adjust Select
	Adjusts the registration motor timing. This timing determines the amount of paper buckle at registration. (A higher setting causes more buckling.)

6350	Mail Box Input Check
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001	Paper Detect Sn 1	Turn on the electrical components of the finisher individually for test purposes.
002	Vertical Transport Sn 1: Bin1	
003	Paper Overflow Sn 1	
004	Paper Detect Sn 2	
005	Vertical Transport Sn2: Bin3	
006	Paper Overflow Sn 2	
007	Paper Detect Sn 3	
008	Paper Overflow Sn 3	
009	Paper Detect Sn 4	
010	Vertical Transport Sn3: Bin5	
011	Paper Overflow Sn 4	
012	Paper Detect Sn 5	
013	Paper Overflow Sn 5	Turn on the electrical components of the finisher individually for test purposes.
014	Paper Detect Sn 6	
015	Vertical Transport Sn4: Bin7	
016	Paper Overflow Sn 6	
017	Paper Detect Sn 7	
018	Paper Overflow Sn 7	
019	Paper Detect Sn 8	
020	Vertical Transport Sn 5:Bin9	
021	Paper Overflow Sn 8	
022	Paper Detect Sn 9	
023	Paper Overflow Sn 9	
024	Door Open Switch	

6351	Mail Box Output Check
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001	Vertical Transport Motor	Turn on the electrical components of the finisher individually for test purposes.
002	Junction Gate SOL 1	
003	Turn Gate SOL 1	
004	Turn Gate SOL 2	
005	Turn Gate SOL 3	
006	Turn Gate SOL 4	
007	Turn Gate SOL 5	
008	Turn Gate SOL 6	
009	Turn Gate SOL 7	
010	Turn Gate SOL 8	

6352	Mail Box Free Run
001	Free Run 1

6450	Cover Feeder Size Change	
001	All A3	[0 to 1 / 0 / 1]
002	EU, CHN: 8.5x13	[0 to 2 / 0 / 1]
003	NA: 8.5x14	[0 to 1 / 0 / 1]
004	NA: 11x8.5	[0 to 1 / 0 / 1]
005	NA: 8.5x11	[0 to 1 / 0 / 1]
006	EU, CHN: 8K	[0 to 1 / 0 / 1]
007	EU, CHN: 16K (267x195)	[0 to 1 / 0 / 1]
008	EU, CHN: 16K (195x267)	[0 to 1 / 0 / 1]

6451	Cover Feeder Input Check	
001	Paper Feed Cover Sensor	[0 to 1 / 0 / 1]
002	Bottom Plate HP Sensor	[0 to 1 / 0 / 1]

003	Paper Near End Sensor	[0 to 1 / 0 / 1]
004	Paper Set Sensor	[0 to 1 / 0 / 1]
005	Bottom Plate HP Sensor	[0 to 1 / 0 / 1]
006	Grip Sensor	[0 to 1 / 0 / 1]
007	Guide Plate Set Sensor	[0 to 1 / 0 / 1]
008	Exit Sensor	[0 to 1 / 0 / 1]
009	Paper Set Sensor	[0 to 1 / 0 / 1]
010	Width Sensor 1	[0 to 1 / 0 / 1]
011	Width Sensor 2	[0 to 1 / 0 / 1]
012	Width Sensor 3	[0 to 1 / 0 / 1]
013	Length Sensor 1	[0 to 1 / 0 / 1]
014	Length Sensor 2	[0 to 1 / 0 / 1]
015	Length Sensor 3	[0 to 1 / 0 / 1]

6801	Stamp Unit
	<p>Sets the stamp unit to set or unset.</p> <p>[0 to 1/1]</p> <p>0: set, 1: unset</p>

6830	Extra Staples
	<p>More than the standard number of corner staples can be loaded.</p> <p>This SP recognizes the maximum number of staples (This Setting + Standard Number).</p> <ul style="list-style-type: none"> • If the number of the maximum for staples is increased, and the mechanical warranty of the unit can be guaranteed, then the setting can take effect without changing the controller software. • However, assurance that mechanical performance can be guaranteed is required before changing the setting to increase the staple load for more than the maximum in the feed / exit specifications. Raising this setting without quality assurance could damage the machine.

001	0 to 50 (Initial: 0) [0 to 50 /0/1]
002	0 to 50 (Initial: 0) [0 to 50 /0/1]

6900*	ADF Bottom Plate Setting
	Sets the timing for raising and lowering the bottom plate of the ADF. [0 to 1/1] 0: Original set, 1: Copy start

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6910	Intermittent Shading	
001	ON/OFF	Select ON or OFF of the intermittent shading in running the copy app. 0: OFF (do shading every time) / 1: ON
002	Interval 1	Set the interval 1 to the shading in doing intermittent shading. [0 to 60 / 5 / 1]
003	Interval 2	Set the interval 2 to the shading in doing intermittent shading. [0 to 60 / 10 / 1]
004	Interval 1 time	Set the interval from interval 1 to interval 2. [0 to 60 / 7 / 1]

SP7xxx Data Logs

7001*	Main Motor Operation Time
001	Displays the total drum rotation time.

7401	Total SC Counter
	Displays the total number of SCs logged.

7403	SC History
	Displays the latest 10 service call codes
001	Latest
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 copy jams.

7503	Total Original Jam Counter
	Displays the total number of copy jams.

7504	Paper Jam Loc
<p>Displays the list of possible locations where a jam could have occurred. These jams are caused by the failure of a sensor to activate. These are jams when the paper does not activate the sensor.</p> <ul style="list-style-type: none"> • Paper late error: Paper failed to arrive at prescribed time. • Paper lag error: Paper failed to leave at prescribed time. 	
001	At Power On
003	1st Paper Feed SN: Late
004	2nd Paper Feed SN: Late
005	3rd Paper Feed SN: Late

006	4th Paper Feed SN: Late	
008	1st Vertical Transport SN: Late	
009	2nd Vertical Transport SN: Late	
010	3rd Vertical Transport SN: Late	
011	4th Vertical Transport SN: Late	
012	Relay SN: Late	
013	Registration SN: Late	
014	Fusing Exit SN: Late	
015	Exit Unit Entrance SN: Late	
016	Paper Exit SN: Late	
017	LCT Paper Feed SN: Late	
018	LCT Relay SN: Late	
019	Duplex Entrance SN: Late	
020	Duplex Transport SN 1: Late	
021	Duplex Transport SN 2: Late	
022	Duplex Transport SN 3: Late	
023	Duplex Exit SN: Late	
034	By-pass Paper Feed SN: Late	
045	Sort Tray: Paper Exit SN: Late	
046	Sort Tray: Tray Lift Motor	
047	Sort Tray: Shift Tray Motor	
053	1st Paper Feed SN: Lag	
054	2nd Paper Feed SN: Lag	
055	3rd Paper Feed SN: Lag	
056	4th Paper Feed SN: Lag	
058	1st Vertical Transport SN: Lag	

059	2nd Vertical Transport SN: Lag	
060	3rd Vertical Transport SN: Lag	
061	4th Vertical Transport SN: Lag	
062	Relay SN: Lag	
063	Registration SN: Lag	
066	Paper Exit SN: Lag	
067	LCT Paper Feed SN: Lag	
068	LCT Relay SN: Lag	
069	Duplex Entrance SN: Lag	
071	Duplex Transport SN 2: Lag	
072	Duplex Transport SN 3: Lag	
084	By-pass Paper Feed SN: Lag	
095	Sort Tray: Paper Exit SN: Lag	
101	Finisher: Entrance Sensor	
102	Finisher: Proof Tray Exit Sensor	
103	Finisher: Exit Sensor	
104	Finisher: Staple Entrance Sensor	
105	Finisher: Exit After Jogging	
106	Finisher: Corner Stapling	
109	Finisher: Shift Tray Motor	
110	Finisher: Jogger Fence Motor	
111	Finisher: Shift Roller Motor	
112	Finisher: Stapler Shift Motor	
113	Finisher: Stapler Motor	
115	Finisher: Feed Out Belt Motor	
116	Finisher: Paper Punch Motor	

121	Finisher: Entrance Jam	
122	Finisher: Proof Tray Exit	
123	Finisher: Shift Tray Exit	
124	Finisher: Stapler Exit	
125	Finisher: Exit After Jogging	
126	Finisher: Corner Stapling	
127	Finisher: Saddle Stapling	
128	Finisher: Paper Folding	
129	Finisher: Shift Tray Motor	
130	Finisher: Jogger Fence Motor	
131	Finisher: Shift Roller Motor	
132	Finisher: Stapler Shift Motor	
133	Finisher: Stapler Motor	
134	Finisher: Folder Plate Motor	
135	Finisher: Feed Out Belt Motor	
136	Finisher: Paper Punch Motor	
151	Fin: Entrance Sensor	
152	Fin: Proof Tray Exit Sn	
153	Fin: Shift Exit Sn	
154	Fin: Stapler Exit	
155	Fin: Pre-Stack	
156	Fin: Feed Out	
158	Fin: Upper Trans Motor	
159	Fin: Shift Tray Motor	
160	Fin: Positioning Roller Motor	
161	Fin: Jogger Fence Motor	

162	Fin: Stack Plate Motor (Center)	
163	Fin: Stack Plate Motor (Front)	
164	Fin: Stack Plate Motor (Rear)	
165	Fin: Shift Motor	
166	Fin: Drag Drive Motor	
167	Fin: Shift Tray Jogger Motor	
168	Fin: Shift Tray Jogger Retraction Motor	
169	Fin: Exit Guide Motor	
170	Fin: Staple Hammer Motor	
171	Fin: Stapler Movement Motor	
172	Fin: Stapler Rotation Motor	
173	Fin: Stack Feed-Out Belt Motor	
174	Fin: Punch Motor	
175	Fin: Top Fence Motor	
176	Fin: Bottom Fence Motor	
198	Plocmatic Jam	
199	GBC Jam	
201	Mail Bin: Vertical Transport Sn 1	
202	Mail Bin: Vertical Transport Sn 2	
203	Mail Bin: Vertical Transport Sn 3	
204	Mail Bin: Vertical Transport Sn 4	
205	Mail Bin: Vertical Transport Sn 5	
251	Cover Interposer: Paper Feed Sn	
252	Cover Interposer: V-Transport Path	
253	Cover Interposer: Bottom Plate Pos. Sn	

7505	Original Jam Detection	
	Displays the list of possible locations where an original jam could have occurred. These jams are caused by the failure of a sensor to activate.	
001	At Power On	
003	Skew Correction Sensor: On	
004	Registration Sensor: On	
005	Original Exit Sensor: On	
006	Registration Sensor: On	
007	Original Exit Sensor: On	
053	Skew Correction Sensor: Off	
054	Registration Sensor: Off	
055	Original Exit Sensor: Off	
056	Registration Sensor: Off	
057	Original Exit Sensor: Off	

7506	Jam Count by Paper Size	
	Displays the total number of jams by paper size.	
005	A4 LEF	Displays the total number of jams by paper size.
006	A5 LEF	
014	B5 LEF	
038	LT LEF	
044	HLT LEF	

132	A3	Displays the total number of jams by paper size.
133	A4 SEF	
134	A5 SEF	
141	B4 SEF	
142	B5 SEF	
160	DLT SEF	Displays the total number of jams by paper size.
164	LG SEF	
166	LT SEF	
172	HLT SEF	
255	Others	

7507	Plotter Jam History	
001	Last	Displays the copy jam history (the most recent 10 jams) Sample Display: CODE:007 SIZE:05h TOTAL:0000334 DATE:Mon Mar 15 11:44:50 2000 where: CODE is the SP7504-* number (see above). SIZE is the ASAP paper size code in hex. TOTAL is the total jam error count DATE is the date the jams occurred.
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	

Size	Code	Size	Code	Size	Code
A4 (S)	05	A3 (L)	84	DLT (L)	A0
A5 (S)	06	A4 (L)	85	LG (L)	A4
B5 (S)	0E	A5 (L)	86	LT (L)	A6

Size	Code	Size	Code	Size	Code
LT (S)	26	B4 (L)	8D	HLT (L)	AC
HLT (S)	2C	B5 (L)	8E	Others	FF

750 8	Original Jam History	
	Displays the original jam history of the transfer unit in groups of 10, starting with the most recent 10 jams. Display contents are as follows: CODE is the SP7-505-* number. SIZE is the paper size code in hex. (See "Paper Size Hex Codes" below.) TOTAL is the total jam error count (SP7-003) DATE is the date the previous jam occurred	
	001	Last
	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	
Sample Display:		
CODE: 007		
SIZE: 05h		
TOTAL: 0000334		
DATE: Mon Mar 15 11:44:50 2000		

Paper Size Hex Codes

These codes are displayed by SP7507 and SP7508.

Paper Size	Code (hex)	Paper Size	Code (hex)
A4 LEF	05	B4 SEF	8D
A5 LEF	06	B5 SEF	8E
B5 LEF	0E	DLT SEF	A0

Paper Size	Code (hex)	Paper Size	Code (hex)
LT LEF	26	LG SEF	A4
HLT LEF	2C	LT SEF	A6
A3 SEF	84	HLT SEF	AC
A4 SEF	85	Others	FF
A5 SEF	86		

7509	Paper Jam Loc: Fold Unit	
046	Paper Feed: Late	
047	Paper Feed: Lag	
048	Pressure Timing SN: Late	
049	Pressure Timing SN: Lag	
050	Contact Timing SN: Late	
051	Contact Timing SN: Lag	
052	2 nd Stopper Motor: Late	
053	2 nd Stopper Motor: Lag	
054	Paper Exit Sensor 1: Late	
055	Paper Exit Sensor 1: Lag	
058	Paper Exit Sensor 3: Late	
059	Paper Exit Sensor 3: Lag	
060	Brushless Motor	
061	Lower Stopper Motor Jam	
062	Upper Stopper Motor Jam	
096	Entrance SN: Late	
097	Entrance SN: Lag	
098	Top Tray Exit SN: Late	

099	Top Tray Exit SN: Lag	
100	Horizontal Path Exit SN: Late	
101	Horizontal Path Exit SN: Lag	
102	1st Stopper HP SN: Late	
103	1st Stopper HP SN: Lag	
104	2nd Stopper HP SN: Late	
105	2nd Stopper HP SN: Lag	
106	3rd Stopper HP SN: Late	
107	3rd Stopper HP SN: Lag	
108	Skew Correction Jam	
109	Folded Paper Path Jam	
111	Entrance JG Motor Jam	
112	Fold JG Motor Jam	
113	1st Stopper Motor Jam	
114	2nd Stopper Motor Jam	
115	3rd Stopper Motor Jam	
116	Dynamic Roller Trans. M Jam	
117	Regist. Roller Release M Jam	
118	Fold Plate Motor Jam	
119	Jogger Fence Motor Jam	
120	Positioning Roller Motor Jam	
121	Direct-Send JG Motor Jam	
122	FM6 Pawl Motor Jam	

7617	Parts PM Counter Display
001	Normal

002	Document Feed
-----	---------------

7618	Parts PM Counter Reset Japan Only	
001	Normal	Clears the counter of SP7617- 001.
002	Document Feed	Clears the counter of SP7617- 002

7621	Display PM Count	
	0 to 999999999	
7622	Clear PM Count	
	This SP clears the PM counts for the components below.	
7623	Unit PM Target	
	0 to 999999999	
7624	Part Replacement Operation ON/OFF	
7625	Pg Count History: Latest 1	
	0 to 999999999	
7626	Pg Count History: Latest 2	
	0 to 999999999	
7627	Pg Count History: Latest 3	
	0 to 999999999	
001	Developer	
002	Hot Roller	
003	Pressure Roller	
004	Hot Roller Bearings	
005	Pressure Roller Bearings	
006	Hot Roller Strippers	
007	Cleaning Roller	
008	Cleaning Roller Bearings	

009	Web Roll
010	Web Cleaning Roller
011	Web Bushings
012	Development Filter
013	Toner Recycling Unit
014	Pressure Release Filter
015	Charge Corona Wire
016	Grid Plate
017	Cleaning Pad
018	Cleaning Blade
019	Cleaning Brush
020	Transfer Belt
021	Transfer Belt Cleaning Blade
022	Ozone Filter
023	ADF Pick-up Roller
024	ADF Feed Belt
025	ADF Separation Roller
026	Feed Roller-Tray1
027	Pick-up Roller-Tray1
028	Separation Roller-Tray1
029	Feed Roller-Tray2
030	Pick-up Roller-Tray2
031	Separation Roller-Tray2
032	Feed Roller-Tray3
033	Pick-up Roller-Tray3
034	Separation Roller-Tray3

035	Feed Roller-Tray4
036	Pick-up Roller-Tray4
037	Separation Roller-Tray4
038	Feed Roller-LCT
039	Pick-up Roller-LCT
040	Separation Roller-LCT
041	Feed Belt Cover Feeder
042	Pick-up Roller Cover Feeder
043	Separation Roller Cover Feeder
044	ADF Transport Belt

7628	Clear PM Counter Clear Exceeded Counts
-001	Clear the PM counter of all the PM parts that exceed the timing of exchanging.
-002	Clear PM Counter Reset All Counts
	Clear all the PM counters.

7801 *	Displays the ROM version numbers of the main machine and connected peripheral devices.
005	ROM No. ADF
007	ROM No.Finisher
009	ROM No.Bank
010	ROM No.LCT
011	ROM No.Mail Box
020	ROM No.Cover Interposer
024	ROM No.Capacitaotr (JPN only)
025	ROM No.Holding Unit
105	Fireware ADF

107	Fireware Finisher
109	Fireware Bank
110	Fireware LCT
111	Fireware Mail Box
120	Fireware Cover Interposer
124	Fireware Capacitor (JPN only)
125	Fireware Holding Unit

7803	PM Counter Display
	Displays the PM counter since the last PM.

7804	PM Counter Reset
	Resets the PM counter.

7807	SC/Jam Counter Reset
	Resets the SC and jam counters. To reset, press [1]. This SP does not reset the jam history counters: SP7-507, SP7-508.

7826	MF Error Counter Japan Only
	Displays the number of counts requested of the card/key counter.
001	Error Total
	A request for the count total failed at power on. This error will occur if the device is installed but disconnected.
002	Error Staple
	The request for a staple count failed at power on. This error will occur if the device is installed but disconnected.

7827	MF Error Counter Clear
	Press [Execute] to reset to 0 the values of SP7826. Japan Only

783	Self-Diagnose Result Display
2	Push [#] to display a list of error codes. Nothing is displayed if no errors have occurred.

7834	Clear Pixel Coverage Data.
	Push [EXECUTE] to clear the coverage data.
001	Last & Average
002	Toner Bottles In Use
003	Page Counts (2 Prev. Toner Bottles)
004	Pixel Coverage Clear

7836	Total Memory Size
	Displays the contents of the memory on the controller board.

7852	DF Glass Dust Check
001	Dust Detection Counter [0 to 65535/0/1]
002	Dust Counter Clear Counter [0 to 65535/0/1]
003	Dust Detection Counter: Back [0 to 65536/0/1]

7901	Assert Info.
001	File Name
002	Number of Lines
003	Location

7954	Consumption Rate Counter
	Shows the consumption rate, expressed as a percentage (%).
001	Developer

002	Hot Roller
003	Pressure Roller
004	Hot Roller Bearings
005	Pressure Roller Bearings
006	Hot Roller Strippers
007	Cleaning Roller
008	Cleaning Roller Bearings
009	Web Roll
010	Web Cleaning Roller
011	Web Bushings
012	Development Filter
013	Toner Recycling Unit
014	Pressure Release Filter
015	Charge Corona Wire
016	Grid Plate
017	Cleaning Pad
018	Cleaning Blade
019	Cleaning Brush
020	Transfer Belt
021	Transfer Belt Cleaning Blade
022	Ozone Filter
023	ADF Pick-up Roller
024	ADF Feed Belt
025	ADF Separation Roller
026	Feed Roller – Tray 1
027	Pick – up Roller – Tray 1

028	Separation Roller – Tray 1
029	Feed Roller – Tray 1
030	Pick - up Roller – Tray 2
031	Separation Roller – Tray 2
032	Feed Roller – Tray 3
033	Pick-up Roller – Tray 3
034	Separation Roller – Tray 3
035	Feed Roller Tray 4
036	Pick - up Roller – Tray 4
037	Separation Roller – Tray 4
038	Feed Roller – LCT
039	Pick – up Roller - LCT
040	Separation Roller - LCT
041	Feed Belt Cover Feeder
042	Pick – up Roller Cover Feeder
043	Separation Roller Cover Feeder
044	ADF Transport Belt

7999	Engine Debug Log Switch
001	[0 to 100/0/1]

System SP8-*nnn*: 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.

Note

- This machine does not have a fax function.

SP Numbers	What They Do
SP8211 to SP8216	The number of pages scanned to the document server.
SP8401 to SP8406	The number of pages printed from the document server
SP8691 to SP8696	The number of pages sent from the document server

Specifically, the following questions can be answered:

- How is the document server actually being used?
- What application is using the document server most frequently?
- What data in the document server is being reused?

Most of the SPs in this group are prefixed with a letter that indicates the mode of operation (the mode of operation is referred to as an 'application'). Before reading the Group 8 Service Table, make sure that you understand what these prefixes mean.

PREFIXES	WHAT IT MEANS	
T:	Total: (Grand Total).	Grand total of the items counted for all applications (C, F, P, etc.)..
C:	Copy application.	Totals (pages, jobs, etc.) executed for each application when the job was not stored on the document server.
P:	Print application.	
S:	Scan application.	
L:	Local storage (document server)	Totals (jobs, pages, etc.) for the document server. The L: counters work differently case by case. Sometimes, they count jobs/pages stored on the document server; this can be in document server mode (from the document server window), or from another mode, such as from a printer driver or by pressing the Store File button in the Copy mode window. Sometimes, they include occasions when the user uses a file that is already on the document server. Each counter will be discussed case by case.
O:	Other applications (external network applications, for example)	Refers to network applications such as Web Image Monitor. Utilities developed with the SDK (Software Development Kit) will also be counted with this group in the future.

The Group 8 SP codes are limited to 17 characters, forced by the necessity of displaying them on the small LCDs of printers and faxes that also use these SPs. Read over the list of abbreviations below and refer to it again if you see the name of an SP that you do not understand.

Key for Abbreviations

ABBREVIATION	WHAT IT MEANS
/	"By", e.g. "T:Jobs/Apl" = Total Jobs "by" Application
>	More (2> "2 or more", 4> "4 or more")
AddBook	Address Book
Apl	Application
B/W	Black & White
Bk	Black
C	Cyan
ColCr	Color Create
ColMode	Color Mode
Comb	Combine
Comp	Compression
Deliv	Delivery
DesApl	Designated Application. The application (Copy, Fax, Scan, Print) used to store the job on the document server, for example.
Dev Counter	Development Count, no. of pages developed.
Dup, Duplex	Duplex, printing on both sides
Emul	Emulation
FC	Full Color
FIN	Post-print processing, i.e. finishing (punching, stapling, etc.)
Full Bleed	No Margins
GenCopy	Generation Copy Mode
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

ABBREVIATION	WHAT IT MEANS
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 be moved around, combined, and converted to different formats..
PC	Personal Computer
PGS	Pages. A page is the total scanned surface of the original. Duplex pages count as two pages, and A3 simplex count as two pages if the A3/DLT counter SP is switched ON.
PJob	Print Jobs
Ppr	Paper
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

ABBREVIATION	WHAT IT MEANS
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
WSD	Web Services Devices
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, or the Counter Reset SP7 808.

8001	T:Total Jobs	<p>These SPs count the number of times each application is used to do a job.</p> <p>[0 to 9999999 / 0 / 1]</p> <p>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.</p>
8002	C:Total Jobs	
8004	P:Total Jobs	
8005	S:Total Jobs	
8006	L:Total Jobs	

- 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.

- 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.

8011	T:Jobs/LS	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.
8012	C:Jobs/LS	
8014	P:Jobs/LS	
8015	S:Jobs/LS	
8016	L:Jobs/LS	
8017	O:Jobs/LS	

- 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.

8021	T:Pjob/LS	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.
8022	C:Pjob/LS	
8024	P:Pjob/LS	
8025	S:Pjob/LS	
8026	L:Pjob/LS	
8027	O:Pjob/LS	

- 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.

8031	T:Pjob/DesApl	<p>These SPs reveal what applications were used to output documents from the document server.</p> <p>[0 to 99999999 / 0 / 1]</p> <p>The L: counter counts the number of jobs printed from within the document server mode screen at the operation panel.</p>
8032	C:Pjob/DesApl	
8034	P:Pjob/DesApl	
8035	S:Pjob/DesApl	
8036	L:Pjob/DesApl	
8037	O:Pjob/DesApl	

- 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.

8041	T:TX Jobs/LS	<p>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).</p> <p>[0 to 99999999 / 0 / 1]</p> <p>Note: Jobs merged for sending are counted separately.</p> <p>The L: counter counts the number of jobs scanned from within the document server mode screen at the operation panel.</p>
8042	C:TX Jobs/LS	
8044	P:TX Jobs/LS	
8045	S:TX Jobs/LS	
8046	L:TX Jobs/LS	
8047	O:TX Jobs/LS	

- 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.

8051	T:TX Jobs/DesApl	<p>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). Jobs merged for sending are counted separately.</p> <p>[0 to 9999999 / 0 / 1]</p> <p>The L: counter counts the number of jobs sent from within the document server mode screen at the operation panel.</p>
8052	C:TX Jobs/DesApl	
8054	P:TX Jobs/DesApl	
8055	S:TX Jobs/DesApl	
8056	L:TX Jobs/DesApl	
8057	O:TX Jobs/DesApl	

- If the send is started from Desk Top Binder or Web Image Monitor, for example, then the O: counter increments.

8061	T:FIN Jobs	<p>[0 to 99999999 / 0 / 1]</p> <p>These SPs total the finishing methods. The finishing method is specified by the application.</p>
8062	C:FIN Jobs	<p>[0 to 99999999 / 0 / 1]</p> <p>These SPs total finishing methods for copy jobs only. The finishing method is specified by the application.</p>
8064	P:FIN Jobs	<p>[0 to 99999999 / 0 / 1]</p> <p>These SPs total finishing methods for print jobs only. The finishing method is specified by the application.</p>
8065	S:FIN Jobs	<p>[0 to 99999999 / 0 / 1]</p> <p>These SPs total finishing methods for scan jobs only. The finishing method is specified by the application.</p> <p>Note: Finishing features for scan jobs are not available at this time.</p>

8066	L:FIN Jobs	
	[0 to 99999999 / 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.	
8067	O:FIN Jobs	
	[0 to 99999999 / 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.	
806x 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 SP8066 1)
806x 2	Stack	Number of jobs started out of Sort mode.
806x 3	Staple	Number of jobs started in Staple mode.
806x 4	Booklet	Number of jobs started in Booklet mode. If the machine is in staple mode, the Staple counter also increments.
806x 5	Z-Fold	Number of jobs started In any mode other than the Booklet mode and set for folding (Z-fold).
806x 6	Punch	Number of jobs started in Punch mode. When Punch is set for a print job, the P: counter increments. (See SP8064 6.)
806x 7	Other	Reserved. Not used.

8071	T:Jobs/PGS	
	[0 to 99999999 / 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.	
8072	C:Jobs/PGS	
	[0 to 99999999 / 0 / 1] These SPs count and calculate the number of copy jobs by size based on the number of pages in the job.	

8074	P:Jobs/PGS		
	[0 to 99999999 / 0 / 1] These SPs count and calculate the number of print jobs by size based on the number of pages in the job.		
8075	S:Jobs/PGS		
	[0 to 99999999 / 0 / 1] These SPs count and calculate the number of scan jobs by size based on the number of pages in the job.		
8076	L:Jobs/PGS		
	[0 to 99999999 / 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.		
8077	O:Jobs/PGS		
	[0 to 99999999 / 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.		
807x 1	1 Page	807x 8	21 to 50 Pages
807x 2	2 Pages	807x 9	51 to 100 Pages
807x 3	3 Pages	807x 10	101 to 300 Pages
807x 4	4 Pages	807x 11	301 to 500 Pages
807x 5	5 Pages	807x 12	501 to 700 Pages
807x 6	6 to 10 Pages	807x 13	701 to 1000 Pages
807x 7	11 to 20 Pages	807x 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.
- 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.

	T:S-to-Email Jobs
813 1	[0 to 99999999 / 0 / 1] These SPs count the total number of jobs scanned and attached to an e-mail, regardless of whether the document server was used or not.
	S:S-to-Email Jobs
813 5	These SPs count the number of jobs scanned and attached to an e-mail, without storing the original on the document server.

- 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).

	T:Deliv Jobs/Svr
814 1	[0 to 99999999 / 0 / 1] These SPs count the total number of jobs scanned and sent to a Scan Router server.
	S:Deliv Jobs/Svr
814 5	These SPs count the number of jobs scanned in scanner mode and sent to a Scan Router server.

- 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.

8151	T:Deliv Jobs/PC	
	[0 to 9999999 / 0 / 1] These SPs count the total number of jobs scanned and sent to a folder on a PC (Scan-to-PC). Note: At the present time, 8151 and 8155 perform identical counts.	
8155	S:Deliv Jobs/PC	
	These SPs count the total number of jobs scanned and sent with Scan-to-PC.	

- 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.

8171	T: Deliv Jobs/WSD	
	Total jobs for WSD (WS-Scanner for Web Services Devices).	
8175	S: Deliv Jobs/WSD	
	Total number of jobs scanned for WSD.	
	001	B/W
	002	Color
	003	ACS

8191	T:Total Scan PGS	These SPs count the pages scanned by each application that uses the scanner to scan images. [0 to 9999999 / 0 / 1]
8192	C:Total Scan PGS	
8195	S:Total Scan PGS	
8196	L:Total Scan PGS	

- SP 8191 to 8196 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.

8201	T:LSize Scan PGS	[0 to 9999999 / 0 / 1] These SPs count the total number of large pages input with the scanner for scan and copy jobs. Note: These counters are displayed in the SMC Report, and in the User Tools display.
8205	S:LSize Scan PGS	[0 to 9999999 / 0 / 1] These SPs count the total number of large pages input with the scanner for scan jobs only. Note: These counters are displayed in the SMC Report, and in the User Tools display.

8211	T:Scan PGS/LS	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
8212	C:Scan PGS/LS	
8215	S:Scan PGS/LS	
8216	L:Scan PGS/LS	

- 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.

8221	ADF Org Feeds	
	[0 to 9999999 / 0 / 1] These SPs count the number of pages fed through the ADF for front and back side scanning.	
8221 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.)
8221 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.

8231	Scan PGS/Mode	
	[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.	
8231 1	Large Volume	Selectable. Large copy jobs that cannot be loaded in the ADF at one time.
8231 2	SADF	Selectable. Feeding pages one by one through the ADF.
8231 3	Mixed Size	Selectable. Select "Mixed Sizes" on the operation panel.
8231 4	Custom Size	Selectable. Originals of non-standard size.
8231 5	Platen	Book mode. Raising the ADF and placing the original directly on the platen.

- 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.
- 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.

8241	T:Scan PGS/Org	[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.			
8242	C:Scan PGS/Org	[0 to 9999999/ 0 / 1] These SPs count the number of pages scanned by original type for Copy jobs.			
8245	S:Scan PGS/Org	[0 to 9999999/ 0 / 1] These SPs count the number of pages scanned by original type for Scan jobs.			
8246	L:Scan PGS/Org	[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			
	8241	8242	8243	8245	8246
824x 1: Text	Yes	Yes	Yes	Yes	Yes

824x 2: Text/ Photo	Yes	Yes	Yes	Yes	Yes
824x 3: Photo	Yes	Yes	Yes	Yes	Yes
824x 4: GenCopy, Pale	Yes	Yes	No	Yes	Yes
824x 5: Map	Yes	Yes	No	Yes	Yes
824x 6: Normal/Detail	Yes	No	Yes	No	No
824x 7: Fine/ Super Fine	Yes	No	Yes	No	No
824x 8: Binary	Yes	No	No	Yes	No
824x 9: Grayscale	Yes	No	No	Yes	No

- 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.

8251	T:Scan PGS/ ImgEdt	<p>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:</p> <ul style="list-style-type: none"> • Erase> Border • Erase> Center • Image Repeat • Centering • Positive/Negative <p>[0 to 99999999 / 0 / 1]</p> <p>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.</p>
8252	C:Scan PGS/ ImgEdt	
8256	L:Scan PGS/ ImgEdt	

8257	O:Scan PGS/ ImgEdt	
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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.

828 1	T:Scan PGS/ TWAIN	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.
828 5	S:Scan PGS/ TWAIN	

8291	T:Scan PGS/Stamp	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
8295	S:Scan PGS/ Stamp	
8296	L:Scan PGS/Stamp	

8301	T:Scan PGS/Size	[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].
8302	C:Scan PGS/Size	[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].
8305	S:Scan PGS/Size	[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].

8306	L:Scan PGS/Size	
	[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].	
830x 1	A3	
830x 2	A4	
830x 3	A5	
830x 4	B4	
830x 5	B5	
830x 6	DLT	
830x 7	LG	
830x 8	LT	
830x 9	HLT	
830x 10	Full Bleed	
830x 254	Other (Standard)	
830x 255	Other (Custom)	

8311	T:Scan PGS/Rez	
	[0 to 9999999 / 0 / 1] These SPs count by resolution setting the total number of pages scanned by applications that can specify resolution settings.	
8315	S:Scan PGS/Rez	
	[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, 8311 and 8315 perform identical counts.	

831x 1	1200dpi to	
831x 2	600dpi to 1199dpi	
831x 3	400dpi to 599dpi	
831x 4	200dpi to 399dpi	
831x 5	to 199dpi	

- Copy resolution settings are fixed so they are not counted.

8381	T:Total PrtPGS	<p>These SPs count the number of pages printed by the customer. The counter for the application used for storing the pages increments.</p> <p>[0 to 9999999 / 0 / 1]</p> <p>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.</p>
8382	C:Total PrtPGS	
8384	P:Total PrtPGS	
8385	S:Total PrtPGS	
8386	L:Total PrtPGS	
8387	O:Total PrtPGS	

- 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.

8391	LSize PrtPGS	
	[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.

8401	T:PrtPGS/LS	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]
8402	C:PrtPGS/LS	
8404	P:PrtPGS/LS	
8405	S:PrtPGS/LS	
8406	L:PrtPGS/LS	

- Print jobs done with Web Image Monitor and Desk Top Binder are added to the L: count.

8411	Prints/Duplex	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]
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8421	T:PrtPGS/Dup Comb	
	[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.
8422	C:PrtPGS/Dup Comb	
	[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.
8424	P:PrtPGS/Dup Comb	
	[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.

8425	S:PrtPGS/Dup Comb	
	[0 to 99999999 / 0 / 1] These SPs count by binding and combine, and n-Up settings the number of pages processed for printing by the scanner application.	
8426	L:PrtPGS/Dup Comb	
	[0 to 99999999 / 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.	
8427	O:PrtPGS/Dup Comb	
	[0 to 99999999 / 0 / 1] These SPs count by binding and combine, and n-Up settings the number of pages processed for printing by Other applications	
842x 1	Simplex> Duplex	
842x 2	Duplex> Duplex	
842x 3	Book> Duplex	
842x 4	Simplex Combine	
842x 5	Duplex Combine	
842x 6	2>	2 pages on 1 side (2-Up)
842x 7	4>	4 pages on 1 side (4-Up)
842x 8	6>	6 pages on 1 side (6-Up)
842x 9	8>	8 pages on 1 side (8-Up)
842x 10	9>	9 pages on 1 side (9-Up)
842x 11	16>	16 pages on 1 side (16-Up)
842x 12	Booklet	
842x 13	Magazine	

- These counts (SP8421 to SP8427) 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

4

8431	T:PrtPGS/ImgEdt
	[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.
8432	C:PrtPGS/ImgEdt
	[0 to 9999999/ 0 / 1] These SPs count the total number of pages output with the three features below with the copy application.
8434	P:PrtPGS/ImgEdt
	[0 to 9999999/ 0 / 1] These SPs count the total number of pages output with the three features below with the print application.

8436	L:PrtPGS/ImgEdt	
	[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.	
8437	O:PrtPGS/ImgEdt	
	[0 to 9999999/ 0 / 1] These SPs count the total number of pages output with the three features below with Other applications.	
843x 1	Cover/Slip Sheet	Total number of covers or slip sheets inserted. The count for a cover printed on both sides counts 2.
843x 2	Series/Book	The number of pages printed in series (one side) or printed as a book with booklet right/left pagination.
843x 3	User Stamp	The number of pages printed where stamps were applied, including page numbering and date stamping.

8441	T:PrtPGS/Ppr Size	
	[0 to 9999999/ 0 / 1] These SPs count by print paper size the number of pages printed by all applications.	
8442	C:PrtPGS/Ppr Size	
	[0 to 9999999/ 0 / 1] These SPs count by print paper size the number of pages printed by the copy application.	
8444	P:PrtPGS/Ppr Size	
	[0 to 9999999/ 0 / 1] These SPs count by print paper size the number of pages printed by the printer application.	
8445	S:PrtPGS/Ppr Size	
	[0 to 9999999/ 0 / 1] These SPs count by print paper size the number of pages printed by the scanner application.	

8446	L:PrtPGS/Ppr Size	
	[0 to 99999999/ 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.	
8447	O:PrtPGS/Ppr Size	
	[0 to 99999999/ 0 / 1] These SPs count by print paper size the number of pages printed by other applications.	
844x 1	A3	
844x 2	A4	
844x 3	A5	
844x 4	B4	
844x 5	B5	
844x 6	DLT	
844x 7	LG	
844x 8	LT	
844x 9	HLT	
844x 10	Full Bleed	
844x 254	Other (Standard)	
844x 255	Other (Custom)	

- These counters do not distinguish between LEF and SEF.

8451	PrtPGS/Ppr Tray	
	[0 to 99999999/ 0 / 1] These SPs count the number of sheets fed from each paper feed station.	
8451 1	Bypass	Bypass Tray
8451 2	Tray 1	Copier
8451 3	Tray 2	Copier

8451 4	Tray 3	Paper Tray Unit (Option)
8451 5	Tray 4	Paper Tray Unit (Option)
8451 6	Tray 5	LCT (Option)
8451 7	Tray 6	Currently not used.
8451 8	Tray 7	Currently not used.
8451 9	Tray 8	Currently not used.
8451 10	Tray 9	Currently not used.

8461	T:PrtPGS/Ppr Type
	[0 to 9999999/ 0 / 1] These SPs count by paper type the number pages printed by all applications. <ul style="list-style-type: none"> • 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.
8462	C:PrtPGS/Ppr Type
	[0 to 9999999/ 0 / 1] These SPs count by paper type the number pages printed by the copy application.
8464	P:PrtPGS/Ppr Type
	[0 to 9999999/ 0 / 1] These SPs count by paper type the number pages printed by the printer application.
8466	L:PrtPGS/Ppr Type
	[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.
846x 1	Normal
846x 2	Recycled

846x 3	Special
846x 4	Thick
846x 5	Normal (Back)
846x 6	Thick (Back)
846x 7	OHP
846x 8	Other

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8471	PrtPGS/Mag
	[0 to 9999999/ 0 / 1] These SPs count by magnification rate the number of pages printed.
8471 1	- 49%
8471 2	50% to 99%
8471 3	100%
8471 4	101% to 200%
8471 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%.

8481	T:PrtPGS/TonSave
8484	P:PrtPGS/TonSave

	<p>These SPs count the number of pages printed with the Toner Save feature switched on.</p> <p>Note: These SPs return the same results as this SP is limited to the Print application.</p> <p>[0 to 9999999 / 0 / 1]</p>
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8511	T:PrtPGS/Emul	[0 to 9999999 / 0 / 1]
	These SPs count by printer emulation mode the total number of pages printed.	
8514	P:PrtPGS/Emul	[0 to 9999999 / 0 / 1]
	These SPs count by printer emulation mode the total number of pages printed.	
8514 1	RPCS	
8514 2	RPDL	
8514 3	PS3	
8514 4	R98	
8514 5	R16	
8514 6	GL/GL2	
8514 7	R55	
8514 8	RTIFF	
8514 9	PDF	
8514 10	PCL5e/5c	
8514 11	PCL XL	
8514 12	IPDL-C	
8514 13	BM-Links	Japan Only
8514 14	Other	

- SP8511 and SP8514 return the same results as they are both limited to the Print application.
- Print jobs output to the document server are not counted.

8521	T:PrfPGS/FIN
	[0 to 99999999 / 0 / 1] These SPs count by finishing mode the total number of pages printed by all applications.
8522	C:PrfPGS/FIN
	[0 to 99999999 / 0 / 1] These SPs count by finishing mode the total number of pages printed by the Copy application.
8524	P:PrfPGS/FIN
	[0 to 99999999 / 0 / 1] These SPs count by finishing mode the total number of pages printed by the Print application.
8525	S:PrfPGS/FIN
	[0 to 99999999 / 0 / 1] These SPs count by finishing mode the total number of pages printed by the Scanner application.
8526	L:PrfPGS/FIN
	[0 to 99999999 / 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.
852x 1	Sort
852x 2	Stack
852x 3	Staple
852x 4	Booklet
852x 5	Z-Fold
852x 6	Punch
852x 7	Other

Note

- If stapling is selected for finishing and the stack is too large for stapling, the unstapled pages are still counted.
- The counts for staple finishing are based on output to the staple tray, so jam recoveries are counted.

8531	Staples	This SP counts the amount of staples used by the machine. [0 to 99999999 / 0 / 1]
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8541	T: GPC Counter	Japan Only
8544	C: GPC Counter	

8581	T:Counter	
		[0 to 99999999 / 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. Note: This SP is expanded for color MFP and color LP machines. For this machine, the count is done for black only.

8591	O:Counter	
		[0 to 99999999 / 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.
8591 1	A3/DLT	
8591 2	Duplex	
8591 3	Staple	

8621	Func Use Counter NIA	
	001 to 064	Function 001 to 064

8651	T:S-to-Email PGS	
		[0 to 99999999 / 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. Note: This SP is expanded for color MFP and color LP machines. For this machine, the count is done for black only.

8655	S:S-to-Email PGS
	[0 to 99999999 / 0 / 1] These SPs count by color mode the total number of pages attached to an e-mail for the Scan application only. Note: This SP is expanded for color MFP and color LP machines. For this machine, the count is done for black only.

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.

8661	T:Deliv PGS/Svr
	[0 to 99999999 / 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. Note: This SP is expanded for color MFP and color LP machines. For this machine, the count is done for black only.
8665	S:Deliv PGS/Svr
	[0 to 99999999 / 0 / 1] These SPs count by color mode the total number of pages sent to a Scan Router server by the Scan application. Note: This SP is expanded for color MFP and color LP machines. For this machine, the count is done for black only.

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.

8671	T:Deliv PGS/PC	<p>[0 to 9999999/ 0 / 1]</p> <p>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.</p> <p>Note: This SP is expanded for color MFP and color LP machines. For this machine, the count is done for black only.</p>
8675	S:Deliv PGS/PC	<p>[0 to 9999999/ 0 / 1]</p> <p>These SPs count by color mode the total number of pages sent with Scan-to-PC with the Scan application.</p> <p>Note: This SP is expanded for color MFP and color LP machines. For this machine, the count is done for black only.</p>

8691	T:TX PGS/LS	<p>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.</p>
8692	C:TX PGS/LS	
8694	P:TX PGS/LS	[0 to 9999999/ 0 / 1]
8695	S:TX PGS/LS	<p>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.</p>
8696	L:TX PGS/LS	

↓ 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 is counted for the application that stored them.

8701	TX PGS/Port
	[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.
8701 1	PSTN-1
8701 2	PSTN-2
8701 3	PSTN-3
8701 4	ISDN (G3,G4)
8701 5	Network

8711	T:Scan PGS/Comp
	[0 to 9999999/ 1] These SPs count the number of compressed pages scanned into the document server, counted by the formats listed below.
8711 1	JPEG/JPEG2000
8711 2	TIFF (Multi/Single)
8711 3	PDF
8711 4	Other

8715	S:Scan PGS/Comp
	[0 to 9999999/ 1] These SPs count the number of compressed pages scanned by the scan application, counted by the formats listed below.
8715 1	JPEG/JPEG2000
8715 2	TIFF (Multi/Single)
8715 3	PDF
8715 4	Other

8721	T: Deliv: PGS/WSD	
	Total number of pages sent via WSD (WS-Scanner for Web Services Devices).	
8725	S: Deliv PGS/WSD	
	Total number of pages sent via WSD (WS-Scanner for Web Services Devices).	
	001	B/W
	002	Color

8741	RX PGS/Port	
	[0 to 99999999 / 0 / 1] These SPs count the number of pages received by the physical port used to receive them.	
8741 1	PSTN-1	
8741 2	PSTN-2	
8741 3	PSTN-3	
8741 4	ISDN (G3,G4)	
8741 5	Network	

8771	Dev Counter	
	[0 to 99999999 / 0 / 1] These SPs count the frequency of use (number of rotations of the development rollers) for black and other color toners. Note: For machines that do not support color, the Black toner count is the same as the Total count.	

8781	Pixel Coverage Ratio	
	This SP displays the number of toner bottles used. The count is done based on the equivalent of 1,000 pages per bottle.	

8791	LS Memory Remain	This SP displays the percent of space available on the document server for storing documents. [0 to 100/ 0 / 1]
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8801	Toner Remain	This SP displays the percent of toner remaining for each color. This SP allows the user to check the toner supply at any time. [0 to 100/ 0 / 1]
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Note

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- 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).
- This SP is expanded for color MFP and color LP machines. For this machine, the count is done for black only

8851	Toner Coverage 0-10%	[0 to 9999999] These SPs count the percentage of dot coverage for black and other color toners.
8851 1	K	Black toner
8851 2	M	Magenta toner
8851 3	C	Cyan toner
8851 4	Y	Yellow toner

8861	Toner Coverage 11-20%	[0 to 9999999] These SPs count the percentage of dot coverage for black and other color toners.
8861 1	K	Black toner
8861 2	M	Magenta toner

8861 3	C	Cyan toner	
8861 4	Y	Yellow toner	

8871	Toner Coverage 21-30%	[0 to 9999999] These SPs count the percentage of dot coverage for black and other color toners.	
8871 1	K	Black toner	
8871 2	M	Magenta toner	Do not display for this machine.
8871 3	C	Cyan toner	
8871 4	Y	Yellow toner	

8881	Toner Coverage 31-%	[0 to 9999999] These SPs count the percentage of dot coverage for black and other color toners.	
8881 1	K	Black toner	
8881 2	M	Magenta toner	Do not display for this machine.
8881 3	C	Cyan toner	
8881 4	Y	Yellow toner	

8891	Page/Toner Bottle	Total number of pages per toner bottle.
8921	Cvr Cnt/Total	Total number of pages to date.

8901	Coverage Display (Toner Bottle: Previous) DFU
8911	Coverage Display (Toner Bottle: Before Previous) DFU

8941	Machine Status	
	[0 to 99999999 / 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.	
8941 1	Operation Time	Engine operation time. Does not include time while controller is saving data to HDD (while engine is not operating).
8941 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.
8941 3	Energy Save Time	Includes time while the machine is performing background printing.
8941 4	Low Power Time	Includes time in Energy Save mode with Engine on. Includes time while machine is performing background printing.
8941 5	Off Mode Time	Includes time while machine is performing background printing. Does not include time machine remains powered off with the power switches.
8941 6	SC	Total down time due to SC errors.
8941 7	PrtJam	Total down time due to paper jams during printing.
8941 8	OrgJam	Total down time due to original jams during scanning.
8941 9	Supply PM Wait End	Total down time due to toner end.

8951	AddBook Register	
	These SPs count the number of events when the machine manages data registration.	

8951 1	User Code	User code registrations.	[0 to 9999999 / 0 / 1]
8951 2	Mail Address	Mail address registrations.	
8951 4	Group	Group destination registrations.	
8951 6	F-Code	F-Code box registrations.	
8951 7	Copy Program	Copy application registrations with the Program (job settings) feature.	[0 to 255 / 0 / 255]
8951 9	Printer Program	Printer application registrations with the Program (job settings) feature.	
8951 10	Scanner Program	Scanner application registrations with the Program (job settings) feature.	

Printer SP Tables

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 MFPI/O Timeout setting will have no effect. I/O Timeouts will never occur.			
	bit 4	SD Card Save Mode	0: Disable	1: Enable
	Enable: Print jobs will be saved to an SD Card in the GW SD slot.			
	bit 5	DFU	-	-
	bit 6	DFU	-	-
bit 7	[RPCS,PCL]: Printable area frame border	0: Disable	1: Enable	
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
	<p>A collation type (shift or normal) will be applied to all jobs that do not already have a "Collate Type" configured.</p> <p>Note</p> <ul style="list-style-type: none"> If #5-0 is enabled, this Bit Switch has no effect. 			
	bit 3	[PCL5e/c,PS]: PDL Auto Switching	0: Enable	1: Disable
	<p>Disable: The MFPs ability to change the PDL processor mid-job.</p> <p>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.</p>			
	bit 4	DFU	-	-
	bit 5	DFU	-	-
bit 6	DFU	-	-	
bit 7	DFU	-	-	
1001	Bit Switch			

003	Bit Switch 3		0	1
	bit 0	DFU	-	-
	bit 1	DFU	-	-
	bit 2	[PCL5e/c]: Legacy HP compatibility	0: Disable	1: Enable
		Enable: Uses the same left margin as older HP models such as HP4000/HP8000. In other words, the left margin defined in the job (usually "<ESC>*r0A") will be changed to "<ESC>*r1A"		
	bit 3	DFU	-	-
	bit 4	DFU	-	-
	bit 5	DFU	-	-
	bit 6	DFU	-	-
	bit 7	DFU	-	-

1001	Bit Switch		
004	Bit Switch 4 DFU	-	-

1001	Bit Switch			
005	Bit Switch 5		0	1
	bit 0	Show "Collate Type", "Staple Type" and "Punch Type" buttons on the operation panel.	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	DFU	-	-
	bit 2	DFU	-	-


bit 3	[PS] PS Criteria	Pattern3	Pattern1
	<p>Change the number of PS criterion used by the PS interpreter to determine whether a job is PS data or not.</p> <p>Pattern3: includes most PS commands.</p> <p>Pattern 1 : A small number of PS tags and headers</p>		
bit 4	Increase max number of the stored jobs to 1000 jobs.	Disable (100)	Enable (1000)
	<p>Enable: Changes the maximum number of jobs that can be stored on the HDD via Job Type settings to 1000. The default is 100.</p>		
bit 5	Face-up output	Disable	Enable
	<p>Enable: All print jobs will be output face-up in the destination tray.</p>		
bit 6	Method for determining the image rotation for the edge to bind on.	Disable	Enable
	<p>Enable: the image rotation will be performed as they were in the specifications of older models for the binding of pages of mixed orientation jobs.</p> <p>The old models are below:</p> <ul style="list-style-type: none"> - PCL: Pre-04A models - PS/PDF/RPCS: Pre-05S models 		
bit 7	Letterhead mode printing	Disable	Enable (Duplex)
	<p>Routes all pages through the duplex unit.</p> <p>Disable: Simplex pages or the last page of an odd-paged duplex job, are not routed through the duplex unit. This could result in problems with letterhead/pre-printed pages.</p> <p>Only affects pages specified as Letterhead paper.</p>		



1001	Bit Switch		
006	Bit Switch 6 DFU	-	-

1001	Bit Switch		
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007	Bit Switch 7		0	1
	bit 0	Print path	Disable	Enable
		Enable: 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	DFU	-	-
	bit 2	DFU	-	-
	bit 3	DFU	-	-
	bit 4	DFU	-	-
	bit 5	DFU	-	-
	bit 6	DFU	-	-
bit 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 <ul style="list-style-type: none"> Color jobs will not be printed without a valid user code. 		
	bit 4	DFU	-	-
	bit 5	DFU	-	-
	bit 6	DFU	-	-
bit 7	DFU	-	-	

1003	Clear setting
001	Initialize Printer System Initializes the settings in the printer feature settings of UP mode.
003	Delete Program DFU
1004	Print Summary
	Touch [Execute] to print the printer summary sheets.
1005	Display Version.
	Printer Application Version
	Displays the version of the controller firmware.
1006	Sample/Locked Print
	This SP disables/enables use of the document server.
	[0 or 1/ 0 /1]
	0: Enabled. Document server can be used. 1: Disabled. Document server cannot be used.

Scanner SP Tables

1001	Scan Nv Version
	Displays the scanner firmware version stored in NVRAM in a 9-digit format: Func. Name_Model Name_History No.
1004	Compression Type
	Selects the compression type for binary picture processing. [1 to 3/ 1 /1]
	1: MH, 2: MR, 3: MMR

1005	Erase Margin (Remote Scan)
	<p>Creates an erase margin for all edges of the scanned image. If the machine has scanned the edge of the original, create a margin. [0 to 5/ 0 / 1 mm]</p>
1009	Remote Scan Disable
	<p>This SP switches the TWAIN scanner function on/off. This is one of the scanner application functions. [0 or 1 / 0 / 1] 0: ON (enabled- 1: OFF (disabled)</p>
1010	Non Display Clear Light PDF
	<p>This SP switches the Clear Light PDF display off/on. [0 or 1 / 0 / 1] 0: Display ON 1: Display OFF</p>
1011	Org Count Display
	<p>This SP codes switches the original count display on/off. [0 or 1 / 0 / 1] 0: OFF (no display) 1: ON (count displays)</p>

1012	User Info Release	
	<p>This SP code sets the machine to release or not release the following items at job end]</p> <ul style="list-style-type: none"> • Destination (E-mail/Folder/CS) • Sender name • Mail Text • Subject line • File name <p>[0 or 1 / 1 / 1] 1: Release 0: Do not release</p>	

1013	Multi Media Func	
	<p>This SP code enables/disables the multi-media function.</p> <p>[0 or 1 / 0 / 1] 0: Disable 1: Enable</p>	

2021	Compression Ratio of Grayscale		
	001	Compression Ratio 1 (Normal Image)	[5 to 95 / 20 / 1]
	002	Compression Ratio 2 (High Quality Image)	[5 to 95 / 40 / 1]
	003	Compression Ratio 3 (Low Quality Image)	[5 to 95 / 65 / 1]
	004	Compression Ratio 4 (HighLv2 Quality Image)	[5 to 95 / 80 / 1]
	005	Compression Ratio 5 (LowLv2 Quality Image)	[5 to 95 / 95 / 1]

2024	Compression ratio of ClearLight PDF	
	<p>Selects the compression ratio for clearlight PDF for the two settings that can be selected at the operation panel.</p>	

2024 1	Compression Ratio (Normal)	*CTL	[5 to 95 / 25 / 1 /step]
2024 2	Compression Ratio (High)		[5 to 95 / 20 / 1 /step]

Input/Output Check

Copier Input Check: SP5803

This procedure allows you to test sensors and other components of the machine. After you select one of the categories below by number, you will see a small 8-bit table with the number of the bit and its current setting (0 or 1). The bits are numbered 0 to 7, reading right to left.

1. Enter the SP mode and select SP5803.
2. Enter the number (1 to 13) for the item that you want to check. A small box will be displayed on the SP mode screen with a series of 0's and 1's.

The meaning of the display is as follows.

Bit	7 6 5 4 3 2 1 0
Setting	1 1 0 0 1 0 1 0

3. Check the status of each item against the corresponding bit numbers listed in the table below.

SP5803-001: Paper Feed 1			
Bit	Description	Reading	
		0	1
7	Rear Side Fence Close Sensor	Activated	Deactivated
6	Rear Side Fence Open Sensor	Activated	Deactivated
5	Front Side Fence Close Sensor	Activated	Deactivated
4	Front Side Fence Open Sensor	Activated	Deactivated
3	Near End Sensor	(see tables below)	
2	Paper Height 1 Sensor		
1	Paper Height 2 Sensor		
0	Paper Height 3 Sensor		

SP5803-002: Paper Feed 2

Bit	Description	Reading	
		0	0
7	2nd Paper Size Switch	See Paper Size Tables Below	
6	2nd Paper Size Switch		
5	2nd Paper Size Switch		
4	2nd Paper Size Switch		
3	2nd Paper Size Switch		
2	Not used		
1	Not used		
0	Not used		

	1500 sheets	1000 sheets			400 sheets			70 sheets
bit-3	0	0	0	0	0	0	1	1
bit-2	0	0	0	1	1	1	1	0
bit-1	0	0	1	1	1	0	0	0
bit-0	0	1	1	0	0	0	0	0

SP5803-003: Paper Feed 3			
Bit	Description	Reading	
		0	0

7	3rd Paper Size Switch	See Paper Size Tables Below.
6	3rd Paper Size Switch	
5	3rd Paper Size Switch	
4	3rd Paper Size Switch	
3	3rd Paper Size Switch	
2	Not used	
1	Not used	
0	Not used	

Universal Tray Size Detection – N.A. models only

Paper Size	Switch Setting (LOW = pressed)					Panel Display
11" x 17"	LOW	HIGH	HIGH	HIGH	HIGH	11" x 17" SEF
8 1/2" x 14"	LOW	LOW	HIGH	HIGH	HIGH	8 1/2" x 14" SEF
8 1/2" x 11"	HIGH	LOW	LOW	HIGH	HIGH	8 1/2" x 11" SEF
11" x 8 1/2"	LOW	HIGH	LOW	LOW	HIGH	8 1/2" x 11" LEF
5 1/2" x 8 1/2"	LOW	LOW	HIGH	LOW	LOW	5 1/2" x 8 1/2" SEF
8 1/2" x 5 1/2"	LOW	LOW	LOW	HIGH	LOW	8 1/2" x 5 1/2" LEF
8" x 10 1/2"	LOW	LOW	LOW	LOW	HIGH	8" x 10 1/2" SEF
7 1/4" x 10 1/2"	HIGH	LOW	LOW	LOW	LOW	7 1/4" x 10 1/2" SEF
8" x 13"	HIGH	HIGH	LOW	LOW	LOW	8" x 13" SEF
*	HIGH	HIGH	HIGH	HIGH	LOW	In the user tool setting.

Universal Tray Size Detection – EU/ASIA models

Paper Size	Switch Setting (LOW = pressed)					Panel Display
A3 SEF	LOW	HIGH	HIGH	HIGH	HIGH	A3 SEF
8 1/4" x 13"	LOW	LOW	HIGH	HIGH	HIGH	8 1/4" x 13" SEF
A4 SEF	HIGH	LOW	LOW	HIGH	HIGH	A4 SEF

A4 LEF	LOW	HIGH	LOW	LOW	HIGH	A4 LEF
8 1/2" x 13"	LOW	LOW	HIGH	LOW	LOW	8 1/2" x 13" SEF
A5 SEF	LOW	LOW	LOW	HIGH	LOW	A5 SEF
A5 LEF	LOW	LOW	LOW	LOW	HIGH	A5 LEF
*	HIGH	HIGH	HIGH	HIGH	LOW	In the user tool setting

SP5803-004: Paper Feed 4

Bit	Description	Reading	
		0	1
7	1st Paper Height	Less than 30%	30% or more
6	Japan only		
5	2nd Paper Height	Less than 30%	30% or more
4	3rd Paper Height	Less than 30%	30% or more
3	1st Paper Near End	Near End	Not Near End
2	Japan only		
1	2nd Paper Near End	Near End	Not Near End
0	3rd Paper Near End	Near End	Not Near End

SP5803-005: Paper Feed 5

Bit	Item	Reading	
		0	1
7	Japan Only		
6			
5			
4			
3			
2	Right Tray Paper Sensor	Present	Not Present

1	Tray Type	3 trays	4 trays
0	Not used		

SP5803-006: Paper Feed 6

Bit	Description	Reading	
		0	1
7	Left Tandem Tray Set	Set	Not set
6	Japan only		
5	Japan only		
4	Rear Fence HP Sensor	Deactivated	Activated
3	Japan only		
2	Rear Fence Return Sensor	Deactivated	Activated
1	Left Tray Paper Sensor	Paper present	Paper not present
0	Right Tandem Tray Set	Set	Not set

SP5803-007: Paper Feed 7

Bit	Item	0	1
7	1st Paper Feed Sensor	Present	Not present
6	Japan Only	---	---
5	2nd Paper Feed Sensor	Present	Not present
4	3rd Paper Feed Sensor	Present	Not present
3	1st Vertical Transport Sensor	Present	Not present
2	Japan Only	---	---
1	2nd Vertical Transport Sensor	Present	Not present
0	3rd Vertical Transport Sensor	Present	Not present

SP5803-008: Paper Feed 8

Bit	Item	0	1
7	1st Tray Lift Sensor	Off	On
6	Japan Only	Off	On
5	2nd Tray Lift Sensor	Off	On
4	3rd Tray Lift Sensor	Off	On
3	1st Paper End Sensor	Paper	No Paper
2	Japan Only	Paper	No Paper
1	2nd Paper End Sensor	Paper	No Paper
0	3rd Paper End Sensor	Paper	No Paper

SP5803-009: Paper Feed 9

Bit	Description	Reading	
		0	1
7	Not used		
6	Not used		
5	Toner Overflow SW	Switch not pressed	Switch pressed
4	Toner Collection Bottle Set SW	Switch pressed	Switch not pressed
3	Not used		
2	Not used		
1	Not used		
0	Not used		

SP5803-010: Paper Feed 10 DFU

SP5803-011: Paper Feed 11 DFU

SP5803-011: DIP Switches DFU

SP5803-013: Exit

Bit	Description	Reading	
		0	1
7	Toner Collection Motor Sensor	Deactivated	Activated
6	Toner End Sensor	Toner end	Not toner end
5	Toner Collection Coil Sensor	Deactivated	Activated
4	Not used		
3	Exit Unit Set	Set	Not set
2	Paper Exit Sensor	Paper present	Paper not present
1	Exit Unit Entrance Sensor	Paper present	Paper not present
0	Web End Sensor	Not web end	Web end

SP5803-014: Duplex

Bit	Description	Reading	
		0	1
7	Not used		
6	Duplex Unit Set	Set	Not set
5	Duplex Transport 3 Sensor	Paper present	Paper not present
4	Duplex Transport 2 Sensor	Paper present	Paper not present
3	Duplex Transport 1 Sensor	Paper present	Paper not present
2	Duplex Jogger HP Sensor	Deactivated	Activated
1	Duplex Inverter Sensor	Paper not present	Paper present
0	Duplex Entrance Sensor	Paper not present	Paper present

SP5803-015: Lock Detection 1

Bit	Description	Reading	
		0	1
7	Key Card Set	Set	Not set
6	Development Motor Lock	Not locked	Locked
5	Fusing/Exit Motor Lock	Locked	Not locked
4	Drum Motor Lock	Not locked	Locked
3	CPM	60 CPM	75 CPM
2	Not used		
1	Not used		
0	Not used		

SP5803-016: Lock Detection 2

Bit	Description	Reading	
		0	1
7	Charge Corona Leak	Leaked	Not leaked
6	Not used		
5	Toner Collection Motor Lock	Locked	Not locked
4	Exhaust Fan Lock	Locked	Not locked
3	Not used		
2	Not used		
1	Not used		
0	Not used		

SP5803-017: Registration Sensor

Bit	Description	Reading	
		0	1
7	Not used		

6	Not used		
5	Front Door Open	Open	Closed
4	Copy Tray Full Sensor	Not full	Full
3	Guide Plate Position Sensor	Closed	Open
2	Relay Sensor	Paper present	Paper not present
1	By-pass Paper End Sensor	Paper present	Paper not present
0	Registration Sensor	Paper present	Paper not present

4

5803		Input Check	
	Description	Reading	
		0	1
019	LD-0 lop Monitor	[0 to 99.5 / - / 0.5 mA]	
020	LD-1 lop Monitor	[0 to 99.5 / - / 0.5 mA]	
021	LD-2 lop Monitor	[0 to 99.5 / - / 0.5 mA]	
022	LD-3 lop Monitor	[0 to 99.5 / - / 0.5 mA]	
023	Capacitor Port 1	Japan only	
024	Capacitor Port 5		
025	Capacitor Port 7		
200	Scanner HP Sensor	HP	Not HP
201	Platen Cover Sensor	Close	Open
202	Scanner fan lock signal	Rotation	Locked

Copier Output Check: SP5804

★ Important

- Motors keep turning in this mode regardless of upper or lower limit sensor signals. To prevent mechanical or electrical damage, do not keep an electrical component on for a long time.

1. Open SP mode 5804.

2. Select the SP number that corresponds to the component you wish to check. (Refer to the table on the next page.)
3. Press On then press Off to test the selected item.

Note

- You cannot exit and close this display until you press off to switch off the output check currently executing. Do not keep an electrical component switched on for a long time.

SP5804 Output Check Table

5804	Output Check
	Turns on the electrical components individually for testing. This is the output check for the main machine.
001	Feed Motor 1
002	Feed Motor 2
003	Feed Motor 3
004	Feed Motor 4
005	By-pass Feed Clutch
006	LCT Feed Motor
009	Pick-up SOL 1
010	Pick-up SOL 2
011	Pick-up SOL 3
012	Pick-up SOL 4
013	By-pass Pick-up SOL
014	LCT Pick-up SOL
017	Reverse Release SOL 1
018	Reverse Release SOL 2
019	Reverse Release SOL 3
020	Reverse Release SOL 4
022	Tandem Connection Release SOL

023	Left Tandem Lock SOL
024	Tandem Transport Motor
027	Relay Motor
028	Main Motor
031	Fusing Exit Motor
032	Fusing Removal Motor
039	Registration Motor
040	Guide Plate Release SOL
041	Exit Junction SOL
043	Inverter Duplex Motor
044	Duplex Transport Motor
045	Duplex Entrance Gate SOL
046	Inverter Jogger SOL
047	Duplex Transport CL
048	Duplex Jogger
052	Development Roller CL
053	Development Motor
054	Used Toner Motor
055	Web Motor
056	Toner Bottle Motor
057	Transfer/Separation SOL
062	Quenching Lamp
063	Charge Corona
064	Grid Wire
067	Development Bias
069	Transfer Bias

070	ID Sensor LED
075	Duplex Unit Fan
076	Main Ventilation Fan
077	Main Suction Fan
078	Main Vacuum Fan
079	OPC Fan
080	FIN Junction SOL (Proof)
081	FIN Junction SOL (Stapler)
082	FIN End Roller SOL
084	Total Counter
085	FIN Main Motor 1
086	FIN Main Motor 2
087	FIN Exit Motor
088	FIN Staple Motor
089	FIN Punch Motor
090	LD DC Lamp
092	FIN Tray Lift Motor
093	FIN Jogger Motor
094	FIN Staple Transport Motor
095	FIN Exhaust Motor
096	FIN Shift Motor
097	FIN Staple Slant Motor
098	Status Lamp (Green)
099	Status Lamp (Red)
100	PTL
200	Scanner Fanmotor

202	Scanner Lamp
203	Scanner Motor

ADF Input Check: SP6007

1. Open SP mode SP6007.
2. Select the SP number that corresponds to the component you wish to check. (Refer to the table below.)
3. Press On then press Off to test the selected item. You cannot exit and close this display until you click Off to switch off the output check currently executing.

4

6007	ADF Input Check	Reading	
		0	1
	Description		
001	Original Length Sensor 1 (B5)	No paper	Paper detected
002	Original Length Sensor 2 (A4)	No paper	Paper detected
003	Original Length Sensor 3 (LG)	No paper	Paper detected
004	Original Width Sensor 1	No paper	Paper detected
005	Original Width Sensor 2	No paper	Paper detected
006	Original Width Sensor 3	No paper	Paper detected
007	Original Width Sensor 4	No paper	Paper detected
008	Original Width Sensor 5	No paper	Paper detected
009	Original Set Sensor	No paper	Paper detected
010	Separation Sensor	No paper	Paper detected
011	Skew Correction Sensor	No paper	Paper detected
012	Interval Sensor	No paper	Paper detected
013	Registration Sensor	No paper	Paper detected
014	Exit Sensor	No paper	Paper detected
015	Feed Cover Sensor	Open	Close

016	DF Position Sensor	Open	Close
018	Pick-up Roller HP Sensor	Not HP	HP
020	APS Start Sensor	Not Start	Start
021	Bottom Plate HP Sensor	Not HP	HP
022	Bottom Plate Position Sensor	Not Correct Position	Correct Position

ADF Output Check: SP6008

1. Open SP mode SP6008.
2. Select the SP number that corresponds to the component you wish to check. (Refer to the table below.)
3. Press On then press Off to test the selected item. You cannot exit and close this display until you click Off to switch off the output check currently executing.

6008	ADF Output Check
	Turns on the ADF electrical components individually for testing.
001	Feed Motor: Forward
002	Feed Motor: Reverse
003	Transport Motor: Forward
004	Exit Motor: Forward
008	Stamp Solenoid
009	Pick-up Motor: Forward
010	Bottom Plate Motor: Reverse

Finisher 1 Input Check: SP6121 (D373/D374)

6140	Bit	Description	Reading	
			0	1
6140 1	Entrance Sensor		Paper not detected	Paper detected
6140 2	Proof Exit Sensor		Paper not detected	Paper detected

6140	Bit	Description	Reading	
			0	1
6140 3		Proof Full Detection Sensor	Not Full	Full
6140 4		Trailing Edge Detection: Shift	Paper not detected * 1	Paper detected * 1
6140 5		Staple Exit Sensor	Paper not detected	Paper detected
6140 6		Shift HP Sensor	Not HP	HP
6140 7		Shift Exit Sensor	Paper not detected	Paper detected
6140 8		Exit Guide Plate HP Sensor	Not HP	HP
6140 9		Paper Detection Sensor: Staple	Paper not detected	Paper detected
6140 10		Paper Detection Sensor: Shift	Paper not detected	Paper detected
6140 11		Paper Full Sensor: 2000-Sheet	Not Full	Full
6140 12		Oscillating Back Roller HP Sensor	Not HP	HP
6140 13		Jogger HP Sensor	Not HP	HP
6140 14		Exit Junction Gate HP Sensor	HP	Not HP
6140 15		Staple Tray Paper Sensor	Paper not detected	Paper detected
6140 16		Staple Moving HP Sensor	Not HP	HP
6140 17		Skew HP Sensor	Not HP	HP
6140 18		Limit SW	Not Limit	Limit
6140 19		DOOR SW	Closed	Open
6140 20		Stapler 1 Rotation	Not HP	HP
6140 21		Staple Detection	Staple not detected	Staple detected
6140 22		Staple Leading Edge Detection	Staple not detected	Staple detected
6140 23		Punch Moving HP Sensor	Not HP	HP
6140 24		Punch Registration HP Sensor	Not HP	HP
6140 25		Punch Registratioin Detection Sensor	Paper not detected	Paper detected
6140 26		Punch Chad Full Sensor	Not Full	Full

6140	Bit	Description	Reading	
			0	1
6140 27		Punch HP	Not HP	HP
6140 28		Punch Selection DIPSW 1	See *1	
6140 29		Punch Selection DIPSW 2	See *1	
6140 30		Stack Junction Gate Open/Closed HP Sensor	Not HP	HP
6140 31		Leading Edge Detection Sensor	Paper not detected	Paper detected
6140 32		Drive Roller HP Sensor	Not HP	HP
6140 33		Arrival Sensor	Paper not detected	Paper detected
6140 34		Rear Edge Fence HP Sensor	Not HP	HP
6140 35		Folder Cam HP Sensor	Not HP	HP
6140 36		Folder Plate HP Sensor	Not HP	HP
6140 37		Folder Pass Sensor	Paper not detected	Paper detected
6140 38		Saddle Full Sensor: Front	Paper not detected*2	Paper detected*2
6140 39		Saddle Full Sensor: Rear	Paper not detected*2	Paper detected*2
6140 40		Saddle Stitch Stapler 1 Rotation: Front	Not HP	HP
6140 41		Saddle Stitch Detection: Front	Staple not detected	Staple detected
6140 42		Saddle Stitch Leading Edge Detection: Front	Staple not detected	Staple detected
6140 43		Saddle Stitch Stapler 1 Rotation: Rear	Not HP	HP
6140 44		Saddle Stitch Detection: Rear	Staple not detected	Staple detected
6140 45		Saddle Stitch Leading Edge Detection: Rear	Staple not detected	Staple detected
6140 46		Full Sensor: 3000-Sheet	Not Full	Full
6140 47		Exit Jogger HP Sensor: Front	Not used in the machine	
6140 48		Exit Jogger HP Sensor: Rear	Not used in the machine	

6140	Bit	Description	Reading	
			0	1
6140 49		Exit Jogger HP Sensor: Upper	Not used in the machine	

* 1: Combination of DIP SW 1 and SW 2

DIP SW 1	DIP SW 2	Punch Type
0	0	Japan
1	0	Europe
0	1	North America
1	1	North Europe

* 2: Please refer to "Lower Tray (B804 Only)" in the Service Manual for the "2000/3000 (Booklet Finisher)".

Finisher 1 Output Check: SP6124

6124	Finisher Output Check: Finisher 1 (Finisher D373/D374)	
001	Entrance Motor	Turn on the electrical components of the finisher individually for test purposes.
002	Upper Feed Motor	
003	Lower Feed Motor	
004	Exit Motor	
005	Knock Roller Motor	
006	Shift Motor	
007	Exit Guide Plate Open / Close Motor	
008	Tray Lift Motor	
009	Stack Roller Motor	
010	Jogger Motor	

011	Stack Feed-out Motor	Turn on the electrical components of the finisher individually for test purposes.
012	Staple Moving Motor	
013	Staple Skew Motor	
014	End Stapler Motor	
015	Upper Junction Gate Solenoid	
016	Lower Junction Gate Solenoid	
017	Knock Solenoid	
018	Trailing Edge Hold Solenoid	
019	Saddle Stitch Hold Solenoid	
020	Stack Junction Gate Open / Close	
021	Trailing Edge Fence Moving Motor	Turn on the electrical components of the finisher individually for test purposes.
022	Saddle Stitch Staple Motor: Front	
023	Saddle Stitch Staple Motor: Rear	
024	Folder Plate Motor	
025	Folder Roller Motor	
026	Clamp Roller Motor	
027	Punch Motor	
028	Punch Moving Motor	
029	Punch Registration Detection Motor	
030	Exit Jogger Motor: Front	
031	Exit Jogger Motor: Rear	
032	Exit Jogger Release Motor	

Finisher 2 Input Check: SP6122

6122	Finisher Input Check: Finisher 2 (Finisher D460)
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001	Entrance Sensor	
002	Proof Exit Sensor	
003	Shift Exit Sensor	
004	Staple Exit Sensor	
005	Tray Lower Sensor	
006	Stack Feed-out HP Sensor	
007	Jogger HP Sensor	
008	Shift HP Sensor	
009	Stapler Moving HP Sensor	
010	Staple HP Sensor	
011	Staple Cartridge Sensor	
012	Staple Tray Paper Sensor	
013	Door Sensor	
014	Punch Unit Sensor	
015	Punch HP1 Sensor	
016	Punch Chad Full Sensor	
017	Paper Detection Sensor: Staple	
018	Paper Detection Sensor: Shift	
019	Stapler Cartridge Set Sensor	
020	Proof Full Sensor	

021	Staple Moving HP Sensor	
022	Stape Waste Hopper Sensor	
023	Pre-stack Tray Paper Sensor	
024	Hold HP Sensor	
025	Exit Guide HP Sensor	
026	Stapler Reverse Sensor	
027	Stapler Sensor	
028	Front Hold HP Sensor	
029	Rear Hold HP Sensor	
030	Knock Hold HP Sensor	
031	Reverse Drive HP Sensor	
032	Paper Sensor	
033	Tray Lower Sensor	
034	Punch HP 2 Sensor	
035	Shift Jogger Sensor	
036	Shift Jogger HP Sensor	
037	Shift Jogger Release HP Sensor	
038	Front Door Safety Switch	
039	Top Fence HP Sensor	
040	Bottom Fence HP Sensor	
041	Lower Tray Full Sn (Z-Folded Paper)	

Finisher 2 Output Check: SP6124

6125	Finisher Output Check: Finisher 2 (Finisher D460)
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001	Main Motor	Turn on the electrical components of the finisher individually for test purposes. See "Finisher 2 Output Check: SP6125"
002	Shift Tray Exit Motor	
003	Proof Junction Gate SOL	
004	Shift Relay Motor	
005	Jogger Motor	
006	Stapler Moving Motor	
007	Stapler Motor	
008	Punch Motor	
009	Stapler Solenoid	
010	Knock Roller Motor	
011	Stack Feed-out Motor	Turn on the electrical components of the finisher individually for test purposes. See "Finisher 2 Output Check: SP6125"
012	Shift Motor	
013	Staple Lift Motor	
014	Staple Exit Motor	
015	Exit Motor	
016	Hold Motor	
017	Pre-stack Solenoid	
018	Guide Solenoid	
019	Stapler Release Solenoid	
020	Front Hold Motor	

021	Rear Hold Motor	Turn on the electrical components of the finisher individually for test purposes. See "Finisher 2 Output Check: SP6125"
022	Reverse Drive Motor	
023	Reverse Feed Motor	
024	Exit Jogger Motor	
025	Exit Jogger Release Motor	
026	Jogger Top Fence Motor	
027	Jogger Bottom Fence Motor	

Finisher 3 Input Check: SP6309

6309	Fold Unit (D454) Input Check
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001	Entrance Sensor	Turn on the electrical components of the finisher individually for test purposes.
002	Entrance JG HP Sensor	
004	Registration Sensor	
005	Dynamic Roller HP Sensor	
006	Registration Roller HP Sensor	
007	Fold Plate HP Sensor	
008	Jogger Fence HP Sensor	
009	Positioning Roller HP Sensor	
010	1st Stopper Paper Sensor	
011	1st Stopper HP Sensor	
012	2nd Stopper Paper Sensor	
013	2nd Stopper HP Sensor	
014	3rd Stopper Paper Sensor	
015	3rd Stopper HP Sensor	
016	Direct-Send JG HP Sensor	
017	FM6 Pawl HP Sensor	
018	Top Tray Paper Path Sensor	
019	Top Tray Exit Sensor	
020	Horizontal Path Exit Sensor	
021	Top Tray Full Sensor	
023	Door Open Switch	
024	Horizontal Path Paper Sensor	
025	Vertical Path Paper Sensor	
026	Bypass Entrance Paper Sensor	
027	Bypass Exit Paper Sensor	

Finisher 3 Output Check: SP6310

6310	Fold Unit (D454) Output Check	
001	Horizontal Transport Motor	Turn on the electrical components of the finisher individually for test purposes.
002	Top Tray Transport Motor	
003	Top Tray Exit Motor	
004	Dynamic Roller Transport Motor	
005	Registration Roller Transport Motor	
007	Entrance JG Motor	
008	1st Stopper Motor	
009	2nd Stopper Motor	
010	3rd Stopper Motor	
011	Dynamic roller Lift Motor	
012	Registration Roller Release Motor	
013	Fold Plate Motor	

014	Jogger Fence Motor	Turn on the electrical components of the finisher individually for test purposes.
015	Positioning Roller Motor	
016	Direct-Send JG Motor	
017	FM6 Pawl Motor	
018	1st Fold Motor	
019	2nd Fold Motor	
020	Crease Motor	
021	Bypass JG Solenoid	
022	Exit JG Solenoid	
023	Top Tray JG Solenoid	
024	LE Stop Pawl Solenoid	
025	Reverse JG Solenoid	