Model AL-C1/C1.5
Machine Code:
D009/D011/D012/D013/D091/D092

Field Service Manual

10 November, 2009

Safety Notices

Important Safety Notices

Prevention of Physical Injury

1. Before disassembling or assembling parts of the copier and peripherals, make sure that the copier power cord is unplugged.

2. The wall outlet should be near the copier and easily accessible.

3. Note that some components of the copier 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 copier completes the warm-up period (the Start key starts blinking red and green alternatively), keep hands away from the mechanical and the electrical components as the copier 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 copier is operating. Be careful to avoid touching those components with your bare hands.

⚠ WARNING

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

Health Safety Conditions

1. Toner and developer are non-toxic, but if you get either of them in your eyes by accident, it may cause temporary eye discomfort. Immediately wash eyes with plenty of water. If unsuccessful, get medical attention.

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

Observance of Electrical Safety Standards

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

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

Handling Toner

- Work carefully when removing paper jams or replacing toner bottles or cartridges to avoid spilling toner on clothing or the hands.
- If toner is inhaled, immediately gargle with large amounts of cold water and move to a well ventilated location. If there are signs of irritation or other problems, seek medical attention.
- If toner gets on the skin, wash immediately with soap and cold running water.
- If toner gets into the eyes, flush the eyes with cold running water or eye wash. If there are signs of irritation or other problems, seek medical attention.
- If toner is swallowed, drink a large amount of cold water to dilute the ingested toner. If there are signs of any problem, seek medical attention.
- If toner spills on clothing, wash the affected area immediately with soap and cold water. Never use hot water! Hot water can cause toner to set and permanently stain fabric.
- Always store toner and developer supplies such as toner and developer packages, cartridges, and bottles (including used toner and empty bottles and cartridges) out of the reach of children.
- Always store fresh toner supplies or empty bottles or cartridges in a cool, dry location that is not exposed to direct sunlight.

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, the maintenance unit which includes developer or the organic photoconductor 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.

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 Optics Housing Unit section. Laser beams can seriously damage your eyes.
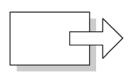
CAUTION MARKING:

CAUTION
VORSICHT

CAUTION-CLASS 3B INVISIBLE LASER
RADIATION WHEN OPEN
AVOID EXPOSURE TO THE BEAM
VORSICHT-UNSICHTBARE LASERSTRAHLUNG
KLASSE 3B, WENN ABDECKUNG GEÖFFNET
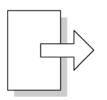NICHT DEM STRAHL AUSSETZEN

>PS<

3d-laser_decal

Symbols and Abbreviations

Symbols and Abbreviations

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

🖝	See or Refer to
⟨⟩	Clip ring
🖋	Screw
🔌	Connector
🗜	Clamp
ℂ	E-ring
SEF	Short Edge Feed
LEF	Long Edge Feed

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

Cautions, Notes, etc.

The following headings provide special information:

⚠ WARNING

- FAILURE TO OBEY WARNING INFORMATION COULD RESULT IN SERIOUS INJURY OR DEATH.

⚠ CAUTION

- Obey these guidelines to ensure safe operation and prevent minor injuries.

Note

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

TABLE OF CONTENTS

3. Preventive maintenance

4. Replacement and Adjustment

5. Service Tables

6. Troubleshooting

7. Energy Saving

1. Product Information

Specifications

See "Appendices" for the following information:

- General Specifications
- Optional Equipment

Machine Configuration

Copier

d009v500

Key: Symbol: **U**: Unique option, **C**: Option also used with other products

1

	Item	Callout	Key	Machine Code
Copier	D009/D011 D012/D013 D091/D092	[1]	-	D009/D011 D012/D013 D091/D092
	ARDF (See Note 1)	[3]	C	B802
	Platen Cover (See Note 1)	[2]	C	G329
	Two-Tray Paper Feed Unit	[6]	C	D351
	2000-sheet LCT	[5]	C	D352
	1200-sheet LCT	[4]	C	D353
	1-Bin Tray	[10]	U	D389
	Bridge Unit	[9]	U	D386
	1000-sheet Finisher (See Note 2.)	[7]	C	B408
	2000/3000-Sheet (Booklet) Finisher (See Note 2)	[8]	C	B804/B805
	-Punch Unit (See Note 3.)	-	C	B702-17 (2/3-hole) US
	-Punch Unit (See Note 3.)	-	C	B702-27 (2/4-hole) Metric
	-Punch Unit (See Note 3.)	-	C	B702-28 (4-hole) Scandinavia
	Key Counter Bracket	-	C	A674
	HDD (for D009/D012 only)	-	U	D362
	DataOverwriteSecurity	-	U	D362
	Copy Data Security Unit	-	C	B829
	HDD Encryption Unit	-	C	D377
	Scanner Accessibility Option	-	C	B838

1

	Item	Callout	Key	Machine Code
Fax	Fax Option for D009/D011/D012/D013	-	U	D346
	Fax Option for D091/D092			D509
	G3 Interface Unit	-	U	D346
	SAF Memory	-	C	G578
	Handset (USA model only)	-	C	B433
Printer/ Scanner	Printer/Scanner Unit	-	U	D381
	Printer Unit	-	U	D381
	RPCS Printer Unit	-	U	D381
	Printer Upgrade Unit	-	U	D381
	Scanner Upgrade Unit	-	U	D381
	PostScript3 Unit	-	U	D381
	IPDS Unit	-	U	D381
	Gigabit Ethernet	-	C	G874
	IEEE 1284	-	C	B679
	IEEE 802.11a/g, g Wireless LAN	-	C	D377
	Bluetooth	-	C	B826
	Memory Unit 256 MB	-	U	D362
	File Format Converter	-	C	D377

NOTE:

1. The ARDF and platen cover cannot be installed together.
2. The finisher requires the bridge unit and two-tray paper feed unit or 2000-sheet LCT. The 1000-sheet finisher and 2000/3000-sheet (Booklet) finisher cannot be installed together.
3. The punch unit requires the 2000/3000-sheet (Booklet) finisher.

Guidance for Those Who are Familiar with Predecessor Products
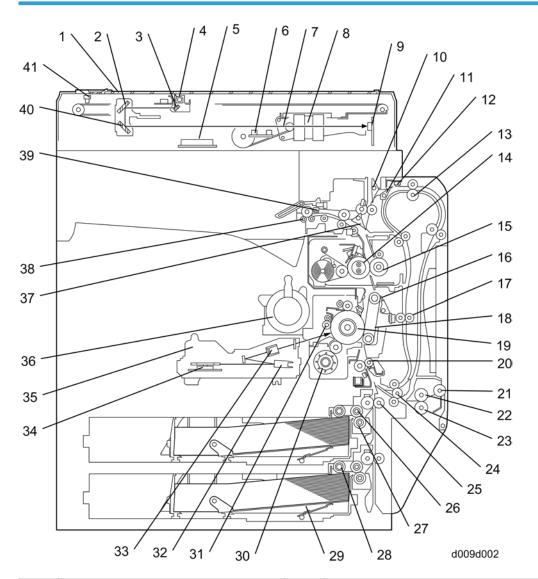
The D091/D092 series are successor models to the D009/D011/D012/D013 series. If you have experience with the predecessor products, the following information will be of help when you read this manual.

Different Points from Predecessor Products

	D091/D092	D009/D011/D012/D013
Scanner	Color only	Color and B/W
VM Card	Standard	Option

Overview

Component Layout

d009d002
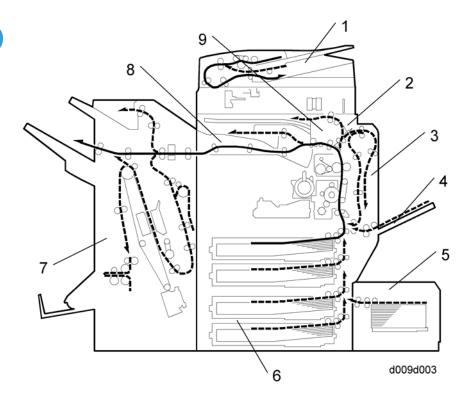
1	Exposure Glass	22	By-pass Feed Roller
2	2nd Mirror	23	By-pass Separation Roller
3	1st Mirror	24	Duplex/by-pass transport roller
4	Exposure Lamp	25	Upper Relay Roller
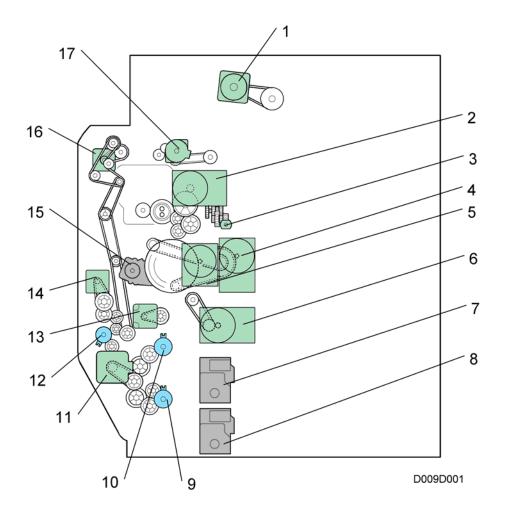
5	Original Width Sensors	26	Feed Roller
6	Original Length Sensors	27	Separation Roller
7	Scanner Motor	28	Pick-up Roller
8	Lens	29	Bottom Plate
9	SBU	30	Development Unit
10	Junction Gate 2	31	Charge Roller
11	Duplex Inverter Gate	32	Fθ Mirror
12	Duplex Entrance Sensor	33	Barrel Toroidal Lens (BTL)
13	Duplex Inverter Roller	34	Polygonal Mirror Motor
14	Hot Roller	35	Laser Unit
15	Pressure Roller	36	Toner Bottle Holder
16	Transfer Belt Cleaning Blade	37	Junction Gate 1
17	Duplex Transport Roller	38	Exit Roller
18	Transfer Belt	39	Paper Exit Sensor
19	OPC Drum	40	3rd Mirror
20	Registration Roller	41	Scanner HP Sensor
21	By-pass Pick-up Roller		

1

Paper Path

d009d003

1	ARDF
2	Interchange Unit
3	Duplex Unit
4	By-pass Tray
5	Large Capacity Tray (LCT: 1200-sheet)
6	Paper Tray Unit
7	Two-Tray Finisher
8	Bridge Unit
9	1-Bin Tray

1

Drive Layout

D009D001

1	Scanner Motor	10	Paper Feed Clutch 1
2	Fusing Motor	11	Feed Motor
3	Web Motor	12	By-pass Paper Feed Clutch
4	Transfer/Development Motor	13	Registration Motor
5	Drum Motor	14	Duplex/By-pass Motor
6	Development Paddle Motor	15	Transfer Belt Contact Motor
7	Tray Lift Motor 1	16	Duplex Inverter Motor

8	Tray Lift Motor 2	17	Paper Exit Motor
9	Paper Feed Clutch 2		

2. Installation

Installation Requirements

⚠️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.
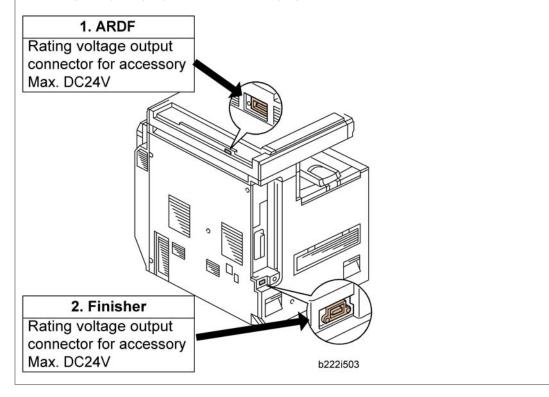
⭐ Important

- Install the machine in a safe place for keeping security.
- Make sure that the operation instructions are kept at a customer's hand.
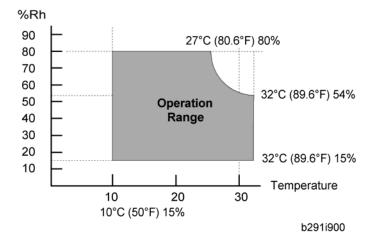
⬇ Note

- The main power LED lights or flashes while the platen cover or ARDF is open, while the main machine is communicating with a facsimile or the network server, or while the machine is accessing the hard disk or memory for reading or writing data.

> ⚠️ **CAUTION**
>
> - Rating voltage for peripherals: Make sure to plug the cables into the correct sockets.

1. ARDF

Rating voltage output connector for accessory Max. DC24V

2. Finisher

Rating voltage output connector for accessory Max. DC24V

b222i503

Environment

%Rh

27°C (80.6°F) 80%

32°C (89.6°F) 54%

Operation Range

32°C (89.6°F) 15%

Temperature

10°C (50°F) 15%

b291i900

Temperature Range:	10°C to 32°C (50°F to 90°F)
Humidity Range:	15% to 80% RH
Ambient Illumination:	Less than 1,500 lux (do not expose to direct sunlight.)
Ventilation:	Room air should turn at least 30 m3/hr/person
Ambient Dust:	Less than 0.10 mg/m3 (2.7 x 10/6 oz/yd3)

1. Avoid areas exposed to sudden temperature changes:

    1) Areas directly exposed to cool air from an air conditioner.

    2) Areas directly exposed to heat from a heater.
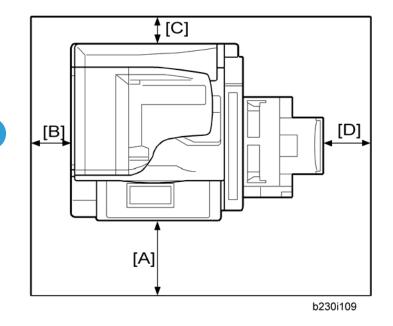
2. Do not place the machine where it will be exposed to corrosive gases.

3. Do not install the machine at any location over 2,000 m (6,500 ft.) above sea level.

4. Place the main machine on a strong and level base. Inclination on any side should be no more than 5 mm (0.2").

5. Do not place the machine where it may be subjected to strong vibrations.

Machine Level

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

Minimum Space Requirements

Place the main machine near the power source, providing clearance as shown:

2

b230i109

A: Front: >75 cm (29.6")

B: Left: > 10 cm (4")

C: Rear: > 10 cm (4")

D: Right > 55 cm (21.7")

⬇ Note

- The 75 cm (29.6") recommended for the space at the front is for pulling out the paper tray only. If the operator stands at the front of the main machine, more space is required.

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.

1. Input voltage level:
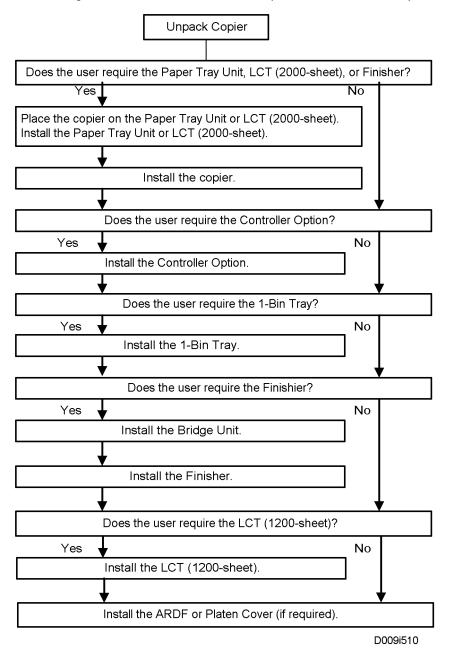
   North America 120 V, 60 Hz: More than 12.5 A

   Europe/Asia 220 V to 240V, 50 Hz/60 Hz: more than 6.8 A

2. Permissible voltage fluctuation: 10% to 15%

3. Never set anything on the power cord.

Installation Flow Chart

The following flow chart shows how to install the optional units more efficiently.

```
                        ┌──────────────────┐
                        │  Unpack Copier   │
                        └──────────────────┘
                                 │
┌───────────────────────────────────────────────────────────────┐
│ Does the user require the Paper Tray Unit, LCT (2000-sheet), or Finisher? │
└───────────────────────────────────────────────────────────────┘
      Yes │                                          No │
┌─────────────────────────────────────────────────┐     │
│ Place the copier on the Paper Tray Unit or LCT (2000-sheet). │     │
│ Install the Paper Tray Unit or LCT (2000-sheet). │     │
└─────────────────────────────────────────────────┘     │
            │                                            │
┌─────────────────────────────────────────────────┐     │
│               Install the copier.               │     │
└─────────────────────────────────────────────────┘     │
            │                                            │
┌─────────────────────────────────────────────────┐     │
│       Does the user require the Controller Option?       │◄────┘
└─────────────────────────────────────────────────┘
      Yes │                                          No │
┌─────────────────────────────────────────────────┐     │
│         Install the Controller Option.          │     │
└─────────────────────────────────────────────────┘     │
            │                                            │
┌─────────────────────────────────────────────────┐     │
│          Does the user require the 1-Bin Tray?          │◄────┘
└─────────────────────────────────────────────────┘
      Yes │                                          No │
┌─────────────────────────────────────────────────┐     │
│              Install the 1-Bin Tray.            │     │
└─────────────────────────────────────────────────┘     │
            │                                            │
┌─────────────────────────────────────────────────┐     │
│         Does the user require the Finishier?          │◄────┘
└─────────────────────────────────────────────────┘
      Yes │                                          No │
┌─────────────────────────────────────────────────┐     │
│             Install the Bridge Unit.            │     │
└─────────────────────────────────────────────────┘     │
            │                                            │
┌─────────────────────────────────────────────────┐     │
│              Install the Finisher.              │     │
└─────────────────────────────────────────────────┘     │
            │                                            │
┌─────────────────────────────────────────────────┐     │
│       Does the user require the LCT (1200-sheet)?       │◄────┘
└─────────────────────────────────────────────────┘
      Yes │                                          No │
┌─────────────────────────────────────────────────┐     │
│          Install the LCT (1200-sheet).          │     │
└─────────────────────────────────────────────────┘     │
            │                                            │
┌─────────────────────────────────────────────────┐     │
│    Install the ARDF or Platen Cover (if required).    │◄────┘
└─────────────────────────────────────────────────┘
                                              D009i510
```

Bridge Unit: Needed for the finishers.

Paper Tray Unit or LCT 2000-sheet: Needed for the LCT 1200-sheet and finishers.

Main Machine Installation

Accessory Check

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

	Description	D009/D011/ D012/D013	D091/D092
1	Operation Instruction (-17, -19, -21, -29)	1	-
2	Operation Instruction - Quick Reference (-17, -19, -21, -29)	1	-
3	Operation Instruction - Troubleshooting (-17, -19, -29)	1	1
4	Operation Instruction - About This Machine (-17, -19, -29)	1	1
5	Quick Reference Guide - Copy (-29)	-	1
6	Quick Reference Guide - Printer (-29)	-	1
7	Quick Reference Guide - Scanner (-29)	-	1
8	Quick Reference Guide - App 2 Me (-17, -19, -29)	-	1
9	CD-ROM - Instruction (-17, -29)	1	-
10	CD-ROM: Printer Instruction for D011/D013 only (-17, -27, -28, -29)	1	-
11	CD-ROM: Scanner Instruction for D011/D013 only (-17, -27, -28, -29)	1	-
12	CD-ROM: Printer/ Scanner (-27, -29)	-	1
13	CD-ROM: Operation Instruction - User (-17, -19, -29)	-	1

	Description	D009/D011/ D012/D013	D091/D092
14	CD-ROM: Operation Instruction - Administrator (-17, -19, -29)	-	1
15	CD-ROM: Operation Instruction - App 2 Me (-17, -19, -29)	-	1
16	CD-ROM: SDK (-17, -19, -27, -29)	-	1
17	CD-ROM: P2600 (-17, -19, -27, -29)	-	1
18	CD-ROM: Driver (-19, only)	-	1
19	Model Name Decal (-17, -29)	1	1
20	Emblem Cover	1	1
21	Stamp (-17)	1	1
22	Cloth Holder	1	1
23	Exposure Glass Cleaning Cloth	1	1
24	Operating Instructions Holder	1	1
25	Ferrite Core	1	1
26	Rivet	1	1
27	Power Supply Cord	1	1
28	Decal - Paper Tray	1	1
29	Decal - Caution - Original (-17)	1	1
30	Sheet - EULA: 16 Languages	1	1
31	Sheet - Caution: 16 Languages	1	1
32	Sheet: NECR (-17)	1	1
33	Sheet - Warranty: Chinese (-21)	1	-
34	Sheet - Name - Tel (-21)	1	-

2
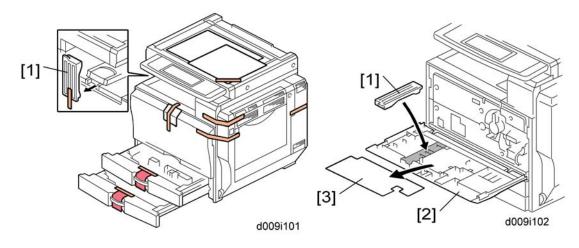
Installation Procedure

Preliminary Procedures
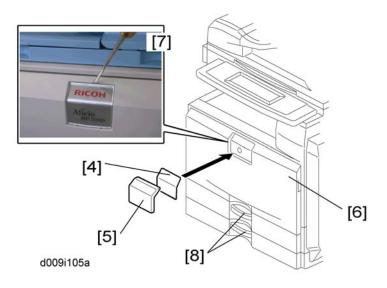
Put the machine on the paper feed unit or the LCT first if you will install an optional paper feed unit or the optional LCT at the same time. Then install the machine and other options.

⬇**Note**

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

d009i101   d009i102

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

2. Remove all the tapes and retainers in trays 1 and 2, and then take out the power cord from tray 1 (if applicable).

3. Remove the scanner unit stay [1].

4. Open the front door [2], and then remove the jam location sheet [3].

5. Keep the scanner unit stay [1] inside the front door [2].

6. Reattach the jam location sheet.

7. Close the front door.

2

d009i105a
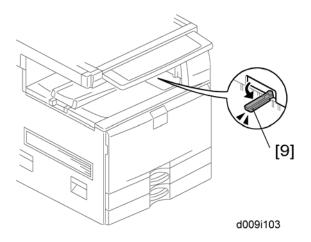
8. Attach the correct emblem [4] and the cover [5] to the front door [6] of the machine, if the emblem is not attached.

🔽Note

- If you want to change the emblem that has been already attached, remove the panel with a small screwdriver as shown [7], and then install the correct emblem.

9. Attach the correct paper tray number and size decals to the paper trays [8].

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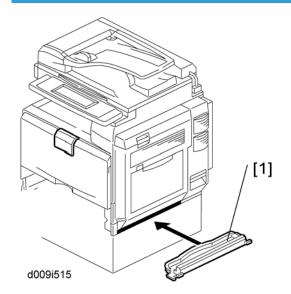
- Paper tray number and size decals are also used for the optional paper feed unit or LCT. Keep these decals for use with these optional units.

d009i103

10. Pull out the feeler [9] for the output tray full detection mechanism.
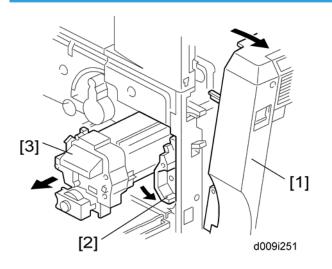
Fire Prevention Cover

d009i515

When the copier is installed on the floor without the optional paper tray unit or a table, the cover [1] must be attached to the copier.
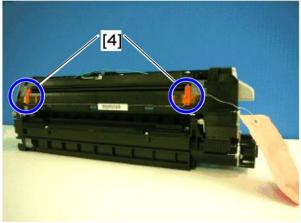
• Install the cover [1] at the right side of the copier.

PCDU (Photoconductor and Development Unit)

d009i251

1. Open the front door.
2. Open the right door [1].
3. Release the lock lever [2].

4. Pull out the PCDU [3] and place it on a clean flat surface.
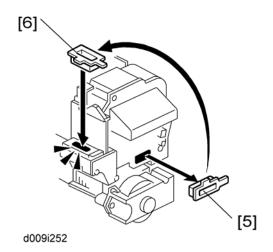
d009i108
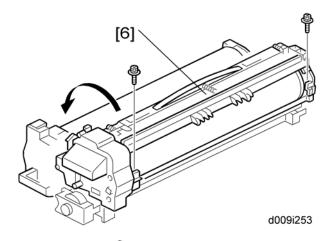
5. Remove the two stoppers [4].

6. Spread a large piece of paper on a flat surface.
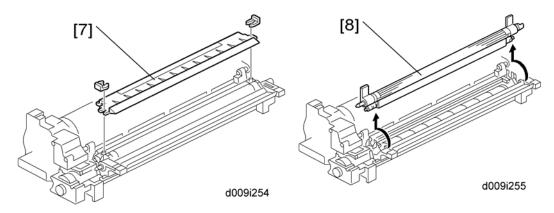
   ⬇Note

   • Make sure the area is free of pins, paper clips, staples, etc. to avoid attraction to the magnetic development roller.

d009i252
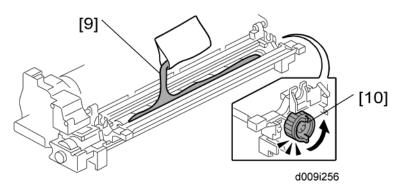
7. Remove the opening cap [5], and then install it in the opening [6] of the PCDU.

d009i253

8. Open the PCU [6] (🔩 x 2).

d009i254

d009i255

9. Remove the entrance seal plate [7] (🔩 x 2).

10. Remove the development roller unit [8], and set it on the paper.

d009i256
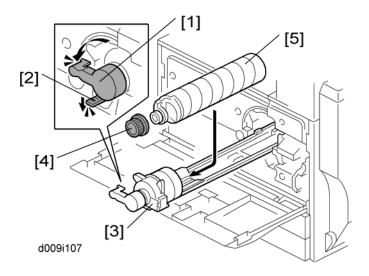
11. Pour the developer [9] into the development unit.

Note

- The developer lot number is embossed on the end of the developer package. Do not discard the package until you have recorded the lot number. (☛ p.194 "Developer")

1) Pour approximately 1/3 of the developer evenly along the length of the development unit.

2) Rotate the drive gear [10] to work the developer into the unit.

3) Repeat until all the developer is in the development unit.

4) Continue to turn the drive gear until the developer is even with the top of the unit.

12. Put the opening cap [4] back in its original place.

13. Reassemble the PCDU.

14. Re-install the PCDU.

Toner Bottle

d009i107

1. Open the front door.

2. Turn the toner bottle holder lever [1] counterclockwise, push down the lever [2], and then pull out the toner bottle holder [3].

3. Hold the toner bottle [5] horizontally, and shake it 5 or 6 times.

4. Unscrew the bottle cap [4] and set the bottle [5] in the holder.

5. Push the toner bottle holder into the main machine until it locks in place.

6. Turn the toner bottle holder lever [1] clockwise to lock it.

7. Close the front door.

Paper Trays

1. Open the 1st paper tray, and then press down on the right side of the lock switch to unlock the side fences.

2. Press in on the sides of the fence release, and slide the side fences to the appropriate mark for the paper size.

3. Pinch the sides of the end fence and move it to the appropriate mark for the paper size, then load the paper.

4. Check the position of the stack.

   • Confirm that there is no gap between the stack and the side fences. If you see a gap, adjust the position of the side fences.

5. Press down the lock to lock the side fences.

6. Repeat this procedure to load paper in the 2nd paper tray.

Initialize TD Sensor and Developer

1. Connect the main machine to the power outlet, switch on the main machine, and wait for the fusing unit to warm up.

2. Enter Copy SP Mode.

3. Press SP Direct to highlight "SP Direct", enter 2801, and then press ⊕.

4. When the message prompts you to enter the lot number of the developer, enter the 7-digit lot number, press [Yes], and then press [Execute] on the touch-panel. This initializes the TD sensor.

   ⬇Note

   • The lot number is printed on the end of the developer package. Recording the lot number could help troubleshoot problems later. If the lot number is unavailable, enter any seven-digit number.

5. Press SP Direct to highlight "SP Direct" and enter 2805, press ⊕, and then press "Execute" on the touch-panel. This initializes the developer.

6. Press "Exit" twice to return to the copy window.

Set Paper Size for Paper Trays
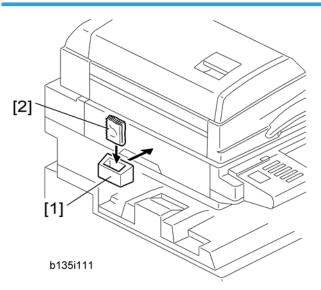
1. Press User Tools/Counter 🖾.

2. On the touch panel, press "System Settings".

3. Press the "Paper Size Setting" tab.

4. Press the button for the tray to change.

5. Change the setting and press the [OK] button.

6. Repeat for each tray installed.

7. Press Exit twice to return to the main display

- The 1st, 2nd, 3rd, and 4th paper trays are provided with the paper size switches. The detected paper size by the paper size switches has priority over the UP settings. However, if you change the "Auto Detect" with the UP setting, you can select the paper size.

8. Check the copy quality and machine operation.

Electrical Total Counter

The electrical total counter no longer requires initialization. The new incrementing counter is set to "0" at the factory.

Exposure Glass Cleaner

b135i111
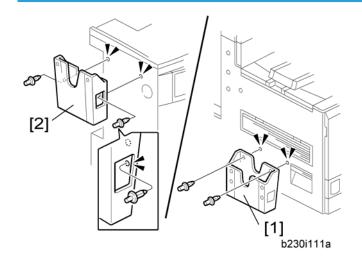
1. Attach the exposure glass cleaner holder [1] to the left side of the machine.

2. Place the exposure glass cleaner [2] inside the holder.

◆Note

- The exposure glass cleaner is used to clean the ARDF exposure glass, the glass strip to the left of the large exposure glass.

Operation Instructions Holder

b230i111a

1. Attach the operation instructions holder [1] to the left side of the copier (snap rivet x 2).

2. If a finisher has been installed, attach the operation instructions holder [2] to the rear side of the finisher (snap rivet x 2).

Settings Relevant to the Service Contract

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

Item	SP No.	Function	Default
A3/11" x 17" double counting	SP5-104-001 (SSP)	Specifies whether the counter is doubled for A3/11" x 17" paper. When you have to change this setting, contact your supervisor.	"No": Single counting
Service Tel. No. Setting	SP5-812-001 through 004	5812-002 programs the service station fax number. The number is printed on the counter list when the meter charge mode is selected. This lets the user fax the counter data to the service station.	

App 2 Me Setting (D091/D092 only)

D091/D092 models have VM Card including "App 2 Me" provider by default. Do the following procedure if a customer want to use the "App 2 Me".

1. Press "User Tools" key on the operation panel.

2. Touch the "Extended Feature Settings" button twice.

3. Touch the "App 2 Me" line in the Startup Setting tab.

4. Touch the "Extended Feature Info" tab on the LCD.

5. Touch the "App 2 Me" line.

6. Set the setting of "Auto Start" to "On".

7. Touch the "Exit" button.

8. Exit the "User Tools" settings.

Update Procedure for App 2 Me Provider

1. Push the "User/Tools" key.

2. If an administrator setting is registered for the machine, step 2 and 3 are required. Otherwise, skip to step 4.

3. Push the "Login/Logout" key.

4. Login with the administrator user name and password.

5. Touch "Extended Feature Settings" twice on the LCD.

6. Touch the all applications. Then, the status will be changed to "Stop".

7. Turn off the machine. And then remove the VM Card.

d377i501

8. Prepare newer App 2 Me Provider zip file from Firmware Download Center. Unzip the zip file. (The folder name is "337051920".) And then copy the App 2 Me Provider folder in the specified path of VM card. The path is "SD_Card Drive\ sdk\dsdk\dist\337051920" as shown above.

9. Turn the SD card label face to the rear of the machine. Then push it slowly into slot 2 until you hear a click.

10. Turn on the main power switch.

11. Press the "User Tools" key on the operation panel.

12. Touch the "Extended Feature Settings" button twice.

13. Touch the "Extended Feature Info" tab on LCD.

14. Touch the "App2Me" line.

15. Set the setting of the "Auto Start" to "On".

16. Touch the "Exit" button.

17. Exit the "User Tools/Counter" settings.

Moving the Machine

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

1. Remove all trays from the optional paper feed unit or LCT.

Transporting the Machine
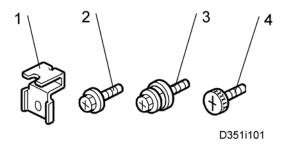
1. Do SP 4806-001 to move the scanner carriage from the home position. This prevents dust from falling into the machine during transportation.

2. Make sure there is no paper left in the paper trays. Then fix down the bottom plates with a sheet of paper and tape.

3. Do one of the following:

    • Attach shipping tape to the covers and doors.

    • Shrink-wrap the machine tightly.

Paper Feed Unit Installation (D351)

Accessory Check

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

No.	Description	Q'ty
1	Securing bracket	2
2	Screw (M4x10)	2
3	Spring Washer Screw	1
4	Knob screw	3

D351i101

Installation Procedure

⚠ CAUTION

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

D351i102
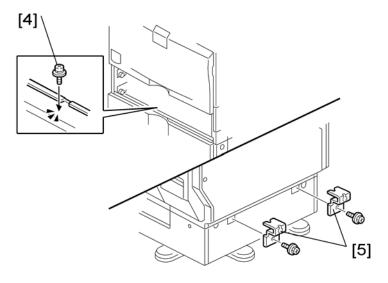
1. Remove all tape on the paper feed unit.

2. Remove the paper trays and remove all tape and padding.

D351i103A

3. Grasp the handle [1] and grips [2] of the machine.

4. Lift the copier and install it on the paper feed unit [3].
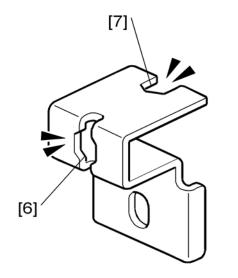
🔽Note

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

2

D351i104a

5. Remove the tray 1 and 2 of the machine.

6. Fasten the Spring Washer Screw [4].

7. Reinstall all trays.

8. Attach the securing brackets [5] (🔩 x 1 each; M4x10).

B800i101A

⊕Note
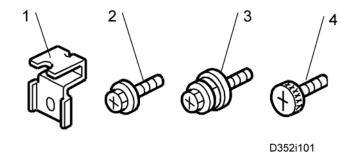
- One of the securing brackets is used as a securing tool (the cutout [6] is used in step 6). But the cutout [7] is for attaching the tray heater. Therefore, attach the securing brackets [5] after installing the tray heater if you install the tray heater.

9. Load paper into the paper feed unit.

10. Turn on the main power switch of the machine.

11. Check the paper feed unit operation and copy quality.

LCT 2000-Sheet

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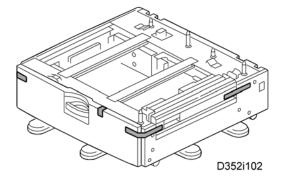
Check the quantity and condition of the accessories against the following list.

No.	Description	Q'ty
1	Securing bracket	2
2	Screw (M4x10)	2
3	Spring washer screw	1
4	Knob screw	3

D352i101

Installation Procedure

⚠️CAUTION

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

D352i102
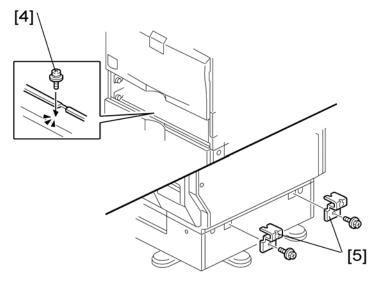
1. Remove all tapes and retainers in the LCT.

D352i103B

2. Grasp the handle [1] and grips [2] of the machine.

3. Lift the copier and install it on the LCT [3].
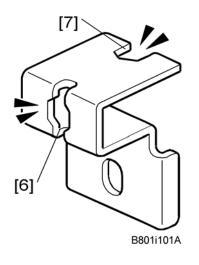
⬇ **Note**

- Hold the handle [1] and grips [2] of the machine when you lift and move the machine.

2

D352i104a

4. Remove the tray 1 and 2 of the machine.

5. Fasten the Spring Washer Screw [4].

6. Reinstall all trays.

7. Attach the securing brackets [5] (🖉 x 1 each; M4x10).

B801i101A

⬇️**Note**

- One of the securing brackets is used as a securing tool (the cutout [6] is used in step 5). But the cutout [7] is for attaching the tray heater. Therefore, attach the securing brackets [2] after installing the tray heater if you install the tray heater.
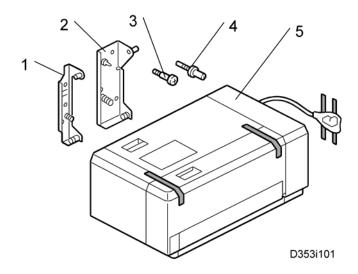
8. Load paper into the LCT.

9. Turn on the main power switch of the machine.

10. Check the LCT operation and copy quality.

2

1200-Sheet LCT (D353)

Component Check

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

No.	Description	Q'ty
1	Front Bracket	1
2	Rear Bracket	1
3	Stud Screw	4
4	Joint Pin	2
5	LCT	1
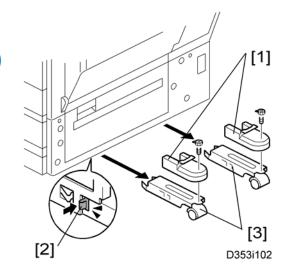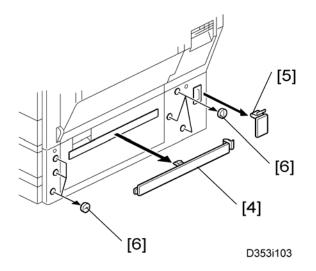
D353i101

Installation procedure

⚠ CAUTION

• Unplug the main machine power cord before starting the following procedure.

⬇Note

- The Paper Tray Unit (D351) or LCT 2000-sheet (D352) must be installed before installing this 1200-sheet LCT.

D353i102
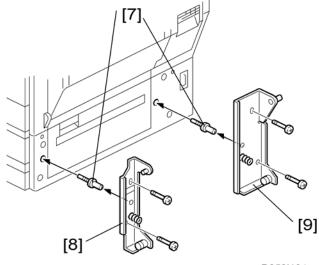
1. Unpack the LCT and remove the tapes.
2. Remove the stand covers [1].
3. Release the locks [2] of the front and rear caster stands.
4. Remove the caster stands [3].

D353i103
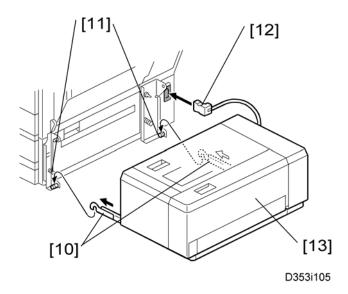
5. Remove the paper path cover [4], connector cover [5] and six hole covers [6].

D353i104

6. Insert the joint pins [7].

7. Attach the front [8] and rear brackets [9].

D353i105

8. Pull out the front and rear rails [10], and then hang them on each bracket [11].

9. Connect the LCT cable [12] to the main machine.

10. Slide the LCT [13] into the main machine.

11. Make sure that the front and rear sides of the LCT are closely attached to the main machine.
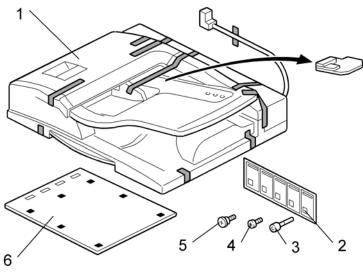
Auto Reverse Document Feeder (B802)

Component Check

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

No.	Description	Q'ty
1	ARDF	1
2	Attention Decal Sheet – Top Cover	1
3	Stamp	1
4	Knob Screw	2
5	Stud Screw	2
6	Platen Sheet	1
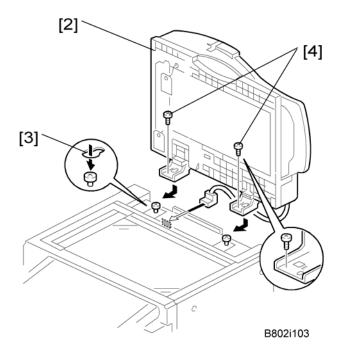
B802i101A

Installation Procedure

⚠CAUTION

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

2
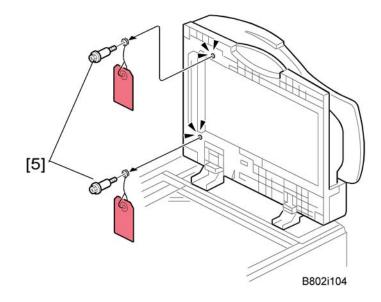
1. Remove the all tapes and shipping retainers.

B802i102

2. Insert the two stud screws [1] on the top of the machine.

B802i103
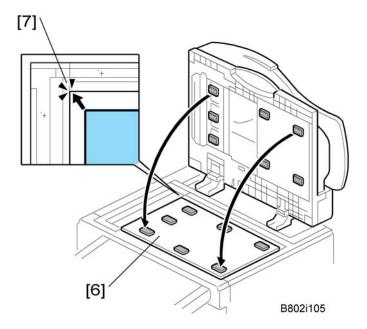
3. Mount the ARDF [2] by aligning the screw keyholes [3] of the ARDF support plate over the stud screws.

4. Slide the ARDF toward the front of the machine.

5. Secure the ARDF with the two knob screws [4].

B802i104
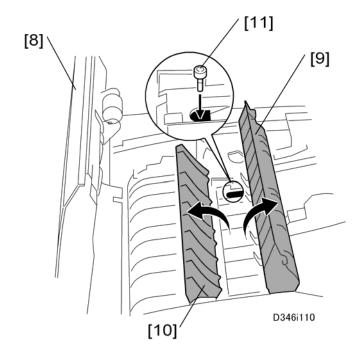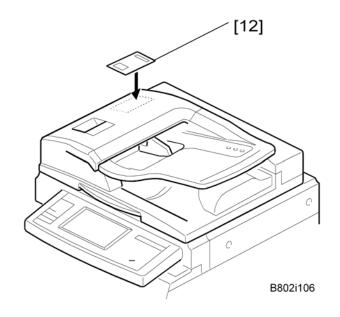
6. Remove two screws [5] form the bottom of the ARDF.

7. Remove all tapes on the ARDF.

B802i105

8. Place the platen sheet [6] on the exposure glass.

9. Align the rear left corner (of the platen sheet) with the corner [7] on the exposure glass.

10. Close the ARDF.

11. Open the ARDF and check that the platen sheet is correctly attached.

D346i110
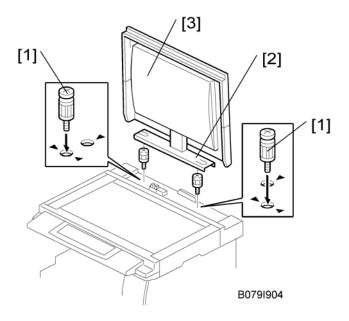
12. Open the ARDF cover [8].

13. Open the feed-in guide plate [9] and feed-out guide plate [10].

14. Install the stamp [11] into the ARDF.

15. Close two guide plates [10] [9].

16. Close the ARDF cover [8].

B802i106

17. Attach the decal [12] to the top cover as shown. Choose the language you want.

18. Plug in and turn on the main power switch of the machine, and then check the ARDF operation.

19. Make a full size copy. Check that the registrations (side-to-side and leading edge) and image skew are correct. If they are not, adjust the registrations and image skew referring to the "Copy Adjustments" in the section of the "Replacements and Adjustments".

2

Platen Cover Installation (G329)

B0791904

1. Install screws [1] (🔩 x 2) on the top cover as shown.

2. Position the platen cover bracket [2] on the heads of the stud screws, and slide the platen cover [3] to the left.
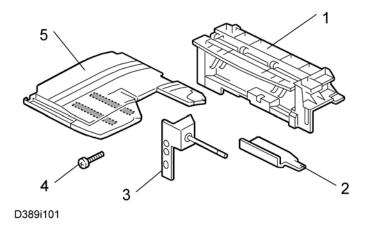
1-Bin Tray Unit (D389)

Component Check

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

No.	Description	Q'ty
1	1-Bin Tray Unit	1
2	End-fence	1
3	Tray Support Bar	1
4	Screws (M3 x 16)	3
5	Tray	1
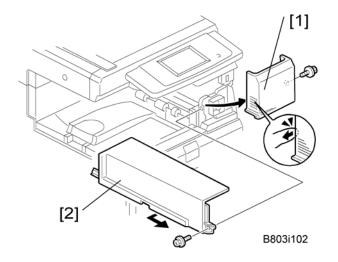
D389i101

Installation Procedure

⚠ CAUTION

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

🔽 Note
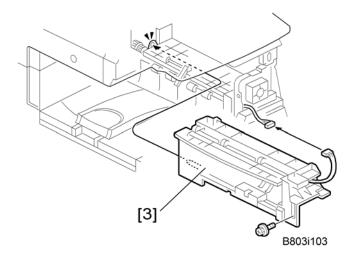
- If the bridge unit (D386) has already been installed on the machine, remove it before installing 1-bin tray unit (D389). This makes it easy to do the following procedure.

B803i102
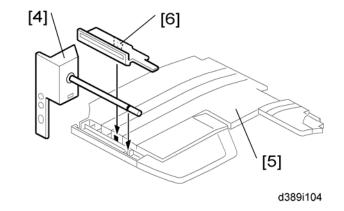
1. Remove all tapes.

2. Open the right door of the machine.

3. Remove the front right cover [1] (🔩 x 1).

4. Remove the paper exit cover [2] (🔩 x 1).

   ⬇Note
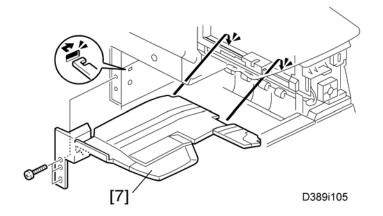
   • Keep this screw for step 5.

B803i103

5. Install the 1-bin tray unit [3] (🔌 x 1, 🔩 x 1 [This screw was removed in step 4]).

d389i104

6. Attach the tray support bar [4] to the tray [5] as shown, and then attach the end-fence [6].

D389i105
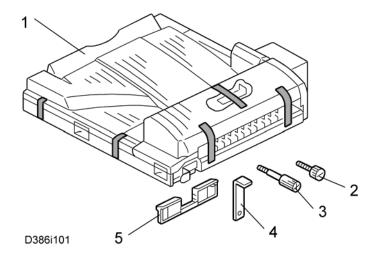
7. Install the tray [7] with the tray support bar on the machine (🔩 x 3; M3 x 16).

8. Reinstall the front right cover on the machine, and then close the right door of the machine.

9. Turn on the main power switch of the machine.

10. Check the 1-bin tray unit operation.

Bridge Unit (D386)

Component Check

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

No.	Description	Q'ty
1	Bridge Unit	1
2	Knob screw	1
3	Long Knob Screw	1
4	Holder bracket	1
5	Guide	2
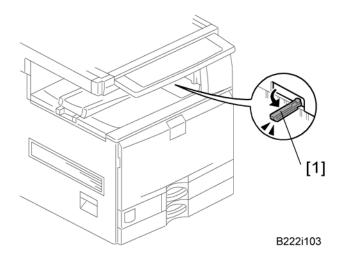
D386i101

Installation Procedure

⚠ CAUTION

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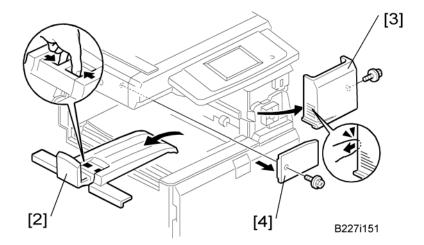
🔽 Note

- If you will install the 1-bin tray (D389) on the machine, install the 1-bin tray first before installing the bridge unit (D386). This makes it easy to do the following procedure.

2
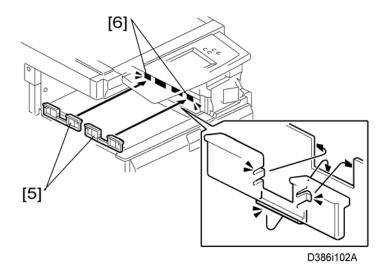
- If you will install the finisher unit (B408, B804 or B805) on the machine, install it after installing the bridge unit (D386).

B222i103
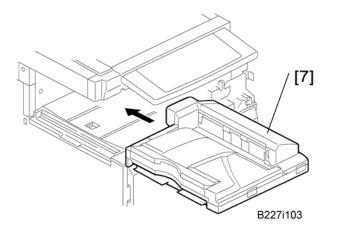
1. Remove all tapes.
2. If the sensor feeler [1] is out, fold it into the machine.
3. Open the right door of the machine.

B227i151

4. Remove the upper inner tray [2].
5. Remove the front right cover [3] ($\mathscr{J}$ x 1).
6. Remove the connector cover [4] ($\mathscr{J}$ x 1).

D386i102A
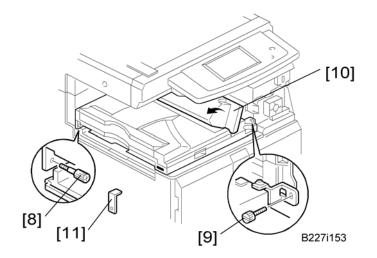
7. Attach the two guides [5] to the cutouts [6] in the inner tray.

B227i103

8. Install the bridge unit [7] in the machine.

B227i153

9. Secure the bridge unit with the long knob screw [8] and knob screw [9].

10. Reinstall the front right cover on the machine, and then close the right door of the machine.

   🔽Note

   • Open the bridge unit cover [10] when installing the front right cover. Otherwise, you cannot reinstall it.

11. Install the optional finisher (refer to the finisher installation procedure).

   🔽Note

   • Holder bracket [11] is used in the installation procedure of the finisher (B408, B804 or B805).Do not install it at this time.

12. Turn on the main power switch of the machine.

13. Check the bridge unit operation.

2000/3000-Sheet Finishers (B804/B805)
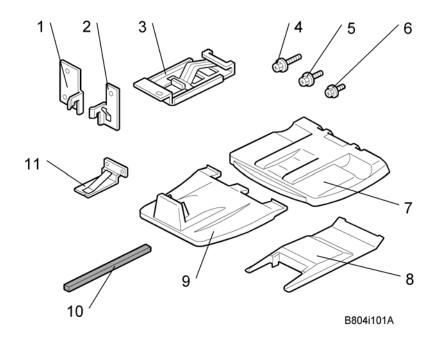
Accessory Check

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

No.	Description	Q'ty
1	Rear joint bracket	1
2	Front joint bracket	1
3	Ground (earth) plate	1
4	Tapping screws - M4 x14	4
5	Tapping screws - M3 x 8	1
6	Tapping screws - M3 x 6	2 (B804) or 6 (B805)[1]
7	Upper output tray	1
8	Support Tray	1
9	Lower output tray (B804 only)	1
10	Cushion (with double-sided tape)	1
11	Small ground (earth) plate (B805 only)[2]	2

[1]: Four of these six screws are not used for this model.

[2]: Item No.11 is not used for this model.
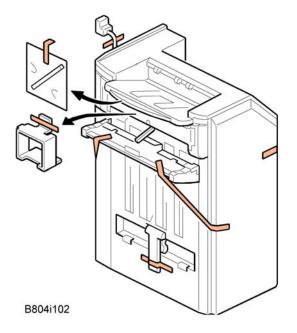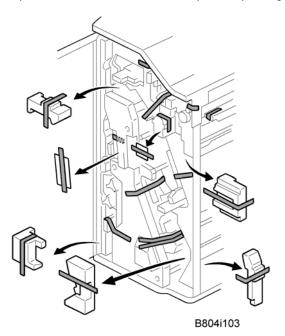
B804i101A

Installation Procedure

⚠CAUTION

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

If this finisher is installed on this machine, the following options must be installed before installing this finisher.
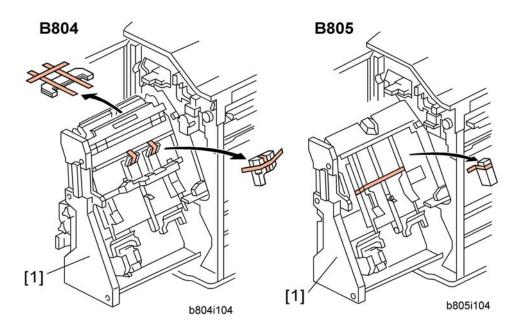
- Bridge Unit (D886)
- Paper Feed Unit (D351) or LCT (D352)

2

B804i102
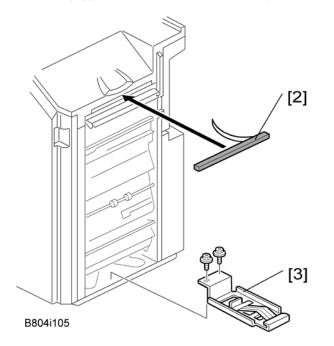
1. Unpack the finisher and remove all tapes and packing materials from the finisher.

B804i103

2. Open the front door, and then remove all tapes and packing materials from the inside of the finisher.

b804i104   b805i104
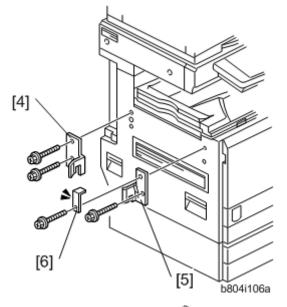
3. Pull out the jogger unit [1], and then remove all tapes and retainers.

B804i105

4. Attach the cushion [2] to the finisher.

    ⬇Note
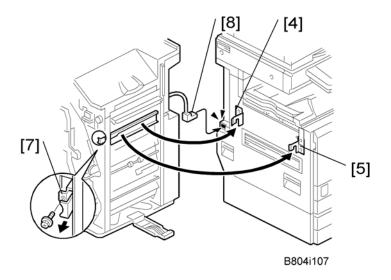
    • Make sure that the cushion is placed within 0 to 1 mm from the edge of the cover.

5. Install the ground plate [3] on the finisher (🖋 x 2; M3 x 6).

b804i106a

6. Attach the rear joint bracket [4] (🔩 x 2; M4 x 14).

7. Attach the front joint bracket [5] and the holder bracket [6] (🔩 x 2; M4 x 14).

⬇Note
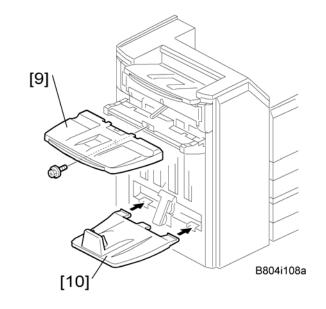
- Holder bracket [6] must be placed outside the front joint bracket [5]. This bracket is provided with the Bridge Unit (D386).

B804i107

8. Pull the lock lever [7] (🔩 x 1).

9. Slowly push the finisher to the left side of the machine, keeping its front door open until the brackets [4] [5] go into their slots.

10. Push the lock lever [7], and then secure it (🔩 x 1).
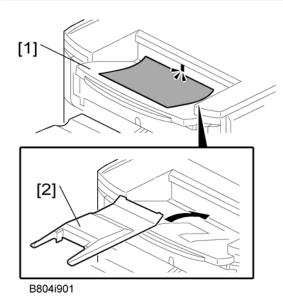
11. Close the front door of the finisher.

12. Connect the finisher connector [8] to the machine.

B804i108a

13. Install the upper output tray [9] (🔩 x 1; M3 x 8).

14. Only for B804, install the lower output tray [10].

15. Turn on the main power switch of the machine.

16. Check the finisher operation.

Support Tray Installation

B804i901

If a stacking problem occurs several times on the upper output tray [1], put the support tray [2] on the tray as shown.

Note

- Keep this tray in the manual pocket if this tray does not need to be installed.
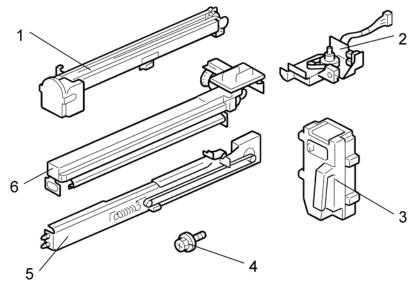
Punch Unit

The Punch Unit B702 can be installed in the 2000/3000 Sheet (Booklet) Finisher B804/B805.

Component Check

2

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

No.	Description	Q'ty
1	Punch-out 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
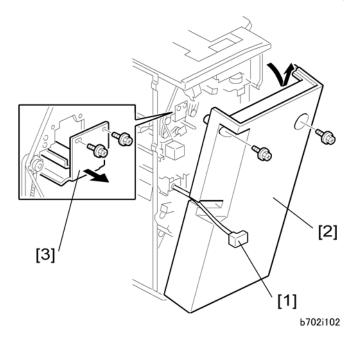
b702i101

Installation Procedure

⚠ **CAUTION**

- Unplug the main machine power cord before starting the following procedure. If the 2000/3000-sheet booklet finisher has been installed, disconnect it and pull it away from the machine.

b702i102
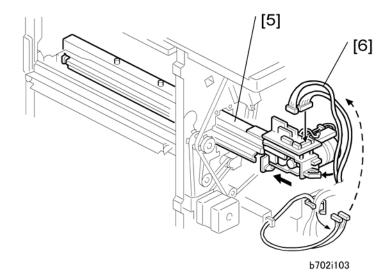
1. If the finisher is connected to the copier, disconnect the power connector [1] and move the finisher away from the copier.

2. Remove the rear cover [2] (🔩 x 2) and open the front door.

   ⬇ **Note**

   - At the bottom of the rear cover, make sure to disconnect the tabs that attach the cover to the frame.

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

b702i501
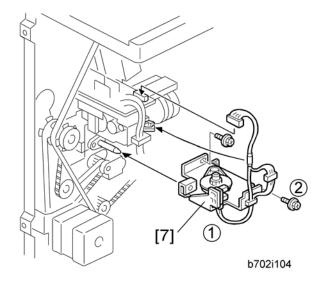
4. Remove the bracket [4] from the punch unit (🔩 x 3).

b702i103
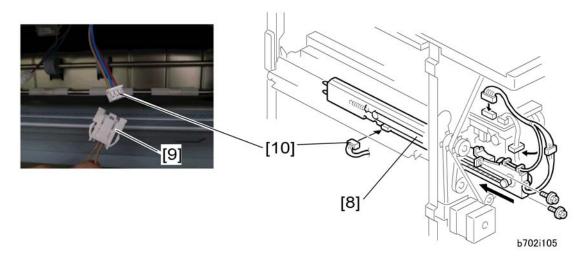
5. Move the punch unit [5] along its rails into the finisher. Make sure that the pin engages correctly at the front and rear.

6. Connect the cables [6] of the finisher to the connectors (CN601 and CN602) on the punch unit board (🔌 x 2, 🔧 x 1).

   - The cables [6] are coiled and attached to the PCB.

2

b702i104
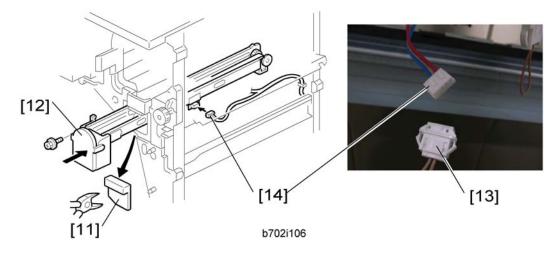
7. Attach the slide drive unit [7] to the finisher and connect it to the punch unit (⌗ x 2, ⬛ x 1). Push in the slide drive unit at ① when you attach the screw ②.

8. Make sure that the punch unit moves freely and is not blocked by the screws.

b702i105

9. Put the side-to-side detection unit [8] in the machine. Make sure that the two pins are engaged correctly at the front.

10. Make sure that the side-to-side detection unit moves smoothly on its rails. If it does not, make sure that the rails are aligned with their grooves.

11. Attach the side-to-side detection unit and connect it at the rear (⌗ x 2, ⬛ x 1, ⬛ x 1).

12. Pull the short connector [9] out of the connector [10], then connect the cable [10] of the finisher (⬛ x 1).

⬇ Note
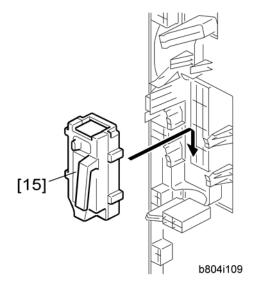
- This is the 3-pin connector.

b702i106

13. At the front, use a pair of wire cutters to remove the part [11] of the cover.

14. Install the punch-waste transport unit [12] in the finisher.

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

16. Remove the short connector [13] from the connector [14].

⬇ Note

- This is the 4-pin connector.

17. Connect the cable [14] and attach the punch-waste transport unit (⬚ x 1, ⬚ x 1, ⬚ x 1).

2

b804i109

18. Set the hopper [15] in its holder.

19. Reassemble the finisher, and then install it on the main machine.

20. Connect the power cord to the outlet, and then turn the main power switch on.

21. Check the punch unit operation.
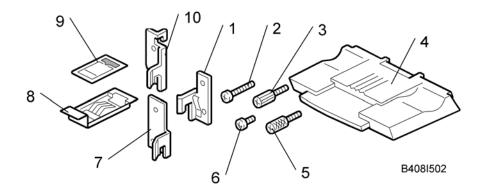
1000-Sheet Finisher (B408)

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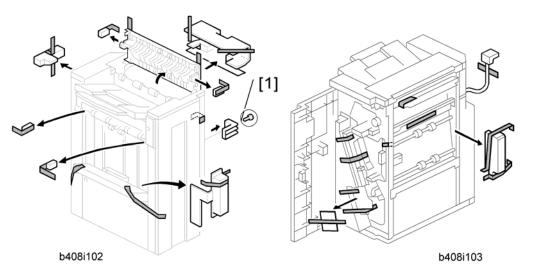
Check the quantity and condition of the accessories against the following list.

No.	Description	Q'ty	For this model
1	Front Joint Bracket	1	✔
2	Screw - M4 x 14	4	✔ (Use 4)
3	Knob Screw - M4 x 10	1	✔
4	Copy Tray	1	✔
5	Knob Screw - M3 x 8	1	✔
6	Screw - M3 x 8	1	✔
7	Rear Joint Bracket	1	✔
8	Grounding Plate	1	✔
9	Staple Position Decal	1	✔
10	Rear Joint Bracket	1	---

✔ = Necessary, --- = Not necessary
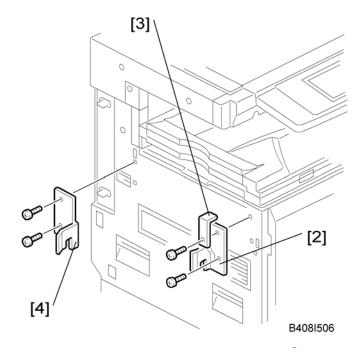
B408I502

Installation Procedure

b408i102   b408i103

⚠️CAUTION

• Unplug the main machine power cord before starting the following procedure.

If this finisher is installed, the Bridge Unit (D386) and Paper Feed Unit (D351) or LCT (D352) must be installed before installing this finisher.

1. Unpack the finisher and remove the tapes.

   ⬇️Note
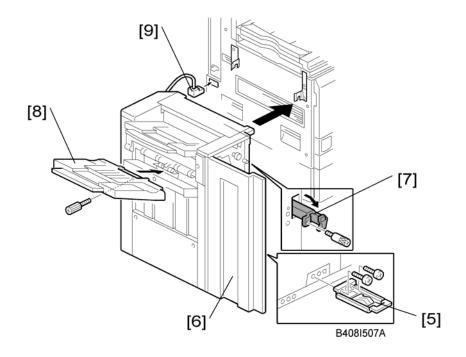
   • Be sure to keep screw [1] shown at the top left drawing above. It will be needed to secure the grounding plate later in this procedure.

B408I506

2. Install the front joint bracket [2] / holder bracket [3] (🔩 x 2; M4 x 14) and rear joint bracket [4] (🔩 x 2; M4 x 14).

⬇Note
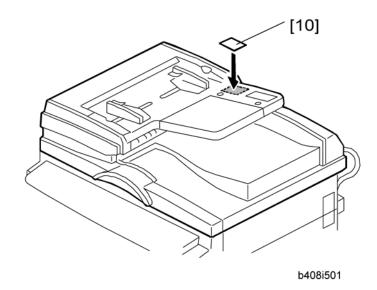
- The holder bracket [3] must be placed outside the front joint bracket [2]. The holder bracket [3] is provided with the Bridge Unit (D386).

2

B408I507A

3. Install the grounding plate [5] on the finisher (🔩 x 2; M3 x 8)

💧**Note**
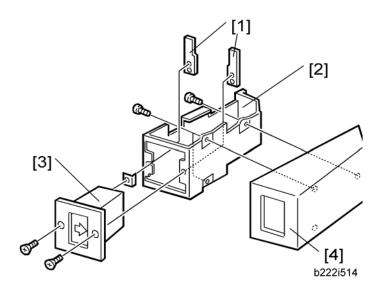
- Use the screw removed in step 1 and the screw from the accessory box.

4. Open the front door [6] then pull the locking lever [7].

5. Align the finisher on the joint brackets, and lock it in place by pushing the locking lever.

6. Secure the locking lever (1 knob screw; M3 x 8).

7. Close the front door.

8. Install the copy tray [8] (1 knob screw; M4 x 10).

9. Connect the finisher cable [9] to the main machine as shown above.

b408i501
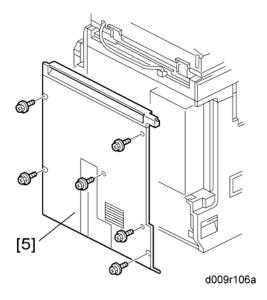
10. Attach the staple position decal [10] to the ARDF as shown.

11. Turn on the main power switch and check the finisher operation.

Key Counter Bracket

Installation Procedure

b222i514
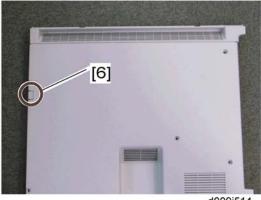
1. Hold the key counter plate nuts [1] on the inside of the key counter bracket [2] and insert the key counter holder [3].

2. Secure the key counter holder to the bracket (🔩 x 2).

3. Install the key counter cover [4] (🔩 x 2).

d009r106a
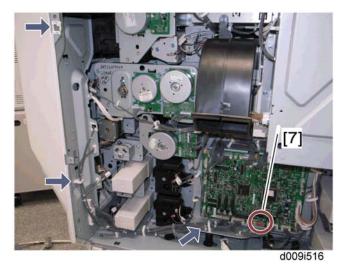
4. Rear cover [5] (🔩 x 5)
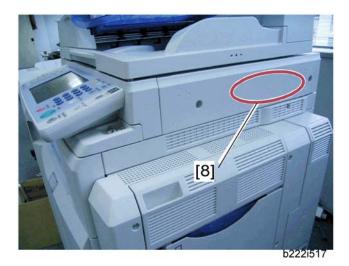
d009i514

5. Cut off the part [6] of the rear cover.

d009i516
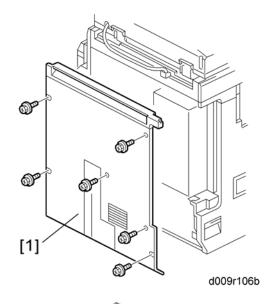
6. Connect the harness to CN211 [7] on the IOB (🔌 x 3).
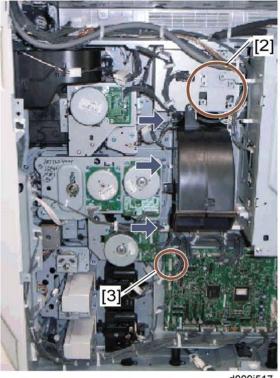
7. Peel off the double-sided tape on the key counter bracket and attach the key counter to the scanner right cover [8].

8. Reassemble the machine.

Key Counter Interface Unit

Installation Procedure

2

[1]

d009r106b
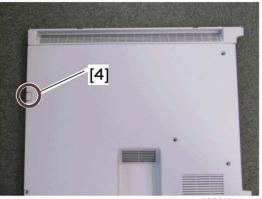
1. Rear cover [1] (🔩 x 6)
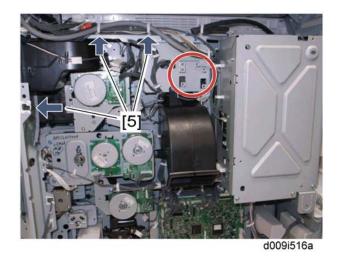
d009i517

2. Install the key counter interface board in the location [2] (🔩 x 4).

3. Connect the harness to CN3 on the key counter interface board.

4. Connect the other terminal of the harness to CN214 [3] on the IOB (🔌 x 3).

d009i514a

5. Cut off the part [4] of the rear cover.

2

d009i516a
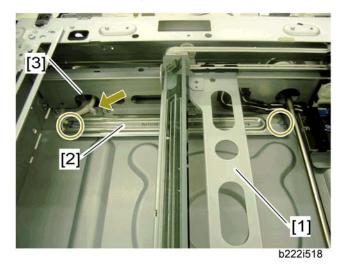
6. Connect the harness from the counter device to CN4 on the key counter interface board and clamp it with three clamps [5].

7. Reassemble the machine.

Anti-Condensation Heater (Scanner)

Installation Procedure

1. Remove the ARDF or platen cover (see "ARDF" or "Platen Cover" in the "Installation" section.)

2. Rear cover (☛ p.154)

3. ARDF exposure glass and exposure glass with left scale (☛ p.159).

4. Scanner rear frame (☛ p.163).

b222i518
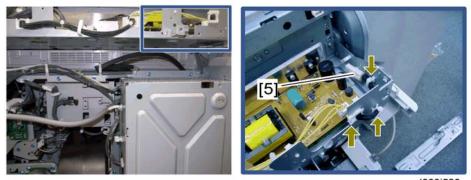
5. Move the scanner carriage [1] to the right side by rotating the scanner motor.

6. Install the heater [2] in the scanner unit (🔩 x 2, 🔌 x 1)

7. Put the cable through the cutout [3].
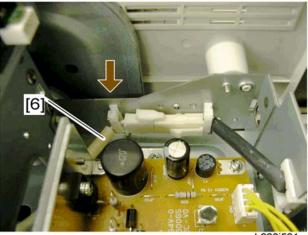
d017i519

8. Release the heater relay cable [4] (🔩 x 1).

d009i520

9. Route the heater relay cable [5] as shown (🔩 x 3).
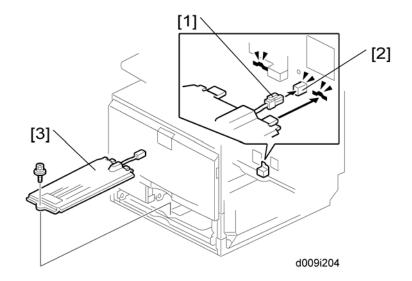
b222i521
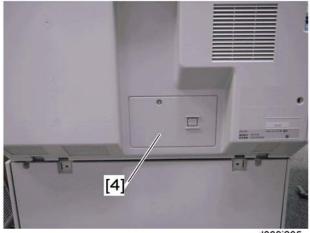
10. Connect the heater cable [6] to the heater relay cable (🔌 x 1).

11. Reassemble the machine.

Tray Heater

Installation Procedure

d009i204
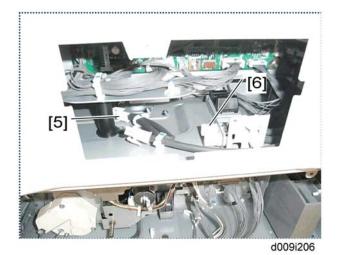
1. Remove trays 1 and 2 from the machine.

2. Connect the connector [1] of the heater to the connector [2] of the main machine.

3. Install the heater [3] inside the machine (🔩 x 1).

d009i205

4. Remove the connector cover [4] (🔩 x 1).

d009i206
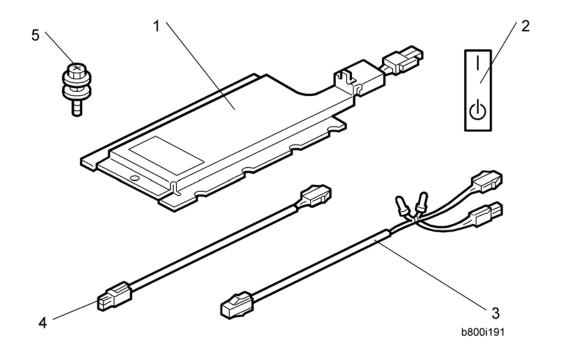
5. Release the heater relay connector [5] (⬚ x 1).

6. Connect the heater relay connector to the connector [6] (front side) of the main frame (⬚ x 1).

7. Reassemble the machine.

Tray Heater (Optional Paper Feed Unit)

Component Check

No.	Description	Q'ty
1	Tray heater	1
2	On-standby decal	1 (-90) or 2 (-91)
3	Harness 2 (For G832)	1
4	Harness 1 (For B800/B801)	1
5	Screw M4 x 10	2
-	Installation procedure	1

b800i191

Installation Procedure

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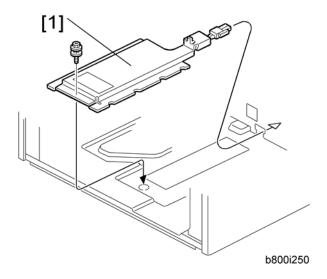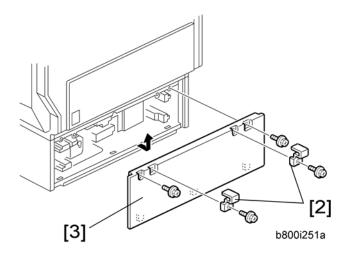
- Unplug the machine power cord before starting the following procedure.

For installing the tray heater in the **D351 (Two-tray paper feed unit)**
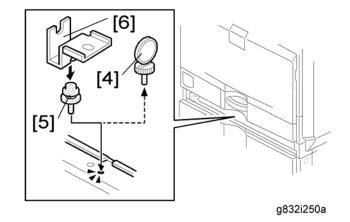
1. Remove the rear cover of the mainframe (🖉 x 6).

2. Pull out the two trays from the optional paper feed unit.

b800i250
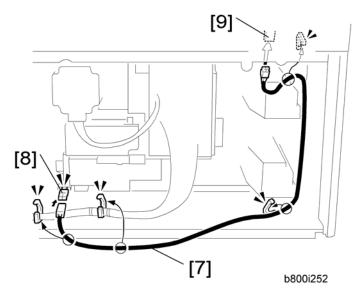
3. Install the tray heater [1] in the optional paper feed unit (🖉 x 1).

b800i251a
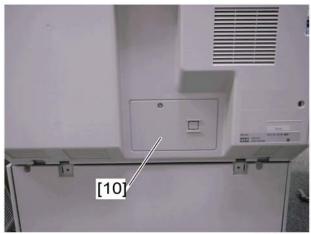
4. Remove the two securing brackets [2] (🖉 x 1 each), and then the rear cover [3] of the optional paper feed unit (🖉 x 2).

g832i250a

5. Pull out tray 2 from the mainframe.

6. Replace the shoulder screw [4] with the washer screw [5], using the securing bracket [6] (🔩 x 1).

b800i252
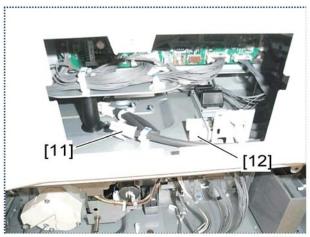
7. Connect the harness [7] to the connector [8] of the tray heater.

8. Route the harness [7] as shown and clamp it with four clamps (🗜 x 4).

9. Connect the harness [7] to the connector [9] of the mainframe.
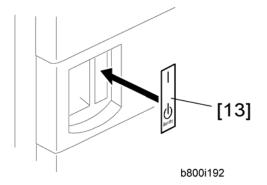
d009i205a

10. Remove the connector cover [10] (🔩 x 1).

d009i206a

11. Release the optional heater relay connector [11] (🔌 x 1).

12. Connect the optional heater relay connector to the connector [12] (rear side) of the main frame (🔌 x 1).

13. Reassemble the mainframe and optional paper feed unit.

2

b800i192
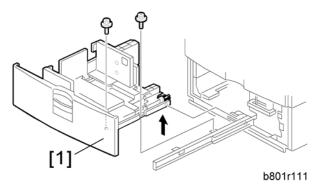
14. Attach the on/standby decal [13] to the right-hand side of the main power switch.

For installing the tray heater in the **D352 (LCT)**
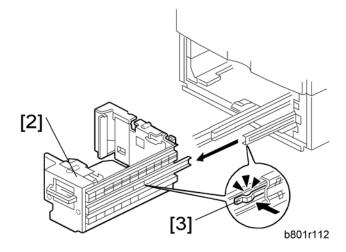
1. Remove the rear cover of the mainframe (🔩 x 6).

2. Pull out the LCT drawer.

   ⬇Note

   - If the right tray comes out with the left tray, push the right tray into the LCT.

b801r111

3. Left tray [A] (🔩 x 2)
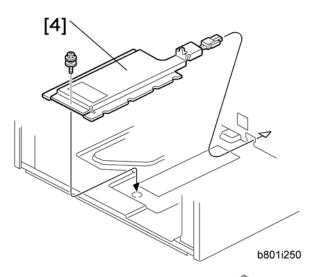
b801r112
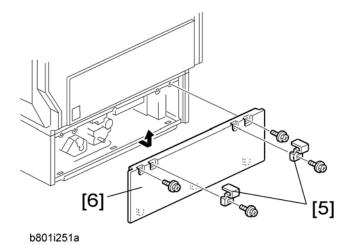
4. Remove the right tray [2] while pressing down the stopper [3].

⬇Note
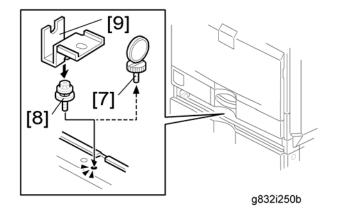
- When reinstalling the right tray, set the right tray on the guide rail and carefully push the tray in, making sure to keep the tray level.

b801i250
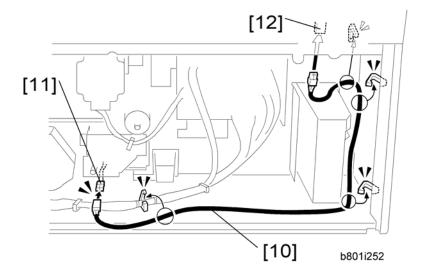
5. Install the tray heater [4] in the optional LCT (🔩 x 1).

b801i251a
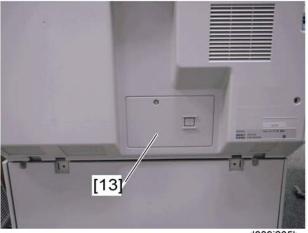
6. Remove the two securing brackets [5] (✏ x 1 each), and then the rear cover [6] of the optional LCT (✏ x 2).

g832i250b
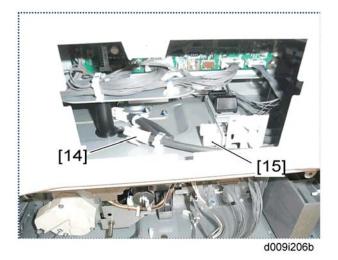
7. Pull out tray 2 from the mainframe.

8. Replace the shoulder screw [7] with the washer screw [8], using the securing bracket [9] (✏ x 1).

b801i252
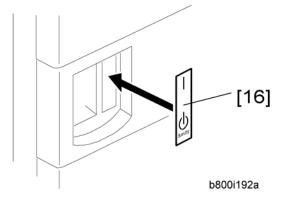
9. Connect the harness [10] to the connector [11] of the tray heater.

10. Route the harness [10] as shown and clamp it with four clamps (⬚ x 4).

11. Connect the harness [10] to the connector [12] of the mainframe.

d009i205b

12. Remove the connector cover [13] (🔩 x 1).

d009i206b

13. Release the optional heater relay connector [14] (⊟ x 1).

14. Connect the optional heater relay connector to the connector [15] (rear side) of the main frame (⊟ x 1).

15. Reassemble the mainframe and optional LCT.

b800i192a
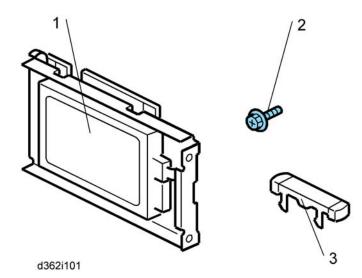
16. Attach the on/standby decal [16] to the right-hand side of the main power switch.

HDD Option (D362, only for D009/D012)

Component Check
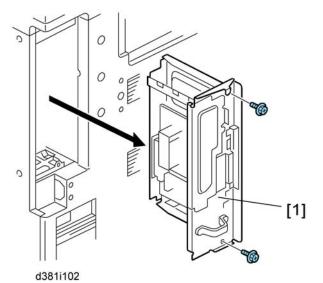
No.	Description	Q'ty	For D009/D012
1	HDD Unit	1	✔
2	Screw	3	✔
3	Keytop: Copy	2	✔
	Keytop: Document Server	2	✔
-	Knob Screw	3	---

✔ = Necessary, --- = Not necessary

d362i101

Installation Procedure

d381i102

1. Remove the controller board [1] (📎 x 2).

d381i103
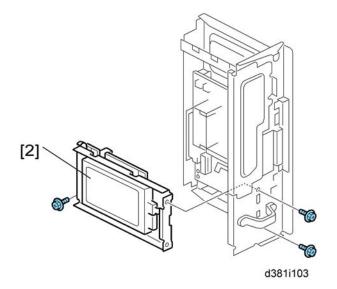
2. Install the HDD unit [2] in the controller board (📎 x 3).

3. Reinstall the controller board in the machine.

4. Remove the dummy keytops (top and second from the top).

5. Install the copy and document server keytops.
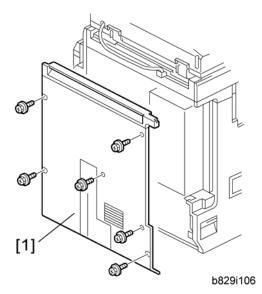
After Installing the HDD

1. Do **SP5832-001** to format the hard disk.
2. Do **SP5853-001** to copy the preset stamp data from the firmware to the hard disk.
3. Do **SP5846-040** to copy the address book to the hard disk from the controller board.
4. Do **SP5846-041** to let the user get access to the address book.
5. Turn the main power switch off/on.

2
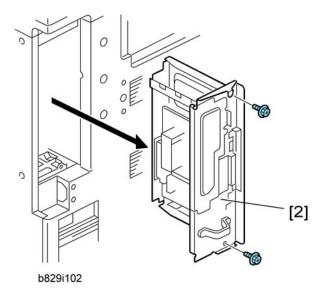
Copy Data Security Unit

Installation Procedure

⚠CAUTION

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

b829i106

1. Rear cover [1] (🔩 x 6)

b829i102
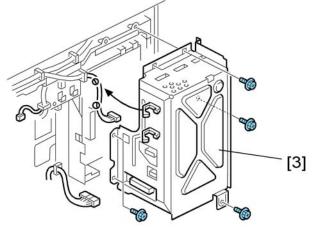
2. Controller unit [2] (🔩 x 2)

b829i004

3. Controller box [3] (🔩 x 6)

b829i501

4. Attach the ICIB-1 (copy data security board) to CN 111 [4] on the BICU (🔩 x 2).

5. Reassemble the machine.

User Tool Setting

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

2. Go into the User Tools mode, and select System Settings > Administrator Tools > Data Security for Copying > "On".

3. Exit the User Tools.

4. Check the operation.
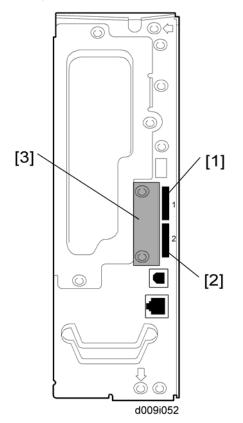
✦Note

- The machine will issue an SC165 error if the machine is powered on with the ICIB-1 removed and the "Data Security for Copying" feature is set to "ON".

- When you remove this option from the machine, first set the setting to "OFF" with the user tool before removing this board. If you forget to do this, "Data Security for Copying" feature cannot appear in the user tool settings. And then SC165 will appear every time the machine is switched on, and the machine cannot be used.

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

Controller Options

Controller Board Slots

The machine controller box has one board slot and two SD card slots. Make sure that each board and SD card is put in the correct slot.

d009i052

The names of the slots for the board and SD cards are embossed on the face of the controller plate.

2. Installation

SD Slot 1, Slot 2

Slot	SD Card
[1]	RPCS Printer Unit Printer Unit Printer/Scanner Unit Data Overwrite Security PostScript3 IPDS Unit
[2]	• Service slot for firmware version updates • Installing the optional browser unit, VM card or HDD encryption unit • Moving applications to an SD card in slot 1 • Downloading/uploading NVRAM contents

Board Slot

Slot	Board
[3]	• File Format Converter (MLB): D377 • Bluetooth Interface Unit: B826 • IEEE 802.11a/g, g: D377 • IEEE 1284 Interface Board: B679 • Gigabit Ethernet: G874

Note
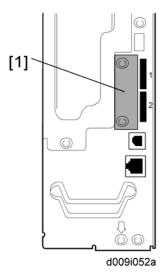
• Only one of these boards can be installed at one time.

IEEE1284

Installation Procedure

⚠ CAUTION

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

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

d009i052a

1. Remove the slot cover [1] from the board slot (🔩 x 2).

2. Install the interface board (Knob-screw x 2) into the board slot.

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

IEEE 802.11a/g, g (Wireless LAN)
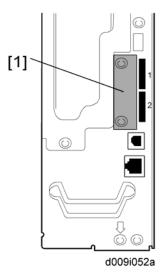
Installation Procedure
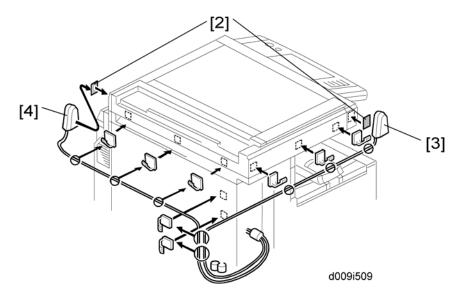
⚠ CAUTION

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

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

d009i052a

1. Remove the slot cover [1] from the board slot (🔧 x 2).

2. Install the wireless LAN board (Knob-screw x 2) into the board slot.

3. Make sure that the machine can recognize the option (see 'Check All Connections' at the end of this section).

d009i509

4. Peel off the double-sided tapes on the Velcro fasteners [2], and then attach them [2] at the front left and rear right of the machine.

5. Attach the "ANT1" (having a black ferrite core) to the front left of the machine.

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

↓Note

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

7. Attach the clamps as shown above.

8. Wire the cables and clamp them (🖥 x 8).

↓Note

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

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

- Make sure that the machine is not located near an appliance or any type of equipment that generates strong magnetic fields.

- Put the machine as close as possible to the access point.

UP Mode Settings for Wireless LAN

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

↓Note

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

1. Press the "User Tools/Counter" key.

2. On the touch panel, press "System Settings".

↓Note

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

3. Select "Interface Settings".

4. Press "Wireless LAN". Only the wireless LAN options show.

5. Communication Mode. Select either "802.11 Ad hoc", "Ad hoc" or "Infrastructure".

6. SSID Setting. Enter the SSID setting. (The setting is case sensitive.)

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

   Range: 1 to 14 (default: 11)

   ↓Note

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

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

   WEP:

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

Range of Allowed Settings:

64 bit: 10 characters

128 bit: 26 characters

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

⬇Note

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

11 Mbps: 140 m (153 yd.)

5.5 Mbps: 200 m (219 yd.)

2 Mbps: 270 m (295 yd.)

1 Mbps: 400 m (437 yd.)

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

Press "Yes" to initialize the following settings:

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

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

The following SP commands and UP modes can be set for IEEE 802.11a/g, g.
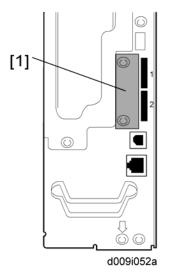
SP No.	Name	Function
5840-006	Channel MAX	Sets the maximum range of the channel settings for the country.
5840-007	Channel MIN	Sets the minimum range of the channels settings allowed for your country.
5840-011	WEP Key Select	Used to select the WEP key (Default: 00).
UP mode	Name	Function

	SSID	Used to confirm the current SSID setting.
	WEP Key	Used to confirm the current WEP key setting.
	WEP Mode	Used to show the maximum length of the string that can be used for the WEP Key entry.

Bluetooth

⚠️CAUTION

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

You can only install one of the following network interfaces at one time: (IEEE 802.11a/g, g (Wireless LAN), IEEE1284, IEEE1394, Bluetooth).

d009i052a
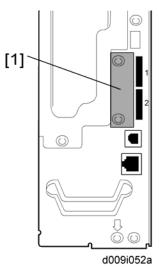
1. Remove the slot cover [1] from the board Slot (🔧 x 2).
2. Install the Bluetooth board (Knob-screw x 2) into the board slot.
3. Insert the Bluetooth card into the Bluetooth card adaptor.
4. Attach the antenna cap to the Bluetooth card.
5. Install the Bluetooth card adaptor into the Bluetooth board.
6. Make sure that the machine can recognize the option (see "Check All Connections" at the end of this section).

Gigabit Ethernet

⚠️CAUTION

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

You can only install one of the following network interfaces at one time: (IEEE 802.11a/g, g (Wireless LAN), IEEE1284, IEEE1394, Bluetooth).

d009i052a
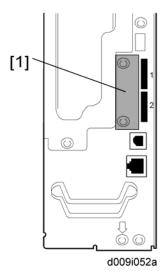
1. Remove the slot cover [1] from the board slot (🔩 x 2).

2. Insert the Gigabit Ethernet Board into the I/F slot and fasten it with the screws.

3. 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

File Format Converter

⚠️CAUTION

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

d009i052a

1. Remove the slot cover [1] from the board slot (✏ x 2).

2. Install the file format converter into the board slot, and then fasten it with screws.

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

4. Check or set the following SP codes with the values shown below.
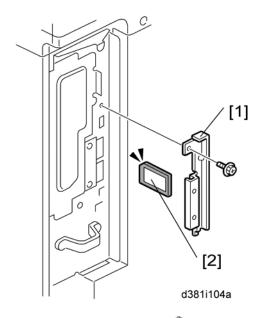
SP No.	Title	Setting
SP5-836-001	Capture Function (0:Off 1:On)	"1"
SP5-836-002	Panel Setting	"0"

5. Check the operation.

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

PostScript 3

⚠CAUTION

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

d381i104a

1. Remove the slot cover [1] (🔩 x 1).
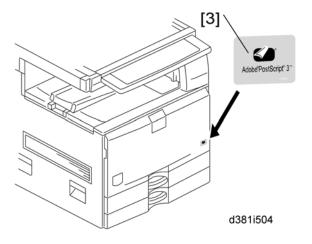
2. Turn the SD-card label face [2] to the rear of the machine. Then push it slowly into slot 1 until you hear a click.

3. Attach the slot cover [1] (🔩 x 1).

d381i504

4. Attach the "Adobe PostScript 3" decal [3] to the front door.

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

IPDS Unit

Accessories

Check the accessories and their quantities against the table below.

No.	Description	Q'ty
1	IPDS Emulation SD Card	1
2	Decal	1

↓Note
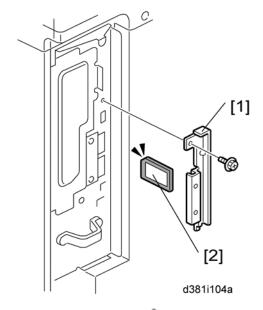
- Only one slot (C1) is available for SD cards that contain applications. If you want to use more than one application, merge all applications into one SD card (SP5873-001).

Installation

1. Check the software version.

    - Make sure the following versions are installed:

Firmware Name	Version	Firmware Number
NCS	V7.12 or later	D0135754D
Websys	V1.09 or later	D0135755D
Printer	**V1.05 or later**	**D0135758G**
System/Copy (For D011/D013/D091/D092)	**V1.08 or later**	**D0135751P**
System/Copy (For D009/D012)	**V1.08 or later**	**D0125751P**
IPDS	**V4.732 or later**	**D0125756A**

2. If necessary, update the firmware to the version(s) listed above.
3. Turn off the main switch.

d381i104a

4. Remove the slot cover [1] (🔧 x 1).

5. Insert the IPDS SD Card [2] into slot 1.

   - If slot 1 is occupied, insert it in to slot 2, then merge this application into slot 1.

   ⭐ **Important**

   - **Pushing in the SD Card 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.**

6. Reattach the slot cover and turn ON the main switch.

7. Do one of the following ("A" or "B") to enable the IPDS function.

   A. [Enable the IPDS function via telnet]
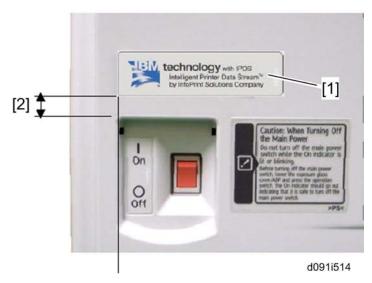
   1. Connect the machine via telnet.

   2. Execute the following commands:

   msh> **set ipds up**

   ***If you want to stop the function.

   msh> **set ipds down**

   B. [Enable the IPDS option via WebImageMonitor]

   1. Log in to WebImageMonitor.

   2. Change the setting to enable IPDS.

d091i514

8. Attach the decal [1] as shown in the photo above.

   • Line up the left side of the decal with the left edged of the main power switch. ([2]: 10 mm or more)

HDD Encryption Unit

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

   ⭐**Important**

   • **These settings must be set up by the customer before the HDD Encryption unit 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**
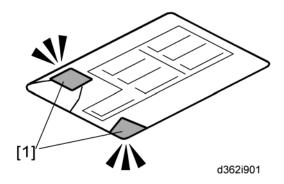
- "Available Settings" is not displayed until Step 2 is done.

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

Seal Check and Removal

⭐**Important**

- 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.

d362i901

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

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

2. Open the box.

Installation Procedure

1. For models which have the VM card, do the followings:

    - Press "User Tools" button to enter the User Tools mode.

2

d377i502

- Press "Extended Feature Settings" on the LCD.

d377i503

- Press "Extended Feature Settings" on the LCD again.

d377i504

- Press "Startup Setting" tab.
- Stop all SDK applications with touching application lines.
- Exit the UP mode, and then turn off the machine.
- Remove the VM card from slot 2.

d381i104a

2. Remove the slot cover [1] (🔩 x 1).

3. Turn the SD-card label [2] to face the rear of the machine. Then push it slowly into slot 2 until you hear a click.

4. Turn on the main power switch, and then enter the SP mode.

5. Select SP5878-002, and then press "Execute" on the LCD.

6. Exit the SP mode after "Completed" is displayed on the LCD.

7. Turn off the main power switch.

8. Remove the SD card from slot 2.

9. Attach the slot cover [1] (🔩 x 1).

Recovery from a Device Problem

Controller board is defective.

Yes ↓

HDD unit is defective — No → NVRAM is defective — No →

Replace the controller board.
Do the "Restoring the encryption key" procedure.
If the customer has lost the encryption key, do the "Clearing the NVRAM" procedure, and initialize the NVRAM and HDD with SP mode.

Yes ↓   Yes ↓

NVRAM is defective — No → Replace the controller board and HDD unit. Initialize the HDD unit.

Yes ↓

The HDD encryption unit cannot be recovered.

The HDD encryption unit is recovered.
However, the data stored in the HDD unit cannot be recovered.

The HDD encryption unit is recovered.
(If you did the "Clearing the NVRAM" procedure, the data stored in the NVRAM and HDD cannot be recovered.)

d381i501

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 (☞ p.243).

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 (SP5801-001) and HDD unit (SP5832-001) with SP mode.

14. The user must enable the HDD encryption unit with a user tool.

DataOverwriteSecurity Unit Type I (D362)

Before You Begin the Procedure

1. Confirm that the DataOverwriteSecurity unit SD card is the correct type for the machine. The correct type for this machine is **"Type I"**.

   ⭐**Important**

   - If you install any version other than "Type I", you will have to replace the NVRAM and do this installation procedure again.

2. Make sure that the following settings are not at their factory default values:

   - Supervisor login password

   - Administrator login name

   - Administrator login password

2

If any of these settings is at a factory default value, tell the customer these settings must be changed before you do the installation procedure.

3. Make sure that "Admin. Authentication" is ON.

[System Settings] – [Administrator Tools] – [Administrator Authentication Management] - [Admin. Authentication]

If this setting is OFF, tell the customer this setting must be ON before you do the installation procedure.

4. Make sure that "Administrator Tools" is enabled (selected).
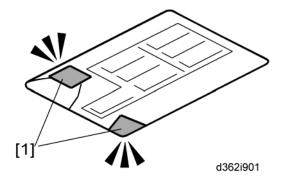
[System Settings] – [Administrator Tools] – [Administrator Authentication Management] - [Available Settings]

If this setting is disabled (not selected), tell the customer this setting must be enabled (selected) before you do the installation procedure.
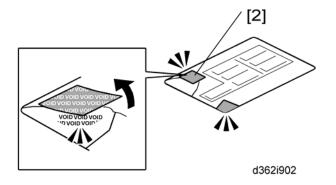
Seal Check and Removal

⭐ Important

- 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.

d362i901

1. Check the box seals [1] 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.
2. If the surfaces of the tapes do not show "VOID", remove them from the corners of the box.

d362i902
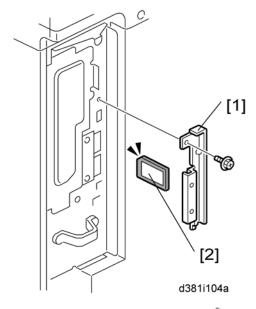
3. You can see the "VOID" marks [2] when you remove each seal. In this condition, they cannot be attached to the box again.

Installation Procedure

⚠CAUTION

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

🔽Note

• You must install the DataOverwriteSecurity unit in SD Card slot 1. However, the Postscript option and others are also installed in SD Card slot 1. You must do the "SD Card Appli Move" procedure first if you want to install the DataOverwriteSecurity unit.

1. Turn off the main power switch if the machine is turned on.

2. Disconnect the network cable if it is connected.

d381i104a

3. Remove the slot cover [1] for SD cards (🔩 x 1).

4. Turn the SD-card label face [2] to the rear of the machine. Then push it slowly into slot 1 until you hear a click.

5. Connect the network cable if it needs to be connected.

6. Turn on the main power switch.

7. Go into the SP mode and push "EXECUTE" with SP5-878-001.

8. Exit the SP mode and turn off the operation switch. Then turn off the main power switch.

9. Turn on the machine power.

10. Do SP5990-005 (SP print mode Diagnostic Report).

11. Make sure the ROM number and firmware version in area [a] of the diagnostic report are the same as those in area [b].

    - [a]: "ROM Number/Firmware Version" – "HDD Format Option"

    - [b]: "Loading Program" – "GW2a_zoffy"

Diagnostic Report:	"ROM No. / Firmware Version" [a]	"Loading Program" [b]
DataOverwriteSecurity Unit	HDD Format Option: D3775912 / 1.00m	GW2a_zoffy: D3775912 / 1.00m

Important
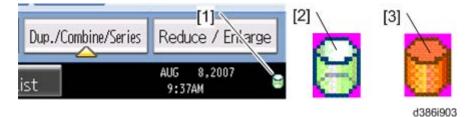
- The ROM number and firmware version number change when the firmware is upgraded. However, the important thing is to make sure the numbers in [a] are the same as the numbers in [b].

- If the ROM numbers are not the same, or the version numbers are not the same, this means the unit was not installed correctly.

If this happens:

Make sure of the unit type (must be Type I).

If they do not match:

1) Replace the NV-RAM on the controller.

2) Replace the "DataOverwriteSecurity Unit" (SD card) with the correct type

3) Do the installation procedure in this procedure again, from Step 1.

12. Go into the User Tools mode, and select System Settings> Administrator Tools> Auto Erase Memory Setting> On.

13. Exit the User Tools mode.

14. Check the display and make sure that the overwrite erase icon [1] shows.

15. Make a Sample Copy.

16. Check the overwrite erase icon.

- The icon [2] changes to [3] when job data is stored in the HDD.

- The icon goes back to its usual shape [2] after this function has completed a data overwriting in the HDD.

Browser Unit Type D

Installation Procedure

This option requires a HDD unit.

⚠ CAUTION

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

SD card slot 2 is basically used only for service maintenance and VM card. Do not leave an SD card in slot 2 after installing an application.

1. For models which have the VM card, do the followings:

   • Press "User Tools" button to enter the User Tools mode.

d377i502

   • Press "Extended Feature Settings" on the LCD.

d377i503

   • Press "Extended Feature Settings" on the LCD again.

d377i504

   • Press "Startup Setting" tab.

- Stop all SDK applications with touching application lines.

- Exit the UP mode, and then turn off the machine.

- Remove the VM card from slot 2.

d381i104a

2. Remove the slot cover [1] for SD cards (🔩 x 1).

3. Turn the SD-card label face [2] to the rear of the machine. Then push it slowly into slot 2 until you hear a click.

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

5. Push the "User Tools" key.

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

6. Push the "Login/Logout" key.

7. Login with the administrator user name and password.

8. Touch "Extended Feature Settings" twice on the LCD.

9. Touch "Install" on the LCD.

10. Touch "SD Card".

11. Touch the "Browser" line.

12. Under "Install to", touch "Machine HDD" and touch "Next".

13. When you see "Ready to Install", check the information on the screen to confirm your previous selection.

14. Touch "OK". You will see "Installing the extended feature... Please wait.", and then "Completed".

15. Touch "Exit" to go back to the setting screen.

16. Touch "Change Allocation".

17. Touch the "Browser" line.

18. Press one of the hard keys, which you want to use for the Browser Unit. By default, this function is assigned to the "Other Functions" key (bottom key of the function keys).

19. Touch "OK".

20. Touch "Exit" twice to go back to the copy screen.

21. Turn off the main power switch.

22. Install the key for "Browser Unit" to the place where you want it.

23. Remove the SD card from slot 2.

24. Attach the slot cover [1] (🔩 x 1).

25. Tell a customer to keep the SD card in a safe place (☞ p.279) after you have installed the application program from the card to the HDD.

    This is because:

    • The SD card is the only proof that the user is licensed to use the application program.

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

Update Procedure

1. Remove the slot cover [1] for SD cards (🔩 x 1).

2. Turn the SD-card label face [2] to the rear of the machine. Then push it slowly into slot 2 until you hear a click.

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

4. Push the "User Tools" key.

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

5. Push the "Login/ Logout" key.

6. Login with the administrator user name and password.

7. Touch "Extended Feature Settings" twice on the LCD.

8. Touch "Uninstall" on the LCD.

9. Touch the "Browser" line

10. A confirmation message appears on the LCD.

11. Touch "Yes" to proceed.

12. A reconfirmation message appears on the LCD.

13. Touch "Yes" to uninstall the browser unit.

14. You will see "Uninstalling the extended feature... Please wait.", and then "Completed".

15. Touch "Exit" to go back to the setting screen.

16. Exit "User/Tools" setting, and then turn off the main power switch.

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

18. Overwrite the updated program in the "sdk" folder of the browser unit application with PC.

19. Do the "Installation Procedure" to install the browser unit.

VM Card Type F (D377)
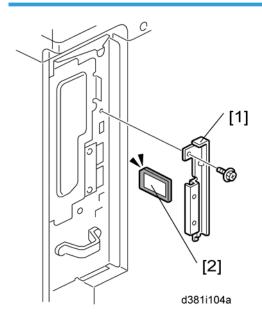
This option is only for D009/D011/D012/D013 models.

Accessories

Check the accessories and their quantities against the table below.

Description	Q'ty
1. VM SD Card	1
2. Decal	1

Installation

d381i104a

1. Switch the machine off.

2. Remove the SD card slot cover [1] (🔧 x1).

3. Insert the SD card [2] into slot 2 (lower).

⭐ **Important**
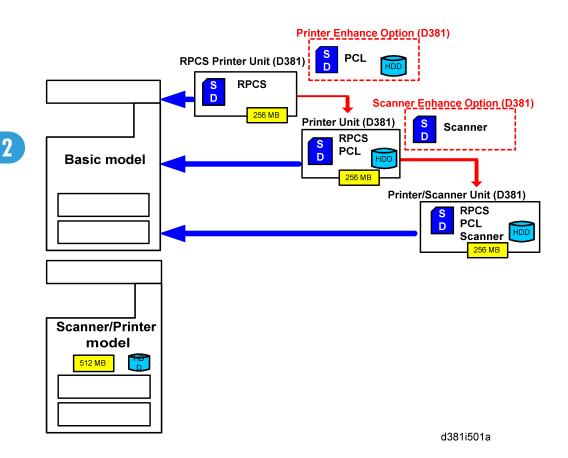
- **This SD card must be inserted into slot 2, the lower slot.**

Printer and P/S Options (only for D009/D012)

Overview

This section describes the installation of the following items:

- RPCS Printer Unit
- Printer Unit
- Printer/Scanner Unit
- 256 Memory. Optional memory is required for each unit.
- Printer Enhance Option
- Scanner Enhance Option

d381i501a

Three Main Units

- **RPCS Printer Unit Type 5000**:

    For customers who require only basic copying and printing and the RPCS printer language. The 256 MB memory is required.

- **Printer Unit Type 5000:**

    For customers who do not require the extended scanning features but need more printing capability (both RPCS and PCL printer languages are provided). The 256 MB memory is required.

- **Printer/Scanner Unit Type 5000:**

    For customers who require the full range of DS features (advanced scanning and printing features such as "scan-to" solutions, virtual mailboxes, PCL, etc.). The 256 MB memory unit is required.

Separate Options

There are two separate options not provided with the kits: 256 MB memory and PS3.

- **256 MB memory:**

    Not provided with any option. However, every unit (RPCS, Printer Unit, P/S unit) requires installation of the 256 MB memory.

- **PostScript 3 Unit:**

    The PS3 option can be used with the RPCS Unit, the Printer Unit, or the Printer/Scanner Unit.

Enhance Options

There are two enhance options:

- **Printer Enhance Option Type 5000:**

    Updates the RPCS unit by adding PCL.

- **Scanner Enhance Option Type 5000:**

    Updates the RPCS unit or Printer Unit by adding the advanced scanning features.
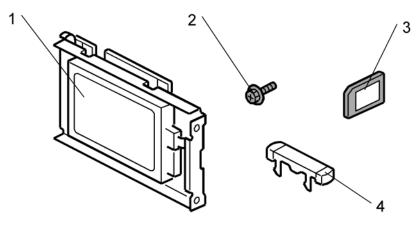
Kit Contents

Check the accessories and their quantities against the list below and the illustration on the next page. This is a common list for all the kits.

Common Accessory Table

This common accessory table lists all the items of the following units and options for the D009/D012 Series machines:

- RPCS: RPCS Printer Unit
- PU: Printer Unit
- P/S: Printer/Scanner Unit
- PEO: Printer Enhance Unit
- SEO: Scanner Enhance Unit

d381i101a

No.	Description	Q'ty	Kit Contents				
			RPCS	PU	P/S	PEO	SEO
	256 MB Memory[1]	-	No	No	No	No	No
1	HDD Unit	1	No	Yes	Yes	Yes	No
2	Screw	3	No	Yes	Yes	Yes	No
3	SD Card	1	Yes	Yes	Yes	Yes	Yes
4	Keytop Set: NA[2]	1	Yes	Yes	Yes	Yes	Yes
	Keytop Set: EU[2]	1	Yes	Yes	Yes	Yes	Yes
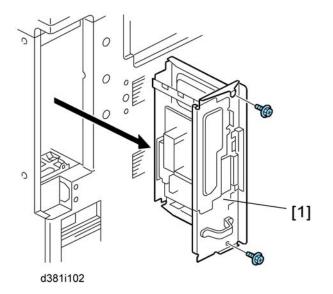
[1]: The 256 Memory is a separate option and it is not provided in the kits. However, one memory unit is required for the installation of every print unit.

[2]: The number of keytops provided varies:
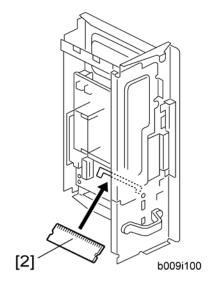
Kit	Keytops			
	Copy	Document Server	Printer	Scanner
RPCS Unit	1		1	
Printer Unit	1	1	1	
Printer/Scanner Unit	1	1	1	1
Printer Enhance Unit		1		
Scanner Enhance Unit				1

Printer/Scanner Installation

⚠**CAUTION**
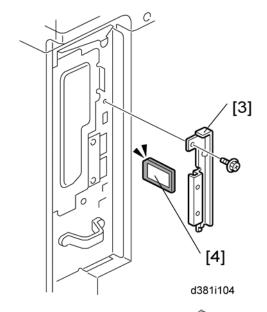
- Turn off the main power switch and disconnect the power supply cord.

d381i102

1. Remove the controller board [1] (🔩 x 2).

b009i100
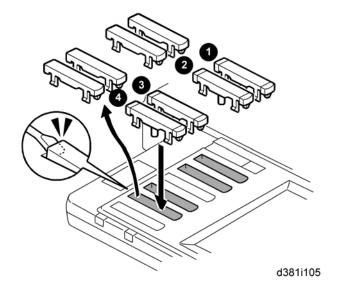
2. Install the 256 MB memory DIMM [2].

3. Install a hard disk (except RPCS Printer Kit). (☞ p.105)

4. Reinstall the controller board.

d381i104

5. Remove the SD card slot cover [3] (🔩 x1).

6. Insert the Printer/Scanner SD card [4] in SD card slot 1.

7. Reattach the cover.

8. Connect the LAN cable to the "NIC" connection.

9. Connect the USB cable to the "USB" connection.

d381i105

10. Remove the 1st, 2nd, 4th, and 5th blank key tops.

🔻Note

• The 3rd blank keytop from the top is reserved for the "Fax" keytop. Do not remove it at this time.

11. Replace the blank keytops:

    - 1: Copy
    - 2: Document Server
    - 3: Printer
    - 4: Scanner

12. Connect the machine's power cord and turn the main power switch on.

13. Enable the NIB and/or USB function.

    - To enable the NIB function, enter the SP mode and set SP5985-001 (On Board NIC) to "1" (Enable).
    - To enable the USB function, enter the SP mode and set SP5985-002 (On Board USB) to "1" (Enable).

Printer Enhance, Scanner Enhance Options

Accessory Check

Refer to the "Common Accessory Table" in this chapter.

Installation (Application Merge)

The installation of the printer enhance option and scanner enhance option are done with **SP5873-001 (Application Move)**.

🔽 **Note**

- If you are going to update the RPCS unit with both the printer and scanner enhance options, the order of execution is not important.

1. For models which have the VM card, do the followings:

    - Press "User Tools" button to enter the User Tools mode.

d377i502

    - Press "Extended Feature Settings" on the LCD.

d377i503

- Press "Extended Feature Settings" on the LCD again.

d377i504

- Press "Startup Setting" tab.
- Stop all SDK applications with touching application lines.
- Exit the UP mode, and then turn off the machine.

2. Turn off the copier.

3. Remove the cover (x1).

4. Remove the VM card from SD card slot 2 if installed.

5. Confirm that the RPCS Unit or Printer Unit SD card is in SD card Slot **1**.

6. Put the option SD Card (Printer Enhance Option or Scanner Enhance Option) in SD card slot **2**.

7. Open the front door.

8. Turn the copier on.

9. Go into the SP mode and select **SP5873-001**.

10. Touch "Execute".

11. Read the instructions on the display and touch "Execute" to start.

12. When the display tells you copying is completed, touch "Exit", then turn the copier off.

13. Remove the option SD card from slot **2**.

14. Turn the copier on.

15. Go into the User Tools mode and confirm that update was successful.

16. User Tools> System Settings> Administrator Tools> Firmware Version> Next

17. Turn the copier off again, then reattach the cover.

18. Return the copied SD card to the customer for safekeeping, or tape it to the faceplate of the controller.

To undo an option update

1. For models which have the VM card, do the followings:

    - Press "User Tools" button to enter the User Tools mode.

d377i502

    - Press "Extended Feature Settings" on the LCD.

d377i503

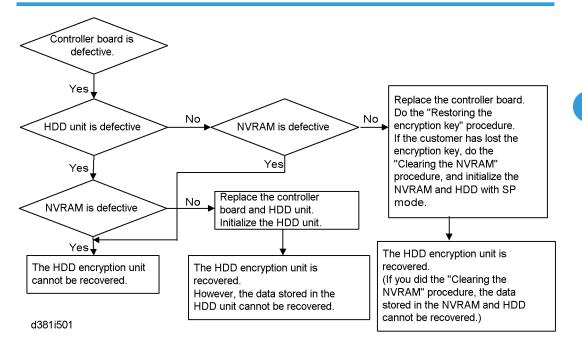   - Press "Extended Feature Settings" on the LCD again.

145

d377i504

- Press "Startup Setting" tab.
- Stop all SDK applications with touching application lines.
- Exit the UP mode, and then turn off the machine.

2. Turn the main switch off.

3. Remove the cover (x1).

4. Remove the VM card from SD card slot 2 if installed.

5. Confirm that the RPCS Unit or Printer Unit SD card is in SD card Slot **1**.

6. Put the original option SD card (Printer Enhance Option or Scanner Enhance Option) in SD card slot **2**.

7. Turn the main switch on.

8. Go into the SP mode and do **SP5873-002** (Undo Exec).

9. Follow the messages on the operation panel to complete the procedure.

10. Turn the main switch off.

11. Remove the option SD card from Slot **2**.

12. Turn the main switch on.

13. Go into the User Tools mode and confirm that undo was successful.
    User Tools> System Settings> Administrator Tools> Firmware Version> Next

14. Turn the copier off again, then reattach the cover.

Important Notes about SD Cards

Here are some basic rules about merging applications on SD cards.

- The data necessary for authentication is transferred with the application program to the target SD card.

- The SD card is the only evidence that the customer is licensed to use the application program. The service technician may occasionally need to check the SD card and its data to solve problems. SD cards must be stored in a safe location at the work site.

- Once the merge is completed, the SD card from which the application was copied cannot be used again, but the customer must keep the card to serve as proof of purchase.

- An SD card from which an application has been moved to another SD card can be restored to full operation with **SP5873-002** (Undo).

- Before storing the card from which an application has been copied, label it carefully so that you can identify it easily if you need to do the undo procedure later.

Application Merge

This machine has two SD card slots only. However, more than two optional applications are supplied for this machine. Always keep SD card slot 2 vacant for servicing (except VM Card Type F). Because of this, SD card merge is required if a customer wants to use many applications.

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

- PostScript3 cannot be moved to the other SD card.

- Due to limitations, the VM Card (D377) can be neither merged nor moved to another SD card. This card must be installed in Slot 2 (lower).

- The destination SD card should have the largest memory size of all the application SD cards. Refer to the following table for the memory size of each SD card.

SD Card Options	SD Card Size	Module Size
Printer/Scanner Unit Type 5000	32 MB	9.3 MB
RPCS Printer Unit Type 5000	32 MB	6.3 MB
Printer Unit Type 5000	32 MB	8.3 MB
Printer Enhance Option Type 5000	16 MB	4 MB
Scanner Enhance Option Type 5000	16 MB	3 MB
DataOverwriteSecurity Unit Type I	16 MB	4 MB
PostScript3 Unit Type 5000	64 MB	14.6 MB
IPDS Unit Type 5000	32 MB	13.5 MB

Case 1: PostScript3 is not installed

Merge all applications which the customer wants to use into one SD card (Destination Card).

⬇Note

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

- The VM Card Type F cannot be merged, nor moved to another SD card. This card must be installed in slot 2.

Case 2: PostScript3 is installed

Merge all applications which the customer wants to use into the PostScript3 SD card.

Check All Connections

Plug in the power cord. Then turn on the main switch.

Enter the printer user mode. Then print the configuration page.

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

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

2

3. Preventive maintenance

PM Tables

See "Appendices" for the following information:

- PM Tables

3

4. Replacement and Adjustment

General Cautions

⚠️CAUTION

- To avoid damage to the transfer belt, drum, or development unit when it is removed or re-installed, never turn off power switch while electrical components are active.

⚠️CAUTION

- Turn off the main power switch and unplug the machine before attempting any of the procedures in this section.

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.

Used Toner

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 Number	Description	Q'ty
A0069104	Scanner Positioning Pin (4 pc./set)	1
A2929500	Test Chart – S5S (10 pc./set)	1
VSSM9000	Digital Multimeter – FLUKE 187	1
A2309003	Adjustment Cam – Laser Unit	1
A2309004	Positioning Pin – Laser Unit	1
B6455010	SD Card	1
B6456830	USB Read/Writer	1
G0219350	Loop Back Connector	1
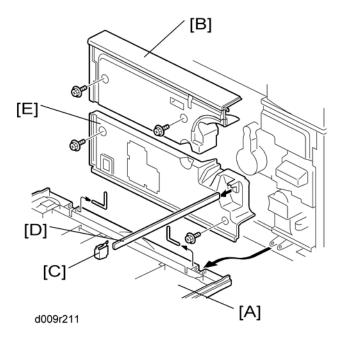
Lubricants

Part Number	Description	Q'ty
A2579300	Grease Barrierta S552R	1
52039502	Silicone Grease G-501	1

4

Exterior Covers

Front Door, Upper and Lower Inner Cover

1. Left Cover (p.154)

d009r211

2. Open and remove the front door [A] (pin x 2).
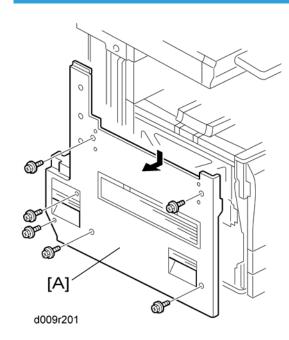
Upper Inner Cover

1. Open the front door [A].
2. Upper inner cover [B] (x 2)

Lower Inner Cover
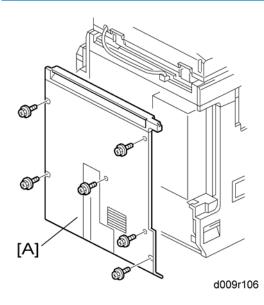
1. Remove the front door [A] (pin x 2)
2. Shield glass cover [C]
3. Shield glass [D] (x 2)
4. Lower inner cover [E]

Left Cover

d009r201

1. Left cover [A] (🔩 x 6)

Rear Cover

d009r106

1. Rear cover [A] (🔩 x 6)
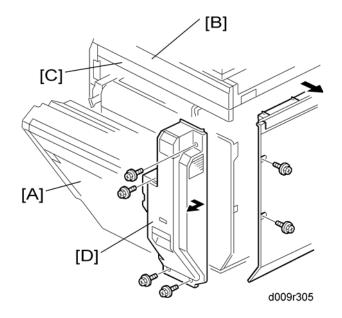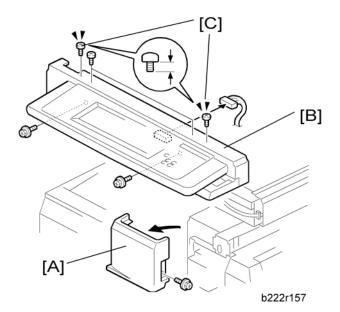
Right Rear Cover

1. Rear cover(☞ p.154)

d009r305

2. Open the right door [A].
3. Scanner right cover [B] (🔩 x 2)
4. Right top cover [C] (🔩 x 1)
5. Right rear cover [D] (🔩 x 4)

Operation Panel

b222r157
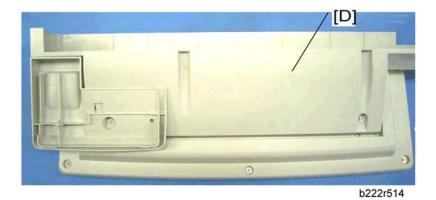
1. Open the right door.

2. Front right cover [A] (🔩 x 1)

3. Operation panel with the scanner front cover [B] (🔩 x 6, 🔲 x 1, 🔲 x 1)

⬇Note

- The two screws [C] are shorter than the other screws installed in the inner two screw holes. Make sure that the two screws [C] are installed in the outer screw holes on the scanner front cover.

b222r514

4. Scanner front cover [D] (🔩 x 2)
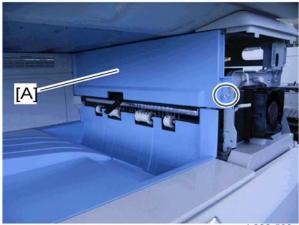
b222r515

5. Operation panel [E]

Paper Exit Cover

1. Front right cover (☛ p.156)

b222r593
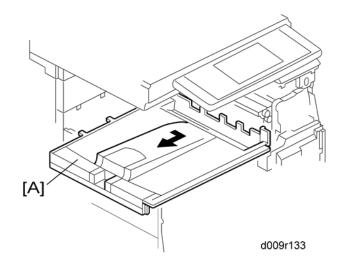
2. Paper exit cover [A] (🔩 x 1)

Inner Tray

1. Left cover (☛ p.154)

2. Upper inner cover (p.153)

3. Paper exit cover (p.157)

d009r133

4. Inner tray [A]
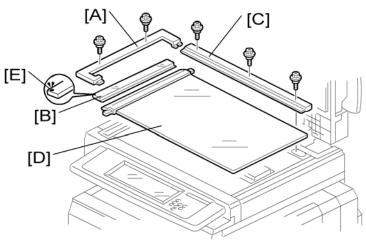
Scanner -1

Exposure Glass

b222r153a

1. Glass cover [A] (🔩 x 2)
2. ARDF exposure glass [B]
3. Rear scale [C] (🔩 x 3)
4. Exposure glass with left scale [D]
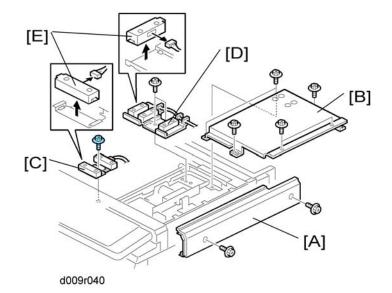
⬇ **Note**

- Position the black marker [E] at the front-left corner when you reattach the ARDF exposure glass.

Original Length/Width Sensors

Monochrome Scanner Model (D009/D012)

1. Exposure glass with left scale (☞ p.159)

d009r040
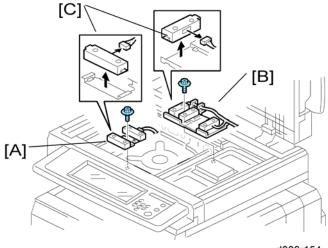
2. Scanner right cover [A] (🔩 x 2)

3. Lens cover [B] (🔩 x 2)

4. Original width sensor bracket [C] (🔩 x 1)

5. Original length sensor bracket [D] (🔩 x 2)

6. Original width and length sensors [E] (🔌 x 1 each)

Color Scanner Model (D011/D013/D091/D092)

1. Exposure glass with left scale (☛ p.159)

2. Ground plate (☛ p.165)
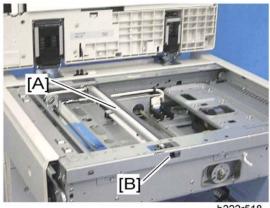
d009r154

3. Original width sensor bracket [A] (🔩 x 1)

4. Original length sensor bracket [B] (🔩 x 1, 🔧 x 2)

5. Original width and length sensors [C] (🔌 x 1 each)
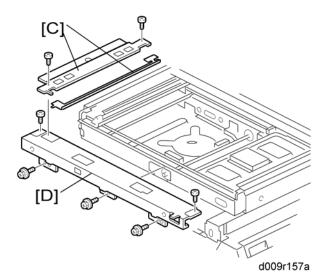
Exposure Lamp

Color Scanner Model (D011/D013/D091/D092)

1. Operation panel with scanner front cover (☛ p.156)
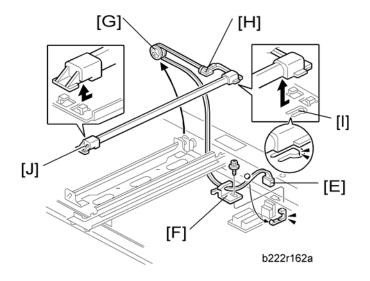
2. Exposure glass (☛ p.159)

b222r518

3. Move the 1st scanner carriage [A] to the cutout [B] in the front frame.

d009r157a

4. Scanner left stays [C] ($\mathscr{F}$ x 2)

5. Scanner front frame [D] ($\mathscr{F}$ x 5)

b222r162a
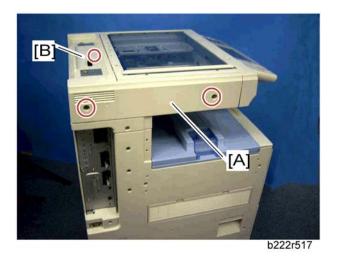
6. Disconnect the connector [E] ($\Box$ x 1).

7. Remove the clamp [F] ($\mathscr{F}$ x 1)

8. Remove the pulley [G].

9. Release the cable clamp [H].

10. Hold down the snap [I], and then slide the exposure lamp [J] to the front side.

11. Exposure lamp [J]
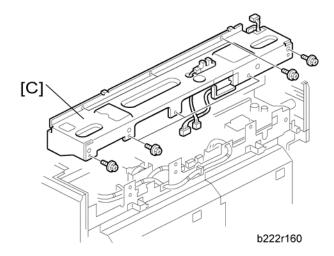
Monochrome Scanner Model (D009/D012)

1. Operation panel with scanner front cover (☞ p.156)

2. Exposure glass (☞ p.159)

3. Rear cover (☞ p.154)

4. Scanner rear frame (☞ p.163)

5. Disconnect the exposure lamp cable from the lamp stabilizer (🖳 x 1, 🖥 x 2).

6. Do steps 7 to 11 in the "Color Scanner Model" described above.

Scanner Motor

b222r517

1. Rear cover (☞ p.154)
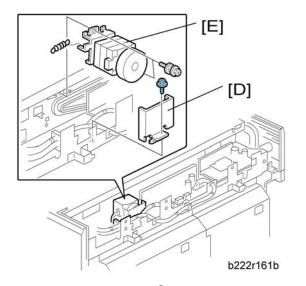
2. Scanner left cover [A] (🔩 x 2)

3. Scanner top rear cover [B] (🔩 x 1)

b222r160

4. Scanner rear frame [C] (🔩 x 8, 🔌 x 3, 📟 x 2)

b222r161b
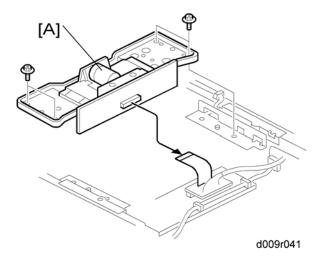
5. Scanner motor bracket [D] (🔩 x 1)

6. Scanner motor [E] (🔩 x 2, spring x 1)

⬇Note

- After replacing the scanner motor, do the image adjustments in the following section of the manual (☛ p.257).

Sensor Board Unit (SBU)

Monochrome Scanner Model (D009/D012)
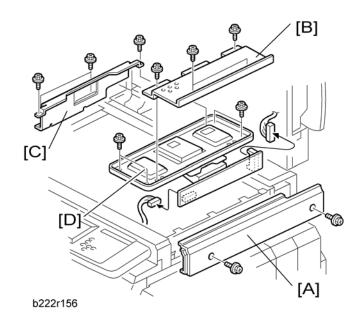
1. Exposure glass (☞ p.159)

2. Original length sensor bracket (☞ p.159)

d009r041

3. Sensor board unit [A] (🔩 x 4, flat cable x 1)

Color Scanner Model (D011/D013/D091/D092)

1. Exposure glass (☞ p.159)

b222r156

2. Scanner right cover [A] ($\mathscr{O}$ x 2)

3. SBU cover bracket [B] ($\mathscr{O}$ x 4)

4. Ground plate [C] ($\mathscr{O}$ x 4)

5. Sensor board unit [D] ($\mathscr{O}$ x 4, ⧉ x 3, ⧄ x 1)
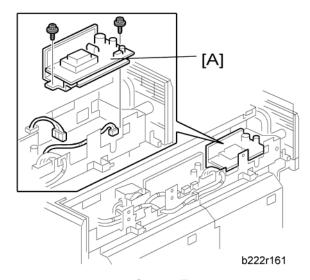
When reassembling

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

- SP4–008 (Sub Scan Mag): (☞ p.257)

- SP4–010 (Sub Mag Reg.): (☞ p.257)

- SP4–011 (Main Scan Reg): (☞ p.257)

- SP4–688 (DF: Density Adjustment): Use this to adjust the density level if the ID of outputs made in the DF and Platen mode is different.

Lamp Stabilizer

1. Rear cover (☞ p.154)

2. Scanner rear frame (☞ p.163)

b222r161
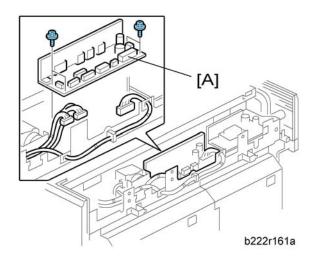
3. Lamp stabilizer unit [A] (🔩 x 2, 🔌 x 2)

4. Lamp stabilizer (CS model: 🔩 x 4, MS model: stud x 2)

SIO (Scanner In/Out) Board

1. Rear cover (☞ p.154)

2. Scanner rear frame (☞ p.163)

b222r161a
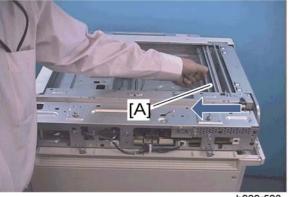
3. SIO board with bracket [A] (🔩 x 4, All 🔌s)
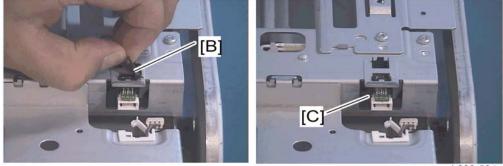
Scanner HP Sensor

1. Rear cover (☞ p.154)

2. Scanner left cover and Scanner top rear cover (☞ p.163)

3. Exposure glass (☞ p.159)

b222r523

4. Move the 1st scanner carriage [A] to the right side.
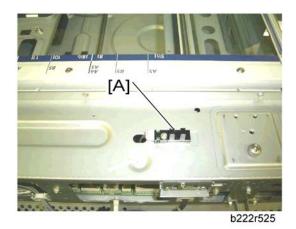
b222r524

5. Remove the mylar [B]

6. Remove the scanner HP sensor [C] (🔲 x 1, 🔷 x 1, two snaps)

Platen Cover Sensor

1. Rear cover (☞ p.154)

2. Scanner left cover and scanner top rear cover (☞ p.163)

b222r525
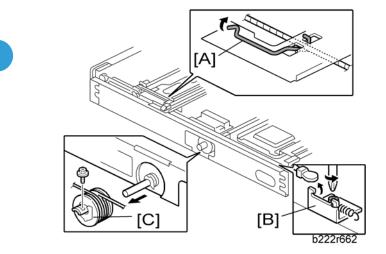
3. Platen cover sensor [A] ($\mathscr{O}$ x 1, $\boxdot$ x 1)

Scanner-2

Front Scanner Wire
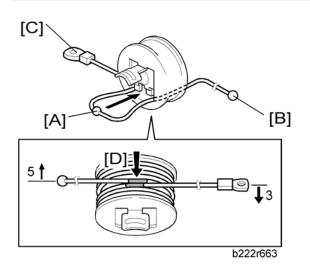
1. Operation panel with the scanner front cover (☛ p.156)
2. Front frame (☛ p.161)
3. Slide the first scanner to the right to make reassembly easy.

b222r662

4. Front scanner wire clamp [A]
5. Front scanner wire bracket [B] (🔩 x 1)
6. Front scanner wire and scanner drive pulley [C] (🔩 x 1)

Reassembling the Front Scanner Wire

b222r663
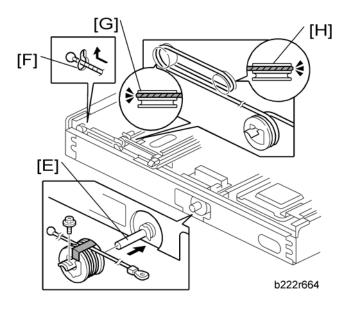
1. Position the center ball [A] in the middle of the forked holder.

2. Pass the right end (with the ball) [B] through the square hole. Pass the left end (with the ring) [C] through the notch.

3. Wind the right end counterclockwise (shown from the machine's front) five times. Wind the left end clockwise twice.

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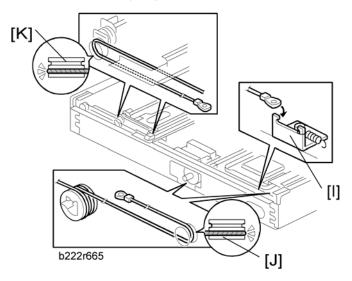
   - The two red marks [D] come together when you have done this. Stick the wire to the pulley with tape. This lets you easily handle the assembly at the time of installation.

b222r664

4. Install the drive pulley on the shaft [E].

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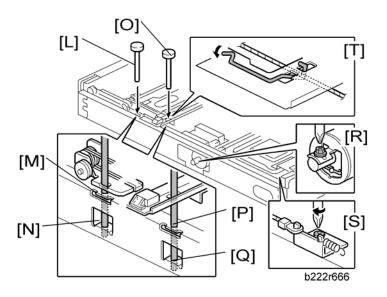
- Do not attach the pulley to the shaft with the screw at this time.

5. Insert the left end into the slit [F]. The end should go via the rear track of the left pulley [G] and the rear track of the movable pulley [H].

b222r665

6. Hook the right end onto the front scanner wire bracket [I]. The end should go via the front track of the right pulley [J] and the front track of the movable pulley [K].

🔽Note

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

b222r666

7. Remove the tape from the drive pulley.

8. Insert a scanner-positioning pin [L] through the 2nd carriage hole [M] and the left holes [N] in the front rail. Insert another scanner positioning pin [O] through the 1st carriage hole [P] and the right holes in the front rail [Q].

9. Insert two more scanner positioning pins through the holes in the rear rail.

10. Screw the drive pulley to the shaft [R].

11. Screw the scanner wire bracket to the front rail [S].

12. Install the scanner wire clamp [T].

13. Pull out the positioning pins.
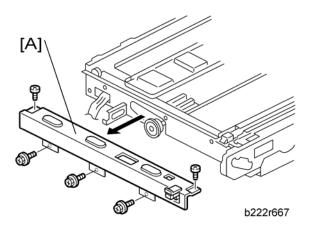
   ↓Note

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

   ↓Note

   - After replacing the scanner wire, do the image adjustments in the following section of the manual (☞ p.257).
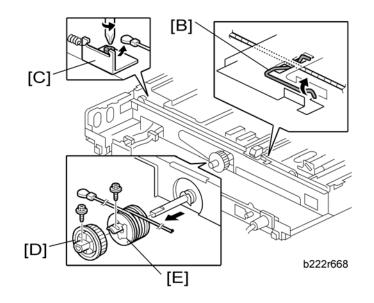
Rear Scanner Wire

1. Exposure glass (☞ p.159)

2. Scanner rear frame (☞ p.163)

3. Scanner motor (☞ p.163)

b222r667
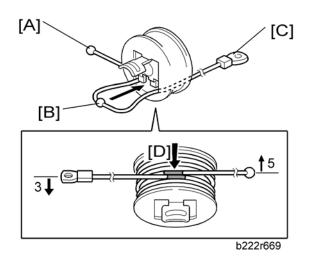
4. Rear rail frame [A] (🔩 x 5)

b222r668

5. To make reassembly easy, slide the first scanner to the center.

6. Rear scanner wire clamp [B]

7. Rear scanner wire bracket [C] (🔩 x 1)

8. Scanner motor gear [D] (🔩 x 1)

9. Rear scanner wire and scanner drive pulley [E] (🔩 x 1)

Reassembling the Rear Scanner Wire

b222r669

1. Position the center ball [B] in the middle of the forked holder.

2. Pass the end with the ball [A] through the right square hole from the front.

3. Position the center ball [B] in the middle of the notch, as shown by the arrow.

4. Pass the ball end [A] through the drive pulley notch.

5. Wind the end with the ring [C] clockwise (shown from the machine's front) three times; wind the ball end [A] clockwise (shown from the machine's front) five times.

🔴**Note**

- The two red marks [D] should meet when you have done this.

6. Stick the wire to the pulley with tape, so you can easily handle the pulley and wire during installation.

7. Install the drive pulley on the shaft.

🔴**Note**

- Do not screw the pulley onto the shaft yet.

8. Install the wire.

🔴**Note**

- The winding of the wire on the three pulleys at the rear of the scanner should be the same as the winding on the three pulleys at the front. This must show as a mirror image. Example: At the front of the machine, the side of the drive pulley with the three windings must face the front of the machine. At the rear of the machine, it must face the rear.

9. Perform steps 8 through 13 in "Reassembling the Front Scanner Wire".

🔴**Note**

- After replacing the scanner wire, do the image adjustments in the following section of the manual (☞ p.257).
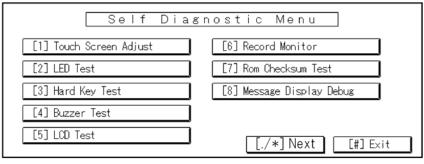
Touch Panel Position Adjustment

🔴**Note**

- It is necessary to calibrate touch panel at the following times:

- When you replace the operation panel.

- When you replace the controller board.

- When the touch panel detection function does not operate correctly

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

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

b195r834

2. On the touch screen press "Touch Screen Adjust" (or press "1").

3. Use a pointed (not sharp) tool to press the upper left mark ⚬↖.

b195r9835

4. Press the lower right mark when "⬊⚬" shows.

5. Touch a few spots on the touch panel to make sure that the marker "+" shows exactly where the screen is touched.

6. Press Cancel. Then start from Step 2 again if the "+" mark does not show where the screen is touched.

7. Press [#] OK on the screen (or press ⊕) when you are finished.

8. Touch [#] Exit on the screen to close the Self-Diagnostic menu. Save the calibration settings.
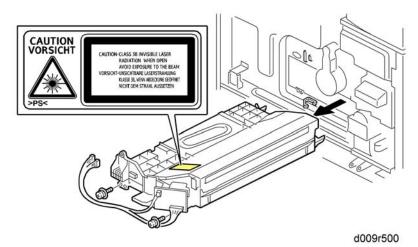
Laser Unit

⚠ WARNING

- Turn off the main power switch and unplug the machine before attempting any of the procedures in this section. Laser beams can seriously damage your eyes.
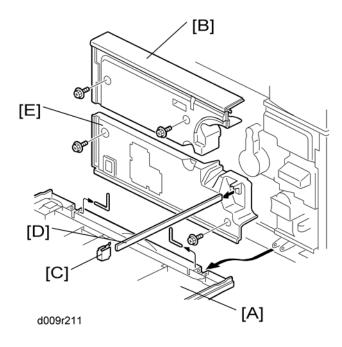
Caution Decal Locations

Two caution decals are located in the laser section as shown below. (See the next page for removal instructions.)

CAUTION VORSICHT

CAUTION-CLASS 3B INVISIBLE LASER RADIATION WHEN OPEN AVOID EXPOSURE TO THE BEAM VORSICHT-UNSICHTBARE LASERSTRAHLUNG KLASSE 3B, WENN ABDECKUNG GEÖFFNET NICHT DEM STRAHL AUSSETZEN

>PS<

d009r500

Laser Unit

d009r211
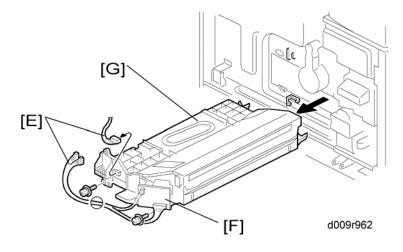
1. Open the front door.
2. Front door [A] (pins x 2)
3. Upper inner cover [B] (🔩 x 2)
4. Glass cap [C]
5. Shield glass [D]
6. Lower inner cover [E] (🔩 x 2)

d009r962

7. Laser unit connectors [E] (x 3, x 1)
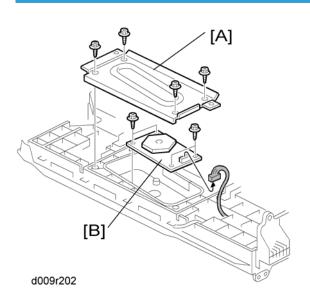
★Important

- Do not disconnect the harnesses on the LD board [F] unless the LD unit has to be replaced. This board is precisely adjusted in the factory.

8. Laser unit [G] (x 2)

★Important

- When sliding out the laser unit, do not hold the LD board. Hold the laser unit.

Polygon Mirror Motor

d009r202
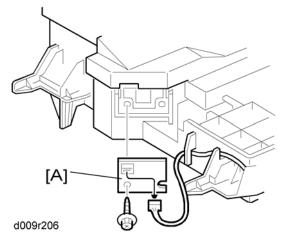
1. Laser unit (p.178)
2. Laser unit cover [A] (x 4)
3. Polygon mirror motor [B] (x 4, x 1)
4. After replacing the polygon mirror motor, do the image adjustment (p.253).

Laser Synchronization Detector

1. Laser unit (p.178)

d009r206
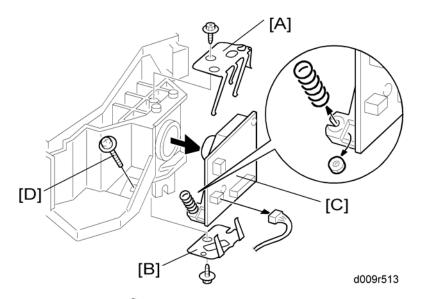
2. Laser synchronization detector [A] (🔩 x1, 🔌 x1)

LD Unit

1. Laser unit (☛ p.178)

d009r513
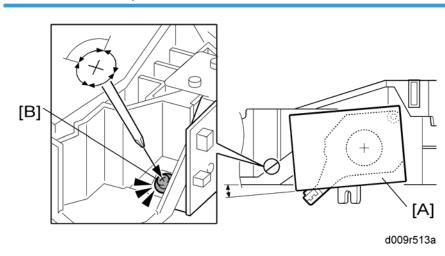
2. Upper spring plate [A] (🔩 x 1)

3. Lower spring plate [B] (🔩 x 1)

4. LD unit [C] (🔩 x 1, 🔌 x1, spring x 1)

⬇️Note

- To avoid damaging the LD board, hold it securely when disconnecting the connectors. Hold the laser unit casing.

5. After replacing the LD board, do the "Laser Beam Pitch Adjustment" (described in the following section). Keep the lower inner cover removed before doing this adjustment because you need to adjust the adjustor screw [D] on the LD unit with a screwdriver.

Laser Beam Pitch Adjustment

d009r513a
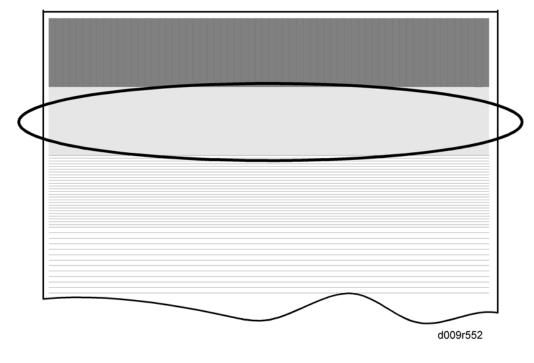
1. Install a (new) LD unit [A] with the left side of the LD unit being lower than the right side. (This makes this adjustment easier.)

2. Print the test pattern "Hounds Tooth Check (2-Dot Horizontal)" (No. 16 in SP2109-001).

3. Check if the vertical stripes appear on the second pattern (counted from the leading edge) of the printout.

    • Correct: No vertical stripes appear (see the sample following this procedure.)

    • Wrong: Vertical stripes appear (see the sample following this procedure.)

4. Turn the adjustor screw [B] by 90 degrees clockwise (counterclockwise).
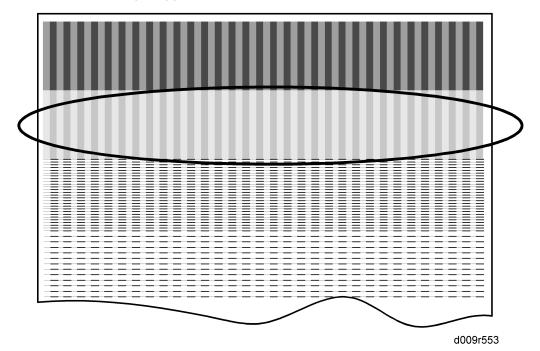
    ⬇Note

    • If the image of the printout is getting worse, try reverse rotation (clockwise ←→ counterclockwise)

5. Print the test pattern and check it out.

6. Try steps 2 to 4 again until you get an image with no vertical stripes.

7. Reassemble the machine after completing this adjustment.

Correct: No vertical stripes appear

d009r552
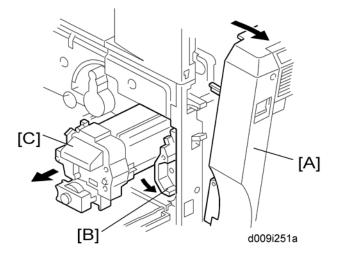
Incorrect: Vertical stripes appear

d009r553

PCDU

PCDU (Photoconductor and Development Unit)

1. Open the front door.

d009i251a

2. Open the right door [A].

3. Release the lock lever [B].

4. Pull out the PCDU [C] and place it on a clean flat surface.

5. Spread a large piece of paper on a flat surface.
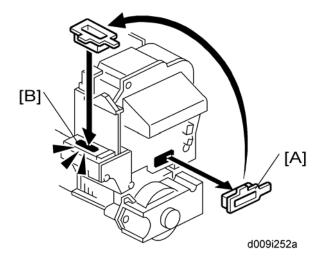
⬇Note

- Make sure the area is free of pins, paper clips, staples, etc. to avoid attraction to the magnetic development roller.

Reinstallation

Open the right cover before you install the PCDU in the machine.

Drum
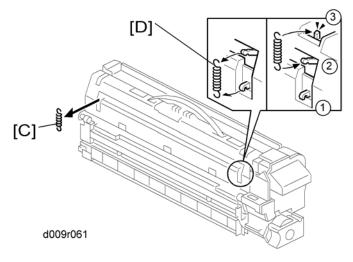
1. Remove the PCDU (☛ p.183)

d009i252a
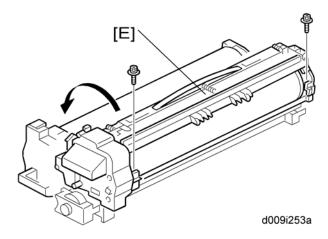
2. Toner cap [A]

3. Insert cap [A] into the opening of the PCDU [B].

⬇Note
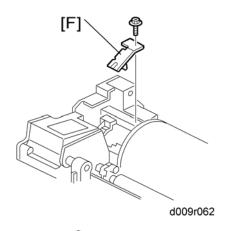
- Make sure that the cap is inserted completely into the opening.

d009r061
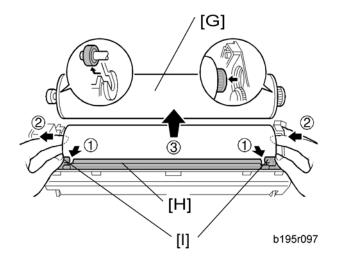
4. Remove the spring [C] on the rear side of the PCDU.

5. Remove the spring [D] on the front side of the PCDU and attach it to the hooks as shown.

- To prevent breaking the weaker hook ①, use a pair of needle-nose pliers to disconnect the spring at ②, remove the spring, then re-attach to ② and ③.

- When you move this spring, this retracts the movable drum cleaning blade so that it does not touch the surface of the drum when the drum is re-installed.

d009i253a

6. Open the PDCU [E] (🔩 x 2).

d009r062

7. Bracket [F] (🔩 x 1)

b195r097
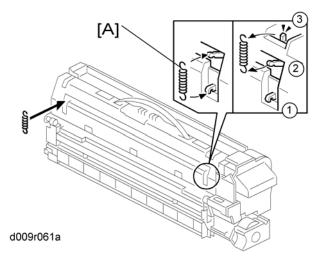
8. Pull the drum [G] towards the front ② (the left side in the illustration) while releasing the charge roller [H] using the release levers ① [I], and then remove the drum ③.

> ⚠️**CAUTION**
>
> • Never touch the drum surface with bare hands.

Re-installation

1. Replace the drum and close the PCDU (🔩 x 2).

d009r061a
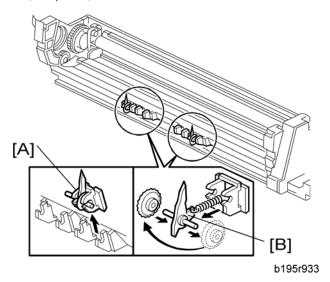
2. Put the opening cap [A in the previous procedure] back in its original place.

3. Detach the spring [A] from ②, ③ and re-attach it to ①, ②.

> ⚠️**CAUTION**
>
> • You must re-attach the spring to ①, ② for the cleaning blade to operate correctly. If you fail to re-attach the spring to ① and ②, the movable cleaning blade will not contact the drum for cleaning, but the machine will operate without generating an error. However, copies will gradually become dirty due to toner collecting on the drum.

4. Re-attach the spring on the rear side of the PCDU.

5. After replacing the drum, do these SPs:

   • SP 2001: Drum charge roller voltage – make sure that this is at the default setting

   • SP 3001-2: ID sensor initial setting

   • SP 2805: Process initial setting

   • SP 2810-1: Grayscale Setting

Pick-off Pawls

1. Drum (p.183)

b195r933

2. Pawl assembly [A]
3. Pick-off pawl [B] (spring x 1, spur x 1)

Pick-off Pawl Position Adjustment

If the pick-off pawl has marked the drum with a line, the pick-off pawl position can be adjusted using either method:
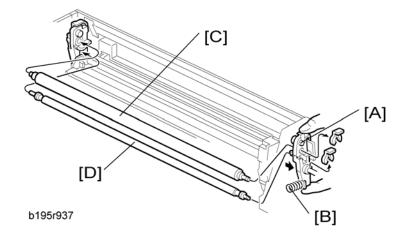
- Changing the spur position
- Changing the pick-off pawl assembly position

⚠ CAUTION

- After re-assembly, make sure that the front spring of the movable cleaning blade is re-attached to the ①, ② position. (p.183)

Charge Roller and Cleaning Roller

1. Drum (p.183)

b195r937

2. Push the charge roller holder [A] toward the front of the drum unit (🔩 x 2) and remove the spring [B].

3. Charge roller [C].

⬇️Note

- Disengage the charge roller on the right side to remove it. Try to avoid touching the charge roller.

4. Cleaning roller [D]

⬇️Note

- Disengage the cleaning roller on the left to remove it.

5. After replacing the charge roller and cleaning roller, check the value of SP2001-001. If it is not at the standard value (1500), set SP2001-001 to "1500".
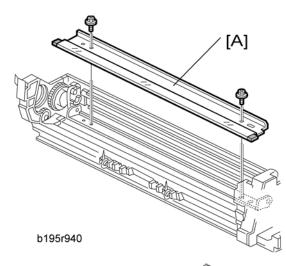
⬇️Note

- If this is not done, the carrier will be attracted to the drum because the charge roller voltage will be too high.

⚠️**CAUTION**

- After re-assembly, make sure that the front spring of the movable cleaning blade is re-attached to the ①, ② position. (☛ p.183)

Drum Cleaning Blade 1

1. Drum (☛ p.183)
2. Charge roller and cleaning roller (☛ p.187)

b195r940

3. Remove drum cleaning blade 1 [A] (🔩 x 2)

Re-installation
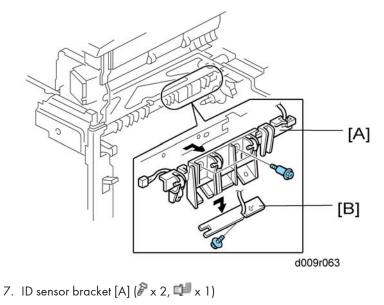
Put toner on the edge of cleaning blade 1 and the mylar at the back side of cleaning blade 1 before re-installing this blade.

⚠️CAUTION

- After re-assembly, make sure that the front spring of the movable cleaning blade is re-attached to the ①, ② position. (☛ p.183)

ID Sensor

1. Left cover (☛ p.154)
2. Paper exit cover (☛ p.157)
3. Inner tray (☛ p.157)
4. Exhaust duct (☛ p.241)
5. PCDU (☛ p.183)
6. Fusing unit (☛ p.207)

d009r063

7. ID sensor bracket [A] (🔩 x 2, 🔌 x 1)

8. ID sensor [B] (🔩 x 1)
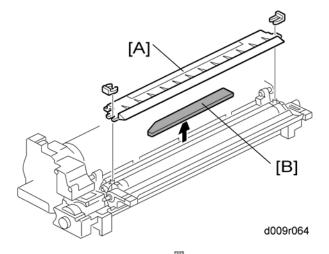
⬇Note

- Do SP3-001-002 to initialize the ID sensor after replacing.

Development

Development Filter

1. PCDU (p.183)
2. Open the PCDU. (p.183)

d009r064

3. Upper development cover [A] (x2)
4. Development filter [B]

Development Roller
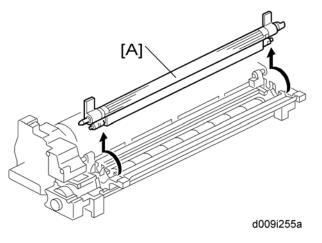
1. PCDU (p.183)
2. Open the PCDU. (p.183)
3. Upper development cover (p.191)

d009i255a
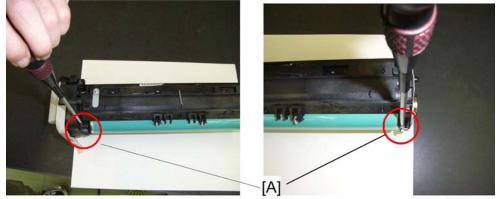
4. Development roller [A]

🔽Note

- Work carefully to avoid scratching or nicking the development roller.

Cleaning Procedure

1. PCDU (👉 p.183

d091r600

2. Remove the two screws [A] and open the PCDU as shown above.

d091r601

3. Remove the upper development cover [A] (🔩 x 2).

d091r602
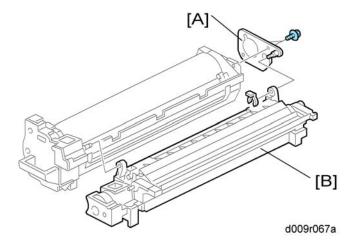
4. Fold up a sheet of copy paper [A] to fit the width of the uncovered area of the development roller, as shown below.

5. Slide the paper [A] along the length of the roller to clean the toner off the surface.

d091r603
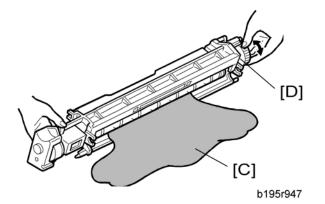
6. Rotate the development roller [A] in the direction of the arrow until the section you cleaned is no longer visible.

7. Repeat steps 5 and 6 until you have cleaned the entire surface of the roller.

8. Reassemble the PCDU and install the PCDU into the machine.

Developer

1. PCDU (☛ p.183)

2. Open the PCDU. (☛ p.183)

3. Development roller (☛ p.191)

d009r067a
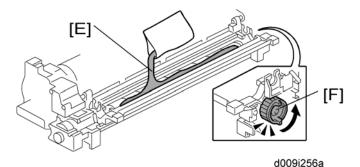
4. Joint bracket [A] (🔩 x 2)

5. Development unit [B]

b195r947

6. Tip out the old developer [C].

7. Turn drive gear [D] to ensure that no developer remains in the unit or on the developer roller.

😓Note
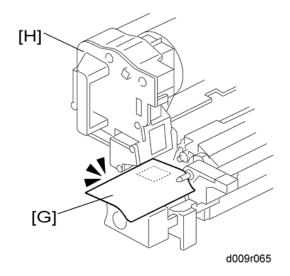
- Dispose of the used developer in accordance with local regulations. Work carefully to avoid scratching or nicking the development roller.

8. Clean the development roller with a dry cloth.

d009i256a

9. Pour approximately 1/3 of the developer [E] evenly along the length of the development unit.

10. Rotate the drive gear [F] to work the developer into the unit.

11. Repeat steps 8 and 9 until all toner is in the unit and level with the edges.

12. Re-install the development roller.

😓Note
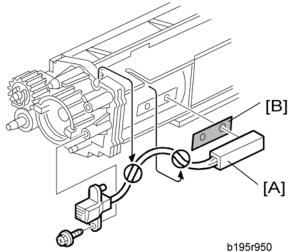
- Make sure that the seals at the both sides of the development roller are set inside the case after you re-install the development roller.

d009r065

13. Place a piece of paper [G] over the toner entrance hole. This prevents used toner falling from the drum unit into the development unit during the TD sensor initial setting and interfering with the Vref setting (toner density reference voltage)

14. Secure the drum unit [H] to the development unit, to close the PCDU (🔩 x 2).

15. Install the PCDU in the machine and close the front and right doors.

16. Turn on the main power switch, and wait for the machine to warm up.

17. Do SP2801 to initialize the TD sensor and enter the developer lot number.

18. After performing the TD sensor initial setting, remove the sheet of paper from the PCDU.

TD Sensor

1. PCDU (☞ p.183)

2. Empty all developer from the development unit. (☞ p.194)

b195r950

3. Seal

4. TD sensor [A] (🔩 x1)

⬇ Note

- The TD sensor is attached to the casing with double-sided tape [B]. Pry it off with the flat head of a screwdriver. Use fresh double-sided tape to re-attach the sensor.

5. Pour new developer into the development unit and perform the TD sensor initial setting using SP2-801.

⬇ Note
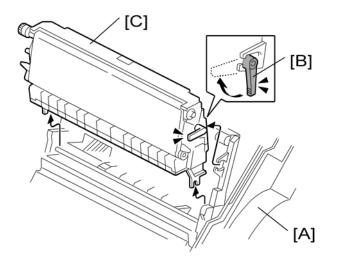
- When performing the TD sensor initial setting, cover the toner entrance hole with a piece of paper.

Transfer

Transfer Belt Unit

⬇Note

- To avoid exposing the drum to strong light, cover it with paper if the right cover will be open for a long period.

d009r025
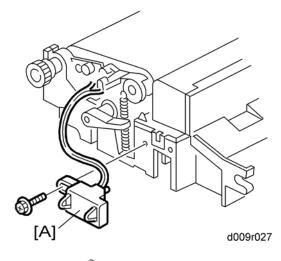
1. Open the right door [A].
2. Release the lever [B].
3. Transfer belt unit [C]

    ⬇Note
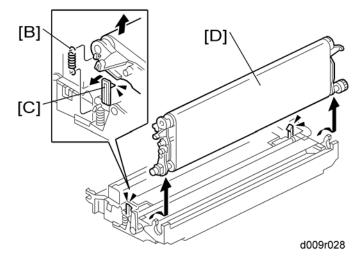
    - Avoid touching the transfer belt surface.

Transfer Belt

1. Transfer belt unit (☛ p.198)

d009r027

4

2. Connector [A] ($\mathscr{P}$ x 1)

d009r028
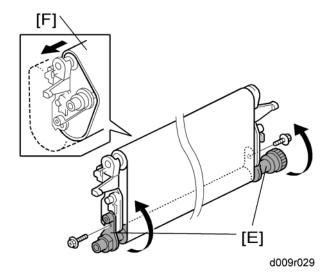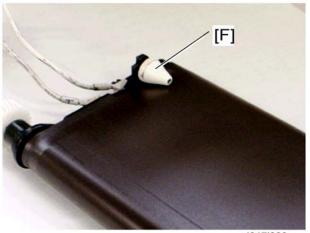
3. Remove the springs (front and rear) [B].

4. Release the hooks (front and rear) [C].

5. Transfer belt with rollers [D]

d009r029

6. Lay the transfer belt with rollers on a flat clean surface, and fold the unit [E] to release the tension on the belt (🔩 x 2).

d017i029a
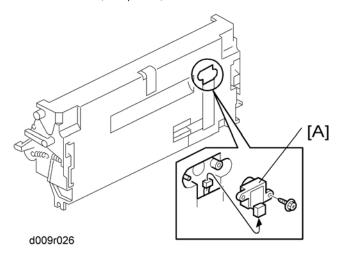
7. Transfer belt [F]

🔽 **Note**

- Avoid touching the transfer belt surface.

- Before installing the new transfer belt, clean all the rollers and shafts with alcohol to prevent the belt from slipping.

- When reinstalling the transfer belt, make sure that the belt is under the pin [F].

- To avoid damaging the transfer belt during installation, manually turn the rollers and make sure that the new transfer belt is not running over the edges of any of the rollers.

Toner Overflow Sensor

1. Transfer belt unit (☛ p.198)

d009r026
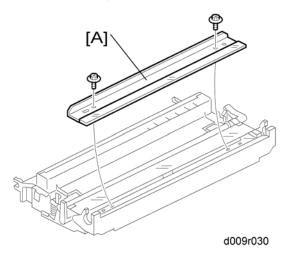
2. Toner overflow sensor [A] (🔩 x 1, 🔌 x 1)

Transfer Belt Cleaning Blade

1. Transfer belt unit (☛ p.198)
2. Transfer belt (☛ p.198)

d009r030

3. Transfer belt cleaning blade [A] (🔩 x 2)

🔽 **Note**
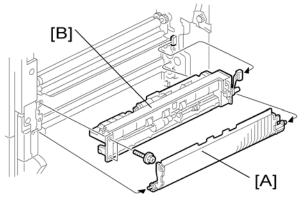
- Avoid touching the edge of the new blade. Check the new blade for dust or damage.

Paper Feed

Paper Feed Unit

Tray 1 and Tray 2

1. Rear cover (☛ p.154)
2. Right rear cover (☛ p.155)
3. Duplex unit (☛ p.223)
4. Pull out tray 1 and tray 2.
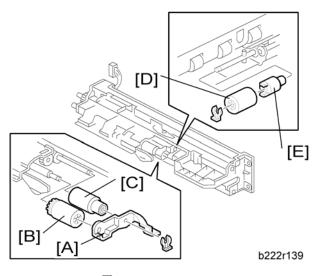
b222r138

5. Paper guide plate [A] (hook x 2)
6. Paper feed unit [B] (🔩 x 2, 🔌 x 1)

Pick-Up, Feed and Separation Rollers

Tray 1 and Tray 2
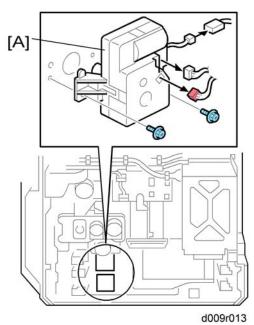
1. Paper feed unit (☛ p.202)

b222r139

2. Roller holder [A] (🔩 x 1)

3. Pick-up roller [B]

4. Feed roller [C]

5. Separation roller [D] and torque limiter [E] (🔩 x 1)

Tray Lift Motor

1. Rear cover (☞ p.154)
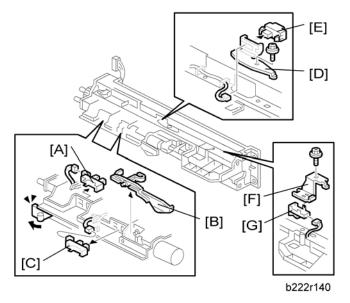
d009r013

2. Tray lift motor 1 or 2 [A] (🔧 x 2, 🔌 x 3)

Relay, Tray Lift, Paper End and Paper Feed Sensors

Tray 1 and Tray 2

1. Rear cover (☞ p.154)
2. Right rear cover (☞ p.155)
3. Duplex unit (☞ p.223)
4. Paper feed unit (☞ p.202)

b222r140
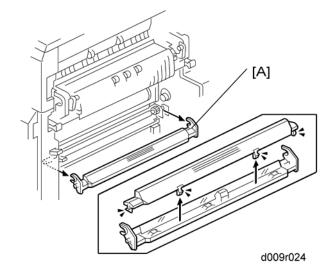
5. Tray lift sensor [A] (🔌 x 1)
6. Paper end feeler [B] and paper end sensor [C] (hook, 🔌 x 1 each)
7. Relay sensor bracket [D] (🔧 x 1)
8. Relay sensor [E] (🔌 x 1, hook)
9. Paper feed sensor bracket [F] (🔧 x 1)
10. Paper feed sensor [G] (🔌 x 1, hook)
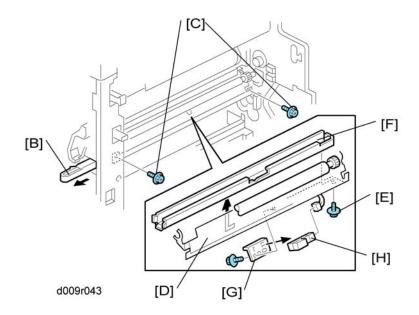
Registration Sensor

1. Rear cover (☞ p.154)
2. Right rear cover (☞ p.155)

3. Duplex unit (p.223)

4. Paper feed unit for tray 1 (p.202)

5. Paper Trays 1 and 2

d009r024

6. Paper dust box [A]

d009r043

7. Pull out the paper dust container [B].

8. Remove two screws [C].

Note

- This makes the paper guide [D] tilt a little bit. Now you can access the screw [E].

9. Dust container rail [F] (🔩 [E] x 1)

10. Sensor bracket [G] (🔩 x 1)

🔽Note

- You can only access the screw on the sensor bracket from the inside (paper tray location) of the machine.

11. Registration sensor [H] (⬚ x 1, hooks)
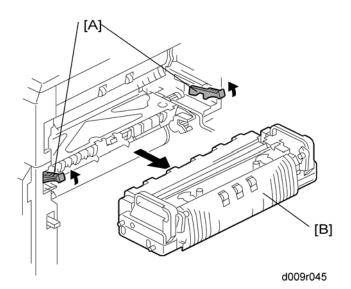
Reinstall the registration sensor

It is very difficult to secure the sensor bracket to the frame. First attach the sensor bracket with tape temporarily.

Fusing

Fusing Unit

⚠ CAUTION

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

1. Turn off the main power switch.

2. Open the right door.

d009r045
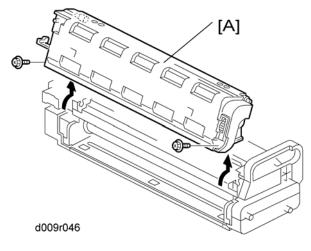
3. Pull up the lock levers [A].

4. Pull the fusing unit [B] until you hear a click.

   ⬇ Note

   - The lock levers lock the fusing unit again at this time to prevent the fusing unit from falling down.

5. Pull up the lock levers [A] again, and then remove the fusing unit [B].

Web Roller Unit

1. Fusing unit (☛ p.207)

d009r046
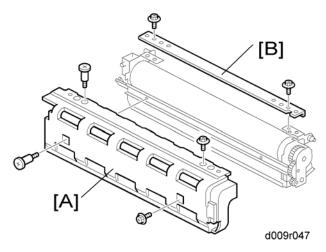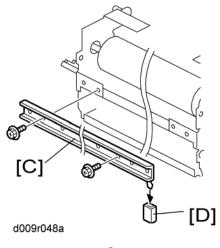
2. Web roller unit [A] (🔩 x 2)

Brake Pad

1. Web roller unit (☛ p.207)

d009r047

2. Web left cover [A] (front: 🔩 x 2, rear: stepped screw x 2)
3. Web top frame [B] (🔩 x 2)

d009r048a
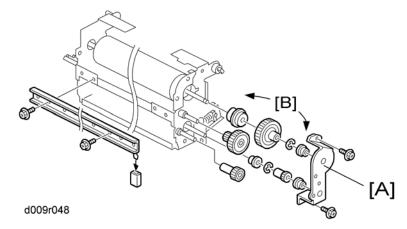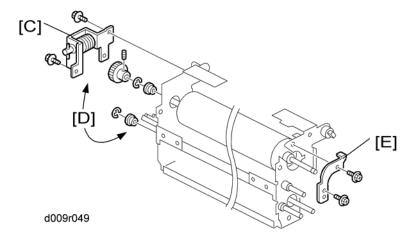
4. Web left frame [C] (🔩 x 2)

5. Brake pad [D]

Web Holder Roller and Web Rollers
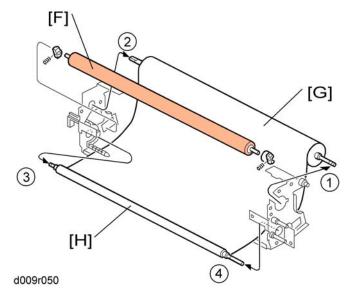
1. Web roller unit (☞ p.207)

2. Web left cover (☞ p.208)

3. Web top frame (☞ p.208)

4. Web left frame (☞ p.208)

d009r048

5. Front gear bracket [A] (🔩 x 2)

6. All gears and bushings (rear side) [B] (🔗 x 2)

d009r049
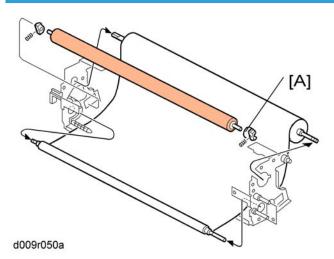
7. Rear gear bracket [C] (🔩 x 2)

8. All gear and bushings (rear side) [D] (Ⓒ x 2, spring x 1)

9. Front bracket [E] (🔩 x 2)

d009r050
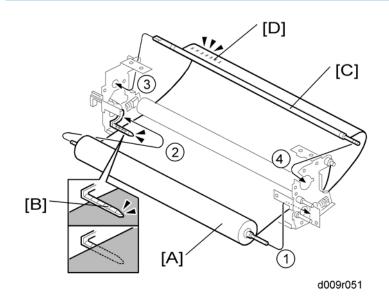
10. Web holder roller [F] (holder x 2, spring x 2)

11. Web take up roller [G] (① ➔ ②)

12. Web supply roller [H] (③ ➔ ④)

Installing a new web holder roller

d009r050a
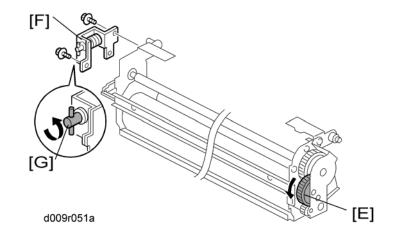
The holder [A] has a one-way clutch. Make sure that the holder [A] is set at the front side.

Installing new web rollers

d009r051

1. Install the web supply roller [A] first (① → ②). Make sure that the web sheet is under the pin [B].

2. Install the web take up roller [C] (③ → ④). Make sure that the printed number [D] is outside the web take up roller.

3. Reinstall the rear gear bracket (☛ p.209).

4. Reinstall the front and rear gears and bushings (☛ p.209).
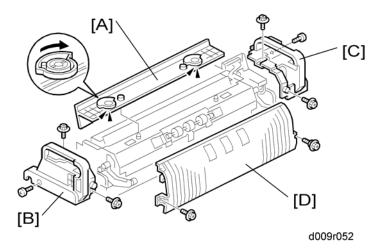
5. Reinstall the rear gear bracket (☛ p.209).

d009r051a

6. Turn the rear gear [E] in the arrow direction to remove the slack in the web sheet.

7. Reinstall the front gear bracket [F] (☛ p.209).

8. Turn the coupling [G] in the arrow direction to remove the slack in the web sheet.

9. Reinstall the web unit.

10. If you install a new cleaning web, reset SP 7806-008 (press "Execute" on the LCD).
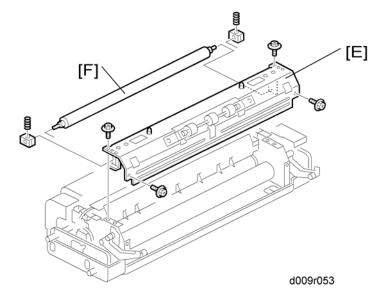
Pressure Roller Cleaning Roller

1. Fusing unit (☛ p.207)

d009r052

2. Fusing exit guide [A] (lock x 2)

3. Fusing front upper cover [B] (🔩 x 3)
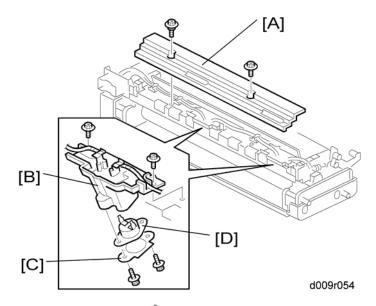
4. Fusing rear upper cover [C] (🔩 x 3)

5. Fusing outer guide [D] (front: 🔩 x 1, rear: stepped screw x 1)

d009r053

6. Cleaning roller unit [E] (🔩 x 4)

7. Pressure roller cleaning roller [F] (spring x 2, holder x 2)

Thermostat

1. Fusing unit (👉 p.207)

2. Web roller unit (👉 p.207)

d009r054
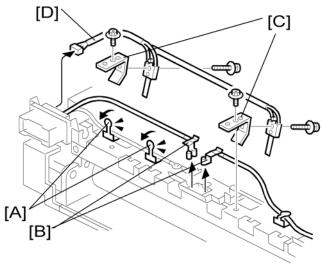
3. Fusing top cover [A] (front: 🔩 x 1, rear: stepped screw x 1)

4. Thermostat holder [B] (🔩 x 2)

5. Thermostat cover [C] (🔩 x 2)

6. Thermostat [D] (terminal x 2)

Thermistor

1. Fusing unit (☞ p.207)

2. Web roller unit (☞ p.207)

3. Fusing top cover (☞ p.213)
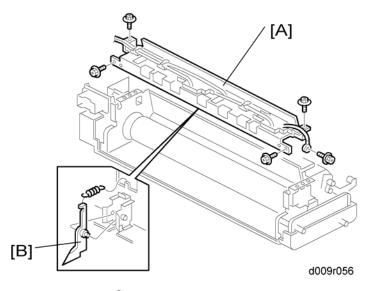
d009r055

4. Pull the two tabs [A].

5. Disconnect the two terminals [B].

6. Sensor stays [C] (🔩 x 1 each)

7. Thermistors [D] (🔩 x 2, 🔌 x 1)

Hot Roller Strippers

1. Fusing unit (☞ p.207)

2. Web roller unit (☞ p.207)

3. Fusing top cover (☞ p.213)

d009r056
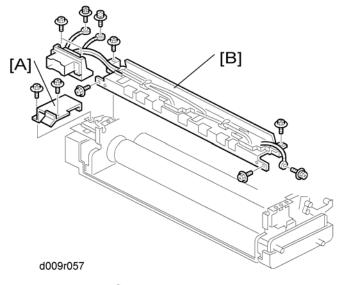
4. Fusing top frame [A] (🔩 x 5)

🔻**Note**
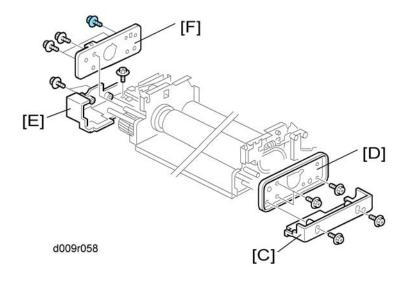
- The cords on this frame are still connected to the fusing unit at this time. Be careful not to damage the cords when removing the hot roller stripper [B].

5. Hot roller stripper [B] (spring x 1)

Fusing Lamps

1. Fusing unit (☞ p.207)
2. Web roller unit (☞ p.207)
3. Fusing top cover (☞ p.213)

d009r057
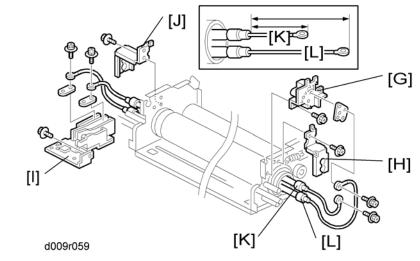
4. Connector cover [A] (🔩 x 2)

5. Fusing top frame with connector [B] (🔩 x 9)

d009r058
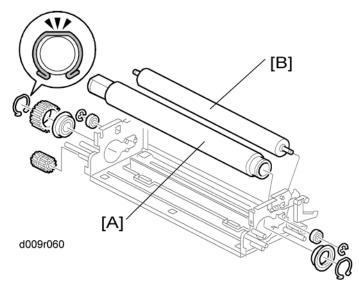
6. Fusing front lower cover [C] (🔩 x 2)

7. Fusing front frame [D] (🔩 x 3)

8. Fusing rear lower cover [E] (🔩 x 2)

9. Fusing rear frame [F] (🔩 x 5)

d009r059

10. Terminal bracket [G] (🔩 x 4)

11. Front holder bracket [H] (🔩 x 1)

12. Terminal base [I] (🔩 x 3)

13. Rear holder bracket [J] (🔩 x 1)

14. Fusing lamp-Center (550W) [K]

15. Fusing lamp-End (750W) [L]

Hot Roller and Pressure Roller

1. Fusing lamps-Center and End (☛ p.216)

d009r060
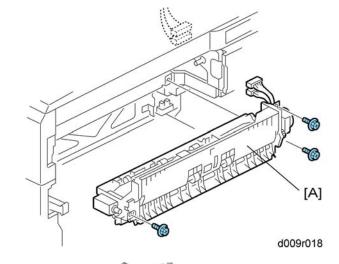
2. Hot roller [A] (snap ring x 2, gear x 2, bushing x 2)

3. Pressure roller [B] (🌙 x 2, bushing x 2)

4

Paper Exit
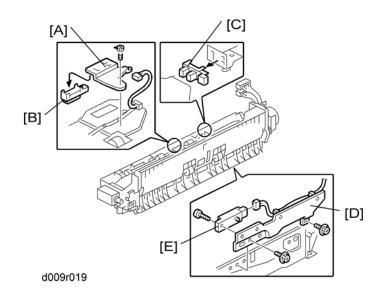
Paper Exit Unit

1. Fusing unit (☞ p.207)
2. Fusing exhaust fan duct (☞ p.251)

d009r018

3. Paper exit unit [A] (🔩 x 3, 🔌 x 2)

Fusing Exit, Paper Overflow, and Paper Exit Sensors

d009r019

Paper Exit Sensor

1. Paper exit unit (☛ p.220)
2. Sensor bracket [A] (🔩 x 1)
3. Paper exit sensor [B] (🔌 x 1, hooks)

Paper Overflow Sensor
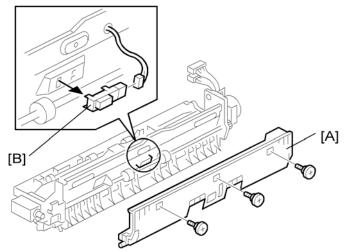
1. Paper exit unit (☛ p.220)
2. Paper overflow sensor [C] (🔌 x 1, hooks)

Fusing Exit Sensor

1. Paper exit unit (☛ p.220)
2. Sensor bracket [D] (🔩 x 2)
3. Fusing exit sensor [E] (🔩 x 1, 🔌 x 1)

Junction Jam Sensor

1. Paper exit unit (☛ p.220)
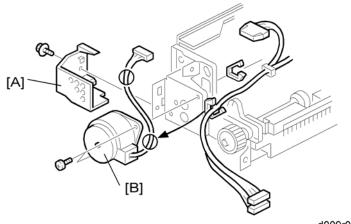
d009r020

2. Paper guide [A] (🔩 x 3)
3. Junction jam sensor [B] (🔌 x 1)

Paper Exit Motor

1. Paper exit unit (☛ p.220)
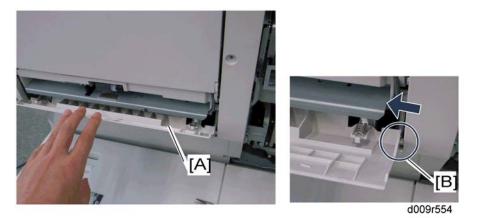
d009r021

2. Motor cover [A] (🔩 x 1)

3. Paper exit motor [B] (🔩 x 2, 🔌 x 2, 🔌 x 1)

Duplex

Duplex Unit

1. Rear cover (p.154)
2. Right rear cover (p.155)

d009r554

3. Open the lower door [A] at the duplex unit.
4. Release the tab [B] and remove the lower door (spring x 2).
5. Open the right door.
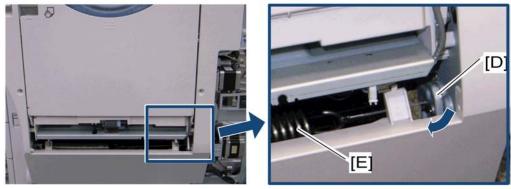
d009r555

6. Release the front link [C] (x 1).

d009r557

7. Keep the right door fully open.
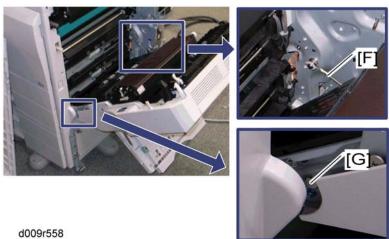
d009r556

8. Push up the duplex unit a little bit, while pressing the bracket [D] to lock the spring [E].
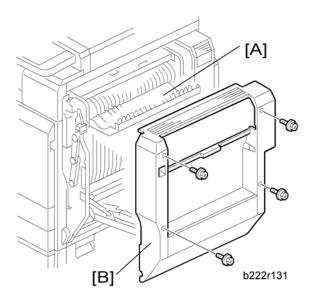
⬇Note

- Do not let the duplex unit open fully before releasing the wire (step 9). Otherwise, the lock for the spring [E] is released.

d009r558

9. Wire [F] (⊘ x 1)

10. Push the projection [G].

11. Duplex unit (⬚ x 3, ground cable x 1)

Right Door Cover

b222r131
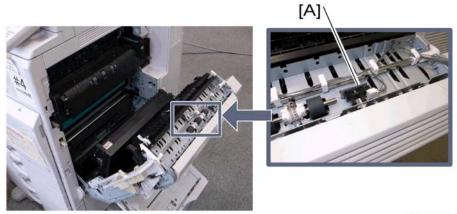
1. Open the duplex door [A] and by-pass tray.

2. Right door cover [B] (🔩 x 4)

Duplex Door Sensor

1. Right door cover (p.223)

2. Open the right door.
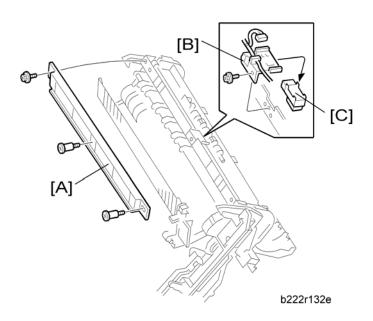
d009r599

3. Duplex door sensor [A] (x 1, hook)

Duplex Entrance Sensor

1. Right door cover (p.223)

2. Open the right door.

b222r132e
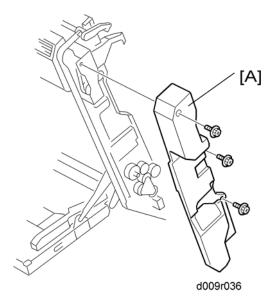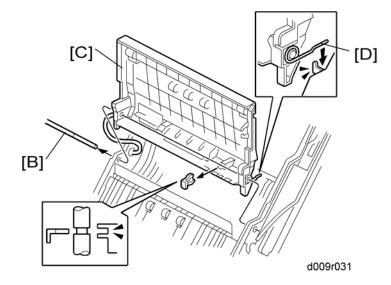
3. Duplex entrance guide [A] (🔩 x1, stepped screw x 2)

4. Duplex entrance sensor bracket [B] (🔩 x 1, 🔌 x 1)

5. Duplex entrance sensor [C] (hooks)

Duplex Exit Sensor

1. Transfer belt unit (☛ p.198)

d009r036

2. Right door rear cover [A] (🔩 x 3)

d009r031
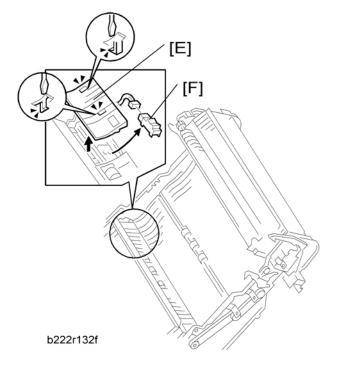
3. Remove the shaft [B] (🔩 x 1).

4. Transfer belt unit holder [C] (🔌 x 1, 🔩 x 1)

⬇️ **Note**
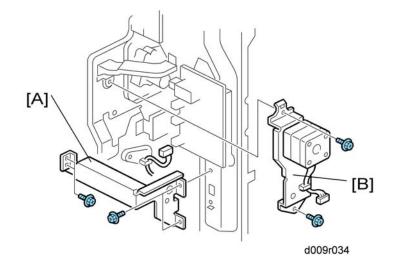
• When re-installing the transfer belt unit holder, make sure that the spring [D] correctly hooks onto the frame.

b222r132f
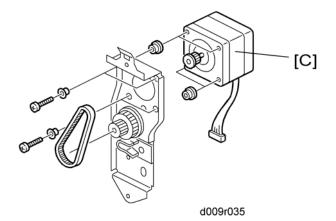
5. Guide plate [E] (two hooks)

6. Duplex exit sensor [F] (⟨symbol⟩ x 1, hooks)

Duplex/By-pass Motor

1. Rear cover (☞ p.154)

d009r034
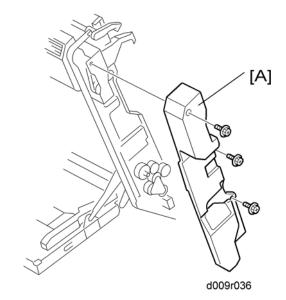
2. Frame [A] (⟨symbol⟩ x 4)

3. Duplex/By-pass motor bracket [B] (⟨symbol⟩ x 2, ⟨symbol⟩ x 1)

d009r035
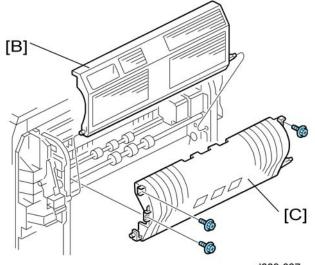
4. Duplex/By-pass motor [C] (⟨symbol⟩ x 4, bushing x 8, timing belt x 1)

Duplex Inverter Motor

1. Right door cover (☞ p.223)

2. Open the right door.

d009r036
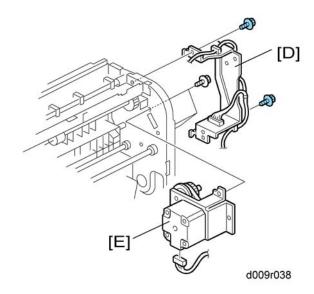
3. Right door rear cover [A] (🔩 x 3)

d009r037
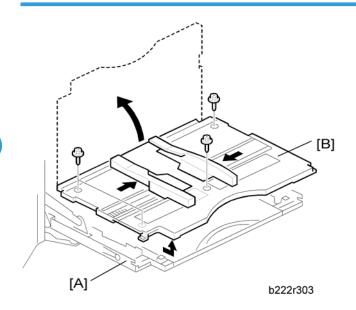
4. Duplex door [B]

5. Duplex guide plate [C] (🔩 x 3)

d009r038
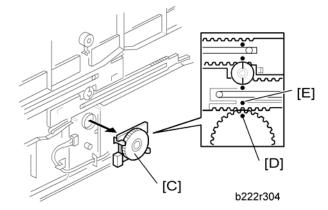
6. Bracket [D] (🔩 x 2)

7. Duplex inverter motor [E] (🔩 x 3, 🔌 x 1)

By-pass

By-pass Paper Size Sensor

b222r303

1. Open the by-pass tray [A].

2. Move the side fences to the center.

3. By-pass tray cover [B] (🔩 x 4)

b222r304

4. By-pass paper size sensor [C] (🔌 x 1)

When reinstalling the by-pass paper size sensor

1. Adjust the projection [E] of the left side fence bar (it must be centered).
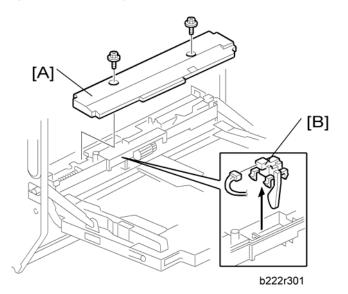
2. Install the by-pass paper size sensor so that the hole [D] in this sensor faces the projection [E] of the left side fence bar.

3. Reassemble the copier.

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

5. Check this switch operation with SP5803-024 (By-pass paper size < Input Check).

- Display on the LCD -

Paper Size	Display	Paper Size	Display
A3 SEF	00001110	A5 SEF	00001011
B4 SEF	00001100	B6 SEF	00000011
A4 SEF	00001101	A6 SEF	00000111
B5 SEF	00001001	Smaller A6 SEF	00001111

By-pass Paper End Sensor

1. Right door cover (☛ p.225)

b222r301

2. By-pass feed unit cover [A] (🔩 x 2).

3. By-pass paper end sensor [B] (🔌 x 1, hooks)

By-pass Pick-up, Feed and Separation Roller, Torque Limiter
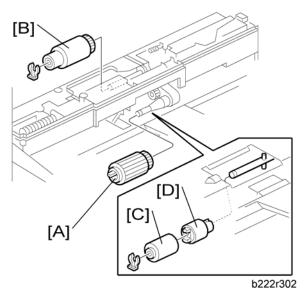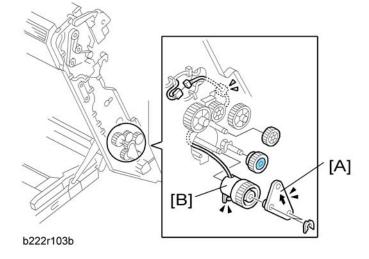
1. Right door cover (☞ p.225)
2. By-pass feed unit cover (☞ p.233)

b222r302

3. By-pass pick-up roller [A] (hook)
4. By-pass feed roller [B] (🔩 x 1)
5. By-pass separation roller [C] (🔩 x 1)
6. Torque limiter [D]

By-pass Feed Clutch

1. Open the right door.
2. Right door rear cover (☞ p.227)
3. Transfer belt unit (☞ p.198)
4. Transfer belt unit holder (☞ p.227)

b222r103b
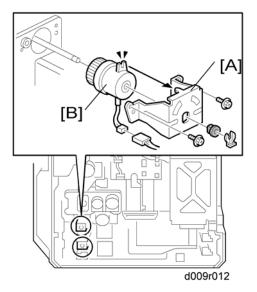
5. By-pass feed clutch holder [A] (⊘ x 2)

6. By-pass feed clutch [B] (▭ x 1, ▭ x 1)

Drive Area

Paper Feed Clutch

Tray 1 and Tray 2

1. Rear cover (☞ p.154)

d009r012
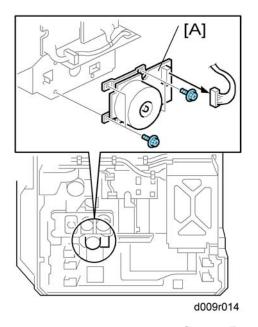
2. Clutch bracket [A] (🔩 x 2, ⊘ x 1, bushing x 1)
3. Paper feed clutch [B] (🔌 x 1)

Development Paddle Motor

1. Rear cover (☞ p.154)
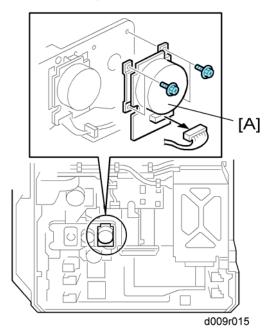
d009r014

2. Development paddle motor [A] (🔩 x 4, 🔌 x 1)

Transfer/Development Motor

1. Rear cover (☞ p.154)

d009r015
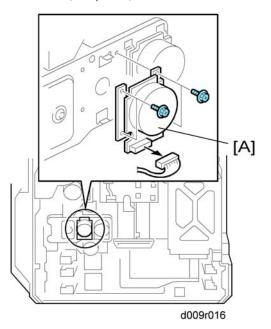
2. Transfer/development motor [A] (🔩 x 4, 🔌 x 1)

Drum Motor

1. Rear cover (☛ p.154)

d009r016
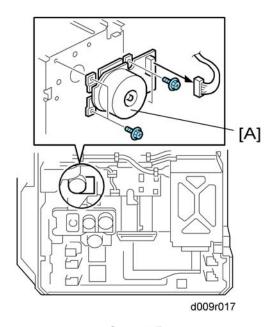
2. Drum motor [A] (🔩 x 4, 🔌 x 1)

Fusing Motor

1. Rear cover (☛ p.154)

d009r017
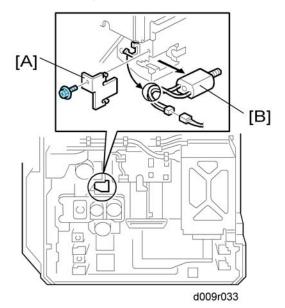
2. Fusing motor [A] (🔩 x 4, 🔌 x 1)

Web Motor

1. Rear cover (👈 p.154)

d009r033
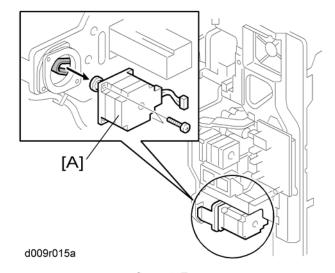
2. Bracket [A] (🔩 x 1, 🔌 x 1)
3. Web motor [B] (🔌 x 1, 🔗 x 1)

Paper Feed Motor

1. Rear cover (☞ p.154)
2. Right rear cover (☞ p.155)

d009r015a
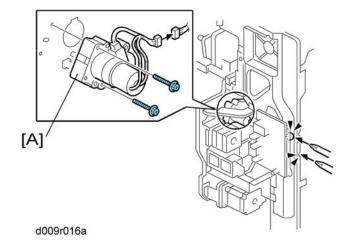
3. Paper feed motor [A] (🔩 x 2, 🔌 x 1)

Transfer Belt Contact Motor

1. Rear cover (☞ p.154)
2. Right rear cover (☞ p.155)

d009r016a
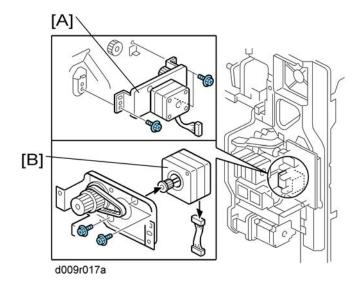
3. Transfer belt contact motor [A] (🔩 x 2, 🔌 x 1)

Registration Motor

1. Rear cover (p.154)
2. Right rear cover (p.155)

d009r017a
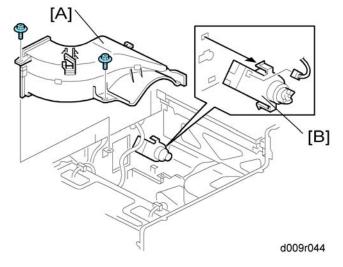
3. Registration motor bracket [A] (x 3, x 1)
4. Registration motor [B] (x 2, x 1)

Toner Supply Motor
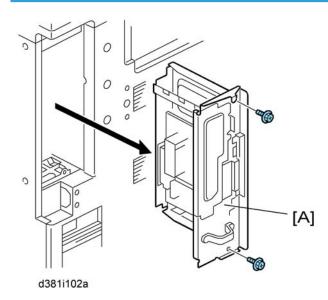
1. Left cover (p.154)
2. Upper inner cover (p.153)
3. Inner Tray (p.157)

d009r044

4. Exhaust duct [A] (🔩 x 2)

5. Toner supply motor [B] (hooks, 🔌 x 1)

Electrical Components

Controller Unit

d381i102a

1. Controller unit [A] (🔩 x 2)
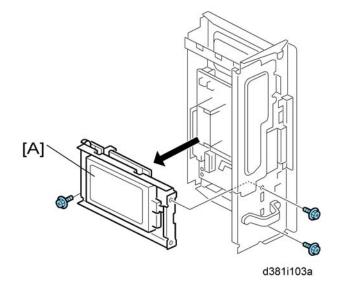
HDD Unit (Standard for D011/D013/D091/D092)

Before replacing the HDD unit

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

Replacement Procedure

1. Controller unit (☞ p.243)

d381i103a

2. HDD unit [A] (🔧 x 3)

After installing the new HDD unit

1. Do **SP5832-001** to format the hard disk.

2. Do **SP5853-001** to copy the preset stamp data from the firmware to the hard disk.

3. Do **SP5846-052** to copy back the address book to the hard disk from the SD card to which you have already copied the address book data if possible.

4. Turn the main power switch off/on.

Disposal of HDD Units

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

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

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

Reinstallation

• Explain to the customer that the following information stored on the HDD is lost when the HDD is replaced: document server documents, fixed 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 or the Data Encryption feature, these applications must be installed again. For more, see "Installation".

• If the customer is using the HDD Encryption Unit, the encryption key must be restored after replacing the HDD unit. For details, see the installation procedure for the HDD Encryption Unit.

Controller Board

⚠ CAUTION

• The battery on the control board can explode if replaced incorrectly.

• Dispose of the old battery in accordance with the instructions.
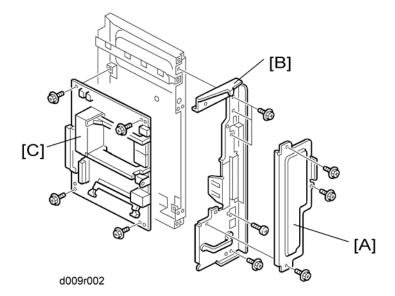
Before replacing the controller board in the model without HDD

When you replace the controller board in a model without a HDD, address book data can be copied from an old controller board to a new controller board using an SD card.
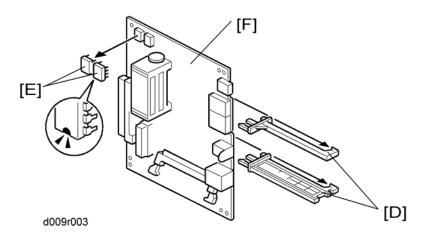
Copy the address book data to an SD card from the flash ROM on the controller board with **SP5846-051** if possible.

Replacement Procedure

1. Controller unit (☛ p.243)

2. HDD unit (if it has been installed.) (☛ p.243)

d009r002

3. FCU cover [A] (🔩 x 3)

4. Controller left bracket [B] (🔩 x 5)

5. Controller board assembly [C] (🔩 x 4, connector caps)

d009r003

6. Interface rails [D] (hooks each)

7. NVRAMs [E]

8. DIMM-RAM (If it is installed.)

9. Controller board [F]

When installing the new controller board

1. Remove the NVRAMs from the old controller board.

2. Install them on the new controller board after you replace the controller board.

3. Replace the NVRAMs if the NVRAM on the old controller board is defective.

   ⬇Note

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

   ⚠**CAUTION**

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

   • Make sure the NVRAMs are correctly installed on the controller board.

   • Make sure that the DIP-switch settings on the old controller board are the same for the new controller board. Do not change the DIP switches on the controller board in the field.
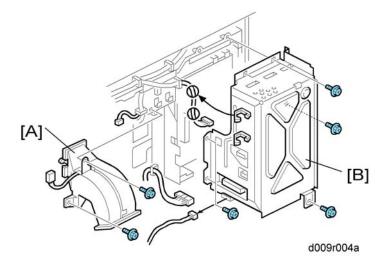
After installing the controller board

1. For a model without a HDD, do **SP5846-052** to copy back the address book to the flash ROM on the controller board from the SD card to which you have already copied the address book data if possible.
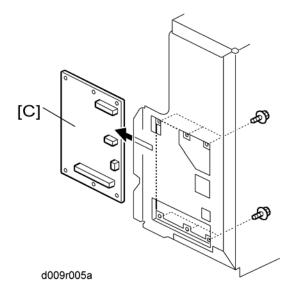
2. For a model in which the HDD encryption unit has been installed, restoring the encryption key is required. Refer to "Recovery from a Device Problem" in the installation procedure for "p.123 "HDD Encryption Unit"".

3. Turn the main power switch off/on.

Mother Board

1. Rear cover (☛ p.154)
2. Controller unit (☛ p.243)

d009r004a
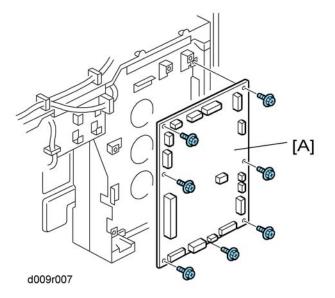
3. Exhaust fan duct [A] (🔩 x 2, 🔌 x 1)
4. Controller box [B] (🔩 x 6, 🔗 x 2, 🔌 x 3)

d009r005a

5. Mother board [C] (✏ x 6)

BICU

1. Controller box (☛ p.247)
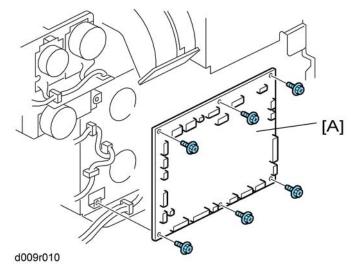
d009r007

2. BICU[[A] (✏ x 7, 🔌 x all)

IOB

1. Rear cover (☛ p.154)

d009r010

2. IOB [A] (🔩 x 6, ⬛ x all)
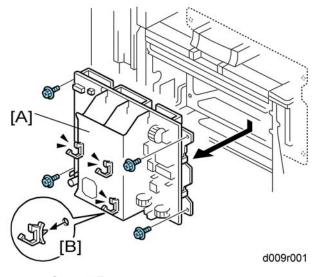
When installing a new IOB

⭐ **Important**

- **The IOB is identical for the D009/D011/D012/D013. However, the DIP switches are set differently for each machine. Set the DIP switches on the new IOB board to the same settings as the old board.**

1. Set the bit switches on the new IOB to the same settings as the old IOB.

PSU

1. Left cover (☛ p.154)

d009r001
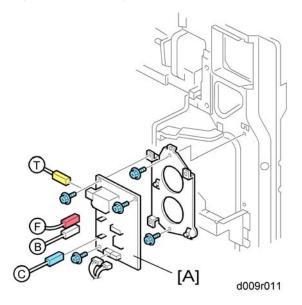
2. PSU [A] (🔩 x 4, 🔌 x all)

3. Three clamps [B] (These clamps will be used for the new PSU.)

High Voltage Power Supply Board

1. Rear cover (☛ p.154)

2. Right rear cover (☛ p.155)

d009r011
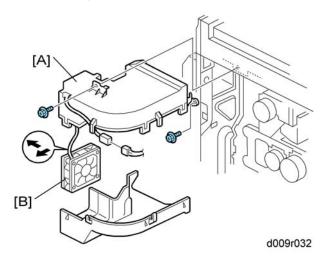
3. High voltage power supply board [A] (🔩 x 3, 🔌 x all)

Fusing Exhaust Fan

1. Rear cover (☛ p.154)

d009r032

2. Fusing exhaust duct [A] (🔩 x 2, 🔌 x 1)

3. Separate the duct (hooks).

4. Fusing exhaust fan [B]
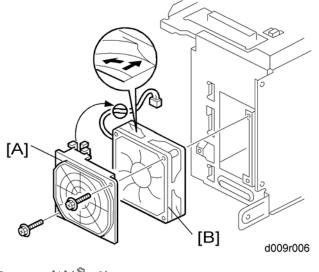
When installing the fusing exhaust fan

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

Controller Fan

1. Controller box (☛ p.247)

d009r006

2. Fan cover [A] (🔩 x 2)

3. Controller fan [B] (🔌 x 1)

When installing the controller fan

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

Copy Adjustments

Overview
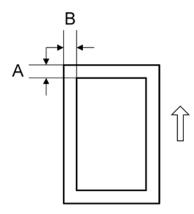
Perform these adjustments after replacing any of the following:

- Scanner Wire
- Lens Block/SBU Assembly
- Scanner Drive Motor
- Polygon Mirror Motor
- Paper Side Fence
- Memory All Clear

Printing

1. Make sure paper is installed correctly in each paper tray before you start these adjustments.

2. Use the Trimming Area Pattern (SP2-109-1, No. 14) to print the test pattern for the following procedures.

Registration - Leading Edge/Side-to-Side

b195r827

1. Check the leading edge registration [A] for each paper type and paper feed station, and adjust it with following SP modes.

	SP No.	Specification
Tray: Plain	SP1-001-1	
Tray: Thick 1	SP1-001-2	
Tray: Thick 2	SP1-001-3	
By-pass: Plain	SP1-001-4	
By-pass: Thick 1	SP1-001-5	0 ±9.0 mm
By-pass: Thick 2	SP1-001-6	
Duplex: Plain	SP1-001-7	
Duplex: Thick 1	SP1-001-8	
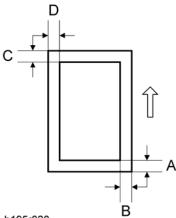
2. Check side-to-side registration [B] for each paper feed station, and adjust with the following SP modes.

	SP No.	Specification
By-pass	SP1-002-1	
Tray 1	SP1-002-2	
Tray 2	SP1-002-3	
Tray 3	SP1-002-4	0 ±4.0 mm
Tray 4	SP1-002-5	
LCT	SP1-002-6	
Duplex	SP1-002-7	

Blank Margin

Note

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

b195r828

1. Check the trailing edge [A], right edge [B], leading edge [C] and left edge [D] blank margins, and adjust them with the following SP modes.

	SP No.	Specification
Leading Edge	SP2-103-1	3.0 mm [0.0 to 9.0 mm]
Trailing Edge	SP2-103-2	
Left	SP2-103-3	2.0 mm [0.0 to 9.0 mm]
Right	SP2-103-4	
Duplex: Trailing Edge: L Size: Plain	SP2-103-5	1.0 mm [0.0 to 4.0 mm]
Duplex: Trailing Edge: M Size: Plain	SP2-103-6	0.8 mm [0.0 to 4.0 mm]
Duplex: Trailing Edge: S Size: Plain	SP2-103-7	0.6 mm [0.0 to 4.0 mm]
Duplex: Left: Plain	SP2-103-8	0.3 mm [0.0 to 1.5 mm]
Duplex: Right: Plain	SP2-103-9	
Duplex: Trailing Edge: L Size: Thick	SP2-103-10	0.8 mm [0.0 to 4.0 mm]
Duplex: Trailing Edge: M Size: Thick	SP2-103-11	0.6 mm [0.0 to 4.0 mm]

4

	SP No.	Specification
Duplex: Trailing Edge: S Size: Thick	SP2-103-12	0.4 mm [0.0 to 4.0 mm]
Duplex: Left: Thick	SP2-103-13	0.1 mm [0.0 to 1.5 mm]
Duplex: Right: Thick	SP2-103-14	

- L Size: Paper length is 297.1 mm or more.
- M Size: Paper length is 216.1 to 297 mm
- S Size: Paper length is 216 mm or less.

Main Scan Magnification
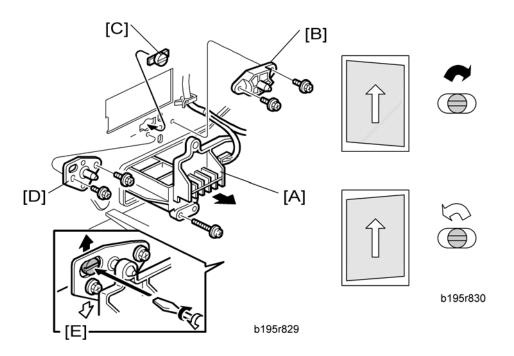
1. Use SP2-109-001 no 5 (Grid Pattern) to print a single dot pattern.

2. Check magnification, and then SP2-102 (Magnification Adjustment Main Scan) to adjust magnification if required. Specification: ±2%.

Parallelogram Image Adjustment

Do the following procedure if a parallelogram prints while adjusting the printing registration or printing margin using a trimming area pattern.

The following procedure should be done after adjusting the side-to-side registration for each paper tray station.

Use SP2-109-1 No. 14 (Trimming Area) to determine whether a parallelogram image appears. If the parallelogram pattern appears, perform the following procedure.

b195r829

b195r830

1. Laser unit [A]

2. Bracket [B] (🔩 x2)

3. Install adjustment cam [C] (P/N: A2309003).

4. Secure positioning pin [D] (P/N A2309004) with the two screws removed with the bracket [B]. Do not tighten the screws at this time.

5. To adjust the position of the laser unit [E]

    1) Adjust the laser unit position by turning the adjustment cam. (See the illustration above.)

    2) Tighten the adjustment bracket.

    3) Print the trimming area pattern to check the image. If the results are not satisfactory, repeat steps 5-1) to 5-3).

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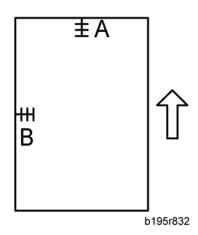
Before doing the following scanner adjustments, perform or check the printing registration/side-to-side adjustment and the blank margin adjustment.

Note

• Use the S5S test chart to perform the following adjustments.

Registration: Platen Mode
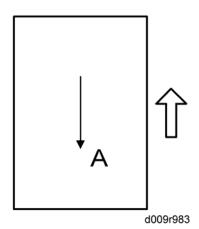
b195r832

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

	SP No.	Specification
Leading Edge	SP4-010-1	0 ±2.0 mm
Side-to-side	SP4-011-1	0 ±2.5 mm

Magnification

Use the S5S test chart to perform the following adjustment.

Sub Scan Magnification

d009r983
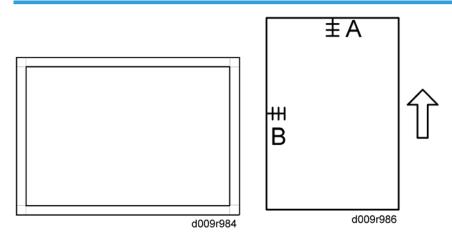
4

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 SP4-008 (Scanner Sub Scan Magnification) to adjust if necessary. Specification: ±0.9%.

ADF Image Adjustment

Registration

d009r984

d009r986

1. Make a temporary test chart as shown above using A3/DLT paper.

2. Place the temporary test chart on the ADF and make a copy from one of the feed stations.

3. Check the registration, and adjust using the following SP modes if necessary.
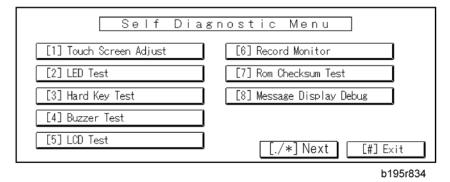
	SP No.	Specification
Side-to-side: 1st side	SP6-006-1	0.0 mm ±3 mm
Side-to-side: 2nd side	SP6-006-2	
Leading Edge	SP6-006-3	0.0 mm ±5 mm
Leading Edge: 1st side	SP6-006-5	0.0 mm ±3 mm
Leading Edge: 2nd side	SP6-006-6	0.0 mm ±2.5 mm
Trailing Erase edge:	SP6-006-7	0.0 mm ±10.0 mm

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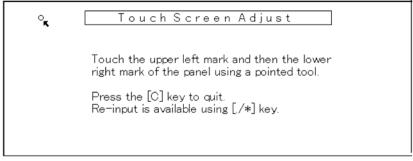
After clearing the memory, or if the touch panel detection function is not working correctly, follow this procedure to calibrate the touch screen.

◆Note

- Do not attempt to use items [2] to [7] on the Self-Diagnostic Menu. These items are for design use only.


```
Self  Diagnostic  Menu
[1] Touch Screen Adjust        [6] Record Monitor
[2] LED Test                   [7] Rom Checksum Test
[3] Hard Key Test              [8] Message Display Debug
[4] Buzzer Test
[5] LCD Test                   [./*] Next    [#] Exit
```

b195r834

1. Press ⬚, "1", "9", "9", "3", and then press ⊙ 5 times to open the Self-Diagnostics menu.
2. On the touch screen press "Touch Screen Adjust" (or press "1").

```
  ○↖        ┌─────────────────────────────────────┐
            │  T o u c h   S c r e e n   A d j u s t │
            └─────────────────────────────────────┘

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

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

```

b195r9835

3. Use a pointed (not sharp!) tool to press the upper left mark ○↖.

4. Press the lower right mark ↘o after it appears.

5. Touch a few spots on the touch panel 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.

6. When you are finished, press [#] OK on the screen (or press ⊕).

7. Touch [#] Exit on the screen to close the Self-Diagnostic menu and save the calibration settings.

4

4

5. Service Tables

Service Program Mode

⚠ 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 switch to switch the power off, wait for the power LED to go off, and then switch the main power switch off.

⬇ Note

- The main power LED lights or flashes while the platen cover or ARDF is open, while the main machine is communicating with a facsimile or the network server, or while the machine is accessing the hard disk or memory for reading or writing data.

Service Program Mode Operation

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 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

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 service technician 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 **SP5169** to "1".

3. After machine servicing is completed:
   - Change **SP5169** 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 Program Mode Tables

Please note these general changes in this section:

- Group 8(Data Log 2) is a new group of counters.

- Along with the addition of Group 8, many of the Group 7 counters have been removed.

Service Table Key

Notation	What it means
[range / **default** / step]	Example: [-9 to +9 / **0** / 0.1 mm step]. The setting can be adjusted in the range ±9, value reset to +3.0 after an NVRAM reset, and the value can be changed in 0.1 mm steps with each key press.
*	Value stored in NVRAM. After a RAM reset, this default value (factory setting) is restored.
MS	Monochrome Scanner Model: D009/D012
CS	Color Scanner Model: D011/D013/D091/D092
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.
C1b	40 cpm: D009/D011
C1c	50 cpm: D012/D013
C1.5b	D091
C1.5c	D092
SSP	This denotes a "Special Service Program" mode.

Service Program Mode Tables

SP Tables

See "Appendices" for the following information:

- System SP Tables

- Printer SP Tables

- Scanner SP Tables

5

Using SP Modes

Test Pattern Printing

📝**Note**

- Always print a test pattern to confirm correct operation of the machine.

1. Enter the SP mode and select SP2-109 (Printing) or SP4-417 (IPU).

2. Enter the number for the test pattern that you want to print and press 🔘. (See the tables below.)

3. When you are prompted to confirm your selection, press "OK". This selects the test pattern for printing.

4. Press Copy Window to open the copy window and 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. Press SP Mode (highlighted) to return to the SP mode display.

Test Pattern Table (SP2-109-001: Printing test pattern)

No.	Test Pattern	No.	Test Pattern
0	None	13	Independent Pattern (4-dot)
1	Vertical Line (1-dot)	14	Trimming Area
2	Vertical Line (2-dot)	15	Hound's Tooth Check (Vertical)
3	Horizontal Line (1-dot)	16	Hound's Tooth Check (Horizontal)
4	Horizontal Line (2-dot)	17	Black Band (Horizontal)
5	Grid Vertical Line	18	Black Band (Vertical)
6	Grid Horizontal Line	19	Checker Flag Pattern
7	Grid Pattern Small	20	Grayscale (Vertical Margin)
8	Grid Pattern Large	21	Grayscale (Horizontal Margin)
9	Argyle Pattern Small	22	Two Beam Density Pattern
10	Argyle Pattern Large	23	Full Dot Pattern
11	Independent Pattern (1-dot)	24	All White Pattern
12	Independent Pattern (2-dot)		

Test Pattern Table: SP4-417-001 IPU Test Patterns

No.	Test Pattern	No.	Test Pattern
0	Scanned image	13	Grid pattern CMYK
1	Gradation main scan A	14	Color patch CMYK
2	Gradation main scan B	15	Gray pattern (1)
3	Gradation main scan C	16	Gray pattern (2)
4	Gradation main scan D	17	Gray Pattern (3)
5	Gradation sub scan (1)	18	Shading pattern
6	Grid pattern	19	Thin line pattern
7	Slant grid pattern	20	Scanned + Grid pattern
8	Gradation RGBCMYK	21	Scanned + Gray scale
9	UCR pattern	22	Scanned + Color patch
10	Color patch 16 (1)	23	Scanned + Slant Grid C
11	Color patch 16 (2)	24	Scanned + Slant Grid D
12	Color patch 64		

SMC Print Out Lists: SP5-990
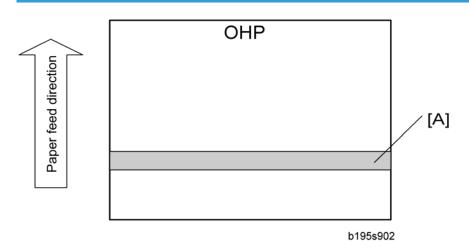
1. Open SP mode 5-990 and select the number corresponding to the list that you wish to print.

SMC (System Parameter and Data Lists)	
1	All Data List
2	SP Mode Data List
3	UP Mode Data List
4	Logging Data List
5	Self-Diagnostics Results List
6	Non-Default
7	NIB Summary

8	NetFile Log
21	Copy UP Mode List
22	Scanner SP Mode List
23	Scanner UP Mode List

2. Press "Execute" on the touch panel.

3. Select "Single Face" or "Both Face".

4. After printing the list, press "Close" to return to the SP mode display.

5. Press Exit twice to close the SP Mode screen and return to copy mode.

Nip Band Width Adjustment: SP1-109

b195s902

When paper wrinkling or image offset occurs, the pressure from the pressure roller can be adjusted by changing the position of the pressure springs. At this time, the nip bandwidth can also be checked with SP1-109.

1. Execute SP5-802 to perform a free run of about 50 sheets.

2. Open SP1-109-1, press ⊕, and then press Yes to confirm the selection.

3. Press Copy Window to return to the copy window.

4. Place an OHP sheet (A4/8.5" x 11" LEF) on the by-pass feed tray.

5. Press Start ⊚ twice. The OHP sheet stops in the fusing unit for about 10 seconds, then it exits automatically.

6. Check the nip bandwidth [A].

➡Note

- Check the nip bandwidth around the center of the OHP.

Nip band Specification: 7.0 ± 0.5 mm

Memory Clear: SP5-801

Executing Memory All Clear resets all the settings stored in the NVRAM to their default settings except the following:

	Electrical total counter value
SP5-811-1:	Machine serial number
SP5-907:	Plug & Play Brand Name and Production Name Setting

1. Execute SP5-990 to print out all SMC Data Lists.
2. Open SP mode 5-801.
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 or select the appropriate number from the table below.

5801-001	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.
020	Web Uapli	
021	ECS	

4. Press Execute, and then follow the prompts on the display to complete the procedure.

5. Make sure that you perform the following settings:

- Do the laser beam pitch adjustment (☛ p.180).
- Do the printer and scanner registration and magnification adjustments (☛ p.253/ p.257).
- Do the touch screen calibration (☛ p.260).
- Referring to the SMC data lists, re-enter any values, which had been changed from their factory settings.

• Do SP 3-001-2 (ID Sensor Initial Setting).

6. Check the copy quality and the paper path, and do any necessary adjustments.

Software Reset

The software can be reboot when the machine hangs up. Use the following procedure.

Turn the main power switch off and on.

-or-

Press 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 normal operation.

System Settings and Copy Setting Reset

System Setting Reset

The system settings in the UP mode can be reset to their defaults. Use the following procedure.

1. Press User Tools/Counter ⊘/☲.

2. Hold down ⊕ and then press System Settings.

⬇Note

• You must press ⊕ first.


```
Do you want to restore System Settings to
original factory defaults?

        No                    Yes

133.139.166.098        System Status  Job List    JUL 24,2007
                                                   6:33AM
```
d009s903

3. When the message prompts you to confirm that you want to reset the system settings, press Yes.

4. When the message tells you that the settings have been reset, press Exit.

Copier Setting Reset

The copy settings in the UP mode can be reset to their defaults. Use the following procedure.

1. Press User Tools/Counter ⊘/▥.

2. Hold down ⊕ and then press Copier/Document Server Settings.

   ⬇Note

   - You must press ⊕ first.

d009s904

3. When the message prompts you to confirm that you want to reset the Copier Document Server settings, press "Yes".

4. When the message tells you that the settings have been reset, press "Exit".

Updating the Firmware

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

Before You Begin

An SD card is a precision device. Always observe the following precautions when you handle SD cards:

- Always switch the machine off before you insert an SD card. Never insert the SD card into the slot with the power on.
- Do not remove the SD card from the service slot after the power has been switched on.
- Never switch the machine off while the firmware is downloading from the SD card.
- Keep SD cards in a safe location where they are not exposed to high temperature, high humidity, or exposure to direct sunlight.
- Always handle SD cards with care. Do not bend or scratch them. Do not let the SD card get exposed to shock or vibration.
- Make sure that the write protection of an SD card is unlocked when you download an application to it. If not, downloading fails and a download error (e.g. Error Code 44) occurs during a firmware upgrade.

Keep the following points in mind when you use the firmware update software:

- "Upload" means to send data from the machine to the SD card. "Download" means to send data from the SD card to the machine.
- To select an item on the LCD, touch the appropriate button on the soft touch-screen of the LCD, or, press the appropriate number key on the 10-key pad of the operation panel. For example, when "Exit (0)" shows on the screen you can touch the Exit button on the screen, or, press the "0" button on the operation panel of the copier.
- Make sure that the machine is disconnected from the network to prevent a print job for arriving while the firmware update is in progress before you start the firmware update procedure.

Updating Firmware

Preparation

1. If the SD card is blank, copy the entire "romdata" folder onto the SD card.
2. If the card already contains the "romdata" folder, copy the "D009" folder onto the card.

Note

- Do not put multiple machine firmware programs on the same SD card. Copy the only model firmware you want.

1. Stop all SDK applications if the VM card is installed (☞ p.123 "HDD Encryption Unit").

2. Turn the main power switch off.

3. Remove the slot cover (🔧 x 1).

4. Remove the VM card from SD Card Slot 2 if it is installed.

5. Insert the SD card into SD Card Slot 2. Make sure the label on the SD card faces the rear side of the machine.

6. Slowly push the SD card into the slot so it locks in place. You will hear it click. Make sure the SD card locks in place.

Note

- To remove the SD, push it in to unlock the spring lock. Then release it so it pops out of the slot.

7. Disconnect the network cable from the copier if the machine is connected to a network.

8. Switch the main power switch on. After about 45 seconds, the initial version update screen appears on the LCD in English.

9. On the screen, touch the button or press the corresponding number key on the operation panel to select the item in the menu that you want to update.

ROM/NEW	What it means
ROM:	Tells you the number of the module and name of the version currently installed. The first line is the module number, the second line the version name.
NEW:	Tells you the number of the module and name version on the SD card. The first line is the module number, the second line the version name.

Note

- Controller, engine and operation panel firmware cannot be updated at the same time. It is recommended to update firmware modules one by one.

10. Touch "UpDate (#)" (or ⊕) to start the update.

Note

- While downloading is in progress, the LCD will display "Loading". When downloading has been completed, the panel will display "update done".

- For operation panel software, the Start key lights red while downloading is in progress, and then lights green again after downloading is completed.

11. The "Update is Done" message appears on the operation panel after completing the updating. The message differs depending on the firmware that has been updated.

12. Switch the copier main power switch off when you see the "Update is Done" message or follow the procedure that is displayed on the operation panel.

13. Press in the SD card to release it. Then remove it from the slot.

14. Switch the copier on for normal operation.

15. Error Messages

    An error message shows in the first line if an error occurs during the download.

    The error code consists of the letter "E" and a number. The example above shows error "E24" displayed. For details, refer to the Error Message Table. (☛ "Handling Firmware Update Errors" in this section)

Firmware Update Error

If a firmware update error occurs, this means the update was cancelled during the update because the module selected for update was not on the SD card.

```
SDcard -> ROM


           ┌──────────────────────────────────┐
           │  Reboot after card insert.   E82  │
           ├──────────────────────────────────┤
           │      BLC2 eplot Card No.:1/1      │
           └──────────────────────────────────┘
```

Recovery after Power Loss

If the ROM update is interrupted as a result of accidental loss of power while the firmware is updating, then the correct operation of the machine cannot be guaranteed after the machine is switched on again. If the ROM update does not complete successfully for any reason, then in order to ensure the correct operation of the machine, the ROM update error will continue to show until the ROM is updated successfully.

In this case, insert the card again and switch on the machine to continue the firmware download automatically from the card without the menu display.

Handling Firmware Update Errors

An error message shows in the first line if an error occurs during a download. The error code consists of the letter "E" and a number ("E20", for example).

Error Message Table

Code	Meaning	Solution
20	Cannot map logical address	Make sure the SD card is installed correctly, or use a different SD card.
21	Cannot access memory	HDD connection incorrect or replace HDD.
22	Cannot decompress compressed data	Incorrect ROM data on the SD card, or data is damaged.
23	Error occurred when ROM update program started	Controller program defective. If the second attempt fails, replace controller board.
24	SD card access error	Make sure the SD card is inserted correctly, or use a different SD card.
30	No HDD available for stamp data download	HDD connection incorrect or replace HDD.
31	Data incorrect for continuous download	Insert the SD card with the remaining data required for the download, the re-start the procedure.
32	Data incorrect after download interrupted	Execute the recovery procedure for the intended module download, then repeat the installation procedure.
33	Incorrect SD card version	Incorrect ROM data on the SD card, or data is corrupted.
34	Module mismatch - Correct module is not on the SD card)	SD update data is incorrect. Acquire the correct data (Japan, Overseas, OEM, etc.) then install again.
35	Module mismatch – Module on SD card is not for this machine	SD update data is incorrect. The data on the SD card is for another machine. Acquire correct update data then install again.
36	Cannot write module – Cause other than E34, E35	SD update data is incorrect. The data on the SD card is for another machine. Acquire correct update data then install again.

Code	Meaning	Solution
40	Engine module download failed	Replace the update data for the module on the SD card and try again, or replace the BCU board.
42	Operation panel module download failed	Replace the update data for the module on the SD card and try again, or replace the LCDC.
43	Stamp data module download failed	Replace the update data for the module on the SD card and try again, or replace the hard disks.
44	Controller module download failed	Replace the update data for the module on the SD card and tray again, or replace controller board.
50	Electronic confirmation check failed	SD update data is incorrect. The data on the SD card is for another machine. Acquire correct update data then install again.

5

NVRAM Data Upload/Download

The content of the NVRAM can be uploaded to and downloaded from an SD card.

Uploading NVRAM Data (SP5-824)

1. Turn off the main switch.
2. Remove the SD card cover (🔧 x 1).
3. Insert the SD card into SD card slot 2.
4. Turn on the main switch.
5. Execute SP5-824.
6. Press "1" to start uploading the NVRAM data.

Downloading NVRAM Data (SP5-825)

The following data are not downloaded from the SD card:

- Total counter
- C/O, P/O Counter
- Dupelx, A3/DLT/Over 420 mm, Staple and Scanner application scanning counters (system settings).
- Engine SP data

1. Stop all SDK applications if the VM card is installed (☞ p.123 "HDD Encryption Unit").
2. Turn off the main switch.
3. Remove the SD card cover [A].
4. Remove the VM card from SD card slot 2 if it is installed.
5. Plug the SD card [B] into SD card slot 2.
6. Turn on the main switch.
7. Execute SP5-825.
8. Press "1" to start downloading the NVRAM data.

Note that the following errors could occur during downloading:

- If a card is not installed in the card slot and a message tells you that downloading cannot proceed, you cannot execute downloading, even by pressing "1".
- If the correct card for the NVRAM data is not inserted in the card slot, after you press "1" a message will tell you that downloading cannot proceed because the card is abnormal and the execution will halt.

SD Card Appli Move

Overview

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

Slot 1 and Slot 2 are used to store application programs. However you can move application programs from Slot 2 to Slot 1 with the following procedure.

If PostScript3 is not to be installed, the printer/scanner card in slot 1 has enough space for the other applications. Use the printer/scanner card as a destination card.

But if PostScript3 is to be installed, use the PostScript3 card as a destination card because moving the data from the PostScript3 card is not licensed from the maker of this software.

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

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

2. Do not use the SD card if it has been used by the user on the computer. Normal operation is not guaranteed when such an SD card is used.

3. Return the SD card to a customer for safekeeping place after you copy the application program from one card to another card. This is done for the following reasons:

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

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

4. You cannot copy PostScript data to another SD card. You have to copy other data to the same SD card that stores PostScript data.

Move Exec

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

⭐ **Important**

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

1. Turn the main switch off.

2. Make sure that an SD card is in SD Card Slot 1. The application program is copied into this SD card.

3. Insert the SD card (having stored the application program) to SD Card Slot 2. The application program is copied from this SD card.

4. Turn the main switch on.

5. Start the SP mode.

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

7. Follow the messages shown on the operation panel.

8. Turn the main switch off.

9. Remove the SD card from SD Card Slot 2.

10. Turn the main switch on.

11. Check that the application programs run normally.

Undo Exec

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

⭐ **Important**

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

1. Turn the main switch off.

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

3. Insert the SD card (having stored the application program) to SD Card Slot 1. The application program is copied back from this SD card.

4. Turn the main switch on.

5. Start the SP mode.

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

7. Follow the messages shown on the operation panel.

8. Turn the main switch off.

9. Remove the SD card from SD Card Slot 2.
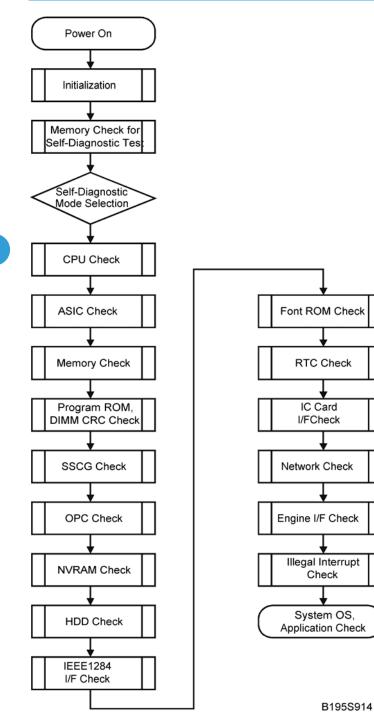
   ⬇ **Note**

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

10. Turn the main switch on.

11. Check that the application programs run normally.

Self-Diagnostic Mode

Self-Diagnostic Mode at Power On

As soon as the main machine is powered on, the controller waits for the initial settings of the copy engine to take effect and then starts an independent self-diagnostic test program. The self-diagnostic test follows the path of the flow chart shown below and checks the CPU, memory, HDD, and so on. An SC code is displayed in the touch panel if the self-diagnostic program detects any malfunction or abnormal condition.

5

Self-Diagnostic Test Flow

```
                    ┌─────────────────┐
                    │    Power On      │
                    └─────────────────┘
                             │
                    ┌─────────────────┐
                    │  Initialization  │
                    └─────────────────┘
                             │
                    ┌─────────────────┐
                    │ Memory Check for │
                    │ Self-Diagnostic  │
                    │      Test        │
                    └─────────────────┘
                             │
                    ◇ Self-Diagnostic ◇
                    ◇ Mode Selection   ◇
                             │
                    ┌─────────────────┐
                    │   CPU Check      │────────────┐
                    └─────────────────┘            │
                             │                     │
                    ┌─────────────────┐   ┌─────────────────┐
                    │   ASIC Check     │   │ Font ROM Check  │
                    └─────────────────┘   └─────────────────┘
                             │                     │
                    ┌─────────────────┐   ┌─────────────────┐
                    │  Memory Check    │   │   RTC Check     │
                    └─────────────────┘   └─────────────────┘
                             │                     │
                    ┌─────────────────┐   ┌─────────────────┐
                    │  Program ROM,    │   │   IC Card       │
                    │ DIMM CRC Check   │   │   I/FCheck      │
                    └─────────────────┘   └─────────────────┘
                             │                     │
                    ┌─────────────────┐   ┌─────────────────┐
                    │   SSCG Check     │   │ Network Check   │
                    └─────────────────┘   └─────────────────┘
                             │                     │
                    ┌─────────────────┐   ┌─────────────────┐
                    │   OPC Check      │   │ Engine I/F Check│
                    └─────────────────┘   └─────────────────┘
                             │                     │
                    ┌─────────────────┐   ┌─────────────────┐
                    │  NVRAM Check     │   │ Illegal Interrupt│
                    └─────────────────┘   │     Check        │
                             │            └─────────────────┘
                    ┌─────────────────┐            │
                    │   HDD Check      │   ┌─────────────────┐
                    └─────────────────┘   │  System OS,      │
                             │            │ Application Check│
                    ┌─────────────────┐   └─────────────────┘
                    │   IEEE1284       │
                    │   I/F Check      │
                    └─────────────────┘
```

B195S914

Detailed Self-Diagnostic Mode

In addition to the self-diagnostic test initiated every time the main machine is powered on, you can set the machine in a more detailed diagnostic mode manually in order to test other components or conditions that are not tested during self-diagnosis after power on. The following device is required in order to put the machine in the detailed self-diagnosis mode.

No.	Name
G02119350	Parallel Loopback Connector

Executing Detailed Self-Diagnosis

Follow this procedure to execute detailed self-diagnosis.

1. Switch off the machine, and connect the parallel loopback device to the Centronics I/F port.

2. Hold down ⌗, press and hold down ☺, and then while pressing both keys at the same time, switch on the machine.

   You will see "Now Loading" on the touch-panel, and then you will see the results of the test.

   A report is printed every time a detailed self-diagnostic test is executed, whether errors were detected or not.

Using the Debug Log

Overview

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

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

To capture this debug information, the Save Debug Log feature provides two main features:
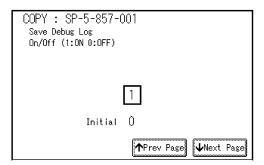
- Switching on the debug feature so error information is saved directly to the HDD for later retrieval.
- Copying the error information from the HDD to an SD card.

When a user is experiencing problems with the machine, follow the procedure below to set up the machine so the error information is saved automatically to the HDD. Then ask the user to reproduce the problem.

Switching On And Setting Up Save Debug Log

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

1. Enter the SP mode.

2. Under "5857 Save Debug Log", press "1".

```
COPY : SP-5-857-001
  Save Debug Log
  On/Off (1:ON 0:OFF)



        ┌─┐
        │1│
        └─┘
     Initial  0

              ┌────────┐ ┌────────┐
              │↑Prev Page│ │↓Next Page│
              └────────┘ └────────┘
```

3. On the control panel keypad, press "1" then press ⊕. This switches the Save Debug Log feature on.

   🔅 Note

   - The default setting is "0" (OFF). This feature must be switched on in order for the debug information to be saved.

4. Next, select the target destination where the debug information will be saved. Under "5857 Save Debug Log", touch "2 Target", enter "2" with the operation panel key to select the hard disk as the target destination, then press ⊕.

```
COPY : SP-5-857-002
  Save Debug Log
  Target(2:HDD 3:SD)

          2

  Initial  2
                    ↑Prev Page  ↓Next Page
```

⊕ **Note**

- Select "3 SD Card" to save the debug information directly to the SD card if it is inserted in the service slot.

5. Now touch "5858" and specify the events that you want to record in the debug log. SP5858 (Debug Save When) provides the following items for selection.

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

⊕ **Note**

- More than one event can be selected.

Example 1: To Select Items 1, 2, 4
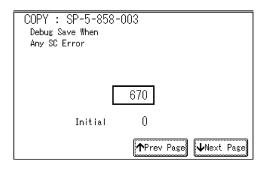
Touch the appropriate items(s). Press "ON" for each selection. This example shows "Engine SC Error" selected.


```
COPY : SP-5-858-001
  Debug Save When
  Engine SC Error(0:OFF 1:ON)
                              1/ 1
      OFF          ON          ▲

                               ▼

  CANCEL    OK    ↑Prev Page  ↓Next Page
```

Example 2: To Specify an SC Code

Touch "3 Any SC Error", enter the 3-digit SC code number with the control panel number keys, then press ⊕. This example shows an entry for SC670.

```
COPY : SP-5-858-003
  Debug Save When
  Any SC Error



              ┌─────────┐
              │    670  │
              └─────────┘

      Initial      0

              ┌────────────┐┌────────────┐
              │↑Prev Page ││↓Next Page │
              └────────────┘└────────────┘
```

🔽Note

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

6. Next, select the one or more memory modules for reading and recording debug information. Touch "5859".

Under "5859" press the appropriate key item for the module that you want to record.

Enter the appropriate 4-digit number, then press ⊕.

🔽Note

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

The example below shows "Key 1" with "2222" entered.

```
COPY : SP-5-859-001
  Debug Save Key No.
  Key 1



             ┌─────────┐
             │   2222  │
             └─────────┘

      Initial      0
              ┌────────────┐┌────────────┐
              │↑Prev Page ││↓Next Page │
              └────────────┘└────────────┘
```

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

4-Digit Entries for Keys 1 to 10

Key No.	Copy	Printer	Scanner	Web
1	2222 (SCS)			

2	2223 (SRM)			
3	256 (IMH)			
4	1000 (ECS)			
5	1025 (MCS)			
6	4848(COPY)	4400 (GPS)	5375 (Scan)	5682 (NFA)
7	2224 (BCU)	4500 (PDL)	5682 (NFA)	6600 (WebDB)
8		4600 (GPS-PM)	3000 (NCS)	3300 (PTS)
9		2000 (NCS)	2000 (NCS)	6666 (WebSys)
10		2224 (BCU)		2000 (NCS)

⬇Note

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

Key to Acronyms

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

The machine is now set to record the debugging information automatically on the HDD (the target selected with SP5-857-002) for the events that you selected SP5-858and the memory modules selected with SP5-859.

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

- Note that the number entries for Keys 1 to 5 are the same for the Copy, Printer, Scanner, and Web memory modules.

- The initial settings are all zero.

- These settings remain in effect until you change them. Be sure to check all the settings, especially the settings for Keys 6 to 10. To switch off a key setting, enter a zero for that key.

- You can select any number of keys from 1 to 10 (or all) by entering the corresponding 4-digit numbers from the table.

- You cannot mix settings for the groups (COPY, PRINTER, etc.) for 006to010. For example, if you want to create a PRINTER debug log you must select the settings from the 9 available selections for the "PRINTER" column only.

- One area of the disk is reserved to store the debug log. The size of this area is limited to 4 MB.

Retrieving the Debug Log from the HDD

1. Insert the SD card into service slot of the copier.

2. Enter the SP mode and execute SP5857 009 (Copy HDD to SD Card (Latest 4 MB) to write the debugging data to the SD card.

   🔽 **Note**

   - The SD card can hold up to 4MB of data. If the debugging data is larger than 4MB, you can switch to another 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.

Recording Errors Manually

Since only SC errors and jams are recorded to the debug log automatically, for any other errors that occur while the customer engineer is not on site, please instruct customers to perform the following immediately after occurrence to save the debug data. Such problems would include a controller or panel freeze.

🔽 **Note**

- In order to use this feature, the customer engineer must have previously switched on the Save Debug Feature (SP5857-001) and selected the hard disk as the save destination (SP5857-002).

1. When the error occurs, on the operation panel, press ▣▭ (Clear Modes).

2. On the control panel, enter "01" then hold down ☺ for at least 3 sec. until the machine beeps then release. This saves the debug log to the hard disk for later retrieval with an SD card by the service representatives.

3. Switch the machine off and on to resume operation.

   The debug information for the error is saved on the hard disk so the service representatives can retrieve it on their next visit by copying it from the HDD to an SD card.

Dip Switches

I/O Board: DIP SW101

Location	Bit		
	6	7	8
Japan	ON	ON	OFF
North America	OFF	ON	OFF
Europe	ON	OFF	OFF
China	OFF	OFF	ON
Taiwan	OFF	ON	ON
Korea	ON	OFF	ON
Asia	ON	ON	ON

ON: Up, OFF: Down

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6. Troubleshooting

Service Call Conditions

For "Service Call Conditions" information, see "Appendices".

Electrical Component Defects

Sensors

Component (Symbol)	CN	Condition	Symptom
Scanner Home Position (S1)	318-2 (SIO)	Open	SC121 is displayed.
		Shorted	SC120 is displayed.
Platen Cover (S2)	318-5 (SIO)	Open	APS and ARE do not function properly.
		Shorted	No symptom.
Original Width 1 (S3)	313-14 (SIO)	Open/ Shorted	CPU cannot detect the original size properly. APS and ARE do not function correctly.
Original Width 2 (S4)	313-11 (SIO)	Open/ Shorted	CPU cannot detect the original size properly. APS and ARE do not function correctly.
Original Length 1 (S5)	313-8 (SIO)	Open/ Shorted	CPU cannot detect the original size properly. APS and ARE do not function correctly.
Original Length-2 (S6)	313-5 (SIO)	Open Shorted	CPU cannot detect the original size properly. APS and ARE do not function correctly.
Original Length-3 (S7)	313-2 (SIO)	Open Shorted	CPU cannot detect the original size properly. APS and ARE do not function correctly.
Fusing Entrance (S8)	208-8 (IOB)	Open	CPU cannot detect paper even a sheet of paper remains at the fusing unit.
		Shorted	CPU detects paper even a sheet of paper does not remain at the fusing unit.
ID (Image Density) (S9)	208-11 (IOB)	Open	SC350 is displayed after copying.
		Shorted	SC351 is displayed after copying.

Component (Symbol)	CN	Condition	Symptom
Web End (S10)	208-16 (IOB)	Open	CPU detects the web end even the web is not used up.
		Shorted	CPU cannot detect the web end even the web is used up.
TD (Toner Density) (S11)	213-14 (IOB)	Open	The add toner indicator blinks even if there is toner in the development unit.
		Shorted	SC390 is displayed.
Toner Overflow (S13)	217-B15 (IOB)	Open	CPU cannot detect the toner overflow even the waste toner in the transfer belt unit is full.
		Shorted	CPU detects the toner overflow even the waste toner in the transfer belt unit is not full.
Duplex Entrance (S14)	217-A8 (IOB)	Open	Jam Z (Jam 26/27)
		Shorted	Jam Z (Jam 1)
Duplex Cover (S15)	217-A11 (IOB)	Open	"Open Cover" is displayed
		Shorted	"Open cover" cannot be detected.
Duplex Exit (S16)	217-A14 (IOB)	Open	Jam Z (Jam 25)
		Shorted	Jam Z (Jam 1)
By-pass Paper End (S17)	217-B3 (IOB)	Open	The Paper End indicator lights even if paper is placed on the by-pass tray.
		Shorted	The Paper End indicator does not light even if there is no paper on the by-pass tray.
By-pass Paper Size (S18)	217-B9, 10,12,13 (IOB)	Open	Paper size error
		Shorted	
Paper Feed 1 (S9)	216-A4 (IOB)	Open/ Shorted	No symptom, but this may cause Jam A (Jam 11) and some pieces of paper are remaining at the paper feed unit when tray 1 is opened.

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Component (Symbol)	CN	Condition	Symptom
Relay 1 (S20)	216-A7 (IOB)	Open	Jam A (Jam 3, 11)
		Shorted	Jam A, B (Jam 1)
Paper End 1 (S21)	216-A10 (IOB)	Open	The Paper End indicator lights even if paper is placed in the paper tray 1.
		Shorted	The Paper End indicator does not light even if there is no paper in the paper tray 1.
Tray Lift 1 (S22)	216-A13 (IOB)	Open/ Shorted	SC501 is displayed.
Paper Feed 2 (S23)	216-B4 (IOB)	Open/ Shorted	No symptom, but this may cause Jam A (Jam 12) and some pieces of paper are remaining at the paper feed unit when tray 2 is opened.
Relay 2 (S24)	216-B7 (IOB)	Open	Jam A (Jam 3, 11)
		Shorted	Jam A, B (Jam 1)
Paper End 2 (S25)	216-B10 (IOB)	Open	The Paper End indicator lights even if paper is placed in the paper tray 2.
		Shorted	The Paper End indicator does not light even if there is no paper in the paper tray 2.
Tray Lift 2 (S26)	216-B13 (IOB)	Open/ Shorted	SC502 is displayed.
Registration (S27)	209-2 (IOB)	Open	Jam A (Jam 8, 17)
		Shorted	Jam A, B (Jam 1)
Paper Size 1 (S28)	209-4,5,6, 8 (IOB)	Open/ Shorted	Paper size error in tray 1
Paper Size 2 (S29)	209-9,10,1 1,13 (IOB)	Open/ Shorted	Paper size error in tray 2

Component (Symbol)	CN	Condition	Symptom
Lower Paper Height 1 (S30)	210-4 (IOB)	Open/ Shorted	Remaining paper volume in tray 2 on the LCD is wrong.
Lower Paper Height 2 (S31)	210-7 (IOB)	Open/ Shorted	
Upper Paper Height 1 (S32)	210-12 (IOB)	Open/ Shorted	Remaining paper volume in tray 1 on the LCD is wrong.
Upper Paper Height 2 (S33)	210-15 (IOB)	Open/ Shorted	
Junction Jam (S34)	221-A10 (IOB)	Open/ Shorted	Jam C (Jam 24/64)
Paper Exit (S35)	221-B2 (IOB)	Open	Jam C (Jam 20)
		Shorted	Jam C (Jam 1)
Fusing Exit	221-B5	Open	Jam C (Jam 19)
		Shorted	Jam C (Jam 1)
Paper Overflow	221-B8	Open	Paper overflow message is not displayed when a paper overflow condition exists.
		Shorted	Paper overflow message is displayed when a paper overflow condition does not exist.

Switches

Component (Symbol)	CN	Condition	Symptom
Main Power (SW1)	903-1,2 (PSU)	Open	The machine does not turn on.
		Shorted	The machine does not turn off.

Interlock 1 (SW2)	913-1 (PSU)	Open	"Doors/Covers Open" is displayed even if the front or right door is closed.
		Shorted	The LCD goes blank when the front or right door is opened.
Interlock 2 (SW3)	913-2 (PSU)	Open	"Open Cover" is displayed even if the front or right door is closed.
		Shorted	The LCD goes blank when the front or right door is opened.
Right Door (SW4)	221-B10 (IOB)	Open	"Open Cover" is displayed even if the right door is closed.
		Shorted	The LCD goes blank when the right door is opened.

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Blown Fuse Conditions

⚠️ CAUTION

- Use a correct rating fuse for the fuse replacement. Never use a wrong rating fuse. If do so, the machine may be damaged.

Fuse	Rating		Symptom at power on
	115V	210 to 230V	
Power Supply Board			
FU21	6.3A / 125V	6.3A / 250V	SC 533 (Power to IOB)
FU22	6.3A / 125V	6.3A / 250V	SC 144-02 (Power to SIO)
FU23	10A / 125V	10A / 250V	"Open Cover" is displayed. (Power to Interlock Switch)
FU24	10A / 125V	10A / 250V	"Open Cover" is displayed. (Power to Interlock Switch)
FU25	6.3A / 125V	6.3A / 250V	Alert LED turns on and operation panel does not turn on. (Power to MB)
FU26	6.3A / 125V	6.3A / 250V	Stack paper in the optional paper feed unit or LCT is not detected. SC 503 is issued after opening and closing the tray 3 or 4. (Power to optional PFU or LCT)
FU27	6.3A / 250V	6.3 A/ 250V	The machine does not detect a finisher. (Power to optional Finisher)
FU101	15A / 125V	8A / 250V	No response
FU102	12A / 125V	4A / 250V	No response
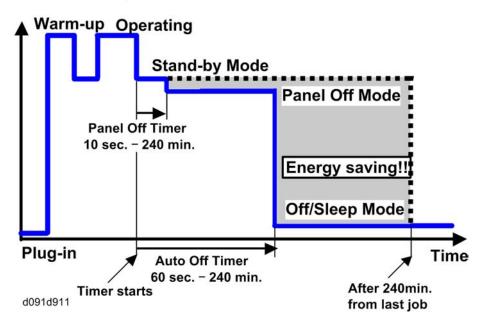
7. Energy Saving

Energy Save

Energy Saver Modes

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

Power Consump.

d091d911

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: 1minute

- Auto off timer (1 – 240 min): Off/Sleep Mode

  Default settings: 1 minute

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

Example

- Panel off: 1 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

Off/Sleep Mode

Recovery time.

- Max 10 sec. for D009/D011/D091
- Max 15 sec. for D012/D013/D092

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 (not used in this machine)
- 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 Off/Sleep mode	7.0	005: Off mode Time	508776.0	520377.0	11601.0	81207.0
Total Time of Data: d (min.)					17506.0	

Total Time of Data: d/60min. (Hour)	291.77	
Total Power Consumption of Data: e (Wmin.)		1602613.60
Total Power Consumption of Data: e /60min./1000W (KWH)		26.71

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:
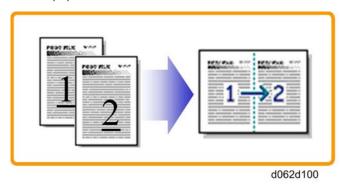
Reduce paper volume in half!

d062d102
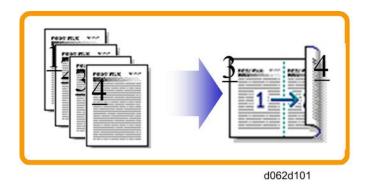
2. Combine mode:

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.

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AI-C1/C1.5

- Total counter: SP 8581-001

- Duplex counter: SP 8411-001

- Single-sided with combine mode: SP 8421-004

- Duplex with combine mode: SP 8421-005

The following table shows paper savings and how the counters increase for some simple examples of single-sided and duplex jobs

Duplex mode:

Originals	Simplex Sheet used	Duplex Sheets used	Paper Saved	Total counter SP8501-001	Duplex counter SP8411-001
1	1	1	0	1	0
2	2	1	1	2	1
3	3	2	1	3	1
4	4	2	2	4	2
5	5	3	2	5	2

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

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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 AL-C1/C1.5
Machine Code:
D009/D011/D012/D013/D091/D092

Appendices

29 December, 2009

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1. Appendix: General Specifications

General Specifications

General

Configuration	Desktop	
Copy Process	Dry electrostatic transfer system	
Original	Sheet/Book	
Original Size	Maximum A3/11" x 17"	
Copy Paper Size	Paper tray, Duplex:	A3/11" x 17" - A5 LEF
	By-pass tray:	12" x 18"/305 x 457.2 mm, A3/11" x 17" - A6 SEF
	Non-standard sizes:	**Paper tray** Width: 182 - 297 mm (7.2" - 11.7") Length: 210 mm - 431.8 mm (8.3" - 17.0") **By-pass tray** Width: 90 - 305 mm (3.6" – 12.1") Length: 148 - 457.2 mm (5.8" – 18.1")
Copy Paper Weight	Paper tray/ Duplex:	60 - 169 g/m^2 (16 - 45 lb.)
	By-pass:	52 - 220 g/m^2 (16 – 57 lb.)
Reproduction Ratios	7R5E:	Metric version (%): 400, 200, 141, 122, 115, 93, 82, 75, 71, 65, 50, 25 Inch version (%): 400, 200, 155, 129, 121, 93, 85, 78, 73, 65, 50, 25
	Zoom:	25 to 400% in 1% steps

Copying Speed	D009/D011 /D091	40 cpm A4, 81/2" x 11" LEF, 1-to-1 (ADF)	
	D012/D013 /D092	50 cpm, A4, 81/2" x 11" LEF, 1-to-1 (ADF)	
First Copy Time	D009/D011 /D091	4.1 s, 1st Tray, A4/81/2" x 11" LEF	
	D012/D013 /D092	3.5 s, 1st Tray, A4/81/2" x 11" LEF	
Warm-up Time	D009/D011 /D091	Less than 18.0 s (Basic), 15 s (MFP)	
	D012/D013 /D092	Less than 18.0 s (Basic), 15 s (MFP)	
Continuous Copy	1 to 999 (operation panel entry)		
Paper Capacity (without options)	1,200 sheets (550 sheets/tray x 2 with 100 sheets in the by-pass tray)		
Paper Capacity (with options)	4,400 sheets (550 sheets/tray x 2 with 100 sheets in the by-pass tray, 1200-sheet LCT and 2000-sheet LCT)		
Paper Output	A4, 81/2" x 11" and smaller:	500 sheets	
	B4 and larger:	250 sheets	
Power Source	North America:	120V/60 Hz, More than 12.5 A	
	Europe/Asia:	220 – 240 V/50, 60 Hz, More than 6.8 A	
	Taiwan	110V/60Hz	
Dimensions (w x d x h)	Without ADF	670 mm x 677 mm x 760 mm (26.3" x 26.8" x 30.1")	
	With ADF	670 mm x 677 mm x 910 mm (26.3" x 26.8" x 36.1")	
Weight	EU	Less than 85 kg (187 lb.)	
	NA	Less than 97 kg (147 lb.)	

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Resolution	600 dpi (Scanning and Printing)		
Gradation	256 levels (Scanning and Printing)		
Original Archive	More than 2,500 A4 pages for document server (ITU-T No. 4 Chart)		
Toner Replenishment	Cartridge exchange (630 g)		
Total Counter	Electric counter		
Noise Emission: Copying		Mainframe Only	Full System
	D009/D011/D091	70 dB(A) or less	74 dB(A) or less
	D012/D013/D092	72 dB(A) or less	76 dB(A) or less
Noise Emission: StandBy		Mainframe Only	Full System
	D009/D011/D091	45 dB(A) or less	45 dB(A) or less
	D012/D013/D092	48 dB(A) or less	48 dB(A) or less

Power Consumption

	D009/D011//D091		D012/D013//D092	
Operating	NA	770 W	NA	777 W
	EU, Asia	812 W	EU, Asia	896 W
Ready Mode	NA	144 W	NA	148 W
	EU, Asia	143 W	EU, Asia	148 W
Panel Off	NA	104 W	NA	104 W
	EU, Asia	105 W	EU, Asia	105 W

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	D009/D011//D091		D012/D013//D092	
Sleep Mode	NA	5.5 W	NA	5.5 W
	EU, Asia	D009/D011: 5.7 W D091: 5.3 W	EU, Asia	D012/D013: 5.6 W D092: 5.3 W
Maximum	Less than 1.44 kW (NA) Less than 1.5 kW (EU, Asia)		Less than 1.44 kW (NA) Less than 1.5 kW (EU, Asia)	

🔽 **Note**

- The above measurements were made in accordance with ISO 7779.

- In the above "Panel Off" condition, the polygonal mirror motor is not rotating.

Printer Controller

Printing Speed:	D009/D012/D091: Maximum 40 ppm (A4/LT LEF) D011/D013/D092: Maximum 50 ppm (A4/LT LEF)	
Printer Languages:	PCL6/PCL5e PostScript 3 (Option) RPCS (Refined Printing Command Stream - an original Ricoh PDL, For D009/D011/D012/D013 only) IPDS	
Resolution (Driver):	RPCS	200/600 dpi For D009/D011/D012/D013 only
	PS3	300/600 dpi
	PCL5e	300/600 dpi
	PCL6	600 dpi
	IPDS	300/600 dpi
Resident Fonts:	PCL	45 fonts, International 13 fonts
	PS3	Option fonts PS3

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Connectivity	Std.	Ethernet; (RJ-45 network port: 10Base-T/100Base-TX), USB 2.0
	Option	IEEE802.11a/g, g (Wireless LAN), Bluetooth, IEEE1284 (Centronics Parallel), Gigabit Ethernet
Network Protocols	TCP/IP, IPX/SPX, AppleTalk (Auto Switching)	
RAM:	Maximum MS model: 512 MB (Resident 256 MB + Additional 256 MB) CS model: 768 MB (Resident 512 MB + Additional 256 MB) Note: Additional 256 MB is required for all printer/scanner unit and printer units.	

Scanner Specifications

Standard Scanner Resolution:	Main scan/Sub scan 600 dpi	
Scanning Speed	**B/W Scanning**; 61 ipm, E-mail/Scan-to-Folder/Network Delivery Scanner (A4 LEF, Text 200 dpi, MH Compression) **Color Scanning;** 31 ipm, E-mail/Scan-to-Folder/Network Delivery Scanner (A4 LEF, Text/Photo 200 dpi, Default Compression)	
Available scanning Resolution Range:	100 to 1200 dpi;	When used as a Network TWAIN scanner.
	100, 200, 300, 400, 600 dpi;	When used as a network delivery scanner, Scan-to-Folder, Scan-to-Email, or Document Server storage.
Grayscales:	8 bits/pixel	
Interface:	Ethernet 10/100BASE TX, Wireless LAN 802.11a/g, g	
Compression Method:	MH, MR, MMR (Binary Picture Processing) JPEG (Grayscale Processing) PDF (High Compression Processing): CS model only	

Video Memory Capacity:	MS model: 35 MB (A4/ Grayscale/ 600dpi)
	CS model: 109 MB (A4/ Full color/ 600dpi)
Image Storage Capacity:	Number of originals per file: Maximum 1,000 pages
	Maximum of files: 3000 files
Max. Storage on Doc. Svr.	9,000 pages (B&W (ITUT No. 1/200 dpi MMR)

Optional Equipment

ARDF

Paper Size/Weight:	Simplex	Size	A3 to A5, DLT to HLT
		Weight	40 to 128 g/m^2 (11 to 34 lb.)
	Duplex	Size	A3 to A5, DLT to HLT
		Weight	52 to 128 g/m^2 (14 to 34 lb.)
Table Capacity:	100 sheets (81.4 g/m^2, 22 lb)		
Original Standard Position:	Rear left corner		
Separation:	Feed belt and separation roller		
Original Transport:	Roller transport		
Original Feed Order:	From the top original		
Supported Magnification Ratios:	Copy	-	32 to 200 %
	Fax	Color	32.6 to 200 %
		Black & white	48.9 to 200 %
Power Source:	DC 24V, 5V from the scanner unit		
Power Consumption:	Less than 60W		
Dimensions (W x D x H):	570 mm x 520 mm x 135 mm (22.4"x20.5"x5.3")		
Weight:	Less than 12kg (26.5 lb.)		

Two-tray Paper Feed Unit

Paper Feed System:	FRR
Paper Height Detection:	5 steps (100%, 70%, 30%, 10% (Near end), and Empty)
Capacity:	550 sheets x 2 trays
Paper Weight:	60 to 169 g/m^2 (16 to 45 lb.)

1

Paper Size:	A3 SEF to A5, DLT SEF to HLT
Power Source:	DC 24V, 5V (from the main frame)
Power Consumption:	Less than 50 W (Max.)/ Less than 35 W (Ave,)
Dimensions (W x D x H):	580 mm x 620 mm x 260 mm (22.8" x 24.4" x 10.2")
Weight:	26 kg (57.3 lb.)

LCT 2000-sheet

Paper Size:	A4 LEF/LT LEF
Paper Weight:	60 g/m^2 to 169 g/m^2, 16 lb. to 45 lb.
Tray Capacity:	2,000 sheets (80 g/m^2, 20lb.)
Remaining Paper Detection:	5 steps (100%, 70%, 30%, 10%, Empty): Right Tray 4 steps (100%, 70%, 30%, Empty): Left Tray
Power Source:	DC 24 V, 5 V (from copier/printer)
Power Consumption:	50 W (Max.)/30 W (Ave.)
Weight:	26 kg (57.3 lb.)
Size (W x D x H):	580 mm x 620 mm x 260 mm (22.8" x 24.4" x 10.2")

LCT 1200-sheet

Paper Size:	A4 LEF/ LT LEF/ B5 LEF
Paper Weight:	60 g/m^2 to 169 g/m^2, 16 lb to 45 lb
Tray Capacity:	1200 sheets (80 g/m^2, 20lb)
Remaining Paper Detection:	5 steps (100%, 75%, 30%, 10%, End)
Power Source:	24 Vdc, 5 Vdc (from copier/printer)
Power Consumption:	55 W (Max)/ 25 W (Ave.)
Weight:	14 kg (30.8 lb.)

Size (W x D x H):	348 mm x 540 mm x 290 mm (13.7" x 21.3" x 11.4")

1-bin Tray Unit

Paper Size:	Standard Size: A3 /DLT to A6/ HLT SEF
Paper Weight:	60 to 169 g/m^2, 16 to 45 lb.
Tray Capacity:	125 sheets (80 g/m^2, 20 lb., A4)
Power Source:	DC 24 V, 5 V (from the copier)
Power Consumption:	Less than 1 W
Weight:	2 kg
Size (W x D x H):	465 mm x 440 mm x 219 mm (18.3"x17.3"x8.6")

Bridge Unit

Paper Size:	Standard sizes A6 SEF to A3, HLT to DLT Non-standard sizes Width: 90 to 305 mm Length: 148 to 600 mm
Paper Weight:	52 g/m^2 to 253 g/m^2, 16 lb. to 78 lb.
Power Source:	DC 24 V, 5 V (form the copier/printer)
Dimensions (W x D x H):	415 mm x 412 mm x 111 mm (16.3" x 16.2" x 4.4")
Weight	5 kg (11 lb.)

1

1000-Sheet Finisher

Upper Tray

Paper Size:	A3 to A6 11" x 17" to 5.5" x 8.5"
Paper Weight:	60 to 157 g/m^2 (16 to 42 lb.)
Paper Capacity:	250 sheets (A4 LEF/8.5" x 11" SEF or smaller) 50 sheets (A4, 8.5" x 11" or smaller) 30 sheets (B4, 8.5" x 14" or larger)

Lower Tray

Paper Size:	No staple mode: A3 to B5, DLT to HLT Staple mode: A3, B4, A4, B5, DLT to LT
Paper Weight:	No staple mode: 60 to 157 g/m^2 (16 to 42 lb) Staple mode: 64 to 90 g/m^2 (17 to 24 lb)
Stapler Capacity:	30 sheets (A3, B4, DLT, LG) 50 sheets (A4, B5 LEF, LT)

1

Paper Capacity:	No staple mode:			
	1,000 sheets (A4/LT or smaller: 80 g/m^2, 20 lb.)			
	500 sheets (A3, B4, DLT, LG: 80 g/m^2, 20 lb.)			
	Staple mode: (80 g/m^2, 20 lb., number of sets)			
	Set Size	2 to 9	10 to 50	
	Size		10 to 30	31 to 50
	A4/LT LEF B5 LEF	100	100 to 20	100 to 20
	A4/LT SEF	100	50 to 10	50 to 10
	A3, B4, DLT, LG	50	50 to 10	-
Staple positions:	1 Staple: 2 positions (Front, Rear) 2 Staples: 2 positions (Upper, Left)			
Staple Replenishment:	Cartridge (5,000 staples/cartridge)			
Power Source:	DC 24 V, 5 V (from the copier/printer)			
Power Consumption:	50 W			
Weight:	25 kg (55.2 lbs)			
Dimensions (W x D x H):	527 x 520 x 790 mm (20.8" x 20.5" x 31.1")			

3000-Sheet Finisher

Finisher	
Dimension (w x d x h)	657 mm x 613 mm x 960 mm (25.9" x 24.1" x 37.8")
Weight	Less than 54 kg (119 lb.) (no punch unit) Less than 56 kg (123.5 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

1

Proof Tray	Stack Capacity	250 sheets: A4, 8.5" x 11" or smaller	
		50 sheets: B4, 8.5" x 14 or larger	
	Paper Size	A5-A3 SEF, A6 SEF, A6 SEF	
		5.5" x 8.5"-11" x 17" SEF, 12" x 18" SEF	
	Paper Weight	52 g/m^2 - 163 g/m^2 (14 lb. - 43 lb.)	
Shift Tray	Stack Capacity	3,000 sheets	A4 LEF, 8.5" x 11" LEF
		1,500 sheets	A3 SEF, A4 SEF, B4 SEF, B5, 11" x 17" SEF, 8.5" x 14" SEF, 8.5" x 11" SEF, 12" x 18" SEF
		500 sheets	A5 LEF
		100 sheets	A5 SEF, B6 SEF, A6 SEF, 5.5" x 8.5" SEF
	Paper Size	A5 - A3 SEF, A6 SEF, B6 SEF, 5.5" x 8.5"- 11" x 17" SEF, 12" x 18" SEF	
	Paper Weight	52 g/m^2 - 256 g/m^2 (14 lb. - 68 lb.)	

Staples

Paper Size	B5 - A3		
	8.5" x 11" - 11" x 17", 12" x 18"		
Paper Weight	64 g/m^2 - 90 g/m^2 (14 lb. - 24 lb.)		
Staple Position	Top, Bottom, 2 Staple, Top-slant		
Stapling Capacity	Same Paper Size	50 sheets	A4, 8.5" x 11" or smaller
		30 sheets	B4, 8.5" x 14" or larger
	Mixed Paper Size	30 sheets	A4 LEF + A3 SEF, B5 LEF + B4 SEF, 8.5" x11" LEF + 11" x 17" SEF

Staple Replenishment	Cartridge exchange / 5000 pins per cartridge

1

Stapled Stack Capacity (same size)	Paper Size	Pages/Set	Sets
	A4 LEF, 8.5" x 11" LEF	20 - 50 pages	150 - 60 sets
		2 - 19 pages	150 sets
	A4 SEF, B5, 8.5" x 11" 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"x17" SEF	2 - 30 pages	50 set

2000-Sheet Booklet Finisher

Finisher		
Dimension W x D x H	657 mm x 613 mm 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" x 11" or smaller 50 sheets: B4, 8.5" x 14 or larger
	Paper Size	A5 - A3 SEF, B6 SEF, A6 LEF 5.5" x 8.5" to 11" x 17" SEF, 12"x18" SEF
	Paper Weight	52 g/m^2 - 163 g/m^2 (14 lb. - 43 lb.)

Shift Tray	Stack Capacity	2,000 sheets	A4 LEF, 8.5" x 11" LEF
		1,000 sheets	A3 SEF, A4 SEF, B4 SEF, B5 11" x 17" SEF, 8.5" x 14" SEF, 8.5" x 11" SEF, 12"x18" SEF
		500 sheets	A5 LEF
		100 sheets	A5 SEF, B6 SEF, A6 SEF, 5.5" x 8.5" SEF
	Paper Size	A5 - A3 SEF, A6 SEF, B6 SEF 5.5" x 8.5" to 11" x 17" SEF, 12" x 18" SEF	
	Paper Weight	52 g/m^2 - 256 g/m^2 (14 lb. - 68 lb.)	

Staple			
Paper Size	B5-A3, 8.5" x 11" - 11" x 17", 12" x 18"		
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, 8.5" x 11" or smaller
		30 sheets	B4, 8.5" x 14" or larger
	Mixed Paper Size	30 sheets	A4 LEF & A3 SEF, B5 LEF & B4 SEF, 8.5" x 11" LEF & 11" x 17" SEF
	Booklet Stapling	15 sheets	A4 SEF, A3 SEF, B5 SEF, B4 SEF, 8.5" x 11" SEF, 8.5" x 14" SEF, 11" x 17" SEF, 12" x 18" SEF

Staple Replenishment	Corner staple	5,000 staples per cartridge
	Booklet staple	2,000 staples per cartridge

1

Corner Staple Capacity	Same Size	A4 LEF, 8.5" x 11" LEF	13 - 50 pages
			2 - 12 pages
		A4 SEF, B5, 8.5" x 11" 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" x 11" LEF + 11" x 17" SEF	2 - 30 pages
Booklet Staple Capacity	A4 SEF, A3 SEF, B5 SEF, B4 SEF 8.5" x 11" SEF, 8.5" x 14" SEF, 11" x 17" SEF 12" x 18" SEF		2 - 5 pages
			6 - 10 pages
			11 - 15 pages

Punch Unit for 2000/3000-Sheet (Booklet) Finisher

Available Punch Units	NA	2/3 holes switchable
	EU	2/4 holes switchable
	Scandinavia	4 holes
Punch Waste Replenishment	NA 2-holes	Up to 5,000 sheets
	NA 3-holes	Up to 5,000 sheets
	EU 2-holes	Up to 14,000 sheets
	EU 4-holes	Up to 7,000 sheets
	Scandinavia 4-holes	Up to 7,000 sheets
Paper Weight	52 g/m^2 - 163 g/m^2, 14 lb Bond - 43 lb Bond	

1

Paper Sizes	NA 2-holes	SEF	A5 to A3, 5.5" x 8.5" to 11" x 17"
		LEF	A5 to A4, 5.5" x 8.5" , 8.5" x 11"
	NA 3-holes	SEF	A3, B4, 11" x 17"
		LEF	A4, B5, 8.5" x 11"
	EU 2-holes	SEF	A5 to A3, 5.5" x 8.5" to 11" x 17"
		LEF	A5 to A4, 5.5" x 8.5", 8.5" x 11"
	EU 4-holes	SEF	A3, B4, 11"x17"
		LEF	A4, B5, 8.5" x 11"
	Scandinavia 4-holes	SEF	A5 to A3, 5.5" x 8.5" to 11" x 17"
		LEF	A5 to A4, 5.5" x 8.5", 8.5" x 11"

USB Specifications

USB connectivity is built into the controller.

Interface	USB 2.0
Data rates	480 Mbps (high speed), 12 Mbps (full speed), 1.5 Mbps (low speed)
	High speed mode is only supported by USB 2.0.

IEEE 802.11a/g, g

Radiofrequency Band	802.11a: 5 GHz 802.11b: 2.4 GHz 802.11g: 2.4 GHz
Data Transfer Speed	802.11a: 54 Mbps 802.11b: 11 Mbps 802.11g: 54 Mbps

Security Standards	IEEE 802.11 WEP
	WPA/ WPA2 (IEEE 802.11i) Enterprise Mode

1

Bluetooth Specifications

Transmission Specifications	Based on Bluetooth V1.1
Data Transfer Speed	1 Mbps
Profile	Hard Copy Cable Replacement Profile (HCRP), Serial Port Profile (SPP), BIP
Distance Between Devices	10 m (The maximum distance when using outdoors, otherwise depends on the office environment.)

2. Appendix: PM Tables

PM Tables

Amounts mentioned as the PM interval indicate the number of prints.

Mainframe

Symbol key: **C**: Clean, **R**: Replace, **L**: Lubricate, **I**: Inspect

	EM	160K	320K	800K	Note
Scanner/Optics					
Reflector		C			Optics cloth
1st Mirror		C			Optics cloth
2nd Mirror		C			Optics cloth
3rd Mirror		C			Optics cloth
Scanner Guide Rails		C			Do not use alcohol.
Exposure Glass	C	C			Cleaner
Toner Shield Glass	C	C			Dry cloth or cleaner
APS Sensor		C			Dry cloth
Exposure Glass (Sheet through)	C	C			Cleaner
Drum (OPC) Area					
OPC Drum	I	R			
Charge Roller		R			
Charge Roller Cleaning Roller		R			
Drum Cleaning Blade 1		R			
Quenching Lamp	C		C		Dry cloth
Pick-off Pawls		R			

2

	EM	160K	320K	800K	Note
Spurs	C	C			Dry cloth
ID Sensor	C	C			Perform SP3-001-2 after blower brush cleaning.
Cleaning Entrance Seal		C			Blower brush. Replace if required.
Side Seal		I			
Development Unit					
Development Drive Gears				C	Dry cloth
Development Filter		R			
Development filter: front		R			
Development filter: rear		R			
Developer		I	R		
Entrance Seal		I			
Side Seal		I			
Development Roller		C			Dry cloth
Paper Feed					
Registration Roller	I	C			Water
Idle Roller Dust Blade	I	C			Detach and tap gently on flat surface to empty. Blower brush.
Registration Roller Dust Blade	I	C			Blower brush.
Feed Rollers	I	C			Water
Pick-up Rollers	I	C			Water
Separation Rollers	I	C			Water
By-pass Feed Roller	I	C			Water

	EM	160K	320K	800K	Note
By-pass Pick-up Roller	I	C			Water
By-pass Separation Roller	I	C			Water
Paper Feed Guides	I	C			Dry cloth
Relay Rollers	I	C			Water
Bottom Plate Pad	I	C			Water
Bottom Plate Pad (By-pass feed)	I	C			Water
Registration Sensor	I	C			Blower brush
By-pass Feed Roller Gear	I	L			Silicone Grease G-501
Relay Sensors	I	C			Blower Brush
Paper Feed Sensors	I	C			Blower Brush
Duplex Unit					
Inverter Rollers		C			Water
Transport Rollers		C			Water
Entrance Sensor		C			Water
Exit Sensor		C			Water
Transfer Belt Unit					
Transfer Belt	C	R			Dry cloth. To prevent damage to the cleaning blade, always replace these items together.
Transfer Belt Cleaning Blade		R			
Transfer Belt Rollers		C			Dry cloth
Entrance Seal		C			Dry cloth
Transfer Entrance Guide	C	C			Dry cloth

2

	EM	160K	320K	800K	Note
Used Toner Tank	I	C			Empty the tank
Paper Exit					
Paper Exit Sensor	I	I			Blower brush
Junction Gate Jam sensor	I	C			Blower brush
Fusing Exit Sensor	I	I			Blower brush
Paper Exit Rollers	I	I			Water
Junction Transport Roller	I	I			Water
Paper Exit Guide	I	I			Water

⬇ **Note**

- Due to their durability and extended service life, the feed rollers, separation rollers, and pick-up rollers of the mainframe, optional paper trays, and LCT are not replaced at PM.

*1: Lubricate the by-pass feed clutch gear with Silicone Grease G501 every P.M.

	EM	160K	320K	800K	Note
Fusing Unit and Paper Exit					
Fusing Entrance and Exit Guide Plates		C			Water or alcohol
Hot Roller		R			
Pressure Roller		R			
Fusing Thermistors		R			
Cleaning Roller Bushings		L			Grease: Barrierta JFE 55/2
Hot Roller Strippers			R		
Paper Exit Guide Ribs		C			Water or alcohol
Web Supply Roller		R			
Web Holder Roller			R		
Brake Pad			R		

Options

Amounts mentioned as the PM interval indicate the number of prints/ originals.

Symbol key: **C**: Clean, **R**: Replace, **L**: Lubricate, **I**: Inspect

ARDF

2

B802	EM	120K (Originals)	Note
ARDF (for originals)			
Pick-up Roller		R	Damp cloth; alcohol
Feed Belt		R	Damp cloth; alcohol
Separation Roller		R	Damp cloth; alcohol
Sensors	C		Blower brush
Platen Sheet Cover	C		Damp cloth; alcohol (Replace if required.)
White Plate	C		Dry or damp cloth
Drive Gear	L		Grease G501
Transport Roller	C		Damp cloth; alcohol
Exit Roller	C		Damp cloth; alcohol
Inverter Roller	C		Damp cloth; alcohol
Idle Rollers	C		Damp cloth; alcohol

PFU

D351	EM	150K	300K	450K	Note
Paper Feed Unit					
Relay Rollers		C			Dry or damp cloth
Bottom Plate Pad		C			Dry or damp cloth

LCT

D352	EM	150K	300K	450K	Note
LCT 2000-sheet					
Bottom Plate Pad		C			Dry or damp cloth

SR5020

B408	EM	150K	300K	450K	Note
1000-Sheet Finisher					
Rollers	C				Water or alcohol.
Discharge Brush	C	C			Dry cloth
Sensors	C				Blower brush
Jogger Fences	I	I			Replace if required.

2000/3000-Sheet (Booklet) Finisher

B804/B805	EM	Note
2000/3000-Sheet (Booklet) Finisher		
Rollers	C	Water or alcohol.
Discharge Brush	C	Dry cloth
Sensors	C	Blower brush
Jogger Fences	I	Replace if required.
Punch Unit		
Punch Chads	C	Discard chads.

Bridge Unit

D386	EM	Note
Bridge Unit		
Rollers	C	Dry or damp cloth
Copy Tray	C	Dry or damp cloth
Sensors	C	Blower brush

1-Bin Tray Unit

D389	EM	Note
1-Bin Tray Unit		
Rollers	C	Dry or damp cloth
Copy Tray	C	Dry or damp cloth
Sensors	C	Blower brush

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3. Appendix: Service Call Conditions

Service Call Conditions

Summary

There are 4 levels of service call conditions.

Level	Definition	Reset Procedure
A	To prevent damage to the machine, the main machine cannot be operated until the SC has been reset by a service representative (see the note below).	Enter SP mode, use SP 5810, touch [Execute], and then turn the main power switch off and 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 operation switch or main switch off and on.
C	The SC history is updated. The machine can be operated as usual.	The SC will not be displayed. Only the SC history is updated.
D	Turning the main switch off then on resets SCs displayed on the operation panel. These are re-displayed if the error occurs again.	Turn the operation switch off and on. Also see below.

When a Level "D" SC code occurs

When a Level D SC occurs, a screen opens on the operation panel to tell the operator:

- An error occurred
- The job in progress will be erased
- The machine will reboot automatically after approximately 30 seconds.

The operator can wait until the machine reboots automatically or touch "Reset" on the screen to reset the machine immediately and go back to the copy screen.

If the operator does not touch "Reset"

The next message tells the operator that the machine will reset automatically and that the previous job was lost and must be started again. After reading the message, the operator touches "Confirm" on the screen. The next screen shows the number and title of the SC code, and stops until the operator turns the machine off and on.

If the operator touches "Reset"

If the operator touches "Reset" to bypass the 30-second interval for the machine to reboot, the machine reboots immediately and the operation panel displays the copy screen.

🔽 **Note**

- Do not try to use the operation panel during an automatic reboot.
- If the Remote Service System is in use, the SC code is sent immediately to the Service Center.

SC Code Descriptions

⭐ **Important**

- If a problem concerns a circuit board, disconnect and reconnect the connectors and then test the machine. Often a loose or disconnected harness is the cause of the problem. Always do this before you decide to replace the PCB.
- If a motor lock error occurs, check the mechanical load before you decide to replace the motor or sensors.
- When a Level "A" or "B" SC occurs while in an SP mode, the machine cannot display the SC number. If this occurs, check the SC number after leaving the SP mode.
- The machine reboots automatically when the machine issues a Level "D" SC code. This is done for Level "D" SC codes only.

⚠️ 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 switch to switch the power off, wait for the power LED to go off, and then switch the main power switch off.

🔽 **Note**

- The main power LED lights or flashes while the platen cover or ARDF is open, while the main machine is communicating with a facsimile or the network server, or while the machine is accessing the hard disk or memory for reading or writing data.

SC Tables: SC1xx

101	D	Exposure lamp error
		-001: Shading at AGC -002: Shading at scanning • The standard white level was not detected properly when scanning the white plate
		• Exposure lamp defective • Lamp stabilizer defective • Exposure lamp connector defective • Standard white plate dirty • Scanner mirror or scanner lens out of position or dirty • SBU defective • BICU defective
		The peak white level is less than 64/255 digits (8 bits) when scanning the shading plate. (The shading data peak does not reach the specified threshold)

120	D	Scanner home position error 1
		The scanner home position sensor does not detect the "OFF" condition during initialization or copying.
		• SIB (B/W), SIB (Color) or scanner drive motor defective • Scanner motor defective • Harness between SIB and scanner drive motor disconnected • Harness between SIB and scanner drive motor power source disconnected • Scanner HP sensor defective • Harness between SIB and HP sensor disconnected • Scanner wire, timing belt, pulley, or carriage defective • BICU defective

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121	D	Scanner home position error 2
		The scanner home position sensor does not detect the "ON" condition during initialization or copying.
		• SIB (B/W), SIB (Color) or scanner motor drive board defective • Scanner motor defective • Harness between SIB and scanner drive motor disconnected • Harness between SIB and scanner drive motor power source disconnected • Scanner HP sensor defective • Harness between SIB and scanner HP sensor disconnected • Scanner wire, timing belt, pulley, or carriage defective • BICU defective

141	D	Black level detection error **(Color Scanner model only)**
		The black level cannot be adjusted within the target value during the zero clamp.
		• Defective SBU • BICU defective

142	D	White level detection error **(Color Scanner model only)**
		The white level cannot be adjusted within the target during auto gain control.
		• Dirty exposure glass or optics section • SBU board defective • Exposure lamp defective • Lamp stabilizer defective • BICU defective

143	C	SBU auto adjust error **(B/W Scanner model only)**	
		One of the following occurred: • When the machine was powered on, automatic adjustment of the SBU failed. • Automatic white density adjustment failed when reading standard white plate.	
		• Exposure lamp defective • Lamp stabilizer defective • Lamp stabilizer connection loose, disconnected or damaged • White plate mounting is incorrect or defective • Scanner mirror or scanner lens out of position or dirty • SBU, SCNB defective • BICU defective • Harness connections	

144	D	-001: SBU connection error	
		The SBU connection cannot be detected at power on or recovery from the energy save mode.	• Defective SBU • Defective harness • Defective detection port on the BICU
	D	-002: SBU serial communication error	
		The power ON of the SBU is not detected.	• Defective SIO, SBU or SCNB • Defective harness • Defective detection port on the BICU
	D	-003: GASBU reset error	
		The serial communication does not work.	• Defective SBU • Defective detection circuit on the BICU • Defective harness
	D	-004: VERSION error	
		The serial communication does not work.	• Defective SBU • Defective detection circuit on the BICU • Defective harness

3

145	C	Scanner adjustment error **(B/W Scanner model only)**
		During the SBU adjustment, the machine detects that the white level read from the white plate or paper is out of range. (SP4015)
		• Exposure lamp defective • Dirty white plate • Incorrect position or width of white plate scanning (SP4015) • BICU board defective • SBU board defective

161	D	BICU error
		The error result of self-diagnostic by the ASIC on the BICU is detected.
		• Defective BICU • Defective connection between BICU and SBU

165	D	Copy Data Security Unit error
		The copy data security board is not detected when the copy data security function is set "ON" with the initial setting.
		A device check error occurs when the copy data security function is set to "ON" with the initial setting.
		• Incorrect installation of the copy data security board • Defective copy data security board

SC Tables: SC2xx

202	D	Polygon motor error 1: ON timeout
		The polygon mirror motor does not reach the targeted operating speed within 10 sec. after turning on or changing speed
203	D	Polygon motor error 2: OFF timeout
		The polygon mirror motor does not leave the READY status within 3 sec. after the polygon motor switched off.

3

204	D	Polygon motor error 3: XSCRDY signal error
		The SCRDY_N signal remains HIGH for 200 ms while the LD unit is firing.
		• Polygon motor/driver board harness loose or broken • Polygon motor/driver board defective • Laser optics unit defective • BICU defective

220	D	Laser synchronizing detection error: start position LD0
		The laser synchronizing detection signal for the start position of the LDB is not output for two seconds after LDB unit turns on while the polygon motor is rotating normally
		• The Copy Data Security Unit card not installed • The Copy Data Security Unit card is installed, but it is not the correct type for the machine.

221	D	Laser synchronizing detection error: start position LD1
		The laser synchronizing detection signal for the start position of the LDB is not output for two seconds after LDB unit turns on while the polygon motor is rotating normally.
		• The Copy Data Security Unit card not installed • The Copy Data Security Unit card is installed, but it is not the correct type for the machine.

230	D	FGATE ON error
		The FGATE signal does not assert within the prescribed time. (The BICU generates the FGATE signal and sends it to the LD unit when the registration sensor switches on.)
231	D	FGATE OFF error
		The FGATE signal does not assert within the prescribed time. (The BICU generates the FGATE signal and sends it to the LD unit when the registration sensor switches on.)
		• BICU defective • BICU, Controller board harness loose or broken • Controller board defective.

240	C	LD error
		The BICU detected a problem at the LD unit.
		• Worn-out LD • Disconnected or broken harness of the LD.

SC Tables: SC3xx

3

302	D	Charge roller bias leak
		A charge roller bias leak signal was detected.
		• Charge roller damaged • High voltage supply board defective • PCDU harness defective or disconnected

304	D	Charge roller bias correction leak
		The charge roller bias correction is performed twice even if the maximum charge roller bias (-2000V) is applied to the roller.
		• ID sensor defective • Worn charge roller • Charge roller damaged

320	D	Development roller bias leak
		The development roller bias leak is detected for 60 ms after the high voltage has been supplied to the development unit.
		• Development bias leak • Broken harness • Defective high voltage power supply, voltage supply • Defective high voltage supply unit

324	D	Development paddle motor error
		The machine detects a lock signal error from the development puddle motor for 2 seconds after the drum motor has turned on.
		• Overload on the development puddle motor • Defective development puddle motor • Defective harness • Defective IOB

350	D	ID sensor pattern test error
		One of the following readings occurred 10 times in the ID sensor output when the ID sensor pattern was checked: 1) Vsp > 2.5V 2) Vsg < 2.5V 3) Vsp =0V 4) Vsg = 0V
		• ID sensor connector defective • Poor ID sensor connector connection • I/O board (IOB) defective • Poor writing of ID sensor pattern on the drum • High voltage supply board defective

351	D	ID sensor Vsg test error
		When the ID sensor was checked, the ID sensor output voltage is 5.0V while the LED current value is 0.
		• ID sensor defective or dirty • ID sensor connector defective • Poor ID sensor connection • I/O board (IOB) defective • Scanning system defective • High voltage supply board defective • Defect at the ID sensor pattern writing area of the drum

3

3

355	C	Grayscale measurement error
		When the grayscale control result is the maximum and it does not operate correctly and these cases are detected 15 times.
		• ID sensor defective or dirty • The life of ID sensor or photo conductor • Shield glass dirty

360	D	TD sensor (Vt) error 1
		The following condition occurs thirty times consecutively during printing. Vt is less than 0.5V or 4.8V or more
		• TD sensor disconnected • Harness between TD sensor and PCDU defective • Defective TD sensor.

372	D	TD sensor adjustment error
		Vts is less than 1.8V or 4.8V or more during TD sensor initialization.
		• Heat seal not removed from a new developer pack • TD harness sensor disconnected, loose or defective • TD sensor defective • Harness between TD sensor and drawer disconnected, defective

396	D	Drum motor error
		The machine detects a lock signal error from the drum motor for 2 seconds after the drum motor turned on.
		• Overload on the motor • Defective drum motor • Defective harness • Defective IOB

SC Tables: SC4xx

400	D	Vsg adjustment error
		Vsg is more than 4.2V or 3.8V or less when the machine adjusts Vsg value.
		• Dirty or defective ID sensor • Defective ID sensor shutter

440	D	Transfer belt bias error
		The feed back bias from the transfer belt is more than 4V for 60 msec while the transfer belt bias is output. The A/D conversion level is 20 or less for 60 msec. The PWM duty is 24% or more for 60 msec.
		• Power pack broken • Defective harness • Disconnected connector

441	D	Transfer/Development motor error
		The machine detects a lock signal error from the transfer/development motor for 2 seconds after the transfer/development motor turned on.
		• Overload on the motor • Defective transfer/development motor • Defective harness • Defective IOB

442	D	Transfer belt contact motor error
		The transfer belt HP sensor detects incorrect movement of the transfer belt after the transfer belt contact motor has turned on.
		• Dirty transfer belt HP sensor • Defective transfer belt contact motor • Disconnected connector of the transfer belt HP sensor or motor • Disconnected cable • Defective IOB

3

SC Tables: SC5xx

501	B	1st tray lift malfunction
		The tray lift sensor is not activated after the tray lift motor has been on for 10 seconds. If the main power switch is turned on when the paper is already at the feed height, the paper height position is detected again. At this time, the tray lift sensor should de-activate within 1.5 sec after the paper bottom plate starts to drop. If it does not deactivate within 1.5 sec., a message will prompt the user to reset Tray 1. After two attempts to release the error by re-setting the paper tray, if this does not solve the problem then this SC is displayed.
		• An obstruction (jammed paper, paper scraps, etc.) has blocked the motor drive and caused an overload. • Tray lift sensor connection loose, disconnected, or damaged • Tray lift sensor defective • Tray lift motor connection loose, disconnected, or damaged • Tray lift motor defective

502	B	2nd tray lift malfunction
		The tray lift sensor is not activated after the tray lift motor has been on for 10 seconds. If the main power switch is turned on when the paper is already at the feed height, the paper height position is detected again. At this time, the tray lift sensor should de-activate within 1.5 sec. after the paper bottom plate starts to drop. If it does not deactivate within 1.5 sec., a message will prompt the user to reset Tray 2. After two attempts to re-set the paper tray, if this does not solve the problem then this SC is displayed.
		• An obstruction (jammed paper, paper scraps, etc.) has blocked the motor drive and caused an overload. • Tray lift sensor connection loose, disconnected, or damaged • Tray lift sensor defective • Tray lift motor connection loose, disconnected, or damaged • Tray lift motor defective

503		3rd tray lift malfunction (optional paper feed unit or LCT)

3

-1	B	**For the paper feed unit:** • SC 503-01 occurs if the lift sensor does not turn on within 10 seconds after the tray lift motor has turned on. **For the LCT:** • SC 503-01 occurs if the lift sensor does not turn on or turn off within 8 seconds after the tray lift motor has turned on to lift or lower the tray.
		For the paper feed unit: • Defective tray lift motor or connector disconnection • Defective lift sensor or connector disconnection **For the LCT:** • Defective stack transport clutch or connector disconnection • Defective tray motor or connector disconnection • Defective end fence home position sensor or connector disconnection • Defective upper limit sensor or connector disconnection • Defective tray lift motor or connector disconnection
-2	B	This SC is generated if the following condition occurs 3 consecutive times. **For the paper feed unit:** • When the tray lowers, the tray lift sensor does not go off within 1.5 sec. **For the LCT:** • When the main switch is turned on or when the LCT is set, if the end fence is not in its position (home position sensor ON), the tray lift motor stops. • If the upper limit does not go off for 1.5 seconds even the tray lift motor turns on to lower the tray after the upper limit has been detected at power on.
		For the paper feed unit: • Defective tray lift motor or connector disconnection • Defective lift sensor or connector disconnection **For the LCT:** • Defective stack transport clutch or connector disconnection • Defective tray motor or connector disconnection • Defective end fence home position sensor or connector disconnection

| 504 | | 4th tray lift malfunction (optional paper feed unit) |

-1	B	**For the paper feed unit:** • When the tray lift motor turns on, the upper limit is not detected within 10 seconds. If this condition occurs three consecutive times, the SC is generated.
		For the paper feed unit: • Defective tray lift motor or connector disconnection • Defective lift sensor or connector disconnection
-2	B	**For the paper feed unit:** When the tray lift motor is turned on, the upper limit is not detected within 10 seconds. If this condition occurs three consecutive times, the SC is generated.
		• Defective tray lift motor or connector disconnection • Defective lift sensor or connector disconnection

505		5th tray lift malfunction (optional LCT)
-1	B	This SC is generated if the following condition occurs: • When the tray lift sensor of the LCT 1200-sheet does not go on after the tray lift motor has turned on to lift the paper tray. • When the tray lift sensor of the LCT 1200-sheet does not go off after the tray lift motor has turned on to lower the paper tray. • When the tray lift sensor of the LCT 1200-sheet does not go on after the pick-up roller solenoid has turned on at power on.
		• Tray lift motor defective or disconnected • Tray lift sensor defective or disconnected
-2	B	Both tray lift sensor and lower limit sensor are turned on at the same time when the main power is turned on or the right door is closed.
		• Tray lift motor defective or disconnected • Tray lift sensor defective or disconnected • Lowe limit sensor defective or disconnected

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530	D	Fusing exhaust fan motor error
		The IOB does not receive the lock signal for 10 seconds after turning on the fusing exhaust fan.
		• Defective fusing exhaust fan motor or connector disconnection • Defective IOB • Disconnected harness

531	D	Exhaust fan motor error
		The IOB does not receive the lock signal for 10 seconds after turning on the exhaust fan motor.
		• Defective exhaust fan motor or connector disconnection. • Defective IOB • Disconnected harness

532	D	Cooling fan motor error
		The machine does not detect the fan motor lock signal for 10 seconds after turning on the cooling fan motor.
		• Defective cooling fan motor or connector disconnection. • Disconnected harness • Defective IOB

533	D	Paper exit cooling fan motor error
		The machine does not detect the fan motor lock signal for 10 seconds after turning on the paper exit cooling fan motor.
		• Defective paper exit cooling fan motor or connector disconnection. • Defective IOB • Disconnected harness

3

540	D	Fusing motor error
		The IOB does not receive the lock signal for 2 seconds after turning on the fusing motor.
		• Motor overload • Defective fusing motor or connector disconnection. • Defective IOB • Disconnected harness

541	A	Fusing thermistor open (center)
		The thermistor (center) detects 0°C or less for 5 sec.
		• Fusing thermistor disconnected • Fusing thermistor connector defective

542	A	Fusing temperature warm-up error(center)
		This SC is generated if the following condition occurs: • The thermistor (center) does not detect an 8°C increment in the fusing temperature for 7.5 sec. just after the fusing temperature reached 45°C. • The temperature of the center thermistor does not reach the target temperature for 28 seconds after the fusing lamps turned on.
		• Thermistor warped or broken

543	A	Fusing overheat error 1 (software detection)
		A fusing temperature (at the center) of over 230°C (446°F) is detected for 1 second by the fusing thermistors at the center or at either end of the fusing roller.
		• Power supply unit defective • I/O board (IOB) defective • BICU defective • TRIAC short on PSU (PSU defective)

544	A	Fusing overheat error 1 (hardware detection)
		A fusing temperature (at the center) over 250°C is detected by the fusing temperature monitor circuit in the BICU board.
		• I/O board (IOB) defective • BICU defective

545	A	Fusing lamp consecutive full power 1
		After warm-up the fusing lamp remains at full power for 15 seconds without the hot roller rotating.
		• Disconnected or defective thermistors (center) • Defective fusing lamp

547	D	Zero cross error
		• The zero cross signal is detected three times even though the heater relay is off when turning on the main power. • The zero cross signal is not detected for 2 seconds even though the heater relay is on after turning on the main power or closing the front door. • The detection error occurs twice or more in the 11 zero cross signal detections. This error is defined when the detected zero cross signal is less than 45.
		• Defective fusing lamp relay • Defective fusing lamp relay circuit • Unstable power supply

551	A	Fusing thermistor open (end)
		The thermistor (end) detects 0°C or less for 5 sec.
		• Fusing thermistor (end) disconnected • Fusing thermistor (end) connector defective

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552	A	Fusing temperature warm-up error (end)
		This SC is generated if the following condition occurs:
		• The thermistor (end) does not detect an 8°C increment in the fusing temperature for 7.5 sec. just after the fusing temperature reached 45°C.
		• The temperature of the end thermistor does not reach the target temperature for 31 seconds after the fusing lamps turned on.
		• Thermistor warped or broken

553	A	Fusing overheat error 1 (software detection)
		A fusing temperature (at the end) of over 230°C (446°F) is detected for 1 second by the fusing thermistors at the center or at either end of the fusing roller.
		• Power supply unit defective
		• I/O board (IOB) defective
		• BICU defective
		• TRIAC short on PSU (PSU defective)

554	A	Fusing overheat error 1 (hardware detection)
		A fusing temperature (at the end) over 250°C is detected by the fusing temperature monitor circuit in the BICU board.
		• I/O board (IOB) defective
		• BICU defective

555	A	Fusing lamp consecutive full power 1
		After warm-up, the fusing lamp remains at full power for 15 seconds without the hot roller rotating.
		• Disconnected or defective thermistors (ends)
		• Defective fusing lamp

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557	C	Zero cross frequency error
		When the zero cross signal is 66 or more and it is detected 10 times or more in 11 detections, the machine determines that input 60 Hz and SC557 occurs.
		• Noise (High frequency)

559	A	Fusing unit jam
		The fusing sensor detected a fusing unit paper late jam three times. The paper was late and the fusing exit sensor could not detect the paper three times.
		• Remove the paper that is stopped in the fusing unit.
		• Check that the fusing unit is clean and has no obstacles in the paper feed path.
		• If the error persists, replace the fusing unit.

⭐ **Important**

- SC559 does not operate until SP1159 has been set to "1" (ON). This sets the machine to count the number of occurrences of paper late jams in the fusing unit. The default setting is "0" (OFF).

- SC559 is issued after the third occurrence of a paper late jam in the fusing unit. Once this SC has been issued, the machine cannot be used until the service technician removes the cause of the jam and restores it to normal operation.

- The jam counter is reset after a sheet of paper successfully passes the fusing exit sensor after the cause of the jam has been removed.

SC Tables: SC6xx

610	D	Mechanical counter error: BK
		This SC is only for NA models.
		The machine detects the mechanical counter error when SP5987-001 is set to "1".
		• Disconnected mechanical counter
		• Defective mechanical counter

3

3

620	B	Communication error between IOB and ADF
		After the ARDF is detected, the break signal occurs or communication timeout occurs.
		• Incorrect installation of ARDF • ARDF defective • IOB board defective • External noise

621	D	Communication timeout error between IOB and finisher or mailbox
		A break (low) signal is received from the finisher or the mailbox.
		• Disconnected cable • Defective IOB • Defective main board in the peripherals

622	D	Paper feed unit communication error
		While the IOB communicates with a peripheral, an SC code is displayed if one of following conditions occurs. • The IOB receives the break signal which is generated by the peripheral only just after the main switch is turned on. • The IOB receives the break signal which is generated by URAT.
		• Defective main control board of the peripheral • Defective BICU or IOB • Disconnected peripheral

623	D	2nd Paper Bank communication error
		This SC is not issued for this machine. When a communication error signal between the 1st paper bank and 2nd paper bank is received.
		• Loose connector

630	C	CSS communication error
		A communication error occurred during communication with the CSS.
		• Communication line error

632	B	MF accounting device error 1
		The controller sends data to the accounting device, but the device does not respond. This occurs three times.
		• Loose connection between the controller and the accounting device

633	B	MF accounting device error 2
		After communication is established, the controller receives the brake signal from the accounting device.
		• Loose connection between the controller and the accounting device

634	B	MF accounting device error 3
		The accounting device sends the controller the report that indicates a backup RAM error has occurred.
		• Defective controller of the MF accounting device
		• Battery error

635	B	MF accounting device error 4
		The accounting device sends the controller the report that indicates the battery voltage error has occurred.
		• Defective controller of the MF accounting device
		• Battery error

| 636 | | IC Card Error |

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| -01 | D | External authentication module error |
| | | This SC is generated if the external authentication is enabled and following condition occurs:
• No external authentication module
• SD card error or external authentication module broken
• No DESS module |

| -02 | D | Version error |
| | | The version of the external authentication module is not correct.

• Incorrect module version |

| -99 | D | Management area error |
| | | The management number of the external authentication module exceeds the maximum limit.

• Software error |

641	D	BICU communication error
		The BICU does not respond to the frame transmitted from the controller.
		• Defective controller • Detective BICU

650		Communication error of the remote service modem (Embedded RCG-M)
-001	B	Authentication error
		The authentication for the Embedded RCG-M fails at a dial up connection.
		• Incorrect SP settings • Disconnected telephone line • Disconnected modem board Check and set the correct user name (SP5816-156) and password (SP5816-157).

-004	B	Incorrect modem setting
		Dial up fails due to the incorrect modem setting.
		• Same as -001 Check and set the correct AT command (SP5816-160).
-005	-	Communication line error
		The supplied voltage is not sufficient due to a defective communication line or defective connection.
		• Same as -001 Consult with the user's local telephone company.
-011	-	Incorrect network setting
		Both the NIC and Embedded RCG-M are activated at the same time.
		• Same as -001 Disable the NIC with SP5985-1.
-012	-	Modem board error
		The modem board does not work properly even though the setting of the modem board is installed with a dial up connection.
		• Same as -001 1. Install the modem board. 2. Check and reset the modem board setting with SP5816. 3. Replace the modem board.

651	C	Incorrect dial up connection
		-001: Program parameter error
		-002: Program execution error
		An unexpected error occurs when the modem (Embedded RCG-M) tries to call the center with a dial up connection.
		• Caused by a software bug

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669	D	EEPROM error
		Retry of EEPROM communication fails three times after the machine has detected the EEPROM error.
		• Caused by noise

670	D	Engine startup error
		The BICU fails to respond with the prescribed time when the machine is turned on.
		• Connections between BICU and controller board are loose, disconnected, or damaged 1. Replace the BICU 2. Replace the controller board

671	D	BICU error
		The model code from the BICU is not correct when the machine is turned on.
		Install the correct BICU for this model.

672	D	Controller-to-operation panel communication error at startup
		• After the machine is powered on, the communication between the controller and the operation panel is not established, or communication with controller is interrupted after a normal startup. • After startup reset of the operation panel, the attention code or the attention acknowledge code is not sent from the controller within 15 seconds. • After the controller issues a command to check the communication line with the controller at 30-second intervals, the controller fails to respond twice.
		• Controller stalled • Controller board installed incorrectly • Controller board defective • Operation panel connector loose or defective • The controller is not completely shutdown when you turn the main switch off. Check the setting of SP5875-001. If the setting is set to "1 (OFF)", change it to "0 (ON)".

687	D	Memory address (PER) command error
		The BICU does not receive a memory address command from the controller for the prescribed time after the paper has reached the registration sensor.
		• Harness Disconnection at BICU • Controller board loose or broken • Defective BICU • Defective Controller Board

SC Tables: SC7xx

700	D	Original stopper HP error
		When the pick-up motor turns on clockwise, the original stopper HP sensor does not detect the home position of the original stopper.
		• Defective original stopper HP sensor • Defective pick-up motor • Defective DF drive board

701	D	Pick-up roller HP error
		When the pick-up motor turns on counterclockwise, the pick-up roller HP sensor does not detect the home position of the pick-up roller.
		• Defective pick-up roller HP sensor • Defective pick-up motor • Defective DF drive board

721	B	Finisher jogger motor error
		The jogger fences move out of the home position but the HP sensor output does not change within the specified number of pulses.
		The 1st failure issues an original jam message, and the 2nd failure issues this SC code.
		• Jogger HP sensor disconnected, defective
		• Jogger motor disconnected, defective
		• Jogger motor overloaded due to obstruction
		• Finisher main board and jogger motor

723	B	Stack feed-out motor error
		• The stack feed-out HP sensor does not detect the home position of the stack feed-out belt 3000ms after the stack feed-out belt has moved to its home position.
		• The stack feed-out HP sensor does not turn off 200 ms after the stack feed-out belt has moved from its home position.
		The 1st detection failure causes a jam error, and the 2nd failure causes this SC code.
		• Defective stack feed-out HP sensor
		• Overload on the stack feed-out motor
		• Defective stack feed-out motor
		• Defective main board
		• Disconnected or defective harness

725	B	Finisher exit guide plate motor error
		After moving away from the guide plate position sensor, the exit guide is not detected at the home position within the prescribed time.
		The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.
		• Guide plate motor disconnected, defective
		• Guide plate motor overloaded due to obstruction
		• Guide plate position sensor disconnected, defective

726	B	Shift jogger motor 1 error
		The side fence does not retract within the prescribed time after the shift jogger motor 1 switches on.
		The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.
		• Shift jogger motor 1 disconnected, defective • Shift jogger motor 1 overloaded due to obstruction • Shift jogger 1 HP sensor disconnected, defective

727	B	Shift jogger motor 2 error
		The side fence does not retract within the prescribed time after the shift jogger motor 2 switches on.
		The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.
		• Shift jogger motor 2 disconnected, defective • Shift jogger motor 2 overloaded due to obstruction • Shift jogger 2 HP sensor disconnected, defective

728	B	Shift jogger retraction motor error
		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.
		• Shift jogger retraction motor broken • Shift jogger retraction motor connection loose • Shift jogger retraction motor overloaded • Defective shift jogger retraction HP sensor

| 730 | B | Finisher Tray 1 shift motor error |

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		The shift roller HP sensor of the upper tray does not activate within the prescribed time after the shift tray starts to move toward or away from the home position. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.
		• Shift tray HP sensor of the upper tray disconnected, defective • Shift tray motor of the upper tray disconnected, defective • Shift tray motor of the upper tray overloaded due to obstruction

		Finisher corner stapler motor error
740	B	The 1st detection failure causes a jam error, and the 2nd failure causes this SC code. **For the 2000/3000-sheet (booklet) finisher** • Staple movement is not finished after a certain time. **For the 1000-sheet finisher** • The stapler motor does not switch off within the prescribed time after operating. • The HP sensor of the staple unit does not detect the home position after the staple unit moves to its home position. • The HP sensor of the staple unit detects the home position after the staple unit moves from its home position.
		• Staple jam • Motor overload • Defective stapler motor

		Finisher corner stapler rotation motor error
741	B	The stapler does not return to its home position within the specified time after stapling. The 1st detection failure causes a jam error, and the 2nd failure causes this SC code.
		• Defective stapler rotation motor • Overload to the stapler rotation motor • Defective stapler rotation HP sensor

742	B	Finisher stapler movement motor error
		Staple movement is not finished within a certain time. The 1st detection failure causes a jam error, and the 2nd failure causes this SC code.
		• Motor overload • Loose connection of the stapler home position sensor • Loose connection of the stapler movement motor • Defective stapler home position sensor • Defective stapler movement motor

743	B	Booklet stapler motor error 1
		The 1st detection failure causes a jam error, and the 2nd failure causes this SC code. **For the 2000-sheet booklet finisher** The front stapler unit saddle-stitch motor does not start operation within the specified time.
		• Motor overload • Loose connection of the front stapler motor • Defective front stapler motor

744	B	Booklet staple motor error 2
		The 1st detection failure causes a jam error, and the 2nd failure causes this SC code. **For the 2000-sheet booklet finisher** The rear stapler unit saddle-stitch motor does not start operation within the specified time.
		• Motor overload • Loose connection of the rear stapler motor • Defective rear stapler motor

750	B	1000/2000/3000-sheet (booklet) finisher: Tray lift motor error
		The 1st detection failure causes a jam error, and the 2nd failure causes this SC code.
		The upper tray paper height sensor does not change its status with the specified time after the tray raises or lowers.

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753	B	Return roller motor error
		This occurs during the operation of the lower tray pressure motor
		• Motor harness disconnected, loose, defective • Motor overloaded • Home position sensor harness disconnected, loose, defective • Home position defective

760	B	Finisher punch motor error
		The punch HP sensor is not activated within the specified time after the punch motor turned on. The 1st detection failure causes a jam error, and the 2nd failure causes this SC code.
		• Punch HP sensor disconnected, defective • Punch motor disconnected or defective • Punch motor overload due to obstruction

761	B	Finisher folder plate motor error
		The folder plate moves but is not detected at the home position within the specified time. The 1st detection failure causes a jam error, and the 2nd failure causes this SC code.
		• Folder plate HP sensor disconnected, defective • Folder plate motor disconnected, defective • Folder plate motor overloaded due to obstruction.

763	B	Punch movement motor error
		The punch unit moves but is not detected at the home position within the specified time. The 1st detection failure causes a jam error, and the 2nd failure causes this SC code.
		• Motor harness disconnected, loose, defective • Defective motor

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764	B	Paper position sensor slide motor error
		The paper position sensor moves but is not detected at the home position within the specified time. The 1st detection failure causes a jam error, and the 2nd failure causes this SC code.
		• Motor harness disconnected, loose, defective • Defective motor

765	B	Folding unit bottom fence lift motor
		The folding unit bottom fence movement is not finished within a certain time. The 1st detection failure causes a jam error, and the 2nd failure causes this SC code.
		• Motor harness loose, broken • Motor drive obstructed • Motor defective

766	B	Clamp roller retraction motor error
		The clamp roller movement is not finished within a certain time. The 1st detection failure causes a jam error, and the 2nd failure causes this SC code.
		• Motor harness loose, broken • Motor drive obstructed • Motor defective

767	B	Stack junction gate motor error
		The stack junction gate motor moves but the stack junction gate is not detected at its position within a specific time. The 1st detection failure causes a jam error, and the 2nd failure causes this SC code.
		• Motor broken • Motor connection loose • Motor overloaded

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770	B	Shift motor error
		The shift motor HP sensor does not detect any change for 1.86 seconds after the shift motor has turned on at power on or during its operation.
		• Defective shift motor • Defective shift motor HP sensor

791	D	Bridge unit error
		The machine recognizes the finisher, but does not recognize the bridge unit.
		• Defective connector • Broken harness

792	B	Finisher error
		The machine does not recognize the finisher, but recognizes the bridge unit.
		• Defective connector • Defective harness • Incorrect installation

SC Tables: SC8xx

816	D	Energy save I/O sub-system error
		Energy saver sub-system detects an error.
		• Defective 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.
		• OS Flash ROM data defective; change the controller firmware • SD card data defective; use another SD card

819	C	Fatal kernel error	
		Due to a control error, a RAM overflow occurred during system processing. One of the following messages was displayed on the operation panel.	
		0x6261	6261 6420 6469 7200 00 -> "bad dir"
		0x696e	0x69742064 -> "init died"
		0x766d	0x5f706167 -> "vm_pageout: VM is full"
		554C	UL (USB error)
		----	Error in the OS
			"init died", "vm_pageout: VM is full", "Cache Error"
		• System program defective • Controller board defective • Optional board defective • Replace controller firmware	

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.

820	CTL D	Self-diagnostics error: CPU [XXXX]: Detailed error code

	CPU error During the self-diagnostic, the controller CPU detects an error. There are *47* types of error code (0001 to 4005) depending on the cause of the error. The CPU detects an error and displays the specific error code with the program address where the error occurs.
[0001] to [06FF] [0801] to [4005]	• System firmware problem • Defective controller
	1. Turn the main switch off and on. 2. Reinstall the controller system firmware. 3. Replace the controller. When the problem cannot be fixed with the above procedure, the following information displayed on the screen needs to be fed back to a technical support center. • SC code • Detailed error code • Program address
	CPU/Memory Error
[0702] [0709] [070A]	• System firmware problem • Defective RAM-DIMM • Defective controller
	1. Reinstall the controller system software. 2. Replace the RAM-DIMM. 3. Replace the controller.

821	D	Self-diagnostics error: ASIC [XXXX]: Detailed error code
[0B00]		ASIC error
		The write-&-verify check error has occurred in the ASIC.
		• Defective ASIC device Replace the controller board.

821	D	Self-diagnostics error: ASIC [XXXX]: Detailed error code
[0B06]		ASIC detection error
		The I/O ASIC for system control is not detected.
		• Defective ASIC • Defective North Bridge and PCI I/F Replace the controller board.
[0D05]		Self-diagnosis error: ASIC
		The CPU checks if the ASIC timer works correctly compared with the CPU timer. If the ASIC timer does not function in the specified range, this SC code is displayed.
		• System firmware problem • Defective RAM-DIMM • Defective controller Replace the controller board.
[50A1]		Video bridge device (ASIC) error 1
		The CPU does not detect the video bridge device.
		• Defective I/F between the video bridge device and controller
[50A2]		Video bridge device (ASIC) register error 1
		The CPU detects the video bridge device, but detects error data from the video bridge device.
		• Defective I/F between the video bridge device and controller

↓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]		Check performed only when HDD is installed: • 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.
		• HDD defective • HDD harness disconnected, defective • Controller board defective
[3004]		No response to the self-diagnostic command from the ASIC to the HDDs.
		• HDD defective

823	B	Self-diagnostic error: NIB [XXXX]: Detailed error code
[6101]		MAC address check sum error The result of the MAC address check sum does not match the check sum stored in ROM.
[6104]		PHY IC error The PHY IC on the controller cannot be correctly recognized.
[6105]		PHY IC loop-back error An error occurred during the loop-back test for the PHY IC on the controller.

824	D	Self-diagnostic error : NVRAM
		NVRAM device does not exist, NVRAM device is damaged, or NVRAM socket damaged.
		• NVRAM defective • Controller board defective • NVRAM backup battery exhausted • NVRAM socket damaged

826	D	Self-diagnostic Error: RTC/optional NVRAM

[1501]	The one second counted by the RTC is different from the one second counted by the CPU on the controller.
	• Defective the RTC device
[15FF]	The RTC device is not detected.
	• Defective RTC device • NVRAM without RTC installed • Discharged backup battery

827	D	Self-diagnostic error: Standard SDRAM DIMM [XXXX]: Detailed error code
[0201]		Verification error
		Error detected during a write/verify check for the standard RAM (SDRAM DIMM).
		• Loose connection • Defective SDRAM DIMM • Defective controller

| 828 | D | Self-diagnostic error: ROM
[XXXX]: Detailed error code |
| [0101] | | Check sum error 1
• The boot monitor and OS program stored in the ROM DIMM is checked. If the check sum of the program is incorrect, this SC code is displayed. |

| 829 | D | Self-diagnostic error: Optional RAM
[XXXX]: Detailed error code |

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[0301]	Verification error
	Error detected during a write/verify check for the optional RAM (SDRAM DIMM).
	• Loose connection • Defective SDRAM DIMM • Defective controller
	Turn the main switch off and on. Replace the SDRAM DIMM. Replace the controller.
[0302]	Memory structure data error
	The memory structure data error for the optional RAM (SDRAM DIMM) is detected when the self-diagnostic is executed.
	• Defective RAM DIMM • Defective SPD ROM on RAM DIMM • Defective 12C bus
	Replace the RAM DIMM.

833	C	Self-diagnostic error 8: Engine I/F ASIC
[0F30] [0F31]		ASIC (Mandolin) for system control could not be detected. After the PCI configuration, the device ID for the ASIC could not be checked.
		Replace the IPU.
[0F41]		ASIC (Mandolin) for system control could not be detected. After the PCI configuration, the device ID for the ASIC could not be checked.
		Replace the IPU.
[50B1]		Could not initialize or read the bus connection.
		Check for loose connections at the mother board.
		Replace the IPU.
[50B2]		Value of the SSCG register is incorrect.
		Check for loose connections at the mother board.
		Replace the IPU.

835	C	Self-diagnostic error: Centronic device
[1102]		Loopback connector is connected but check results in an error.
		• IEEE1284 connector error • Centronic loopback connector defective
		Replace the controller board.
[110C]		Loopback connector is connected but check results in an error.
		• ASIC device error • IEEE1284 connector error • Centronic loopback connector defective
		Replace the controller board.
[1120]		Centronic loopback connector is not connected for detailed self-diagnostic test.
		• Centronic loopback connector not connected correctly • Centronic loopback connector defective • ASIC device defective
		Replace the controller board.

838	B	Self-diagnostic Error: Clock Generator
[2701]		A verify error occurred when setting data was read from the clock generator via the I2C bus.
		• Defective clock generator • Defective I2C bus • Defective I2C port on the CPU
		Replace the controller board.

839	C	USB NAND Flash ROM error
[9101]		The ID of the USB NAND Flash ROM cannot be read.
		• Defective controller board
[9110]		The USB NAND Flash ROM controller is disconnected.
		• Defective controller baord

851	B	IEEE 1394 I/F error
		Driver setting incorrect and cannot be used by the 1394 I/F.
		Not supported by this machine • 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 (Bluetooth).
		• Wireless LAN card missing (was removed)

854	B	Wireless LAN Error 2
		During machine operation, the machine can get access to the board that holds the wireless LAN, but not to the wireless LAN card (Bluetooth).
		• Wireless LAN card missing (was removed)

855	B	Wireless LAN error 3
		An error is detected on the wireless LAN card (802.11a/g, g or Bluetooth).
		• Wireless LAN card defective • Wireless LAN card connection incorrect

856	B	Wireless LAN error 4
		An error was detected on the wireless LAN card (Bluetooth).
		• Wireless LAN card defective • PCI connector (to the mother board) loose

857	B	USB I/F Error
		The USB driver is not stable and caused an error.
		• Bad USB card connection Replace the controller board

858	C	HDD Encryption unit error 1
		A serious error occurs when data is encrypted to update an encryption key with the HDD encryption unit.
	[0]	Encryption key acquisition error: The controller fails to get a new encryption key.
		• Defective controller board Replace the controller board.
	[1]	Encryption key setting for HDD error: The controller fails to copy a new encryption key to the HDD.
		• Defective SATA chip on the controller board Replace the controller board.
	[2]	NVRAM data encryption error 1: An error occurs while the NVRAM data is encrypted.
		• Defective NVRAM on the controller board Replace the NVRAM.
	[30]	NVRAM data encryption error 2: An error occurs before the NVRAM data is encrypted.
		• Defective controller board Replace the controller board.
	[31]	Other error: A serious error occurs while the data is encrypted.
		• Same as SC991

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859	C	HDD Encryption unit error 2
		A serious error occurs when the HDD data is encrypted to update an encryption key with the HDD encryption unit.
	[8]	HDD check error: The HDD is not correctly installed.
		• No HDD installed • Unformatted HDD • The encryption key on the controller is different from the one on the HDD 1. Install the HDD correctly. 2. Initialize the HDD.
	[9]	Power failure during the data encryption: The data encryption (NVRAM and HDD) has not been completed.
		• Power failure during the data encryption Initialize the HDD.
	[10]	Data read/write error: The DMAC error is detected twice or more.
		• Same as SC863

860	B	HDD startup error at main power on
		• HDD is connected but a driver error is detected. • The driver does not respond with the HDD within 30 s.
		• HDD is not initialized • Label data is corrupted • Defective HDD Initialize the HDD with SP5832-001.

861	D	HDD re-try failure
		At power on, the HDD is detected. Power supply to the HDD is interrupted after the system has entered the energy save mode, but after the HDD has been awakened from the energy save mode, it does not return to the ready status within 30 sec.
		• Harness between HDD and controller board disconnected, defective • HDD power connector disconnected • HDD defective • Controller board defective

862	D	Bad sector number error
		The number of bad sectors in the HDD (image data area) goes over 101.
		• Defective HDD
		Format the HDD with SP5-832-002. Replace the HDD.

863	D	HDD data read failure
		The data written to the HDD cannot be read normally, due to bad sectors generated during operation.
		• HDD defective **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.

864	D	HDD data CRC error
		During HDD operation, the HDD cannot respond to a CRC error query. Data transfer does not execute normally while data is being written to the HDD.
		• HDD defective

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865	D	HDD access error
		HDD responded to an error during operation for a condition other than those for SC863, 864.
		• HDD defective.

866	B	SD card error 1: Confirmation
		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. 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.
		• 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
		The SD card in the slot is removed while the machine is on.
		Insert the SD card, then turn the machine off and on.

868	D	SD card error 3: SC card access
		An error occurs while an SD card is used.
		• SD card not inserted correctly • SD card defective • Controller board defective Note: If you want to try to reformat the SC card, use SD Formatter Ver 1.1.

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870	B	Address book data error	
		The address book data cannot be read from the HDD, SD card or flash ROM on the controller where it is stored, or the data read from the media is defective.	
		• Software defective: Turn the machine off/on. If this is not the solution for the problem, then replace the controller firmware. • HDD defective.	
		More Details	
		• Do SP5846-046 (Initialize All Setting & Addr Book) to reset all address book data. • Reset the user information with SP5832-006 (HDD Formatting– User Information). • Replace the HDDs.	

872	B	HDD mail receive data error
		• The machine detects that the HDD is not operating correctly at power on. • The machine detects that the HDD is not operating correctly (can neither read nor write) while processing incoming email.
		• HDD defective • The machine is turned off while the HDD is being accessed. Do SP5832-007 to format the mail RX data on the HDD.

873	B	HDD mail send data error
		An error is detected on the HDD immediately after the machine has been turned on, or power has been turned off while the machine has used the HDD.
		1. Do SP5832-008 (Format HDD – Mail TX Data) to initialize the HDD. 2. Replace the HDD

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874	D	Delete All error 1: HDD
		A data error is detected for the HDD/NVRAM after the Delete All option has been used. **Note:** The source of this error is the DataOverwriteSecurity Unit (D362) running from an SD card.
		1. Turn the main switch off/on and try the operation again. 2. Install the DataOverwriteSecurity Unit again. For more, see "Installation". 3. HDD defective

875	D	Delete All error 2: Data area
		An error occurs while the machine deletes data from the HDD. **Note:** The source of this error is the DataOverwriteSecurity Unit (D362) running from an SD card.
		Turn the main switch off/on and try the operation again

876	CTL D	Log Data Error
		An error is detected in the handling of the log data at power on or during machine operation. This can be caused by switching the machine off while it is operating.
-001		Log Data Error 1
		• Damaged log data file in the HDD
		Initialize the HDD with SP5832-004.
-002		Log Data Error 2
		• HDD encryption unit not installed
		1. Ask the customer's administrator to disable the HDD encryption setting with a user tool. 2. Install the HDD encryption unit.

876	CTL D	Log Data Error
		An error is 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.
-003		Log Data Error 3
		• Invalid log encryption key due to defective NVRAM data
		1. Initialize the HDD with SP5832-004. 2. Ask the customer's administrator to disable the HDD encryption setting with a user tool.
-004		Log Data Error 4
		• Unusual HDD encryption function due to defective NVRAM data
		Initialize the HDD with SP5832-004.
-005		Log Data Error 5
		• Installed a NVRAM or HDD which was used in another machine
		1. Reinstall the previous NVRAM or HDD. 2. Initialize the HDD with SP5832-004.
-099		Log Data Error 99
		• Other than the above causes
		Ask your supervisor.

877	B	HDD DataOverwriteSecurity SD card error
		The 'all delete' function cannot be executed but the DataOverwriteSecurity Unit (D362) is installed and activated.
		• Defective SD card (D362) • SD card (D362) not installed
		1. Replace the NVRAM and then install the new SD card (D362). 2. Check and reinstall the SD card (D362).

878	D	TPM system authentication error
		The system firmware is not authenticated by TPM (security chip).
		• Incorrect updating for the system firmware • Defective flash ROM on the controller board Replace the controller board.

880	B	File Format Converter (MLB) error
		A request to get access to the MLB is not answered within the specified time.
		• MLB defective, replace the MLB

SC Tables: SC9xx

900	D	Electrical total counter error
		The total counter contains something that is not a number.
		• NVRAM incorrect type • NVRAM defective • NVRAM data scrambled • Unexpected error from external source

920	B	Printer error 1
		An internal application error was detected and operation cannot continue.
		• Software defective; turn the machine off/on, or change the controller firmware • Insufficient memory

921	D	Printer font error
		A necessary font is not found in the SD card.
		• A necessary font is not found in the SD card. • The SD card data is corrupted.

925	B	Net File function error
		The NetFile file management on the HDD cannot be used, or a NetFile management file is corrupted and operation cannot continue. The HDDs are defective and they cannot be debugged or partitioned, so the Scan Router functions (delivery of received faxes, document capture, etc.), Web services, and other network functions cannot be used.
		HDD status codes are displayed below the SC code.
		• Refer to the four procedures below (Recovery from SC 925).

Here is a list of HDD status codes:

Display	Meaning
(-1)	HDD not connected
(-2)	HDD not ready
(-3)	No label
(-4)	Partition type incorrect
(-5)	Error returned during label read or check
(-6)	Error returned during label 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 from SC 925

Procedure 1

If the machine shows SC codes for HDD errors (SC860 to SC865) with SC 925, do the recovery procedures for SC860 to SC865.

Procedure 2

If the machine does not show one of the five HDD errors (SC860 to SC865), turn the machine power off and on. If this is not the solution for 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 you initialize the NetFile partition on the HDD, tell the customer that:

- Received faxes on the delivery server will be erased

- All captured documents will be erased

- DeskTopBinder/Print Job Manager/Desk Top Editor job history will be erased

- Documents on the document server, and scanned documents, will not be erased.

- The first time that the network gets access to the machine, the management information must be configured again (this will use a lot of time).

Before you initialize the Netfile partition with SP5832-011, do these steps:

1. Go into the User Tools mode and do "Delivery Settings" to print all received fax documents that are scheduled for delivery. Then erase them.

2. In the User Tools mode, do Document Management> Batch Delete Transfer Documents.

3. Do SP5832-011, then turn the machine power off and on.

Procedure 3

If "Procedure 2" is not the solution for the problem, do SP5832-001 (HDD Formatting – All), then turn the machine power off and on.

SP5832-001 erases all document and address book data on the hard disks. Ask the customer before you do this SP code.

Procedure 4

If "Procedure 3" is not the solution for the problem, replace the HDD.

		Software error 1
990	D	The software performs an unexpected function and the program cannot continue.
		• Software defective, re-boot
		Software error 2
991	C	The software performs an unexpected function. However, unlike SC990, recovery processing allows the program to continue.
		• Software defective, re-boot

In order to get more details about SC990 and 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 SC990 or SC991, including the software file name, line number, and so on.

✦Note

- 1) is the recommended method, because another SC could write over the information for the previous SC.

992	D	Undefined error
		Defective software program
		• An error undetectable by any other SC code occurred

994	C	Application Item Error
		The number of executed application items on the operation panel reach the maximum limit for the operation panel structure.
		• Too much executed application items

995	D	Controller Board Mismatch
		The information on the controller board does not match that of the machine
		• Wrong controller board installed

997	B	Software Error 3: Cannot select application function
		An application does not start after the user pushed the correct key on the operation panel.
		• Software bug
		• A RAM or DIMM option necessary for the application is not installed or not installed correctly.

998	D	Software Error 4: Application cannot start
		Register processing does not operate for an application within 60 s after the machine power is turned on. No applications start correctly, and all end abnormally.
		• Software bug • A RAM or DIMM option necessary for the application is not installed or not installed correctly.

4. Appendix: Service Program Mode Tables

System SP Table-1

SP1-xxx: Feed

1001*	Leading Edge Registration:	
	Adjusts the leading edge registration by changing the registration clutch operation timing.	
001	Tray: Plain	
002	Tray: Thick 1	
003	Tray: Thick 2	
004	By-pass: Plain	[−9 to 9/ **0** / 0.1 mm step]
005	By-pass: Thick 1	
006	By-pass: Thick 2	
007	Duplex: Plain	
008	Duplex: Thick 1	

1002*	Side-to-Side Registration
	Adjusts the side to side registration by changing the laser main scan start position for each mode.

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001	By-pass	
002	Tray 1	
003	Tray 2	
004	Tray 3	[−4 to 4/ **0** / 0.1 mm step]
005	Tray 4	
006	LCT	
007	Duplex	

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1003*	Registration Buckle Adjustment	
	Adjusts the paper feed motor timing. Paper feed motor timing determines the amount of paper buckle at Registration. (A "+" setting causes more buckling.)	
001	Tray 1: Plain	
002	Tray 1: Thick 1	
003	Tray 1: Thick 2	[-9 to 5 / **-4** / 1 mm step]
004	Tray 2, 3, 4: Plain	
005	Tray 2, 3, 4: Thick1	
006	Tray 2, 3, 4: Thick2	
007	By-pass: Plain	
008	By-pass: Thick 1	[-9 to 5 / **-2** /1 mm step]
009	By-pass: Thick 2	
010	Duplex: Plain	[-9 to 5 / **-4** / 1 mm step]
011	Duplex: Thick 1	[-9 to 5 / **-3** / 1 mm step]
012	LCT: Plain	
013	LCT: Thick1	[-9 to 5 / **-4** / 1 mm step]
014	LCT: Thick2	

1007*	By-pass Paper Size Detection	
	Controls paper size detection for the by-pass feed table.	
001	Detection Timing	[-15 to 15 / **0** / 5 mm step]
002	LG Detection	[0 to 1 / **0** / 1] 0: LT SEF, 1: LG

1103*	Fusing Idling	
	Switches fusing idling on/off. When on, printing will not start until enough time has elapsed so the hot roller can reach optimum temperature. This ensures even heat on the hot roller. Switch on if fusing on the 1st and 2nd copies is incomplete (this may occur if the room is cold.). You must switch SP1103-1 ON before you set the fusing interval with SP1103-2.	
001	Enable Fusing Idling	**0 = Off**, 1 = On
002	Interval	[0 to 60 / **30** / 1 sec.]
003	Idling Time at Every Job	Sets the machine to fusing idling only for 30 sec. for every job (when the original is set on the ARDF, when the ARDF cover is opened, etc.) and the fusing unit has reached the reload temperature (optimum temperature for operation). [0 to 30 / **0** / 1 sec.] 0: No idling done before a job.

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1104*	Fusing Temperature Control	
	On-Off/Phase	
	Selects the fusing temperature control method. After changing this setting, be sure to turn the machine off and on again with the main power switch to enable the new setting. [0 to 1 / **0** / 1] 0: Normal (ON/OFF control). Allows full application from ac power supply to bring the hot roller up to the target fusing temperature then shuts off. Determines the on-time from the present temperature (detected by the thermistor on the hot roller) and the temperature of 1 cycle before. 1: Phase (hysterisis) control. Sets the upper and lower limits for the temperature; at the lower temperature the fusing lamp is on and at the higher temperature the fusing lamp is off. Change this setting to "0" only if the user has excessive electrical noise or interference on the power supply line. Such interference can cause voltage to drop when power is applied using the ON/OFF control method. Interference can be caused by the general poor quality of the power supply lines, or if the machine is sharing a power supply with other electrical devices such as fluorescent lights. Before changing this setting, make sure that the machine is connected to a power supply not shared by other electrical equipment. **↓ Note** • Selecting Phase control ("1") could cause the fusing temperature control board to emit low pitched noise	

1105*	Fusing Temperature Adjustment	
	Allows adjustment of the hot roller temperature at the center and ends of the roller for the quality or thickness of the paper. The hot roller in this machine has two fusing lamps: one heats the center of the roller, the other heats both ends. Each fusing lamp can be adjusted separately. The "re-load temperature" is the "print ready temperature". When the fusing temperature exceeds this setting, the machine can operate. Do not set up a re-load temperature (Re-load Temp. = Fusing. Temp – SP Value.) that is higher than the SP1-105-2 setting.	
001	Roller Center	C1b/C1.5b: [100 to 170 / **140** / 1 deg]
		C1c/C1.5c: [100 to 170 / **150** / 1 deg]
	Adjusts the fusing temperature at the center of the hot roller.	

002	Roller Ends	C1b/C1.5b: [100 to 170 / **145** / 1 deg]
		C1c/C1.5c: [100 to 170 / **155** / 1 deg]
	Adjusts the fusing temperature at the ends of the hot roller.	

| 003 | Re-load Temp. Minus: Roller Center | [0 to 60 / **0** / 1 deg] |
| | Sets the reload temperature for the center of the hot roller. This setting depends on the target temperature.

Reload temp. = Target Temp – This SP Setting

⬇ Note

• Do not set a temperature that is higher than the setting for SP1105 1 (Roller Center: Trays) | |

| 004 | Re-load Temp. Minus: Roller Ends | [0 to 60 / **0** / 1 deg] |
| | Sets the reload temperature for the ends of the hot roller. This setting depends on the target temperature.

Reload temp. = Target Temp – This SP Setting

⬇ Note

• Do not set a temperature that is higher than the setting for SP1105 2 (Roller Ends: Trays) | |

| 005 to 022 | The following SPs adjust the fusing temperature at the center or ends of the hot roller for each paper type. | |

| 005 | Roller Center: M-Thick | C1b/C1.5b: [100 to 170 / **145** / 1 deg] |
| | | C1c/C1.5c: [100 to 170 / **155** / 1 deg] |

| 006 | Roller Ends: M-Thick | C1b/C1.5b: [100 to 170 / **150** / 1 deg] |
| | | C1c/C1.5c: [100 to 170 / **160** / 1 deg] |

| 007 | Roller Center: Thick 1 | [100 to 170 / **130** / 1 deg] |
| 008 | Roller Ends: Thick 1 | |

| 009 | Roller Center: Thick 2 | [100 to 170 / **150**/ 1 deg] |
| 010 | Roller Ends: Thick 2 | |

| 011 | Roller Center: Thin | C1b/C1.5b: [100 to 170 / **130** / 1 deg] |
| | | C1c/C1.5c: [100 to 170 / **140** / 1 deg] |

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012	Roller Ends: Thin	C1b/C1.5b: [100 to 170 / **135** / 1 deg] C1c/C1.5c: [100 to 170 / **145** / 1 deg]
013	Roller Center: OHP: Plain	[100 to 170 / **150**/ 1 deg]
014	Roller Ends: OHP: Plain	[100 to 170 / **155**/ 1 deg]
015	Roller Center: OHP: Thick	
016	Roller Ends: OHP: Thick	[100 to 170 / **160**/ 1 deg]
017	Roller Center: Special 1	C1b/C1.5b: [100 to 170 / **140** / 1 deg] C1c/C1.5c: [100 to 170 / **150** / 1 deg]
018	Roller Ends: Special 1	C1b/C1.5b: [100 to 170 / **145** / 1 deg] C1c/C1.5c: [100 to 170 / **155** / 1 deg]
019	Roller Center: Special 2	C1b/C1.5b: [100 to 170 / **140** / 1 deg] C1c/C1.5c: [100 to 170 / **150** / 1 deg]
020	Roller Ends: Special 2	C1b/C1.5b: [100 to 170 / **145** / 1 deg] C1c/C1.5c: [100 to 170 / **155** / 1 deg]
021	Roller Center: Special 3	C1b/C1.5b: [100 to 170 / **140** / 1 deg] C1c/C1.5c: [100 to 170 / **150** / 1 deg]
022	Roller Ends: Special 3	C1b/C1.5b: [100 to 170 / **145** / 1 deg] C1c/C1.5c: [100 to 170 / **155** / 1 deg]
023	Feed Waiting: Plain	Turns the feed waiting mode on or off for each paper type. [0 to 1 / **0** / 1] 0=Off, 1=On The paper waits at the registration roller until the fusing temperature reaches the prescribed temperature (adjustable with SP1105-028 to -37). If you enable this feature, also set SP 1105-38 to a convenient value for the customer.
024	Feed Waiting: M-Thick	
025	Feed Waiting: Thick 1	
026	Feed Waiting: Thick 2	
027	Feed Waiting: Thin	

028	Feed Wait: Center Minus: Plain	Adjusts the offset value for each re-load temperature to exit the feed waiting mode. [0 to 60 / **0** / 1 deg]
029	Feed Wait: Ends Minus: Plain	
030	Feed Wait: Center Minus: M-Thick	
031	Feed Wait: Ends Minus: M-Thick	
032	Feed Wait: Center Minus: Thick 1	
033	Feed Wait: Ends Minus: Thick 1	
034	Feed Wait: Center Minus: Thick 2	
035	Feed Wait: Ends Minus: Thick 2	
036	Feed Wait: Center Minus: Thin	
037	Feed Wait: Ends Minus: Thin	
038	Feed Waiting: Maximum Time	Sets the maximum feed waiting time. [0 to 30 / **0** / 1 sec] The paper is fed when the time specified with this SP has passed even though the fusing temperature has not reached the prescribed temperature. 0: Disabled.

1106	Fusing Temperature Display	
001	Roller Center	Displays the temperature of the fusing unit. [-20 to 250 / **0** / 1 deg]
002	Roller Ends	
003	Machine Inside at Power On	Displays the temperature inside the machine. [-20 to 250 / **0** / 1 deg]
004	Machine Inside	

1109*	Fusing Nip Band Check	
	Checks the fusing nip band.	
001	Execution	

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002	Idling Rotation Time	[0 to 120 / **60** / 1 sec]
	Specifies the fusing rotation time before executing SP1109-001.	
003	Pre-Idling Time	[5 to 30 / **10** / 1 sec]
	Specifies the time that the paper stops in the fusing unit for measuring the nip.	

1159	Fusing Jam Detection
	SC Code Display
	[0 to 1 / **0** / 1] 0:OFF, 1:ON

This SP setting determines whether SC559 is issued after three paper late jams occur in the fusing unit. After this SP code is turned on, a counter monitors the number of paper late jams that occur in the fusing unit. After the 3rd occurrence of a fusing jam, SC559 is issued and the machine cannot be used until the service technician releases the error.

Note

- Switching the machine off/on does not reset this jam counter. The counter is reset after the cause of the jam has been removed and a sheet of paper successfully passes the fusing exit sensor.

1801*	Motor Speed Adjustment	
	Adjusts the speeds of each motor. Each step decreases or increases motor speed in 0.05% increments	
	Regist: Registration motor, Feed: Feed motor,	
	Duplex: Duplex/By-pass motor, Inverter: Duplex inverter motor,	
	Exit: Paper exit motor, Bridge: Bridge unit drive motor,	
	OpcMot: Drum motor, TransferMot: Transfer/Development Motor,	
	FusingMot: Fusing motor,	
	DevPuddleMot: Development Paddle motor	
001	Regist: 90: Thick 2	[-2 to 2 / **0.4** / 0.05 %]
002	Regist: 154: Thick 1	
003	Regist: 180: Plain	
004	Regist: 230: Plain	

005	Feed: 90: Thick 2	[-2 to 2 / -0.4 / 0.05 %]
006	Feed: 154: Thick 1	
007	Feed: 180: Plain	[-2 to 2 / -1 / 0.05 %]
008	Feed: 230: Plain	
009	Duplex_CW: 90: Thick 2	[-4 to 4 / 0.4 / 0.1 %]
010	Duplex_CW: 154: Thick 1	
011	Duplex_CW: 180: Plain	[-4 to 4 / -2.3 / 0.1 %]
012	Duplex_CW: 230: Plain	
013	Duplex_CCW: 90: Thick 2	[-4 to 4 / 0.4 / 0.1 %]
014	Duplex_CCW: 154: Thick 1	
015	Duplex_CCW: 180: Plain	[-4 to 4 / -2.3 / 0.1 %]
016	Duplex_CCW: 230: Plain	

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017	Inverter_CW: 90: Thick 2	[-4 to 4 / **0** / 0.1 %]
018	Inverter_CW: 154: Thick 1	
019	Inverter_CW: 180: Plain	
020	Inverter_CW: 230: Plain	
021	Inverter_CCW: 90: Thick 2	
022	Inverter_CCW: 154: Thick 1	
023	Inverter_CCW: 180: Plain	
024	Inverter_CCW: 230: Plain	
025	Exit_CW: 90: Thick 2	
026	Exit_CW: 154: Thick 1	
027	Exit_CW: 180: Plain	
028	Exit_CW: 230: Plain	
029	Bridge: 90: Thick 2	
030	Bridge: 154: Thick 1	
031	Bridge: 180: Plain	
032	Bridge: 230: Plain	

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033	OpcMot:90	
034	OpcMot:154	
035	OpcMot:180	
036	OpcMot:230	
037	TransferMot:90	
038	TransferMot:154	[-4 to 4 / **0** / 0.01 %]
039	TransferMot:180	
040	TransferMot:230	
041	FusingMot:90	
042	FusingMot:154	
043	FusingMot:180	
044	FusingMot:230	
045	DevPuddleMot	[-4 to 4 / **0** / 0.1 %]

1902	Cleaning Web Setting	
001	Web Consumption	[0 to 120 / **0** / 1 %]
	Displays the consumed amount of the web roll.	
002	Web Motor Interval	C1b/C1.5b: [3 to 130 / **8.4** / 0.1 sec] C1c/C1.5c: [3 to 130 / **6.7** / 0.1 sec]
	Adjusts the interval for web motor rotation.	
003	Web Motor Time	[0.3 to 10 / **4.2** / 0.1 sec]
	Adjusts the rotation time of the web motor.	
004	Web Near End Setting	C1b/C1.5b: EU [0 to 100 / **90** / 1 %] C1b/C1.5b: ASIA/NA [0 to 100 / **92** / 1 %] C1c/C1.5c: EU [0 to 100 / **90** / 1 %] C1c/C1.5c: ASIA/NA [0 to 100 / **92** / 1 %]
	Adjusts the threshold for web near end.	

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005	Web Motor Interval: Thick 1	[3 to 130 / **11.2** / 0.1 sec]	
	Adjusts the interval for web motor rotation (thick 1).		
006	Web Motor Interval: Thick 2	[3 to 130 / **16.8** / 0.1 sec]	
	Adjusts the interval for web motor rotation (thick 2).		
007	Paper Interval Time	[0 to 10 / **5** / 1 sec]	
	Adjusts the threshold for paper feeding. When the time between trailing edge detection and leading edge detection is within the value of this setting, the machine determines that the paper is still being fed.		
008	Web Motor Setting: Web End	[0 to 60 / **27** / 1 sec]	
	Adjusts the motor rotation time after the web end.		
009	Web Motor Rotation: Power On	[0 to 10 / **2** / 1 times]	
	Adjusts the number of web motor rotations at the re-load state.		
010	Web Motor Interval: Pre-idle	[0 to 30 / **5** / 1 sec]	
	Adjusts the motor waiting time after the fusing motor idling.		
011	Web Motor Rotation: Pre-idle	[0 to 10 / **2** / 1 times]	
	Adjusts the number of web motor rotations at the fusing idling state.		

1903	Cleaning Web Setting		
001	Total Paper Counter	[0 to 999999999 / **0** / 1 sec]	
	Displays the total paper feeding time.		
002	Total Web Motor Drive Time	[0 to 999999999 / **0** / 1 sec]	
	Displays the total time of web motor rotation.		

1907	Paper Feed Timing Adj. **(DFU)**	
001	Feed Solenoid ON: Plain	[-10 to 40 / **0** / 2.5 mm]
002	Feed Solenoid ON: Thick	

	003	Feed Solenoid OFF: Plain	
	004	Feed Solenoid OFF: Thick	
	005	Feed Clutch ON: Plain	
	006	Feed Clutch ON: Thick	[-10 to 10 / **0** / 1 mm]
	007	Stop Position before Inverter	
	008	Stop Position after Inverter	
	009	Re-Feed Stop Position	
	010	By-pass Solenoid OFF	[0 to 40 / **0** / 1 mm]
	011	By-pass Solenoid ON	[0 to 1 / **1** / 1 mm]
	012	By-pass Feed Clutch ON	
	013	Exit Roller: Shift: 180	
	014	Exit Roller: Shift: 230	
	015	Exit: Junction Solenoid ON	
	016	Exit: Junction Solenoid OFF	[-10 to 10 / **0** / 1 mm]
	017	Bridge: Junction Solenoid ON	
	018	Bridge: Junction Solenoid OFF	
	019	1-Bin: Junction Solenoid ON	
	020	1-Bin: Junction Solenoid OFF	
	021	Shift Motor ON	[-1 to 1 / **0** / 0.1 mm]

1908		Paper Bank Feed Timing Adj **(DFU)**	
	001	Feed Clutch ON: Plain	[-10 to 10 / **0** / 1 mm]
	002	Feed Clutch ON: Thick	

1916	CPM Down Setting
	When this machine gets a sequence of coping/printing jobs, the machine uses CPM down mode to prevent the fusing temperature from becoming too low.

001	Temp.: Plain	Adjusts the thresholds for each environmental condition (between Low and Medium). [10 to 23 / **17** / 1 deg]	
002	Temp.: M-Thick		
003	Temp.: Thick 1		
004	Temp.: Thick 2		
005	Temp.: Thin		
006	ON/OFF: Low: Plain	Turns on or off the CPM down setting for each paper type and ambient temperature. [0 to 1 / **0** / 1] 0= Off, 1= On	
007	ON/OFF: Low: M-Thick		
008	ON/OFF: Low: Thick 1		
009	ON/OFF: Low: Thick 2		
010	ON/OFF: Low: Thin		
011	ON/OFF: Medium: Plain		
012	ON/OFF: Medium: M-Thick		
013	ON/OFF: Medium:: Thick 1		
014	ON/OFF: Medium: Thick 2		
015	ON/OFF: Medium: Thin		
016	Waiting Time: Low: Plain	Adjusts the threshold time to enter the CPM down mode. [0 to 180 / **60** / 1 sec] The machine determines whether the CPM down mode is activated or not after the time specified with these SPs has passed.	
017	Waiting Time: Low: M-Thick		
018	Waiting Time: Low: Thick 1		
019	Waiting Time: Low: Thick 2		
020	Waiting Time: Low: Thin		
021	Waiting Time: Medium: Plain		
022	Waiting Time: Medium: M-Thick		
023	Waiting Time: Medium: Thick 1		
024	Waiting Time: Medium: Thick 2		
025	Waiting Time: Medium: Thin		

026	Temp.: Low: Plain	Adjusts the threshold temperature of the fusing unit to enter the CPM down mode. [100 to 200 / **120** / 1 deg] If the temperature of the fusing unit is less than the temperature specified with these SPs, the machine changes the CPM (adjustable with SP1916-36 to -45).
027	Temp.: Low: Plain	
028	Temp.: Low: Thick 1	
029	Temp.: Low: Thick 2	
030	Temp.: Low: Thin	
031	Temp.: Medium: Plain	
032	Temp.: Medium: M-Thick	
033	Temp.: Medium: Thick 1	
034	Temp.: Medium: Thick 2	
035	Temp.: Medium: Thin	
036	CPM: Low: Plain	Adjusts the CPM in the CPM down mode. C1b/C1.5b: [20 to 35 / **35** / 5 cpm] C1c/C1.5c: [20 to 45 / **45** / 5 cpm]
037	CPM: Low: M-Thick	Adjusts the CPM in the CPM down mode. C1b/C1.5b: [20 to 35 / **35** / 5 cpm] C1c/C1.5c: [20 to 45 / **45** / 5 cpm]
038	CPM: Low: Thick 1	Adjusts the CPM in the CPM down mode. C1b/C1.5b: [5 to 15 / **15** / 5 cpm] C1c/C1.5c: [5 to 25 / **25** / 5 cpm]
039	CPM: Low: Thick 2	Adjusts the CPM in the CPM down mode. [5 to 15 / **15** / 5 cpm]
040	CPM: Low: Thin	Adjusts the CPM in the CPM down mode. C1b/C1.5b: [20 to 35 / **35** / 5 cpm] C1c/C1.5c: [30 to 45 / **45** / 5 cpm]
041	CPM: Medium: Plain	
042	CPM: Medium: M-Thick	
043	CPM: Medium: Thick 1	Adjusts the CPM in the CPM down mode. C1b/C1.5b: [5 to 15 / **15** / 5 cpm] C1c/C1.5c: [5 to 25 / **25** / 5 cpm]

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044	CPM: Medium: Thick 2	Adjusts the CPM in the CPM down mode. [5 to 15 / **15** / 5 cpm]
045	CPM: Medium: Thin	Adjusts the CPM in the CPM down mode. C1b/C1.5b: [20 to 35 / **35** / 5 cpm] C1c/C1.5c: [30 to 45 / **45** / 5 cpm]

1930		OnOff Time Adjust	
	001	On Time Adjust	[0 to 100 / **40** / 10 msec]
		Adjusts the Off-On interval of the transfer belt contact motor. ("On" means that the transfer belt is in contact with the drum.)	
	002	Off Time Adjust	[0 to 100 / **20** / 10 msec]
		Adjusts the On-Off interval of the transfer belt contact motor. ("Off" means that the transfer belt is away from the drum.)	

1950	Tray Lock at Jam	[0 or 1 / **0** / 1] 0= OFF, 1= ON
	Not used	

System SP Table-2

SP2-xxx: Drum

2001*	Charge Bias	
001	Setting (Copying)	[1000 to 2000 / **1500** / 10 V]
	Adjusts the voltage applied to the charge roller for copying.	
002	Setting (P Pattern)	[0 to 700 / **250** / 10 V]
	Adjusts the voltage applied to the charge roller when making the VSDP ID sensor pattern (for charge roller voltage correction). The actual charge roller voltage is this value plus the value of SP2001-1.	

2005*	Bias Control	
001	Bias Correction 1	[0.1 to 1 / **0.85** / 0.05 step]
	Adjusts the lower threshold value for the charge roller correction. When the value of VSDP/VSG is greater than this value, the charge roller voltage increases by 30 V (e.g., from −500 to −530).	
002	Bias Correction 2	[0.1 to 1 / **0.9** / 0.05 step]
	Adjusts the upper threshold value for the charge roller correction. When the value of VSDP/VSG is greater than this value, the charge roller voltage decreases by 30 V (absolute value).	
003	Bias Adjustment 1	[1000 to 2000 / **1500** / 10 vol]
	Adjusts the lower limit value for charge roller voltage correction.	
004	Bias Adjustment 2	[1000 to 2000 / **2000** / 10 vol]
	Adjusts the upper limit value for charge roller voltage correction.	
005	Bias Adjustment 3	[0 to 100 / **30** / 10 vol]
	Adjusts the correction voltage adjustment step size.	

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2102*	Magnification Adjustment		
	Main Scan		[-2 to 2 / **0** / 0.1 %]
	Adjusts the magnification in the main scan direction for copy mode and printer mode. Press "Clear/Stop" key to toggle plus or minus.		

2103*	Erase Margin Adjustment		
	Adjusts the erase margin by deleting image data at the margins. L Size: 297.1 mm or more (length) M Size: 216.1 to 297 mm (length) S Size: 216 mm or less (length)		
	001	Leading Edge	[0 to 9 / **3** / 0.1mm]
	002	Trailing Edge	
	003	Left	[0 to 9 / **2** / 0.1mm]
	004	Right	
	005	Duplex Trail.: L Size: Plain	[0 to 4 / **1** / 0.1mm]
	006	Duplex Trail.: M Size: Plain	[0 to 4 / **0.8** / 0.1mm]
	007	Duplex Trail.: S Size: Plain	[0 to 4 / **0.6** / 0.1mm]
	008	Duplex Left: Plain	[0 to 1.5 / **0.3** / 0.1mm]
	009	Duplex Right: Plain	
	010	Duplex Trail.: L Size: Thick	[0 to 4 / **0.8** / 0.1mm]
	011	Duplex Trail.: M Size: Thick	[0 to 4 / **0.6** / 0.1mm]
	012	Duplex Trail.: S Size: Thick	[0 to 4 / **0.4** / 0.1mm]
	013	Duplex Left: Thick	[0 to 1.5 / **0.1** / 0.1mm]
	014	Duplex Right: Thick	

2105*	LD Power Adjustment	
	Adjusts the LD power for each mode. Each LD power setting is decided by the process control.	

001	LD1: Copy	[–50 to 79 / **-24 (C1b/C1.5b), 5 (C1c/C1.5c)** /1]
002	LD2: Copy	
003	LD1: Printer/Fax	[–50 to 79 / **-44 (C1b/C1.5b), -25 (C1c/C1.5c)**/1]
004	LD2: Printer/Fax	

2106*		POL REV TIME (Polygon motor rotation time)	
001	PRE TIME	[0 to 60 / **10** /1 sec]	
	Adjusts the time of polygon motor rotation before a job. If this is set to "0", this SP is not activated.		
002	POST TIME	[0 to 60 / **0** /1 sec]	
	Adjusts the time of the polygon motor rotation after a job. If this is set to "0", the polygon motor never switches off in standby mode. However, if the machine enters the energy saver mode, the polygon motor will ignore the zero setting and switch itself off.		

2109		Test Pattern	
001	Pattern Selection	[0 to 24 / **0** /1] Test pattern of the GAVD	
	0: None	13: Independent Pattern (3 dot)	
	1: Vertical Line (1 dot)	14: Trimming Area	
	2: Vertical Line (2 dot)	15: Hound's Tooth Check (Vertical)	
	3: Horizontal Line (1 dot)	16: Hound's Tooth Check (Horizontal)	
	4: Horizontal Line (2 dot)	17: Black Band (Horizontal)	
	5: Grid Vertical Line	18: Black band (Vertical)	
	6: Grid Horizontal Line	19: Checker Flag Pattern	
	7: Grid pattern small	20: Grayscale (Vertical Margin)	
	8: Grid Pattern Large	21: Grayscale (Horizontal Margin)	
	9: Argyle Pattern Small	22: Two Beam Density Pattern	
	10: Argyle Pattern Large	23: Full Dot Pattern	
	11: Independent pattern (1 dot)	24:All white Pattern	
	12: Independent Pattern (2 dot)		

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002	Density	[0 to 15 / **15** / 1]
		Set the density of the test pattern which is output in SP2109-001. This SP is not used for the Grayscale patterns.

2201*	Development Bias Adjustment	
001	Development Bias	[200 to 700 / **560** / 10V]
	Adjusts the development bias for copying. Use as a temporary measure to correct faint copies from an aging drum.	
002	ID Sensor Pattern	[200 to 700 / **400** / 10V]
	Adjusts the development bias for the ID sensor pattern for VSP	

2207	Forced Toner Supply	
	Forces the toner bottle to supply toner at 1-second intervals for up to 30 seconds. To start, press ⊕.	

2208*	Toner Supply Mode	[**0**: Sensor, 1: pixel]
	Selects the toner mode. If you select "1", SP2-209-002 should be set to its default value. Use image pixel count modes only as a temporary measure if the ID or TD sensor is defective.	

2209*	Toner Supply Rate	
001	Toner Rate	[10 to 800 / **60 mg/s** / 5 mg]
	Sets the amount of toner supplied every second by the toner supply motor. The length of time the motor remains on is determined by the data read by the TD sensor and ID sensor. Increasing this value reduces the toner supply clutch on time. Use a lower value if the user tends to make lots of copies that have a high proportion of black.	
002	Correction Data	[25 to 300 / **300** / 25]
	Displays the toner supply correction coefficient (K). It can also be used to adjust K, but the value is changed again when VT is measured for the next copy. The toner supply rate depends on the amount of toner in the toner bottle. This change is corrected using this coefficient. This SP can be used to check the toner supply condition. The lower the value of K, the lower the toner density	

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2210*	P Pattern Cycle	
	Sets the interval between ID sensor pattern prints.	
001*	Job Page Count	[0 to 200 / **10** / 1 sheet]
	Sets the interval between ID sensor pattern printing. For users that do not make many copies daily, set a smaller interval to compensate for the effects of seasonal and weather changes.	
002*	Forced Page Count	[2 to 999 / **100** / 1 sheet]
	Sets the interval between ID sensor pattern printing. Forces creation of the ID sensor pattern to prevent low density copies for customers who use the copier for long copy jobs.	

2213*	Toner End Setting
	Selects the detection type for toner end. [0 to 2 / **0** / 1 step] [0: 90 copies, 1: No copies, 2: 10 copies] **⬇ Note** • 90 copies: Toner end is determined if a low density image (Vref < Vt(10)) is detected 90 times after toner near end. • If "1" is selected, the machine stops printing when the TD sensor output drops below the prescribed level. • Select 1 or 2 if the customer normally makes copies of very high density.

2220*	Vref Setting
	Adjusts the TD sensor reference voltage (Vref). Change this value after replacing the development unit with another development unit that contains toner. [1 to 5 / **4** / 0.01] 1. Check the value of SP2-220 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, and then input the VREF for this unit into SP2-220. 3. After the test, put back the old development unit, and change SP2-220 back to the original value.

4

2221*	Reverse Interval Drum, Transfer	[0 to 2000 / 0 / 100 sheets]
	Adjusts the threshold for the reverse rotation of the drum and development/transfer motors. This helps the drum and transfer belt cleaning operations. This reverse rotation will interrupt a multiple printing job.	

2223*	Vt Display	
001	Current	[0 to 5 / 4 / 0.01]
	Displays the TD sensor output voltage for the immediately previous copy.	
002	Average 10 copies	[0 to 5 / 4 / 0.01]
	Displays the average of the most recent TD sensor outputs (from the previous 10 copies).	
003	Rate of Change	[-10000 to 10000 / 0 / 1]
	Displays the rate of change in the TD sensor output.	
004	GAIN	[0 to 255 / 0 / 1]
	Displays the GAIN value used to calculate the on time for the toner supply motor.	
005	Image Pixel Count	[0 to 255 / 0 / 1]
	Displays the image pixel count.	

2228*	Developer Lot	
	Displays the lot number of the developer. (The lot number is embossed on the top edge of the developer pack.)	

2301*	Transfer Current Adjustment	
	If the transfer current of image area is set highly than normal, the print image is easily come out. If the leading transfer current is set as same, the black line is come out due to exfoliation leave.	
001	Image Area: 1st Side	[10 to 100 / 45 / 1μA]
	Adjusts the transfer current for printing the first side of the paper	
002	Image Area: 2nd Side	[10 to 100 / 40 / 1μA]
	Adjusts the transfer current for printing the second side of the paper	

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003	Leading Edge: 1st Side	[10 to 100 / **20** / 1μA]	
	Adjusts the transfer current for copying at leading edge the first side of the paper. Increase the current to separate the paper from the drum properly in high humidity and high temperature conditions.		
004	Leading Edge: 2nd Side	[10 to 100 / **20** / 1μA]	
	Adjusts the transfer current for copying at leading edge the second side of the paper. Increase the current to separate the paper from the drum properly in high humidity and high temperature conditions.		
005	By-pass: Image Area	[10 to 100 / **45** / 1μA]	
	Adjusts the transfer current for copying from the by-pass tray. If the user normally feeds thicker paper from the bypass tray, use a higher setting.		
006	By-pass: Leading Edge	[10 to 100 / **20** / 1μA]	
	Adjusts the transfer current for copying at the leading edge of paper fed from the by-pass tray. Increase the current to separate the paper from the drum properly in high humidity and high temperature conditions.		
008	No Image Area	[10 to 100 / **15** / 1μA]	
	Adjusts the transfer current for copying.		

2309*	Current: Paper Size Correction	
001	Paper Lower Width (a)	[1 to 150 / **150** / 1 mm]
	Adjusts the lower paper width threshold for the transfer current, charge voltage, and development bias corrections. Use this SP when an image problem (e.g., insufficient toner transfer) occurs with a small width paper. If the paper width is smaller than this value, the transfer current will be multiplied by the factor in SP2-309-3 (paper tray) or SP2-309-5 (by-pass).	
002	Paper Upper Width (b)	[151 to 296 / **216** / 1 mm]
	Adjusts the upper paper width threshold for the transfer current, charge voltage, and development bias corrections. As for SP2-309-1, but the factors are in SP2-309-4 (paper tray) and SP2-309-6 (by-pass).	

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003	Paper Tray: Plain (alpha)	[1 to 3 / 1 / 0.1]	
	Adjusts the transfer current correction coefficient used if the paper width is less than the setting of SP2-309-1.		
004	Paper Tray: Plain (beta)	[1 to 3 / 1 / 0.1]	
	Adjusts the transfer current correction coefficient used if the paper width is less than the setting of SP2-309-2.		
005	By-pass: Plain (gamma)	[1 to 3 / 1.1 / 0.1]	
	Adjusts the transfer current correction coefficient used if the paper width is less than the setting of SP2-309-1.		
006	By-pass: Plain (delta)	[1 to 3 / 1.1 / 0.1]	
	Adjusts the transfer current correction coefficient used if the paper width is less than the setting of SP2-309-2.		
007	Paper Tray: Thick 1 (alpha)	[1 to 3 / 1 / 0.1]	
008	Paper Tray: Thick 1 (beta)		
009	By-pass: Thick 1 (gamma)	[1 to 3 / 1.1 / 0.1]	
010	By-pass: Thick 1 (delta)		
011	Paper Tray: Thick 2 (alpha)	[1 to 3 / 1.1 / 0.1]	
012	Paper Tray: Thick 2 (beta)		
013	By-pass: Thick 2 (gamma)	[1 to 3 / 1.5 / 0.1]	
014	By-pass: Thick 2 (delta)		
015	Paper Tray: M-Thick (alpha)	[1 to 3 / 1 / 0.1]	
016	Paper Tray: M-Thick (beta)		
017	By-pass: M-Thick (gamma)	[1 to 3 / 1.1 / 0.1]	
018	By-pass: M-Thick (delta)		
019	Paper Tray: Thin (alpha)	[1 to 3 / 1 / 0.1]	
020	Paper Tray: Thin (beta)		

021	By-pass: Thin (gamma)	[1 to 3 / **1.1** / 0.1]
022	By-pass: Thin (delta)	
023	Paper Tray: Special 1 (alpha)	[1 to 3 / **1** / 0.1]
024	Paper Tray: Special 1 (beta)	
025	By-pass: Special 1 (gamma)	[1 to 3 / **1.1** / 0.1]
026	By-pass: Special 1 (delta)	
027	Paper Tray: Special 2 (alpha)	[1 to 3 / **1** / 0.1]
028	Paper Tray: Special 2 (beta)	
029	By-pass: Special 2 (gamma)	[1 to 3 / **1.1** / 0.1]
030	By-pass: Special 2 (delta)	
031	Paper Tray: Special 3 (alpha)	[1 to 3 / **1** / 0.1]
032	Paper Tray: Special 3 (beta)	
033	By-pass: Special 3 (gamma)	[1 to 3 / **1.1** / 0.1]
034	By-pass: Special 3 (delta)	

2801*	TD Sensor Initial Setting	Initialization
	Performs the TD sensor initial setting and allows the service technician to enter the lot number of the developer. (The lot number is embossed on the edge of the developer package.) This SP mode controls the voltage applied to the TD sensor to make the TD sensor output about 3.0 V. Press "Execute" to start. After finishing this, the TD sensor output voltage is displayed.	
	Use this mode only after installing the machine, changing the TD sensor, or adding new developer.	

2802*	TD Sensor Manual Setting
	Allows you to adjust the TD sensor output manually for the following.

105

001	VTS	[1 to 5 / **4.78** / 0.01vol]
	Adjusts the TD sensor output (VT). 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. To adjust VT, use a similar procedure as for SP2-220.	
002	VTMAX	[1 to 5 / **4.78** / 0.01vol]
	Adjusts the maximum value for SP2802 1.	
003	VTMIN	[1 to 5 / **1** / 0.01vol]
	Adjusts the minimum value for SP2802 1.	

2805*****	Process Setting
	Performs the developer initialization. Press "Execute" to start. This SP should be performed after doing SP2801 at installation and after replacing the drum.

2810	Grayscale Setting
	Initializes the LD power setting. This SP should be done after replacing the drum.

2812*****	Drum Reverse Rotation **(SSP)**	
001	Reverse time	[0 to 9 / **4** / 1]
	Sets the reverse time of the drum motor after the end of a job.	
002	Interval time	[0 to 19 / **9** /1]
	Sets the waiting time of the drum motor reverse after the end of a job.	

2912*	Transfer Reverse Rotation	
002	Interval	[0 to 10 / **3** / 1]
	Sets the reverse time of the transfer/development motor after the end of a job.	

2914*****	Paper Setting

001	C-alpha	[0 to 400 / **150** / 10vol]
	Adjusts the charge roller voltage used when paper with a small width is fed from the by-pass tray. The paper width below which the correction starts depends on the value of SP2-309-1. Use this SP when an image problem (such as white spots at the center of black dots or breaks in thin black lines) occurs when paper with a small width is fed from the by-pass feed tray.	
002	C-beta	[0 to 400 / **0** / 10vol]
	Adjusts the charge roller voltage used when paper with a small width is fed from the by-pass tray. The paper width below which the correction starts depends on the value of SP2-309-2. Use this SP when an image problem (see 2-914-1) occurs when paper with a small width is fed from the by-pass feed tray.	
003	B-gamma	[0 to 300 / **200** / 10vol]
	Adjusts the development bias used when paper with a small width is fed from the by-pass tray. The paper width below which the correction starts depends on the value of SP2-309-1. Use this SP when an image problem (see 2-914-1) occurs when paper with a small width is fed from the by-pass feed tray.	
004	B-delta	[0 to 300 / **50** / 10vol]
	Adjusts the development bias used when paper with a small width is fed from the by-pass tray. The paper width below which the correction starts depends on the value of SP2-309-2. Use this SP when an image problem (see 2-914-1) occurs when paper with a small width is fed from the by-pass feed tray.	

2960*	Toner Overflow Sensor	[0 = No, **1**= Yes]
	Selects whether or not the toner overflow sensor is activated.	

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2964*	Transfer Cleaning Blade Forming **(SSP)**	
	Applies a pattern of toner to the transfer belt at a defined interval between sheets on the transfer belt in order to reduce friction between the belt surface and the cleaning blade.	
	Under conditions of high temperature and high humidity, the density control feature may reduce the amount of toner, which also reduces the amount of toner on the surface of the transfer belt. With less toner on the belt, the friction between the belt and the blade increases, and could cause the blade to bend or scour the surface of the belt.	
001	0: OFF, 1: ON	[0 to 1 / **0** / 1]
002	Pattern Interval	[1 to 100 / **15** / 1 sheet]
003	Pattern Number	[1 to 3 / **1** / 1 line]
004	Pattern LD Power	[0 to 15 / **2** / 1]

2972*	Grayscale Limit **(SSP)**	
	Controls the halftone density level to prevent deterioration of the OPC. The halftone density is detected by the ID sensor, and the machine adjusts the intensity of the LD beam according to the upper/lower limit setting.	
001	Upper Limit	[0 to 100 / **58 (C1b/C1.5b), 63 (C1c/C1.5c)**/ 1vol]
	Defines the upper limit for grayscale. A larger value allows a wider range of halftones at the pale end of the scale. If the image contains pale areas with fuzzy borders surrounded by dark areas, reduce this value to make the borders clearer.	
002	Lower Limit	[0 to 100 / **52 (C1b/C1.5b), 57 (C1c/C1.5c)** / 1vol]
	Defines the lower limit for grayscale. A smaller value allows a wider range of halftones at the dark end of the scale.	

2973*	Grayscale Cycle **(SSP)**	[0 to 1000 / **100** / 10 sheets]
	Set s the halftone operation interval in order to prevent deterioration of the OPC. If the number of copies exceeds this setting, at the end of the job, or if the door is opened and closed, charge correction is executed.	

2974*	Image Density	

001	Adjustment Mode	[1 to 5 / **3** / 1]
	Adjusts image density. Changing this setting adjusts development bias and ID sensor output voltage that in turn raises or lowers image density.	

2975*	Near End Setting	
	Detection Time	[0 to 2000 / **0** / 10 sec]
	Sets a time for toner supply motor rotation for issuing the toner near end warning on the operation panel. The time may need to be shorter for customers who run especially large print jobs (working at night, for example) to ensure earlier warning of the toner near end condition so toner out does not interrupt a long job.	

2976*	Bottle Motor Time	
	Displays the total ON time of the toner supply motor, calculated from when the toner bottle was replaced. Use this to check that the toner end count (SP2975) is working properly.	
	When SP2975 is set to any value other than "0", this value is displayed when it matches the setting of SP2975. When SP2975 is set to "0", SP2976 is disabled. SP2976 is automatically set to zero by toner end recovery.)	
	Time	[0 to 7,000,000 / **0** / 1 msec]

2977*	Toner End Status	
	Indicates the toner near end or end condition.	
001	Near End	[0 to 10 / **0** / 1] 0: Not detected 1: Detected by SP2975-001 2: Vt (10) - Vref > 0.2 and Vsp > 0.6 3: Vt (10) - Vref > 0.45 4: 0.45 > Vt (10) - Vref > 0.2 and toner end counter > 300 5 to 10: Not used

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002	End	[0 to 10 / **0** / 1] 0: Not detected 1: Vsp > 2.0 2: Toner end counter > 90 when SP2213-001 is set to "0". 3: Toner end counter < 90 and Vt (10) > (Vref + 0.3) when SP2213-001 is set to "0". 4: When SP2213-001 is set to "2" 5: Vsp > 0.9 when SP2213-001 is set to "2" 6: Special order 7 to 10: Not used

2980*	Charge Counter	[0 to 1000000 / **0** / 1 sheets]
	Set the number of pages to print after toner and carrier initialization before the charge input is increased to compensate for deterioration over time in the polarity of the carrier. The strength in the polarity of the carrier in the toner will eventually decrease and cause lower charge output. Setting the charge output to increase after a specified number of copies can compensate for this effect.	

System SP Table-3

SP3-xxx: Process

3001*	P Sensor Setting	
001	Current	[0 to 43 / **13** / 0.1 mA]
	Allows you to reset the PWM of the ID sensor LED to avoid a service call error after clearing NVRAM or replacing the NVRAM. The PWM data is stored by executing SP-3001-2.	
002	ID Initialization	-
	Performs the ID sensor initial setting. ID sensor output for the bare drum (VSG) is adjusted automatically to 4.0 ±0.2 V. Press "Execute" to start. Perform this setting after replacing or cleaning the ID sensor, replacing the drum, or clearing NVRAM.	

3045*	Toner End Setting, ON/OFF	**DFU**
	[0 to 1 / **0** / 1] 0=Off, 1=On	

3103*	P Sensor Output	
	Displays the current VSG, VSP, VSDP, and grayscale control. If the P sensor does not detect the P pattern, "VSP = 5.0 V/VSG = 5.0 V" is displayed and an SC code is generated. If the P sensor does not detect the bare area of the drum, "VSP = 0.0 V/VSG =0.0 V" is displayed and an SC code is generated.	
001	Vsg	[0 to 5 / **0** / 0.1]
002	Vsp	[0 to 5 / **0** / 0.1]
003	Vsdp	[0 to 5 / **0** / 0.1]
004	Vsm/Vsg	[0 to 5 / **0** / 0.1]

3902*	New PCU Detection **(Not used)**

001	On/OFF Setting	[0 to 1 / **0** / 1] 0: On, 1: Off
	Turns on or off the new unit detection for the transfer belt unit and fusing unit.	

3905*	Hot Roller Stripper Cleaning	
	"Cleaning A": 15 sec. off/on cycle for the fusing motor. "Cleaning B": Off (45 sec.) and On (15 sec.) cycle for the fusing motor.	
001	1st Cleaning: Interval	
	Sets the threshold for the 1st cleaning mode. "Cleaning A" is done once. [0 to 5 / **5** / 1 sheets]	
002	1st Cleaning: Mode Setting	
	Sets the number of additional execution times of the 1st cleaning mode. [0 to 5 / **0** / 1 times]	
003	2nd Cleaning: Interval	
	Sets the threshold for the 2nd cleaning mode. "Cleaning A" is done twice. [6 to 49 / **30** / 1 sheets]	
004	2nd Cleaning: Mode Setting	
	Sets the number of additional execution times of the 2nd cleaning mode. [0 to 5 / **0** / 1 times]	
005	3rd Cleaning: Interval	
	Sets the threshold for the 3rd cleaning mode. "Cleaning A" is done twice and "Cleaning B" is done "N" times. "N" is specified with SP3905-006. [50 to 999 / **100** / 1 sheets]	

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006	3rd Cleaning: Mode Setting
	Sets the number of execution times of the 3rd cleaning mode. [0 to 5 / **0** / 1 times] ⬇**Note** • All fans remain on during cleaning and then switch off 60sec after the cleaning cycle ends.
007	Cleaning Priority Setting
	[0 to 1 / **0** / 1 sheets] 0: Priority to printing (No job interruption) 1: Priority to cleaning (Job interruption)

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System SP Table-4

SP4-xxx: Scanner

4008*	Scanner Sub Scan Magnification ADJ
	Adjusts the magnification of the sub scan direction during scanning. Changing this value changes the scanner motor speed. Press ⟳ to toggle ±. [−1 to 1 / **0** / 0.1%]

4010*	Scanner Leading Edge Registration ADJ
	Adjusts the leading edge registration for scanning. Press ⟳ to toggle ±. [−2 to 2 / **0** / 0.1 mm] As you enter a negative value, the image moves toward the leading edge.

4011*	Scanner Side-to-Side Registration ADJ
	Adjusts side-to-side registration for scanning. Press ⟳ to toggle ±. CS: [−2.5 to 2.5 / **0** / 0.1 mm] MS: [−4.2 to 4.2 / **0** / 0.1 mm] As you enter negative values, the image will disappear at the left, and as you enter positive values, the image will appear at the left.

4012*		Scanner Erase Margin: Scale
		Adjusts scanning margins for the leading and trailing edges (sub scan) and right and left edge (main scan). ⬇ **Note** • Do not adjust unless the customer desires a scanner margin greater than the printer margin. • These settings are adjusted to erase shadows caused by the gap between the original and the scale of the scanner unit.
	001	Book: Leading Edge	[0 to 3 / **1** / 0.1 mm]
	002	Book: Trailing Edge	[0 to 3 / **0** / 0.1 mm]
	003	Book: Left	[0 to 3 / **1** / 0.1 mm]

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	004	Book: Right	[0 to 3 / **0** / 0.1 mm]
	005	ADF: Leading Edge	[0 to 3 / **0** / 0.1 mm]
	007	ADF: Right	[0 to 3 / **0** / 0.1 mm]
	008	ADF: Left	[0 to 3 / **0** / 0.1 mm]

4013		Scanner Free Run	
		Performs a scanner free run with the exposure lamp on or off.	
	001	Lamp: ON	[0 to 1 / **0** / 1]
	002	Lamp: OFF	0=Off, 1=On

4014		Scanner Free Run	
	001	HP Detection Enable	Scanner free run with HP sensor check.
	002	HP Detection Disable	Scanner free run without HP sensor check.

4020*		ADF Scan Glass Dust Check	
		This function checks the narrow scanning glass of the ADF for dust that can cause black lines in copies. If dust is detected a system banner message is displayed, but processing does not stop.
		Check On/Off Change
	001	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 SP4020-2. [0 to 1 / **0** / 1] 0: Off. No dust warning. 1: On. Dust warning. This warning does not stop the job. **↓Note** • Before switching this setting on, clean the ADF scanning glass and the white plate above the scanning glass.

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002	Detect Level
	Adjusts the sensitivity for dust detection on the ADF scanning glass. This SP is available only after SP4020-1 is switched on. [0 to 8 / **4** / 1] 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 not black streaks in copies, lower the setting. 🔽Note • 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	Correction Level
	Selects the level of the sub scan line correction when using the ARDF. [0 to 4 / **0** / 1] 0: OFF, 1: Weakest, 2: Weak, 3: Strong, 4: Strongest

4301	APS Sensor Output Display
	Displays a code that represents the original size detected by the original sensors. (☞ p.271 "Input Check")

4303*	APS A5/LT Size Detection
	Determines whether an original of non-standard size is detected as A5/HLT size by the APS sensor. **0**: No original 1: A5/HLT- lengthwise (SEF) 2:A5/HLT - Sideways (LEF) If "0" is selected, "Cannot detect original size" will be displayed.

4305	Original Size Detection
	[0 to 3 / **0** / 1 step] 0: Normal Detection (the machine detects A4/LT size as A4 or LT, depending on the paper size setting) 1: A4-sideways LT-Lengthwise 2: LT-sideways A4-Lenghtwise 3: 8K 16K

4400*		Scanner Erase Margin
		These SPs set the area to be masked during platen (book) mode scanning.
	001	Book: Leading Edge	[0 to 3 / **0** / 0.1 mm]
	002	Book: Trailing Edge	
	003	Book: Left	
	004	Book: Right	
	005	ADF: Leading Edge	[0 to 3 / **2** / 0.1 mm]
	007	ADF: Right	[0 to 3 / **0** / 0.1 mm]
	008	ADF: Left	

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4417	IPU Test Pattern		
	Selects the IPU test Pattern.		
	Test Pattern Selection	[0 to 28 / **0** / 1]	
		0: Scanned image	15: Gray pattern (1)
		1: Gradation main scan A	16: Gray pattern (2)
		2: Gradation main scan B	17: Gray pattern (3)
		3: Gradation main scan C	18: Shading pattern
		4: Gradation main scan D	19: Thin line pattern
		5: Gradation sub scan (1)	20: Scanned + Grid pattern
		6: Grid pattern	21: Scanned + Grid scale
		7: Slant grid pattern	22: Scanned + Color patch
		8: Gradation K	23: Scanned + Slant Grid C
		9: Check pattern 16	24: Scanned + Slant Grid D
		10: Gray patch 16 (1)	25: Gray Scale 18 text
		11: Gray patch 16 (2)	26: Gray Scale 18 photo
		12: Gray patch 64	27: Gray Scale 256 text
		13: Grid pattern (2)	28: Gray Scale 256 photo
		14: Color patch K	

4429*	ICI Output Selection	
001	Copy	Adjusts the density of the embedded message with the copy data security unit.
002	Scanner	[0 to 3 / **3** / 1]
003	Fax	3: Darkest density

4450*	Scan Image Path Selection

001	Black Reduction ON/OFF	[0 to 1 / **1** / 1] 0=OFF, 1=ON
	Uses or does not use the black reduction image path.	
002	SH ON/OFF	[0 to 1 / **0** / 1] 0=OFF, 1=ON
	Uses or does not use the shading image path.	

4460*	Digital AE Setting	
	Specifies the level of deleting the background in the ADS mode. You can adjust its level for each scanning method (platen, ADF).	
001	Lower Limit	CS: [0 to 1020 / **364** / 4 digit] MS: [0 to 1020 / **408** / 4 digit]
002	Background Level	[512 to 1535 / **972** / 1 digit]

4540*	Printer Vector Correction	
	This SP corrects the printer coverage of 12 hues (RY, YR, YG, etc. x 4 Colors [R, G, B, Option]) for a total of 48 parameters.	
001-004	RY Phase: Option/R/G/B	
005-008	YR Phase: Option/R/G/B	
009-012	YG Phase: Option/R/G/B	
013-016	GY Phase: Option/R/G/B	
017-020	GC Phase: Option/R/G/B	
021-024	CG Phase: Option/R/G/B	Specifies the printer vector correction value.
025-028	CB Phase: Option/R/G/B	[0 to 255 / **0** / 1]
029-032	BC Phase: Option/R/G/B	
033-036	BM Phase: Option/R/G/B	
037-040	MB Phase: Option/R/G/B	
041-040	MR Phase: Option/R/G/B	
045-048	RM Phase: Option/R/G/B	

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4550*	Scanner: Text/Chart	
4551*	Scanner: Text	
4552*	Scanner: Text (Dropout Color)	
4553*	Scanner: Text/photo	
4554*	Scanner: Photo	
4565*	Scanner: Gray Scale	
4570*	Scanner: Color: Text/Photo	
4571*	Scanner: Color: Photo	
4572*	Scanner: Color: Auto Color	
-005	MTF: 0(Off), 1-15(High)	[0 to 15 / **8** / 1] 0: MTF OFF
	Sets the MTF level (Modulation Transfer Function) designed to improve image contrast. Set higher for stronger effect, lower for weaker effect.	
-006	Smoothing: 0(x1), 1-7(High)	[0 to 7 / **4** / 1]
	Use to remove "jaggies" if they appear. Set higher for smoother images.	
-007	Brightness: 1-255	[1 to 255 / **128** / 1]
	Set higher for darker, set lower for lighter.	
-008	Contrast: 1-255	[1 to 255 / **128** / 1]
	Set higher for more contrast, set lower for less contrast.	
-009	Ind. Dot Erase: 0(x1), 1-7(High)	[0 to 7 / **0** / 1]
	Sets the erasure level of Irregular Dots. Set higher for stronger effect, lower for weaker effect. 0: Not activated	

4580*	Fax: Text/Chart
4581*	Fax: Text
4582*	Fax: Text/Photo

4583*	Fax: /Photo	
4584*	Fax: Original 1	
4585*	Fax: Original 2	
-005	MTF: 0(Off), 1-15(High)	[0 to 15 / **8** / 1] 0: MTF OFF
	Sets the MTF level (Modulation Transfer Function) designed to improve image contrast. Set higher for stronger effect, lower for weaker effect.	
-006	Smoothing: 0(x1), 1-7(High)	[0 to 7 / **4** / 1]
	Use to remove "jaggies" if they appear. Set higher for smoother images.	
-007	Brightness: 1-255	[1 to 255 / **128** / 1]
	Set higher for darker, set lower for lighter.	
-008	Contrast: 1-255	[1 to 255 / **128** / 1]
	Set higher for more contrast, set lower for less contrast.	
-009	Ind. Dot Erase: 0(x1), 1-7(High)	[0 to 7 / **0** / 1]
	Sets the erasure level of Irregular Dots. Set higher for stronger effect, lower for weaker effect. 0: Not activated	

4600	SBU Version
	Displays the ID of the SBU.

4602		Scanner Memory Access	
	001	Scanner Memory Access	Enables the read and write check for the SBU registers.
	002	Address Setting	Not used
	003	Data Setting	

4603		AGC Execution	
	002	HP Detection Enable	Executes the AGC with the scanner detection.

003	HP Detection Disable	Executes the AGC with the scanner detection.

4604	FGATE Open/Close
	Opens or closes the FGATE signal. This SP automatically returns to the default status (close) after exiting this SP. [0 to 1 / **0** / 1] 0: OFF, 1: ON

4606	White Balance Target: R
	This value is the target value of red for the white level adjustment (CS model only). [0 to 1023 / **784** / 1 digit]

4607		White Balance Target: G
	001	This value is the target value of green for the white level adjustment. CS: [1023 to 0 / **784** / 1 digit] MS: [1023 to 1 / **876** / 1 digit]

4608	White Balance Target: B **(CS model only)**
	This value is the target value of blue for the white level adjustment. [1023 to 0 / **784** / 1 digit]

4623		Black Level Rough/Fine Adj. Display **(CS model only)**	
	001	Latest: RE Color	[0 to 255 / **128** / 1 digit]
		Displays the black offset value (rough adjustment) for the even green signal in the SBU (color printing speed).	
	002	Latest: RO Color	[0 to 255 / **128** / 1 digit]
		Displays the black offset value (rough adjustment) for the odd green signal in the SBU (color printing speed).	
	003	Latest: RE Color	[0 to 255 / **128** / 1 digit]
		Displays the black offset value (fine adjustment) for the even green signal in the SBU (color printing speed).	

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004	Latest: RO Color	[0 to 255 / **128** / 1 digit]
	Displays the black offset value (fine adjustment) for the odd green signal in the SBU (color printing speed).	
005	Latest: RE B/W	[0 to 255 / **128** / 1 digit]
	Displays the black offset value (rough adjustment) for the even red signal in the SBU (black and white printing speed).	
006	Latest: RO B/W	[0 to 255 / **128** / 1 digit]
	Displays the black offset value (rough adjustment) for the odd red signal in the SBU (black and white printing speed).	
007	Latest: RE B/W	[0 to 255 / **128** / 1 digit]
	Displays the black offset value (fine adjustment) for the even red signal in the SBU (black and white printing speed).	
008	Latest: RO B/W	[0 to 255 / **128** / 1 digit]
	Displays the black offset value (fine adjustment) for the odd red signal in the SBU (black and white printing speed).	

⏺ **Note**

- RE: Red Even signal, RO: Red Odd signal

4624	Black Level Rough/Fine Adj. Display **(CS model only)**
001	Latest: GE Color
	[0 to 255 / **128** / 1 digit] Displays the black offset value (rough adjustment) for the even green signal in the SBU (color printing speed).
002	Latest: GO Color
	[0 to 255 / **128** / 1 digit] Displays the black offset value (rough adjustment) for the odd green signal in the SBU (color printing speed).

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003	Latest: GE Color	
	[0 to 255 / **128** / 1 digit]	
	Displays the black offset value (fine adjustment) for the even green signal in the SBU (color printing speed).	
004	Latest: GO Color	
	[0 to 255 / **128** / 1 digit]	
	Displays the black offset value (fine adjustment) for the odd green signal in the SBU (color printing speed).	
005	Latest: GE B/W	
	[0 to 255 / **128** / 1 digit]	
	Displays the black offset value (rough adjustment) for the even green signal in the SBU (black and white printing speed).	
006	Latest: GO B/W	
	[0 to 255 / **128** / 1 digit]	
	Displays the black offset value (rough adjustment) for the odd green signal in the SBU (black and white printing speed).	
007	Latest: GE B/W	
	[0 to 255 / **128** / 1 digit]	
	Displays the black offset value (fine adjustment) for the even red signal in the SBU (black and white printing speed).	
008	Latest: GO B/W	
	[0 to 255 / **128** / 1 digit]	
	Displays the black offset value (fine adjustment) for the odd green signal in the SBU (black and white printing speed).	

◆ Note

• GE: Green Even signal, GO: Green Odd signal

4625	Black Level Rough/Fine Adj. Display **(CS model only)**

001	Latest: BE Color	
	[0 to 255 / **128** / 1 digit]	
	Displays the black offset value (rough adjustment) for the even blue signal in the SBU (color printing speed).	
002	Latest: BO Color	
	[0 to 255 / **128** / 1 digit]	
	Displays the black offset value (rough adjustment) for the odd blue signal in the SBU (color printing speed).	
003	Latest: BE Color	
	[0 to 255 / **128** / 1 digit]	
	Displays the black offset value (fine adjustment) for the even blue signal in the SBU (color printing speed).	
004	Latest: BO Color	
	[0 to 255 / **128** / 1 digit]	
	Displays the black offset value (fine adjustment) for the odd blue signal in the SBU (color printing speed).	
005	Latest: BE B/W	
	[0 to 255 / **128** / 1 digit]	
	Displays the black offset value (rough adjustment) for the even blue signal in the SBU (black and white printing speed).	
006	Latest: BO B/W	
	[0 to 255 / **128** / 1 digit]	
	Displays the black offset value (rough adjustment) for the odd blue signal in the SBU (black and white printing speed).	
007	Latest: BE B/W	
	[0 to 255 / **128** / 1 digit]	
	Displays the black offset value (fine adjustment) for the even blue signal in the SBU (black and white printing speed).	

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008	Latest: BO B/W
	[0 to 255 / **128** / 1 digit]
	Displays the black offset value (fine adjustment) for the odd blue signal in the SBU (black and white printing speed).

↓Note

- BE: Blue Even signal, BO: Blue Odd signal

4628	Gain Adjustment Display **(CS model only)**	
	Displays the gain value of the amplifiers on the controller for Red. Only for the color scanner	
001	Latest: RE Color	
002	Latest: RO Color	[0 to 255 / **0** / 1 digit]
003	Latest: RE B/W	
004	Latest: RO B/W	

4629	Gain Adjustment Display	
	Displays the gain value of the amplifiers on the controller for Green. SP4629-003 and -004 are used only for the color scanner model.	
001	Latest: GE Color	
002	Latest: GO Color	[0 to 255 / **0** / 1 digit]
003	Latest: GE B/W	
004	Latest: GO B/W	

4630	Gain Adjustment Display **(CS model only)**
	Displays the gain value of the amplifiers on the controller for Blue.

	001	Latest: BE Color	[0 to 255 / **0** / 1 digit]
	002	Latest: BO Color	
	003	Latest: BE B/W	
	004	Latest: BO B/W	

4640	SBU: Black Level Loop **(CS model only)**	
	Displays the black level adjustment time for each mode. The black level adjustment is done twice. The 1st adjustment decides the reference value for the 2nd adjustment.	
	001	Loop Count (1st): Color	[0 to 20 / **0** / 1]
	002	Loop Count (1st): B/W	
	003	Loop Count (2nd): Color	
	004	Loop Count (2nd): B/W	

4641	SBU: White Level Loop	
	Displays the white level adjustment time for each mode.	
	001	Loop Count: Color	[0 to 20 / **0** / 1]
	002	Loop Count: B/W	

4646	SBU: Time-out Error	
	Displays the result of the AGC adjustment.	
	001	Black Level Adjustment 1	[0 to 1 / **0** / 1] 0:OK, 1: AGC adjustment failure
	002	Black Level Adjustment 2	

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003	White Level Adjustment	[0 x 0000 to 0 x 003F / **0** / 1 Hex]
	Bit 0: Gain adjustment error (even)	
	Bit 1: Gain adjustment error (odd)	
	Bit 2: White level error (RE)	
	Bit 3: White level error (RO)	
	Bit 4: White level error (BE)	
	Bit 5: White level error (BO)	

4647	SBU Error	
	Displays the result of the SBU connection check.	
	Power-On	[0 to 1 / **0** / 1] 0: OK, 1: SBU connection check failure If the SBU connection check fails, SC144-001, -002 or -003 occurs.

4654*	Black Level 1: Rough/Fine Adj. Display **(CS model only)**
001	Previous: RE Color
	[0 to 255 / **112** / 1 digit] Displays the previous black offset value (rough adjustment) for the even red signal in the SBU (color printing speed).
002	Previous: RO Color
	[0 to 255 / **112** / 1 digit] Displays the previous black offset value (rough adjustment) for the odd red signal in the SBU (color printing speed).
003	Previous: RE Color
	[0 to 255 / **128** / 1 digit] Displays the previous black offset value (fine adjustment) for the even red signal in the SBU (color printing speed).

004	Previous: RO Color
	[0 to 255 / **128** / 1 digit]
	Displays the previous black offset value (fine adjustment) for the odd red signal in the SBU (color printing speed).
005	Previous: RE B/W
	[0 to 255 / **112** / 1 digit]
	Displays the previous black offset value (rough adjustment) for the even red signal in the SBU (black and white printing speed).
006	Previous: RO B/W
	[0 to 255 / **112** / 1 digit]
	Displays the previous black offset value (rough adjustment) for the odd red signal in the SBU (black and white printing speed).
007	Previous: RE B/W
	[0 to 255 / **128** / 1 digit]
	Displays the previous black offset value (fine adjustment) for the even red signal in the SBU (black and white printing speed).
008	Previous: RO B/W
	[0 to 255 / **128** / 1 digit]
	Displays the previous black offset value (fine adjustment) for the odd red signal in the SBU (black and white printing speed).

Note

• RE: Red Even signal, RO: Red Odd signal

4655*	Black Level 1: Rough/Fine Adj. Display **(CS model only)**
001	Previous: GE Color
	[0 to 255 / **112** / 1 digit]
	Displays the previous black offset value (rough adjustment) for the even green signal in the SBU (color printing speed).

002	Previous: GO Color
	[0 to 255 / **112** / 1 digit]
	Displays the previous black offset value (rough adjustment) for the odd green signal in the SBU (color printing speed).
003	Previous: GE Color
	[0 to 255 / **128** / 1 digit]
	Displays the previous black offset value (fine adjustment) for the even green signal in the SBU (color printing speed).
004	Previous: GO Color
	[0 to 255 / **128** / 1 digit]
	Displays the previous black offset value (fine adjustment) for the odd green signal in the SBU (color printing speed).
005	Previous: GE B/W
	[0 to 255 / **112** / 1 digit]
	Displays the previous black offset value (rough adjustment) for the even green signal in the SBU (black and white printing speed).
006	Previous: GO B/W
	[0 to 255 / **112** / 1 digit]
	Displays the previous black offset value (rough adjustment) for the odd green signal in the SBU (black and white printing speed).
007	Previous: GE B/W
	[0 to 255 / **128** / 1 digit]
	Displays the previous black offset value (fine adjustment) for the even green signal in the SBU (black and white printing speed).
008	Previous: GO B/W
	[0 to 255 / **128** / 1 digit]
	Displays the previous black offset value (fine adjustment) for the odd green signal in the SBU (black and white printing speed).

🔽 **Note**

- GE: Green Even signal, GO: Green Odd signal

4656*	Black Level 1: Rough/Fine Adj. Display **(CS model only)**
001	Previous: BE Color
	[0 to 255 / **112** / 1 digit]
	Displays the previous black offset value (rough adjustment) for the even blue signal in the SBU (color printing speed).
002	Previous: BO Color
	[0 to 255 / **112** / 1 digit]
	Displays the previous black offset value (rough adjustment) for the odd blue signal in the SBU (color printing speed).
003	Previous: BE Color
	[0 to 255 / **128** / 1 digit]
	Displays the previous black offset value (fine adjustment) for the even blue signal in the SBU (color printing speed).
004	Previous: BO Color
	[0 to 255 / **128** / 1 digit]
	Displays the previous black offset value (fine adjustment) for the odd blue signal in the SBU (color printing speed).
005	Previous: BE B/W
	[0 to 255 / **112** / 1 digit]
	Displays the previous black offset value (rough adjustment) for the even blue signal in the SBU (black and white printing speed).
006	Previous: BO B/W
	[0 to 255 / **112** / 1 digit]
	Displays the previous black offset value (rough adjustment) for the odd blue signal in the SBU (black and white printing speed).
007	Previous: BE B/W
	[0 to 255 / **128** / 1 digit]
	Displays the previous black offset value (fine adjustment) for the even blue signal in the SBU (black and white printing speed).

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008	Previous: BO B/W
	[0 to 255 / **128** / 1 digit] Displays the previous black offset value (fine adjustment) for the odd blue signal in the SBU (black and white printing speed).

↓Note

- BE: Blue Even signal, BO: Blue Odd signal

4658	Gain Adjustment Display **(CS model only)**	
	Displays the previous gain value of the amplifiers on the controller for Red.	
001	Previous: RE Color	[0 255 / **64** / 1 digit]
002	Previous: RO Color	
003	Previous: RE B/W	
004	Previous: RO B/W	

4659	Gain Adjustment Display	
	Displays the previous gain value of the amplifiers on the controller for Green. SP4659-003 and -004 are used only for the color scanner model.	
001	Previous: GE Color	[0 255 / **64** / 1 digit]
002	Previous: GO Color	
003	Previous: GE B/W	
004	Previous: GO B/W	

4660	Gain Adjustment Display **(CS model only)**	
	Displays the previous gain value of the amplifiers on the controller for Blue.	
001	Previous: BE Color	[0 255 / **64** / 1 digit]
002	Previous: BO Color	
003	Previous: BE B/W	
004	Previous: BO B/W	

4661*	Black Level 2: Rough/Fine Adj. Display **(CS model only)**
001	Before Previous: RE Color
	[0 to 255 / **112** / 1 digit] Displays the previous 2nd black offset value (rough adjustment) for the even red signal in the SBU (color printing speed).
002	Before Previous: RO Color
	[0 to 255 / **112** / 1 digit] Displays the previous 2nd black offset value (rough adjustment) for the odd red signal in the SBU (color printing speed).
003	Before Previous: RE Color
	[0 to 255 / **128** / 1 digit] Displays the previous 2nd black offset value (fine adjustment) for the even red signal in the SBU (color printing speed).
004	Before Previous: RO Color
	[0 to 255 / **128** / 1 digit] Displays the previous 2nd black offset value (fine adjustment) for the odd red signal in the SBU (color printing speed).
005	Before Previous: RE B/W
	[0 to 255 / **112** / 1 digit] Displays the previous 2nd black offset value (rough adjustment) for the even red signal in the SBU (black and white printing speed).
006	Before Previous: RO B/W
	[0 to 255 / **112** / 1 digit] Displays the previous 2nd black offset value (rough adjustment) for the odd red signal in the SBU (black and white printing speed).
007	Before Previous: RE B/W
	[0 to 255 / **128** / 1 digit] Displays the previous 2nd black offset value (fine adjustment) for the even red signal in the SBU (black and white printing speed).

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008	Before Previous: RO B/W
	[0 to 255 / **128** / 1 digit]
	Displays the previous 2nd black offset value (fine adjustment) for the odd red signal in the SBU (black and white printing speed).

Note

- RE: Red Even signal, RO: Red Odd signal

4662*	Black Level 2: Rough/Fine Adj. Display **(CS model only)**
001	Before Previous: GE Color
	[0 to 255 / **112** / 1 digit]
	Displays the previous 2nd black offset value (rough adjustment) for the even green signal in the SBU (color printing speed).
002	Before Previous: GO Color
	[0 to 255 / **112** / 1 digit]
	Displays the previous 2nd black offset value (rough adjustment) for the odd green signal in the SBU (color printing speed).
003	Before Previous: GE Color
	[0 to 255 / **128** / 1 digit]
	Displays the previous 2nd black offset value (fine adjustment) for the even green signal in the SBU (color printing speed).
004	Before Previous: GO Color
	[0 to 255 / **128** / 1 digit]
	Displays the previous 2nd black offset value (fine adjustment) for the odd green signal in the SBU (color printing speed).
005	Before Previous: GE B/W
	[0 to 255 / **112** / 1 digit]
	Displays the previous 2nd black offset value (rough adjustment) for the even green signal in the SBU (black and white printing speed).

006	Before Previous: GO B/W
	[0 to 255 / **112** / 1 digit]
	Displays the previous 2nd black offset value (rough adjustment) for the odd green signal in the SBU (black and white printing speed).
007	Before Previous: GE B/W
	[0 to 255 / **128** / 1 digit]
	Displays the previous 2nd black offset value (fine adjustment) for the even green signal in the SBU (black and white printing speed).
008	Before Previous: GO B/W
	[0 to 255 / **128** / 1 digit]
	Displays the previous 2nd black offset value (fine adjustment) for the odd green signal in the SBU (black and white printing speed).

Note

- GE: Green Even signal, GO: Green Odd signal

4663*	Black Level 2: Rough/Fine Adj. Display **(CS model only)**
	Before Previous: BE Color
001	[0 to 255 / **112** / 1 digit]
	Displays the previous 2nd black offset value (rough adjustment) for the even blue signal in the SBU (color printing speed).
002	Before Previous: BO Color
	[0 to 255 / **112** / 1 digit]
	Displays the previous 2nd black offset value (rough adjustment) for the odd blue signal in the SBU (color printing speed).
003	Before Previous: BE Color
	[0 to 255 / **128** / 1 digit]
	Displays the previous 2nd black offset value (fine adjustment) for the even blue signal in the SBU (color printing speed).

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4. Appendix: Service Program Mode Tables

004	Before Previous: BO Color	
	[0 to 255 / **128** / 1 digit]	
	Displays the previous 2nd black offset value (fine adjustment) for the odd blue signal in the SBU (color printing speed).	
005	Before Previous: BE B/W	
	[0 to 255 / **112** / 1 digit]	
	Displays the previous 2nd black offset value (rough adjustment) for the even blue signal in the SBU (black and white printing speed).	
006	Before Previous: BO B/W	
	[0 to 255 / **112** / 1 digit]	
	Displays the previous 2nd black offset value (rough adjustment) for the odd blue signal in the SBU (black and white printing speed).	
007	Before Previous: BE B/W	
	[0 to 255 / **128** / 1 digit]	
	Displays the previous 2nd black offset value (fine adjustment) for the even blue signal in the SBU (black and white printing speed).	
008	Before Previous: BO B/W	
	[0 to 255 / **128** / 1 digit]	
	Displays the previous 2nd black offset value (fine adjustment) for the odd blue signal in the SBU (black and white printing speed).	

Note

- BE: Blue Even signal, BO: Blue Odd signal

4673	Black Level 2: Rough/Fine Adj. Display **(CS model only)**
001	Factory Setting: RE Color
	[0 to 255 / **0** / 1 digit]
	Displays the factory setting value of the 2nd black offset level rough adjustment for the even red signal in the SBU (color printing speed).

002	Factory Setting: RO Color
	[0 to 255 / **0** / 1 digit]
	Displays the factory setting values of the 2nd black offset level rough adjustment for the odd red signal in the SBU (color printing speed).
003	Factory Setting: RE Color
	[0 to 255 / **0** / 1 digit]
	Displays the factory setting values of the 2nd black offset level fine adjustment for the even red signal in the SBU (color printing speed).
004	Factory Setting: RO Color
	[0 to 255 / **0** / 1 digit]
	Displays the factory setting values of the 2nd black offset level fine adjustment for the odd red signal in the SBU (color printing speed).
005	Factory Setting: RE B/W
	[0 to 255 / **0** / 1 digit]
	Displays the factory setting values of the 2nd black offset level rough adjustment for the even red signal in the SBU (black and white printing speed).
006	Factory Setting: RO B/W
	[0 to 255 / **0** / 1 digit]
	Displays the factory setting values of the 2nd black offset level rough adjustment for the odd red signal in the SBU (black and white printing speed).
007	Factory Setting: RE B/W
	[0 to 255 / **0** / 1 digit]
	Displays the factory setting values of the 2nd black offset level fine adjustment for the even red signal in the SBU (black and white printing speed).
008	Factory Setting: RE B/W
	[0 to 255 / **0** / 1 digit]
	Displays the factory setting values of the 2nd black offset level fine adjustment for the odd red signal in the SBU (black and white printing speed).

Note

- RE: Red Even signal, RO: Red Odd signal

4674		Black Level 2: Rough/Fine Adj. Display **(CS model only)**
	001	Factory Setting: GE Color
		[0 to 255 / **0** / 1 digit] Displays the factory setting value of the 2nd black offset level rough adjustment for the even green signal in the SBU (color printing speed).
	002	Factory Setting: GO Color
		[0 to 255 / **0** / 1 digit] Displays the factory setting values of the 2nd black offset level rough adjustment for the odd green signal in the SBU (color printing speed).
	003	Factory Setting: GE Color
		[0 to 255 / **0** / 1 digit] Displays the factory setting values of the 2nd black offset level fine adjustment for the even green signal in the SBU (color printing speed).
	004	Factory Setting: GO Color
		[0 to 255 / **0** / 1 digit] Displays the factory setting values of the 2nd black offset level fine adjustment for the odd green signal in the SBU (color printing speed).
	005	Factory Setting: GE B/W
		[0 to 255 / **0** / 1 digit] Displays the factory setting values of the 2nd black offset level rough adjustment for the even green signal in the SBU (black and white printing speed).
	006	Factory Setting: GO B/W
		[0 to 255 / **0** / 1 digit] Displays the factory setting values of the 2nd black offset level rough adjustment for the odd green signal in the SBU (black and white printing speed).
	007	Factory Setting: GE B/W
		[0 to 255 / **0** / 1 digit] Displays the factory setting values of the 2nd black offset level fine adjustment for the even green signal in the SBU (black and white printing speed).

008	Factory Setting: GE B/W
	[0 to 255 / **0** / 1 digit] Displays the factory setting values of the 2nd black offset level fine adjustment for the odd green signal in the SBU (black and white printing speed).

Note

- GE: Green Even signal, GO: Green Odd signal

4675	Black Level 2: Rough/Fine Adj. Display **(CS model only)**
001	Factory Setting: BE Color
	[0 to 255 / **0** / 1 digit] Displays the factory setting value of the 2nd black offset level rough adjustment for the even blue signal in the SBU (color printing speed).
002	Factory Setting: BO Color
	[0 to 255 / **0** / 1 digit] Displays the factory setting values of the 2nd black offset level rough adjustment for the odd blue signal in the SBU (color printing speed).
003	Factory Setting: BE Color
	[0 to 255 / **0** / 1 digit] Displays the factory setting values of the 2nd black offset level fine adjustment for the even blue signal in the SBU (color printing speed).
004	Factory Setting: BO Color
	[0 to 255 / **0** / 1 digit] Displays the factory setting values of the 2nd black offset level fine adjustment for the odd blue signal in the SBU (color printing speed).
005	Factory Setting: BE B/W
	[0 to 255 / **0** / 1 digit] Displays the factory setting values of the 2nd black offset level rough adjustment for the even blue signal in the SBU (black and white printing speed).

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006	Factory Setting: BO B/W
	[0 to 255 / **0** / 1 digit]
	Displays the factory setting values of the 2nd black offset level rough adjustment for the odd blue signal in the SBU (black and white printing speed).
007	Factory Setting: BE B/W
	[0 to 255 / **0** / 1 digit]
	Displays the factory setting values of the 2nd black offset level fine adjustment for the even blue signal in the SBU (black and white printing speed).
008	Factory Setting: BE B/W
	[0 to 255 / **0** / 1 digit]
	Displays the factory setting values of the 2nd black offset level fine adjustment for the odd blue signal in the SBU (black and white printing speed).

◆Note

- BE: Blue Even signal, BO: Blue Odd signal

4677	Gain Adjustment Display	
	Displays the factory setting values of the gain adjustment for Red.	
	SP4677-003 and -004 are used only for the color scanner model.	
001	Factory Setting: RE Color	[0 255 / **0** / 1 digit]
002	Factory Setting:: RO Color	
003	Factory Setting: RE B/W	
004	Factory Setting: RO B/W	

4678	Gain Adjustment Display
	Displays the factory setting values of the gain adjustment for Green.
	SP4678-003 and -004 are used only for the color scanner model.

001	Factory Setting: GE Color	
002	Factory Setting:: GO Color	[0 255 / **0** / 1 digit]
003	Factory Setting: GE B/W	
004	Factory Setting: GO B/W	

4679	Gain Adjustment Display **(CS model only)**	
	Displays the factory setting values of the gain adjustment for Blue.	
001	Factory Setting: BE Color	
002	Factory Setting: BO Color	[0 255 / **0** / 1 digit]
003	Factory Setting: BE B/W	
004	Factory Setting: BO B/W	

4685*	Gray Balance Setting:	
	Adjusts the gray balance of the red signal for each scanning mode.	
001	R Book Scan	CS: [-512 to 511 / **-32** / 1 digit]
002	R DF Scan	MS: [-512 to 511 / **25** / 1 digit]

4686*	Gray Balance Setting:	
	Adjusts the gray balance of the green signal for each scanning mode.	
001	G Book Scan	CS: [-512 to 511 / **-7** / 1 digit]
002	G DF Scan	MS: [-512 to 511 / **25** / 1 digit]

4687*	Gray Balance Setting:	
	Adjusts the gray balance of the blue signal for each scanning mode.	
001	B Book Scan	CS: [-512 to 511 / **-14** / 1 digit]
002	B DF Scan	MS: [-512 to 511 / **25** / 1 digit]

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4688*	DF: Density Adjustment
	Adjusts the white shading parameter when scanning an image with the ARDF. Adjusts the density level if the ID of outputs made in the DF and Platen mode is different.
	[50 to 150 / **100** / 1 %]

4690	White Peak Level	
	Displays the peak level of the white level scanning.	
001	RE	
002	RO	[0 to 1023 / **0** / 1 digit]
003	RE: BK	
004	RO: BK	

4691	White Peak Level	
	Displays the peak level of the white level scanning.	
001	GE	
002	GO	[0 to 1023 / **0** / 1 digit]
003	GE: BK	
004	GO: BK	

4692	White Peak Level	
	Displays the peak level of the white level scanning.	
001	BE	
002	BO	[0 to 1023 / **0** / 1 digit]
003	BE: BK	
004	BO: BK	

4693	Black Peak Level
	Displays the peak level of the black level scanning.

	001	RE	[0 to 1023 / 0 / 1 digit]
	002	RO	
	003	RE: BK	
	004	RO: BK	

4694		Black Peak Level	
		Display the peak level of the black level scanning.	
	001	GE	[0 to 1023 / 0 / 1 digit]
	002	GO	
	003	GE: BK	
	004	GO: BK	

4695		Black Peak Level	
		Display the peak level of the black level scanning.	
	001	BE	[0 to 1023 / 0 / 1 digit]
	002	BO	
	003	BE: BK	
	004	BO: BK	

4802		DF Shading Free Run	
	001	Lamp ON	[0 to 1 / 0 / 1]
	002	Lamp OFF	Executes the scanner free run of the shading movement with exposure lamp on or off. Press "OFF" to stop this free run. Otherwise, the free run continues.

| 4803* | | Home Position Adjustment **(DFU)** | [-1 to 1 / 0 / 0.1 mm] |
| | 001 | Adjusts the home position of the exposure lamp. | |

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4804*	Returning to Scanner HP	Moves the exposure lamp a short distance and immediately returns it to its home position. Touch [Execute] > "Completed" > [Exit]

4806	Moving from Scanner HP
	Moves the exposure lamp a short distance away from the home position and stops. Touch [Execute] > "Completed" > [Exit] Do SP4804 to return the exposure lamp to its home position. **↓Note** • This SP is done before shipping the machine to another location. • Cycling the machine power off/on also returns the exposure lamp to its home position.

4903*	Filter Setting	
	This SP code sets the threshold value for independent dot erase. These adjustments are effective only for the "Custom Setting" original type. The "0" setting disables independent dot erase. A higher setting detects more spurious dots for erasing. However, this could erase dots in images that contain areas filled by dithering.	
001	Independent Dot Erase: Text/Photo	[0 to 7 / **0** / 1]
002	Independent Dot Erase: Generation Copy	

4905*	Dither Selection	Changes the parameters for dithering. [0 to 255 / **0** / 1]

4907	SBU Test Pattern Change	
	[0 to 255 / **0** / 1] 0: Default (Scanning Image) 1: Grid pattern 2: Gradation main scan 3: Gradation sub scan 4 to 250: Default (Scanning Image)	

4908*	Factory Setting Input	
001	Execution: ON/OFF	
	Copies the settings of the previous black level adjustment and gain adjustment to the factory settings.	
002	Execution Flag	[0 to 1 / **0** / 1]
	Displays the execution flag of the factory setting input. "1" means that the scanner settings have been adjusted at the factory.	

4918	Manual Gamma Adjustment **(DFU)**
	Adjusts the offset data of the printer gamma for black in Photo mode or Letter mode.
	Touch [Change] to open the printer gamma screen.
	Enter the manual gamma adjustment screen.

4991	IPU Image Pass [Path] Selection (RGB Frame Memory) **DFU**	
	Selects the image path. Enter the number to be selected using the 10-key pad. [0 to 11 / 2/ 1]	
	0	Scanner input RGB images
	1	Scanner I/F RGB images
	2	RGB images done by Shading correction (Shading ON, Black offset ON)
	3	Shading data
	4	Inner pattern data: Gray scale
	5	RGB images done by Line skipping correction
	6	RGB images done by Digital AE
	7	RGB images done by Vertical line correction
	8	RGB image done by Scanner gamma correction
	9	RGB image done by Filtering correction
	10	RGB images done by Full color ADS
	11	RGB image done by Color correction

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4993*	Highlight Correction	
001	Sensitivity Selection	Selects the Highlight correction level. [0 to 9 / **4** / 1 /step] 0: weakest sensitivity 9: strongest sensitivity
002	Range Selection	Selects the Highlight correction level. [0 to 9 / **4** / 1 /step] 0: weakest skew correction, 9: strongest skew correction

4994*	Text/Photo Detection Level Adj.	
	Selects the definition level between Text and Photo for high compression PDF.	
	High Compression PDF Setting	[0 to 2 / **1** / 1] 0: Text priority 1: Normal 2: Photo priority

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System SP Table-5

SP5-xxx: Mode

5024*	mm/inch Display Selection	0: Europe/Asia (mm)
		1: North America (inch)
	Selects the unit of measurement. After selection, turn the main power switch off and on.	

5045*	Accounting Counter
	Counter Method
	Selects whether the printer counter is displayed on the LCD. [0 to 1 / **0** / 1] 0: Displays total counter only. 1: Displays both total counter and printer counter.

5047*	Paper Display
	Turns on or off the printed paper display on the LCD. [0 to 1 / **0** / 1] 0: Not displayed, 1: Displayed

5055*	Display IP Address
	Display or does not display the IP address on the LCD. [0 to 1 / **0** / 1] 0: OFF, 1: ON

5056*	Coverage Counter Display
	Display or does not display the coverage counter on the LCD. [0 to 1 / **0** / 1] 0: Not displayed, 1: Displayed

5061*	Toner Remaining Icon Display
	Display or does not display the remaining toner display icon on the LCD. [0 to 1 / **0** / 1] 0: Not display, 1: Display

5104*	A3/DLT Double Count **(SSP)**
	Specifies whether the counter is doubled for A3/DLT. "Yes" counts except from the bypass tray. When "Yes" is selected, A3 and DLT paper are counted twice, that is A4 x2 and LT x2 respectively.

5112*	Non-Std. Paper Sel.
	Determines whether a non-standard paper size can be input for each tray (Tray 1 to 4) [0 or 1/ **1** / -] 0: OFF 1: ON

5113*		Optional Counter Type
		Default Optional Counter Type
	001	Selects the type of counter: **0**: None 1: Key Card (RK3, 4) Japan only 2: Key Card Down 3: Pre-paid Card 4: Coin Rack 5: MF Key Card 11: Exp. Key Card (Add) 12: Exp. Key Card (Deduct)

	External Optional Counter Type
002	Enables the SDK application. This lets you select a number for the external device for user access control. Note: "SDK" refers to software on an SD card. [0 to 3 / **0** / 1] 0: None 1: Expansion Device 1 2: Expansion Device 2 3: Expansion Device 3

5114*	Optional Counter I/F
	MF Key Card Extension
001	Use this SP and change the setting to "1" only when the "5" (MF Key Card) is selected with SP5113-001. [**0**: Not installed/ 1: Installed (scanning accounting)]

	Disable Copying
5118*	Temporarily denies access to the machine. Japan Only [0 to 1 / **0** / 1] 0: Release for normal operation [Default] 1: Prohibit access to machine

	Mode Clear Opt. Counter Removal
5120*	Selects if mode clear is done for an optional counter when an optional counter is removed. **0**: Yes. (Always mode clear) 1: StandBy. (Mode clear before/after a job) 2: No. (No mode clear)

	Counter Up Timing
5121*	Determines whether the optional key counter counts up at paper feed-in or at paper exit. [0 to 1 / **0** / 1] **0**: Feed, 1: Exit

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5126*	F Size Original Setting
	Selects F size original setting.
	[0 to 2 / **0** / 1 step]
	0: 8 1/2 x 13 (Foolscap)
	1: 8 1/4 x 13 (Folio)
	2: 8 x 13 (F)

5127*	APS Off Mode
	Selects whether the APS function is enabled or disabled with the contact of a pre-paid card or coin lock.
	0: Disable (APS active) [Default], 1: Enable (APS not active)

5131*	Paper Size Type Selection
	Selects the paper size (type) for both originals and copy paper.
	[0 to 2 / - / 1 step]
	0: Japan, 1: North America, 2: Europe
	After changing the setting, turn the copier off and on. If the paper size of the archive files stored on the HDD is different, abnormal copies could result.

5150	Bypass Length Setting
	Sets up the by-pass tray for long paper.
	[0 to 1 / **0** / 1]
	0: Off [Default]
	1: On. Sets the tray for feeding paper up to 600 mm long.
	With this SP selected on, paper jams are not detected in the paper path.

5162*	App. Switch Method
	Determines whether the application screen is switched with a hardware switch or software switch.
	0: Soft Key Set
	1: Hard Key Set

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5167*	Fax Printing Mode at Optional Counter Off	
	Enables or disables the automatic print out without an accounting device. This SP is used when the receiving fax is accounted for by an external accounting device.	
	0: Automatic printing	
	1: No automatic printing	

5169*	CE Login	
	If you will change the printer bit switches, you must 'log in' to service mode with this SP before you go into the printer SP mode.	
	[0 to 1 / **0** / 1]	
	0: Off. Printer bit switches cannot be adjusted.	
	1: On. Printer bit switches can be adjusted.	

5179*	By-pass Tray Paper Size Error	[0 to 1 / **0** / 1] 0= OFF, 1= ON
	This SP determines whether a paper size error prompt appears when the machine detects the wrong paper size for the job and during feed from the by-pass tray.	

5181*	Paper Size Setting	
	Adjusts the paper size for each tray. [0 to 1 / - / 1]	
001	Tray 1: 1	0: A4 LEF, 1: LT LEF
002	Tray 1: 2	0: A3, 1: DLT
003	Tray 1: 3	0: B4, 1: LG
004	Tray 1: 4	0: B5 LEF, 1: Exe LEF
005	Tray 2: 1	0: A4 LEF, 1: LT LEF
006	Tray 2: 2	0: A3, 1: DLT
007	Tray 2: 3	0: B4, 1: LG
008	Tray 2: 4	0: B5 LEF, 1: Exe LEF
009	Tray 3: 1 (Tandem)	0: A4 LEF, 1: LT LEF
010	Tray 3: 2	0: A3, 1: DLT

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011	Tray 3: 3	0: B4, 1: LG
012	Tray 3: 4	0: B5 LEF, 1: Exe LEF
013	Tray 4: 1	0: A4 LEF, 1: LT LEF
014	Tray 4: 2	0: A3, 1: DLT
015	Tray 4: 3	0: B4, 1: LG
016	Tray 4: 4	0: B5 LEF, 1: Exe LEF
017	LCT	[0 to 2 / - / 1] 0: A4 LEF, 1: LT LEF, 2: B5 LEF

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5186*	RK4 Setting **(Japan only)**
	Enable or distance the prevention for RK4 (Accounting device) Disconnection. If the RK4 is disconnected for 10 seconds when this SP is set to "1 (Enable)", the machine automatically jams a sheet of paper and stops. [0 to 1 / **0** / 1]

5188*	Copy Nv Version
	Displays the NV version on the controller.

5195*	Limitless SW
	DFU

5212*	Page Numbering	
003	Duplex Printout Left/Right Position	Horizontally positions the page numbers printed on both sides during duplexing. [–10 to 10/ **0** / 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/ **0** / 1 mm] 0 is center, minus is down, + is up.

5302*	Set Time

002	Sets the time clock for the local time. This setting is done at the factory before delivery. The setting is GMT expressed in minutes. [–1440 to 1440 / - / 1 min.] Japan: +540 (Tokyo) NA: -300 (NY) EU: +60 (Paris) CH: +480 (Peking) TW: +480 (Taipei) AS: +480 (Hong Kong) KO: +540 (Korea)

5307	Summer Time	
001	Setting	[0 to 1 / **1 (NA/EU), 0 (ASIA)** / 1 /step] 0: Disabled 1: Enabled
	Enables or disables the summer time mode. ⬇Note • Make sure that both SP5-307-3 and -4 are correctly set. Otherwise, this SP is not activated even if this SP is set to "1".	

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003	Rule Set (Start)	
	Specifies the start setting for the summer time mode.	
	There are 8 digits in this SP. For months 1 to 9, the "0" cannot be input in the first digit, so the eight-digit setting for -2 or -3 becomes a seven-digit setting.	
	1st and 2nd digits: The month. [1 to 12]	
	3rd digit: The week of the month. [1 to 5]	
	4th digit: The day of the week. [0 to 6 = Sunday to Saturday]	
	5th and 6th digits: The hour. [00 to 23]	
	7th digit: The length of the advanced time. [0 to 9 / 1 hour /step]	
	8th digit: The length of the advanced time. [0 to 5 / 10 minutes /step]	
	For example: 3500010	
	The timer is advanced by 1 hour at am 0:00 on the 5th Sunday in March.	
	The digits are counted from the left.	
	Make sure that SP5-307-1 is set to "1".	

004	Rule Set (End)
	Specifies the end setting for the summer time mode.
	There are 8 digits in this SP.
	1st and 2nd digits: The month. [1 to 12]
	3rd digit: The week of the month. [0 to 5]
	4th digit: The day of the week. [0 to 7 = Sunday to Saturday]
	5th and 6th digits: The hour. [00 to 23]
	The 7th and 8 digits must be set to "00".
	The digits are counted from the left.
	Make sure that SP5-307-1 is set to "1".

5401*	Access Control **(DFU)**
	This SP stores the settings that limit uses access to SDK application data.

103	Default Document ACL	
	Whenever a new login user is added to the address book in external certification mode (for Windows, LDAP, RDH), the default document ACL is updated according to this SP setting. [0 to 3 / **0** / 1] 0: View 1: Edit 2: Edit/Delete 3: Full control Note: This SP setting is ignored on a machine that is not using document server.	
162	Extend Certification Detail	Selects the log out type for the extend authentication device. Bit 0: Log-out without an IC card 0: Not allowed (default) 1: Allowed
200	SDK1 Unique ID	"SDK" is the "Software Development Kit". This data can be converted from SAS (VAS) when installed or uninstalled. **(DFU)**
201	SDK1 Certification Method	
210	SDK2 Unique ID	
211	SDK2 Certification Method	
220	SDK3 Unique ID	
221	SDK3 Certification Method	
230	SDK certification device	
240	Detail Option	Enables or disables the log out confirmation option. Bit 0: Log out confirmation option 0: Enable (default), 1: Disable Selects the automatic log out time. Bit 1 and 2: Automatic log out timer reduction 00: 60 seconds (default), 01: 10 seconds, 10: 20 seconds, 11: 30 seconds

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5404	User Code Count Clear	
	Clears the counts of 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	Turns simple authentication on or off for LDAP. [0 to 1 / 1 / 1] 0: OFF 1: ON
005	Password Null Not Permit	This SP is enabled only when SP5411-4 is set to "1" (ON). [0 to 1 / 0 / 1] 0: Password null is not permitted. 1: Password null is permitted.

5413	Lock Setting	
001	Lockout On/Off	[0 to 1 / 0 / 1] 0: OFF, 1:ON
	Turns on or off the account lock for the local address book account.	
002	Lockout Threshold	[1 to 10 / 5 / 1]
	Sets the maximum trial times for accessing the address book account.	
003	Cancellation On/Off	[0 to 1 / 0 / 1] 0: OFF (Lockout is not cancelled.) 1: ON (Lockout is cancelled if a user ID and password are correctly entered after the lockout function has been executed and a specific time has passed.)
	Turns on or off the cancellation function of the account lockout.	
004	Cancellation Time	[1 to 9999 / 60 / 1 min]
	Sets the interval of the retry for accessing the local address book account after the lockout function has been executed. This setting is enabled only if SP5413-3 is set to "1" (ON).	
005	Counter Clear Time	Not Used

5414	Access Mitigation	
001	Mitigation ON / OFF	
	Permits or does not permit consecutive access to the machine with the same ID and password. [0 to 1 / **0** / 1] 0: OFF (Permitted) 1: ON (Not permitted)	
002	Mitigation Time	
	Sets the prohibiting time for consecutive access to the machine with the same ID and password. [0 to 60 / **15** / 1 min]	

5415*	Password Attack	
001	Permissible Number	[0 to 100 / **30** / 1 times]
	Sets the threshold number of attempts to attack the system with random passwords to gain illegal access to the system.	
002	Detect Time	[0 to 10 / **5** / 1 sec]
	Sets a detection time to count a password attack.	

5416*	Access Information	
001	Access User Max Num	[50 to 200 / **200** / 1]
	Sets the number of users for the access exclusion and password attack detection function.	
002	Access Password Num	[50 to 200 / **200** / 1]
	Sets the number of passwords for the access exclusion and password attack detection function.	
003	Monitor interval	[1 to 10 / **3** / 1 sec]
	Sets the interval of watching out for user information and passwords.	

5417	Access Attack	

001	Access Permissible number	[0 to 500 / **100** / 1]
	Sets a limit on access attempts to prevent password cracking.	

002	Access Detect Time	[10 to 30 / **10** / 1 sec]
	Sets a detection time to count password cracking.	

003	Productivity Fall Weight	[0 to 9 / **3** / 1 sec]
	Sets the wait time to slow down the speed of certification when an excessive number of access attempts have been detected.	

004	Attack Max Num	[50 to 200 / **200** / 1]
	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.	

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	[0 or 1/ **0** / 1] 0: ON. 1: OFF Determines whether certification is required before a user can use the copy application.
011	Document Server	[0 or 1/ **0** / 1] 0: ON. 1: OFF Determines whether certification is required before a user can use the document server.
021	Fax	[0 or 1/ **0** / 1] 0: ON. 1: OFF Determines whether certification is required before a user can use the fax application.
031	Scanner	[0 or 1/ **0** / 1] 0: ON. 1: OFF Determines whether certification is required before a user can use the scanner application.
041	Printer	[0 or 1/ **0** / 1] 0: ON. 1: OFF Determines whether certification is required before a user can use the printer application.

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	051	SDK1	[0 or 1/ **0** / 1] 0: ON. 1: OFF
	061	SDK2	Determines whether certification is required before
	071	SDK3	a user can use the SDK application.

5481		Authentication Error Code	
		These SP codes determine how the authentication failures are displayed.	
	001	System Log Disp	[0 or 1 / **0** / -] 0: OFF [Default], 1: ON Determines whether an error code appears in the system log after a user authentication failure occurs.
	002	Panel Disp	[0 or 1 / **1** / 1] 0: OFF, 1: ON [Default] Determines whether an error code appears on the operation panel after a user authentication failure occurs.

5490	MF Key Card **(Japan only)**
	Sets up operation of the machine with a keycard. [0 to 1 / **0** / 1] 0: Disabled. Cancels operation without a user code. 1: Enabled. Allows operation without a user code.

5501*		PM Alarm
		PM Alarm Interval
	001	Sets the PM alarm interval. [0 to 9999 / **0** / 1 k copies/step] 0: No PM alarm
	002	Original Count Alarm **(DFU)**
		Selects whether the PM alarm for the number of scans is enabled or not. If this is "1", the PM alarm function is enabled. [**0** = No / 1 = Yes]

5504*	Jam Alarm
	Sets the alarm to sound for the specified jam level (document misfeeds are not included). [0 to 3 / **3** / 1 step] 0: Zero (Off) 1: Low (2.5K jams) 2: Medium (3K jams) 3: High (6K jams)

5505*	Error Alarm
	Sets the number of sheets to clear the error alarm counter.
	The error alarm counter counts "1" when any SC is detected. However, the error alarm counter decreases by "1" when an SC is not detected during a set number of copied sheets (for example, default 5000 (C1b) or 10000 (C1c) sheets). The error alarm occurs when the SC error alarm counter reaches "5". [0 to 255 / **50 (C1b/C1.5b), 100 (C1c/C1.5c)** / 100 copies / step]

5507*	Supply Alarm	
001	Paper supply Alarm (0:Off 1:On)	Switches the control call on/off for the paper supply. **(DFU)** **0: Off**, 1: On 0: No alarm. 1: Sets the alarm to sound for the specified number transfer sheets for each paper size (A3, A4, B4, B5, DLT, LG, LT, HLT)
002	Staple Supply Alarm (0:Off 1:On)	Switches the control call on/off for the stapler installed in the finisher. **(DFU)** 0: Off, **1: On** 0: No alarm 1: Alarm goes off for every 1K of staples used.
003	Toner Supply Alarm (0:Off 1:On)	Switches the control call on/off for the toner end. **(DFU)** 0: Off, **1: On** If you select "1" the alarm will sound when the copier detects toner end.

128	Interval: Others	
132	Interval: A3	
133	Interval: A4	
134	Interval: A5	
141	Interval: B4	The "Paper Supply Call Level: nn" SPs specify the paper control call interval for the referenced paper sizes. **(DFU)**
142	Interval: B5	[250 to 10000 / **1000** / 1 Step]
160	Interval: DLT	
164	Interval: LG	
166	Interval: LT	
172	Interval: HLT	

5508	CC Call	
001	Jam Remains	Enables/disables initiating a call.
002	Continuous Jams	[0 to 1 / **1** / 1]
003	Continuous Door Open	0: Disable 1: Enable
011	Jam Detection: Time Length	Sets the length of time to determine the length of an unattended paper jam. [3 to 30 / **10** / 1 minute]
012	Jam Detection Continuous Count	Sets the number of continuous paper jams required to initiate a call. [2 to 10 / **5** / 1 time]
013	Door Open: Time Length	Sets the length of time the remains opens to determine when to initiate a call. [3 to 30/ **10** / 1 minute]

5515*	SC/Alarm Setting	
	With @Remote in use, these SP codes can be set to issue an SC call when an SC error occurs. If this SP is switched off, the SC call is not issued when an SC error occurs.	

	001	SC Call	[0 or 1 / **1** / 1]
	002	Service Parts Near End Call	0: OFF
	003	Service Parts End Call	1: ON
	004	User Call	
	006	Communication Information Test Call	
	007	Machine Information Notice	
	008	Alarm Notice	[0 or 1 / **1** / 1]
	009	Non Genuine Toner Alarm	0: OFF
	010	Supply Automatic Ordering Call	1: ON
	011	Supply Management Report Call	
	012	Jam/Door Open Call	

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 SmartDeviceMonitor for Admin settings, WebStatusMonitor settings, and the TELNET settings. (NCS: Network Control Service)
012	R-FAX	Initializes the job login ID, SmartDeviceMonitor for Admin, job history, and local storage file numbers.
014	Clear DCS Setting	Initializes the DCS (Delivery Control Service) settings.
015	Clear UCS Setting	Initializes the UCS (User Information Control Service) settings.
016	MIRS Setting	Initializes the MIRS (Machine Information Report Service) settings.
017	CCS	Initializes the CCS (Certification and Charge-control Service) settings.
018	SRM Memory Clear	Initializes the SRM (System Resource Manager) settings.
019	LCS Clear	Initializes the LCS (Log Count Service) settings.
020	Web Uapli	Initializes the web user application settings.
021	ECS	Initializes the ECS settings.

5802*	Free Run	
	Performs a free run on the copier engine. The correct paper should be loaded in the 1st tray or 2nd tray, but paper is not fed. The main switch has to be turned off and on after using the free run mode for a test.	
001	TRAY1:A4LEF	-
002	TRAY2:A3	-

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003	TRAY2:A4SEF	-

5803	Input Check
	Displays the signals received from sensors and switches. (☛ p.271 "Input Check")

5804	Output Check
	Turns on the electrical components individually for test purposes. (☛ p.281 "Output Check")

5810	SC Reset	
	Fusing SC Reset	Resets all level A service call conditions, such as fusing errors. To clear the service call, touch "Execute" on the LCD, then turn the main power switch off/on.

5811*	Machine No. Setting **(DFU)**	Code Set
	This SP presents the screen used to enter the 11-digit number of the machine. The allowed entries are "A" to "Z" and "0" to "9". The setting is done at the factory, and should not be changed in the field.	

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	Inputs the telephone number of the supplier displayed on the user mode screen.
	004	Operation	Allows the service center contact telephone number to be displayed on the user mode screen.

5816	Remote Service

001	I/F Setting	
	Selects the remote service setting.	
	[0 to 2 / **2** / 1 /step]	
	0: Remote service off	
	1: CSS remote service on	
	2: @Remote service on	
002	CE Call	
	Performs the CE Call at the start or end of the service.	
	[0 or 1 / **0** / 1 /step]	
	0: Start of the service	
	1: End of the service	
	NOTE: This SP is activated only when SP 5816-001 is set to "2".	
003	Function Flag	
	Enables or disables the remote service function.	
	[0 to 1 / **0** / 1 /step]	
	0: Disabled, 1: Enabled	
	NOTE: This SP setting is changed to "1" after @Remote registor has been completed.	
007	SSL Disable	
	Uses or does not use the RCG certification by SSL when calling the RCG.	
	[0 to 1 / **0** / 1 /step]	
	0: Uses the RCG certification	
	1: Does no use the RCG certification	
008	RCG Connect Timeout	
	Specifies the connect timeout interval when calling the RCG.	
	[1 to 90 / **30** / 1 second /step]	
009	RCG Write Timeout	
	Specifies the write timeout interval when calling the RCG.	
	[1 to 100 / **60** / 1 second /step]	

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010	RCG Read Timeout
	Specifies the read timeout interval when calling the RCG.
	[1 to 100 / **60** / 1 second /step]
011	Port 80 Enable
	Enables/disables access via port 80 to the SOAP method.
	[0 or 1 / **0** / –]
	0: Disabled, 1: Enabled
013	RFU (Remote Frimware Update) Timing
	Selects the RFU timing.
	[0 or 1 / **1** / –]
	0: RFU is executed whenever update request is received.
	1: RFU is executed only when the machine is in the sleep mode.
021	RCG – C Registed
	This SP displays the Embedded RC Gate installation end flag.
	0: Installation not completed
	1: Installation completed
022	RCG – C Regist Detail
	This SP displays the Embedded RC Gate installation status.
	0: RCG device not registered
	1: RCG device registered
	2: Device registered
023	Connect Type (N/M)
	This SP displays and selects the Embedded RC Gate connection method.
	[0 or 1 / **0** / 1 /step
	0: Internet connection
	1: Dial-up connection
061	Cert. Expire Timing **DFU**
	Proximity of the expiration of the certification.

062	Use Proxy
	This SP setting determines if the proxy server is used when the machine communicates with the service center.

063	Proxy Host
	This SP sets the address of the proxy server used for communication between Embedded RC Gate-N and the gateway. Use this SP to set up or display the customer proxy server address. The address is necessary to set up Embedded RC Gate-N.
	⬇Note
	• The address display is limited to 128 characters. Characters beyond the 128 character are ignored.
	• This address is customer information and is not printed in the SMC report.

064	Proxy Port Number
	This SP sets the port number of the proxy server used for communication between Embedded RC Gate-N and the gateway. This setting is necessary to set up Embedded RC Gate-N.
	⬇Note
	• This port number is customer information and is not printed in the SMC report.

065	Proxy User Name
	This SP sets the HTTP proxy certification user name.
	⬇Note
	• The length of the name is limited to 31 characters. Any character beyond the 31st character is ignored.
	• This name is customer information and is not printed in the SMC report.

066	Proxy Password
	This SP sets the HTTP proxy certification password.
	⬇Note
	• The length of the password is limited to 31 characters. Any character beyond the 31st character is ignored.
	• This name is customer information and is not printed in the SMC report.

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067	CERT: Up State		
	Displays the status of the certification update.		
		0	The certification used by Embedded RC Gate is set correctly.
		1	The certification request (setAuthKey) for update has been received from the GW URL and certification is presently being updated.
		2	The certification update is completed and the GW URL is being notified of the successful update.
		3	The certification update failed, and the GW URL is being notified of the failed update.
		4	The period of the certification has expired and new request for an update is being sent to the GW URL.
		11	A rescue update for certification has been issued and a rescue certification setting is in progress for the rescue GW connection.
		12	The rescue certification setting is completed and the GW URL is being notified of the certification update request.
		13	The notification of the request for certification update has completed successfully, and the system is waiting for the certification update request from the rescue GW URL.
		14	The notification of the certification request has been received from the rescue GW controller, and the certification is being stored.
		15	The certification has been stored, and the GW URL is being notified of the successful completion of this event.
		16	The storing of the certification has failed, and the GW URL is being notified of the failure of this event.
		17	The certification update request has been received from the GW URL, the GW URL was notified of the results of the update after it was completed, but a certification error has been received, and the rescue certification is being recorded.
		18	The rescue certification of No. 17 has been recorded, and the GW URL is being notified of the failure of the certification update.

		CERT: Error	
068		Displays a number code that describes the reason for the request for update of the certification.	
	0	Normal. There is no request for certification update in progress.	
	1	Request for certification update in progress. The current certification has expired.	
	2	An SSL error notification has been issued. Issued after the certification has expired.	
	3	Notification of shift from a common authentication to an individual certification.	
	4	Notification of a common certification without ID2.	
	5	Notification that no certification was issued.	
	6	Notification that GW URL does not exist.	
069	CERT: Up ID	The ID of the request for certification.	
083	Firmware Up Status	Displays the status of the firmware update.	
084	Non-HDD Firm Up	This setting determines if the firmware can be updated, even without the HDD installed. 0: Not allowed update 1: Allowed update	
085	Firm Up User Check	This SP setting determines if the operator can confirm the previous version of the firmware before the firmware update execution. If the option to confirm the previous version is selected, a notification is sent to the system manager and the firmware update is done with the firmware files from the URL.	
086	Firmware Size	Allows the service technician to confirm the size of the firmware data files during the firmware update execution.	
087	CERT: Macro Ver.	Displays the macro version of the @Remote certification.	
088	CERT: PAC Ver.	Displays the PAC version of the @Remote certification.	
089	CERT: ID2 Code	Displays ID2 for the @Remote certification. Spaces are displayed as underscores (_). Asteriskes (*) indicate that no @Remote certification exists. "000000_____" indicates "Common certification".	

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090	CERT: Subject	Displays the common name of the @Remote certification subject. CN = the following 17 bytes. Spaces are displayed as underscores (_). Asterisks (*) indicate that no @Remote certification exists. "000000_____" indicates "Common certification".
091	CERT: Serial No.	Displays serial number for the @Remote certification. Asterisks (*) indicate that no @Remote certification exists.
092	CERT: Issuer	Displays the common name of the issuer of the @Remote certification. CN = the following 30 bytes. Asteriskes () indicate that no @Remote certification exists.
093	CERT: Valid Start	Displays the start time of the period for which the current @Remote certification is enabled.
094	CERT: Valid End	Displays the end time of the period for which the current @Remote certification is enabled.

150	Selection Country
	Not used
151	Line Type Automatic Judgment
	Not used
152	Line Type Judgment Result
	Not used
153	Selection Dial/Push
	Not used
154	Outside Line/Outgoing Number
	Not used
156	Dial Up User Name
	Not used
157	Dial Up Password
	Not used

161	Local Phone Number		
	Not used		
162	Connection Timing Adjustment: Incoming		
	Not used		
163	Access Point		
	Not used		
164	Line Connecting		
	Not used		
173	Modem Serial Number	**Not used**	
174	Retransmission Limit		
	Not used		
187	FAX TX Priority	-	
	Not used		
200	Manual Polling	-	**Not used**
201	Regist: Status		
	Displays a number that indicates the status of the @Remote service device.		
	0: Neither the @Remote device nor Embedded RCG Gate is set.		
	1: The Embedded RCG Gate is being set. Only Box registration is completed. In this status, @Remote device cannot communicate with this device.		
	2: The Embedded RCG Gate is set. In this status, the @Remote device cannot communicate with this device.		
	3: The @Remote device is being set. In this status the Embedded RCG Gate cannot be set.		
	4: The @Remote module has not started.		
202	Letter Number	Allows entry of the request number needed for the Embedded RCG Gate.	
203	Confirm Execute	Executes the confirmation request to the @Remote Gateway.	
204	Confirm Result		

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	Displays a number that indicates the result of the confirmation executed with SP5816-203. 0: Succeeded 1: Confirmation number error 2: Registration in progress 3: Proxy error (proxy enabled) 4: Proxy error (proxy disabled) 5: Proxy error (Illegal user name or password) 6: Communication error 7: Certification update error 8: Other error 9: Confirmation executing	
205	Confirm Place	
	Displays the result of the notification sent to the device from the Gateway in answer to the confirmation request. Displayed only when the result is registered at the Gateway.	
206	Register Execute	Executes "Embedded RCG Registration".
207	Register Result	
	Displays a number that indicates the registration result. 0: Succeeded 2: Registration in progress 3: Proxy error (proxy enabled) 4: Proxy error (proxy disabled) 5: Proxy error (Illegal user name or password) 6: Communication error 7: Certification update error 8: Other error 9: Registration executing	
208	Error Code	
	Displays a number that describes the error code that was issued when either SP5816-204 or SP5816-207 was executed.	

	Cause	Code	Meaning
		-11001	Chat parameter error
	Illegal Modem Parameter	-11002	Chat execution error
		-11003	Unexpected error
		-12002	Inquiry, registration attempted without acquiring device status.
	Operation Error, Incorrect Setting	-12003	Attempted registration without execution of an inquiry and no previous registration.
		-12004	Attempted setting with illegal entries for certification and ID2.
		-12005	@Remote communication is prohibited. The device has an Embedded RC gate-related problem.
		-12006	A confirmation request was made after the confirmation had been already completed.
		-12007	The request number used at registration was different from the one used at confirmation.
		-12008	Update certification failed because mainframe was in use.
		-2385	Attempted dial up overseas without the correct international prefix for the telephone number.
		-2387	Not supported at the Service Center
	Error Caused by Response from GW URL	-2389	Database out of service
		-2390	Program out of service
		-2391	Two registrations for same device
		-2392	Parameter error

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		-2393	RCG device not managed
		-2394	Device not managed
		-2395	Box ID for RCG device is illegal
		-2396	Device ID for RCG device is illegal
		-2397	Incorrect ID2 format
		-2398	Incorrect request number format
209	Instl Clear	Releases the machine from its Embedded RCG Gate setup. NOTE: Turn off and on the main power switch after this setting has been changed.	
250	CommLog Print	Prints the communication log.	

5821*	Remote Service Address	
001	CSS PI Device Code	Sets the PI device code. After you change this setting, you must turn the machine off and on.
002	RCG IP Address	Sets the IP address of the RCG (Remote Communication Gate) destination for call processing at the remote service center. [00000000h to FFFFFFFFh / - / 1]

5824	NVRAM Data Upload
	Uploads the NVRAM data to an SD card. Push Execute. Note: When uploading data in this SP mode, the front door must be open.

5825	NVRAM Data Download
	Downloads data from an SD card to the NVRAM in the machine. After downloading is completed, remove the card and turn the machine power off and on.

5828	Network Setting

050	1284 Compatibility (Centro)			Enables and disables bi-directional communication on the parallel connection between the machine and a computer. [0 to 1 / **1** / 1] 0:Off, 1: On		
052	ECP (Centro)			Disables and enables the ECP feature (1284 Mode) for data transfer. [0 to 1 / **1** / 1] 0: Disabled, 1: Enabled		
065	Job Spooling			Switches the job spooling on and off. [0 to 1 / **0** / 1] 0: No spooling, 1: Spooling enabled		
066	Job Spooling Clear: Start Time			This SP determines whether the job interrupted at power off is resumed at the next power on. This SP operates only when SP5828-065 is set to "1". [0 to 1 / **1** / 1] 1: Resumes printing spooled jog. 0: Clears spooled job.		
069	Job Spooling (Protocol)			This SP determines whether job spooling is enabled or disabled for each protocol. This is a 8-bit setting. [0 to 1 / **1** / 1] 0: No spooling, 1: Spooling enabled		
		0	LPR		4	BMLinks (Japan Only)
		1	FTP (Not Used)		5	DIPRINT
		2	IPP		6	Reserved (Not Used)
		3	SMB		7	Reserved (Not Used)
090	TELNET (0:OFF 1:ON)			Disables or enables Telnet operation. If this SP is disabled, the Telnet port is closed. [0 to 1 / **1** / 1] 0: Disable, 1: Enable		

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091	Web (0:OFF 1:ON)	Disables or enables the Web operation. [0 to 1 / **1** / 1] 0: Disable, 1: Enable
145	Active IPv6 Link Local Address	This is the IPv6 local address referenced on the Ethernet or wireless LAN (802.11) in the format: "Link-Local address" + "Prefix Length" The IPv6 address consists of a total 128 bits configured in 8 blocks of 16 bits each. These notations can be abbreviated. See "Note: IPV6 Addresses " below this table.
147	Active IPv6 Stateless Address 1	These SPs are the IPv6 stateless addresses (1 to 5) referenced on the Ethernet or wireless LAN (802.11b) in the format: "Stateless Address" + "Prefix Length" The IPv6 address consists of a total 128 bits configured in 8 blocks of 16 bits each.
149	Active IPv6 Stateless Address 2	
151	Active IPv6 Stateless Address 3	
153	Active IPv6 Stateless Address 4	
155	Active IPv6 Stateless Address 5	
156	IPv6 Manual Address This SP is the IPv6 manually set address referenced on the Ethernet or wireless LAN (802.11) in the format: "Manual Set Address" + "Prefix Length" The IPv6 address consists of a total 128 bits configured in 8 blocks of 16 bits each. These notations can be abbreviated. See "Note: IPV6 Addresses" below this table.	
158	IPv6 Gateway This SP is the IPv6 gateway address referenced on the Ethernet or wireless LAN (802.11). The IPv6 address consists of a total 128 bits configured in 8 blocks of 16 bits each. These notations can be abbreviated. See "Note: IPV6 Addresses" below this table.	

Note: IPV6 Addresses

Ethernet and the Wireless LAN (802.11) reference the IPV6 "Link-Local address + Prefix Length". The IPV6 address consists of 128 bits divided into 8 blocks of 16 bits:

aaaa:bbbb:cccc:dddd:eeee:ffff:gggg:hhhh:

The prefix length is inserted at the 17th byte (Prefix Range: 0x0 to 0x80). The initial setting is 0x40 (64).

For example, the data: "2001123456789012abcdef012345678940h" is expressed:

"2001:1234:5678:9012:abcd:ef01:2345:6789": prefixlen 64

However, the actual IPV6 address display is abbreviated according to the following rules.

Rules for Abbreviating IPV6 Addresses

1. The IPV6 address is expressed in hexadecimal delimited by colons (:) with the following characters:

   0123456789abcdefABCDEF

2. A colon is inserted as a delimiter every 4th hexadecimal character.

   fe80:0000:0000:0000:0207:40ff:0000:340e

3. The notations can be abbreviated by eliminating zeros where the MSB and digits following the MSB are zero. The example in "2" above, then, becomes

   fe80:0:0:0207:40ff:0:340e

4. Sections where only zeros exist can be abbreviated with double colons (::). This abbreviation can be done also where succeeding sections contain only zeros (but this can be done only at one point in the address). The example in "2" and "3" above then becomes:

   fe80::207:40ff:0:340e (only the first null sets zero digits are abbreviated as "::")

   -or-

   fe80:0:0:0:207:40ff::340e (only the last null set before "340e" is abbreviated as "::")

161	IPv6 Stateless Auto Setting	Enable or disables the automatic setting for IPv6 stateless. [0 or 1 / **1** / 1] 1: Enable, 0: Disable
236	Web Item visible	
	Displays or does not display the Web system items. [0 x 0000 to 0 x ffff / **0 x ffff**] 0: Not displayed, 1: Displayed bit0: Net RICOH bit1: Consumable Supplier bit2-15: Reserved (all)	

237	Web shopping link visible	
	Displays or does not display the link to Net RICOH on the top page and link page of the web system. [0 to 1 / **1** / 1] 0: Not display, 1:Display	
238	Web supplies Link visible	
	Displays or does not display the link to Consumable Supplier on the top page and link page of the web system. [0 to 1 / **1** / 1] 0: Not display, 1:Display	
239	Web Link1 Name	
	This SP confirms or changes the URL1 name on the link page of the web system. The maximum characters for the URL name are 31 characters.	
240	Web URL	
	his 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 visible	
	Displays or does not display the link to URL1 on the top page of the web system. [0 to 1 / **1** / 1] 0: Not display, 1:Display	
242	Web Link2 Name	Same as "-239"
243	Web Link2 URL	Same as "-240"
244	Web Link2 visible	Same as "-241"

5831	Initial Setting Clear **DFU**	
002	Copier up application	
	Clears the initial setting of copier.	

5832	HDD Formatting
	Enter the SP number for the partition to initialize, then press #. When the execution ends, cycle the machine 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)
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	
	Capture Function (0:Off 1:On)	
001	With this function disabled, the settings related to the capture feature cannot be initialized, displayed, or selected. [0 to 1 / **0** / 1] 0: Disable, 1: Enable	
	Panel Setting	
002	Determines whether each capture related setting can be selected or updated from the initial system screen. [0 to 1 / **0** / 1] 0: Disable, 1: Enable The setting for SP5836-001 has priority.	
071	Reduction for Copy Color	[0 to 3 / **2** / 1] **(DFU)** 0:1, 1:1/2, 2:1/3, 3:1/4

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072	Reduction for Copy B&W Text	[0 to 6 / **0** / 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 / **0** / 1] 0:1, 1:1/2, 2:1/3, 3:1/4, 6:2/3
074	Reduction for Printer Color	[0 to 3 / **2** / 1] **(DFU)** 0:1, 1:1/2, 2:1/3, 3:1/4
075	Reduction for Printer B&W	[0 to 6 / **0** / 1] 0 1, 1:1/2, 2:1/3, 3:1/4, 6:2/3
076	Reduction for Printer B&W HQ	[0 to 3 / **0** / 1] 0:1, 1:1/2, 2:1/3, 3:1/4
081	Format for Copy Color	[0 to 3 / **0** / 1] **(DFU)** 0: JFIF/JPEG, 1: TIFF/MMR, 2: TIFF/MH, 3: TIFF/MR
082	Format for Copy B&W Text	[0 to 3 / **1** / 1] 0: JFIF/JPEG, 1: TIFF/MMR, 2: TIFF/MH, 3: TIFF/MR
083	Format Copy B&W Other	[0 to 3 / **1** / 1] 0: JFIF/JPEG, 1: TIFF/MMR, 2: TIFF/MH, 3: TIFF/MR
084	Format for Printer Color	[0 to 0 / **0** /1] **(DFU)** 0: JFIF/JPEG, 1: TIFF/MMR, 2: TIFF/MH, 3: TIFF/MR
085	Format for Printer B&W	[0 to 3 / **1** / 1] 0: JFIF/JPEG, 1: TIFF/MMR, 2: TIFF/MH, 3: TIFF/MR
086	Format for Printer B&W HQ	[0 to 3 / **2** / 1] 0: JFIF/JPEG, 1: TIFF/MMR, 2: TIFF/MH, 3: TIFF/MR

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	Default for JPEG	[5 to 95 / **50** / 1]
091	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.	

5840*	IEEE 802.11	
	Channel MAX	
006	Sets the maximum range of the bandwidth for the wireless LAN. This bandwidth setting varies for different countries. [1 to 14 / **11 (NA), 13 (EU), 14 (JPN)** / 1] JPN: 1 to 14, NA: 1 to 11, EU: 1 to 13	
	Channel MIN	
007	Sets the minimum range of the bandwidth for operation of the wireless LAN. This bandwidth setting varies for different countries. [1 to 14 / **1** / 1] JPN: 1 to 14, NA: 1 to 11, EU: 1 to 13	
	Transmission speed	[0 x 00 to 0 x FF / **0 x FF to Auto** / -]
008	**0 x FF to Auto** [Default] 0 x 11 - 55M Fix 0 x 10 - 48M Fix 0 x 0F - 36M Fix 0 x 0E - 18M Fix 0 x 0D - 12M Fix 0 x 0B - 9M Fix 0 x 0A - 6M Fix	0 x 07 - 11M Fix 0 x 05 - 5.5M Fix 0 x 08 - 1M Fix 0 x 13 - 0 x FE (reserved) 0 x 12 - 72M (reserved) 0 x 09 - 22M (reserved)
	WEP Key Select	
011	Selects the WEP key. Bit 1 and 0 **00: Key1,** 01: Key2 (Reserved), 10: Key3 (Reserved), 11: Key4(Reserved) This SP is displayed only when the IEEE802.11 card is installed.	

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	Fragment Thresh	
042	Adjusts the fragment threshold for the IEEE802.11 card. [256 to 2346 / **2346** / 1] This SP is displayed only when the IEEE802.11 card is installed.	
	11g CTS to self	
043	Determines whether the CTS self function is turned on or off. [0 to 1 / **1** / 1] 0: Off, 1: On This SP is displayed only when the IEEE802.11 card is installed.	
	11g Slot Time	
044	Selects the slot time for IEEE802.11. [0 to 1 / **0** / 1] 0: 20 μm, 1: 9 μm This SP is displayed only when the IEEE802.11 card is installed.	
	WPA Debug Lvl	
045	Selects the debug level for WPA authentication application. [1 to 3 / **3** / 1] 1: Info, 2: warning, 3: error This SP is displayed only when the IEEE802.11 card is installed.	

5841*	Supply Name Setting	
	Press the User Tools key. These names appear when the user presses the Inquiry button on the User Tools screen.	
001	Toner Name Setting: Black	
007	Org Stamp	
011	StapleStd1	
012	StapleStd2	Standard Staples for B804/B805
013	StapleStd3	Standard Staples for B408
014	StapleStd4	
021	StapleBind1	
022	StapleBind2	Booklet Staples for B804

023	StapleBind3	

	GWWS Analysis **(DFU)**		
5842*	This is a debugging tool. It sets the debugging output mode of each Net File process. Bit SW 0011 1111	**Bit**	**Groups**
		0	System & other groups (LSB)
		1	Capture related
		2	Certification related
		3	Address book related
		4	Machine management related
		5	Output related (printing, delivery)
		6	Repository related
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 mode setting. Bit7: 5682 mmseg-log setting 0: Date/Hour/Minute/Second 1: Minute/Second/Msec. 0 to 6: Not used	

5844	USB	
	Transfer Rate	
001	Sets the speed for USB data transmission. [0 x 01 or 0 x 04 / **0 x 04** /-] 0 x 01 [Full Speed], 0 x 04 [Auto Change]	
	Vendor ID	
002	Sets the vendor ID: Initial Setting: 0x05A Ricoh Company [0x0000 to 0xFFFF/1] **(DFU)**	

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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 / **100** / 1] **(DFU)** Enter as a decimal number. NCS converts the number to hexadecimal number recognized as the BCD.	

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5845*	Delivery Server Setting	
	These are delivery server settings.	
001	FTP Port No.	
	[0 to 65535 / **3670** / 1]	
002	IP Address (Primary)	
	Use this SP to set the Scan Router Server address. The IP address under the transfer tab can be used with the initial system setting. [Range: **000.000.000.000** to 255.255.255.255]	
006	Delivery Error Display Time	
	Use this setting to set the length of time that the message is shown when a test error occurs during document transfer with the NetFile application and an external device. [0 to 999 / **300** / 1 sec]	
008	IP Address (Secondary)	
	Sets the IP address that is given to the computer that is the secondary delivery server for Scan Router. This SP lets you set only the IP address, and does not refer to the DNS setting. [Range: **000.000.000.000** to 255.255.255.255]	

009	Delivery Server Model	
	Lets you change the model of the delivery server that is registered by the I/O device. [0 to 4 / **0** / 1 step] 0: Unknown 1: SG1 Provided 2: SG1 Package 3: SG2 Provided 4: SG2 Package	
010	Delivery Svr. Capability	
	Changes the functions that the registered I/O device can do. [0 to 255 / **0** / 1 step] Bit7 = 1 Comment information exits Bit6 = 1 Direct specification of mail address possible Bit5 = 1 Mail RX confirmation setting possible Bit4 = 1 Address book automatic update function exists Bit3 = 1 Fax RX delivery function exists Bit2 = 1 Sender password function exists Bit1 = 1 Function to link MK-1 user and Sender exists Bit0 = 1 Sender specification required (if set to 1, Bit6 is set to "0")	
011	Delivery Svr.Capability (Ext)	
	These settings are for future use. They will let you increase the number of registered devices (in addition to those registered for SP5845 010). There are eight bits (Bit 0 to Bit 7). All are unused at this time.	
013	Server Scheme (Primary)	
014	Server port Number (Primary)	[1 to 65535 / **80** / 1]
015	Server URL Path (Primary)	
016	Server Scheme (secondary)	
017	Server Port (Secondary)	[1 to 65535 / **80** / 1]
018	Server URL Path (Secondary)	
019	Capture Server Port Number	

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020	Capture Server URL Path	[1 to 65535 / **80** /1]
021	Capture Server URL Path	
	These SPs (5845-013/014/015/016/017/018/019/020/021) listed above are used for the scan router program.	
022	Rapid Sending Control	[0 to 1 / **0** / -] 0: Disable, 1: Enable
	Enables or disables the prevention function for the continuous data sending error.	

5846*	UCS Setting
001	Machine ID (for Delivery Server)
	Displays the unique device ID in use by the delivery server directory. The value is only displayed and cannot be changed. This ID is created from the NIC MAC or IEEE 1394 EUI. The ID is displayed as either 6-byle or 8-byte binary.
002	Machine ID Clear (for Delivery Server)
	Clears 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
	Changes the maximum number of entries that UCS can handle. [2000 to 20000 / **2000** / 1 step] 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
	Sets the interval for retry attempts when the delivery server fails to acquire the delivery server address book. [0 to 255 / **0** / 1 step] 0: No retries

007	Delivery Server Retry Times
	Sets the number of retry attempts when the delivery server fails to acquire the delivery server address book.
	[0 to 255 / **0** / 1step]
008	Delivery Server Maximum Entries
	Lets you set the maximum number of account entries and information about the users of the delivery server controlled by UCS.
	[2000 to 20000 / **2000** / 1 step]
010	LDAP Search Timeout
	Sets the length of the time-out for the search of the LDAP server.
	[1 to 255 / **60** /1 step]
040	Addr Book Migration (USB -> HDD)
	This SP moves the address book data from the SD card or flash ROM on the controller board to the HDD. You must cycle the machine off and on after executing this SP.
	1. Turn the machine off.
	2. Install the HDD.
	3. Turn the machine on.
	4. Do SP5846 040.
	5. Turn the machine off/on.
	↓Note
	• Executing this SP overwrites any address book data already on the HDD with the data from the flash ROM on the controller board.
	• We recommend that you back up all directory information to an SD card with SP5846-051 before you execute this SP.
	• After the address book data is copied to HDD, all the address book data is deleted from the flash ROM. If the operation fails, the data is not erased from the flash ROM.
041	Fill Addr Acl Info.

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	This SP must be executed immediately after installation of an HDD unit in a basic machine that previously had no HDD. The first time the machine is powered on with the new HDD installed, the system automatically takes the address book from the NVRAM and writes it onto the new HDD. However, the new address book on the HDD can be accessed only by the system administrator at this stage. Executing this SP by the service technician immediately after power on grants full address book access to all users. **Procedure** 1. Turn the machine off. 2. Install the new HDD. 3. Turn the machine on. 4. The address book and its initial data are created on the HDD automatically. However, at this point the address book can be accessed by only the system administrator or key operator. 5. Enter the SP mode and do SP5846 041. After this SP executes successfully, any user can access the address book.
043	Addr Book Media
	Displays the slot number where an address book data is in. [0 to 30 / - /1]
	0: Unconfirmed 1: SD Slot 1 2: SD Slot 2 4: USB Flash ROM / 20: HDD 30: Nothing
047	Initialize Local Address Book
	Clears all of the address information from the local address book of a machine managed with UCS.
048	Initialize Delivery Addr Book
	Push [Execute] to delete all items (this does not include user codes) in the delivery address book that is controlled by UCS.
049	Initialize LDAP Addr Book
	Push [Execute] to delete all items (this does not include user codes) in the LDAP address book that is controlled by UCS.

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050	Initialize All Addr Book	
	Clears everything (including users codes) in the directory information managed by UCS. However, the accounts and passwords of the system administrators are not deleted.	
051	Backup All Addr Book	
	Copies all directory information to the SD card. Do this SP before replacing the controller board or HDD. The operation may not succeed if the controller board or HDD is damaged.	
052	Restore All Addr Book	
	Copies back all directory information from the SD card to the flash ROM or HDD. Upload the address book from the old flash ROM or HDD with SP5846-51 before removing it. Do SP5846 52 after installing the new HDD.	
053	Clear Backup Info.	
	Deletes the address book uploaded from the SD card in the slot 2. Deletes only the files uploaded for that machine. This feature does not work if the card is write-protected.	
	Note: After you do this SP, go out of the SP mode, turn the power off. Do not remove the SD card until the Power LED stops flashing.	
060	Search Option	
	This SP uses bit switches to set up the fuzzy search options for the UCS local address book.	
	Bit	**Meaning**
	0	Checks both upper/lower case characters
	1	**Japan Only**
	2	
	3	
	4	--- Not Used ---
	5	--- Not Used ---
	6	--- Not Used ---
	7	--- Not Used ---

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062	Complexity Option 1
	Use this SP to set the conditions for password entry to access the local address book. Specifically, this SP limits the password entry to upper case and sets the length of the password.
	[0 to 32 / **0** / 1step]
	⬇Note
	• This SP does not normally require adjustment.
	• This SP is enabled only after the system administrator has set up a group password policy to control access to the address book.
063	Complexity Option 2
	Use this SP to set the conditions for password entry to access the local address book. Specifically, this SP limits the password entry to lower case and defines the length of the password.
	[0 to 32 / **0** / 1step]
	⬇Note
	• This SP does not normally require adjustment.
	• This SP is enabled only after the system administrator has set up a group password policy to control access to the address book.
064	Complexity Option 3
	Use this SP to set the conditions for password entry to access the local address book. Specifically, this SP limits the password entry to numbers and defines the length of the password.
	[0 to 32 / **0** / 1step]
	⬇Note
	• This SP does not normally require adjustment.
	• This SP is enabled only after the system administrator has set up a group password policy to control access to the address book.

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065	Complexity Option 4		
	Use this SP to set the conditions for password entry to access the local address book. Specifically, this SP limits the password entry to symbols and defines the length of the password. [0 to 32 / **0** / 1step] ⬇**Note** • This SP does not normally require adjustment. • This SP is enabled only after the system administrator has set up a group password policy to control access to the address book.		
091	FTP Auth Port Setting		
	Sets the FTP port to get the delivery server address book that is used in the individual authorization mode. [0 to 65535 / **3671** / 1step]		
094	Encryption Start		
	Shows the status of the encryption function of the address book on the LDAP server. [0 to 255 / 1] No default		

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5847*	Rep Resolution Reduction		
	5847-2 through 5847-6 changes the default settings of image data sent externally by the Net File page reference function. 5847-21 sets the default for JPEG image quality of image files controlled by NetFile. "NetFile" refers to jobs to be printed from the document server with a PC and the DeskTopBinder software.		
002	Rate for Copy B&W Text	[0 to 6 / **0** / 1]	0: 1x 1: 1/2x 2: 1/3x 3: 1/4x 4: 1/5x 5: 1/8x 6: 2/3x1
003	Rate for Copy B&W Other	[0 to 6 / **0** / 1]	
005	Rate for Printer B&W	[0 to 6 / **0** / 1]	

		Network Quality Default for JPEG	
021		Sets the default value for the quality of JPEG images sent as NetFile pages. This function is available only with the MLB (Media Link Board) option installed. [5 to 95 / **50** / 1step]	

		Web Service	
5848*		5848-2 sets the 4-bit switch assignment for the access control setting. Setting of 0001 has no effect on access and delivery from Scan Router. 5848-100 sets the maximum size 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 and off. 0000: OFF, 0001: ON
	004	Acc. Ctrl.: User Directory (Lower 4 Bits)	
	007	Acc. Ctrl Comm. Log Fax (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)	
	099	Repository: Download Image Setting	
	100	Repository: Download Image Max. Size	Specified the max size of the image data that the machine can download/ [1 to 2048 / **2048** / 1 MB]
	210	Setting: Log Type: Job 1	
		No information is available at this time.	
	211	Setting: Log Type: Job 2	
		No information is available at this time.	

212	Setting: Log Type: Access	
	No information is available at this time.	
213	Setting: Primary Srv	
	No information is available at this time.	
214	Setting: Secondary Srv	
	No information is available at this time.	
215	Setting: Start Time	
	No information is available at this time.	
216	Setting: Interval Time	
	No information is available at this time.	
217	Setting: Timing	
	No information is available at this time.	

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: OFF (No Print) 1: ON (Print)
003	Total Counter	When the total number of pages that are made reaches this value, the current date becomes the 'official' installation date for this machine. [0 to 99999999 / 0 / 1]

5850*	Address Book Function **Japan Only**

003	Replacement of Circuit Classification
	The machine is sold ready to use with a G3 line. This SP allows you to switch all at once to convert to G4 after you add a G4 line. Conversely, if for some reason the G4 line becomes unusable, you can easily switch back to G3.

5851*	Bluetooth
	Sets the operation mode for the Bluetooth Unit. Press either key.
	[0: Public] / [1: Private]

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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
002	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 / **0** / 1 step]
	0: Not allowed
	1: Allowed

5857	Save Debug Log
	On/Off (1:ON 0:OFF)
001	Switches on the debug log feature. The debug log cannot be captured until this feature is switched on.
	[0 to 1 / **0** / 1]
	0: OFF, 1: ON

002	Target (2: HDD 3: SD)
	Selects the destination where the debugging information generated by the event selected by SP5858 will be stored if an error is generated [2 to 3 / **2** / 1] 2: HDD, 3: SD Card
005	Save to HDD
	Specifies the decimal key number of the log to be written to the hard disk.
006	Save to SD Card
	Specifies the decimal key number of the log to be written to the SD Card.
009	Copy HDD to SD Card (Latest 4 MB)
	Takes the most recent 4 MB of the log written to the hard disk and copies them to the SD Card. 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.
010	Copy HDD to SD Card Latest 4 MB Any Key)
	Takes the log of the specified key from the log on the hard disk and copies it to the SD Card. A unique file name is generated to avoid overwriting existing file names on the SD Card. Up to 4 MB can be copied to an SD Card. 4 MB segments can be copied one by one to each SD Card. This SP does not execute if there is no log on the HDD with no key specified.
011	Erase HDD Debug Data
	Erases all debug logs on the HDD
012	Erase SD Card Debug Data
	Erases all debug logs on the SD Card. If the card contains only debugging files generated by an event specified by SP5858, the files are erased when SP5857 010 or 011 is executed. To enable this SP, the machine must be cycled off and on.
013	Free Space on SD Card
	Displays the amount of space available on the SD card.

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014	Copy SD to SD (Latest 4MB)		
	Copies the last 4MB of the log (written directly to the card from shared memory) onto an SD card.		
015	Copy SD to SD (Latest 4MB Any Key)		
	This SP copies the log on an SD card (the file that contains the information written directly from shared memory) to a log specified by key number.		
016	Make HDD Debug		
	This SP creates a 32 MB file to store a log on the HDD.		
017	Make SD Debug		
	This SP creates a 4 MB file to store a log on an SD card.		

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 to 65535 / 0 / 1step]	
004*	Jam (0:OFF 1:ON)	Stores jam errors.	

5859*	Debug Log Save Function

001	Key 1	These SPs allow you to set up to 10 keys for log files for functions that use common memory on the controller board.
002	Key 2	
003	Key 3	
004	Key 4	
005	Key 5	[-9999999 to 9999999 / - / 1]
006	Key 6	
007	Key 7	
008	Key 8	
009	Key 9	
010	Key 10	

5860*	SMTP/POP3/IMAP4
020	Partial Mail Receive Timeout [1 to 168 / **72** / 1 hour] Sets the amount of time to wait before saving a mail that breaks up during reception. The received mail is discarded if the remaining portion of the mail is not received during this prescribed time.
021	MDN Response RFC2298 Compliance Determines whether RFC2298 compliance is switched on for MDN reply mail. [0 to 1 / **1** / 1] 0: No, 1: Yes
022	SMTP Auth. From Field Replacement Determines whether the FROM item of the mail header is switched to the validated account after the SMTP server is validated. [0 to 1 / **0** / 1] 0: No. "From" item not switched. 1: Yes. "From" item switched.

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025	SMTP Auth Direct Sending	
	Select the authentication method for SMPT. Bit 0: LOGIN Bit 1: PLAIN Bit 2: CRAM_MD5 Bit 3: DIGEST_MD5 Bit 4 to Bit 7: Not Used ⬇ Note • This SP is activated only when SMTP authentication is enabled by UP mode.	
026	S/MIVE: MIME Header Setting	
	Selects the MIME header type of an E-mail sent by S/MIME. [0 to 2 / **0** / 1] 0: Microsoft Outlook Express standard 1: Internet Draft standard 2: RFC standard	

5866	E-Mail Report	
001	Report Validity	Enables or disables the E-mail alert function. [0 or 1 / **0** / –] 0: Enabled, 1: Disabled
005	Add Date Field	Adds or does not add the date field to the header of the alert mail. [0 or 1 / **0** / –] 0: Not added, 1: Added

5870	Common Key Info Writing	
	Writes to flash ROM the common proof for validating the device for NRS specifications.	
001	Writing	These SPs are for future use and currently are not used.
003	Initialize	

5873	SD Card Appli. Move	
	Allows you to move applications from one SD card another. For more, see "SD Card Appli Move" in the chapter "System Maintenance (Main Chapters).	
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	
	This SP determines whether the machine reboots automatically when an SC error occurs. 🔽Note • The reboot does not occur for Type A SC codes.	
001	Reboot Setting	[0 to 1/ **0** / 1] 0: The machine reboots automatically when the machine issues an SC error and logs the SC error code. If the same SC occurs again, the machine does not reboot. 1: The machine does not reboot when an SC error occurs.
002	Reboot Type	[0 to 1 / **0** / 1] 0: Manual reboot, 1: Automatic reboot

5878	Option Setup	
001	Data Overwrite Security	Press [Execute] to initialize the Data Overwrite Security option for the copier. For more, see "DataOverwriteSecurity Unit" in the chapter "Installation".
002	HDD Encryption	Installs the HDD Encryption unit.

5881	Fixed Phase Block Erasing
	Detects the Fixed phrase.

5885*	Set WIM Function

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020	DocSvr Acc Ctrl	Allows or disallows the functions of web image monitor. **0**: OFF, 1: ON Bit: 0: Forbid all document server access 1: Forbid user mode access 2: Forbid print function 3: Forbid Fax 4: Forbid scan sending 5: Forbid download 6: Forbid delete 7: Forbid guest user
50	DocSvr Format	
	Selects the display type for the document box list. [0 to 2 / **0** / 1] 0: Thumbnail, 1: Icon, 2: Details	
51	DocSvr Trans	
	Sets the number of documents to be displayed in the document box list. [5 to 20 / **10** / 1]	
100	Set Signature	
	[0 to 2 / **0** / 1/step] 0: Signature for each e-mail 1: Signature for all e-mails 2: No signature	
	Selects whether the signature is added to the scanned documents with the WIM when they are transmitted by an e-mail.	
101	Set Encryption	
	Determines whether the scanned documents with the WIM are encrypted when they are transmitted by an e-mail. [0 to 1 / **0** / 1] 0: Not encrypted, 1:Encryption	

200	Detect Mem Leak	Not used
201	DocSvr Timeout	Not used

5887	SD Get Counter
	This SP determines whether the ROM can be updated.
001	This SP sends a text file to an SD card inserted in SD card Slot 2 (lower slot). The operation stores. The file is stored in a folder created in the root directory of the SD card called SD_COUNTER. The file is saved as a text file (*.txt) prefixed with the number of the machine. 1. Insert the SD card in SD card Slot 2 (lower slot). 2. Select SP5887 then touch [EXECUTE]. Touch [Execute] in the message when you are prompted.

5888*	Personal Information Protect
	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)

5907	Plug & Play Maker/Model Name
	Selects the brand name and the production name for Windows Plug & Play. This information is stored in the NVRAM. If the NVRAM is defective, these names should be registered again. After selecting, press the "Original Type" key and "#" key at the same time. When the setting is completed, the beeper sounds five times.

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[0 to 23 / - / 1 step] **FA**	↓
0: RICOH Aficio MP 4000B	12: LANIER MP 4000B/LD040B
1: RICOH Aficio MP 4000	13: LANIER MP 4000/LD040
2: RICOH Aficio MP 5000B	14: LANIER MP 5000B/LD050B
3: RICOH Aficio MP 5000	15: LANIER MP 5000/LD050
4: SAVIN 9040b	16: NRG MP 4000B
5: SAVIN 9040	17: NRG MP 4000
6: SAVIN 9050b	18: NRG MP 5000B
7: SAVIN 9050	19: NRG MP 5000
8: Gestetner MP 4000B	20: infotec MP 4000B
9: Gestetner MP 4000	21: infotec MP 4000
10: Gestetner MP 5000B	22 infotec MP 5000B
11: Gestetner MP 5000	23 infotec MP 5000

5913*	Switchover Permission Time	
	Print Application Timer	[3 to 30 / **3** / 1 second step]
002	Sets the length of time to elapse before allowing another application to take control of the display when the application currently controlling the display is not operating because a key has not been pressed.	

5967*	Switchover Permission Time	**0**: ON, 1: OFF
	Enable and disable the document server. This is a security measure that prevents image data from being left in the temporary area of the HDD. After changing this setting, you must switch the main switch off and on to enable the new setting.	

5974*	Cherry Server
	Selects which version of the Scan Router application program, "Light" or "Full" (Professional) is installed. [0 or 1 / **0** / -] 0: Light 1: Full

5985	Device Setting	
	The NIC and USB support features are built into the GW controller. Use this SP to enable and disable these features. In order to use the NIC and USB functions built into the controller board, these SP codes must be set to "1".	
001	On Board NIC	[0 to 2 / **0** / 1 /step] 0: Disable, 1: Enable, 2: Function limitation When the "Function limitation" is set, "On board NIC" is limited only for the NRS or LDAP/NT authentication. 🔽 **Note** • Other network applications than @Remote or LDAP/NT authentication are not available when this SP is set to "2". Even though you can change the initial settings of those network applications, the settings do not work
002	On Board USB	[0 or 1 / **0** / 1/step] 0: Disable, 1: Enable

5987*	Counter Falsification Prevention
	This SP detects that a mechanical counter device is removed. If it is detected, SC610 occurs. 0: OFF. 1: ON

5990	SP Print Mode

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001	All (Data List)	Prints out the SMC sheets.	
002	SP (Mode Data List)		
003	User Program		
004	Logging Data		
005	Diagnostic Report		
006	Non-Default		
007	NIB Summary		
008	Capture Log		
021	Copier User Program		
022	Scanner SP		
023	Scanner User Program		

System SP Table-6

SP6-xxx: Peripherals

6006*	ADF Registration Adjust	
	Adjusts the side-to-side and leading edge registration for simplex and duplex original feeding in ARDF mode. Press 🔄 to toggle ±. SP6006-5 sets the maximum setting allowed for rear edge erase.	
001	Adjust Side-to-Side: 1st Side	[−3 to 3 / **0** / 0.1 mm / step]
002	Adjust Side-to-Side: 2nd Side	
003	Leading Edge	[−5 to 5 / **0** / 0.1 mm / step]
005	Leading Edge: 1st Side	[−3 to 3 / **0** / 0.1 mm / step]
006	Leading Edge: 2nd Side	[−2.5 to 2.5 / **0** / 0.1 mm / step]
007	Trailing Edge Erase	[−10 to 10 / **0** / 0.1 mm / step]

6007	ADF Input Check

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001	Original B5 Sensor	0: Paper not detected 1: Paper detected
002	Original A4 Sensor	
003	Original LG Sensor	
004	Original Width Sensor 1	
005	Original Width Sensor 2	
006	Original Width Sensor 3	
007	Original Width Sensor 4	
008	Original Width Sensor 5	
009	Original Set Sensor	
010	Separation Sensor	
011	Skew Correction Sensor	
012	Interval Sensor	
013	Registration Sensor	
014	Exit Sensor	
015	Top Cover Sensor	0: ADF cover closed 1: ADF cover open
016	Lift Sensor	0: ADF closed 1: ADF open
017	Inverter Sensor	0: Paper not detected 1: Paper detected
018	Pick-up HP Sensor	0: HP (Pick-up roller: Up) 1: Not HP (Pick-up roller: Down)
019	Original Stopper HP Sensor	0: HP (Stopper: UP) 1: Not HP (Stopper: Down)

6008	ADF Output Check

001	Pick-up Motor: Fwd	
002	Pick-up Motor: Rev	
003	Feed Motor: Fwd	
004	Feed Motor: Rev	
005	Transport Motor: Fwd	
007	Inverter Motor: Fwd	
008	Inverter Motor: Rev	
011	Junction Gate Solenoid	
012	Stamp Solenoid	

6009	ADF Free Run	
	Performs an ARDF free run in duplex mode. Press [ON] to start, press [OFF] to stop. **Note**: This is a general free run controlled from the copier.	
001	Free Run: Simplex	
002	Free Run: Duplex	
003	Free Run: Stamp	

6010*	ADF Stamp Position Adjustment	[−5 to 5 / **0** / 0.1 mm step]
	Adjusts the horizontal position of the stamp on the scanned originals.	

6016*	Original Size Detection Priority
	Specifies the original size for a size detected by the original sensor, since original sensors cannot recognize all sizes.

4

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001	Original Size Detection Priority	[0 or 1 / **0** / -] 0: Setting 1 1: Setting 2		
			Setting 1	Setting 2
		NA	DLT SEF	Folio SEF 11" x 15"
			LG SEF	Foolscap SEF
			LT SEF	US EXE 8" x 10"
			LT LEF	US EXE LEF
		EU/ ASIA	DLT SEF	8K 267 x 390 mm
			LT SEF	16K 195 x 267 mm
			LT LEF	16K 267 x 195 mm

6017*	Sheet Through Magnification	[−5 to 5 / **0** / 0.1% step]
	Adjusts the magnification in the sub-scan direction for ADF mode. Use the key to toggle between + and - before entering the value	

6020*	Skew Correction Adjustment
	Turns the original skew correction in the ARDF for all original sizes on or off. [0 to 1 / **0** / 1] 0: Off (only for small original sizes) 1: On (for all original sizes)

6128	Punch Position: Sub Scan
	Adjusts the punching position in the sub scan direction. (For B804/B805)

	001	2-Hole: DOM (Japan)	
	002	3-Hole: NA	
	003	4-Hole: EU	[-7.5 to 7.5 / **0** / 0.5 mm]
	004	5-Hole: SCAN	
	005	2-Hole: NA	
	006	1-Hole: DOM (Japan)	

6129		Punch Position: Main Scan	
		Adjusts the punching position in the main scan direction. (For B804/B805)	
	001	2-Hole: DOM (Japan)	
	002	3-Hole: NA	
	003	4-Hole: EU	[-2 to 2 / **0** / 0.4 mm]
	004	4-Hole: SCAN	
	005	2-Hole: NA	
	006	1-Hole: DOM (Japan)	

6130*	Skew Correction: Buckle Adj.
	Adjusts the paper buckle at the punch unit for each paper size. (For B804/B805)

001	A3 SEF	
002	B4 SEF	
003	A4 SEF	
004	A4 LEF	
005	B5 SEF	
006	B5 LEF	[-5 to 5 / **0** / 0.25 mm]
007	DLT SEF	
008	LG SEF	
009	LT SEF	
010	LT LEF	
011	12" x 18"	
012	Other	

6131*	Skew Correction Control
	Selects the skew correction control for each paper size. (For B804/B805)

001	A3 SEF	
002	B4 SEF	
003	A4 SEF	
004	A4 LEF	
005	B5 SEF	
006	B5 LEF	[0 to 1 / 1 / 1 mm]
007	DLT SEF	
008	LG SEF	
009	LT SEF	
010	LT LEF	
011	12" x 18"	
012	Other	

6132*	Jogger Fence Fine Adj.
	This SP adjusts the distance between the jogger fences and the sides of the stack on the finisher stapling tray in the (Booklet) Finisher B804/B805. The adjustment is done perpendicular to the direction of paper feed.

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001	A3 SEF	[-1.5 to 1.5 / 0 / 0.5 mm]
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	

6133*	Staple Position Adjustment
	Adjusts the staple position for each finisher (B408/B804/B805).
	+ Value: Moves the staple position to the rear side.
	- Value: Moves the staple position to the front side.
	[-3.5 to 3.5 / 0 / 1/step]

6134*	Saddle Stitch Position Adjustment
	Use this SP to adjust the stapling position of the booklet stapler when paper is stapled and folded in the Booklet Finisher (B804).

	001	A3 SEF	[-3 to 3 / **0** / 0.2 mm] + Value: Shifts staple position toward the crease. - Value: Shifts staple position away from the crease
	002	B4 SEF	
	003	A4 SEF	
	004	B5 SEF	
	005	DLT SEF	
	006	LG SEF	
	007	LT SEF	
	008	12" x 18"	
	009	Other	

6135*		Folder Position Adj.
		This SP corrects the folding position when paper is stapled and folded in the Booklet Finisher B804.
	001	A3 SEF	[-3 to 3 / **0** / 0.2 mm] + Value: Shifts staple position toward the crease. - Value: Shifts staple position away from the crease.
	002	B4 SEF	
	003	A4 SEF	
	004	B5 SEF	
	005	DLT SEF	
	006	LG SEF	
	007	LT SEF	
	008	12" x 18"	
	009	Other	

6136*	Book Fold Repeat
	Sets the number of times that folding is done in the Booklet Finisher B804. [2 to 30 / **2** / 1 time/step]

6137	Finisher Free Run	
	These SPs are used only for the B408 or B793.	
001	Free Run 1	B408: Free run for stapling mode (without paper feeding). B793: Free run for paper edge stapling.
002	Free Run 2	B408: Free run for stapling mode and shift mode (without paper feeding). B793: Free run for booklet stapling.
003	Free Run 3	B408: Not used B793: Shipping free run. Simulates standby conditions during shipping.
004	Free Run 4	Not used

6139	FIN (KIN) INPUT Check
	Display the signals received from sensors and switches of the (booklet) finisher. (B408) (☛ p.271 "Input Check")

6140	FIN (EUP) INPUT Check
	Display the signals received from sensors and switches of the (booklet) finisher. (B804/B805) (☛ p.271 "Input Check")

6144	FIN (KIN) OUPUT Check
	Display the signals received from sensors and switches of the (booklet) finisher. (B408) (☛ p.281 "Output Check")

6145	FIN (EUP) OUPUT Check
	Display the signals received from sensors and switches of the (booklet) finisher. (B804/B805) (☛ p.281 "Output Check")

6148*	Jogger Fine Adjustment **Not used**

001	A3 SEF	This SP corrects the distance between the output jogger fence and the sides of the stack. + Value: Increases the distance between the output jogger fence and the sides of the stack. - Value: Decreases the distance between the output jogger fences and the sides of the stack. [-1.5 to 1.5 / **0** / 0.5 mm]
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	

6149*	Max. Pre-Stack Sheet	[0 to 3 / **3** / 1 sheets step]
	This SP sets the number of sheets sent to the pre-stack tray. ⬇ **Note** • You may need to adjust this setting or switch it off when feeding thick or slick paper.	

6150*	Jogger Control	[0 to 1 / **0** / 1] **Not used**
	This SP is for the output jogger control.	

6800	Sheet Conversion (Thick Paper)
	Permits punching, including tab sheets. Note: Do not change this setting. [1 to 3 / **3** / 1 sheet] 1: 1 Sheet 2: 2 Sheets 3: 3 Sheets

4

6910	Shading Control	
001	ON/OFF	[0 to 1 / **0** / 1] 0= OFF, 1= ON
	Enables or disables the shading adjustment for DF mode.	
002	Shading Interval: A	[0 to 60 / **3** / 1 sec] **DFU**
003	Shading Interval: B	[0 to 120 / **60** / 1] **DFU**

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System SP Table-7

SP7-xxx: Data Log

7401*	Total SC Counter
	Displays the total number of service calls that have occurred.

7403*	SC History	
001	Latest	
002	Latest 1	
003	Latest 2	
004	Latest 3	
005	Latest 4	Displays the most recent 10 service calls.
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 paper jams.

7503*	Total Original Jam Counter
	Displays the total number of original jams.

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	13	Bank: Transport Sn 1: On
		Total Jams Location
7504*		These SPs display the total number of paper jams by location. A "Check-in" (paper late) error occurs when the paper fails to activate the sensor at the precise time. A "Check-out" ("paper lag") paper jam occurs when the paper remains at the sensor for longer than the prescribed time.
	1	At power On
	3	Tray 1: On
	4	Tray 2: On
	5	Tray 3: On
	6	Tray 4: On
	7	LCT: On
	8	Bypass: On
	9	Duplex: On
	11	Vertical Transport 1: On
	12	Vertical Transport 2: On
	14	Bank: Transport Sn 2: On
	17	Registration: On
	19	Fusing Exit: On
	20	Paper Exit: On
	21	Bridge Exit On
	22	Bridge Transport: On
	24	Junction Gate Sensor: On
	25	Duplex Exit: On
	26	Duplex Entrance: On (in)
	27	Duplex Entrance: On (out)
	51	Vertical Transport 1: Off

13	Bank: Transport Sn 1: On
52	Vertical Transport 2: Off
53	Bank Transport 1: Off
54	Bank Transport 2: Off
57	Registration Sensor: Off
58	LCT Feed Sensor: Off
60	Paper Exit: Off
61	Bridge: Exit: Off
62	Bridge: Transport: Off
64	Junction Gate Sensor: Off
65	Duplex Exit: Off
66	Duplex Entrance: Off (in)
67	Duplex Entrance: Off (out)
100	Finisher Entrance: KIN
101	Finisher Shift: KIN
102	Finisher Staple: KIN
103	Finisher Exit: KIN
105	Finisher Tray Lift Motor: KIN
106	Finisher Jogger Motor: KIN
107	Finisher Shift Motor: KIN
108	Finisher Staple Motor: KIN
109	Finisher Exit Motor: KIN
191	Finisher Entrance: EUP
192	Finisher Proof Exit: EUP
193	Finisher Shift Tray Exit: EUP
194	Finisher Staple Exit: EUP

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13	Bank: Transport Sn 1: On
195	Finisher Exit: EUP
198	Finisher Folder: EUP
199	Finisher Tray Motor: EUP
200	Finisher Jogger Motor: EUP
201	Finisher Shift Motor: EUP
202	Finisher Staple Moving Motor: EUP
203	Finisher Staple Motor: EUP
204	Finisher Folder Motor: EUP
206	Finisher Punch Motor:EUP

7505	Original Jam Location
	Displays the total number of original jams by location. These jams occur when the original does not activate the sensors. A Check-in ("paper late") error occurs when the paper fails to activate the sensor at the precise time. A Check-out ("paper lag") paper jam occurs when the paper remains at the sensor for longer than the prescribed time.
1	At Power: On
3	Separation Sensor: On
4	Skew Correction Sensor: On
5	Interval Sensor: On
6	Registration Sensor: On
7	Inverter Sensor: On
8	Original Exit Sensor: On
53	Separation Sensor: Off
54	Skew Correction Sensor: Off
55	Interval Sensor: Off
56	Registration Sensor: Off

57	Inverter Sensor: Off
58	Original Exit Sensor: Off

7506*	Jam Count by Paper Size	
005	A4 LEF	
006	A5 LEF	
014	B5 LEF	
038	LT LEF	
044	HLT LEF	
132	A3 SEF	
133	A4 SEF	
134	A5 SEF	Displays the total number of copy jams by paper size.
141	B4 SEF	
142	B5 SEF	
160	DLT SEF	
164	LG SEF	
166	LT SEF	
172	HLT SEF	
255	Others	

7507*	Plotter Jam History

7507 1	Last	Displays the copy jam history (the most recent 10 jams)
7507 2	Latest 1	Sample Display:
7507 3	Latest 2	CODE:007
7507 4	Latest 3	SIZE:05h
7507 5	Latest 4	TOTAL:0000334
7507 6	Latest 5	DATE: Mon Mar 15 11:44:50 2000
7507 7	Latest 6	where:
7507 8	Latest 7	CODE is the SP7504-*** number (see above. SIZE is the ASAP paper size code in hex.
7507 9	Latest 8	TOTAL is the total jam error count (SP7502) DATE is the date the jams occurred.
7507 10	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
LT (S)	26	B4 (L)	8D	HLT (L)	AC
HLT (S)	2C	B5 (L)	8E	Others	FF

7508*	Original Jam History

001	Last	Displays the original jam history (the most recent 10 jams).
002	Last 1	Sample Display:
003	Last 2	CODE:007
004	Last 3	SIZE:05h
005	Last 4	TOTAL:0000334
006	Last 5	DATE: Mon Mar 15 11:44:50 2000
007	Last 6	where:
008	Last 7	CODE is the SP7505*** number (see above.
009	Last 8	SIZE is the ASAP paper size code in hex.
010	Last 9	TOTAL is the total jam error count (SP7503)

DATE is the date the jams occurred.

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
LT (S)	26	B4 (L)	8D	HLT (L)	AC
HLT (S)	2C	B5 (L)	8E	Others	FF

7801	ROM No./Firmware Version
255	Displays the ROM number and firmware version numbers.

7803	PM Counter	
	Displays the PM counter since the last PM.	
001	Paper	[0 to 999999 / 0 / 1 page]
002	Page: PCD	[0 to 999999 / 0 / 1 page]
	Displays the PCD (Drum and Development unit) counter (pages)	

003	Page: Transfer	[0 to 999999 / **0** / 1 page]	
	Displays the transfer unit counter (pages).		
004	Page: Fuser	[0 999999 / **0** / 1 page]	
	Displays the fusing unit counter (pages).		
005	Rotation: PCU	[0 999999999 / **0** / 1 mm]	
	Displays the PCD rotation counter (distance).		
006	Rotation: Transfer	[0 999999999 / **0** / 1 mm]	
	Displays the transfer unit rotation counter (distance).		
007	Rotation: Fuser	[0 999999999 / **0** / 1 mm]	
	Displays the fuser unit rotation counter (distance).		
008	Rotation(%): PCU	[0 255 / **0** / 1 %]	
	Displays the PCD (%) rotation counter (Distance/PM).		
009	Rotation(%):Transfer	[0 255 / **0** / 1 %]	
	Displays the transfer unit (%) rotation counter (distance/PM).		
010	Rotation(%):Fuser	[0 255 / **0** / 1 %]	
	Displays the fuser unit (%) rotation counter (distance/PM).		
011	Rotation(%):Web	[0 255 / **0** / 1 %]	
	Displays the web unit (%) rotation counter (distance/PM).		

7804	PM Counter	
	Resets the PM counter. To reset, press ⏻.	
001	Paper	
	Resets the PM counter of the paper.	
002	Clear PCD	
	Resets the PM counter of the PCD (Drum and Development unit except developer).	

003	Clear Transfer		
	Resets the PM counter of the transfer unit.		
004	Clear Fuser		
	Resets the PM counter of the fuser unit.		
005	Clear Web		
	Reset the PM counter of the web unit.		
006	Clear All Clear		
	Resets all PM counter		

7805	Parts Counter		
001	Page: OPC	[0 to 999999 / **0** / 1 page]	
	Displays the parts counter (pages) of the OPC.		
002	Page: Charge Roller	[0 to 999999 / **0** / 1 page]	
	Displays the parts counter (pages) of the charge roller.		
003	Page: Developer	[0 to 999999 / **0** / 1 page]	
	Displays the parts counter (pages) of the developer.		
004	Page: Belt Blade	[0 to 999999 / **0** / 1 page]	
	Displays the parts counter (pages) of the transfer belt cleaning blade.		
005	Page: Heat Roller	[0 to 999999 / **0** / 1 page]	
	Displays the parts counter (pages) of the hot roller.		
006	Page: Pressure Roller	[0 to 999999 / **0** / 1 page]	
	Displays the parts counter (pages) of the pressure roller.		
007	Page: Cleaning Roller	[0 to 999999 / **0** / 1 page]	
	Displays the parts counter (pages) of the cleaning roller.		
008	Page: Thermistor	[0 to 999999 / **0** / 1 page]	
	Displays the parts counter (pages) of the thermistors.		

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009	Page: Stripper	[0 to 999999 / **0** / 1 page]
	Displays the parts counter (pages) of the strippers.	
010	Rotation: OPC	[0 to 999999999 / **0** / 1 mm]
	Displays the parts counter (rotations) of the OPC.	
011	Rotation: Charge Roller	[0 to 999999999 / **0** / 1 mm]
	Displays the parts counter (rotations) of the charge roller.	
012	Rotation: Developer	[0 to 999999999 / **0** / 1 mm]
	Displays the parts counter (rotations) of the developer.	
013	Rotation: Belt Blade	[0 to 999999999 / **0** / 1 mm]
	Displays the parts counter (rotations) of the transfer belt, blade.	
014	Rotation: Heat Roller	[0 to 999999999 / **0** / 1 mm]
	Displays the parts counter (rotations) of the hot roller.	
015	Rotation: Pressure Roller	[0 to 999999999 / **0** / 1 mm]
	Displays the parts counter (rotations) of the pressure roller.	
016	Rotation: Cleaning Roller	[0 to 999999999 / **0** / 1 mm]
	Displays the parts counter (rotations) of the cleaning roller.	
017	Rotation: Thermistor	[0 to 999999999 / **0** / 1 mm]
	Displays the parts counter (rotations) of the thermistors.	
018	Rotation: Stripper	[0 to 999999999 / **0** / 1 mm]
	Displays the parts counter (rotations) of the strippers.	
019	Page(%): Web	[0 to 255 / **0** / 1 %]
	Displays the parts counter (rotations/PM %) of the cleaning web.	

7806	Counter Clear	
001	OPC	
	Resets the parts counter of the OPC.	

002	Charge Roller	
	Resets the parts counter of the charge roller.	
003	Developer	
	Resets the parts counter of the developer.	
004	Belt: Blade	
	Resets the parts counter of the transfer belt cleaning blade.	
005	Heat Roller	
	Resets the parts counter of the hot roller.	
006	Pressure Roller	
	Resets the parts counter of the pressure roller.	
007	Cleaning Roller	
	Resets the parts counter of the cleaning roller.	
008	Web	
	Resets the parts counter of the cleaning web.	
009	Thermistor	
	Resets the parts counter of the thermistors.	
010	Stripper	
	Resets the parts counter of the strippers.	
011	All Clear	
	Resets all parts counters.	

7807	SC/Jam Counter Reset
	Resets the SC and jam counters. To reset, press Execute on the touch panel.
	This SP does not reset the jam history counters: SP7507, SP7508.

| 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 **Japan Only**
	Press Execute to reset to 0 the values of SP7826. **Japan Only**

7832	Self-Diagnose Result Display
	Execute to open the "Self-Diagnostics Result Display" to view details about errors. Use the keys in the display on the touch-panel to scroll through all the information. If no errors have occurred, you will see the "No Error" message on the screen.

7836	Total Memory Size
	Displays the memory capacity of the controller system.

7852	ADF Exposure Glass	
	Counts the number of occurrences (0 to 65,535) when dust was detected on the scanning glass of the ADF.	
001*	Dust Check Counter	Counts the occurrences. Counting is done only if SP4020-1 (ADF Scan Glass Dust Check) is switched on.
002*	Dust Check Clear Counter	Clears the count. Memory All Clear (SP5801) resets this counter to zero.

7853*	Replacement Counter	
001	PCD	[0 to 255 / **0** / 1]
	Displays the replacement counter of the PCD (Drum and Development unit).	
002	Transfer	[0 to 1 / **0** / 1]
	Displays the replacement counter of the transfer unit.	

003	Fuser	[0 to 1 / **0** / 1]
	Displays the replacement counter of the fusing unit.	
004	Web	[0 to 1 / **0** / 1]
	Displays the replacement counter of the cleaning web.	

7856* 1	Zero Cross	[0 to 255 / **60** / 1]
	Stores and displays the detected zero cross frequency of the main ac power supply from the wall socket.	

7901	Assert Info. **DFU**	
	These SP numbers display the results of the occurrence of the most recent SC code generated by the machine.	
001*	File Name	Module name
002*	Number of Lines	Number of the lines where error occurred.
003*	Location	Value

7906	Prev Counter	
001	Page: PCD	[0 999999 / **0** / 1 page]
	Displays the counter (pages) of the previous PCD	
002	Page: Transfer	[0 999999 / **0** / 1 page]
	Displays the previous counter (pages) of the previous transfer unit.	
003	Page: Fuser	[0 999999 / **0** / 1 page]
	Displays the previous counter (pages) of the previous fusing unit.	
004	Rotation: PCD	[0 999999999 / **0** / 1 mm]
	Displays the previous counter (rotations) of the previous PCD	
005	Rotation: Transfer	[0 999999999 / **0** / 1 mm]
	Displays the previous counter (rotations) of the previous transfer unit.	

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006	Rotation: Fuser	[0 999999999 / **0** / 1 mm]	
	Displays the previous counter (rotations/PM %) of the previous fusing unit.		
007	Rotation(%):PCD	[0 to 255 / **0** / 1 mm]	
	Displays the previous counter (rotations/PM %) of the previous PCD		
008	Rotation(%):Transfer	[0 to 255 / **0** / 1 mm]	
	Displays the previous counter (rotations/PM %) of the previous transfer unit.		
009	Rotation(%):Fuser	[0 to 255 / **0** / 1 mm]	
	Displays the previous counter (rotations/PM %) of the previous fusing unit.		
010	Rotation(%):Web	[0 to 255 / **0** / 1 %]	
	Displays the previous counter (rotations/PM %) of the previous cleaning web.		

7950	Replacement Date		
001	PCD	[0 to 1 / **0** / 1]	
	Displays the replacement date of the PCD.		
002	Transfer	[0 to 1 / **0** / 1]	
	Displays the replacement date of the transfer unit.		
003	Fuser	[0 to 1 / **0** / 1]	
	Displays the replacement date of the fusing unit.		
004	Web	[0 to 1 / **0** / 1]	
	Displays the replacement date of the web unit.		

7951	Remaining Counter		
001	PCD(Page)	[0 to 255 / **255** / 1 days]	
	Displays the remaining counter (pages) of the PCD.		
002	Transfer(Page)	[0 to 255 / **255** / 1 days]	
	Displays the remaining counter (pages) of the transfer unit.		

003	Fuser(Page)	[0 to 255 / **255** / 1 days]
	Displays the remaining counter (pages) of the fusing unit.	
005	PCD(Rotation)	[0 to 255 / **255** / 1 days]
	Displays the remaining counter (rotations) of the PCD.	
006	Transfer(Rotation)	[0 to 255 / **255** / 1 days]
	Displays the remaining counter (rotations) of the transfer unit.	
007	Fuser(Rotation)	[0 to 255 / **255** / 1 days]
	Displays the remaining counter (rotations) of the fusing unit.	
009	PCD (%)	[0 to 255 / **100** / 1 %]
	Displays the remaining counter (%) of the PCD.	
010	Transfer (%)	[0 to 255 / **100** / 1 %]
	Displays the remaining counter (%) of the transfer unit.	
011	Fuser (%)	[0 to 255 / **100** / 1 %]
	Displays the remaining counter (%) of the fusing unit.	
013	Web (%)	[0 to 255 / **100** / 1 %]
	Displays the remaining counter (%) of the cleaning web.	

7952	PM Yield Setting	
	Sets the each yield of the following.	
001	PCD(Page)	[0 to 99999999/ **160000** / 1 sheet]
	Sets the PM yield of the PCD (Pages).	
002	Transfer(Page)	[0 to 9999999 / **160000** / 1 sheet]
	Sets the PM yield of the transfer unit (Pages).	
003	Fuser(Page)	[0 to 9999999 / **160000** / 1 sheet]
	Sets the PM yield of the fusing unit (Pages).	

005	PCD(Rotation)	[0 to 999999999 / **199000** / 1 mm]
	Sets the PM yield of the PCD (Rotations).	
006	Transfer(Rotation)	[0 to 999999999 / **277000** / 1 mm]
	Sets the PM yield of the transfer unit (Rotations).	
007	Fuser(Rotation)	[0 to 999999999 / **54880000** / 1 mm]
	Sets the PM yield of the fusing unit (Rotations).	
009	Web (%)	[0 to 255 / **92** / 1 %]
	Sets the PM yield (%) of the web unit.	

7953	Operation Env Log	
001	T<10	[0 to 99999999 / **0** / 1 mm]
	Displays the PCU rotation distance in the environment: T<10°C	
002	10<=T<=17	[0 to 99999999 / **0** / 1 mm]
	Displays the PCU rotation distance in the environment: 10°C<=T<=17°C	
003	17<T<23	[0 to 99999999 / **0** / 1 mm]
	Displays the PCU rotation distance in the environment: 17<=T<=23	
004	23<=T<=27	[0 to 99999999 / **0** / 1 mm]
	Displays the PCU rotation distance of the environment: 23<=T<=27	
005	27<=T<=32	[0 to 99999999 / **0** / 1 mm]
	Displays the PCU rotation distance of the environment: 27<=T<=32	
006	32<T	[0 to 99999999 / **0** / 1 mm]
	Displays the PCU rotation distance of the environment: 32<T	

7954	Env Log Clear
	Resets the environment logs (SP7953).

System SP Table-8

SP8-xxx: Data Log 2

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 8codes that when used in combination with others, can provide useful information.

SP Numbers	What They Do
SP8211 to SP8216	The number of pages scanned to the document server.
SP8401 to SP8406	The number of pages printed from the document server
SP8691 to SP8696	The number of pages sent from the document server

Specifically, the following questions can be answered:

How is the document server actually being used?

What application is using the document server most frequently?

What data in the document server is being reused?

Most of the SPs in this group are prefixed with a letter that indicates the mode of operation (the mode of operation is referred to as an 'application'). Before reading the Group 8 Service Table, make sure that you understand what these prefixes mean.

Prefixes	What It Means	
T:	Total: (Grand Total).	Grand total of the items counted for all applications (C, F, P, etc.).
C:	Copy application.	Totals (pages, jobs, etc.) executed for each application when the job was not stored on the document server.
F:	Fax application.	
P:	Print application.	
S:	Scan application.	

L:	Local storage (document server)	Totals (jobs, pages, etc.) for the document server. The L: counters work differently case by case. Sometimes, they count jobs/pages stored on the document server; this can be in document server mode (from the document server window), or from another mode, such as from a printer driver or by pressing the Store File button in the Copy mode window. Sometimes, they include occasions when the user uses a file that is already on the document server. Each counter will be discussed case by case.
O:	Other applications (external network applications, for example)	Refers to network applications such as Web Image Monitor. Utilities developed with the SDK (Software Development Kit) will also be counted with this group in the future.

The Group 8 SP codes are limited to 17 characters, forced by the necessity of displaying them on the small LCDs of printers and faxes that also use these SPs. Read over the list of abbreviations below and refer to it again if you see the name of an SP that you do not understand.

Key for Abbreviations

Abbreviation	What It Means
/	"By", e.g. "T:Jobs/Apl" = Total Jobs "by" Application
>	More (2> "2 or more", 4> "4 or more"
AddBook	Address Book
Apl	Application
B/W	Black & White
Bk	Black
C	Cyan
ColCr	Color Create
ColMode	Color Mode
Comb	Combine
Comp	Compression
Deliv	Delivery

Abbreviation	What It Means
DesApl	Designated Application. The application (Copy, Fax, Scan, Print) used to store the job on the document server, for example.
Dev Counter	Development Count, no. of pages developed.
Dup, Duplex	Duplex, printing on both sides
Emul	Emulation
FC	Full Color
FIN	Post-print processing, i.e. finishing (punching, stapling, etc.)
Full Bleed	No Margins
GenCopy	Generation Copy Mode
GPC	Get Print Counter. For jobs 10 pages or less, this counter does not count up. For jobs larger than 10 pages, this counter counts up by the number that is in excess of 10 (e.g., for an 11-page job, the counter counts up 11-10 =1)
IFax	Internet Fax
ImgEdt	Image Edit performed on the original with the copier GUI, e.g. border removal, adding stamps, page numbers, etc.
K	Black (YMCK)
LS	Local Storage. Refers to the document server.
LSize	Large (paper) Size
Mag	Magnification
MC	One color (monochrome)
NRS	New Remote Service, which allows a service center to monitor machines remotely. "NRS" is used overseas, "CSS" is used in Japan.
Org	Original for scanning
OrgJam	Original Jam
Palm 2	Print Job Manager/Desk Top Editor: A pair of utilities that allows print jobs to be distributed evenly among the printers on the network, and allows files to moved around, combined, and converted to different formats.

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Abbreviation	What It Means
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
Sim, Simplex	Simplex, printing on 1 side.
S-to-Email	Scan-to-E-mail
SMC	SMC report printed with SP5990. All of the Group 8counters are recorded in the SMC report.
Svr	Server
TonEnd	Toner End
TonSave	Toner Save
TXJob	Send, Transmission
YMC	Yellow, Magenta, Cyan
YMCK	Yellow, Magenta, Cyan, BlacK

↓Note

- All of the Group 8 SPs are reset with SP5 801-1 Memory All Clear.

8001	T:Total Jobs	These SPs count the number of times each application is used to do a job.
8002	C:Total Jobs	[0 to 9999999 / 0 / 1]
8003	F:Total Jobs	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.
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.

- A job is counted as a fax job when the job is stored for sending.

- When a fax is received to fax memory, the F: counter increments but the L: counter does not (the document server is not used).

- A fax broadcast counts as one job for the F: counter (the fax destinations in the broadcast are not counted separately).

- A fax broadcast is counted only after all the faxes have been sent to their destinations. If one transmission generates an error, then the broadcast will not be counted until the transmission has been completed.

- A printed fax report counts as one job for the F: counter.

- The F: counter does not distinguish between fax sending or receiving.

- When a copy job on the document server is printed, SP8022 also increments, and when a print job stored on the document server is printed, SP8024 also increments.

- When an original is both copied and stored on the document server, the C: and L: counters both increment.

- When a print job is stored on the document server, only the L: counter increments.

- When the user presses the Document Server button to store the job on the document server, only the L: counter increments.

- When the user enters document server mode and prints data stored on the document server, only the L: counter increments.

- When an image received from Palm 2 is received and stored, the L: counter increments.
- When the customer prints a report (user code list, for example), the O: counter increments. However, for fax reports and reports executed from the fax application, the F: counter increments.

8011	T:Jobs/LS	
8012	C: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.
8013	F: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.
- When a fax is sent to the document server, the F: counter increments.

8021	T:Pjob/LS	
8022	C: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.
8023	F: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.

- When a fax on the document server is printed, the F: counter increments.

8031	T:Pjob/DesApl	These SPs reveal what applications were used to output documents from the document server. [0 to 9999999 / 0 / 1] The L: counter counts the number of jobs printed from within the document server mode screen at the operation panel.
8032	C:Pjob/DesApl	
8033	F: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	These SPs count the applications that stored files on the document server that were later accessed for transmission over the telephone line or over a network (attached to an e-mail, or as a fax image by I-Fax). [0 to 9999999 / 0 / 1] Note: Jobs merged for sending are counted separately. The L: counter counts the number of jobs scanned from within the document server mode screen at the operation panel.
8042	C:TX Jobs/LS	
8043	F: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	These SPs count the applications used to send files from the document server over the telephone line or over a network (attached to an e-mail, or as a fax image by I-Fax). Jobs merged for sending are counted separately. [0 to 9999999 / **0** / 1] The L: counter counts the number of jobs sent from within the document server mode screen at the operation panel.
8052	C:TX Jobs/DesApl	
8053	F:TX Jobs/DesApl	
8054	P:TX Jobs/DesApl	
8055	S:TX Jobs/DesApl	
8056	L:TX Jobs/DesApl	
8057	O:TX Jobs/DesApl	

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- If the send is started from Desk Top Binder or Web Image Monitor, for example, then the O: counter increments.

8061	T:FIN Jobs	[0 to 9999999 / **0** / 1]
	These SPs total the finishing methods. The finishing method is specified by the application.	
8062	C:FIN Jobs	[0 to 9999999 / **0** / 1]
	These SPs total finishing methods for copy jobs only. The finishing method is specified by the application.	
8063	F:FIN Jobs	[0 to 9999999 / **0** / 1]
	These SPs total finishing methods for fax jobs only. The finishing method is specified by the application. Note: Finishing features for fax jobs are not available at this time.	
8064	P:FIN Jobs	[0 to 9999999 / **0** / 1]
	These SPs total finishing methods for print jobs only. The finishing method is specified by the application.	
8065	S:FIN Jobs	[0 to 9999999 / **0** / 1]
	These SPs total finishing methods for scan jobs only. The finishing method is specified by the application. Note: Finishing features for scan jobs are not available at this time.	

8066	L:FIN Jobs	[0 to 9999999 / **0** / 1]
	These SPs total finishing methods for jobs output from within the document server mode screen at the operation panel. The finishing method is specified from the print window within document server mode.	

8067	O:FIN Jobs	[0 to 9999999 / **0** / 1]
	These SPs total finishing methods for jobs executed by an external application, over the network. The finishing method is specified by the application.	

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 9999999 / **0** / 1]
	These SPs count the number of jobs broken down by the number of pages in the job, regardless of which application was used.	

8072	C:Jobs/PGS	[0 to 9999999 / **0** / 1]
	These SPs count and calculate the number of copy jobs by size based on the number of pages in the job.	

8073	F:Jobs/PGS	[0 to 9999999 / **0** / 1]
	These SPs count and calculate the number of fax jobs by size based on the number of pages in the job.	

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8074	P:Jobs/PGS		[0 to 9999999 / **0** / 1]	
	These SPs count and calculate the number of print jobs by size based on the number of pages in the job.			
8075	S:Jobs/PGS		[0 to 9999999 / **0** / 1]	
	These SPs count and calculate the number of scan jobs by size based on the number of pages in the job.			
8076	L:Jobs/PGS		[0 to 9999999 / **0** / 1]	
	These SPs count and calculate the number of jobs printed from within the document server mode window at the operation panel, by the number of pages in the job.			
8077	O:Jobs/PGS		[0 to 9999999 / **0** / 1]	
	These SPs count and calculate the number of "Other" application jobs (Web Image Monitor, Palm 2, etc.) by size based on the number of pages in the job.			
807x 1	1 Page	807x 8	21to50 Pages	
807x 2	2 Pages	807x 9	51to100 Pages	
807x 3	3 Pages	807x 10	101to300 Pages	
807x 4	4 Pages	807x 11	301to500 Pages	
807x 5	5 Pages	807x 12	501to700 Pages	
807x 6	6 to10 Pages	807x 13	701to1000 Pages	
807x 7	11to20 Pages	807x 14	1001to Pages	

- For example: When a copy job stored on the document server is printed in document server mode, the appropriate L: counter (SP8076 0xx) increments.
- Printing a fax report counts as a job and increments the F: counter (SP 8073).
- Interrupted jobs (paper jam, etc.) are counted, even though they do not finish.
- If a job is paused and re-started, it counts as one job.
- If the finisher runs out of staples during a print and staple job, then the job is counted at the time the error occurs.
- For copy jobs (SP 8072) and scan jobs (SP 8075), the total is calculated by multiplying the number of sets of copies by the number of pages scanned. (One duplex page counts as 2.)
- The first test print and subsequent test prints to adjust settings are added to the number of pages of the copy job (SP 8072).

- When printing the first page of a job from within the document server screen, the page is counted.

8111	T:FAX TX Jobs		[0 to 9999999 / **0** / 1]
	These SPs count the total number of jobs (color or black-and-white) sent by fax, either directly or using a file stored on the document server, on a telephone line. Note: Color fax sending is not available at this time.		
001	B/W	Black TX	
8113	F:FAX TX Jobs		[0 to 9999999 / **0** / 1]
	These SPs count the total number of jobs (color or black-and-white) sent by fax directly on a telephone line. Note: Color fax sending is not available at this time.		
001	B/W	Black TX	

- These counters count jobs, not pages.
- This SP counts fax jobs sent over a telephone line with a fax application, including documents stored on the document server.
- If the mode is changed during the job, the job will count with the mode set when the job started.
- If the same document is faxed to both a public fax line and an I-Fax at a destination where both are available, then this counter increments, and the I-Fax counter (812x) also increments.
- The fax job is counted when the job is scanned for sending, not when the job is sent.

8121	T:IFAX TX Jobs		[0 to 9999999 / **0** / 1]
	These SPs count the total number of jobs (color or black-and-white) sent, either directly or using a file stored on the document server, as fax images using I-Fax. Note: Color fax sending is not available at this time.		
001	B/W	Black TX	
8123	F:IFAX TX Jobs		[0 to 9999999 / **0** / 1]
	These SPs count the number of jobs (color or black-and-white) sent (not stored on the document server), as fax images using I-Fax. Note: Color fax sending is not available at this time.		
001	B/W	Black TX	

- These counters count jobs, not pages.

- The counters for color are provided for future use; the color fax feature is not available at this time.
- The fax job is counted when the job is scanned for sending, not when the job is sent.

8131	T:S-to-Email Jobs		[0 to 9999999 / **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.		
001	B/W	Black TX	
002	Color	Color TX / Only for D011, D013, D091 or D092	
003	ACS	Color TX / Only for D011, D013, D091 or D092	
8135	S:S-to-Email Jobs		
	These SPs count the number of jobs scanned and attached to an e-mail, without storing the original on the document server.		
001	B/W	Black TX	
002	Color	Color TX / Only for D011, D013, D091 or D092	
003	ACS	Color TX / Only for D011, D013, D091 or D092	

- 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).

8141	T:Deliv Jobs/Svr		[0 to 9999999 / **0** / 1]
	These SPs count the total number of jobs scanned and sent to a Scan Router server.		
001	B/W	Black Deliv	
002	Color	Color Deliv / Only for D011, D013, D091 or D092	

	003	ACS	Color Deliv / Only for D011, D013, D091 or D092
8145	S:Deliv Jobs/Svr		
	These SPs count the number of jobs scanned and sent to a Scan Router server.		
	001	B/W	Black Deliv
	002	Color	Color Deliv / Only for D011, D013, D091 or D092
	003	ACS	Color Deliv / Only for D011, D013, D091 or D092

- 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.

	T:Deliv Jobs/PC		[0 to 9999999 / 0 / 1]
8151	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.		
	001	B/W	Black Deliv
	002	Color	Color Deliv / Only for D011, D013, D091 or D092
	003	ACS	Color Deliv / Only for D011, D013, D091 or D092
8155	S:Deliv Jobs/PC		
	These SPs count the total number of jobs scanned and sent with Scan-to-PC.		
	001	B/W	Black Deliv
	002	Color	Color Deliv / Only for D011, D013, D091 or D092
	003	ACS	Color Deliv / Only for D011, D013, D091 or D092

- 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.

8161	T:PCFAX TX Jobs	These SPs count the number of PC Fax transmission jobs. A job is counted from when it is registered for sending, not when it is sent.
8163	F:PCFAX TX Jobs	[0 to 9999999 / **0** / 1] Note: At the present time, these counters perform identical counts.

- This counts fax jobs started from a PC using a PC fax application, and sending the data out to the destination from the PC through the copier.

8191	T:Total Scan PGS	
8192	C:Total Scan PGS	These SPs count the pages scanned by each application that uses the scanner to scan images.
8193	F:Total Scan PGS	[0 to 9999999 / **0** / 1]
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]
8203	F Lsize Scan Pgs.	[0 to 9999999 / **0** / 1]
8205	S:LSize Scan PGS	[0 to 9999999 / **0** / 1]
	These SP codes count the total number of large pages input with the scanner for scan jobs only. Large size paper (A3/DLT) scanned for fax transmission are not counted. Note: These counters are displayed in the SMC Report, and in the User Tools display..	

8211	T:Scan PGS/LS	These SPs count the number of pages scanned into the document server .
8212	C:Scan PGS/LS	[0 to 9999999 / 0 / 1]
8213	F:Scan PGS/LS	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
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.		
	001	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.)

002	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.		
	001	Large Volume	Selectable. Large copy jobs that cannot be loaded in the ADF at one time.	
	002	SADF	Selectable. Feeding pages one by one through the ADF.	
	003	Mixed Size	Selectable. Select "Mixed Sizes" on the operation panel.	
	004	Custom Size	Selectable. Originals of non-standard size.	
	005	Platen	Book mode. Raising the ADF and placing the original directly on the platen.	
	006	Simplex / Duplex	Selectable. Select "Simplex/Duplex" on the operation panel.	

- If the scan mode is changed during the job, for example, if the user switches from ADF to Platen mode, the count is done for the last selected mode.

- The user cannot select mixed sizes or non-standard sizes with the fax application so if the original's page sizes are mixed or non-standard, these are not counted.

- If the user selects "Mixed Sizes" for copying in the platen mode, the Mixed Size count is enabled.

- In the SADF mode if the user copies 1 page in platen mode and then copies 2 pages with SADF, the Platen count is 1 and the SADF count is 3.

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.	

8243	F:Scan PGS/Org	[0 to 9999999 / **0** / 1]
	These SPs count the number of pages scanned by original type for Fax 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
824x 11: Other	Yes	Yes	Yes	Yes	Yes

- If the scan mode is changed during the job, for example, if the user switches from ADF to Platen mode, the count is done for the last selected mode.

8251	T:Scan PGS/ImgEdt	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:
8252	C:Scan PGS/ImgEdt	
8255	S:Scan SGS/ImgEdt	Erase> Border
8256	L:Scan PGS/ImgEdt	Erase> Center
8257	O:Scan PGS/ImgEdt	Image Repeat Centering Positive/Negative [0 to 9999999 / **0** / 1] Note: The count totals the number of times the edit features have been used. A detailed breakdown of exactly which features have been used is not given.

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.

8281	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.
8285	S:Scan PGS/TWAIN	[0 to 9999999 / **0** / 1] Note: At the present time, these counters perform identical counts.

8291	T:Scan PGS/Stamp	These SPs count the number of pages stamped with the stamp in the ADF unit.
8293	F:Scan PGS/Stamp	[0 to 9999999 / 0 / 1]
8295	S:Scan PGS/Stamp	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

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].	
8303	F:Scan PGS/Size	[0 to 9999999 / **0** / 1]
	These SPs count by size the total number of pages scanned by the Fax application. Use these totals to compare original page size (scanning) and output page size [SP 8-443].	
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)	

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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	600dpito1199dpi	
831x 3	400dpito599dpi	
831x 4	200dpito399dpi	
831x 5	to199dpi	

- Copy resolution settings are fixed so they are not counted.

- The Fax application does not allow finely-adjusted resolution settings so no count is done for the Fax application.

8381	T:Total PrtPGS	
8382	C:Total PrtPGS	These SPs count the number of pages printed by the customer. The counter for the application used for storing the pages increments.
8383	F:Total PrtPGS	[0 to 9999999 / **0** / 1]
8384	P:Total PrtPGS	The L: counter counts the number of pages stored from within the document server mode screen at the operation panel.
8385	S:Total PrtPGS	Pages stored with the Store File button from within the Copy mode screen go to the C: counter.
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	
8403	F: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.

- Fax jobs done with Web Image Monitor and Desk Top Binder are added to the F: 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] |

| 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. | |

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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.	
8423	F: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 fax 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 9999999 / **0** / 1]
	These SPs count by binding and combine, and n-Up settings the number of pages processed for printing by the scanner application.	
8426	L: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 from within the document server mode window at the operation panel.	
8427	O: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 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>	8pages 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

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.	
8443	F:PrtPGS/Ppr Size	[0 to 9999999 / 0 / 1]
	These SPs count by print paper size the number of pages printed by the fax 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 9999999 / 0 / 1]
	These SPs count by print paper size the number of pages printed from within the document server mode window at the operation panel.	
8447	O:PrtPGS/Ppr Size	[0 to 9999999 / 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 9999999 / 0 / 1]
	These SPs count the number of sheets fed from each paper feed station.		
001	Bypass	Bypass Tray	
002	Tray 1	Copier	
003	Tray 2	Copier	
004	Tray 3	Paper Tray Unit (Option)	
005	Tray 4	Paper Tray Unit (Option)	
006	Tray 5	LCT (Option)	
007	Tray 6	Currently not used.	
008	Tray 7	Currently not used.	
009	Tray 8	Currently not used.	
010	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.	
	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.	

8463	F:PrtPGS/Ppr Type	[0 to 9999999 / **0** / 1]
	These SPs count by paper type the number pages printed by the fax 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

8471	PrtPGS/Mag	[0 to 9999999 / **0** / 1]
	These SPs count by magnification rate the number of pages printed.	

001	to 49%
002	50% to 99%
003	100%
004	101% to 200%
005	201% to

- 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
	These SPs count the number of pages printed with the Toner Save feature switched on. Note: These SPs return the same results as this SP is limited to the Print application. [0 to 9999999 / **0** / 1]

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.	

001	RPCS	
002	RPDL	
003	PS3	
004	R98	
005	R16	
006	GL/GL2	
007	R55	
008	RTIFF	
009	PDF	
010	PCL5e/5c	
011	PCL XL	
012	IPDL-C	
013	BM-Links	Japan Only
014	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:PrtPGS/FIN	[0 to 9999999 / **0** / 1]
	These SPs count by finishing mode the total number of pages printed by all applications.	
8522	C:PrtPGS/FIN	[0 to 9999999 / **0** / 1]
	These SPs count by finishing mode the total number of pages printed by the Copy application.	
8523	F:PrtPGS/FIN	[0 to 9999999 / **0** / 1]
	These SPs count by finishing mode the total number of pages printed by the Fax application. Note: Print finishing options for received faxes are currently not available.	

8524	P:PrtPGS/FIN	[0 to 9999999 / **0** / 1]
	These SPs count by finishing mode the total number of pages printed by the Print application.	

8525	S:PrtPGS/FIN	[0 to 9999999 / **0** / 1]
	These SPs count by finishing mode the total number of pages printed by the Scanner application.	

8526	L:PrtPGS/FIN	[0 to 9999999 / **0** / 1]
	These SPs count by finishing mode the total number of pages printed from within the document server mode window at the operation panel.	

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 9999999 / **0** / 1]

8581	T: Counter	[0 to 9999999 / **0** / 1]
	These SPs count the total output broken down by color output, regardless of the application used. In addition to being displayed in the SMC Report, these counters are also displayed in the User Tools display on the copy machine.	
	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 9999999 / 0 / 1]
	These SPs count the totals for A3/DLT paper use, number of duplex pages printed, and the number of staples used. These totals are for Other (O:) applications only.		
001	A3/DLT		
002	Duplex		

8601	Coverage Counter		[0 to 9999999 / 0 / 1]
	These SPs count the total coverage for each color and printout pafes for each printing mode.		
001	B/W		
011	B/W Printing Pages		

8631	T:FAX TX PGS		[0 to 9999999 / 0 / 1]
	These SPs count by color mode the number of pages sent by fax to a telephone number.		
001	B/W	Black TX	
8633	F:FAX TX PGS		[0 to 999999 / 0 / 1]
	These SPs count by color mode the number of pages sent by fax to a telephone number.		
002	B/W	Black TX	

- If a document has color and black-and-white pages mixed, the pages are counted separately as B/W or Color.
- At the present time, this feature is provided for the Fax application only so SP8631 and SP8633 are the same.
- The counts include error pages.
- If a document is sent to more than one destination with a Group transmission, the count is done for each destination.
- Polling transmissions are counted but polling RX are not.
- Relay, memory, and confidential mailbox transmissions and are counted for each destination.

8641	T:FAX TX PGS	[0 to 9999999 / 0 / 1]
	These SPs count by color mode the number of pages sent by fax to as fax images using I-Fax.	

8643	001	B/W	Black TX	
		F:FAX TX PGS		[0 o 9999999 / **0** / 1]
		These SPs count by color mode the number of pages sent by Fax as fax images using I-Fax.		
	002	B/W	Black TX	

- If a document has color and black-and-white pages mixed, the pages are counted separately as B/W or Color.

- At the present time, this feature is provided for the Fax application only so SP8641 and SP8643 are the same.

- The counts include error pages.

- If a document is sent to more than one destination with a Group transmission, the count is done for each destination.

- Polling transmissions are counted but polling RX are not.

- Relay, memory, and confidential mailbox transmissions and are counted for each destination.

8651		T:S-to-Email PGS		[0 to 9999999 / **0** / 1]
		These SPs count by color mode the total number of pages attached to an e-mail for both the Scan and document server applications.		
	001	B/W		
	002	Color		
8655		S:S-to-Email PGS		[0 to 9999999 / **0** / 1]
		These SPs count by color mode the total number of pages attached to an e-mail for the Scan application only.		
	001	B/W		
	002	Color		

↓ Note

- The count for B/W and Color pages is done after the document is stored on the HDD. If the job is cancelled before it is stored, the pages are not counted.

- If Scan-to-Email is used to send a 10-page document to 5 addresses, the count is 10 (the pages are sent to the same SMTP server together).

- If Scan-to-PC is used to send a 10-page document to 5 folders, the count is 50 (the document is sent to each destination of the SMB/FTP server).
- Due to restrictions on some devices, if Scan-to-Email is used to send a 10-page document to a large number of destinations, the count may be divided and counted separately. For example, if a 10-page document is sent to 200 addresses, the count is 10 for the first 100 destinations and the count is also 10 for the second 100 destinations, for a total of 20).

8661	T:Deliv PGS/Svr	[0 to 9999999 / **0** / 1]
	These SPs count by color mode the total number of pages sent to a Scan Router server by both Scan and LS applications.	
001	B/W	
002	Color	
8665	S:Deliv PGS/Svr	[0 to 9999999 / **0** / 1]
	These SPs count by color mode the total number of pages sent to a Scan Router server by the Scan application.	
001	B/W	
002	Color	

Note

- The B/W and Color counts are done after the document is stored on the HDD of the Scan Router server.
- If the job is canceled before storage on the Scan Router server finishes, the counts are not done.
- The count is executed even if regardless of confirmation of the arrival at the Scan Router server.

8671	T: Deliv PGS/PC	[0 to 9999999 / **0** / 1]
	These SPs count by color mode the total number of pages sent to a folder on a PC (Scan-to-PC) with the Scan and LS applications.	
001	B/W	
002	Color	
8675	S: Deliv PGS/PC	[0 to 9999999 / **0** / 1]
	These SPs count by color mode the total number of pages sent with Scan-to-PC with the Scan application.	
001	B/W	

002	Color

8681	T:PCFAX TXPGS	These SPs count the number of pages sent by PC Fax. These SPs are provided for the Fax application only, so the counts for SP8681 and SP8683 are the same.
8683	F:PCFAX TXPGS	[0 to 9999999 / **0** / 1]

- This counts pages sent from a PC using a PC fax application, from the PC through the copier to the destination.

- When sending the same message to more than one place using broadcasting, the pages are only counted once. (For example, a 10-page fax is sent to location A and location B. The counter goes up by 10, not 20.)

8691	T:TX PGS/LS	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.
8692	C:TX PGS/LS	[0 to 9999999 / **0** / 1]
8693	F:TX PGS/LS	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.
8694	P:TX PGS/LS	
8695	S:TX PGS/LS	
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 are counted for the application that stored them.

- When several documents are sent by a Fax broadcast, the F: count is done for the number of pages sent to each destination.

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.		
	001	PSTN-1	
	002	PSTN-2	
	003	PSTN-3	

	004	ISDN (G3,G4)		
	005	Network		

8711		T:Scan PGS/Comp		[0 to 9999999 / **0** / 1]
		These SPs count the number of compressed pages scanned into the document server, counted by the formats listed below.		
	001	JPEG/JPEG2000		
	002	TIFF (Multi/Single)		
	003	PDF		
	004	Other		
	005	High Compression PDF		

8715		S:Scan PGS/Comp		[0 to 9999999 / **0** / 1]
		These SPs count the number of compressed pages scanned by the scan application, counted by the formats listed below.		
	001	JPEG/JPEG2000		
	002	TIFF (Multi/Single)		
	003	PDF		
	004	Other		
	005	High Compression PDF		

8741		RX PGS/Port		[0to9999999/ **0** / 1]
		These SPs count the number of pages received by the physical port used to receive them.		
	001	PSTN-1		
	002	PSTN-2		
	003	PSTN-3		
	004	ISDN (G3,G4)		
	005	Network		

| 8771 | Dev Counter | [0to9999999/ **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] |

| 8801 | Toner Remain | [0 to 100 / **0** / 1] |
| | This SP displays the percent of toner remaining for each color. This SP allows the user to check the toner supply at any time.

Note:

This precise method of measuring remaining toner supply (1% steps) is better than other machines in the market that can only measure in increments of 10 (10% steps).

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 / **0** / 1]
	These SPs count the percentage of dot coverage for black other color toners.	
011	0 to 2%: BK	
021	3 to 4%: BK	
031	5 to 7%: BK	
041	8 to 10%: BK	

| 8861 | Toner Coverage 11-20% | [0 to 9999999 / **0** / 1] |
| | These SPs count the percentage of dot coverage for black other color toners. | |

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	001	K	Black toner	Do not display for this machine.

8871	Toner Coverage 21-30%			[0 to 9999999 / **0** / 1]
	These SPs count the percentage of dot coverage for black other color toners.			
	001	K	Black toner	Do not display for this machine.

8881	Toner Coverage 31 -%			[0 to 9999999 / **0** / 1]
	These SPs count the percentage of dot coverage for black other color toners.			
	001	K	Black toner	Do not display for this machine.

8891	Printing PGS: Present Ink	[0 to 9999999 / **0** / 1]
	These SPs display the amount of the remaining current toner.	

8901	Printing PGS: Log: Latest 1	[0 to 9999999 / **0** / 1]
	These SPs display the amount of the remaining previous toner.	

8911	Printing PGS: Log: Latest 2	[0 to 9999999 / **0** / 1]
	These SPs display the amount of the remaining 2nd previous toner.	

8921	Toner Coverage Count Total	[0 to 9999999 / **0** / 1]
	Displays the total coverage and total printout number for each color.	
001	Coverage (%) BK	
011	Coverage (PGS) BK	

8941	Machine Status	[0 to 9999999 / **0** / 1]
	These SPs count the amount of time the machine spends in each operation mode. These SPs are useful for customers who need to investigate machine operation for improvement in their compliance with ISO Standards.	
001	Operation Time	Engine operation time. Does not include time while controller is saving data to HDD (while engine is not operating).

	002	Standby Time	Engine not operating. Includes time while controller saves data to HDD. Does not include time spent in Energy Save, Low Power, or Off modes.
	003	Energy Save Time	Includes time while the machine is performing background printing.
	004	Low Power Time	Includes time in Energy Save mode with Engine on. Includes time while machine is performing background printing.
	005	Off Mode Time	Includes time while machine is performing background printing. Does not include time machine remains powered off with the power switches.
	006	SC	Total down time due to SC errors.
	007	PrtJam	Total down time due to paper jams during printing.
	008	OrgJam	Total down time due to original jams during scanning.
	009	Supply PM Unit End	Total down time due to supply unit end.

8951	AddBook Register		
	These SPs count the number of events when the machine manages data registration.		
	001	User Code	User code registrations.	
	002	Mail Address	Mail address registrations.	
	003	Fax Destination	Fax destination registrations.	[0 to 9999999 / **0** / 1]
	004	Group	Group destination registrations.	
	005	Transfer Request	Fax relay destination registrations for relay TX.	
	006	F-Code	F-Code box registrations.	

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	007	Copy Program	Copy application registrations with the Program (job settings) feature.	
	008	Fax Program	Fax application registrations with the Program (job settings) feature.	[0 to 255 / **0** / 255]
	009	Printer Program	Printer application registrations with the Program (job settings) feature.	
4	010	Scanner Program	Scanner application registrations with the Program (job settings) feature.	

8999	Adomin. Counter List	[0 to 9999999 / **0** / 1]
	Display the total coverage and total printout number for each color.	
001	Total	
003	Copy: BW	
007	Printer BW	
010	Fax Print: BW	
012	A3/DLT	
013	Duplex	
015	Coverage: BW (%)	
017	Coverage: BW Print Page (%)	
101	Transmission Total: Color	
102	Transmission Total: BW	
103	Fax Transmission	
104	Scanner Transmission: Color	
105	Scanner Transmission: BW	

Input Check

Copier

When entering the Input Check mode, 8 digits display the result for a section. Each digit corresponds to a different device as shown in the table.

Bit No.	7	6	5	4	3	2	1	0
Result	0 or 1	0 or 1	0 or 1	0 or 1	0 or 1	0 or 1	0 or 1	0 or 1

<table>
<tr><td rowspan="3">5803</td><td colspan="3">Input Check</td></tr>
<tr><td rowspan="2">Description</td><td colspan="2">Reading</td></tr>
<tr><td>0</td><td>1</td></tr>
<tr><td>001</td><td>Tray 1: Paper Size Sensor</td><td colspan="2">See the table 1 following this table.</td></tr>
<tr><td>002</td><td>Tray 1: Tray Set Sensor</td><td>Set</td><td>Not set</td></tr>
<tr><td>003</td><td>Tray 1: Paper Lift Sensor</td><td>Not upper limit</td><td>Upper limit</td></tr>
<tr><td>004</td><td>Tray 1: Paper End Sensor</td><td>No paper</td><td>Paper remaining</td></tr>
<tr><td>005</td><td>Tray 1: Paper Height Sensor 1</td><td colspan="2" rowspan="2">See the table 2 following this table.</td></tr>
<tr><td>006</td><td>Tray 1: Paper Height Sensor 2</td></tr>
<tr><td>007</td><td>Tray 2: Paper Size Sensor</td><td colspan="2">See the table 1 following this table.</td></tr>
<tr><td>008</td><td>Tray 2: Tray Set Sensor</td><td>Set</td><td>Not set</td></tr>
<tr><td>009</td><td>Tray 2: Paper Lift Sensor</td><td>Not upper limit</td><td>Upper limit</td></tr>
<tr><td>010</td><td>Tray 2: Paper End Sensor</td><td>No paper</td><td>Paper remaining</td></tr>
<tr><td>011</td><td>Tray 2: Paper Height Sensor 1</td><td colspan="2" rowspan="2">See the table 2 following this table.</td></tr>
<tr><td>012</td><td>Tray 2: Paper Height Sensor 2</td></tr>
</table>

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013	Tray 1: Paper Feed Sensor	Paper detected	No paper detected
014	Tray 2: Paper Feed Sensor	Paper detected	No paper detected
015	Tray 3: Paper Feed Sensor	Paper detected	No paper detected
016	Tray 4: Paper Feed Sensor	Paper detected	No paper detected
017	LCT: Paper Feed Sensor	No paper detected	Paper detected
018	Relay Sensor 1	Paper detected	No paper detected
019	Relay Sensor 2	Paper detected	No paper detected
020	Relay Sensor 3	No paper detected	Paper detected
021	Relay Sensor 4	No paper detected	Paper detected
022	Relay Sensor: LCT	No paper detected	Paper detected
023	By-pass: Paper End Sensor	Not end	Paper end
024	By-pass: Paper Size Sensor	See the table 3 following this table.	
025	Registration Sensor	Paper detected	No paper detected
026	Fusing Exit Sensor	No paper detected	Paper detected
027	Fusing Entrance Sensor	Paper detected	No paper detected
028	Junction Gate Relay Sensor	Paper detected	No paper detected
029	Exit Sensor	Paper detected	No paper detected
030	Paper Overflow Sensor	Not full	Full
031	Right Cover Open/Close	Close	Open
032	Duplex Unit Open/Close	Open	Close
033	Duplex Entrance Sensor	Paper detected	No paper detected
034	Duplex Exit Sensor	Paper detected	No paper detected
035	Bank Right Cover Open/Close	Close	Open
036	Tray Cover Open/Close	Close	Open
037	LCT Set	Set	Not set
038	Bridge Exit Sensor	Paper detected	No paper detected

039	Bridge Relay Sensor	Paper detected	No paper detected
040	Bridge Unit Set Detection	Set	Not set
041	Bridge Right Guide Open/Close	Close	Open
042	Bridge Left Guide Open/Close	Close	Open
043	Transfer Belt Unit HP Sensor	Not HP	HP
046	Fusing Unit Set	Set (Bit1)	Not set (Bit1)
047	Toner Overflow Sensor	Not full	Full
048	Interlock Detection 1	Right or front door is open.	Right or front door is close.
049	Interlock Detection 2	Right or front door is open.	Right or front door is close.
050	Key Card Set	Set	Not set
051	Key Counter Set	Set	Not set
052	Mechanical Counter Set	Not set	set
053	1-Bin Unit Set	Set	Not set
054	1-Bin Unit: Paper Set	Paper detected	No paper detected
056	Dip Switch	-	-
057	Cleaning Web End	Not end	End
059	Shift Tray Set	Not set	Set
060	Shift Sensor	No paper detected	Paper detected
064	Shift Tray Sensor	Stay at rear	Stay at front
200	Scanner HP Sensor	Not HP	HP
201	Platen Cover Sensor	Open	Close

Table 1: Paper Height Sensor

0: Deactivated, 1: Activated (actuator inside sensor)

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Remaining paper	Paper height sensor 1	Paper height sensor 2
Full	0	0
Nearly full	1	0
Near end	1	1
Almost empty	0	1

Table 2: Paper Size Switch

Switch 1 is used for the tray set detection.

0: Pushed, 1: Not pushed

Models		Switch Location		
North America	Europe/Asia	4	3	2
11" x 17" SEF*1 (A3 SEF)	A3 SEF*1 (11" x 17" SEF)	0	0	1
8.5" x 14" SEF *2 (B4 SEF)	B4 SEF *2 (8.5" x 14" SEF)	0	0	0
A4 SEF	A4 SEF	1	1	0
8.5" x 11" SEF	8.5" x 11" SEF	1	1	1
B5 SEF	B5 SEF	0	1	1
11" x 81/2" LEF*3 (A4 LEF)	A4 LEF*3 (11" x 81/2" LEF)	1	0	0
10.5" x 7.25" LEF*4 (B5 LEF)	B5 LEF*4 (10.5" x 7.25" LEF)	0	1	0
A5 LEF	A5 LEF	1	0	1

*1: The machine detects either 11" x 17" SEF or A3 SEF, depending on the setting of SP 5-181-002 (Tray 1) or -006 (Tray 2).

*2: The machine detects either 8.5" x 14" SEF or B4 SEF, depending on the setting of SP 5-181-003 (Tray 1) or -007 (Tray 2).

*3: The machine detects either 11" x 81/2" LEF or A4 LEF, depending on the setting of SP 5-181-001 (Tray 1) or -005 (Tray 2).

*4: The machine detects either B5 LEF or 10.5" x 7.25" LEF, depending on the setting of SP 5-181-004 (Tray 1) or -008 (Tray 2)..

Table 3: Paper Size (By-pass Table)

0: Pushed, 1: Not pushed

Models		Bit No.			
North America	Europe/Asia	3	2	1	0
11" x 17" SEF*1 (11" x 8.5" LEF)	A3 SEF*1 (A4 LEF)	1	1	1	0
11" x 17" SEF*1 (11" x 8.5" LEF)	A3 SEF*1 (A4 LEF)	1	1	0	0
8.5" x 11" SEF*1 (8.5" x 11" SEF*2)	A4 SEF*1 (A5 LEF)	1	1	0	1
8.5" x 11" SEF*1 (8.5" x 11" SEF*2)	A4 SEF*1 (B5 LEF)	1	0	0	1
5.5" x 8.5" SEF	A5 SEF	1	0	1	1
5.5" x 8.5" SEF	A5 SEF	0	0	1	1
5.5" x 8.5" SEF	A6 SEF	0	1	1	1
5.5" x 8.5" SEF	A6 SEF	1	1	1	1

↓Note

- *1: When the machine determines that the paper feed direction is "LEF", it considers that the paper size is bracketed size.

APS Original Size Detection

Original Size		Length Sensor			Width Sensor		SP4-301 display
Metric version	Inch version	L3	L2	L1	W1	W2	
A3	11" x 17"	O	O	O	O	O	00011111
B4	10" x 14"	O	O	O	O	X	00011110
F4 8.5" x 13", 8.25" x 13", or 8" x 13" SP 5126 controls the size that is detected	8.5" x 14"	O	O	O	X	X	00011100
A4 LEF	8.5" x 11"	X	X	X	O	O	00000011
B5 LEF	-	X	X	X	O	X	00000010
A4 SEF	11" x 8.5"	X	O	O	X	X	00001100
B5 SEF	-	X	X	O	X	X	00000100
A5 LEF/ SEF	5.5" x 8.5", 8.5" x 5.5"	X	X	X	X	X	00000000

Options

2000/3000-Sheet (Booklet) Finisher (B804, B805)

6140	Bit	Description	Reading	
			0	1
	001	Entrance Sensor	No paper detected	Paper detected
	002	Proof Exit Sensor	No paper detected	Paper detected
	003	Proof Full Detection Sensor	Not Full	Full
	004	Trailing Edge Detection: Shift	No paper detected*1	Paper detected*1

6140	Bit	Description	Reading	
			0	1
005	Staple Exit Sensor		No paper detected	Paper detected
006	Shift HP Sensor		Not HP	HP
007	Shift Exit Sensor		No paper detected	Paper detected
008	Exit Guide Plate HP Sensor		Not HP	HP
009	Paper Detection Sensor: Staple		No paper detected	Paper detected
010	Paper Detection Sensor: Shift		No paper detected	Paper detected
011	Paper Full Sensor: 2000-Sheet		Not Full	Full
012	Oscillating Back Roller HP Sensor		Not HP	HP
013	Jogger HP Sensor		Not HP	HP
014	Exit Junction Gate HP Sensor		HP	Not HP
015	Staple Tray Paper Sensor		No paper detected	Paper detected
016	Staple Moving HP Sensor		Not HP	HP
017	Skew HP Sensor		Not HP	HP
018	Limit SW		Not Limit	Limit
019	DOOR SW		Closed	Open
020	Stapler 1 Rotation		Not HP	HP
021	Staple Detection		No staple detected	Staple detected
022	Staple Leading Edge Detection		No staple detected	Staple detected
023	Punch Moving HP Sensor		Not HP	HP
024	Punch Registration HP Sensor		Not HP	HP
025	Punch Registration Detection Sensor		No paper detected	Paper detected
026	Punch Chad Full Sensor		Not Full	Full
027	Punch HP		Not HP	HP
028	Punch Selection DIPSW 1		See *1	

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6140	Bit	Description	Reading	
			0	1
	029	Punch Selection DiPSW 2	See *1	
	030	Stack Junction Gate Open/Closed HP Sensor	Not HP	HP
	031	Leading Edge Detection Sensor	No paper detected	Paper detected
	032	Drive Roller HP Sensor	Not HP	HP
	033	Arrival Sensor	No paper detected	Paper detected
	034	Rear Edge Fence HP Sensor	Not HP	HP
	035	Folder Cam HP Sensor	Not HP	HP
	036	Folder Plate HP Sensor	Not HP	HP
	037	Folder Pass Sensor	No paper detected	Paper detected
	038	Saddle Full Sensor: Front	No paper detected*2	Paper detected*2
	039	Saddle Full Sensor: Rear	No paper detected*2	Paper detected*2
	040	Saddle Stitch Stapler 1 Rotation: Front	Not HP	HP
	041	Saddle Stitch Detection: Front	No staple detected	Staple detected
	042	Saddle Stitch Leading Edge Detection: Front	No staple detected	Staple detected
	043	Saddle Stitch Stapler 1 Rotation: Rear	Not HP	HP
	044	Saddle Stitch Detection: Rear	No staple detected	Staple detected
	045	Saddle Stitch Leading Edge Detection: Rear	No staple detected	Staple detected
	046	Full Sensor: 3000-Sheet	Not Full	Full
	047	Exit Jogger HP Sensor: Front	Not used in the machine	
	048	Exit Jogger HP Sensor: Rear	Not used in the machine	
	049	Exit Jogger HP Sensor: Rear	Not used in the machine	

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*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".

1000-Sheet Finisher (B408)

6139	Bit	Description	Reading	
			0	1
001		Entrance Sensor	Paper detected	No paper detected
002		Shift Exit Sensor (Lower Tray Exit Sensor)	No paper detected	Paper detected
003		Staple Entrance Sensor (Stapler Tray Entrance Sensor)	Paper detected	No paper detected
004		Staple Moving HP Sensor (Stapler HP Sensor)	Not HP	HP
005		Jogger HP Sensor (Jogger Fence HP Sensor)	Not HP	HP
006		Stack Feed-out Belt HP Sensor	HP	Not HP
007		Staple Tray Paper Sensor	No paper detected	Paper detected
008		Staple Rotation Sensor (Staple Rotation HP Sensor)	Not HP	HP
009		Staple Sensor	Staple detected	No staple detected
010		Staple READY Detection	Staple detected	No staple detected

6139	Bit	Description	Reading	
			0	1
011	Exit Guide Plate HP (Exit Guide Plate HP Sensor)		Not HP	HP
012	Shift HP Sensor		Not HP	HP
013	Paper Sensor (Stack Height Sensor)		No output tray detected	Output tray detected
014	Tray Lower Sensor (Lower Tray Lower Limit Sensor)		Lower limit	Not lower limit
015	Proof Full Sensor (Paper Limit Sensor)		Not full	Full

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Output Check

Copier

5804	Output Check	
001	Exit Motor: 350	Paper exit motor (Mainframe)
002	Exit Motor: 175	
003	Exit Motor: 230	
004	Exit Motor: 180	
005	Exit Motor: 154	
006	Exit Motor: 90	
007	Feed Motor: 300	Paper feed motor (Mainframe)
008	Feed Motor: 255	
009	Feed Motor: 230	
010	Feed Motor: 215	
011	Feed Motor: 180	
012	Feed Motor: 154	
013	Feed Motor: 90	
014	Bank: Feed Motor: 300	Paper feed motor (Optional paper feed unit)
015	Bank: Feed Motor: 255	
016	Bank: Feed Motor: 230	
017	Bank: Feed Motor: 215	
018	Bank: Feed Motor: 180	
019	Bank: Feed Motor: 154	
020	Bank: Feed Motor: 90	

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5804	Output Check	
021	LCT: Feed Motor: 300	Paper feed motor (Optional LCT)
022	LCT: Feed Motor: 255	
023	LCT: Feed Motor: 230	
024	LCT: Feed Motor: 215	
025	LCT: Feed Motor: 180	
026	LCT: Feed Motor: 154	
027	LCT: Feed Motor: 90	
028	Paper Feed Clutch 1	Paper feed clutch 1/2 (Mainframe)
029	Paper Feed Clutch 2	
030	Bank: Paper Feed Clutch 3	Paper feed clutch 3/4 (Optional paper feed unit)
031	Bank: Paper Feed Clutch 4	
032	LCT: Paper Feed Clutch	Paper feed clutch (Optional LCT)
033	Pick-up Solenoid 1	Pick-up Solenoid 1/2 (Mainframe)
034	Pick-up Solenoid 2	
035	Bank: Pick-up Solenoid 3	Pick-up Solenoid 3/4 (Optional paper feed unit)
036	Bank: Pick-up Solenoid 4	
037	LCT: Pick-up Solenoid	Pick-up Solenoid (LCT)
038	Tray Lift Motor 1: Up	-
039	Tray Lift Motor 1: Down	
040	Tray Lift Motor 2: Up	
041	Tray Lift Motor 2: Down	
042	Paper Tray Lock Solenoid	Not used
043	Bank: Paper Tray Lock Solenoid	Tray lock solenoid (Optional paper feed unit)

5804	Output Check	
044	Registration Motor: 230	-
045	Registration Motor: 180	
046	Registration Motor: 154	
047	Registration Motor: 90	
048	Exit: Junction Gate Solenoid	Junction gate 1 solenoid
049	Duplex: Inverter Gate Solenoid	Not used
050	Duplex Inverter Motor: Fwd: 230	-
051	Duplex Inverter Motor: Fwd: 180	
052	Duplex Inverter Motor: Fwd: 154	
053	Duplex Inverter Motor: Fwd: 90	
054	Duplex Inverter Motor: Rev: 230	
055	Duplex Inverter Motor: Rev: 180	
056	Duplex Inverter Motor: Rev: 154	
057	Duplex Inverter Motor: Rev: 90	
058	Duplex/By-pass Motor: Fwd: 230	-
059	Duplex/By-pass Motor: Fwd: 180	
060	Duplex/By-pass Motor: Fwd: 154	
061	Duplex/By-pass Motor: Fwd: 90	
062	Duplex/By-pass Motor: Rev: 230	
063	Duplex/By-pass Motor: Rev: 180	
064	Duplex/By-pass Motor: Rev: 154	
065	Duplex/By-pass Motor: Rev: 90	
066	By-pass Feed Clutch	-
067	By-pass Pick-up Solenoid	-

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5804	Output Check	
068	Bridge: Drive Motor: 230	Drive motor (Bridge unit)
069	Bridge: Drive Motor: 180	
070	Bridge: Drive Motor: 154	
071	Bridge: Drive Motor: 90	
072	Bridge: Junction Gate Solenoid	Junction Gate Solenoid (Bridge unit)
073	Bridge: Drive Motor: Reset	-
074	Bridge: Drive Motor: Enable	-
075	Bridge: Cooling Fan Motor	Not used
076	Transfer Belt Contact Motor	-
077	OPC Motor: 230	Drum motor
078	OPC Motor: 180	
079	OPC Motor: 154	
080	OPC Motor: 90	
081	Transfer/Development Motor: 230	-
082	Transfer/Development Motor: 180	
083	Transfer/Development Motor: 154	
084	Transfer/Development Motor: 90	
085	Fusing Motor: 230	-
086	Fusing Motor: 180	
087	Fusing Motor: 154	
088	Fusing Motor: 90	
089	Development Puddle Motor	-
090	PTL Control	-
091	Fusing Fan Motor: High	Fusing exhaust fan motor
092	Fusing Fan Motor: Low	

5804	Output Check	
093	Exhaust Fan Motor: High	Exhaust fan motor
094	Exhaust Fan Motor: Low	
095	Duct Fan Motor	Cooling fan motor
096	Exit Fan Motor: High	Paper exit cooling fan motor
097	Exit Fan Motor: Low	
098	PSU Fan Motor	-
099	1-Bin Junction Gate Solenoid	Junction gate 2 solenoid (1-bin unit)
100	Polygon Motor: 230	-
101	Polygon Motor: 180	
102	Polygon Motor: 154	
103	Polygon Motor: 90	
104	LD 1	-
105	LD 2	
106	Toner Bottle Motor: Fwd	Toner supply motor
107	Quenching Lamp	-
108	Charge Bias	-
109	Development Bias	-
110	Transfer Belt Voltage	-
111	ID Sensor LED	-
115	Cleaning Web Motor	Web motor
116	Shift Tray Motor	Not used
117	CTL Cooling FAN	Controller fan
202	Scanner Lamp	-

1000-Sheet Finisher (B408)

6144	Display	Description
6144 1	Relay Up Motor	Upper Transport Motor
6144 2	Relay Down Motor	Lower Transport Motor
6144 3	Exit Motor	-
6144 4	Proof Junction Gate SOL	Tray Junction Gate Solenoid
6144 5	Tray Up Motor	Lower Tray Lift Motor
6144 6	Jogger Motor	Jogger Fence Motor
6144 7	Staple Moving Motor	Stapler Motor
6144 8	Staple Motor	Stapler Hammer
6144 9	Staple Junction Gate SOL	Stapler Junction Gate Solenoid
6144 10	Positioning Roller Solenoid	Positioning Roller Solenoid
6144 11	Stack Feed-out Motor	-
6144 12	Shift Motor	-
6144 13	Exit Guide Plate Motor	-

2000/3000-Sheet (Booklet) Finisher

6145	Display	Description
6145 1	Entrance Motor	Finisher Entrance Motor
6145 2	Upper Feed Motor	Upper Transport Motor
6145 3	Lower Feed Motor	Lower Transport Motor
6145 4	Exit Motor	Upper/Proof Tray Exit Motor
6145 5	Knock Roller Motor	Clamp Roller Retraction Motor

6145 6	Shift Motor	Shift Roller Motor
6145 7	Exit Guide Plate Open/Close Motor	Exit Guide Plate Motor
6145 8	Tray Lift Motor	Upper Tray Lift Motor
6145 9	Oscillating Back Roller Motor	Stacking Sponge Roller Motor
6145 10	Jogger Motor	Jogger Fence Motor
6145 11	Stack Feed-out Motor	Feed Out Belt Motor
6145 12	Staple Moving Motor	Corner Stapler Movement Motor
6145 13	Staple Skew Motor	Corner Stapler Rotation Motor
6145 14	Staple Motor	Corner Stapler EH530
6145 15	Upper Junction Gate Solenoid	Proof Junction Gate Solenoid
6145 16	Lower Junction Gate Solenoid	Stapling Tray Junction Gate Solenoid
6145 17	Knock Solenoid	Stapling Edge Pressure Plate Solenoid
6145 18	Trailing Edge Hold Solenoid	Positioning Roller Solenoid
6145 19	Saddle Stitch Hold Solonoid	Booklet Pressure Roller Solenoid
6145 20	Stack Junction Gate Open/Close Motor	Stack Junction Gate Motor
6145 21	Trailing Edge Fence Moving Motor	Fold Unit Bottom Fence Lift Motor
6145 22	Saddle Stitch Staple Motor: Front	Booklet Stapler EH185R: Front
6145 23	Saddle Stitch Staple Motor: Rear	Booklet Stapler EH185R: Rear
6145 24	Folder Plate Motor	Fold Plate Motor
6145 25	Folder Roller Motor	Fold Roller Motor

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6145 26	Drive Roller Oscillating Motor	Positioning Roller Motor
6145 27	Punch Motor	Punch Drive Motor
6145 28	Punch Moving Motor	Punch Movement Motor
6145 29	Punch Registration Detection Motor	Paper Position Sensor Slide Motor
6145 30	Exit Jogger Motor: Front	-
6145 31	Exit Jogger Motor: Rear	-
6145 32	Exit Jogger Release Motor	-

Printer Service Table

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 MFP I/O Timeout setting will have no effect. I/O Timeouts will never occur.		
	bit 4	**SD Card Save Mode**	0: Disable	1: Enable
		Enable: Print jobs will be saved to an SD Card in the GW SD slot.		
	bit 5	DFU	-	-
	bit 6	DFU	-	-
	bit 7	DFU	-	-

1001	Bit Switch

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002	Bit Switch 2		0	1
bit 0	DFU		-	-
bit 1	DFU		-	-
bit 2	**Applying a collation Type**		Shift Collate	Normal Collate
	A collation type (shift or normal) will be applied to all jobs that do not already have a "Collate Type" configured. 🔽**Note** • If #5-0 is enabled, this Bit Switch has no effect.			
bit 3	**[PCL5e/c,PS]: PDL Auto Switching**		0: Enable	1: Disable
	Disable: The MFPs ability to change the PDL processor mid-job. Some host systems submit jobs that contain both PS and PCL5e/c. If Auto PDL switching is disabled, these jobs will not be printed properly.			
bit 4	DFU		-	-
bit 5	DFU		-	-
bit 6	DFU		-	-
bit 7	DFU		-	-

1001	**Bit Switch**

003	Bit Switch 3		0	1
	bit 0	DFU	-	-
	bit 1	DFU	-	-
	bit 2	**[PCL5e/c]: Legacy HP compatibility**	0: Disable	1: Enable
		Enable: Uses the same left margin as older HP models such as HP4000/HP8000. In other words, the left margin defined in the job (usually "<ESC>*r0A") will be changed to "<ESC>*r1A"		
	bit 3	DFU	-	-
	bit 4	DFU	-	-
	bit 5	DFU	-	-
	bit 6	DFU	-	-
	bit 7	DFU	-	-

1001	Bit Switch			
004	Bit Switch 4		0	1
	bit 0	DFU	-	-
	bit 1	DFU	-	-
	bit 2	DFU	-	-
	bit 3	**IPDS print-side reversal**	0: Disable	1: Enable
		If enabled, the simplex pages of IPDS jobs will be printed on the front side because of printing on the back side of the page. This might reduce printing speed.		
	bit 4	DFU	-	-
	bit 5	DFU	-	-
	bit 6	DFU	-	-
	bit 7	DFU	-	-

1001	Bit Switch			
005	Bit Switch 5		0	1

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	bit 0	Show "Collate Type", "Staple Type" and "Punch Type" buttons on the operation panel.	0: Disable	1: Enable
		If enabled, users will be able to configure a Collate Type, Staple Type, and Punch Type from the operation panel. The available types will depend on the device and configured options. After enabling the function, the settings will appear under: "User Tools > Printer Features > System"		
	bit 1	DFU	-	-
	bit 2	Prevent SDK applications from altering the contents of a job.	0: Disable	1: Enable
		If this BitSw is enabled, SDK applications will not be able to alter print data. This is achieved by preventing SDK applications from accessing a module called the "GPS Filter". Note: The main purpose of this BitSw is for troubleshooting the effects of SDK applications on data.		
	bit 3	[PS] PS Criteria	0: Pattern3	1: Pattern1
		Change the number of PS criterion used by the PS interpreter to determine whether a job is PS data or not. Pattern3: includes most PS commands. Pattern1: A small number of PS tags and headers		
	bit 4	Increase max number of the stored jobs to 1000 jobs.	0: Disable (100)	1: Enable (1000)
		Enable: Changes the maximum number of jobs that can be stored on the HDD via Job Type settings to 1000. The default is 100.		
	bit 5	DFU	-	-
	bit 6	DFU	-	-
	bit 7	DFU	-	-

1001	Bit Switch			
006	Bit Switch 6		0	1
	bit 0 to 5	DFU	-	-

	bit 6	PDL Auto Detection timeout of jobs submitted via USB or Parallel Port (IEEE 1284).	0: Disable (Immediately)	1: Enable (10 seconds)
		To be used if PDL auto-detection fails. A failure of PDL autodetection doesn't necessarily mean that the job can't be printed. This bit switch tells the device whether to time-out immediately (default) upon failure or to wait 10 seconds.		
	bit 7	DFU	-	-

1001	Bit Switch			
007	Bit Switch 7 **DFU**		-	-

1001	Bit Switch			
008	Bit Switch 8		0	1
	bit 0 to 5	DFU	-	-
	bit 6	**[PS]: Orientation Auto Detect Function**	0: Enable	1: Disable
		Automatically chooses page orientations of PostScript jobs (Landscape or Portrait) based on the content.		
	bit 7	**[PDF]: Orientation Auto Detect Function**	0: Enable	1: Disable
		Automatically chooses page orientations of PDF jobs (Landscape or Portrait) based on the content.		

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 Service Table

SP Tables

SP	Number/Name	Function/[Setting]
1001	Scan NV Version	Displays the version of the scanner NV.
1004	Compression Type	Selects the compression type for binary picture processing. [1 to 3 / **1** / 1/step] 1: MH, 2: MR, 3: MMR
1005	Erase Margin	Creates an erase margin for all edges of the scanned image. If the machine has scanned the edge of the original, create a margin. [0 to 5 / **0** / 1 mm/step]
1009	Remote scan disable	Enables or disables the TWAIN function. [0 or 1 / **0** / -] 0: Enable, 1: Disable
1010	Non Display Clear Light PDF	Displays or does not display the clear light PDF function. [0 or 1 / **0** / -] 0: Display, 1: Not display
1011	Org Count Disp	Displays or does not display the original counter. [0 or 1 / **0** / -] 0: Not display, 1: Display
1012	User Info Release	Clears or does not clear a user information after a job. [0 or 1 / **1** / -] 0: Not clear, 1: Clear

SP	Number/Name	Function/[Setting]
2021	Compression level (grayscale)	
	These SP codes set the compression ratio for the grayscale processing mode that can be selected with the notch settings on the operation panel. Range: 5 (lowest ratio) <-> 95 (highest ratio)	
1	Comp 1: 5 - 95	[5 to 95 / **20** / 1 /step]
2	Comp 2: 5 - 95	[5 to 95 / **40** / 1 /step]
3	Comp 3: 5 - 95	[5 to 95 / **65** / 1 /step]
4	Comp 4: 5 - 95	[5 to 95 / **80** / 1 /step]
5	Comp 5: 5 - 95	[5 to 95 / **95** / 1 /step]

2024*	[Compression ratio of ClearLight PDF]	
	Selects the compression ratio for clearlight PDF for the two settings that can be selected at the operation panel.	
1	Compression Ratio (Normal image)	[5 to 95 / **25** / 1 /step]
2	Compression Ratio (High comp image)	[5 to 95 / **20** / 1 /step]