

# RICOH



D0AP/D0C4/D0C5/  
D0C6/M0BQ/M0D1

***SERVICE MANUAL***

**LANIER RICOH SAVIN®**

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# IMPORTANT SAFETY NOTICES

## Warnings, Cautions, Notes

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

### **WARNING**

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

### **CAUTION**

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

### **Important**

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

### **Note**

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

## General Safety Instructions

For your safety, please read this manual carefully before you use this product. Keep this manual handy for future reference.

### **Safety Information**

Always obey the following safety precautions when using this product.

### **Safety During Operation**

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



[A]: ON

[B]: OFF

[C]: Push ON/Push OFF

[D]: Standby

### **Switches and Symbols**

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

# Safety

## Prevention of Physical Injury

1. Before disassembling or assembling parts of the machine and peripherals, make sure that the machine and peripheral power cords are unplugged.
2. The plug should be near the machine and easily accessible.
3. Note that some components of the machine and the paper tray unit are supplied with electrical voltage even if the main power switch is turned off.
4. Always unplug the power cord from the power source before you move the product. Before you move the machine, arrange the power cord so it will not fall under the machine.
5. Disconnect all peripheral units (finisher, LCT, etc.) from the mainframe before you move the machine.
6. 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.
7. The machine drives some of its components when it completes the warm-up period. Be careful to keep hands away from the mechanical and electrical components as the machine starts operation.
8. The inside and the metal parts of the fusing unit become extremely hot while the machine is operating. Be careful to avoid touching those components with your bare hands.
9. To prevent a fire or explosion, keep the machine away from flammable liquids, gases, and aerosols.
10. Do not use flammable sprays or solvent in the vicinity of the machine. Also, avoid placing these items in the vicinity of the machine. Doing so could result in fire or electric shock.
11. To avoid fire or explosion, never use an organic cleaner near any part that generates heat.
12. Clean the floor completely after accidental spillage of silicone oil or other materials to prevent slippery surfaces that could cause accidents leading to hand or leg injuries.
13. Never remove any safety device unless it requires replacement. Always replace safety devices immediately.
14. Never do any procedure that defeats the function of any safety device.
15. Modification or removal of a safety device (fuse, switch, etc.) could lead to a fire and personal injury. Always test the operation of the machine to ensure that it is operating normally and safely after removal and replacement of any safety device.
16. For replacements use only the correct fuses or circuit breakers rated for use with the machine. Using replacement devices not designed for use with the machine could lead to a fire and personal injuries.
17. For machines installed with the ADF/ARDF:  
When a thick book or three-dimensional original is placed on the exposure glass and the ARDF cover is lowered, the back side of the ARDF rises up to accommodate the original.

Therefore, when closing the ARDF, please be sure to keep your hands away from the hinges at the back of the ARDF.

18. When using a vacuum cleaner around the machine, keep others away from the cleaner, especially small children.
19. For machines installed with the anti-tip components:

The anti-tip components are necessary for meeting the requirements of IEC60950-1, the international standard for safety. The aim of these components is to prevent the products, which are heavy in weight, from toppling as a result of people running into or leaning onto the products, which can lead to serious accidents such as persons becoming trapped under the product. (U.S.: UL60950-1, Europe: EN60950-1) Therefore, removal of such components must always be with the consent of the customer. Do not remove them at your own judgment.
20. **NEVER touch** the AC circuits on the PSU board to prevent electric shock caused by residual charge. Residual charge of about 100V-400V remains in the AC circuits on the PSU board for several months even when the board has been removed from the machine after turning off the machine power and unplugging the power cord.

## Health Safety Conditions

21. For the machines installed with the ozone filters:
  - Never operate the machine without the ozone filters installed.
  - Always replace the ozone filters with the specified types at the proper intervals.
22. The machine, which use high voltage power source, can generate ozone gas. High ozone density is harmful to human health. Therefore, locate the machine in a large well ventilated room that has an air turnover rate of more than 50m<sup>3</sup>/hr/person.
23. Toner and developer are non-toxic, but if you get either of them in your eyes by accident, it may cause temporary eye discomfort. Try to remove with eye drops or flush with water as first aid. If unsuccessful, get medical attention.

## Observance of Electrical Safety Standards

24. The machine and its peripherals must be installed and maintained by a customer service representative who has completed the training course on those models with exceptions on some machines where the installation can be handled by the user.

## Safety and Ecological Notes for Disposal

- Do not incinerate toner bottles or used toner. Toner dust may ignite suddenly when exposed to an open flame.
- Dispose of used toner, developer, organic photoconductors, and AIO unit in accordance with local regulations. (These are non-toxic supplies.)
- Dispose of replaced parts in accordance with local regulations.
- When keeping used lithium batteries in order to dispose of them later, do not put more than

100 batteries per sealed box. Storing larger numbers or not sealing them apart may lead to chemical reactions and heat build-up.

### **⚠ CAUTION**

The danger of explosion exists if a battery of this type is incorrectly replaced. Replace only with the same or an equivalent type recommended by the manufacturer. Discard used batteries in accordance with the manufacturer's instructions.

## **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, bottles (including used toner and empty bottles and cartridges), and AIO unit 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.
- Do not use a vacuum cleaner to remove spilled toner (including used toner). Vacuumed toner may cause a fire or explosion due to sparks or electrical contact inside the cleaner. However, it is possible to use a cleaner designed to be dust explosion-proof. If toner is spilled over the floor, sweep up spilled toner slowly and clean up any remaining toner with a wet cloth.

## **Handling the development unit cooling system**

For the machines installed the development cooling system:

25. The development unit cooling system circulates propylene glycol from a sealed tank through hoses that pass behind cooling plates on the sides of each development unit.
26. The coolant tank is located at the bottom of the cooling box on the back of the main machine.
27. Always obey local laws and regulations if you need to dispose of a tank or the propylene glycol coolant.
28. The tank must never be emptied directly into a local drainage system, river, pond, or lake.



29. Contact a professional industrial waste disposal organization and ask them to dispose of the tank.

## Lithium Batteries for Taiwan

### 警告

本機器內的鋰電池如果更換不正確型號會有爆炸的危險。  
只能使用相同或製造商推薦同等類型的電池進行更換。  
請依製造商說明書處理用過之廢棄電池。

## 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.

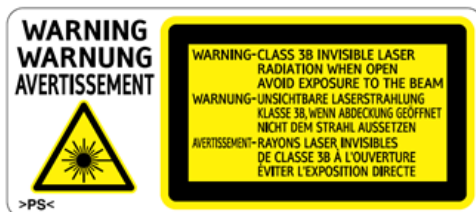
### ⚠️ WARNING

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

### WARNING FOR LASER UNIT

#### WARNING:

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



\_safe006



\_safe007



\_safe008

# Safety Instructions for the Color Controller

## Fuse

The color controller uses a double pole fuse. If this fuse blows, be sure to replace it with an identical fuse.

## Batteries








### ⚠ CAUTION

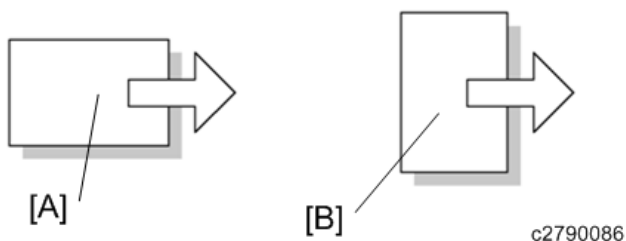
Always replace a battery with the same type of battery prescribed for use with the color controller unit. Replacing a battery with any type other than the one prescribed for use could cause an explosion.

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

## SYMBOLS AND ABBREVIATIONS

This manual uses the following symbols and abbreviations:

Symbol	What it means
	Screw
	Connector
	Clip ring
	Clamp
	FFC (Flexible Flat Cable)
	E-ring
	Spring
SEF	Short Edge Feed
LEF	Long Edge Feed



[A] Short Edge Feed (SEF)

[B] Long Edge Feed (LEF)

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- Windows® Internet Explorer® 9

- Internet Explorer® 10
- Internet Explorer® 11

The proper names of the Windows operating systems are as follows:

- The product names of Windows Vista are as follows:
  - Microsoft® Windows Vista® Ultimate
  - Microsoft® Windows Vista® Business
  - Microsoft® Windows Vista® Home Premium
  - Microsoft® Windows Vista® Home Basic
  - Microsoft® Windows Vista® Enterprise
- The product names of Windows 7 are as follows:
  - Microsoft® Windows® 7 Home Premium
  - Microsoft® Windows® 7 Professional
  - Microsoft® Windows® 7 Ultimate
  - Microsoft® Windows® 7 Enterprise
- The product names of Windows 8.1 are as follows:
  - Microsoft® Windows® 8.1
  - Microsoft® Windows® 8.1 Pro
  - Microsoft® Windows® 8.1 Enterprise
- The product names of Windows 10 are as follows:
  - Microsoft® Windows® 10 Home Premium
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- The product names of Windows Server 2008 are as follows:
  - Microsoft® Windows Server® 2008 Standard
  - Microsoft® Windows Server® 2008 Enterprise
- The product names of Windows Server 2008 R2 are as follows:
  - Microsoft® Windows Server® 2008 R2 Standard
  - Microsoft® Windows Server® 2008 R2 Enterprise
- The product names of Windows Server 2012 are as follows:
  - Microsoft® Windows Server® 2012 Foundation
  - Microsoft® Windows Server® 2012 Essentials
  - Microsoft® Windows Server® 2012 Standard
- The product names of Windows Server 2012 R2 are as follows:
  - Microsoft® Windows Server® 2012 R2 Foundation
  - Microsoft® Windows Server® 2012 R2 Essentials
  - Microsoft® Windows Server® 2012 R2 Standard
- The product names of Windows Server 2016 are as follows:
  - Microsoft® Windows Server® 2016 Standard

Microsoft® Windows Server® 2016 Essentials

Microsoft® Windows Server® 2016 Datacenter

Microsoft® Windows Server® 2016 MultiPoint Premium Server

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# PRODUCT INFORMATION

REVISION HISTORY		
Page	Date	Added/Updated/New
		None





# 1. PRODUCT INFORMATION

## 1.1 MACHINE CODES & PERIPHERAL CONFIGURATION

### 1.1.1 MAIN MACHINE

Machine Code	Product Name	Function	Operation Panel	PPM (A4/LT SEF)	Service Activity
M0BQ	P 501	Printer	4-line LCD	43 ppm	User maintenance
M0D1	P 502	Printer	4-line LCD	43 ppm	Service maintenance
D0C5	IM 350F	4 in 1	10 inch SOP	35 ppm	Service maintenance
D0C6	IM 350	3 in 1	10 inch SOP	35 ppm	Service maintenance
D0C4	IM 430Fb	4 in 1	10 inch SOP	43 ppm	User maintenance
D0AP	IM 430F	4 in 1	10 inch SOP	43 ppm	Service maintenance

The machine codes have the following suffix codes, which show where the machine is delivered to.

Code	Area	Power
-17	North America/Central, South America	120-127V, 60Hz
-19	Taiwan	110V, 60Hz
-21	China	220-240V, 50/60Hz
-27	Asia/Pacific, Europe/Russia/Middle East, Near East, Africa, Korea	220-240V, 50/60Hz

## 1.1.2 OPTIONS

### *External Options*

Item	Machine Code	Remarks
Paper Feed Unit PB1120	D3ER-17	New 500 sheets
Paper Feed Unit PB1110	D3EQ-17	New 250 sheets
Caster Table Type M34	D3EP-03	New
Offline Stapler Type M34	D3EP-02 (Only NA/EU/AA)	New Only for MF model (IM 350F/350/430Fb/430F)
Handset HS1010	M444-38 (Only NA)	Common (MP 401) Only for Fax model (IM 350F/430Fb/430F)

### *Internal Options*

Item	Machine Code	Remarks
Hard Disk Drive Option Type P18	M543-01	New Only for Printer model (P 501/500)
Optional Counter Interface Unit Type M12	B870-21	Common (MP 402) Only for MF model (IM 350F/350/430Fb/430F)
NFC Card Reader Type M27	M502-10	Common (MP 402) Only for MF model (IM 350F/350/430Fb/430F)
Page Keeper Type M28	D3DQ-17 (Only NA/EU)	Common (MP C307) Only for MF model (IM 350F/350/430Fb/430F)
Enhanced Security HDD Option Type M10	D792-09 (Only NA/EU)	Common (MP C307) Only for MF model (IM 350F/350/430Fb/430F)

**Controller Options**

Item	Machine Code	Remarks
IEEE1284 Interface Board Type M19	D3C0-17	Common (MP 402)
IEEE802.11a/b/g/n Interface Unit Type M24	M500-08 (Only NA/EU/AA)	Common (MP 402)
File Format Converter Type M19	D3BR-04	Common (MP 402) Only for MF model (IM 350F/350/430Fb/430F)
USB Device Server Option Type M19A	D3BC-33 (NA) D3BC-34 (EU/AA/CHN/TWN/KOR)	Common (MP C6004ex)
Extended USB Board Type M19	D3BS-01	Common (MP 402) Only for MF model (IM 350F/350/430Fb/430F)

**SD Card Options**

Item	Machine Code	Remarks
XPS Direct Print Option Type P18	M543-11	New Only for Printer model (P 501/500)
XPS Direct Print Option Type M34	D3EN-18 (NA) D3EN-19 (EU) D3EN-20 (AA/CHN/TWN/KOR)	New Only for MF model (IM 350F/350/430Fb/430F)
IPDS Unit Type P18	M543-07 (NA) M543-08 (EU) M543-09 (AA/CHN/TWN/KOR)	New Only for Printer model (P 501/500)
IPDS Unit Type M34	D3EN-13 (NA) D3EN-14 (EU) D3EN-15 (AA/CHN/TWN/KOR)	New Only for MF model (IM 350F/350/430Fb/430F)
OCR Unit Type M13	D3AC-23 (NA) D3AC-24 (EU) D3AC-25 (AA/CHN/TWN/KOR)	Common (MP C306) Only for MF model (IM 350F/350/430Fb/430F)
PostScript3 Unit Type P18	M543-04 (NA) M543-05 (EU)	New Only for Printer model (P 501/500)

## Machine Codes & Peripheral Configuration

Item	Machine Code	Remarks
	M543-06 (AA/CHN/TWN/KOR)	
PostScript3 Unit Type M34	D3EN-10 (NA) D3EN-11 (EU) D3EN-12 (AA/CHN/TWN/KOR)	New Only for MF model (IM 350F/350/430Fb/430F)
VM Card Type P18	D3EN-03 (NA) D3EN-04 (EU) D3EN-05 (AA/CHN/TWN/KOR)	New Only for Printer model (P 501/500)
FAX Connection Unit Type M34	D3EM-03 (NA) D3EM-04 (EU) D3EM-05 (AA/CHN/TWN/KOR)	New Only for Fax model (IM 350F/430Fb/430F)
Data Overwrite Security Unit Type M19	D3BS-03	Common (MP 402) Only for MF model (IM 350F/350/430Fb/430F)
Unicode Font Package for SAP(R) 1 License	B869-01	Common (MP 402)
Unicode Font Package for SAP(R) 10 License	B869-02	Common (MP 402)
Unicode Font Package for SAP(R) 100 License	B869-03	Common (MP 402)
SD Card for Fonts Type E	M500-66 (Only EU)	Common (MP 402)

### Note

NA = North America, EU = Europe, AA = Asia-Pacific, CHN = China, TWN = Taiwan, KOR = Korea

# INSTALLATION

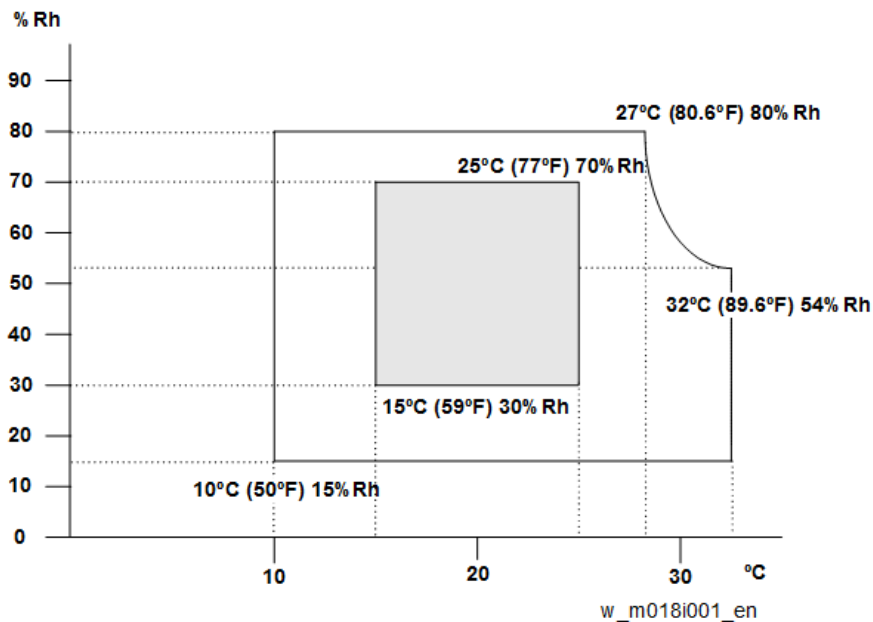
REVISION HISTORY		
Page	Date	Added/Updated/New
		None



## 2. INSTALLATION

### 2.1 INSTALLATION REQUIREMENTS

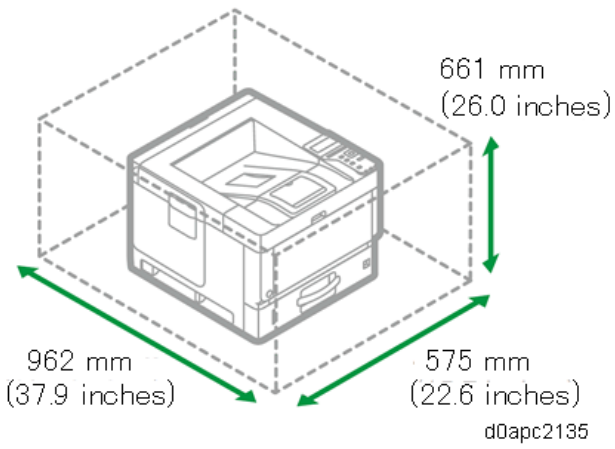
#### 2.1.1 ENVIRONMENT



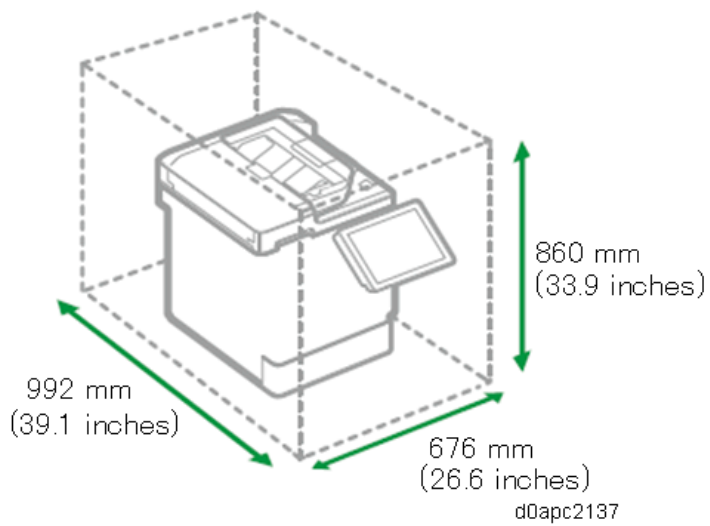
30. Temperature Range: 10 °C to 32 °C (50 °F to 89.6 °F)
31. Humidity Range: 15% to 80% RH
32. Ambient Illumination: Less than 1,500 lux (do not expose to direct sunlight.)
33. Ventilation: Room air should turn over at least 3 times/hr/person
34. Avoid an area which is exposed to sudden temperature changes. This includes:
  - Areas directly exposed to cool air from an air conditioner.
  - Areas directly exposed to heat from a heater.
35. Do not place the machine in an area where it will be exposed to corrosive gases.
36. Do not install the machine at any location over 2,000 m (6,500 ft.) above sea level.
37. Place the copier on a strong and level base. (Inclination on any side should be no more than 3 mm.)
38. Do not place the machine where it may be subjected to strong vibrations.

## 2.1.2 MACHINE SPACE REQUIREMENTS

### *Printer Model*



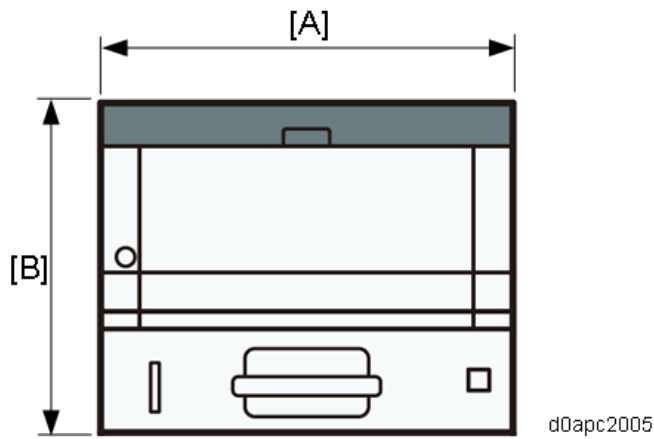
### *MF Model*





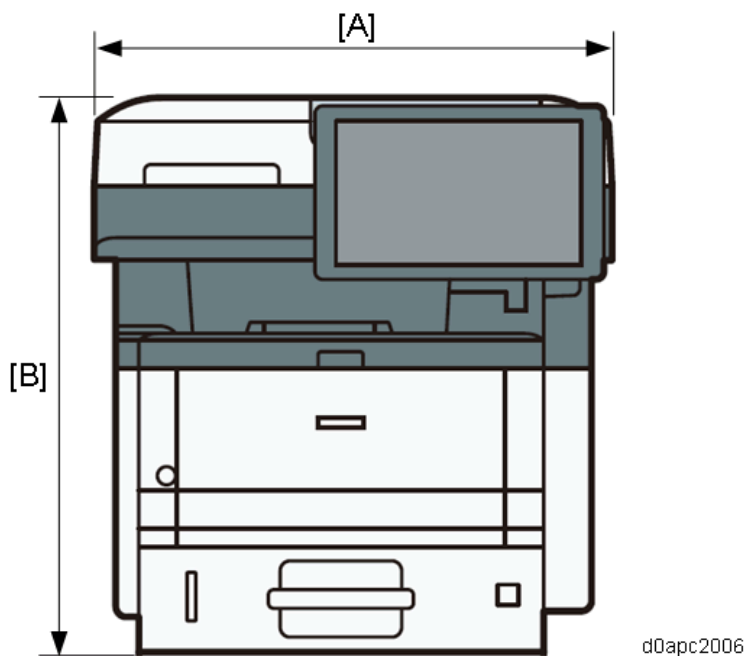
## 2.1.3 MACHINE DIMENSIONS

### Printer Model



Item	mm (inch)
Width [A]	375 mm (14.8 inch) (Excluding the fan cover)
Height [B]	311 mm (12.2 inch)
Depth	412 mm (16.2 inch)

### MF Model



Item	mm (inch)
Width [A]	476 mm (18.7 inch)
Height [B]	510 mm (20.1 inch)
Depth	442 mm (17.4 inch) (When the operation panel is at right angles to the floor)

## 2.1.4 POWER REQUIREMENTS

### CAUTION

- Make sure the plug is firmly inserted in the outlet.
- Avoid multi-wiring.
- Be sure to ground the machine.
- Never place anything on the power cord.

1. Input voltage level:

Destination	Power supply voltage	Frequency	Rated current consumption
NA	120 V to 127 V	60 Hz	12 A
EU/AP/CHN	220 V to 240V	50 Hz/60 Hz	7 A

2. Permissible voltage fluctuation:

Destination	For printing images	For operating
NA	+8.66% / -10%	+10% / -15%
EU/AP/CHN	±10%	±15%

## 2.2 MAIN MACHINE INSTALLATION (P 502/501)

The service maintenance model (P 502 (Machine code: M0D1)) is for installation by the customer engineer.

The user maintenance model (P 501 (Machine code: M0BQ)) is for installation by users. However, the customer engineer must do the installation if the sales representative requests it.

### 2.2.1 ACCESSORIES

#### *P 502 (M0D1)/ P 501 (M0BQ)*

Description	Q'ty			
	M0D1-17 M0BQ-17	M0D1-27 M0BQ-27	M0BQ-21	M0BQ-19
Power cord	1	1	1	1
Sheet - EULA (End User License Agreement)	1	1	1	1
Sheet - Notes for Using This Machine Safely	1	1	1	1
Sheet - User Registration Sheet	1	-	-	-
CD-ROM - Driver	1	1	1	1
Manual - Safety Information	1	1	1	1
Manual - Setup Guide	1	1	1	1
Manual - PRINTER LIMITED WARRANTY	1	-	-	-
Guarantee (Chinese)	-	-	1	-
Decal - Call Center	-	-	1	-

### 2.2.2 INSTALLATION PROCEDURE

#### ★ Important

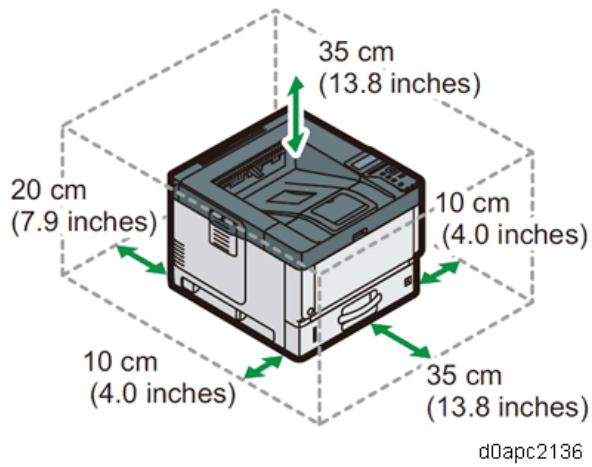
Condensation may form inside the machine when it is moved from a cold location to a warm location. Using the machine while condensation exists may cause a malfunction.

If condensation has formed, do not immediately turn on the power. Leave the machine, without turning it on, in the location where it will be used for at least two hours. You can use the machine when the room temperature and the temperature inside the machine are nearly the same.

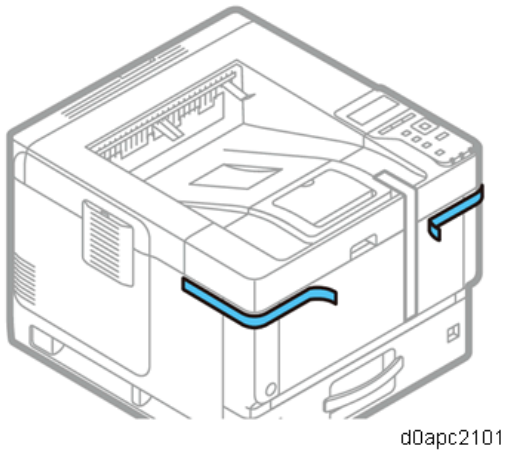
If SC548 or the message for condensation appears on the control panel when you turn on the machine's power, turn off the power and wait for the condensation to evaporate.

## Removal of Packing Materials and Shipping Retainers

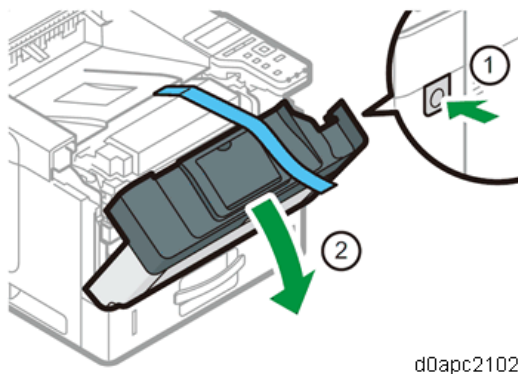
1. Do not put anything in the space around the machine, so that you can load paper, replace consumables, and clear paper jams easily.



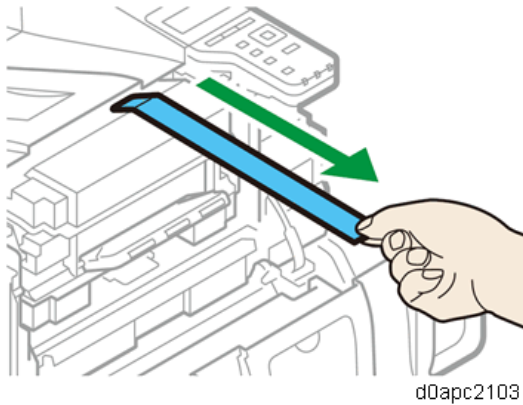
2. Remove all the adhesive tapes and protective sheet from the outside of the machine.



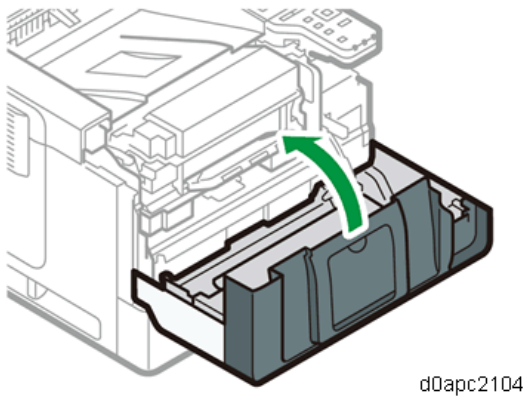
3. Press the front cover button on the right side of the machine, and then open the front cover.



4. Pull out the tape straight towards you. Toner adheres to the edge of the tape. Be careful not to touch it.

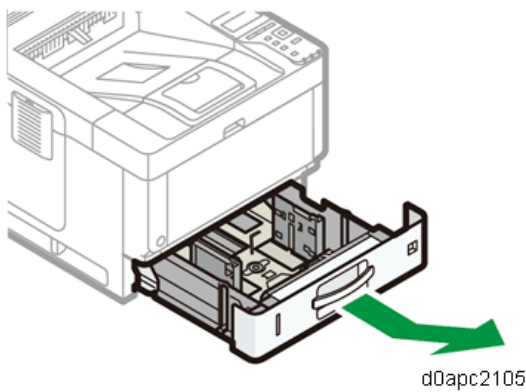


5. Close the front cover.

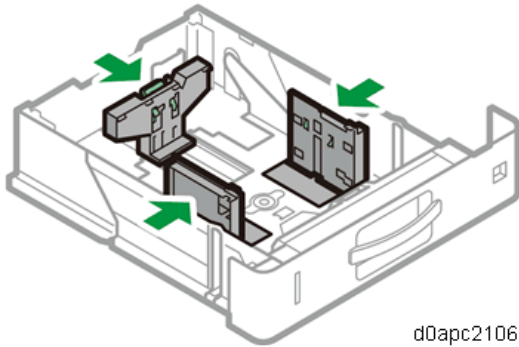


### **Loading Paper**

1. Pull out the paper tray carefully until it stops. Lift the front side of the tray, and then pull it out of the machine.



2. Pinch the lever of the back fence and align it with the paper size. Next, pinch the lever of the right fence and align the right and left fences with the paper size.

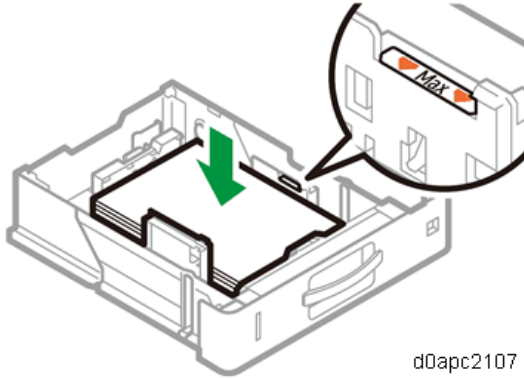


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**Note**

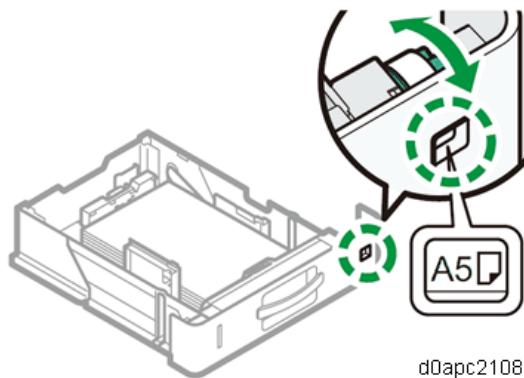
Before setting the paper, set the side fences. Otherwise skew may occur.

3. Load the paper print side down.  
Do not stack paper over the limit mark (the mark in the balloon shown above).



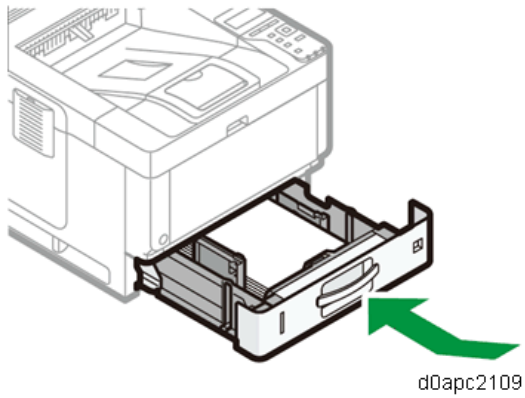
d0apc2107

4. Rotate the paper size dial, which is located at the front right of the tray, so that the size and the feed direction of the paper in the paper tray can be seen from the window.



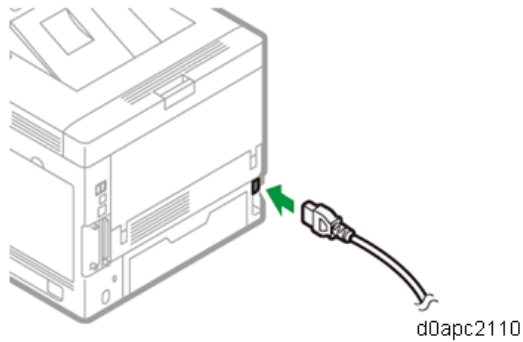
d0apc2108

5. Lifting the front side of the tray, insert it into the machine, and then push it in carefully until it stops.

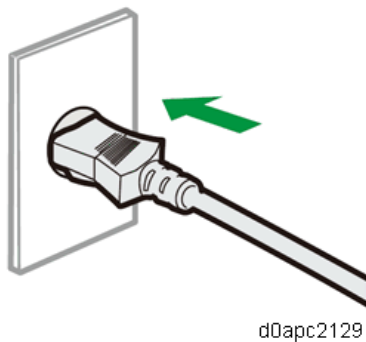


### Turning the Power On

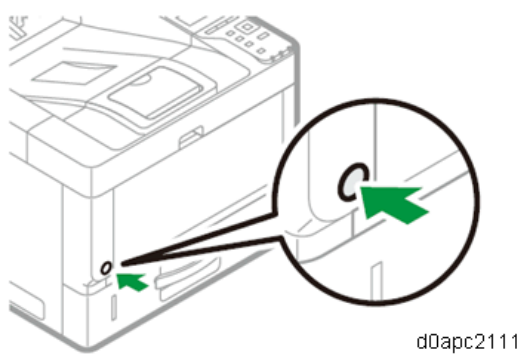
1. Connect the power cord to the power connector at the back of the machine.



2. Connect the power cord to the wall outlet.



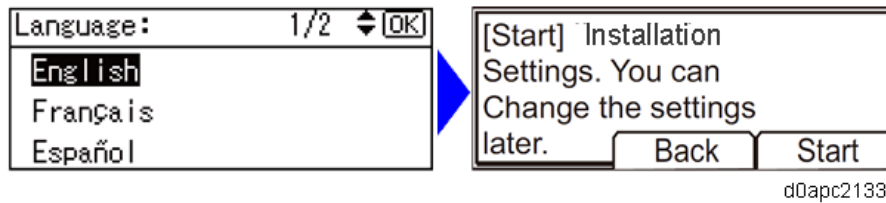
3. Press the main power switch.



The machine starts up. Following the start screen, the language select screen appears.

4. Press the [▼] or [▲] key to select the language, and then press the [OK] key.

The Installation Settings starts. Follow the instructions on the screen to complete setup.

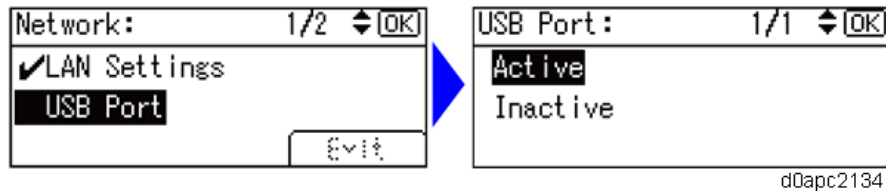


**Note**

There are "Time Zone Settings", "Date and Time Setting", "Daylight Saving Time", and "Network" in the Installation Settings.

**Important**

Only for EU/AA/KOR (code: -27); the USB Port setting is set to Inactive by default. If necessary, set to [Active].



### **Printing a Configuration Page**

After you have installed the machine or options, print the configuration page to check the machine status.

1. Press the [Menu] key.
2. Press the [▲] or [▼] key to select [List/Test Print], and then press the [OK] key.
3. Press the [▲] or [▼] key to select [Config. Page], and then press the [OK] key.



## 2.2.3 MOVING THE MACHINE

### CAUTION

- It is dangerous to handle the power cord plug with wet hands. Doing so could result in electric shock.
- Unplug the power cord from the wall outlet before you move the machine. While moving the machine, take care that the power cord is not damaged under the machine. Failing to take these precautions could result in fire or electric shock.
- If you have to move the machine when the optional paper tray unit is attached, do not push on the main unit's top section. Doing so can cause the optional paper tray unit to detach, possibly resulting in injury.
- When disconnecting the power cord from the wall outlet, always pull the plug, not the cord. Pulling the cord can damage the power cord. Use of damaged power cords could result in fire or electric shock.
- The machine weighs approximately 19 kg (41.9 lb.). When moving the machine, use the inset grips on both sides, and lift slowly. The machine will break or cause injury if dropped.
- Do not hold the control panel while moving the machine. Doing so may damage the control panel, cause a malfunction, or result in injury.

### Important

- Be careful when moving the machine. Take the following precautions:
  - Close all covers and trays, including the front cover and bypass tray.
  - If optional paper feed units are attached, remove them from the machine and move them separately.
  - Keep the machine level and carry it carefully, taking care not to jolt or tip it. Rough handling may cause a malfunction or damage the hard disk or memory, resulting in loss of stored files.
1. Be sure to check the following:  
The main power is turned OFF.  
The power cord is unplugged from the wall outlet.  
The interface cable is unplugged from the machine.
  2. If optional paper feed units are attached, remove them.
  3. Lift the machine using the inset grips on both sides of the machine. Then move it horizontally to the place where you want to use it.

### Note

Be sure to move the machine horizontally. To prevent toner from scattering, move the machine slowly.

4. If you removed the paper feed units, reattach them

## 2.3 MAIN MACHINE INSTALLATION (IM 350F/350/430F)

### 2.3.1 ACCESSORIES

#### *IM 350F (D0C5)/ IM 430F (D0AP)*

Description	Q'ty			
	D0C5-17 D0AP-17	D0C5-27 D0AP-27	D0AP-21	D0AP-19
Power cord	1	1	1	1
Modular cable with ferrite core	1	-	-	-
Ferrite core	-	1	1	1
Sheet - EULA (End User License Agreement)	1	1	1	1
Sheet - Note for Using This Machine Safely	1	1	1	1
Sheet - User Registration Sheet	1	-	-	-
Sheet - Note to the user (Caution for NFC Tag)	1	1	1	1
CD-ROM - Driver	1	1	1	1
Manual - Safety Information	1	1	1	1
Manual - Setup Guide	1	1	1	1
Manual - PRINTER LIMITED WARRANTY	1	-	-	-
Guarantee (Chinese)	-	-	1	-
Decal - Call Center	-	-	1	-
Decal - Bluetooth	1	1	1	1

#### *IM 350 (D0C6)*

Description	Q'ty
	D0C6-27
Power cord	1
Ferrite core	1
Sheet - EULA (End User License Agreement)	1
Sheet - Note for Using This Machine Safely	1
Sheet - Note to the user (Caution for NFC Tag)	1
CD-ROM - Driver	1
Manual - Safety Information	1
Manual - Setup Guide	1
Decal - Bluetooth	1

## 2.3.2 IMPORTANT NOTICE ON SECURITY ISSUES

In order to increase the security of the machine, and to ensure that the customer sets the administrator password, an administrator set/change prompt screen is displayed at the first power-up.

### Note

For more details about this security issue, see “Notes for Using This Machine Safely” supplied with the machine.

## 2.3.3 INSTALLATION PROCEDURE

### Important

Condensation may form inside the machine when it is moved from a cold location to a warm location. Using the machine while condensation exists may cause a malfunction.

If condensation has formed, do not immediately turn on the power. Leave the machine, without turning it on, in the location where it will be used for at least two hours. You can use the machine when the room temperature and the temperature inside the machine are nearly the same.

If SC548 or the message for condensation appears on the control panel when you turn on the machine's power, turn off the power and wait for the condensation to evaporate.

### ***Removal of Packing Materials and Shipping Retainers***

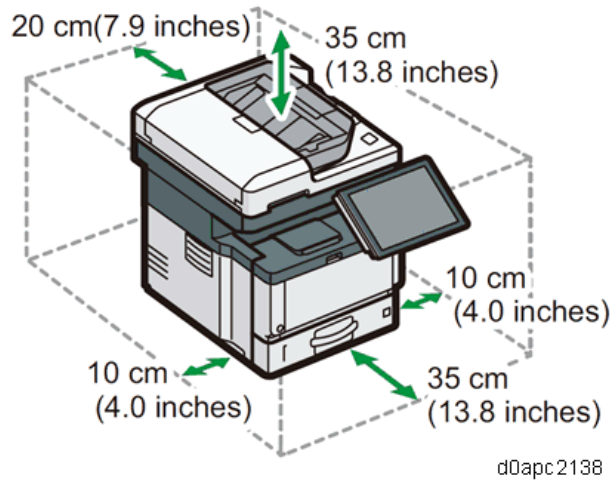
1. Hold the inset grips on both sides of the machine with two people as shown below, and slowly lift and move the machine.



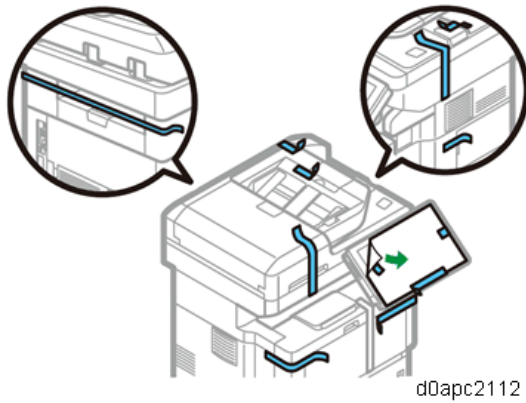
d0apc2010

2. Lower the machine slowly when positioning it.  
Do not put anything in the space around the machine, so that you can load paper, replace consumables, and clear paper jams easily.

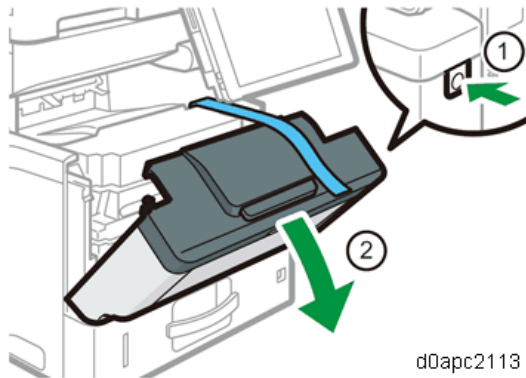
## Main Machine Installation (IM 350F/350/430F)



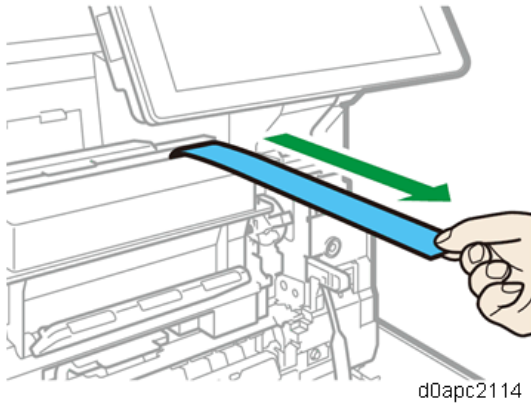
3. Remove all the narrow tapes and the protective sheet, outside the machine.



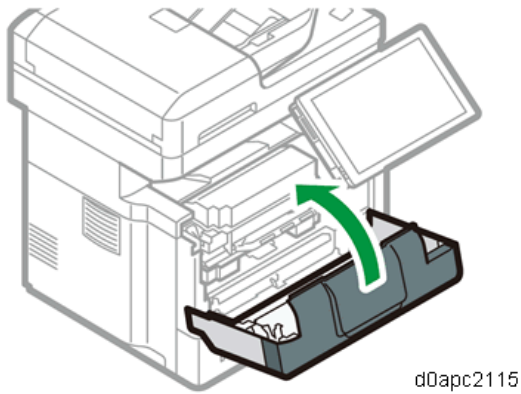
4. Press the front cover button on the right side of the machine, and then open the front cover.



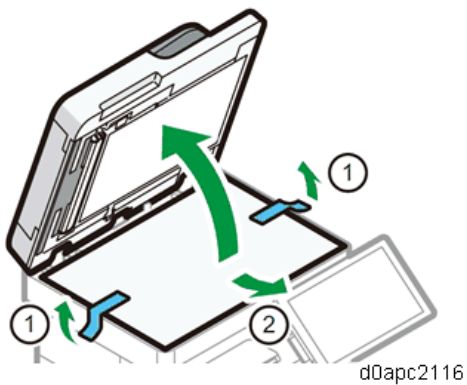
5. Pull out the tape straight towards you. Toner adheres to the edge of the tape. Be careful not to touch it.



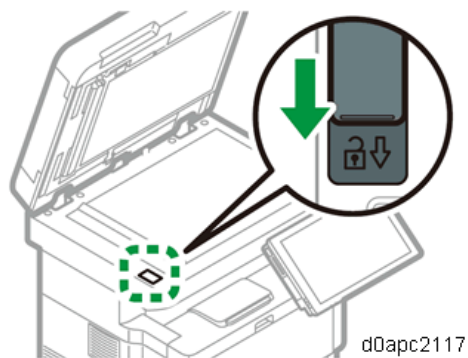
6. Close the front cover.



7. Lift the exposure glass cover to remove the inner adhesive tapes (1) and the protective sheet (2).



8. Slide the scanner carriage lock switch toward you.

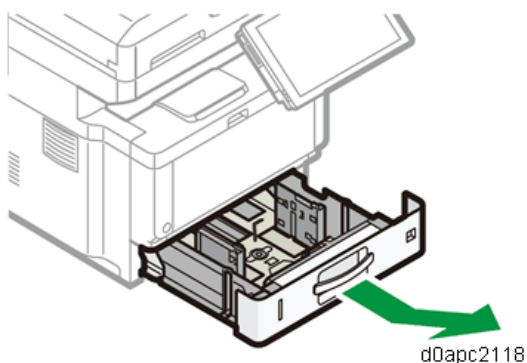


**Note**

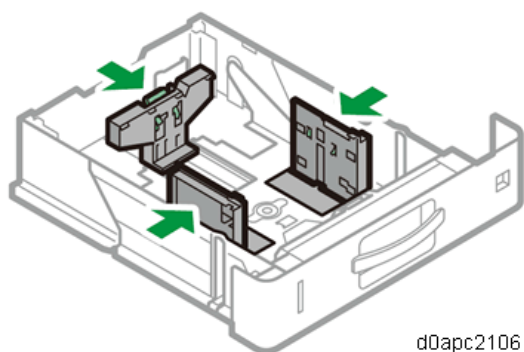
SC120-00 is displayed when the machine is turned ON without scanner carriage unlock.

### Loading Paper

1. Pull out the paper tray carefully until it stops. Lift the front side of the tray, and then pull it out of the machine.



2. Pinch the lever of the back fence and align it with the paper size. Next, pinch the lever of the right fence and align the right and left fences with the paper size.

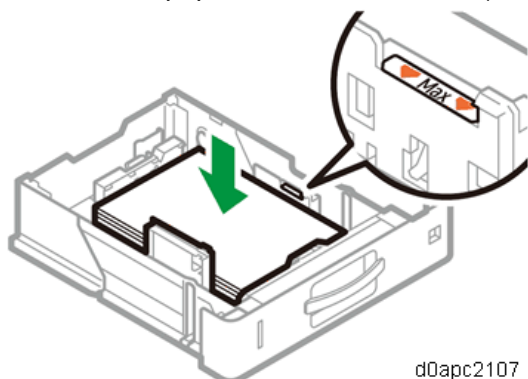


**Note**

Before setting the paper, set the side fences. Otherwise skew may occur.

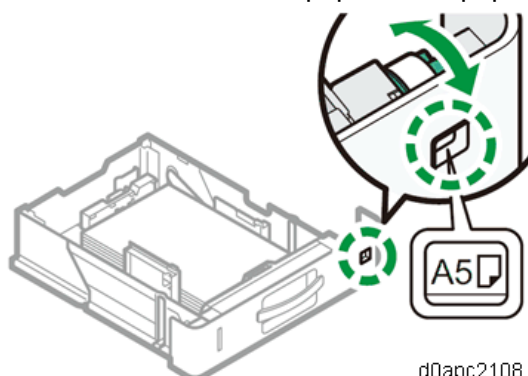
3. Load the paper print side down.

Do not stack paper over the limit mark (the mark in the balloon shown above).



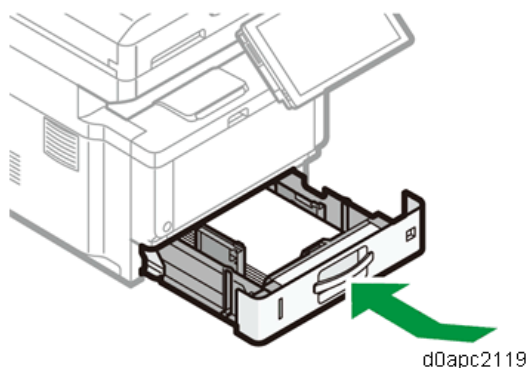
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4. Rotate the paper size dial, which is located at the front right of the tray, so that the size and the feed direction of the paper in the paper tray can be seen from the window.



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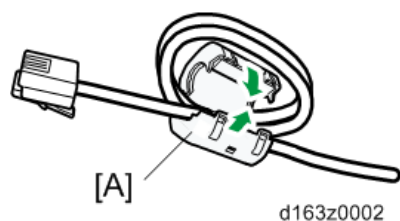
5. Lift the front side of the tray, insert it into the machine, and then push it in carefully until it stops.



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### Connecting the Modular Cable (Only Using the Fax)

1. Make two loops with the modular cord, and then attach the ferrite core [A] (this step is not needed for NA).

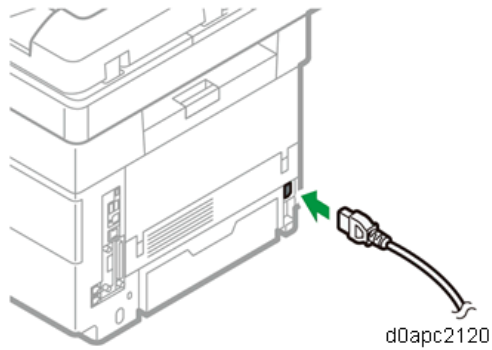


d163z0002

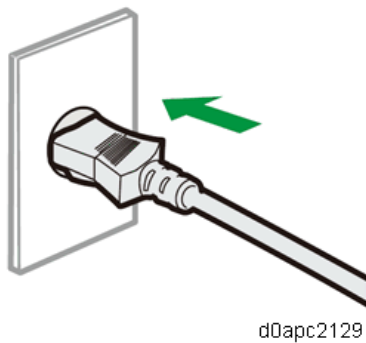
2. Connect the modular cable to the "LINE" connector.

## Turning the Power On

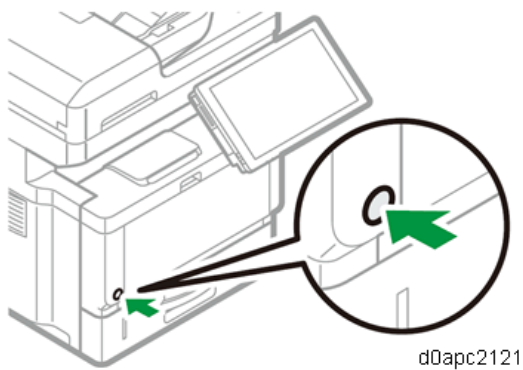
1. Connect the power cord to the power connector at the back of the machine.



2. Connect the power cord to the wall outlet.



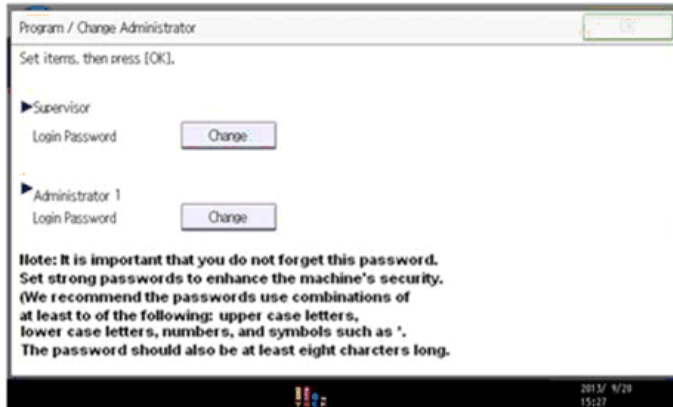
3. Press the main power switch.



The machine starts up. Following the start screen, the [Program/Change Administrator] screen appears.

4. Set the Administrator/Supervisor Login password or skip this screen temporarily.  
If your customer change the password soon, go to step 5.  
If you want to skip this screen, go to step 6.





d296c2047

5. Ask your customer to change the login password for Supervisor and Administrator 1 as following.
  1. Enter the password, and then press [OK].
  2. Enter the password again for confirming, and then press [OK] to register them.
  3. Press [OK]. The home screen is displayed.
6. Execute SP5-755-002 (Display Setting: Hide Administrator Password Change Scrn) to skip the [Program/Change Administrator] screen.

The home screen is displayed.

#### ★ Important

- The Program/Change Administrator screen will be displayed every time the power is turned ON.
- We recommend that customers set the passwords from the Program/Change Administrator screen.
- The passwords for Supervisor or Administrator 1 to 4 can be set via "System Settings". However, if the passwords are set in the Program/Change Administrator screen, this screen will be displayed every time the power is turned ON.

#### ↓ Note

If a password is not necessary, this screen can be disabled with the following procedure.

1. On the Program/Change Administrator screen, press [Change] next to Supervisor and then press [OK] without inputting any password.
2. Press [OK] again when the Confirm password screen is displayed.
3. For Administrator 1, do the same procedure as steps 1 and 2.
4. Press [OK]. The home screen is displayed.

### Printing a Configuration Page

After you have installed the machine or options, print the configuration page to check the machine status.

1. Press [User Tools].
2. Press [Machine Features].
3. Press [Printer Features].
4. Press [Configuration Page] on the [List / Test Print] tab.
5. Press [User Tools] on the top right of the screen.

#### Note

- After installing the machine, configure the hard disk overwriting and data encryption settings. ([Data Overwrite Security](#), [HDD Encryption](#))

## 2.3.4 MOVING THE MACHINE

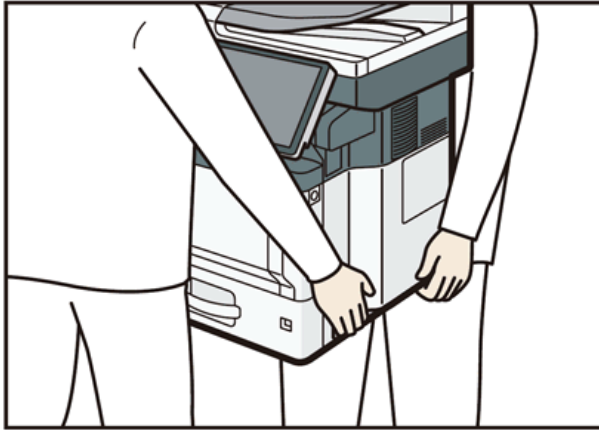
### CAUTION

- It is dangerous to handle the power cord plug with wet hands. Doing so could result in electric shock.
- Unplug the power cord from the wall outlet before you move the machine. While moving the machine, take care that the power cord is not damaged under the machine. Failing to take these precautions could result in fire or electric shock.
- If you have to move the machine when the optional paper tray unit is attached, do not push on the main unit's top section. Doing so can cause the optional paper tray unit to detach, possibly resulting in injury.
- When disconnecting the power cord from the wall outlet, always pull the plug, not the cord. Pulling the cord can damage the power cord. Use of damaged power cords could result in fire or electric shock.
- The machine weighs approximately 30 kg (66.2 lb.). When moving the machine, use the inset grips on both sides, and lift slowly in pairs. The machine will break or cause injury if dropped.
- Do not hold the control panel while moving the machine. Doing so may damage the control panel, cause a malfunction, or result in injury.

#### Important

- Be careful when moving the machine. Take the following precautions:
- Close all covers and trays, including the front cover and bypass tray.
- If optional paper feed units are attached, remove them from the machine and move them separately.
- Keep the machine level and carry it carefully, taking care not to jolt or tip it. Rough handling may cause a malfunction or damage the hard disk or memory, resulting in loss of stored files.

1. Be sure to check the following:
  - The main power is turned OFF.
  - The power cord is unplugged from the wall outlet.
  - The interface cable is unplugged from the machine.
2. If optional paper feed units are attached, remove them.
3. Lift the machine using the inset grips on both sides of the machine. Then move it horizontally to the place where you want to use it.



d0apc2010

**Note**

Be sure to move the machine horizontally. To prevent toner from scattering, move the machine slowly.

4. If you removed the paper feed units, reattach them.

## 2.4 MAIN MACHINE INSTALLATION (IM 430FB)

This machine (Machine code: D0C4) is for installation by users. However, the customer engineer must do the installation if the sales representative requests it.

### 2.4.1 ACCESSORIES

#### *IM 430Fb (D0C4)*

Description	Q'ty	
	D0C4-17	D0C4-27
Power cord	1	1
Modular cable with ferrite core	1	-
Ferrite core	-	1
Sheet - EULA (End User License Agreement)	1	1
Sheet - Note for Using This Machine Safely	1	1
Sheet - User Registration Sheet	1	-
Sheet - Note to the user (Caution for NFC Tag)	1	1
CD-ROM - Driver	1	1
Manual - Safety Information	1	1
Manual - Setup Guide	1	1
Manual - PRINTER LIMITED WARRANTY	1	-
Decal - Bluetooth	1	1

### 2.4.2 INSTALLATION PROCEDURE

#### ★ Important

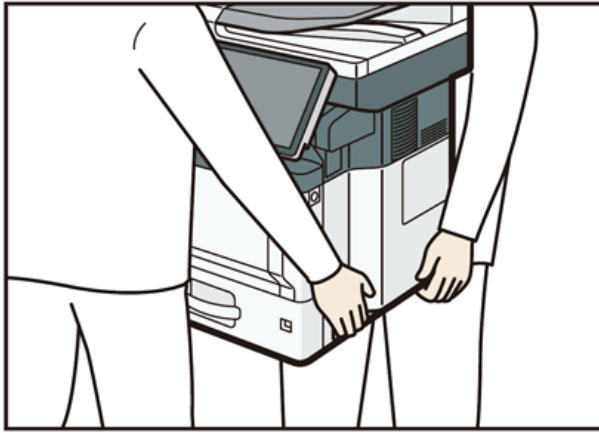
Condensation may form inside the machine when it is moved from a cold location to a warm location. Using the machine while condensation exists may cause a malfunction.

If condensation has formed, do not immediately turn on the power. Leave the machine, without turning it on, in the location where it will be used for at least two hours. You can use the machine when the room temperature and the temperature inside the machine are nearly the same.

If SC548 or the message for condensation appears on the control panel when you turn on the machine's power, turn off the power and wait for the condensation to evaporate.

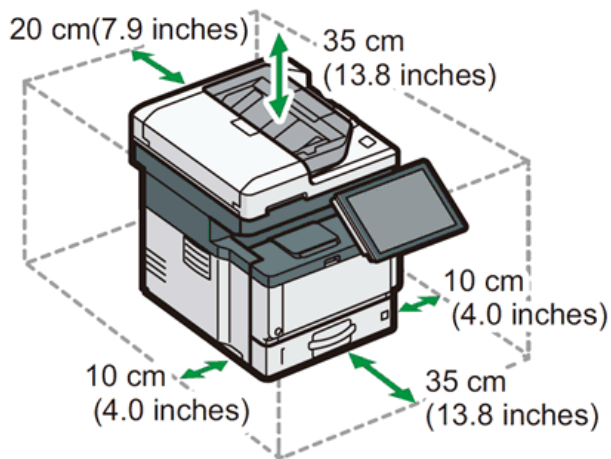
## Removal of Packing Materials and Shipping Retainers

1. Hold the inset grips on both sides of the machine with two people as shown above, and slowly lift and move the machine.



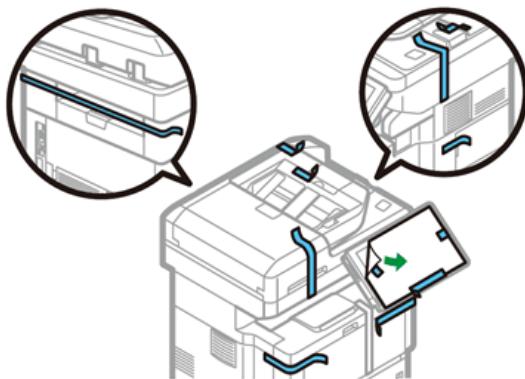
d0apc2010

2. Lower the machine slowly when positioning it.  
Do not put anything in the space around the machine, so that you can load paper, replace consumables, and clear paper jams easily.



d0apc2138

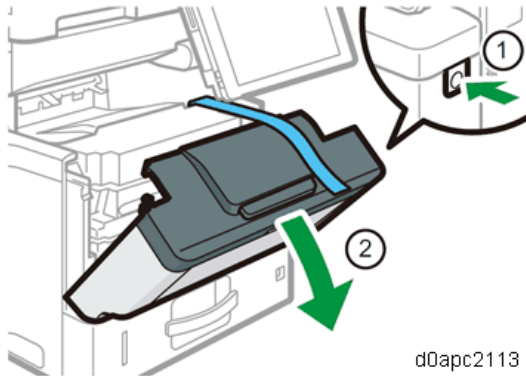
3. Remove all the narrow tapes and protective sheet from the outside of the machine.



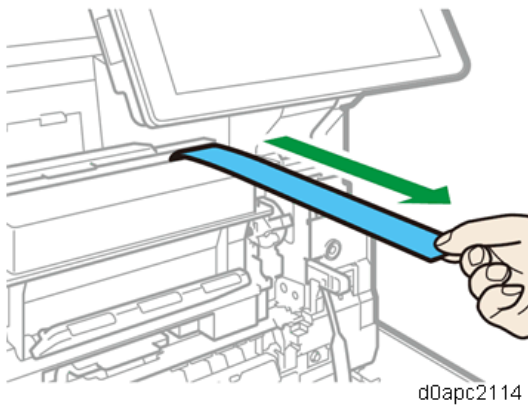
d0apc2112

## Main Machine Installation (IM 430Fb)

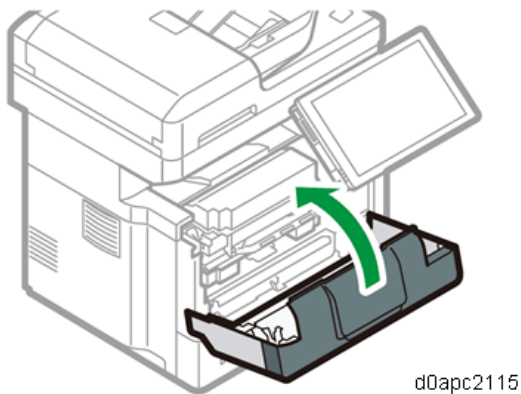
4. Press the front cover button on the right side of the machine, and then open the front cover.



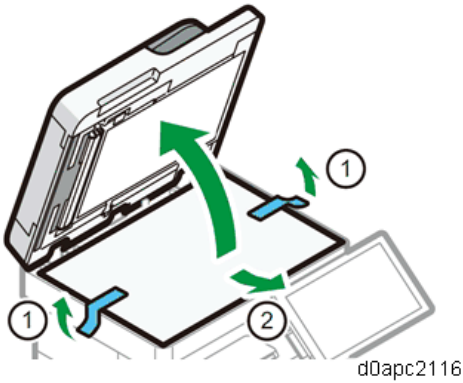
5. Pull out the tape straight towards you. Toner adheres to the edge of the tape. Be careful not to touch it.



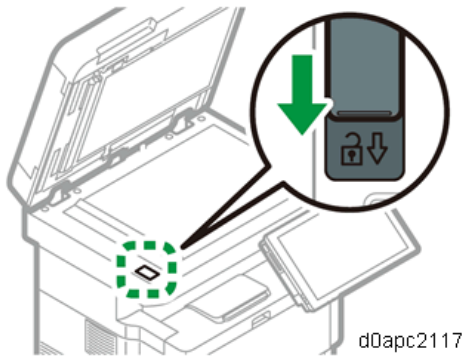
6. Close the front cover.



- Lift the exposure glass cover to remove the inner adhesive tapes (1) and the protective sheet (2).



- Slide the scanner carriage lock switch toward you.

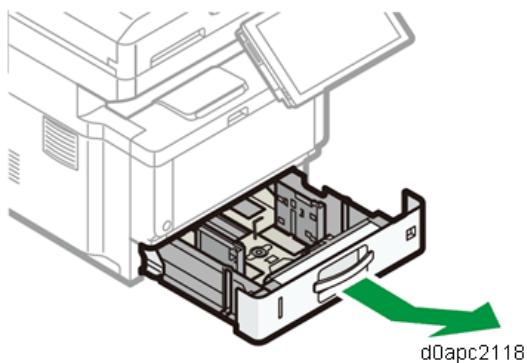


**Note**

SC120-00 is displayed when the machine is turned ON without scanner carriage unlock.

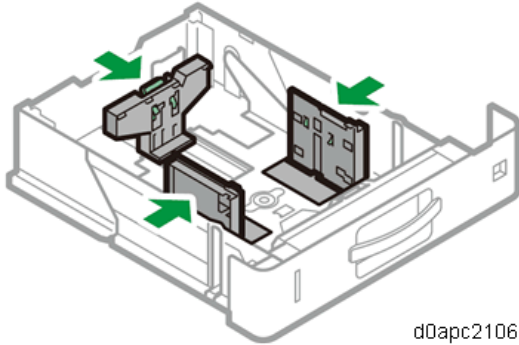
### Loading Paper

- Pull out the paper tray carefully until it stops. Lift the front side of the tray, and then pull it out of the machine.



## Main Machine Installation (IM 430Fb)

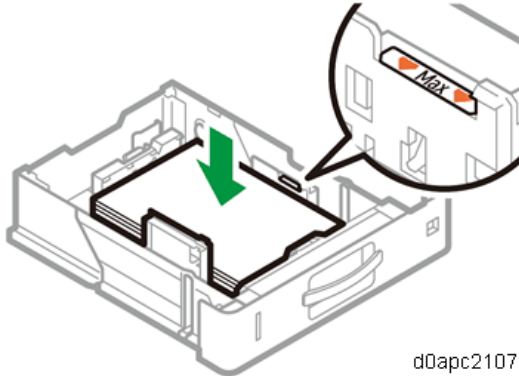
2. Pinch the lever of the back fence and align it with the paper size. Next, pinch the lever of the right fence and align the right and left fences with the paper size.



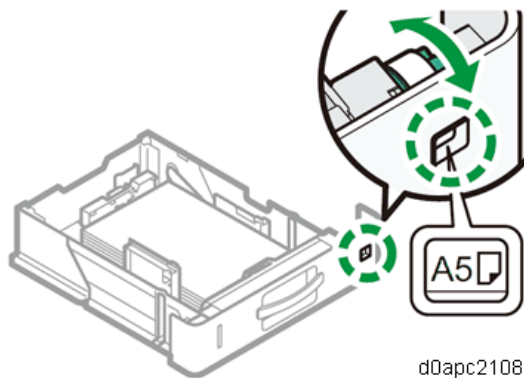
### Note

Before setting the paper, set the side fences. Otherwise skew may occur.

3. Load the paper print side down.  
Do not stack paper over the limit mark (the mark in the balloon shown above).

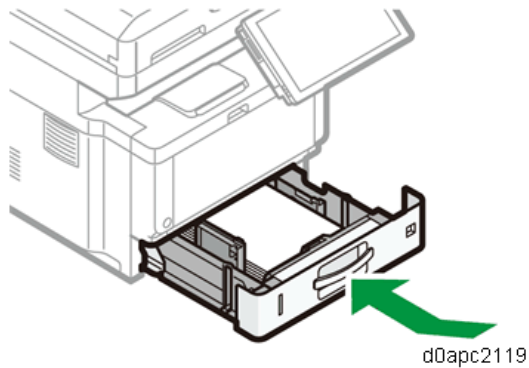


4. Rotate the paper size dial, which is located at the front right of the tray, so that the size and the feed direction of the paper in the paper tray can be seen from the window.



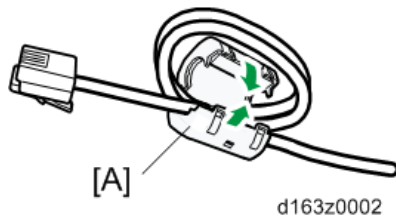


5. Lifting the front side of the tray, insert it into the machine, and then push it in carefully until it stops.



### Connecting the Modular Cable (Only Using the Fax)

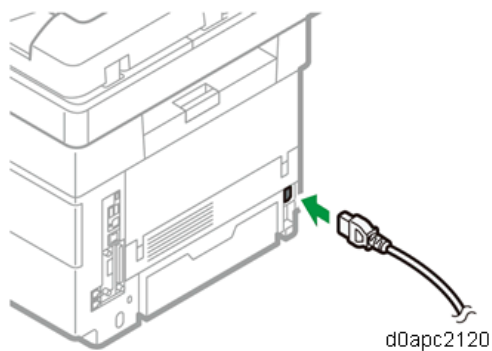
1. Make two loops with the modular cord, and then attach the ferrite core [A] (this step is not needed for NA).



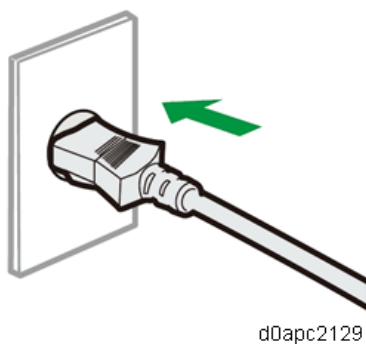
2. Connect the modular cable to the "LINE" connector.

### Turning the Power On

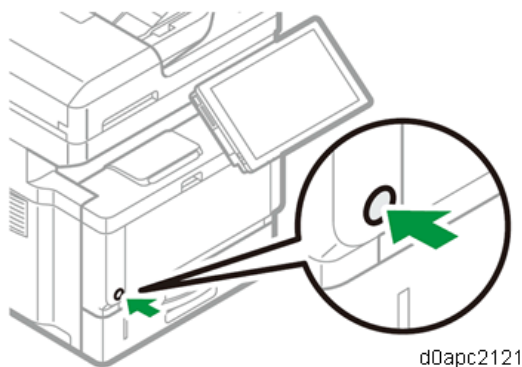
1. Connect the power cord to the power connector at the back of the machine.



2. Connect the power cord to the wall outlet.

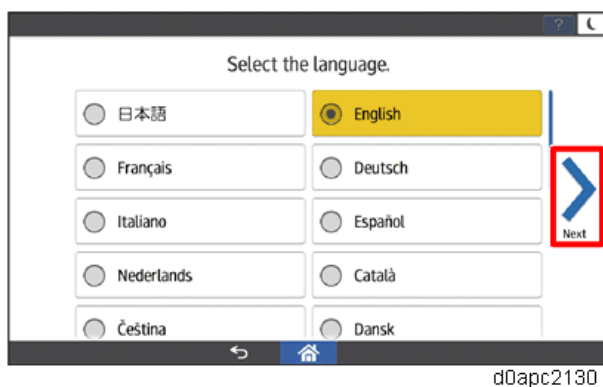


3. Press the main power switch.

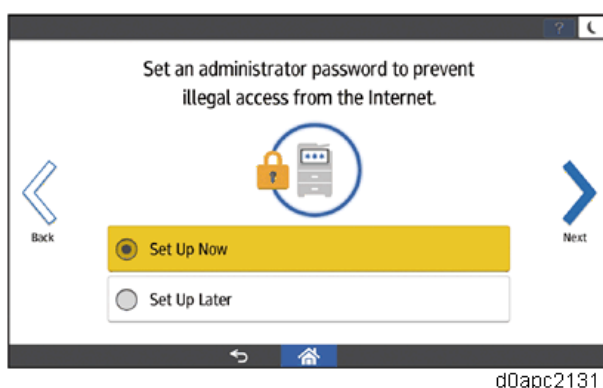


The machine starts up.

4. Following the start screen, the language select screen appears. Select the language to use, and then press [Next].

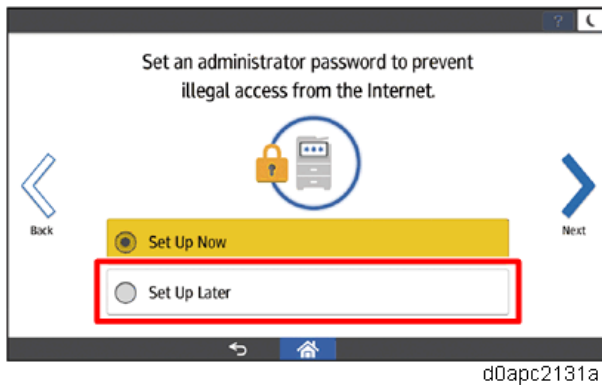


5. The administrator password setting screen appears. If your customer change the password soon, go to step 6. If you want to skip this screen, go to step 7.

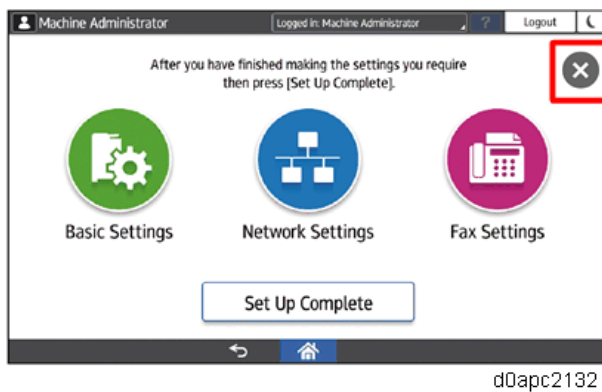


6. Press the [Set Up Now] and then press [Next]. Ask your customer to change the name of the administrator and the password as following.
  1. Press the [Administrator 1] and the [Password] dialogue boxes, enter the name and the password respectively.
  2. Enter the name and the password again for confirming, and then press [OK] to register them.

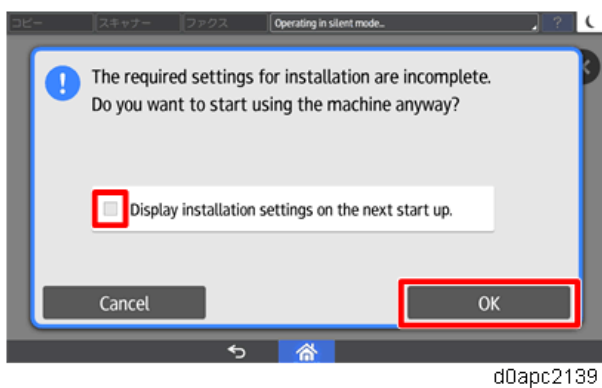
3. Go to step 8.
7. Press [Set Up Later], and then press [Next] according to the instructions on the screen.



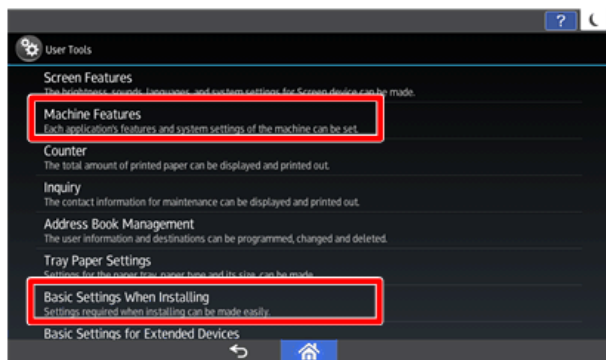
8. The Installation Settings screen appears. Press [X].



9. The following message is displayed. Uncheck the check box, and then press [OK].



10. The home screen appears.
11. Set the machine setting with one of the following menus.
  - User Tools > Machine Features
  - User Tools > Basic Settings When Installing

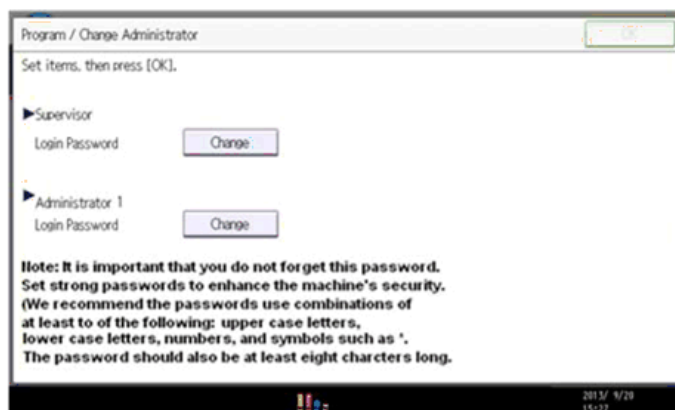


d0apc2162

**★ Important**

When [Set Up Later] on the administrator password setting screen in step 5 is selected, forcibly display the administrator password setting screen by the following procedure.

1. After the machine installation, enter the SP mode and execute the SP5-755-001 (Display Setting: Disp Administrator Password Change Scrn).
2. Power cycle the machine. The following Program/Change Administrator screen is displayed.



d296c2047

3. Ask your customer to set the supervisor and administrator password.  
If the Administrator/Supervisor Login password set, this Program/Change Administrator screen will disappear and the home screen is displayed.

**↓ Note**

If a password is not necessary, this screen can be disabled with the following procedure.

1. On the Program/Change Administrator screen, press [Change] next to Supervisor and then press [OK] without inputting any password.
2. Press [OK] again when the Confirm password screen is displayed.
3. For Administrator 1, do the same procedure as steps 1 and 2.
4. Press [OK]. The home screen is displayed.

## Printing a Configuration Page

After you have installed the machine or options, print the configuration page to check the machine status.

1. Press [User Tools].
2. Press [Machine Features].
3. Press [Printer Features].
4. Press [Configuration Page] on the [List / Test Print] tab.
5. Press [User Tools] on the top right of the screen.

### Note

- After installing the machine, configure the hard disk overwriting and data encryption settings. ([Data Overwrite Security](#), [HDD Encryption](#))

## 2.4.3 MOVING THE MACHINE

### CAUTION

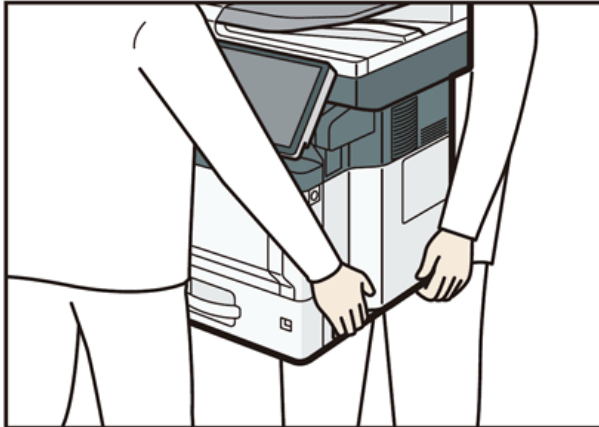
- It is dangerous to handle the power cord plug with wet hands. Doing so could result in electric shock.
- Unplug the power cord from the wall outlet before you move the machine. While moving the machine, take care that the power cord is not damaged under the machine. Failing to take these precautions could result in fire or electric shock.
- If you have to move the machine when the optional paper tray unit is attached, do not push on the main unit's top section. Doing so can cause the optional paper tray unit to detach, possibly resulting in injury.
- When disconnecting the power cord from the wall outlet, always pull the plug, not the cord. Pulling the cord can damage the power cord. Use of damaged power cords could result in fire or electric shock.
- The machine weighs approximately 30 kg (66.2 lb.). When moving the machine, use the inset grips on both sides, and lift slowly in pairs. The machine will break or cause injury if dropped.
- Do not hold the control panel while moving the machine. Doing so may damage the control panel, cause a malfunction, or result in injury.

### Important

- Be careful when moving the machine. Take the following precautions:
- Close all covers and trays, including the front cover and bypass tray.
- If optional paper feed units are attached, remove them from the machine and move them separately.
- Keep the machine level and carry it carefully, taking care not to jolt or tip it. Rough handling may cause a malfunction or damage the hard disk or memory, resulting in loss of stored files.

## Main Machine Installation (IM 430Fb)

1. Be sure to check the following:
  - The main power is turned OFF.
  - The power cord is unplugged from the wall outlet.
  - The interface cable is unplugged from the machine.
2. If optional paper feed units are attached, remove them.
3. Lift the machine using the inset grips on both sides of the machine. Then move it horizontally to the place where you want to use it.



d0apc2010

### Note

Be sure to move the machine horizontally. To prevent toner from scattering, move the machine slowly.

4. If you removed the paper feed units, reattach them

## 2.5 EXTERNAL/ INTERNAL OPTIONS

New/Common	Item	Target		Link
		Printer model	MF model	
New	Paper Feed Unit PB1120	✓	✓	<a href="#"><i>Paper Feed Unit PB1120 (D3ER-17)/ PB1110 (D3EQ-17)</i></a>
New	Paper Feed Unit PB1110	✓	✓	
New	Caster Table Type M34	✓	✓	<a href="#"><i>Caster Table Type M34 (D3EP-03)</i></a>
New	Offline Stapler Type M34		✓	<a href="#"><i>Offline Stapler Type M34 (D3EP-02)</i></a>
Common	Handset HS1010		✓	Refer to Field Service Manual "Fax Unit".
New	Hard Disk Drive Option Type P18	✓		<a href="#"><i>Hard Disk Drive Option Type P18 (M543-01)</i></a>
Common	Optional Counter Interface Unit Type M12		✓	<a href="#"><i>Optional Counter Interface Unit Type M12 (B870-21)</i></a>
Common	NFC Card Reader Type M27		✓	<a href="#"><i>NFC Card Reader Type M27 (M502-10)</i></a>
Common	Page Keeper Type M28		✓	<a href="#"><i>Page Keeper Type M28 (D3DQ-17)</i></a>
Common	Enhanced Security HDD Option Type M10		✓	<a href="#"><i>Enhanced Security HDD Option Type M10 (D792-09)</i></a>

## 2.6 PAPER FEED UNIT PB1120 (D3ER-17)/ PB1110 (D3EQ-17)

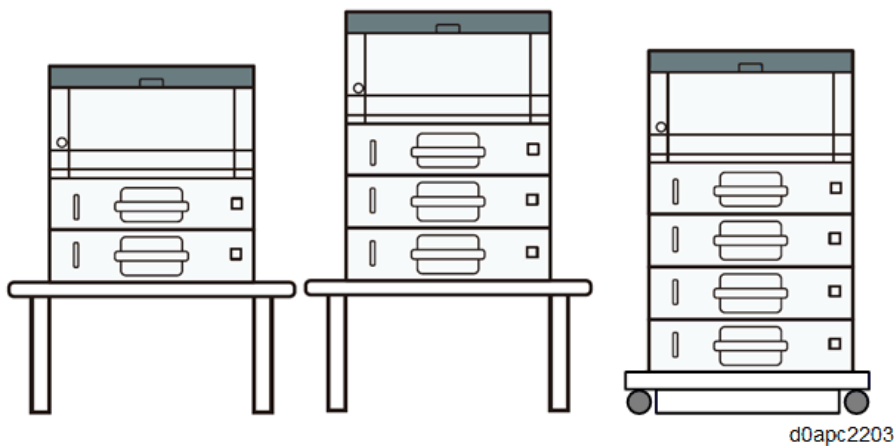
### **⚠ CAUTION**

To prevent personal injury or damage to the machine, always use two service technicians on opposite sides of the machine to lift the machine with the inset grips provided on both sides.

### 2.6.1 NUMBER OF PAPER FEED UNIT THAT CAN BE INSTALLED

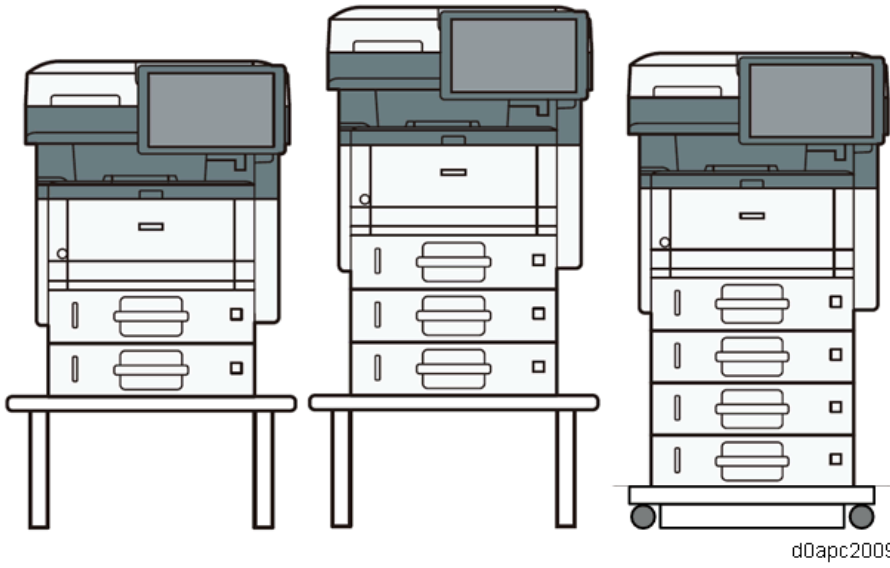
- Up to three paper feed units can be installed with any combination of 250 sheets bank and 500 sheet bank.
- The caster table is required when installing three paper feed units.
- When using a printer/multi-function printer on a table, only one or two optional paper feed unit should be installed.

#### ***Printer model:***





**MF model:**



d0apc2009

**Person who install:**

- : User
- : Customer engineer

**Use on table**

	✓	✓	✗	✓	✓	✗
	✓	✓	✗	✓	✓	✗

d0apc2159

**Use on the floor**

	✓	✗	✓	✓	✗	✓
	✓	✓	✓	✓	✓	✓

d0apc2160

## 2.6.2 ACCESSORIES

No.	Description	Q'ty
1	Installation Guide	1
2	Set Sheet	1
3	EMC Address	1
4	Decal CHN 10mm	1
5	Decal CHN Date 40mm	1

## 2.6.3 INSTALLATION PROCEDURE

### **⚠ CAUTION**

- When installing this option, turn the machine power OFF, and unplug the power supply cord from the wall socket.
- The printer weighs approximately (max.) 19 kg (41.9 lb.).
- The multi-function printer weighs approximately (max.) 30 kg (66.1 lb.).
- To prevent personal injury or damage to the machine, always use two service technicians on opposite sides of the machine to lift it the machine slowly with the inset grips provided on both sides.

### **Note**

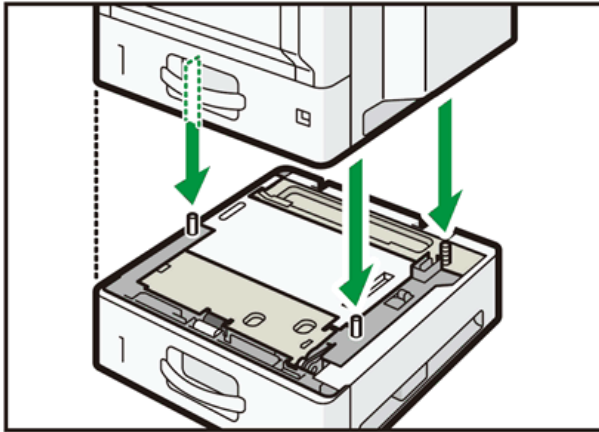
To attach two or three lower paper trays at the same time, first stack one paper tray on the other, and then attach them as a single unit.

1. Remove the packaging from the paper feed unit.
2. Lift the machine using the inset grips on both sides of the machine as shown.



d0apc2010

3. There are three vertical pins on the optional paper feed unit. Align the pins with the holes on the underside of the machine, and then carefully lower the machine.



d0apc2011

4. Plug in the power cord, and then turn on the machine.
5. Print the configuration page to confirm that the unit was attached correctly.

**Note**

To confirm whether the optional paper feed unit is attached correctly, print the configuration page.

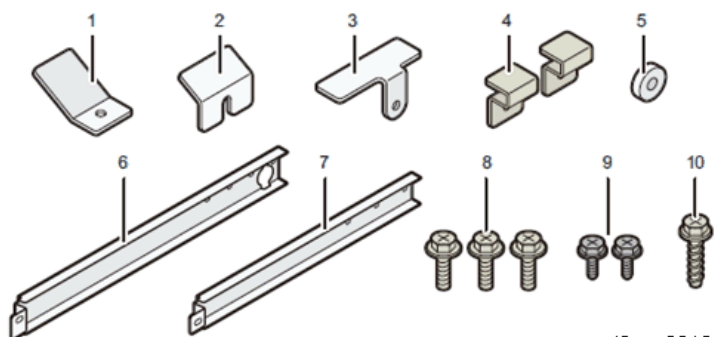
Under the heading "Attached Equipment" on the configuration page, you should see "Tray 2", "Tray 3", "Tray 4" for the attached units.

## 2.7 CASTER TABLE TYPE M34 (D3EP-03)

When installing two or more optional trays on the caster table, it is required to install by the customer engineer.

### 2.7.1 ACCESSORIES

No.	Description	Q'ty	Installation location
1	Plate A-1	1	Caster table - Paper feed unit (Front right)
2	Plate A-2	1	Caster table - Paper feed unit (Front left)
3	Plate B-1	1	Main machine - Paper feed unit (Rear left)
4	Plate B-2	2	Paper feed unit - Paper feed unit (Rear)
5	Spacer	1	Caster table - Paper feed unit (Rear right)
6	Plate C-1	1	Caster table - Paper feed unit (Rear right)
7	Plate C-2	1	Only used when installing three paper feed units.
8	Screw A (M4x8)	3	Caster table - Paper feed unit
9	Screw B (M3x6)	2	Paper feed unit, Main machine (Left side)
10	Screw C (M3x12)	1	Paper feed unit, Main machine (Right side)
-	Installation Guide	1	-



d0apc2012

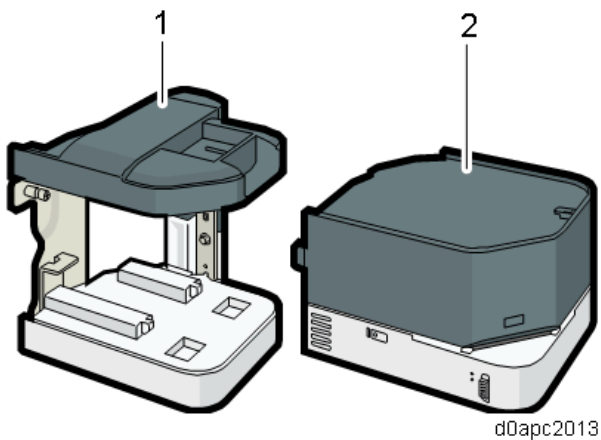
### 2.7.2 INSTALLATION PROCEDURE

Refer to "Caster Table Type M34 Installation Guide" provided with the Caster Table.

## 2.8 OFFLINE STAPLER TYPE M34 (D3EP-02)

### 2.8.1 ACCESSORIES

No.	Description	Q'ty
1	Stapler unit cradle	1
2	Stapler	1
-	Caution Chart	1
-	Set Sheet	1
-	Installation Guide	1



### 2.8.2 INSTALLATION PROCEDURE

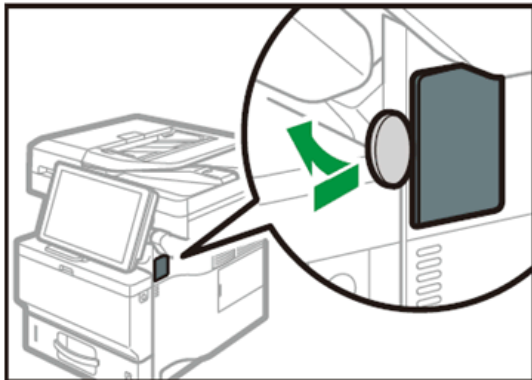
#### ⚠ CAUTION

To prevent injury from electrical shock or damage to the machine, before installation, always turn the main machine power off, and then unplug the machine power supply cord from the power source.

#### ★ Important

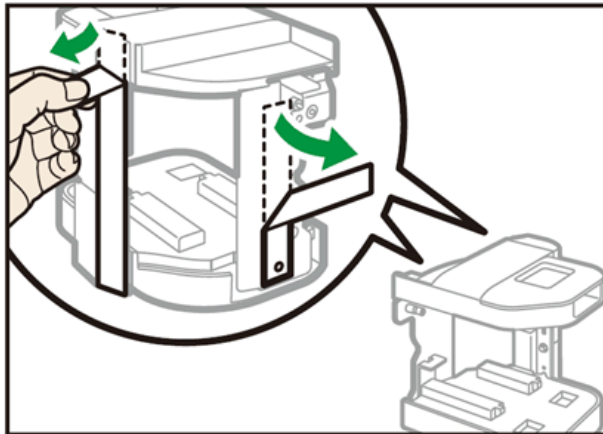
- Do not remove the offline stapler after pressing it to fix.
- Do not hold the staple unit when you move the machine.

1. By using a coin, open the cover on the right side of the machine.



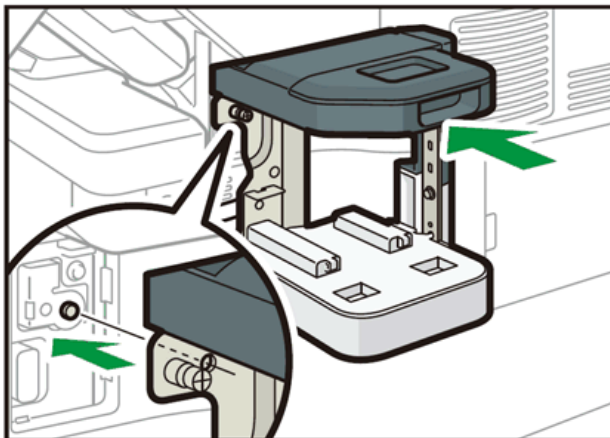
d0apc2014

2. Fold outside the parts of the release paper that are not stuck to the double-sided tapes on the back of the staple unit cradle.  
The adhesion of the release paper is strong, so it cannot be detached once it is affixed. Do not affix the release paper until Step 6.



d0apc2015

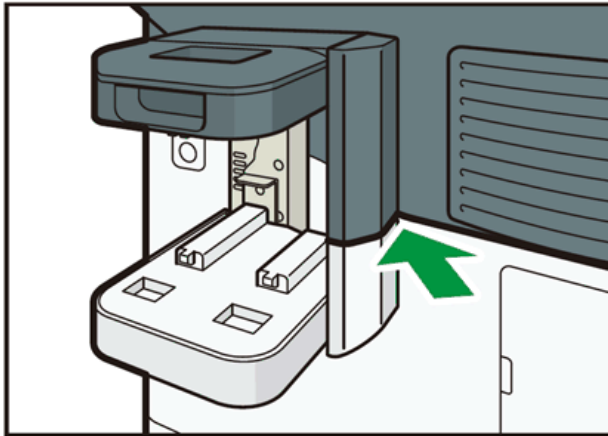
3. Align the hole on the staple unit cradle to the bump that is on the right side of the machine, and then insert the screw into the screw hole.  
If the right side of the machine is dirty, clean the surface before mounting the staple unit cradle on the machine.



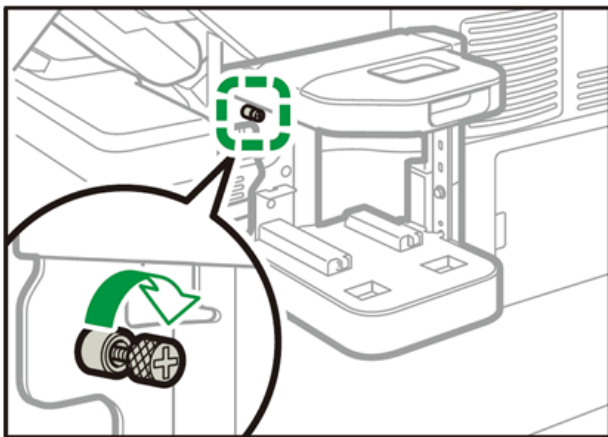
d0apc2016

4. Align the lines of both the machine and the staple unit cradle as shown in the illustration,

and then turn the screw until it stops.



d0apc2017

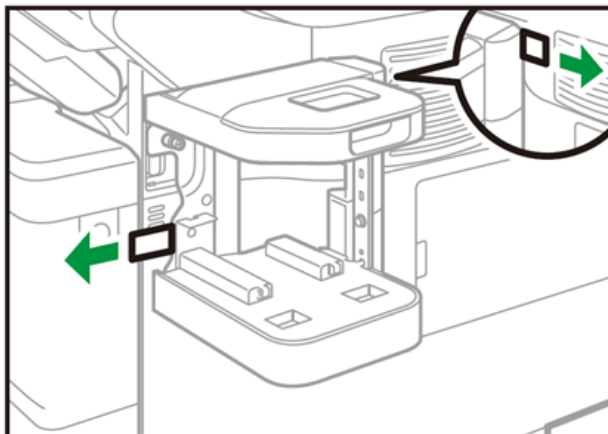


d0apc2018

5. Pull out the pieces of release paper that were folded outside, and then press the staple unit cradle towards the machine.

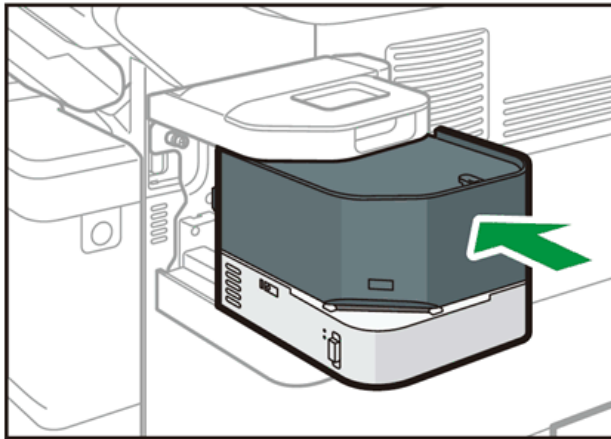
Support the staple unit cradle with a hand so that it does not move when pulling out the release paper. Do not press the staple unit forcibly. The release paper may tear. Pull the release paper to the sides slowly. After removing the release paper, press forcibly on the staple unit cradle to fasten it to the machine.

After releasing the release paper, press forcibly on the staple unit cradle to fasten it to the machine.

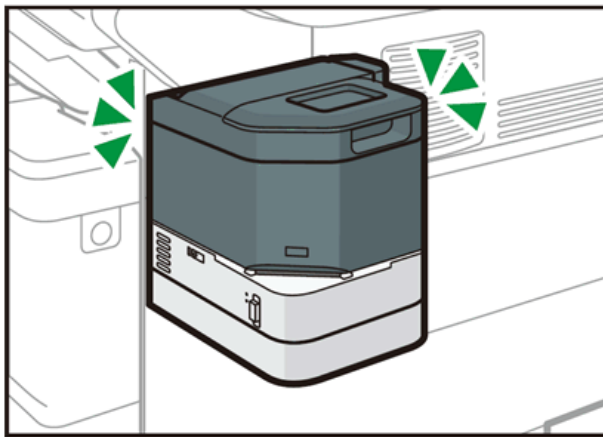


d0apc2019

6. Insert the staple unit into the stapler unit cradle. Push the staple unit firmly into the back.



d0apc2020



d0apc2021

7. Turn the machine's power on.  
The power of the offline stapler also turns on.

### ***Precautions During Use***

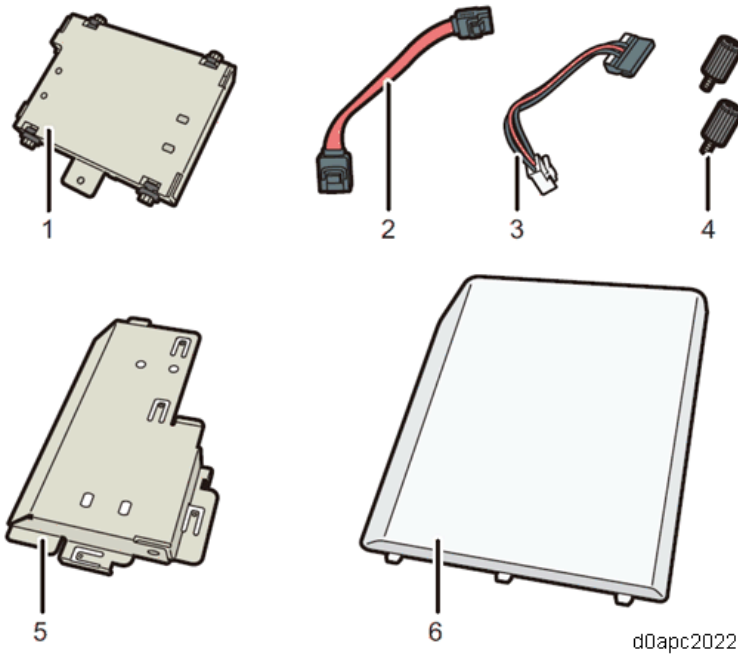
- During repeated use, wait more than 3 sec. between stapling.
- When using the stapler never turn the main machine off or set it in the Energy Save Mode. This will cause the machine to stop, the stack may jam in the stapler and you will not be able to remove it.
- If paper becomes jammed in the stapler, remove the staple unit from its mount, set it on the machine again and turn on the machine. This will re-initialize stapler and you will be able to remove the jammed stack.
- The staple cartridge is removed by lifting, not pressing down, so if the cartridge is struck and disconnected, the staples past the point of disconnection cannot be lifted out. If this occurs the staple cartridge must be replaced.



## 2.9 HARD DISK DRIVE OPTION TYPE P18 (M543-01)

### 2.9.1 ACCESSORIES

No.	Description	Q'ty
1	Hard disk drive	1
2	Flat cable	1
3	Power cord	1
4	Screw	2
5	Inner cover	1
6	HDD cover	1



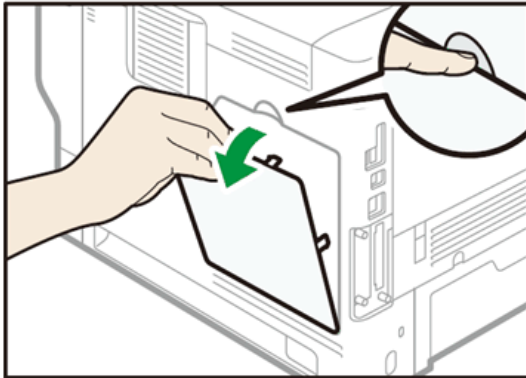
### 2.9.2 INSTALLATION PROCEDURE

#### **⚠ CAUTION**

To prevent injury from electrical shock or damage to the machine, before installation always, turn the main machine power off, and then unplug the machine power supply cord from the power source.

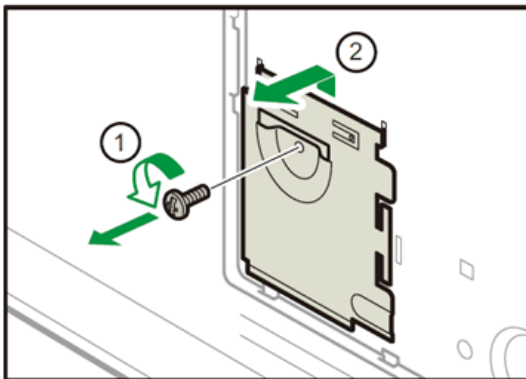
## Hard Disk Drive Option Type P18 (M543-01)

1. Remove the HDD cover.



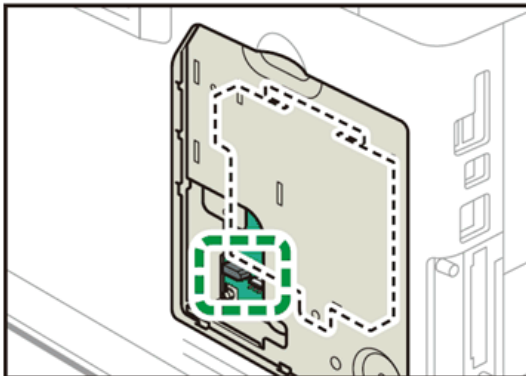
d0apc2023

2. Loosen the screw by using a coin, and then remove the inner cover.



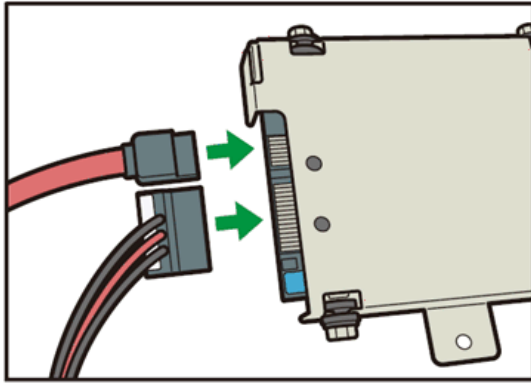
d0apc2024

3. Install the hard disk in the indicated position.



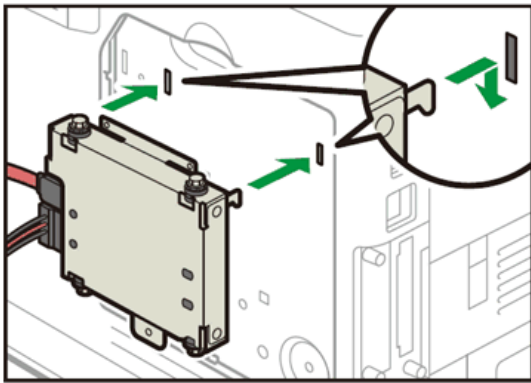
d0apc2025

4. Connect the flat cable and power cord to the hard disk.

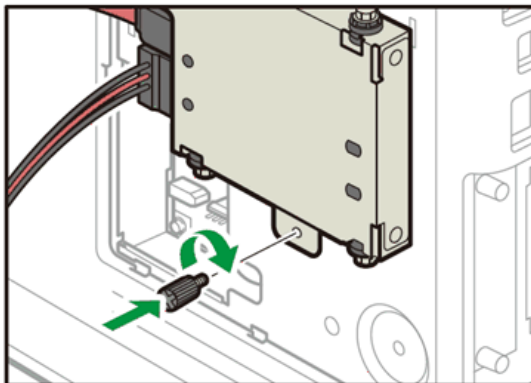


d0apc2026

5. Align the upper protrusions on the hard disk into the notches on the machine, and then fasten the hard disk to the machine with the screw.



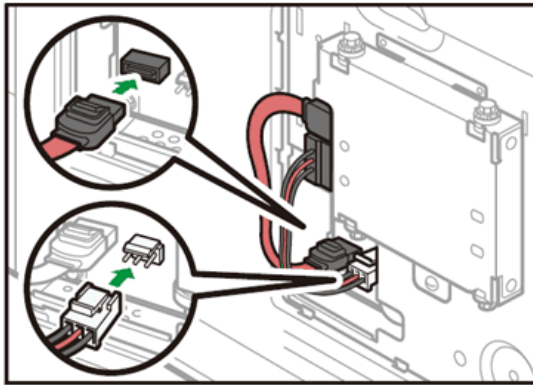
d0apc2027



d0apc2028

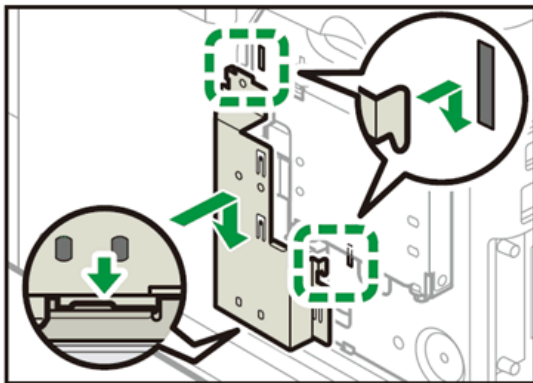
## Hard Disk Drive Option Type P18 (M543-01)

6. Connect the flat cable and power cord to the board of the machine.



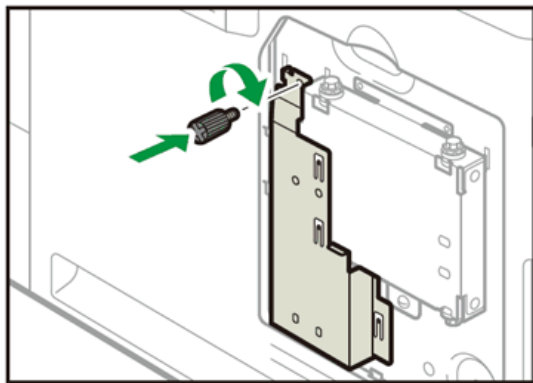
d0apc2029

7. Insert the two protrusions of the supplied inner cover, and then the lower protrusion, into the notches on the machine.



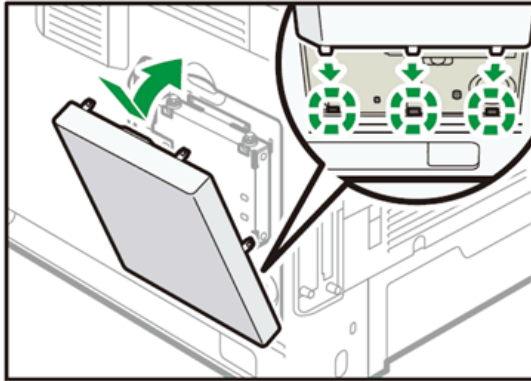
d0apc2030

8. Tighten the screw.



d0apc2031

9. Attach the supplied HDD cover.



d0apc2032

10. Plug in the power cord, and then turn on the machine.

When you switch the power on, a message is displayed indicating that the external hard disk drive will be formatted.

11. Print the configuration page to confirm the installation

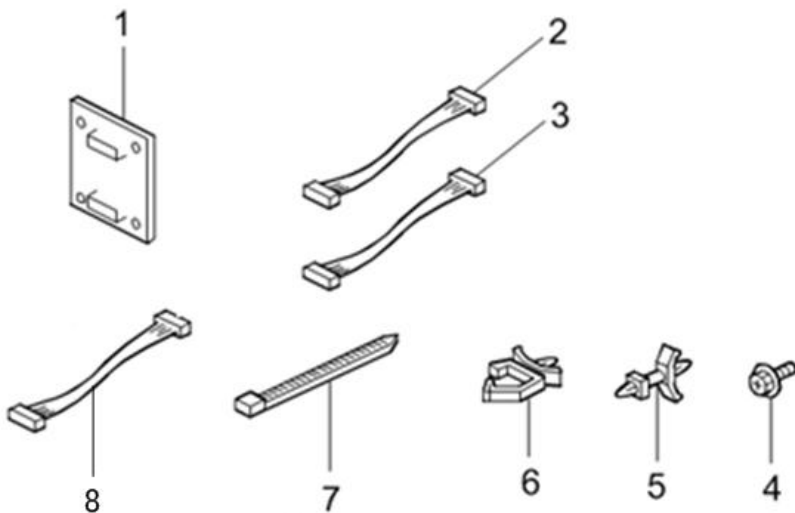
**Note**

If it is correctly installed, "Hard Disk" will appear for "Device Connection" on the configuration page.

## 2.10 OPTIONAL COUNTER INTERFACE UNIT TYPE M12 (B870-21)

### 2.10.1 ACCESSORIES

No.	Description	Q'ty	Remarks
1	PCB: MKB	1	
2	Harness (MB to MKB)	1	
3	Harness (MB to MKB)	1	Not used
4	Screws M3x6	4	Only two used
5	Standoffs	4	Not used
6	Clamp	1	Not used
7	Lock band	1	Not used
8	Relay harness	1	Not used



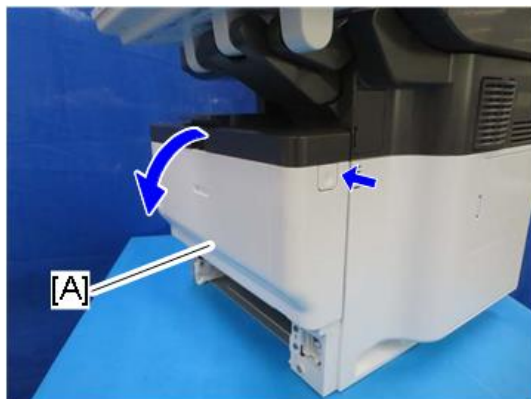
d135d1748

## 2.10.2 INSTALLATION PROCEDURE

### ⚠ CAUTION

To prevent injury from electrical shock or damage to the machine, before installation, always turn the main machine power off, and then unplug the machine power supply cord from the power source.

1. Remove the paper cassette.
2. Open the front cover [A] by pressing the front cover open button.



d0apc4021

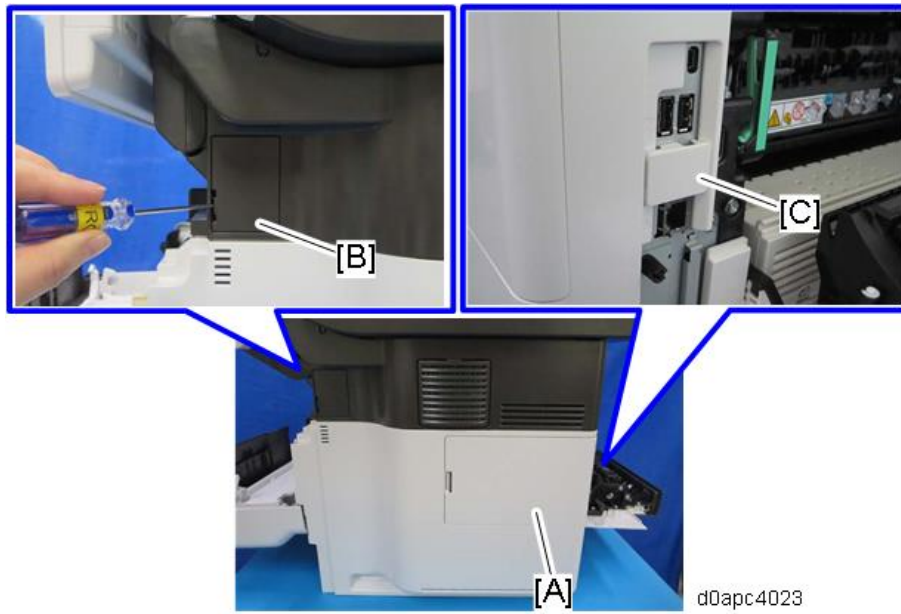
3. Open the rear cover [A].



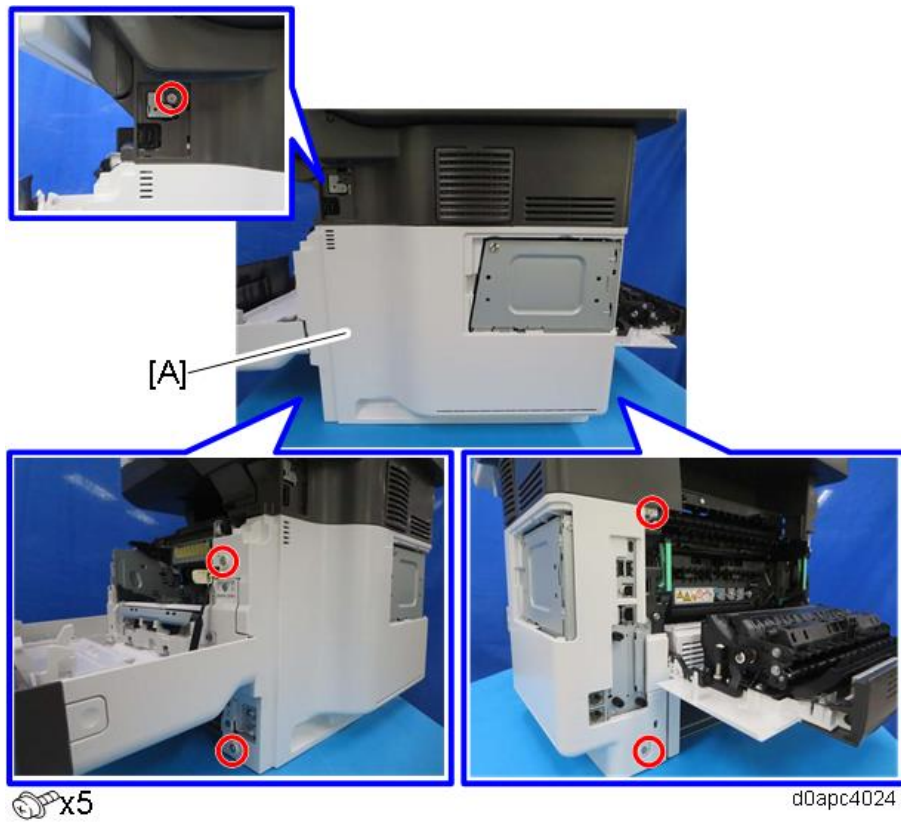
d0apc4022

4. Remove the HDD cover [A] and the connector cover [B] and [C].  
Remove the connector cover with a flathead screwdriver.

Optional Counter Interface Unit Type M12 (B870-21)



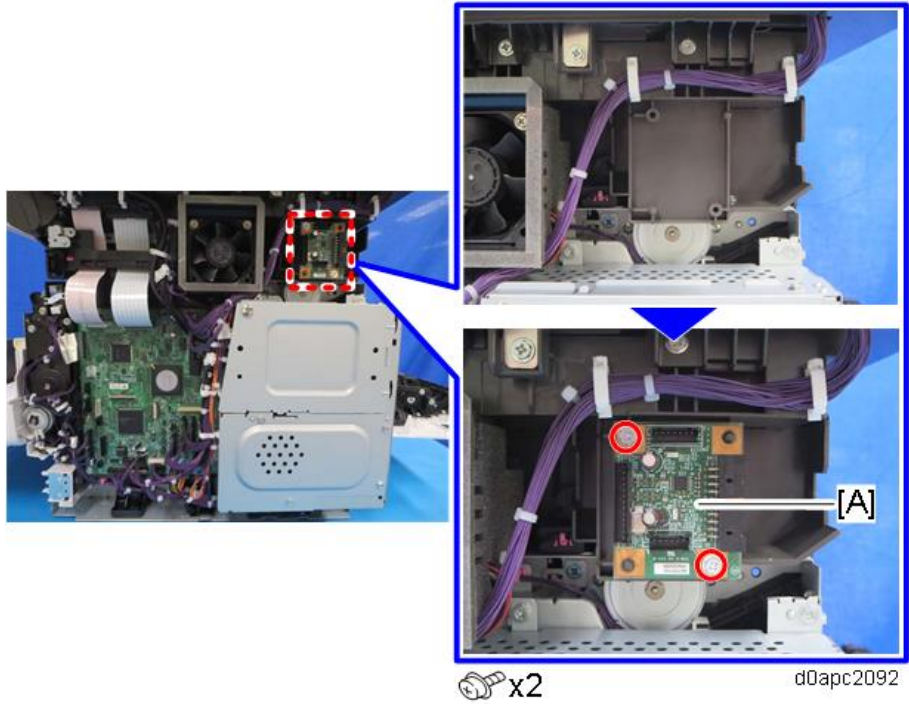
5. Remove the right cover [A].



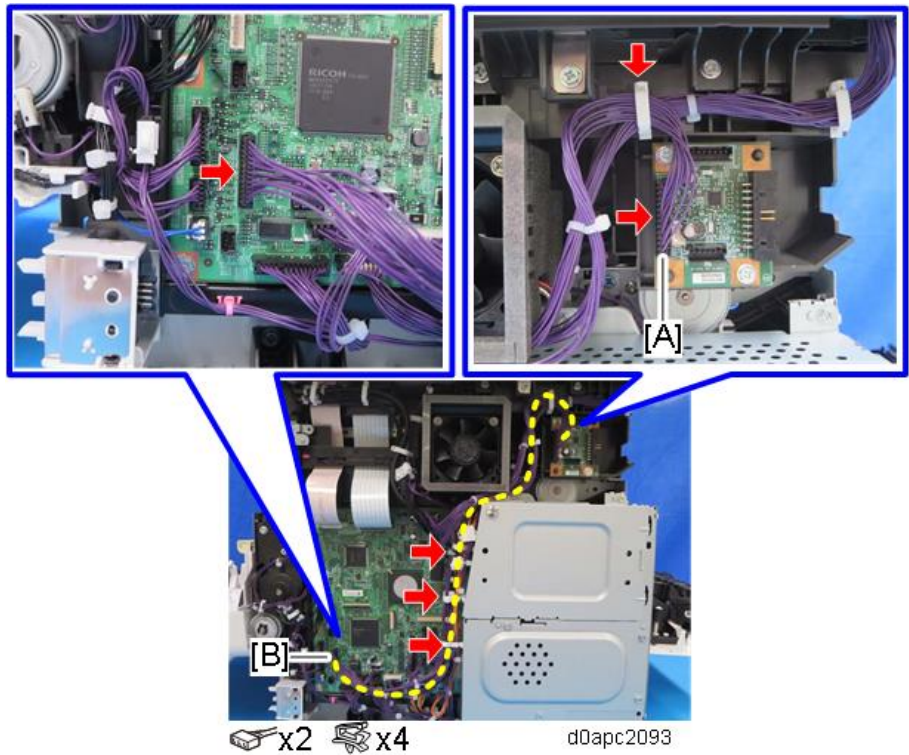
 x5



6. Attach PCB: MKB [A].



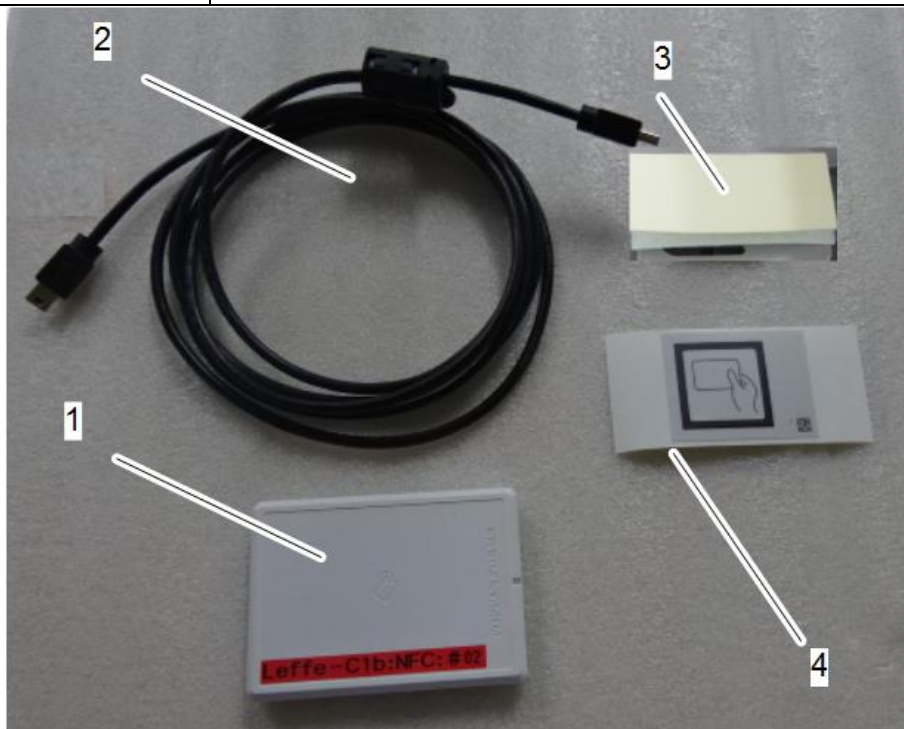
7. Connect the harness of PCB: MKB CN3 (13 pin) [A] and to the connector on SCB CN205 [B], and then clamp the harnesses.



## 2.11 NFC CARD READER TYPE M27 (M502-10)

### 2.11.1 ACCESSORIES

No.	Description	Q'ty
1	NFC card reader	1
2	USB cable	1
3	Double-sided tape	2
4	Decal	1
-	Cushion	1
-	Clamp	4
-	EMC address	1
-	Caution chart	1



d205z2220

### 2.11.2 INSTALLATION PROCEDURE (1): USB CABLE EXPOSED

#### **⚠ CAUTION**

To prevent injury from electrical shock or damage to the machine, before installation, always turn the main machine power off, and then unplug the machine power supply cord from the power source.

#### **Note**

Two installation methods are described below.

- Installation Procedure (1) is more convenient as the USB cable exposed

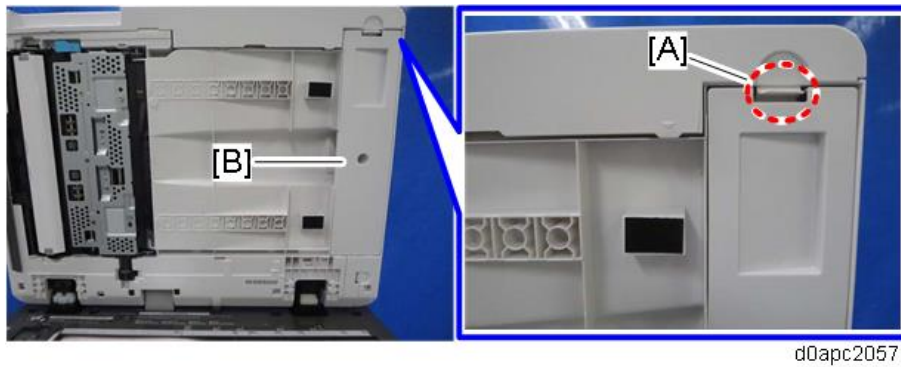
(recommended).

- If the customer prefers a tidy appearance, follow this alternate Installation Procedure (2) to conceal the USB cable inside the machine (*Installation Procedure (2): USB Cable Inside the Machine*).

1. Open the SPDF.
2. Remove the platen sheet [A]. Do not place the removed platen sheet on the exposure glass.



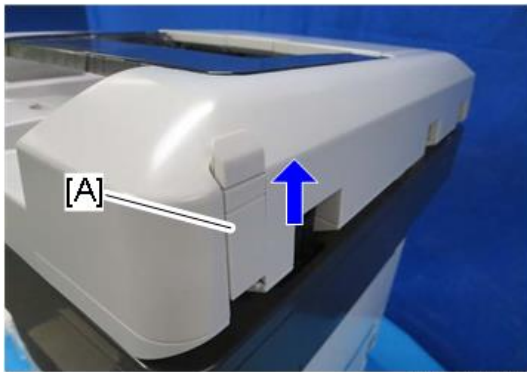
3. Release the tab [A] to remove the SPDF bottom cover [B].



4. Release the tab [A] to remove the harness cover [B].

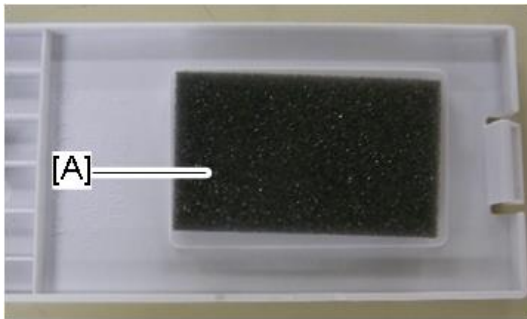


- At the back of the SPDF, slide the small cover [A] up and remove it.



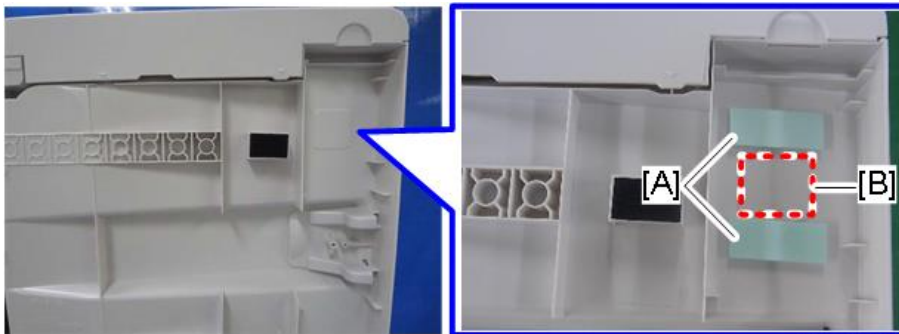
d0apc2059

- If the thickness of the NFC card reader is 15.4 mm or less, set cushion [A] into the hole on the SPDF bottom cover. (The cushion is provided as an accessory with this option.)



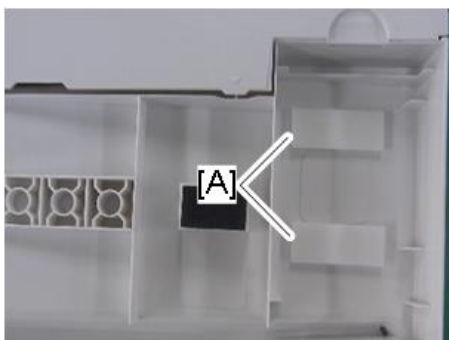
d0apc2060

- Attach the double-sided tapes [A] on the bottom of the SPDF beside the projection [B] as shown.



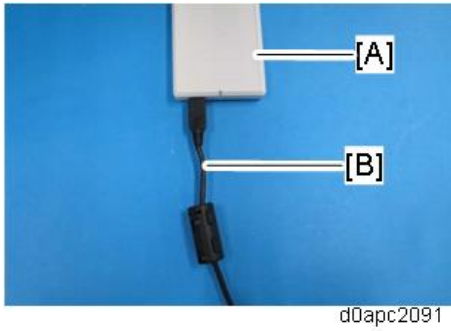
d0apc2061

- Peel the double-sided tapes [A].



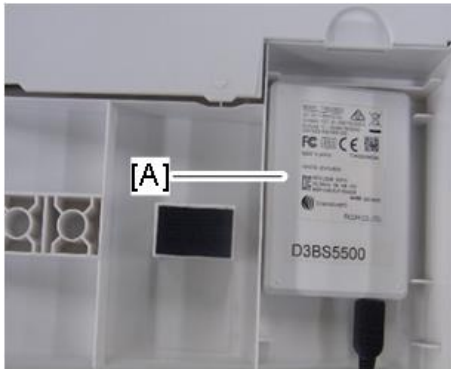
d0apc2062

9. Connect the USB cable [B] with the ferrite core to the NFC card reader [A].



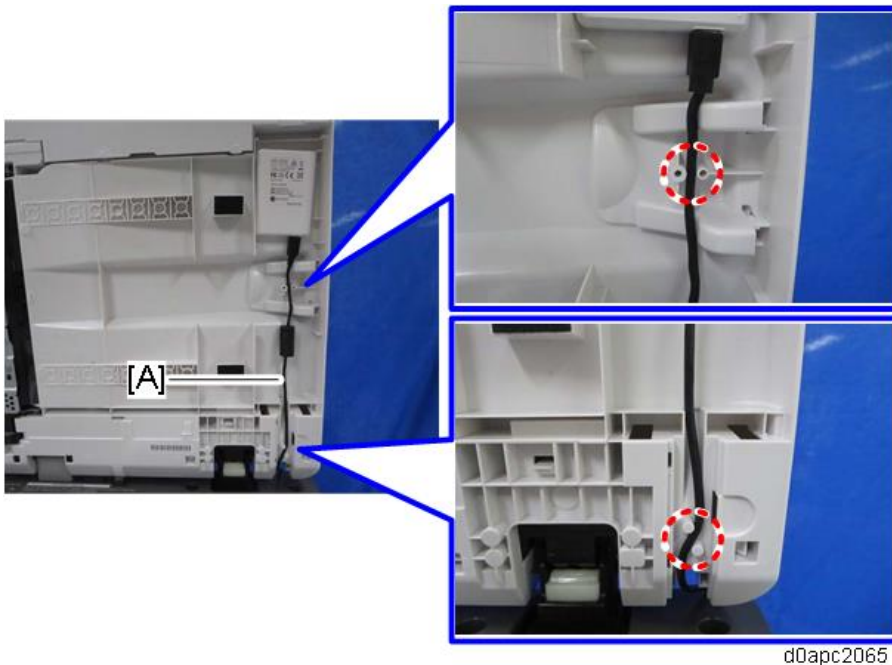
d0apc2091

10. Firmly fasten the NFC card reader [A] to the SPDF.



d0apc2064

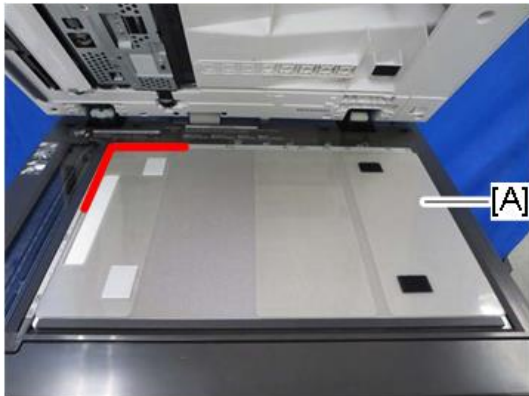
11. Route the USB cable [A] between the tabs as shown below.



d0apc2065

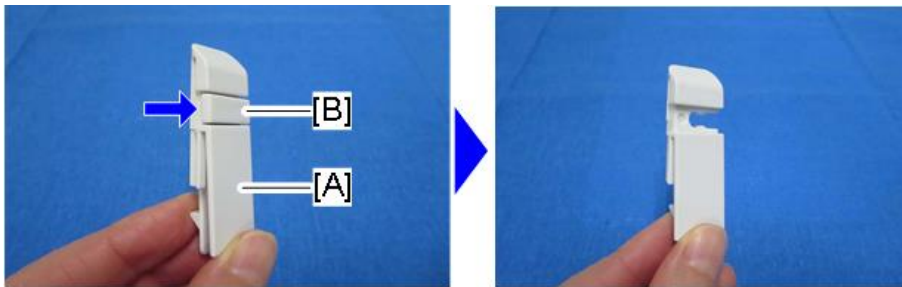
12. Attach the SPDF bottom cover to the SPDF.
13. Attach the harness cover to the SPDF.

- Using the rear, left corner as a reference point set the platen sheet [A] on the exposure glass.



d0apc2066

- Close the SPDF to attach the platen sheet.
- From small cover [A] remove knock-out [B] to create a slot.



d0apc2067

- Pass the USB cable through the hole, and then attach the small cover [A].



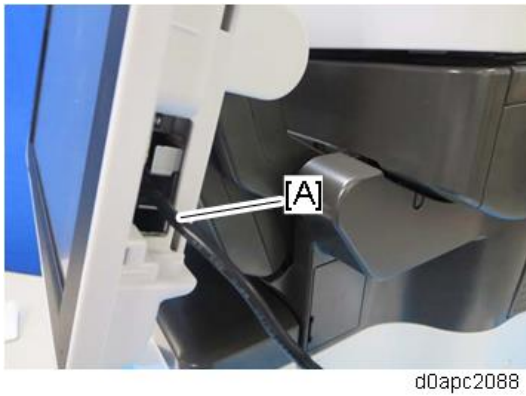
d0apc2068

- Remove the side cover [A] of the operation panel.

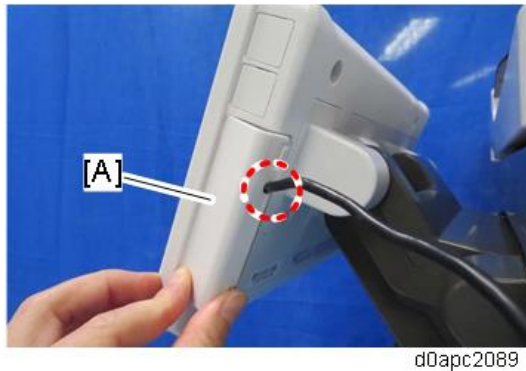


d0apc2087

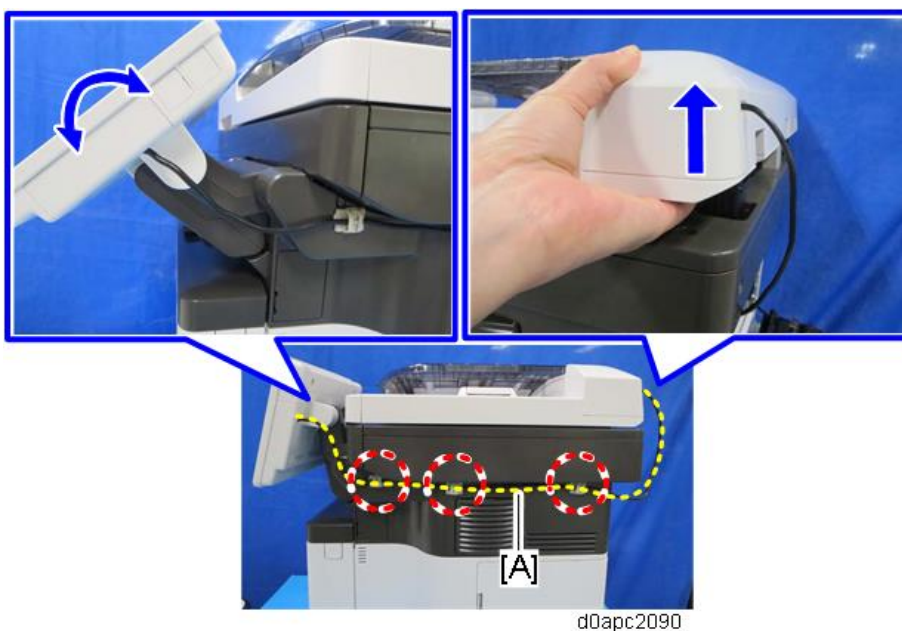
19. Connect the USB cable [A] to the operation panel.



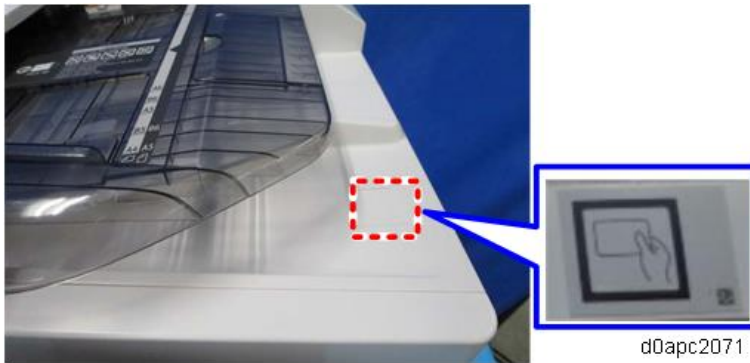
20. Pass the USB cable through the hole, and then attach the side cover [A] of the operation panel.



21. Put the three clamps on the right cover, and then fasten the USB cable [A] with them as shown below.
22. Carefully, move the operation panel slowly up and down, and then lift the scanner at the rear, to make sure there is no tension on the USB cable.



23. Attach the decal as shown below.



### 2.11.3 INSTALLATION PROCEDURE (2): USB CABLE INSIDE THE MACHINE

#### ⚠ CAUTION

To prevent injury from electrical shock or damage to the machine, before installation always, turn the main machine power off, and then unplug the machine power supply cord from the power source.

1. Open the SPDF.
2. Remove the platen sheet [A]. Do not place the removed platen sheet on the exposure glass.



3. Release the tab [A] to remove the SPDF bottom cover [B].

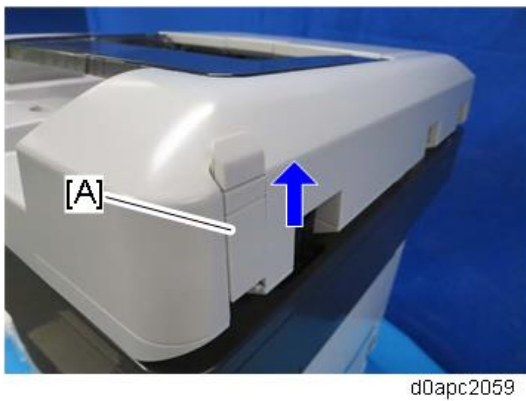




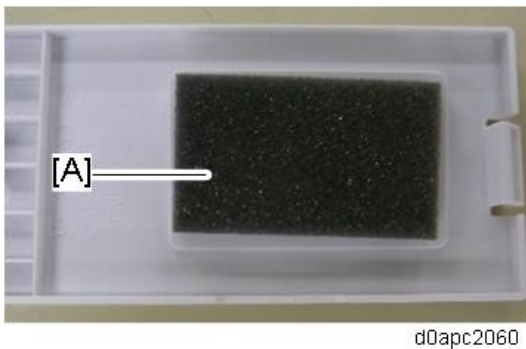
4. Release the tab [A] to remove the harness cover [B].



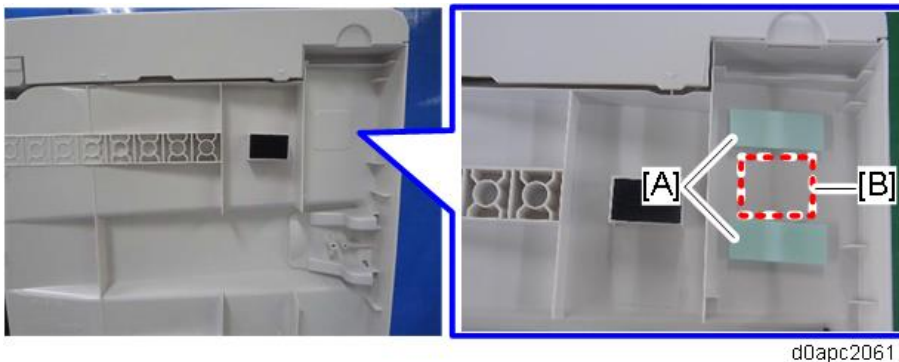
5. At the back of the SPDF, slide the small cover [A] up and remove it.



6. If the thickness of the NFC card reader is 15.4 mm or less, set cushion [A] into the hole on the SPDF bottom cover. (The cushion is provided as an accessory with this option.)

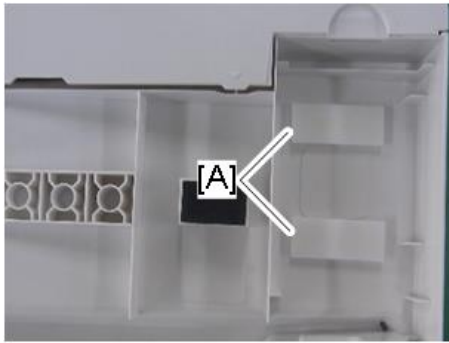


7. Attach the double-sided tapes [A] on the bottom of the SPDF beside projection [B] as shown.



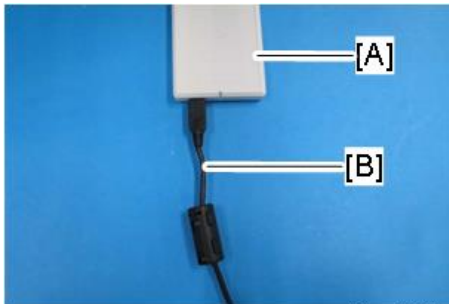
## NFC Card Reader Type M27 (M502-10)

8. Peel the double-sided tapes [A].



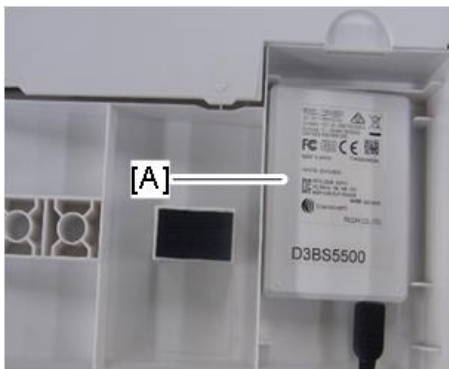
d0apc2062

9. Connect the USB cable [B] with the ferrite core to the NFC card reader [A].



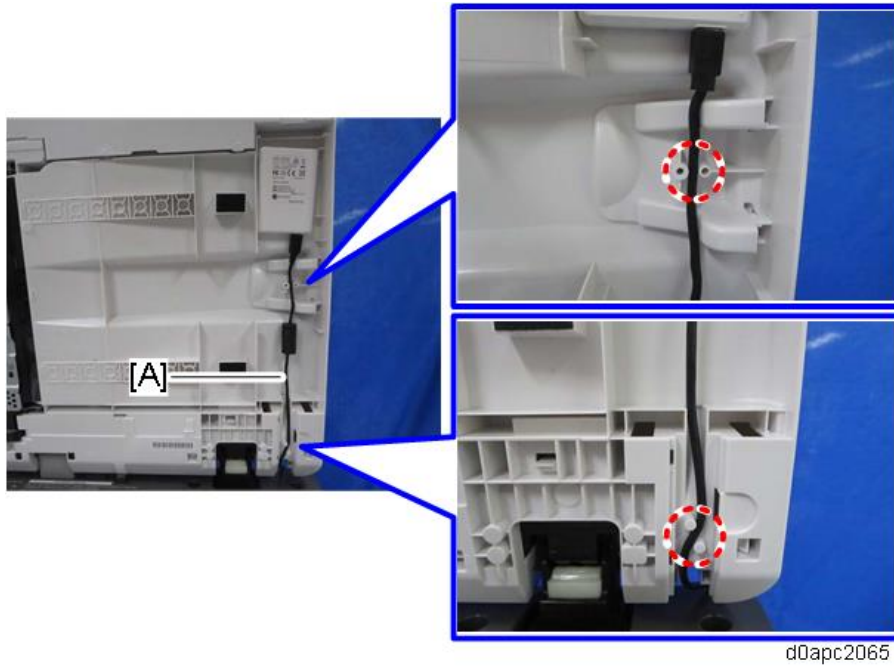
d0apc2091

10. Firmly fasten the NFC card reader [A] to the SPDF.



d0apc2064

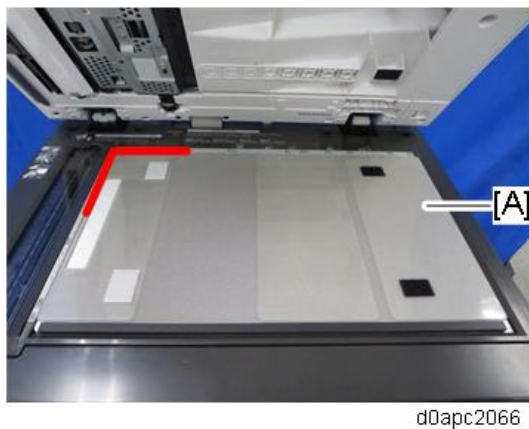
11. Route the USB cable [A] between the tabs as shown below.



12. Attach the SPDF bottom cover to the SPDF.

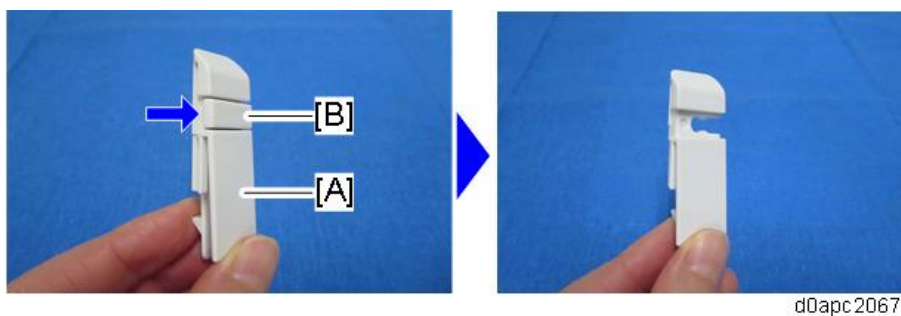
13. Attach the harness cover to the SPDF.

14. Using the rear, left corner as a reference point set the platen sheet [A] on the exposure glass.

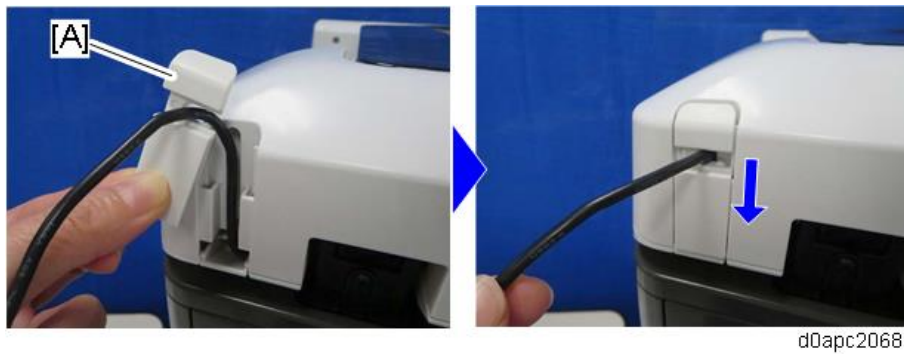


15. Close the SPDF to attach the platen sheet.

16. From small cover [A] remove knock-out [B] to create a slot.



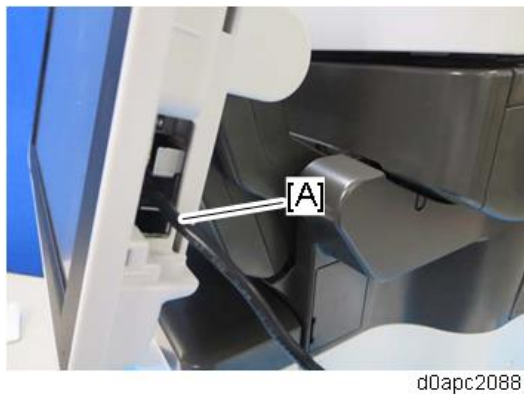
17. Pass the USB cable through the hole, and then attach the small cover [A].



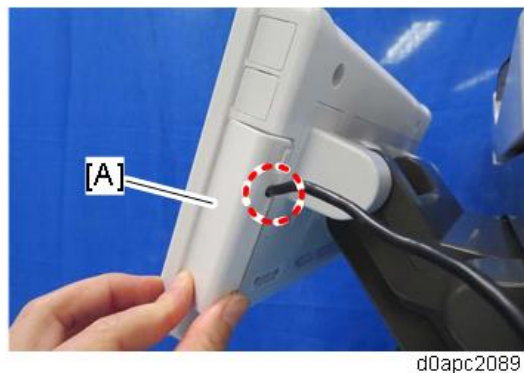
18. Remove the side cover [A] of the operation panel.



19. Connect the USB cable [A] to the operation panel.

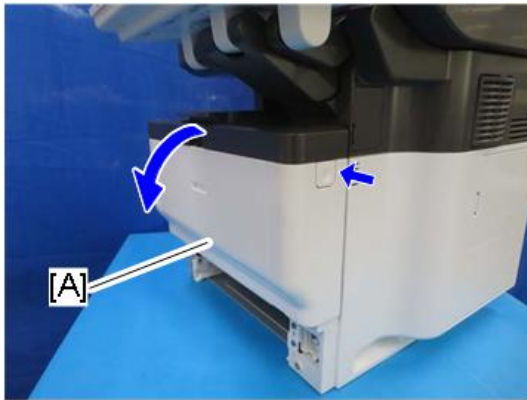


20. Pass the USB cable through the hole, and then attach side cover [A] of the operation panel.



21. Remove the paper cassette.

22. Open the front cover [A] by pressing the front cover button.



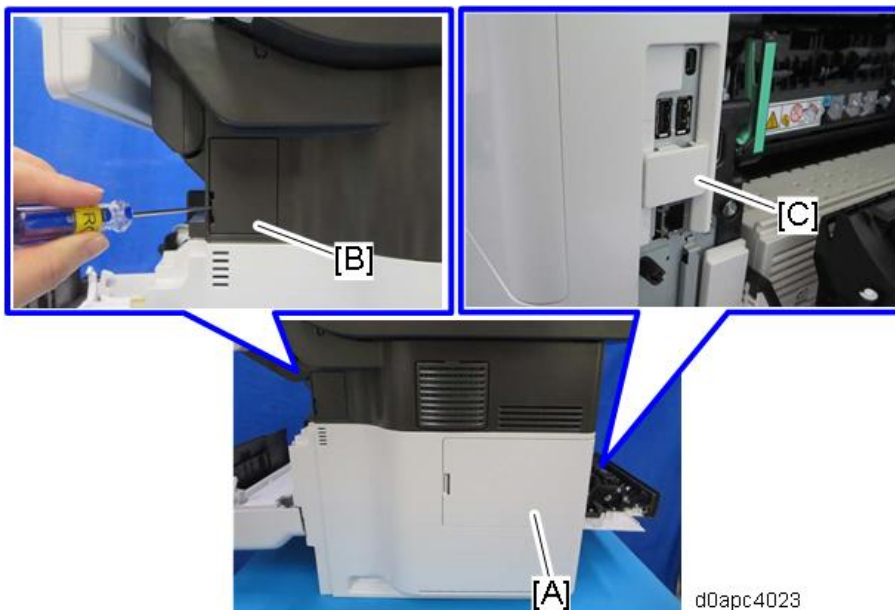
d0apc4021

23. Open the rear cover [A].



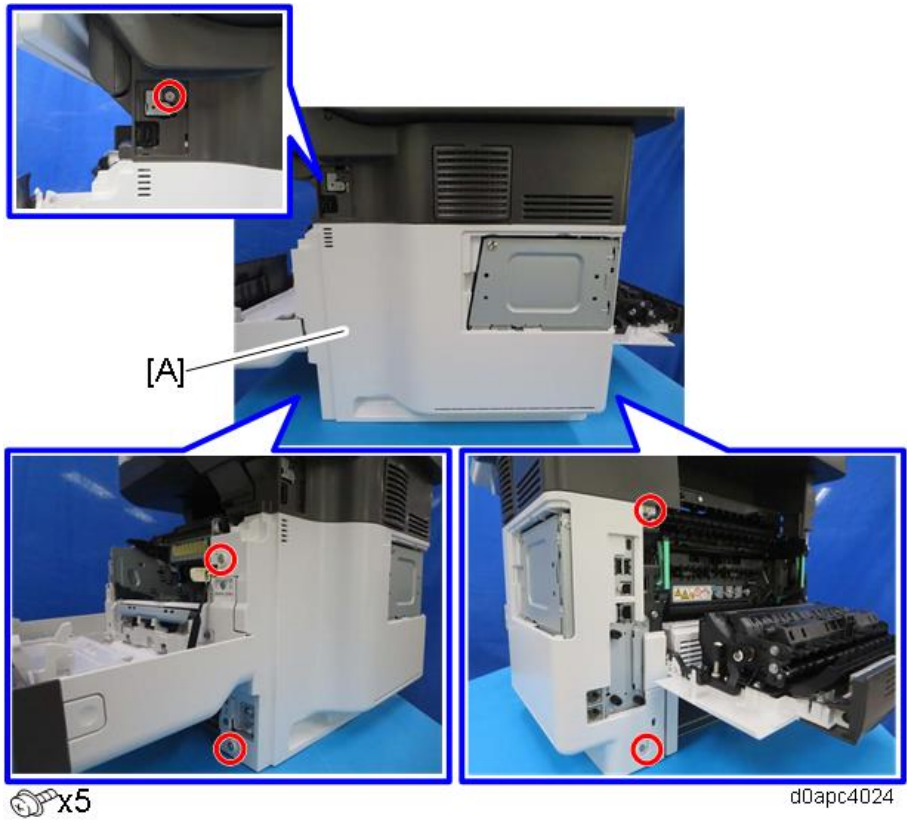
d0apc4022

24. Remove the HDD cover [A] and the connector cover [B] and [C].  
Use a flathead screwdriver to remove the connector cover [B].

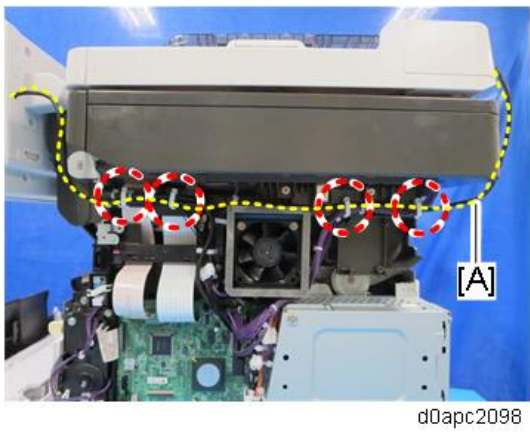


d0apc4023

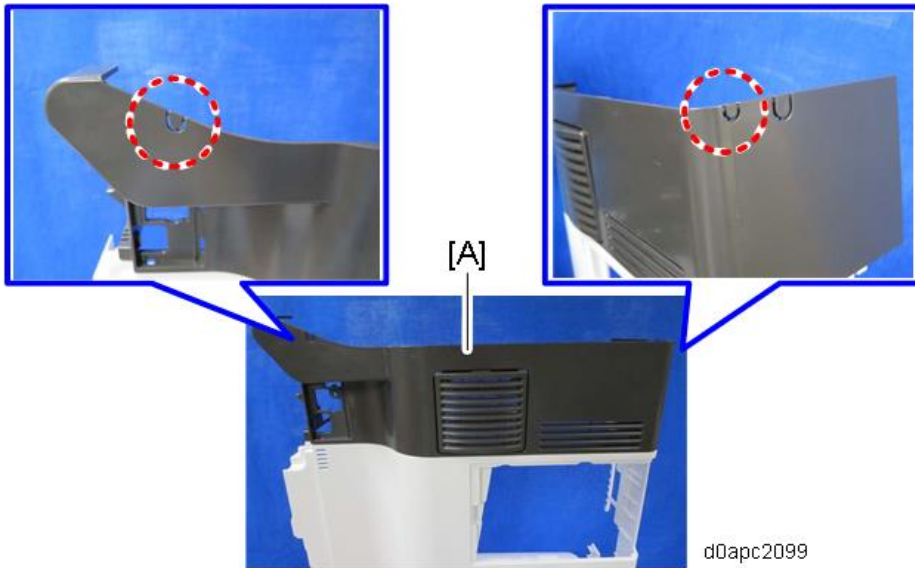
25. Remove the right cover [A].



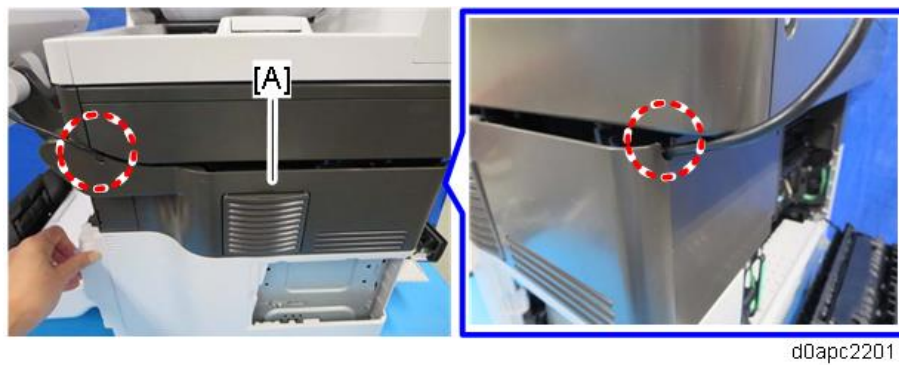
26. Fasten the USB cable [A] with four clamps on the machine.



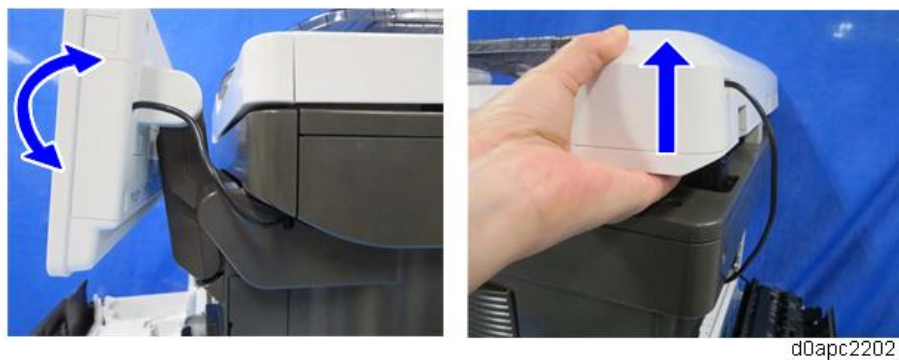
27. Remove the tabs from the right cover [A] to create cutouts. On the rear side, use the small tab.



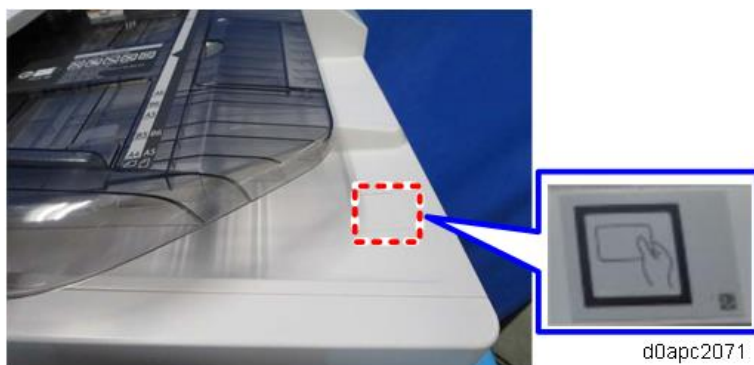
28. Pass the USB cable through the cutouts, and then attach the right cover [A].



29. Carefully, move the operation panel slowly up and down, and then lift the scanner at the rear, to make sure there is no tension on the USB cable.



30. Attach the decal as shown below.



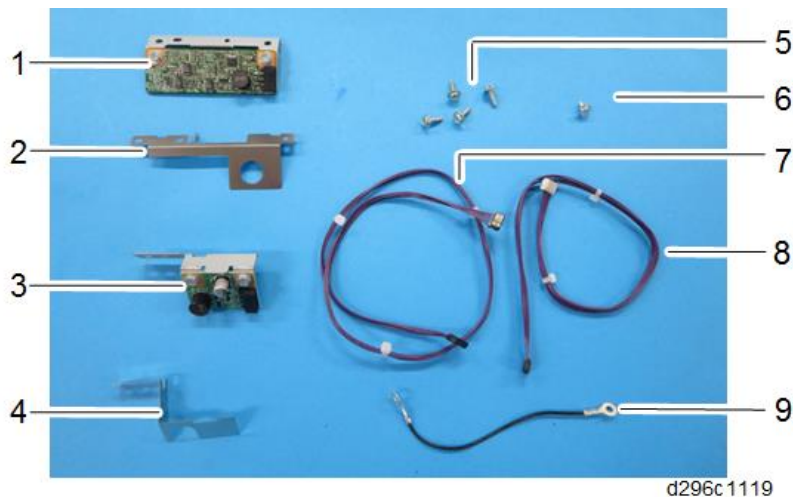


## 2.12 PAGE KEEPER TYPE M28 (D3DQ-17)

This option is only for NA/EU.

### 2.12.1 ACCESSORIES

No.	Description	Q'ty	Remarks
1	Double-feed sensor: Receiver	1	
2	Ground plate: Receiver	1	
3	Double-feed sensor: Emitter	1	
4	Ground plate: Emitter	1	
5	Tapping Screws: 3x10	4	
6	Screw: M3x6	1	
7	Harness: Receiver	1	Long harness
8	Harness: Emitter	1	Short harness
9	Harness: Ground wire	1	



d296c1119

### 2.12.2 INSTALLATION PROCEDURE

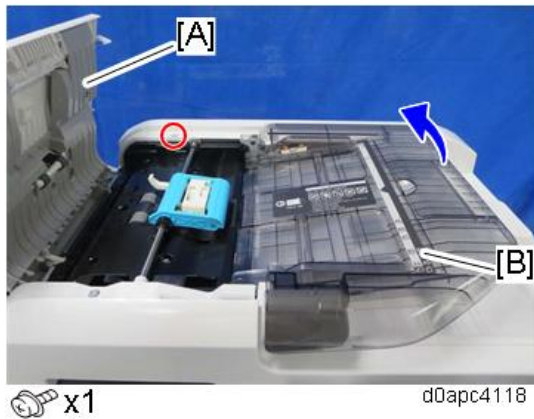
#### **⚠ CAUTION**

To prevent injury from electrical shock or damage to the machine, before installation always turn the main machine power off, and then unplug the machine power supply cord from the power source.

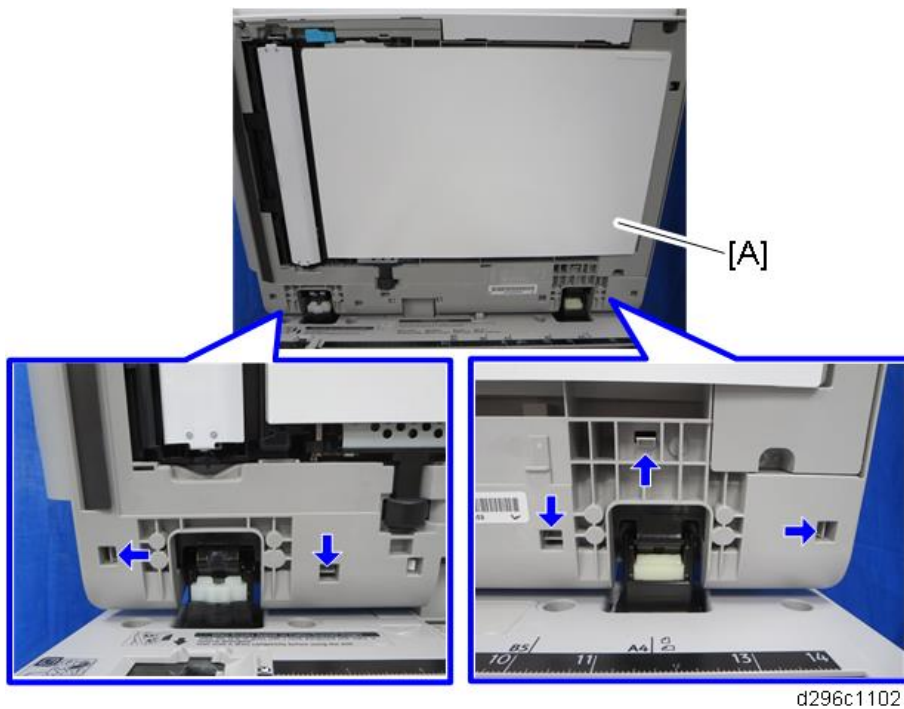
#### ***Removing the SPDF rear cover***

1. Open the SPDF top cover [A].

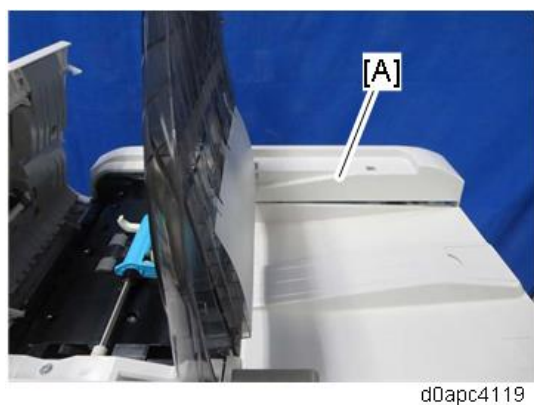
2. Remove the screw, and then lift up the original tray [B].



3. Open the SPDF [A], and then release the five tabs of the SPDF rear cover by using a thin screwdriver.



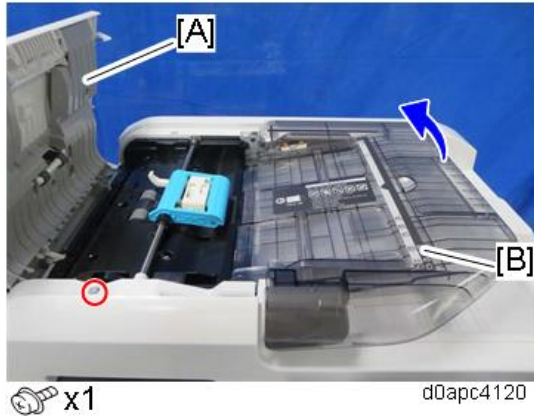
4. Remove the SPDF rear cover [A].



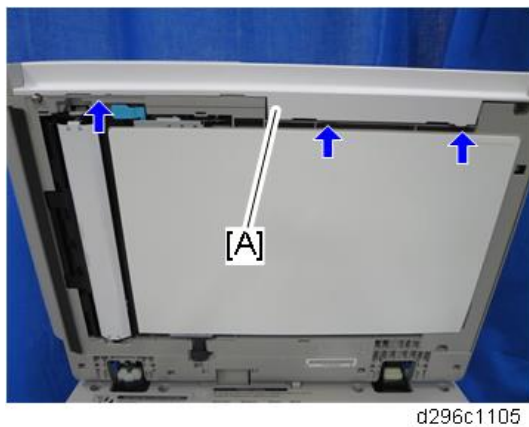
5. Close the SPDF.

### Removing the SPDF front cover

1. Open the SPDF top cover [A].
2. Remove the screw, and then lift up the original tray [B].



3. Open the SPDF and then release the three tabs of the SPDF front cover [A].

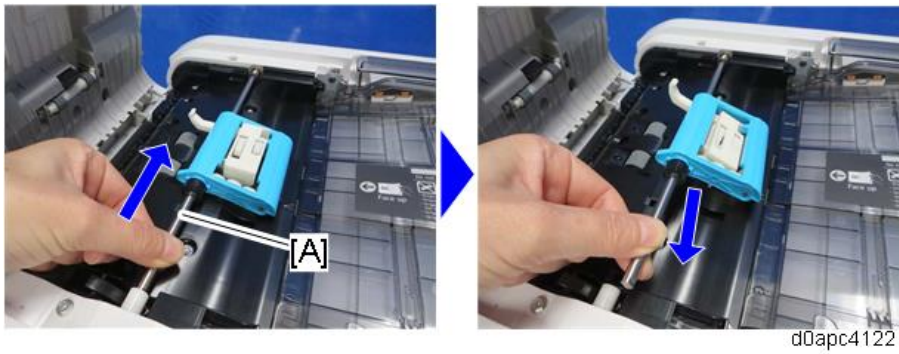


4. Close the SPDF slightly and then remove the SPDF front cover [A] while releasing the two tabs with a thin screwdriver.

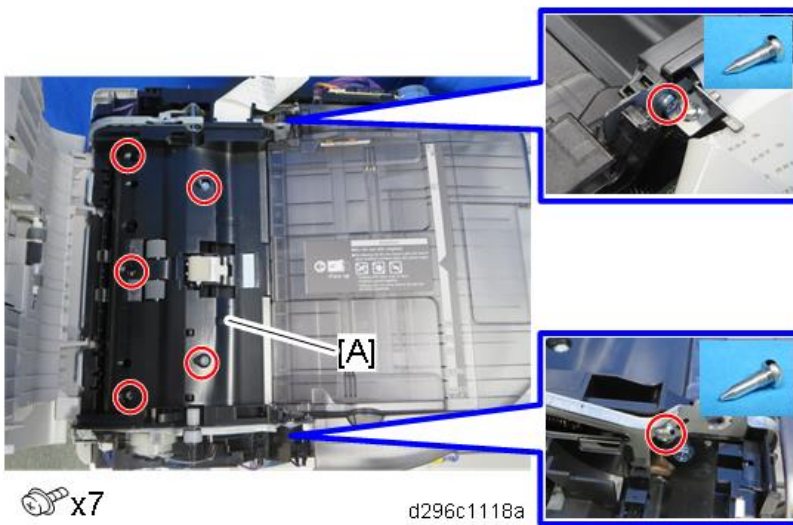


### Installing the double-feed sensor (emitter)

1. Slide the shaft [A] of the original feed unit toward the rear to remove it.

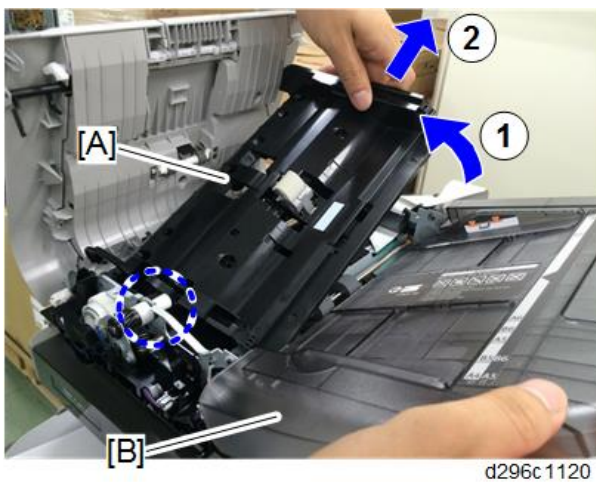


2. Remove the SPDF inner cover [A].

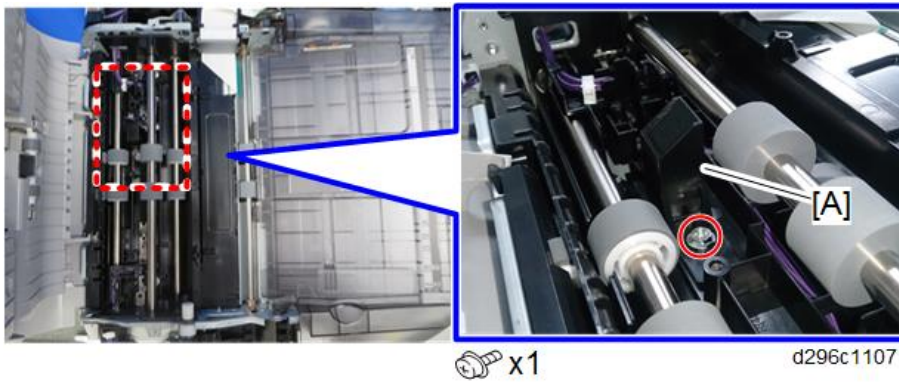


**Note**

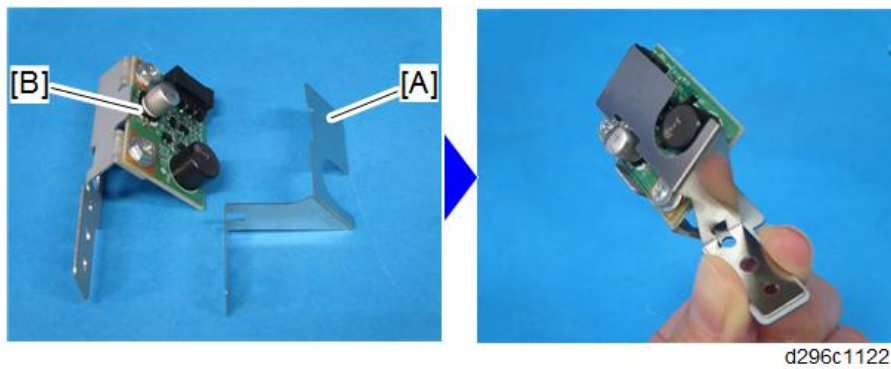
Lift the back of the SPDF inner cover [A] while swinging up the original tray [B], and then slide the SPDF inner cover toward the back of the SPDF unit.



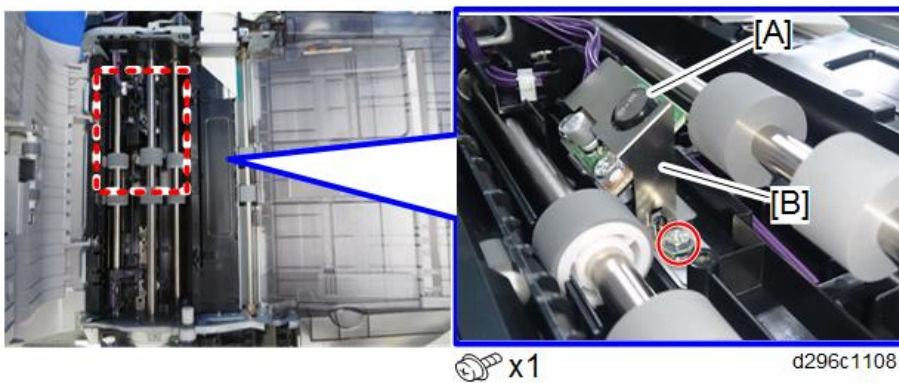
3. Remove the guard [A].



4. Put the grounding plate [A] on the double-feed sensor (emitter) [B].

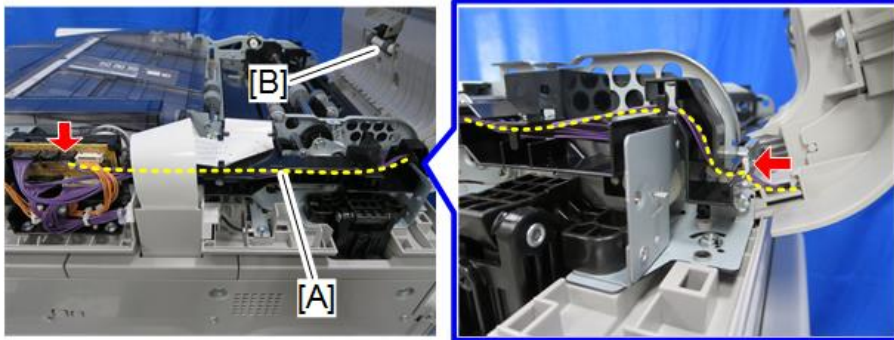




5. Attach the double-feed sensor (emitter) [A] and grounding plate [B] as a set. (Tapping screw: 3x10)



***Installing the double-feed sensor (receiver)***

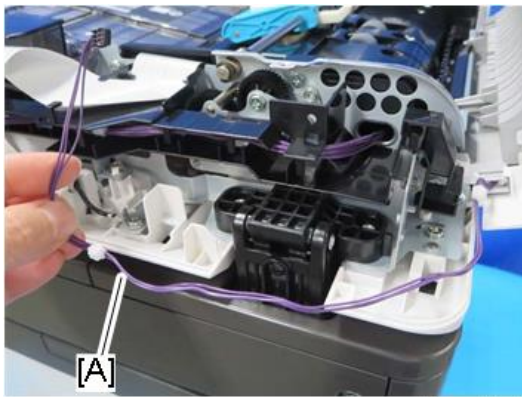
1. Disconnect the harness [A] of the SPDF top cover [B] from SPDF relay board (CN5) and then release the clamp.



 x1  x1

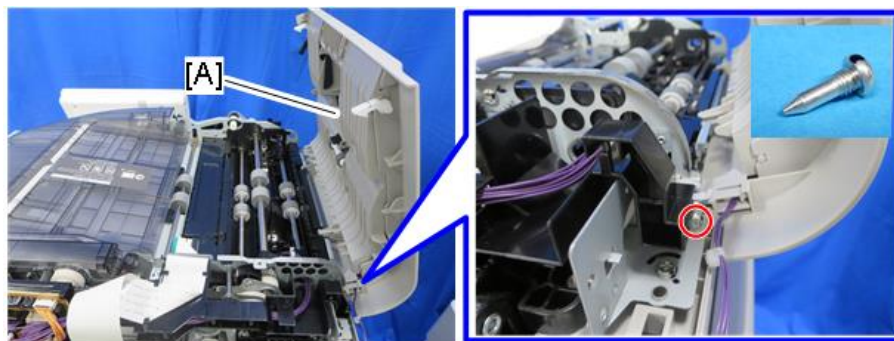
d296c1110


2. Remove the harness [A] from the harness guide.



d0apc4124

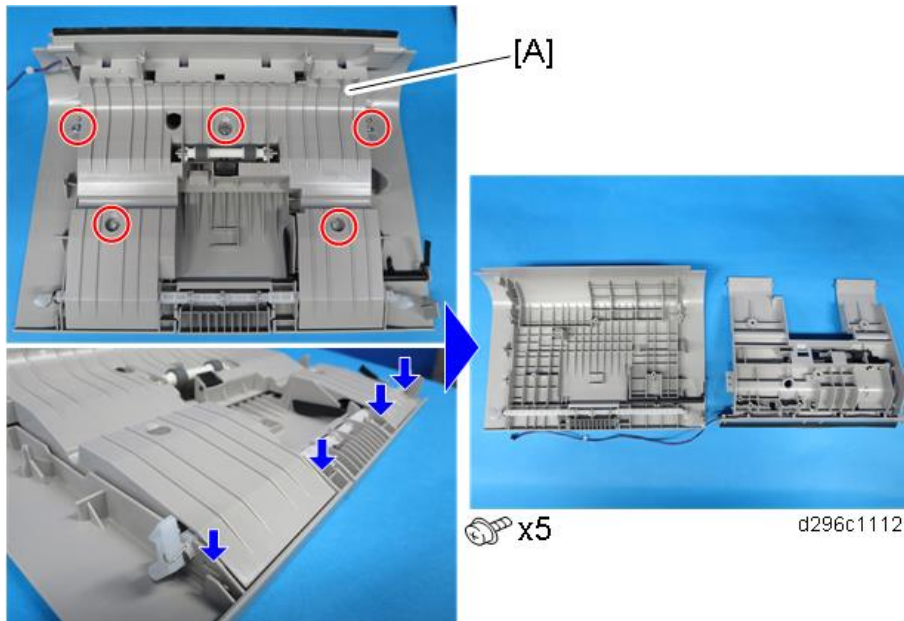
3. Remove the SPDF top cover [A].



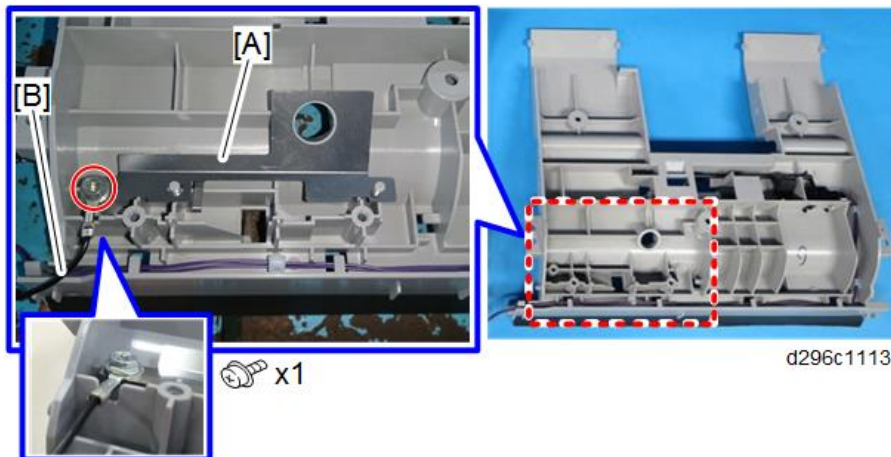
 x1

d296c1111a

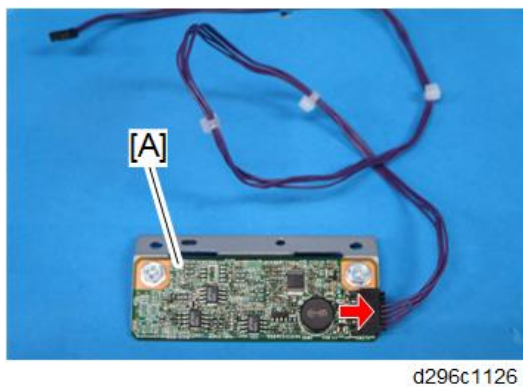
- Remove the five screws and release the four tabs, and then remove the inner cover [A].



- Attach the grounding plate [A] and the grounding wire [B] and then insert the grounding wire in the notch. (Tapping Screw: 3x10)

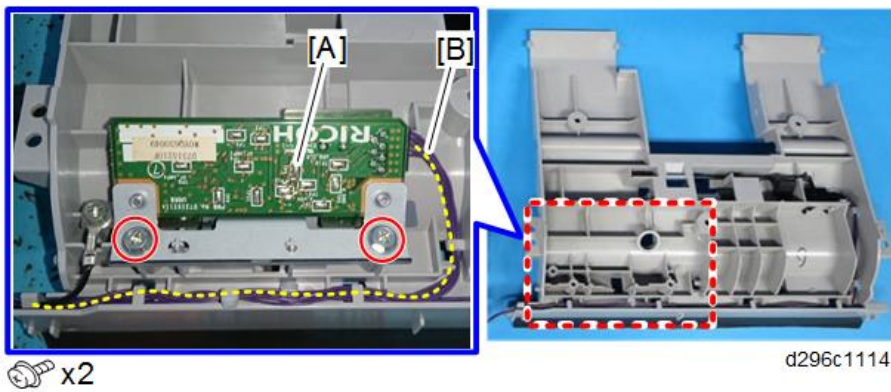


- Connect the long harness to the double-feed sensor (receiver) [A].



- Attach the double-feed sensor (receiver) [A]. (Tapping screw: 3x10)

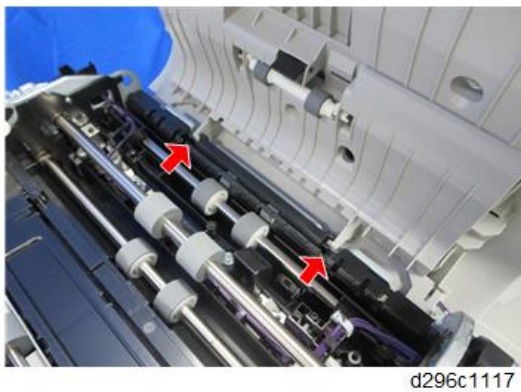
8. Route the harnesses [B].



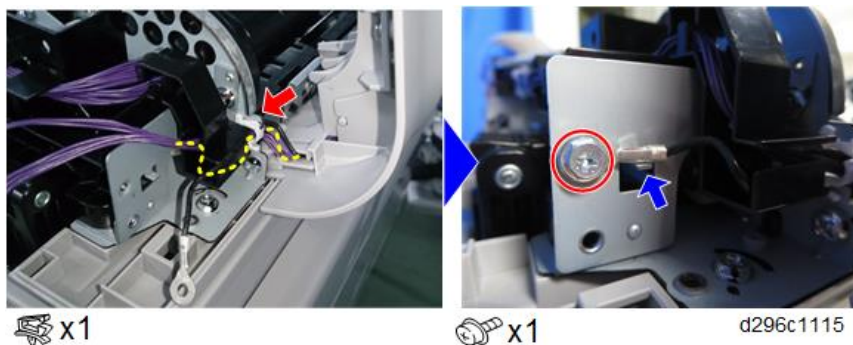
9. Reattach the inner cover (⚙️ x5), and then reattach the SPDF top cover (⚙️ x1).

⚙️ Note

Make sure the SPDF top cover is set correctly so that the two tabs fit into the holes.



10. Attach the clamp while the top cover is open, and then attach the ground wire while putting it on the guide (marked by the blue arrow). (Screw: M3x6)



### Connecting the harnesses

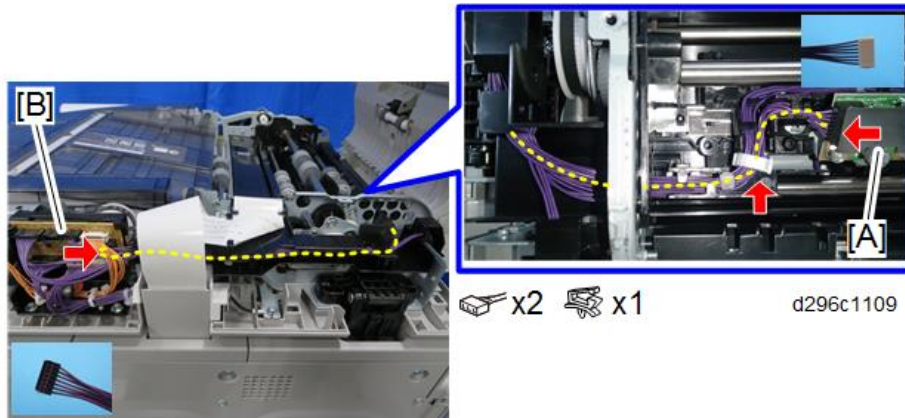
1. Connect the harness to the connector of the double-feed sensor (emitter) [A] and SPDF relay board [B] (CN3), and then route it.

⚙️ Note

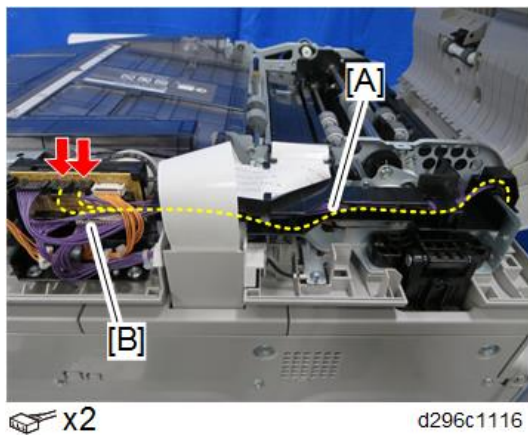
Connect with attention to the connector colors.

- Double-feed sensor: White connector
- SPDF relay board: Black connector





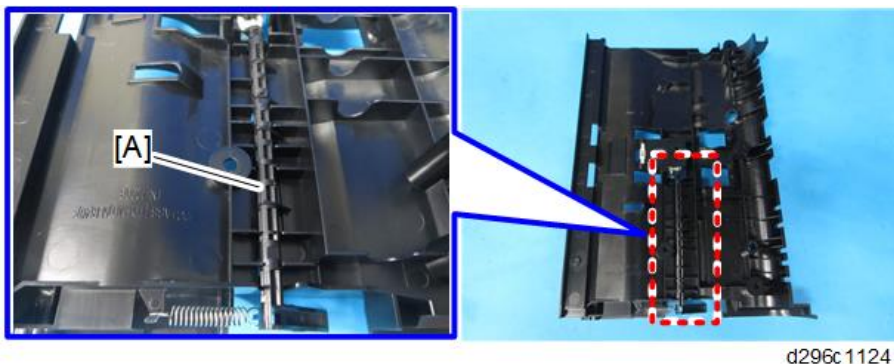
2. Connect the harnesses [A] from the SPDF top cover to the connectors of the SPDF relay board [B] (CN5, CN6).



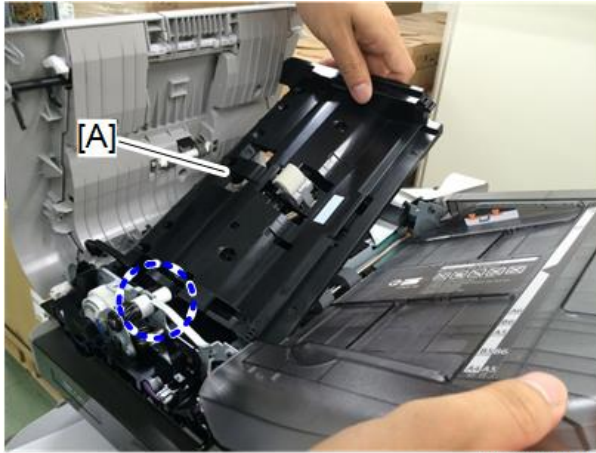
3. Reattach the covers and original feed unit.

**Note**

When reattaching the SPDF inner cover, make sure that the shaft [A] fits into the groove (this is the shaft of the lock lever for the friction pad on the back side of the cover). If the shaft does not fit, the SPDF top cover will not be closed.



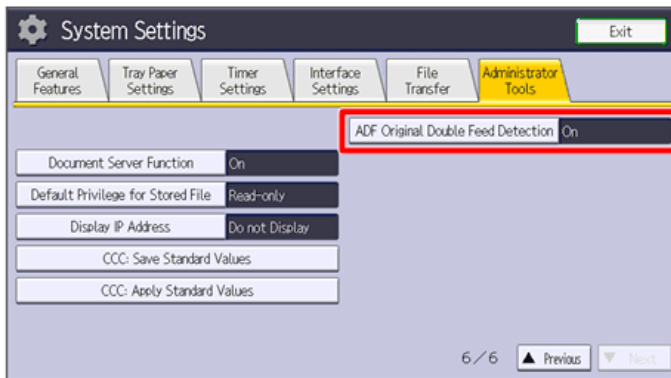
When reattaching the SPDF inner cover [A], move it under the coupling shaft (marked by the dashed circle) of the original feed unit, and then you can install the SPDF inner cover correctly.



d296c 1123

***After installing the double-feed sensor***

1. Connect the power cord and turn ON the main power.
2. Enter the SP mode.
3. Set the SP6-040-001 (Page Keeper: Mount Select) to "1(ON)".
4. Press [END] twice.
5. Turn the main power OFF and ON.
6. Log in as Administrator.
7. Press the "User Tools" icon.
8. Press [Machine Features] > [System Settings] > [Administrator Tools].
9. Check that [ADF Original Double Feed Detection] is displayed.



d296c 2029

## 2.13 ENHANCED SECURITY HDD OPTION TYPE M10 (D792-09)

This option is only for NA/EU.

### 2.13.1 ACCESSORIES

No.	Description	Q'ty	Remarks
1	Enhanced Security HDD	1	
-	EMC Address	1	



d191b0076

### 2.13.2 INSTALLATION PROCEDURE

#### **⚠ CAUTION**

To prevent injury from electrical shock or damage to the machine, before installation always turn the main machine power off, and then unplug the machine power supply cord from the power source.

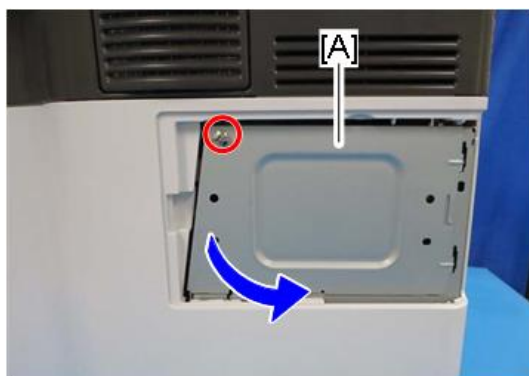
## Enhanced Security HDD Option Type M10 (D792-09)

1. Remove the HDD cover [A].



d0apc2094

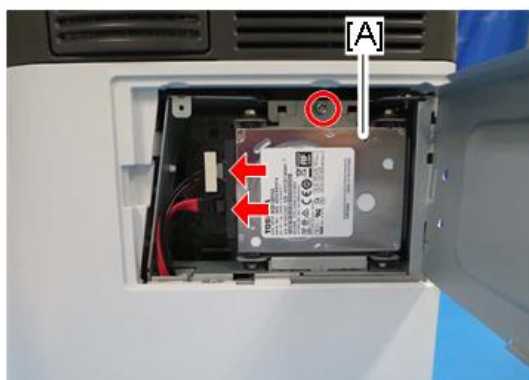
2. Remove the screw, and open the HDD inner cover [A].



 x1

d0apc2095

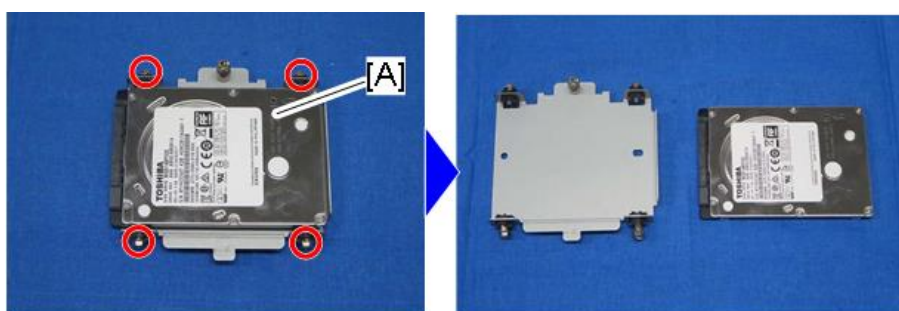
3. Remove the standard HDD [A] installed on the machine.



 x1  x2

d0apc2096

4. Separate the standard HDD [A] from the bracket.



 x4

d0apc4606

- Remove the enhanced security HDD from its protective packaging.



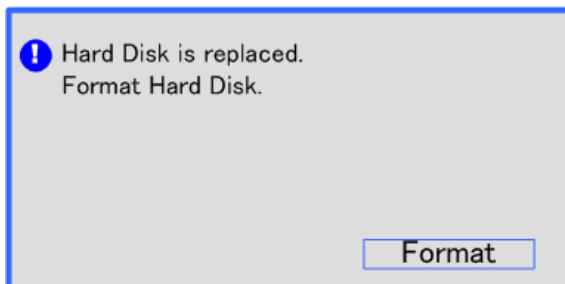
d191b0078

- Fasten the HDD to the bracket.
- Install the HDD bracket in the controller box.
- Reassemble the machine.

### After Installing the HDD

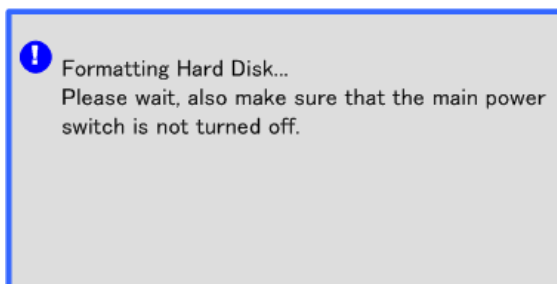
- Connect the power cord and turn the machine on. A message prompts you to format the hard disk.

Touch [Format].



d191b0081

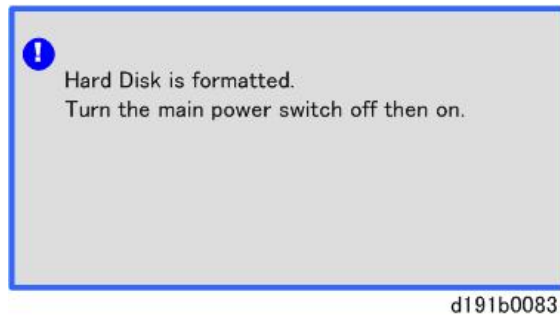
- Wait for the machine to finish formatting the hard disk.



d191b0082

#### ★ Important

Do not touch the power switch while the hard disk format is in progress. Wait for the machine to tell you that the formatting is finished.



3. Turn the main power OFF and back ON again after the message tells you formatting is finished.
4. Enter the SP mode.
5. Turn the main power OFF and back ON again.
6. Ask an administrator to register the HDD authentication code in the machine.

**★ Important**

If the HDD Authentication Code is not registered, the function of the enhanced security HDD is not activated.

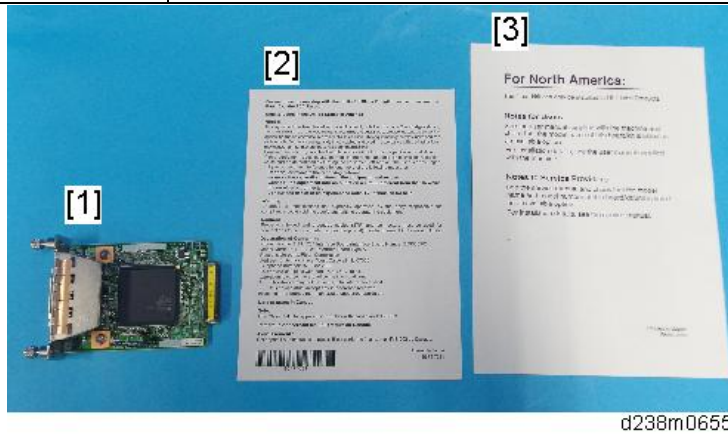
## 2.14 CONTROLLER OPTIONS

New/Common	Item	Target		Link
		Printer model	MF model	
Common	IEEE 1284 Interface Board Type M19	✓	✓	<a href="#">IEEE 1284 Interface Board Type M19 (D3C0-17)</a>
Common	IEEE 802.11 Interface Unit Type M24	✓	✓	<a href="#">IEEE 802.11 Interface Unit Type M24 (M500-08)</a>
Common	File Format Converter Type M19		✓	<a href="#">File Format Converter Type M19 (D3BR-04)</a>
Common	USB Device Server Option Type M19A	✓	✓	<a href="#">USB Device Server Option Type M19A (D3BC-33, -34)</a>
Common	Extended USB Board Type M19		✓	<a href="#">Extended USB Board Type M19 (D3BS-01)</a>

## 2.15 IEEE 1284 INTERFACE BOARD TYPE M19 (D3C0-17)

### 2.15.1 ACCESSORIES

No.	Description	Q'ty
1	IEEE 1284 Interface board	1
2	FCC document	1
3	Notes for Users	1



d238m0655

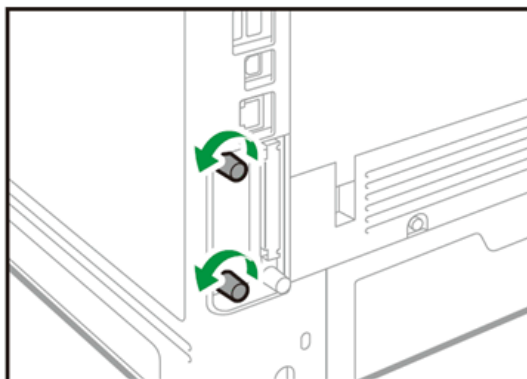
### 2.15.2 INSTALLATION PROCEDURE

#### **⚠ CAUTION**

- To prevent injury from electrical shock or damage to the machine, before installation always, turn the main machine power off, and then unplug the machine power supply cord from the power source.
- To prevent damage to the circuits on the boards, always touch a metal surface to discharge static charge from your body before you handle a board.
- Never put your hand or a tool into the slot when you install an option.

1. Loosen the two screws and remove the slot cover. The removed cover will not be reused.

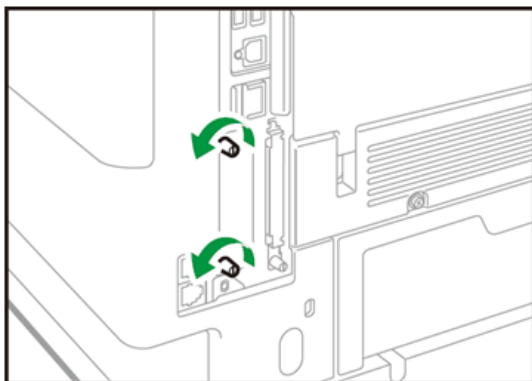
#### **Printer model:**



d0apc2033

#### **MF model:**

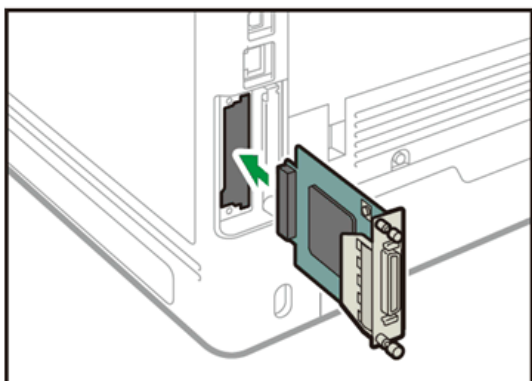




d0apc2034

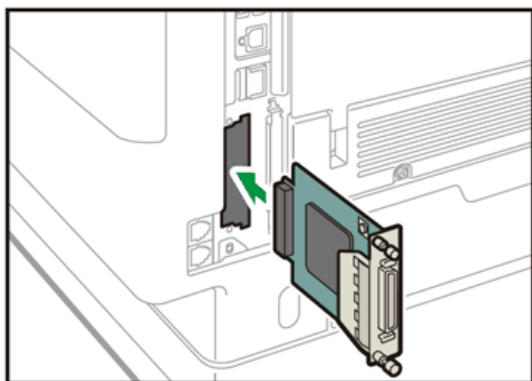
2. Fully insert the interface board. Confirm that the IEEE 1284 interface board is firmly connected to the controller board.

**Printer model:**



d0apc2035

**MF model:**



d0apc2036

3. Tighten the two screws to secure the interface board.
4. Plug in the power cord, and then turn on the machine.
5. Print the configuration page to confirm that the board was attached correctly.

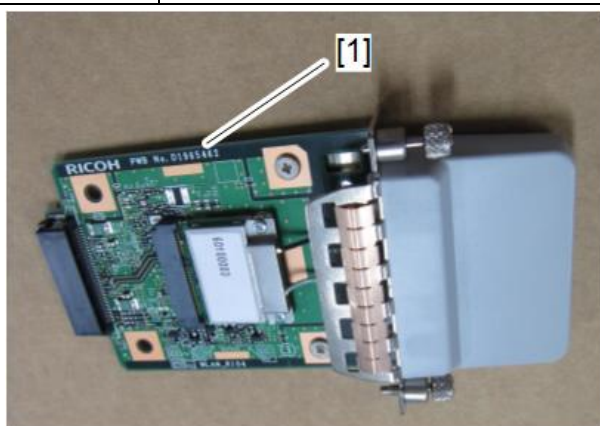
**Note**

If it is correctly installed, "Parallel Interface" will appear for "Device Connection" on the configuration page. For information about printing the configuration page, see "List / Test Print", Print.

## 2.16 IEEE 802.11 INTERFACE UNIT TYPE M24 (M500-08)

### 2.16.1 ACCESSORIES

No.	Description	Q'ty
1	IEEE 802.11 Interface board	1
-	Notes for Users	1
-	EMC address	1
-	Caution chart	1



m0a0k1065

### 2.16.2 INSTALLATION PROCEDURE

#### ⚠ CAUTION

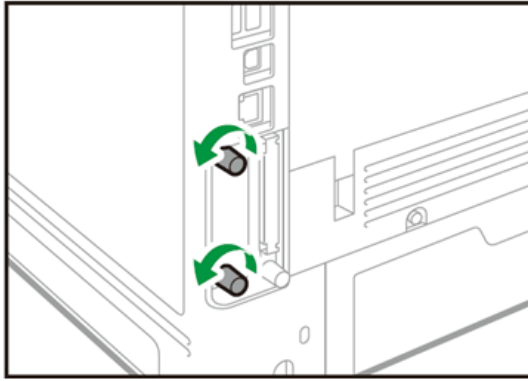
- To prevent injury from electrical shock or damage to the machine, before installation always, turn the main machine power off, and then unplug the machine power supply cord from the power source.
- To prevent damage to the circuits on the boards, always touch a metal surface to discharge static charge from your body before you handle a board.
- Never put your hand or a tool into the slot when you install an option.

#### ★ Important

- When using wireless LAN (IEEE802.11 b/g/n:2.4-GHz band), this radio product uses the 2.4-GHz band. Check that industrial, scientific and medical devices using the same frequency bands, such as a microwave oven or a cordless telephone, are not used nearby.
- If there is interference, communication may become unstable. Check that there are no devices likely to cause interference in the surrounding area.

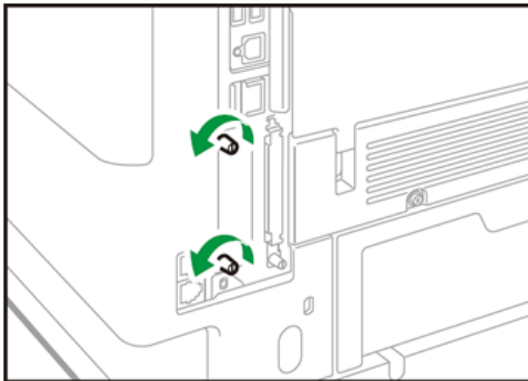
1. Loosen the two screws and remove the slot cover. The removed cover will not be reused.

**Printer model:**



d0apc2033

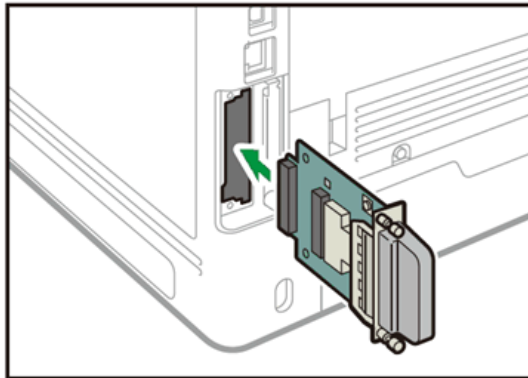
**MF model:**



d0apc2034

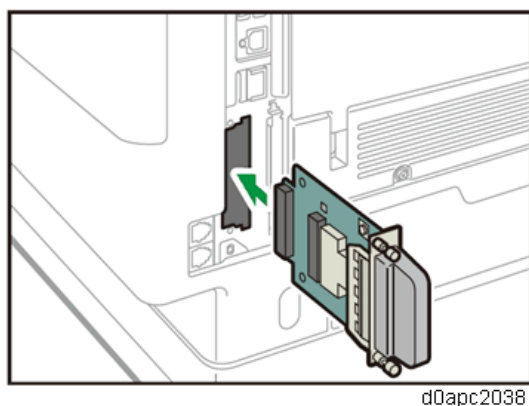
2. Fully insert the interface board. Confirm that the interface board is firmly connected to the controller board.

**Printer model:**



d0apc2037

**MF model:**



3. Tighten the two screws to secure the interface board.
4. Plug in the power cord, and then turn on the machine.
5. Print the configuration page to confirm that the board was attached correctly.

**Note**

If it is correctly installed, "Wireless LAN" will appear for "Device Connection" on the configuration page.

### 2.16.3 USER TOOL SETTINGS FOR IEEE 802.11A/G/N (PRINTER MODEL)

Enter the User Tools mode and perform the procedure below. These settings take effect every time the machine is turned ON.

**Note**

- IEEE 802.11a/g/n function is disabled when using Ethernet.

1. Press the [Menu] key.
2. Select [Host Interface], and then press the [OK] key.
3. Select [Network], and then press the [OK] key.
4. Select [LAN Type], and then press the [OK] key.
5. Select [Wireless LAN], and then press the [OK] key. (Default: Ethernet)
6. Press the [Escape] key.
7. Select [Wireless LAN], and then press the [OK] key.
8. Select [Communication Mode], and then press the [OK] key.
9. Specify the "Communication Mode", and then press the [OK] key. ("Ad hoc Mode", "Infrastructure Mode", and "Direct Connection Mode")
10. Select [SSID Setting], and then press the [OK] key.
11. Enter the "SSID setting". (The setting is case sensitive.)  
Press the [Accept] key when you finish entering the SSID.
12. When "Ad Hoc Mode" is selected, select [Ad-hoc Channel], and then press the [OK] key.  
Specify the "Ad-hoc Channel". The allowed range for the channel settings may vary for different countries.
  - For mainly Europe and Asia

2412 - 2462 MHz (1 - 11 channels)

5180 - 5240 MHz (36, 40, 44 and 48 channels)

(default: 11)

**Note**

- In some countries, only the following channels are available: 2412 - 2462 MHz (1 - 11 channels)
- For mainly North America  
2412 - 2462 MHz (1 - 11 channels)  
5180 - 5240 MHz (36, 40, 44 and 48 channels)  
(default: 11)

13. Select [Security Method], and then press the [OK] key.

14. Specify the "Security Method" for encryption of the Wireless LAN. To not use security setting, select [No].

- The "WEP" (Wired Equivalent Privacy) setting is for protecting 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.
  - Range of Allowed Settings:  
64 bit: 10 characters  
128 bit: 26 characters
- When "WPA2" is selected, authentication settings and certificate installation settings are required.  
When "Ad Hoc Mode" is selected, you cannot select WPA2 as the security method.
  - WPA2 Authent. Method:  
Select either "WPA2-PSK" or "WPA2".  
If you select "WPA2-PSK", enter the pre-shared key (PSK) of 8-63 characters in ASCII code.

15. To check the connection status, enter [Wireless LAN Signal] in [Wireless LAN] and confirm the signal status.

**Note**

Press "Restore Factory Defaults" to initialize the wireless LAN settings.

## 2.16.4 USER TOOL SETTINGS FOR IEEE 802.11A/G/N (MF MODEL)

Enter the User Tools mode and perform the procedure below. These settings take effect every time the machine is turned ON.

**Note**

- IEEE 802.11a/g/n function is disabled when using Ethernet.
1. Press the [User Tools] icon.
  2. Select [Machine Features] > [System Settings] > [Interface Settings] > [Network] > [LAN

Type] > [Wireless LAN] (Default: Ethernet)

3. Press [Wireless LAN].
4. Specify the "Communication Mode".
5. Enter the "SSID setting". (The setting is case sensitive.)
6. Specify the "Ad-hoc Channel". You need this setting when Ad Hoc Mode is selected. The allowed range for the channel settings may vary for different countries.
  - For mainly Europe and Asia
    - 2412 - 2462 MHz (1 - 11 channels)
    - 5180 - 5240 MHz (36, 40, 44 and 48 channels)
    - (default: 11)

 Note

- In some countries, only the following channels are available: 2412 - 2462 MHz (1 - 11 channels)
  - For mainly North America
    - 2412 - 2462 MHz (1 - 11 channels)
    - 5180 - 5240 MHz (36, 40, 44 and 48 channels)
    - (default: 11)
7. Specify the "Security Method" for encryption of the Wireless LAN.
    - The "WEP" (Wired Equivalent Privacy) setting is for protecting 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.
      - Range of Allowed Settings:
        - 64 bit: 10 characters
        - 128 bit: 26 characters
    - When "WPA2" is selected, authentication settings and certificate installation settings are required.

When "Ad Hoc Mode" is selected, you cannot select WPA2 as the security method.

      - WPA2 Authent. Method:
        - Select either "WPA2-PSK" or "WPA2".
        - If you select "WPA2-PSK", enter the pre-shared key (PSK) of 8-63 characters in ASCII code.
  8. Press "Wireless LAN Signal" to check the machine's radio wave status using the operation panel.
    - Press "Restore Factory Defaults" to initialize the wireless LAN settings.

## 2.16.5 SP MODE SETTINGS FOR IEEE 802.11 WIRELESS LAN

The following SP commands and UP modes can be specified for IEEE 802.11

SP No.	Name	Function
SP5-840-006	Channel MAX	Specifies the maximum range of the channel settings for the country.
SP5-840-007	Channel MIN	Specifies the minimum range of the channels settings allowed for your country.
SP5-840-008	Transmission Speed	Specifies the transmission speed. Auto, 54 Mbps, 48 Mbps, 36 Mbps, 24 Mbps, 18 Mbps, 12 Mbps, 9 Mbps, 6 Mbps, 11 Mbps, 5.5 Mbps, 2 Mbps, 1 Mbps (default: Auto).
SP5-840-011	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.
	WPA2 Authent. Method	Used to confirm the current WPA authentication setting and preshared key.

## 2.17 FILE FORMAT CONVERTER TYPE M19 (D3BR-04)

### 2.17.1 ACCESSORIES

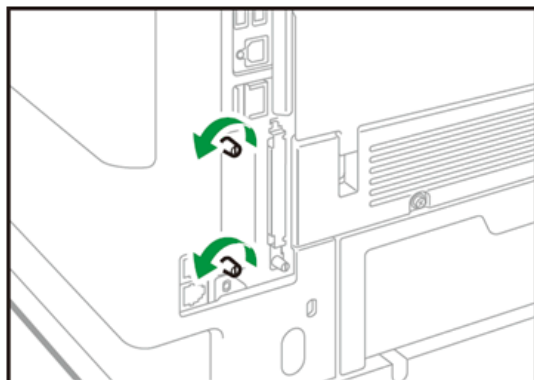
No.	Description	Q'ty
1	File Format Converter board	1
2	Notes for Users	1



### 2.17.2 INSTALLATION PROCEDURE

#### ⚠ CAUTION

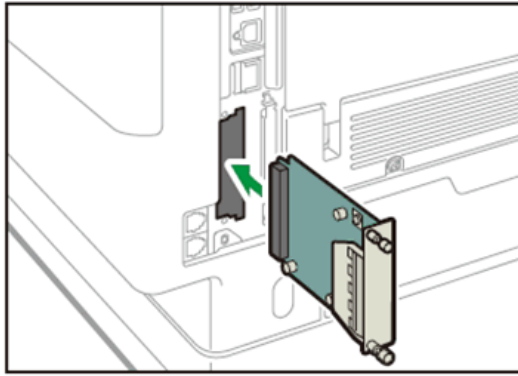
- To prevent injury from electrical shock or damage to the machine, before installation always, turn the main machine power off, and then unplug the machine power supply cord from the power source.
  - To prevent damage to the circuits on the boards, always touch a metal surface to discharge static charge from your body before you handle a board.
  - Never put your hand or a tool into the slot when you install an option.
1. Loosen the two screws and remove the slot cover. The removed cover will not be reused.



d0apc2034



2. Fully insert the file format converter. Confirm that the file format converter is firmly connected to the controller board.



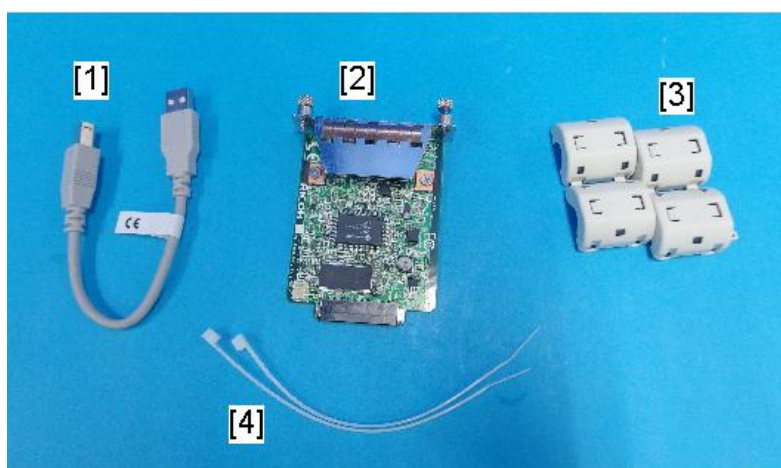
d0apc2046

3. Tighten the two screws to secure the file format converter.
4. Plug in the power cord, and then turn on the machine.
5. Print the configuration page to confirm that the board was attached correctly.

## 2.18 USB DEVICE SERVER OPTION TYPE M19A (D3BC-33, -34)

### 2.18.1 ACCESSORIES

No.	Description	Q'ty
1	USB cable	1
2	Interface board	1
3	Ferrite core	2
4	Cable ties	2

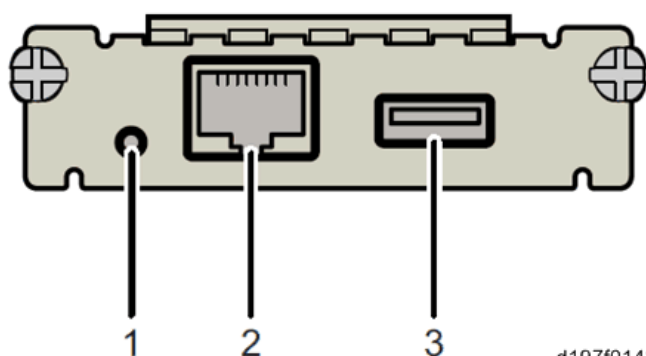


d238m0666

**Note**

Ethernet cable is not provided with this option.

#### Interface Board Surface



d197f0142

No.	Item	Description
1	Switch	Use to reset to the factory settings.
2	Ethernet port	Use to connect the Ethernet cable.
3	USB port	Use to connect this option to the main machine.

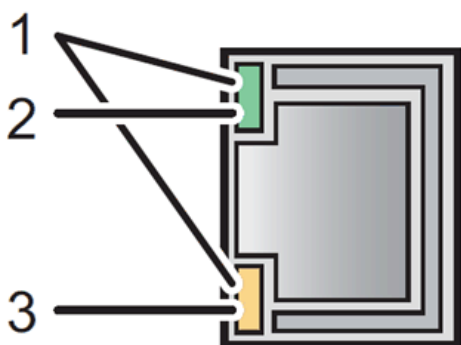
No.	Item	Description
		Do not use this port with other options.

**Note**

When installing the USB device server option, make sure that the labels 'USB-A' and 'Ethernet' are upside down.

**What Do the LED Indicators Mean?**

When the USB device server option is correctly installed and recognized by the main machine, the LED indicators light up under the following conditions.



d197f0149

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

**2.18.2 INSTALLATION PROCEDURE**

**⚠ CAUTION**

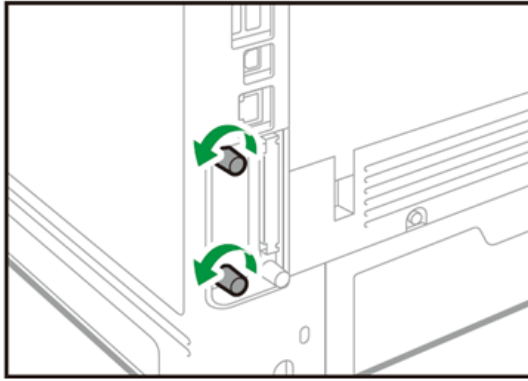
- To prevent injury from electrical shock or damage to the machine, before installation always, turn the main machine power off, and then unplug the machine power supply cord from the power source.
- To prevent damage to the circuits on the boards, always touch a metal surface to discharge static charge from your body before you handle a board.
- Never put your hand or a tool into the slot when you install an option.

**★ Important**

- The USB Device Server Option has an IP address stored on the PCB. This is different from the machine's IP address. The IP address and other network settings of the USB Device Server Option must be configured after installing this option.

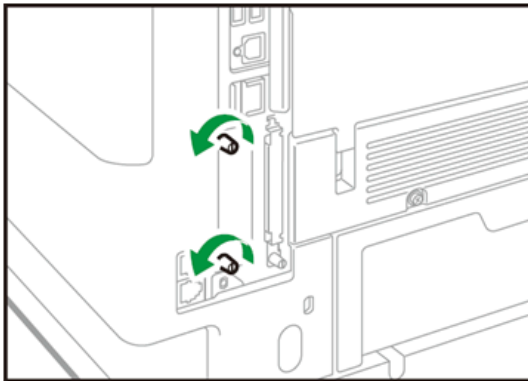
1. Loosen the two screws and remove the slot cover. The removed cover will not be reused.

**Printer model:**



d0apc2033

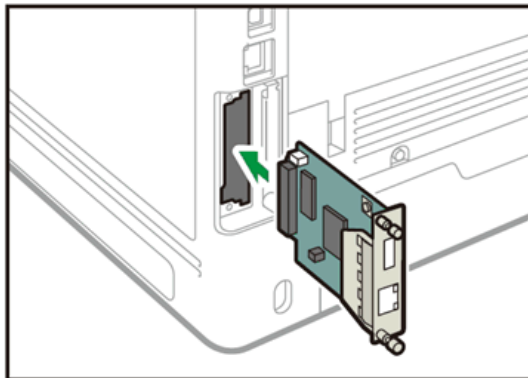
**MF model:**



d0apc2034

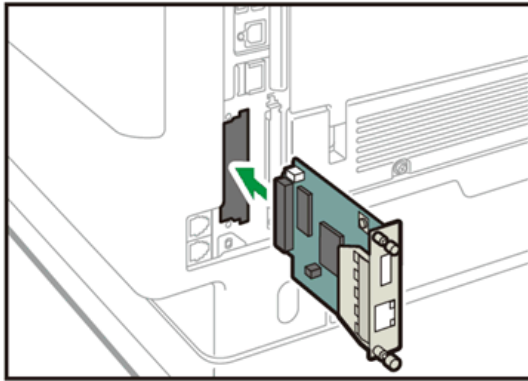
2. Fully insert the interface board. Confirm that the interface board is firmly connected to the controller board.

**Printer model:**



d0apc2039

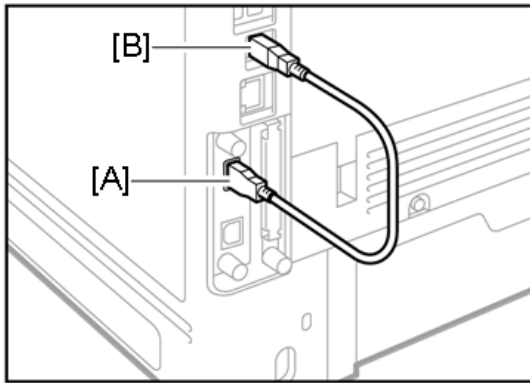
**MF model:**



d0apc2040

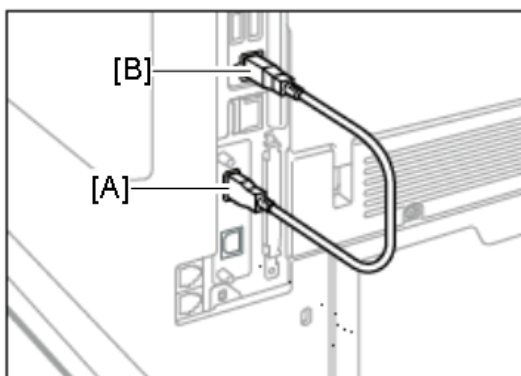
3. Tighten the two screws to secure the interface board.
4. Connect the USB cable to the USB port (Type A) [A] of the USB Device Server Option.
5. Connect the USB cable to the USB port (Type B) [B] of the machine I/F.

**Printer model:**



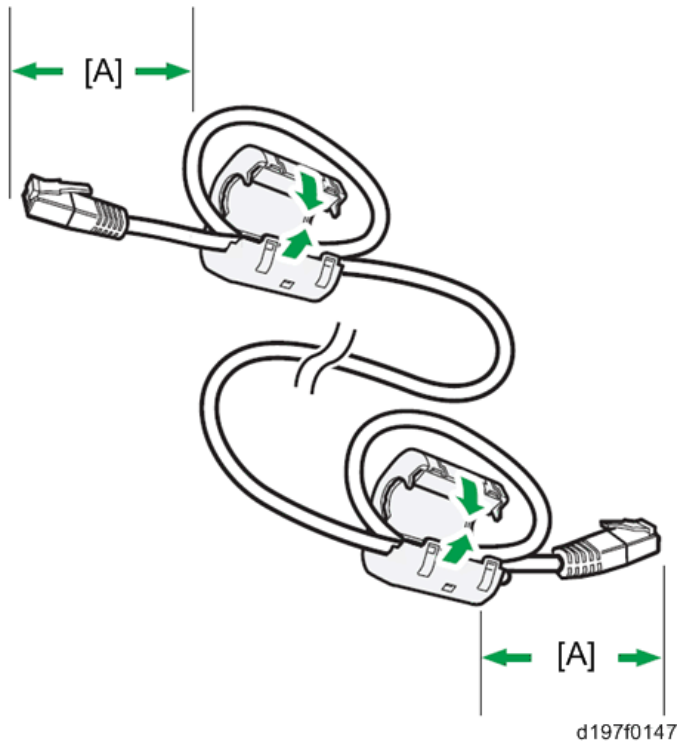
d0apc2041

**MF model:**

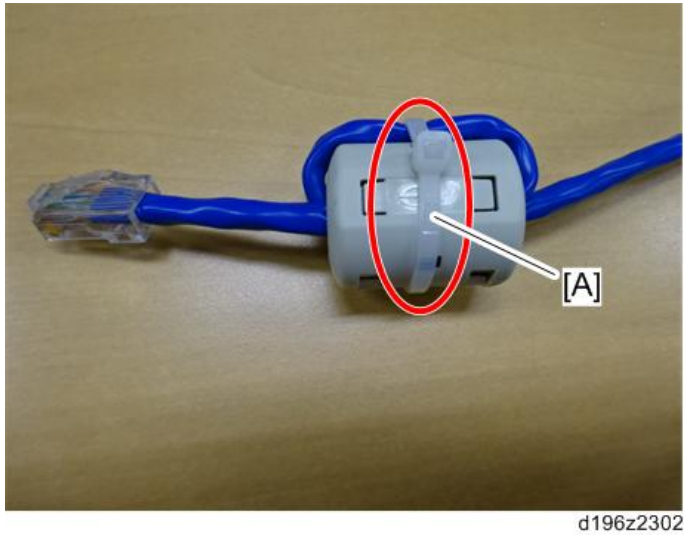


d0apc2042

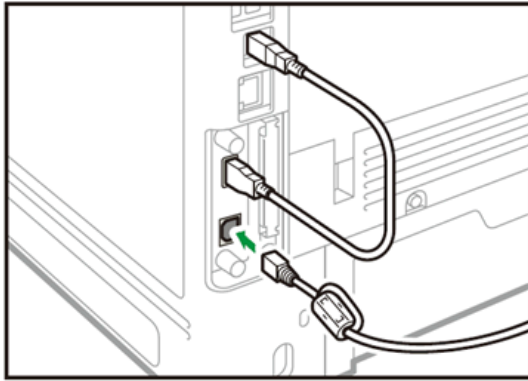
6. Loop the cable at a point 3 cm (approximately 1.2 inches) [A] from each end of the Ethernet cable, and attach the ferrite cores to the cable



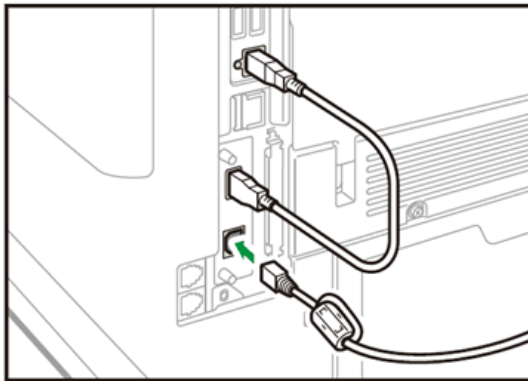
7. (For North America only) Bind both cores with cable ties [A] as shown below.



8. Insert the Ethernet cable into the Ethernet port on this option.  
**Printer model:**



d0apc2043

**MF model:**

d0apc2044

9. Insert the other end of the Ethernet cable to a PC for network settings.
10. Plug in the power cord, and then turn on the machine.

**Note**

- Do not unplug the USB cable while the machine is trying to identify the USB Device Server Option. If unplugged, connect the cable again.
  - It may take between 30 seconds to 1 minute to finish identification (the LEDs on the Ethernet port of the option light up when identification is completed).
11. To ensure that the machine recognizes the USB Device Server Option correctly, perform one of the following:
    - Access the option's IP address from a web browser.
    - Ping the option's IP address from a command prompt on a Windows PC in the same network as the main machine.If the IP address cannot be found (DHCP server), use the MAC address. This is the number printed on the seal attached to the printed circuit board for the USB Device Server Option.



d196z2350

1. Use "RX" + the option's MAC address and access a web browser.  
Example: <http://RX0080926A3264>



d196z2351

2. Ping "RX" + "MAC address" from the command prompt on a windows PC which is on the same network as the mainframe.

```
C:\Users\...>Ping RX0080926A3264
Pinging RX0080926A3264 [192.168.100.100] with 32 bytes of data:
Reply from 192.168.100.100: bytes=32 time<1ms TTL=255
Reply from 192.168.100.100: bytes=32 time<1ms TTL=255
Reply from 192.168.100.100: bytes=32 time<1ms TTL=255
Reply from 192.168.100.100: bytes=32 time<1ms TTL=255

Ping statistics for 192.168.100.100:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
```

d196z2352

**Note**

When installing the USB Device Server Option Type M19A, the installation status is not shown on the Configuration Page.

**Notes for Energy Save Mode Setting**

If the USB device server option is installed and the machine enters into the energy save mode, you cannot print because there will be a communication error. Follow the instructions below to prevent the machine from entering the energy save mode.

1. Enter SP mode, and then set SP5-191-001 (Power Setting: Power Str) to "0 (Off)".



### 2.18.3 IP ADDRESS SETTING

This section describes how to manually specify an IP address for the USB device server option. Note that you can specify an IP address not only on the same network segment but also on a different network segment. This will enable you to share a single printer with devices in multiple networks.

#### ★ Important

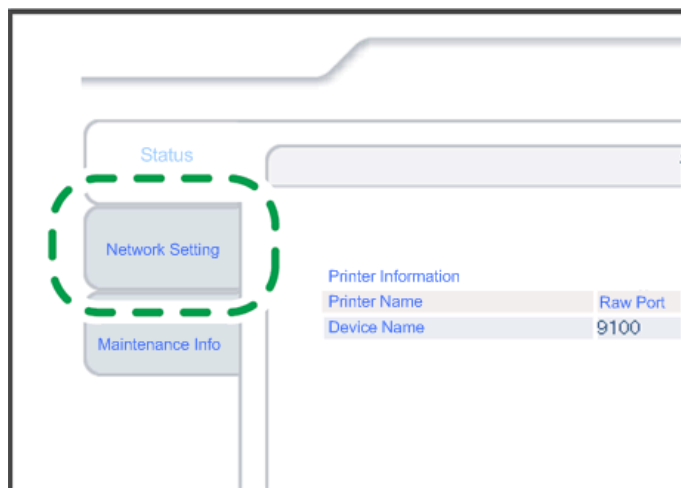
- You cannot change the IP address of this option from the operation panel of the main machine. The setting must be done from a web browser on your PC.
- The network setting of this option is initially assigned as follows:  
IP address: 192.168.100.100 / Subnet mask: 255.255.255.0
- The network setting of your PC must be in the same network segment to change the network setting of this option.

- Make a note of the current network settings of your PC.
- Change the IP address of your PC to [192.168.100.xxx (\*0 - 255)].
- Change the subnet mask of your PC to [255.255.255.0].
- Open a web browser.
- Type [http://192.168.100.100/] in the address bar.
- Press the "Enter" key.

#### ↓ Note

- The setting screen for this option is displayed.

- Click [Network Setting].



d197f0134

- Type [root] in the username text box, and click [OK].

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

Item	Value
IPv4	ENABLE ▾
DHCPv4	DISABLE ▾
IPv4 address	192.168.100.100
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0

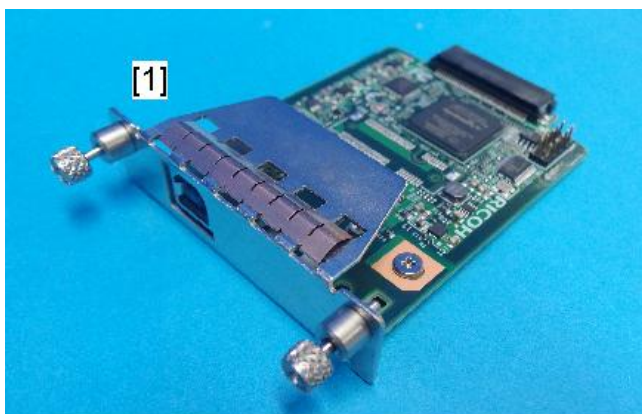
d197f0135a

10. Specify other items if needed.
11. Press [Set]
12. Close the web browser.
13. Disconnect the Ethernet cable from the PC.
14. Connect the Ethernet cable to a network device (such as a switching hub).
15. Specify the IP address of the USB device server option in the printer driver that you are using.

## 2.19 EXTENDED USB BOARD TYPE M19 (D3BS-01)

### 2.19.1 ACCESSORIES

No.	Description	Q'ty
1	Extended USB board	1

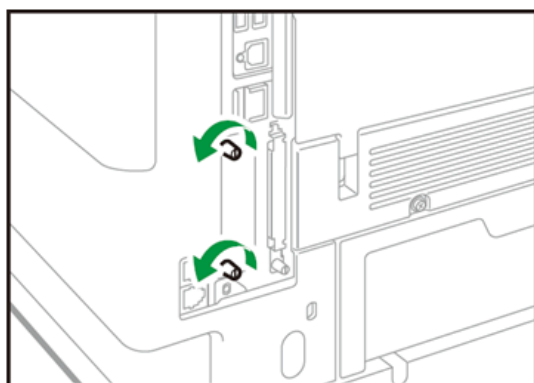


d238m0668

### 2.19.2 INSTALLATION PROCEDURE

#### ⚠ CAUTION

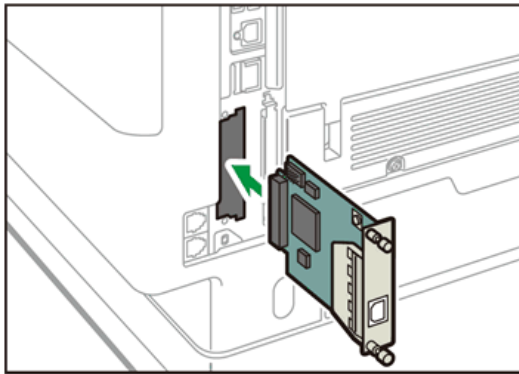
- To prevent injury from electrical shock or damage to the machine, before installation always, turn the main machine power off, and then unplug the machine power supply cord from the power source.
  - To prevent damage to the circuits on the boards, always touch a metal surface to discharge static charge from your body before you handle a board.
  - Never put your hand or a tool into the slot when you install an option.
1. Loosen the two screws and remove the slot cover. The removed cover will not be reused.



d0apc2034

## Extended USB Board Type M19 (D3BS-01)

2. Fully insert the interface board. Confirm that the interface board is firmly connected to the controller board.



d0apc2205

3. Tighten the two screws to secure the interface board.
4. Plug in the power cord, and then turn on the machine.
5. Print the configuration page to confirm that the board was attached correctly.

## 2.20 SD CARD OPTIONS

New/Common	Item	Target		Link
		Printer model	MF model	
New	XPS Direct Print Option Type P18	✓		<a href="#">XPS Direct Print Option Type P18 (M543-11)/ M34 (D3EN-18, -19, -20)</a>
New	XPS Direct Print Option Type M34		✓	
New	IPDS Unit Type P18	✓		<a href="#">IPDS Unit Type P18 (M543-07, -08, -09)/ M34 (D3EN-13, -14, -15)</a>
New	IPDS Unit Type M34		✓	
Common	OCR Unit Type M13		✓	<a href="#">OCR Unit Type M13 (D3AC-23, -24, -25)</a>
New	Postscript Unit Type P18	✓		<a href="#">Postscript3 Unit Type P18 (M543-04, -05, -06)/ M34 (D3EN-10, -11, -12)</a>
New	Postscript Unit Type M34		✓	
New	VM Card Type P18	✓		<a href="#">VM Card Type P18 (D3EN-03, -04, -05)</a>
Common	Data Overwrite Security Unit Type M19		✓	<a href="#">Data Overwrite Security Unit Type M19 (D3BS-03)</a>
New	FAX Connection Unit Type M34		✓	Refer to Service Manual "Fax Options"

## 2.21 SD CARD APPLI MOVE

### 2.21.1 OVERVIEW

There are only two SD card slots (one of them is a service slot).

However, if multiple SD card applications are merged, three or more SD card applications can be used simultaneously.

The SD card merge function enables the use of three or more functions within the capacity of two SD cards by physically transferring the function of one SD card to other SD cards (all SD card options can be stored in two SD cards).

However, because SD card applications are licensed, an SD card license will be transferred to the target SD card after merging. The original SD card cannot be used even if it is inserted into the machine.

A process to prevent illegal copying is also performed.

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

### 2.21.2 NOTES ON USING THE SD MERGE FUNCTION

- 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 moved the application program from one card to another card.
- Do not use an SD card that has been used before for other purposes. Normal operation is not guaranteed when such an SD card is used.
- An SD card, which becomes empty after the data in it has been moved to another card, cannot be reused.
- Keep the empty source card (the card which has had its data moved to another card) by, for example, affixing it near the SD card slot using adhesive tape. This is 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.

#### Note

Do not move OCR Unit to another SD card.

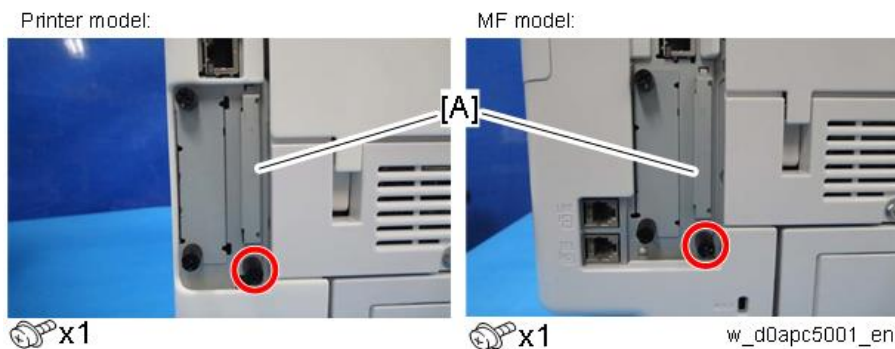
### 2.21.3 MOVE EXEC

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

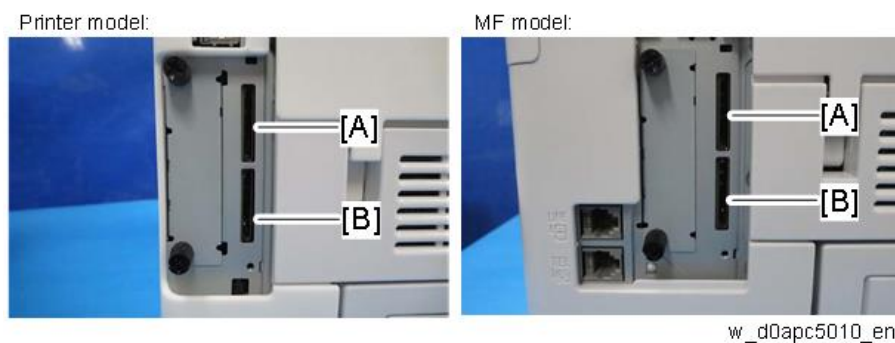
#### ★ Important

- 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) will occur during a firmware upgrade or application merge.

- Turn the power OFF.
- Remove the SD card slot cover [A].



- Make sure that a target SD card is in SD Card Slot 1 [A] (Upper). The application program is moved to this SD card.
- Insert the source SD card with the application program into SD Card Slot 2 [B] (Lower). The application program is copied from this source SD card.



- Turn the power ON.
- Enter the SP mode.
- Select SP5-873-001 (SD Card Appli Move: Move Exec).
- Follow the messages shown on the operation panel.
- Turn the power OFF.
- Remove the source SD card from SD Card Slot 2.
- Attach the SD card slot cover.
- Turn the power ON.
- Check that the application programs run normally.

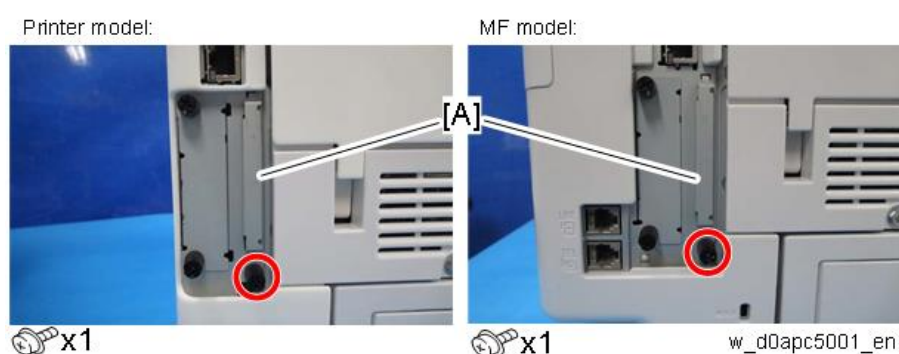
## 2.21.4 UNDO EXEC

"Undo Exec" (SP5-873-002) lets you move application programs from an SD card in SD Card Slot 1 (upper) back to the original SD card in SD Card Slot 2 (lower). You can use this program when, for example, you have mistakenly copied some programs by using Move Exec (SP5-873-001).

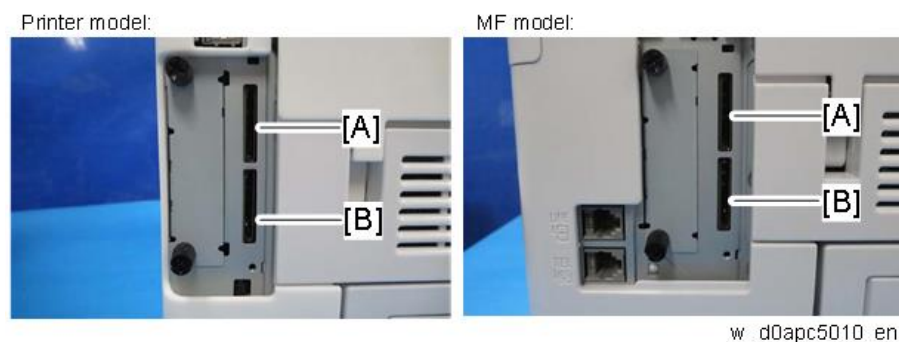
### ★ Important

- 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) will occur during a firmware upgrade or application merge.

- Turn the power OFF.
- Remove the SD card slot cover [A].



- Insert the integrated SD card into Slot 1 [A] (Upper).
- Insert the SD card which became empty after merging into Slot 2 [B] (Lower).



- Turn the power ON.
- Enter the SP mode.
- Select SP5-873-002 (SD Card Appli Move: Undo Exec).
- Follow the messages shown on the operation panel.
- Turn the power OFF.
- Remove the SD card from SD Card Slot 2.
- Attach the SD card slot cover.
- Turn the power ON.
- Check that the application has been deleted.

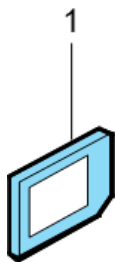


## 2.22 XPS DIRECT PRINT OPTION TYPE P18 (M543-11)/

### M34 (D3EN-18, -19, -20)

#### 2.22.1 ACCESSORIES

No.	Description	Q'ty
1	XPS Direct Print SD card	1



d595i900b

#### 2.22.2 INSTALLATION PROCEDURE

##### **⚠ CAUTION**

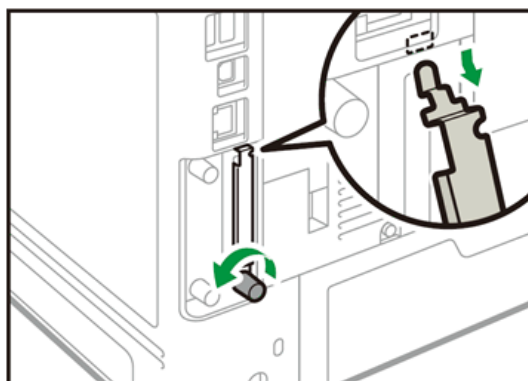
To prevent injury from electrical shock or damage to the machine, before installation always, turn the main machine power off, and then unplug the machine power supply cord from the power source.

##### **Note**

When installing more than one SD card, perform the merge operation. ([SD Card Appli Move](#))

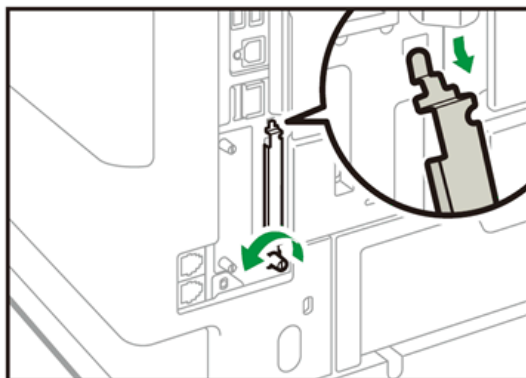
1. Loosen the screw and remove the SD card slot cover.

**Printer model:**



d0apc2047

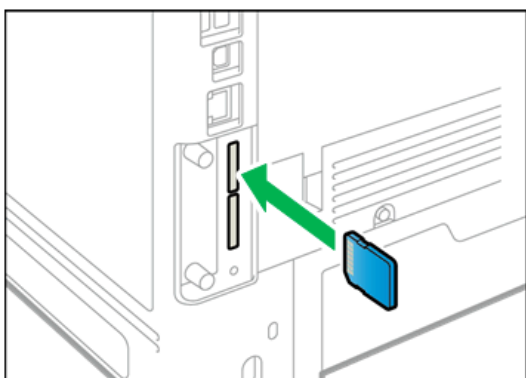
**MF model:**



d0apc2048

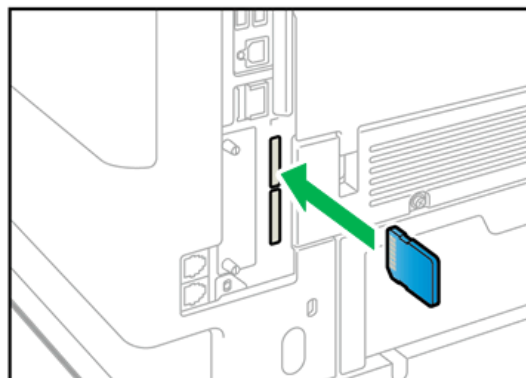
- 2.** Insert the SD card into the upper slot.

**Printer model:**



d0apc2049

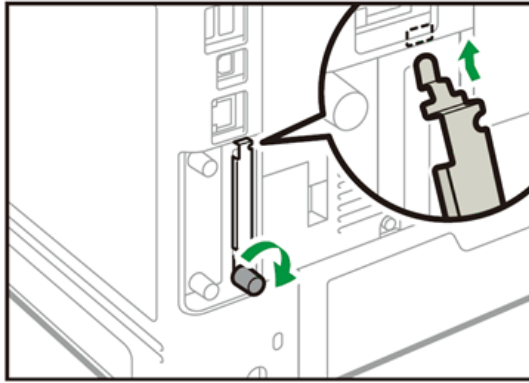
**MF model:**



d0apc2050

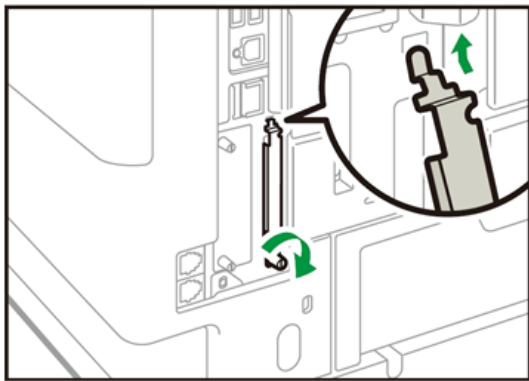
- 3.** Attach the SD card slot cover and fasten it.

**Printer model:**



d0apc2051

**4. MF model:**



d0apc2052

**5.** Plug in the power cord, and then turn on the machine

**6.** Confirm that the SD card was installed correctly.

**Note**

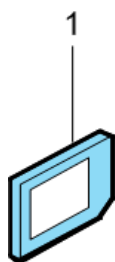
Printer model: The name of the installed emulation card appears in the [Prioritize Emulation/Program] of [System Settings].

MF model: The name of the installed emulation card appears in the [Prioritize Emulation/Program] of [System Settings] under [Initial Settings of the Printer]

## 2.23 IPDS UNIT TYPE P18 (M543-07, -08, -09)/ M34 (D3EN-13, -14, -15)

### 2.23.1 ACCESSORIES

No.	Description	Q'ty
1	IPDS Unit SD card	1



d595i900b

### 2.23.2 INSTALLATION PROCEDURE

#### **⚠ CAUTION**

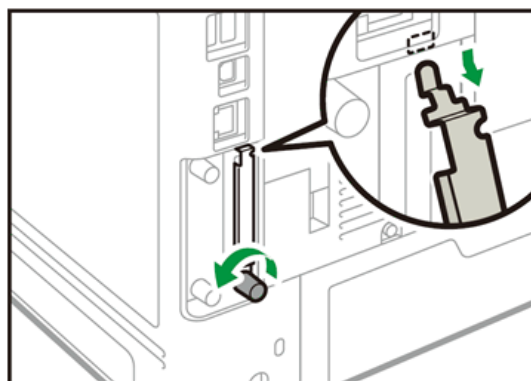
To prevent injury from electrical shock or damage to the machine, before installation always, turn the main machine power off, and then unplug the machine power supply cord from the power source.

#### **Note**

When installing more than one SD card, perform the merge operation. ([SD Card Appli Move](#))

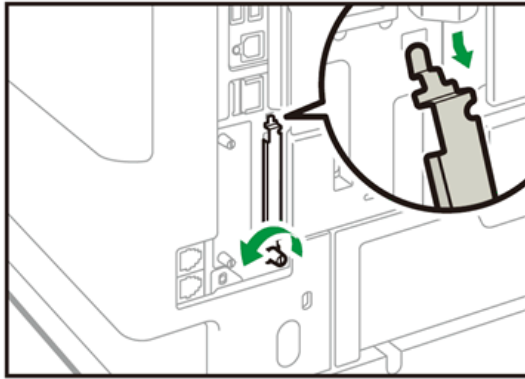
1. Loosen the screw and remove the SD card slot cover.

**Printer model:**



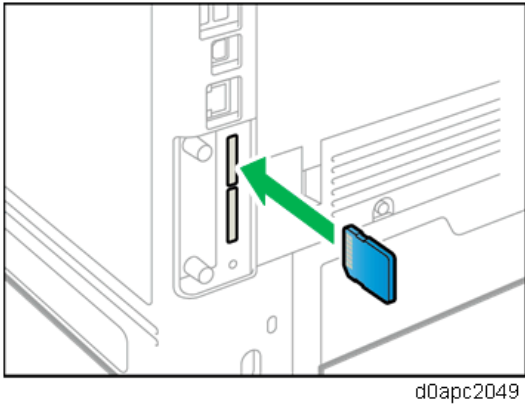
d0apc2047

**MF model:**

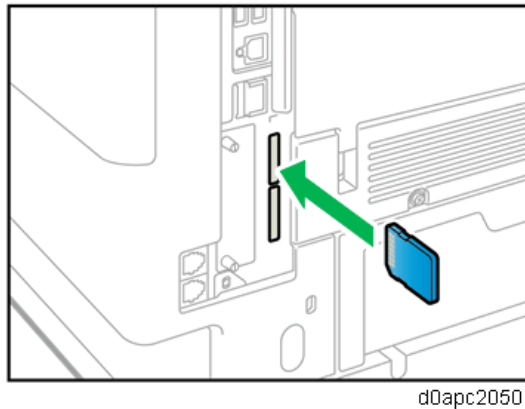


**2.** Insert the SD card into the upper slot.

**Printer model:**

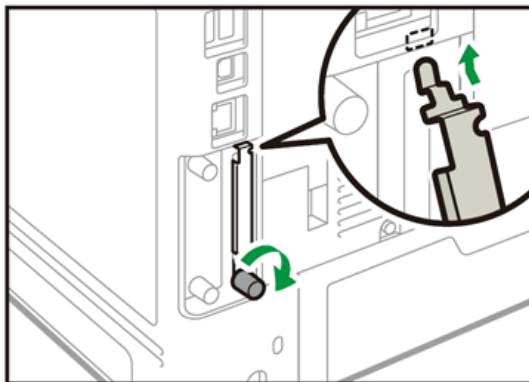


**MF model:**



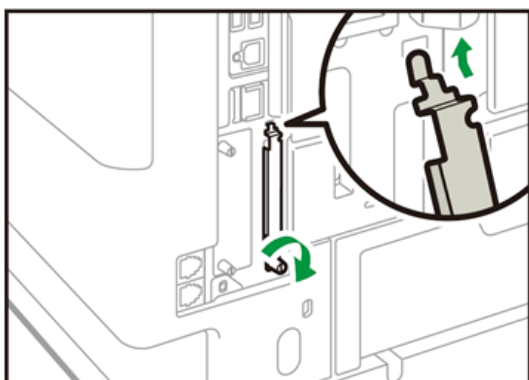
**3.** Attach the SD card slot cover and fasten it.

**Printer model:**



d0apc2051

**MF model:**



d0apc2052

- 4.** Plug in the power cord, and then turn on the machine
- 5.** Confirm that the SD card was installed correctly.

**Note**

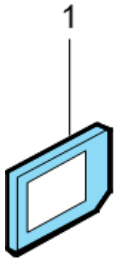
Printer model: The name of the installed emulation card appears in the [Prioritize Emulation/Program] of [System Settings].

MF model: The name of the installed emulation card appears in the [Prioritize Emulation/Program] of [System Settings] under [Initial Settings of the Printer]

## 2.24 OCR UNIT TYPE M13 (D3AC-23, -24, -25)

### 2.24.1 ACCESSORIES

No.	Description	Q'ty
1	OCR Unit SD card	1



d595i900b

### 2.24.2 OVERVIEW OF SEARCHABLE PDF FUNCTION

This option adds a searchable PDF function to the scanner function.

- With this option, OCR is performed on a document read with the scanner, and text data is embedded in the PDF. This enables PDF text browsing, automatic assignment of file names, and automatic alignment of document orientation.
- This option is provided as an SD card. When the SD card is installed on the machine, an icon for the function is added. It is not necessary to install any software on a PC.
- If this option is installed, various settings related to the searchable PDF function are available.
- OCR is performed after reading of the document is completed (after it is read by the SPDF and output). After the reading is completed, the documents can be removed from the document glass or SPDF.
- Other functions, such as the copier and printer functions, can be used during OCR.

### 2.24.3 INSTALLATION PROCEDURE

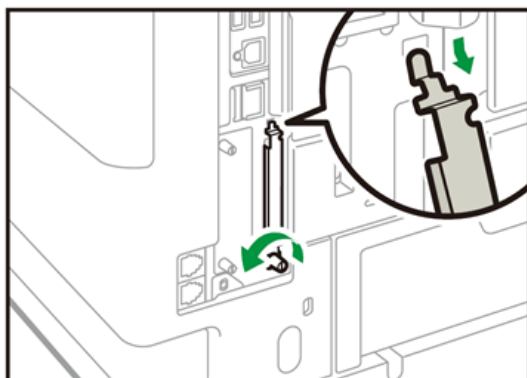
#### **⚠ CAUTION**

To prevent injury from electrical shock or damage to the machine, before installation always, turn the main machine power off, and then unplug the machine power supply cord from the power source.

#### **Note**

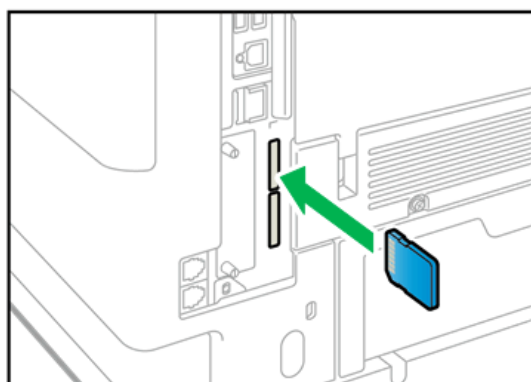
When installing more than one SD card, perform the merge operation. (*SD Card Appli Move*)

1. Loosen the screw and remove the SD card slot cover.



d0apc2048

2. Insert the SD card into the upper slot.



d0apc2050

3. Plug in the power cord, and then turn on the machine.
4. Enter the SP mode, and then press "Enter" in SP5-878-004 (Option Setup: OCR Dictionary).

The SD card ID is saved in the NVRAM, and the machine ID is recorded on the SD card.

5. When "operation complete" is displayed, press "Close".

**Note**

- If the installation is not successful, "Failed" is displayed.
- If the installation fails, perform the following steps.

1. Check whether it is a used SD card.
2. Turn the power OFF and repeat Steps 1 to 5.

6. Power cycle the machine.
7. Press "Enter" in SP5-878-004 (Option Setup: OCR Dictionary).  
Dictionary data is copied to the HDD.

**Note**

- In the first execution, the SD card and the machine are linked.
- In the second execution, the OCR dictionary is copied onto the HDD.

8. Turn off the machine, and then remove the SD card.

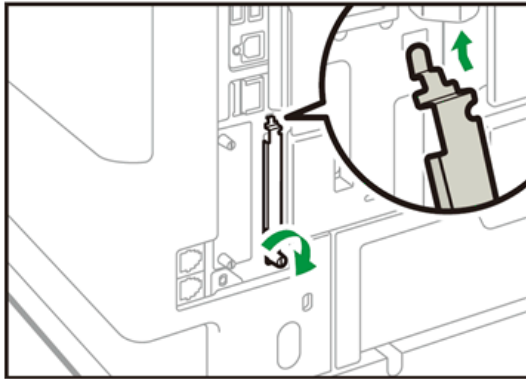
**Important**

- Store the SD card in a safe location.



- You will need the original SD card in case the HDD unit ever fails.

9. Attach the SD card slot cover and fasten it.



d0apc2052

10. Turn on the machine.

11. Press [File Format / File Name] on the scanner function screen.

12. Check that [OCR setting] is displayed on the "File format / File Name" screen.

**Note**

- The searchable PDF function can be switched on/off on the [OCR Settings] screen after installing the OCR unit.
- If you want to use the searchable PDF function, select [On] for [OCR Settings]. (Default: [Off])

## 2.24.4 RECOVERY PROCEDURE

When the OCR option is installed, the OCR function is saved on the HDD, and ID information on the SD card is saved in the NVRAM. Therefore, when replacing the HDD or NVRAM, this option must be reinstalled.

### ***When storing the original SD card***

- When only the HDD is replaced  
Reinstall using the original SD card.
- When only the NVRAM is replaced  
When performing upload/download of NVRAM data, reinstall using the original SD card.  
When not performing upload/download of NVRAM data, order and reinstall a new SD card (service part).
- When the HDD and NVRAM are replaced simultaneously  
Reinstall using the original SD card.

### ***If the original SD card is lost***

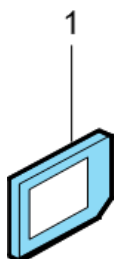
Order and reinstall a new SD card (service part).

## 2.25 POSTSCRIPT3 UNIT TYPE P18 (M543-04, -05, -06)/

### M34 (D3EN-10, -11, -12)

#### 2.25.1 ACCESSORIES

No.	Description	Q'ty
1	Postscript3 Unit SD card	1
-	Decal: PS3	1



d595i900b

#### 2.25.2 INSTALLATION PROCEDURE

##### **⚠ CAUTION**

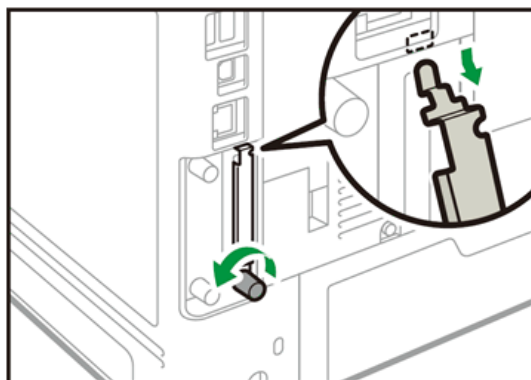
To prevent injury from electrical shock or damage to the machine, before installation always, turn the main machine power off, and then unplug the machine power supply cord from the power source.

##### **Note**

When installing more than one SD card, perform the merge operation. ([SD Card Appli Move](#))

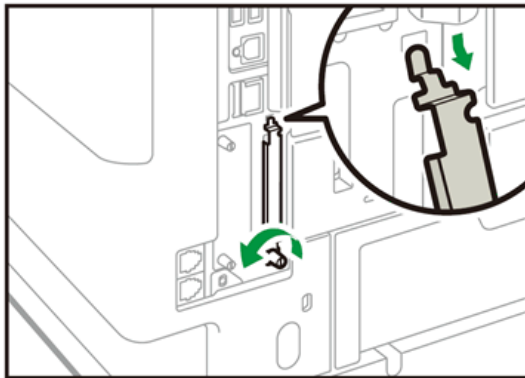
1. Loosen the screw and remove the SD card slot cover.

**Printer model:**



d0apc2047

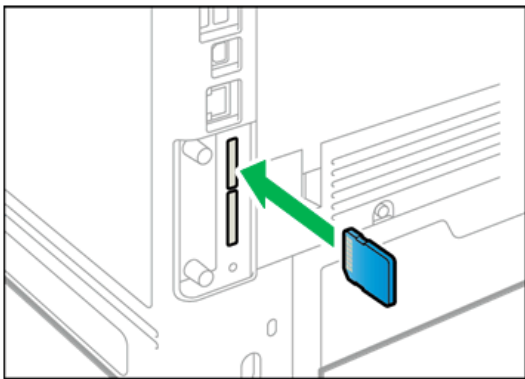
**MF model:**



d0apc2048

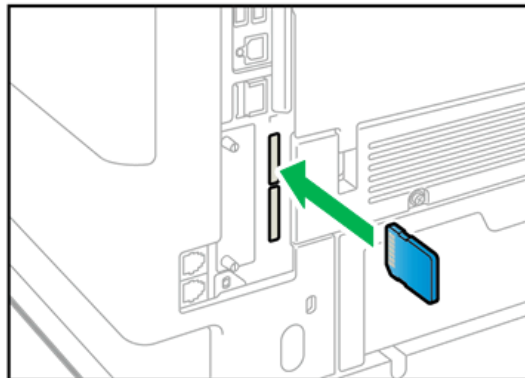
**2.** Insert the SD card into the upper slot.

**Printer model:**



d0apc2049

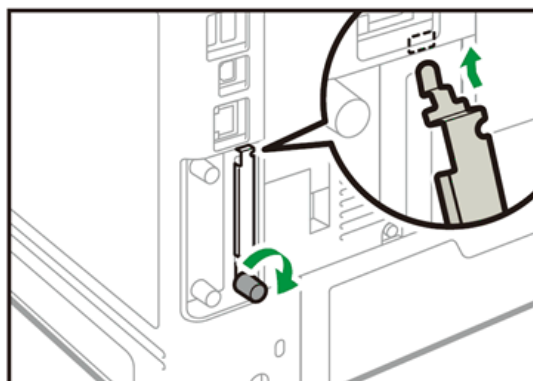
**MF model:**



d0apc2050

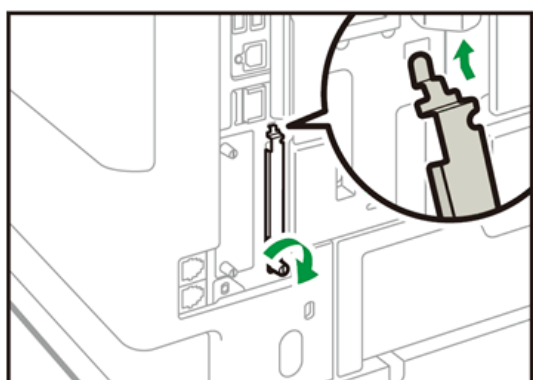
**3.** Attach the SD card slot cover and fasten it.

**Printer model:**



d0apc2051

**MF model:**



d0apc2052

- 4.** Plug in the power cord, and then turn on the machine
- 5.** Confirm that the SD card was installed correctly.

**Note**

Printer model: The name of the installed emulation card appears in the [Prioritize Emulation/Program] of [System Settings].

MF model: The name of the installed emulation card appears in the [Prioritize Emulation/Program] of [System Settings] under [Initial Settings of the Printer]

- 6.** Attach the decal [A] on the front cover as shown below.

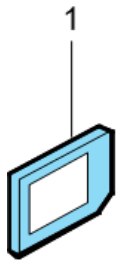


d0apc2055

## 2.26 VM CARD TYPE P18 (D3EN-03, -04, -05)

### 2.26.1 ACCESSORIES

No.	Description	Q'ty
1	Java-VM SD card	1



d595i900b

### 2.26.2 INSTALLATION PROCEDURE

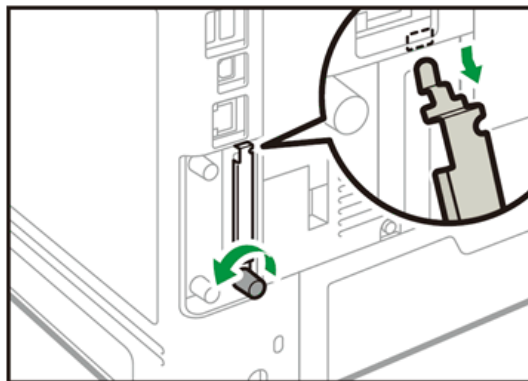
#### **⚠ CAUTION**

To prevent injury from electrical shock or damage to the machine, before installation always, turn the main machine power off, and then unplug the machine power supply cord from the power source.

#### **Note**

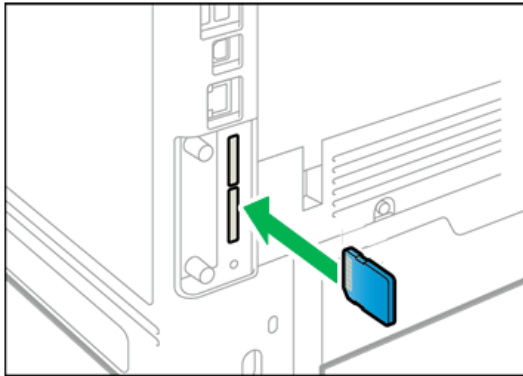
When installing more than one SD card, perform the merge operation. (*SD Card Appli Move*)

1. Loosen the screw and remove the SD card slot.



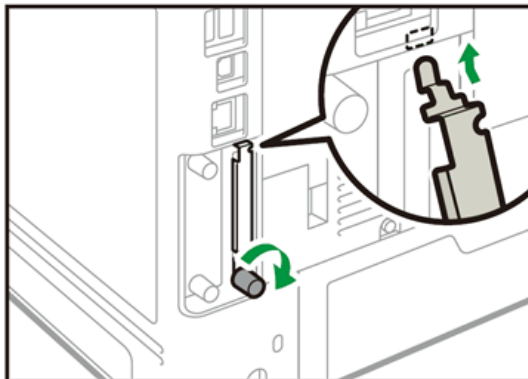
d0apc2047

2. Insert the SD card into the lower slot.



d0apc2053

3. Attach the SD card slot cover and fasten it.



d0apc2051

4. Plug in the power cord, and then turn on the machine
5. Confirm that the SD card was installed correctly.

**Note**

[Java™] appears when you press the [Switch Functions] key.

## 2.27 DATA OVERWRITE SECURITY UNIT TYPE M19 (D3BS-03)

### 2.27.1 OVERVIEW

This option should be installed only for the customer who requires the **CC certified Data Overwrite Security function**.

The machine's hard disk stores all document data from the Copier, Printer, and Scanner functions. It also stores the data of users' Document Server and code counters, and the Address Book. To prevent data on the hard disk being leaked before disposing of the machine, you can overwrite all data stored on the hard disk (Erase All Memory). You can also automatically overwrite temporarily-stored data (Auto Erase Memory).

The function of this option is completely the same as the Data Overwrite Security in Security Functions, which is standard on this machine.

### 2.27.2 BEFORE YOU BEGIN THE PROCEDURE

1. Confirm that the Data Overwrite Security unit SD card is the correct type for the machine. The correct type for this machine is "**Type M19**".

 **Important**

- If you install any version other than "**Type M19**", you 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

If any of these settings are 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.

[User Tools] > [Machine Features] > [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.

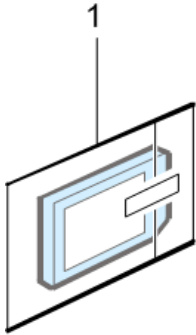
4. Make sure that "Administrator Tools" is enabled (selected).

[User Tools] > [Machine Features] > [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.

### 2.27.3 ACCESSORIES

No.	Description	Q'ty
1	SD card	1
-	Comments Sheet	1
-	Operating Instructions CD-ROM	1



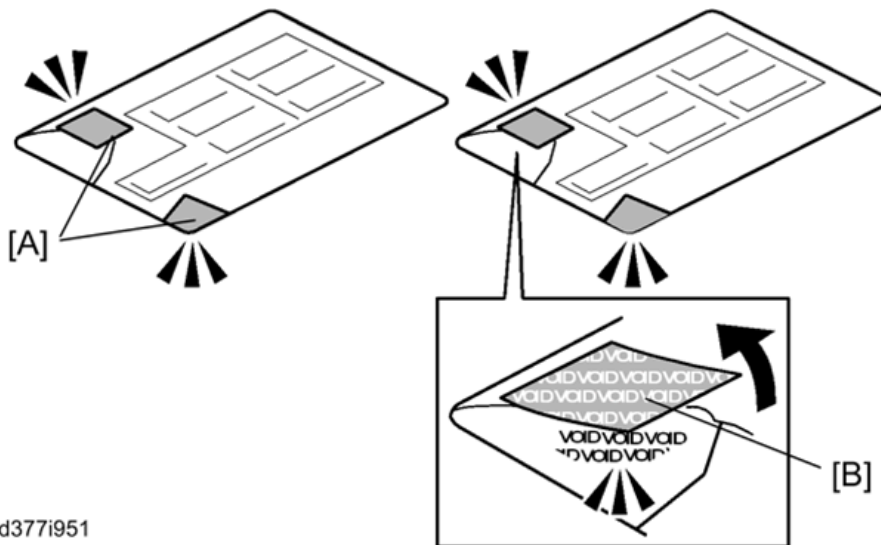
d1351921

### 2.27.4 SEAL CHECK AND REMOVAL

#### **⚠ CAUTION**

Check the factory seals on the box and make sure the tamper proof seals are not broken and the box unopened.

1. Check the seals [A] on each corner of the box.
  - Make sure that a seal is attached to each corner.
  - The surfaces of the seals must be blank. If you see “VOID” on the seals, do not install the components in the box.
2. If the surfaces of the seals do not show “VOID”, remove them from the corners of the box.
3. You can see the “VOID” marks [B] when you remove each seal. In this condition, they cannot be attached to the box again.



d3771951



## 2.27.5 INSTALLATION PROCEDURE

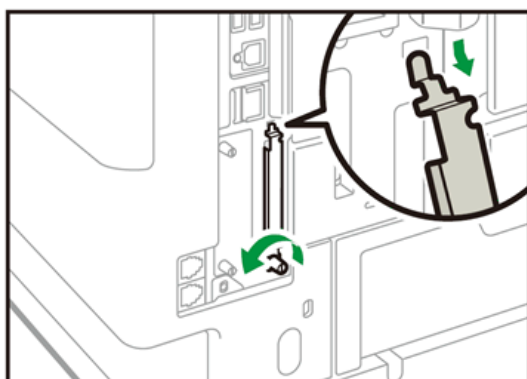
### ⚠ CAUTION

To prevent injury from electrical shock or damage to the machine, before installation always, turn the main machine power off, and then unplug the machine power supply cord from the power source.

### ↓ Note

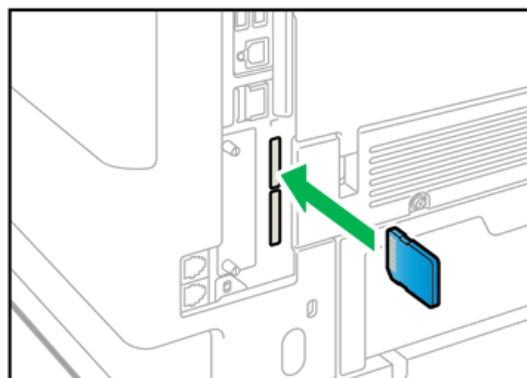
When installing more than one SD card, perform the merge operation. (*SD Card Appli Move*)

1. Disconnect the network cable.
2. Loosen the screw and remove the SD card slot cover.



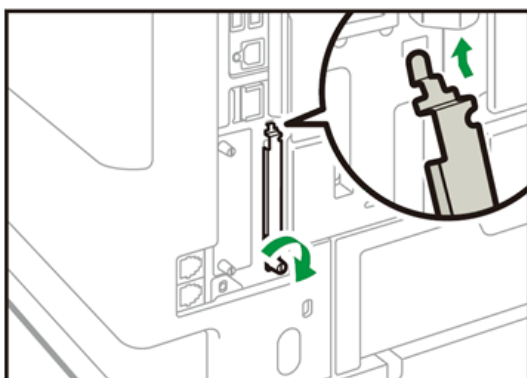
d0apc2048

3. Insert the SD card into the upper slot.



d0apc2050

4. Attach the SD card slot cover and fasten it.



d0apc2052

5. Turn the machine on.
6. Enter the SP mode.
7. Do this step only if you are installing the option on a machine that is already in use (not a new machine):
  - **If the customer wishes to** continue using the same hard disk, execute all three SP modes below.
    - SP5-801-014 (Clear DCS Setting)
    - SP5-832-001 (HDD Formatting (ALL))
    - SP5-832-002 (HDD Formatting (IMH))
  - **If a customer wishes to** replace the hard disk with a new one, execute SP5-801-014 only.

 Note

If the customer continues using the same hard disk, the overwriting of the data stored on the disk before the option is installed cannot be guaranteed. It is highly recommended to replace the hard disk with a new one.

8. Set SP5-836-001 (Capture Function (0:Off 1:On)) to a value of 0 (disabled).
9. Execute SP5-878-001 ([Option Setup: Data Overwrite Security]).

If the installation fails, "Installation failed" is displayed when this SP is executed.
10. Print out the System Settings List and make sure that the option was installed successfully.
11. Reconnect the network cable.
12. Execute SP5-990-005 (SP print mode: Diagnostic Report).

Make sure to shut down and reboot the machine once before printing the SMC. Otherwise, the latest settings may not be collected when the SMC is printed.
13. Make sure that ROM number "D3BC5757A" and firmware version "1.02" appear in both of the following areas on the report (they must match):
  - "ROM Number / Firmware Version" - "HDD Format Option"
  - "Loading Program"

## 2.27.6 CONFIGURING "AUTO ERASE MEMORY" (PERFORMED BY THE CUSTOMER)

Refer to "[Using Auto Erase Memory \(MF Model\)](#)".

## 2.28 SECURITY SETTINGS

### 2.28.1 SECURITY FUNCTION INSTALLATION

The machine contains the Security functions (Data Overwrite Security and HDD Encryption unit) in the controller board.

If you are installing a new machine, it is recommended that you activate Data Overwrite Security and HDD Encryption by selecting "Format All Data" from "System Settings" on the operation panel.

#### Note

- This method is recommended because there is no user data on the HDD yet (for example, Address Book data, image data).

If the customer wishes to activate the Data Overwrite Security and HDD Encryption unit on a machine that is already running, it is recommended that you activate the unit by selecting "All Data" from "System Settings" on the operation panel.

#### Important

- Selecting "All Data" will preserve the data that has already been saved to the HDD. (If "Format All Data" is selected, all user data saved to the HDD up to that point will be erased).

Immediately after encryption is enabled, the encryption setting process will take several minutes to complete before you can begin using the machine.

#### Note

- If encryption is enabled after data has been stored on the disk, or of the encryption key is changed, this process can take three and a half hours or more.

The machine cannot be operated while data is being encrypted.

Once the encryption process begins, it cannot be stopped.

Make sure that the machine's main power is not turned OFF while the encryption process is in progress. If the machine's main power is turned OFF while the encryption process is in progress, the HDD will be damaged and all data on it will be unusable. When the HDD is broken, you should replace the HDD.

Back up the encryption key, and ask your customer to keep the encryption key in a safe place. For backing up encryption key, refer to "[Backing Up the Encryption Key \(Printer Model\)](#)" or "[Backing Up the Encryption Key \(MF Model\)](#)". If the encryption key is lost and is needed, refer to "[Encryption Key Restoration](#)".

Please use the following procedure when the Data Overwrite Security and HDD Encryption are reinstalled.

## 2.28.2 DATA OVERWRITE SECURITY

### ***Before You Begin the Procedure***

1. Make sure that the following settings (1) to (3) are not at their factory defaults.

- (1) Supervisor login password
- (2) Administrator login name
- (3) Administrator login password

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

2. Make sure that "Admin. Authentication" is ON and "Available Settings" is selected.

#### **Printer model:**

You can specify administrator privileges using Web Image Monitor from networked computers.

- (1) Login the Web Image Monitor as the administrator.
- (2) Point to [Device Management], and then click [Configuration].
- (3) Click [Administrator Authentication Management] under "Device Settings".
- (4) Make sure that the administrator authentication setting is [On].

**If this setting is off, tell the customer that this setting must be on before you can do the installation procedure.**

#### **MF model:**

- (1) [User Tools] icon > [Machine Features] > [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.**

- (2) [User Tools] icon > [Machine Features] > [System Settings] > [Administrator Tools] > [Administrator Authentication Management] > [Available Settings]

When [Admin. Authentication] set to [On], "Available Settings" appears.

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

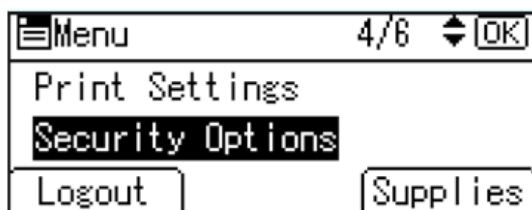
### ***Using Auto Erase Memory (Printer Model)***

The Auto Erase Memory function can be enabled by the following procedure.

A print data sent from a printer driver is temporarily stored on the machine's hard disk when the optional hard disk is installed. Even after the job is completed, it remains on the hard disk as temporary data. Auto Erase Memory erases the temporary data on the hard disk by overwriting it.

1. Press the [Menu] key.
2. Log in as the machine administrator.

3. Select [Security Options], and then press the [OK] key.



4. Select [Auto Erase Memory Setting], and then press the [OK] key.
5. Select [On].
6. Press the selection key beneath [HDD Erase], and then select the method of overwriting as follows:

Method of overwriting	Description
NSA	Temporary data is overwritten twice with random numbers and once with zeros.
DoD	Each item of data is overwritten by a random number, then by its complement, then by another random number, and is then verified.
Random Numbers	Temporary data is overwritten multiple times with random numbers. The number of overwrites can be selected from 1 to 9. (Default: 3)

7. Press the [OK] key.
8. Log out.

**Note**

When Auto Erase Memory is enabled, you can use the Memory Erase Status screen to find out whether there is any data to be erased in the memory.

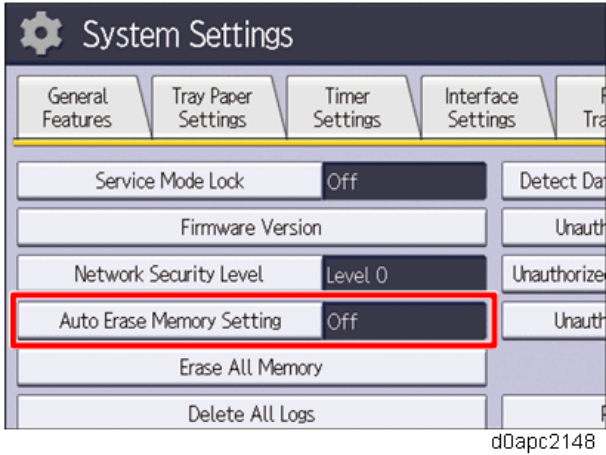
1. Press the [Menu] key.
2. Select [Memory Erase Status], and then press the [OK] key.
3. "Currently no data to erase" appears.

### **Using Auto Erase Memory (MF Model)**

The Auto Erase Memory function can be enabled by the following procedure.

1. Log in as the machine administrator from the operation panel.
2. Press the [User Tools] icon.
3. Press [Machine Features].
4. Press [System Settings].
5. Press [Administrator Tools].
6. Press [Next] three times.

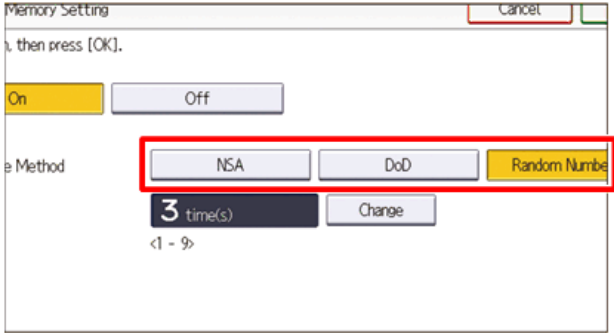
7. Press [Auto Erase Memory Setting].



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8. Press [On].

9. Select the method of overwriting.



d0apc2149

Method of overwriting	Description
NSA	Temporary data is overwritten twice with random numbers and once with zeros.
DoD	Each item of data is overwritten by a random number, then by its complement, then by another random number, and is then verified.
Random Numbers	Temporary data is overwritten multiple times with random numbers. The number of overwrites can be selected from 1 to 9. (Default: 3)

If you select [NSA] or [DoD], proceed to step 12.

If you select [Random Numbers], proceed to step 10.

10. Press [Change].

11. Enter the number of times that you want to overwrite using the number keys, and then press [#].

12. Press [OK]. Auto Erase Memory is set.

13. Log out.

14. Check the display and make sure that the overwrite erase icon appears.

15. Check the overwrite erase icon.



The icon [1] is lit when there is temporary data to be overwritten and blinks during

## Security Settings

overwriting.

The icon [2] is lit when there is no temporary data to be overwritten.



	Icon [1]	This icon is lit when there is temporary data to be overwritten and blinks during overwriting.
	Icon [2]	This icon is lit when there is no temporary data to be overwritten.

### 2.28.3 HDD ENCRYPTION

#### ***Before You Begin the Procedure:***

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

- Supervisor login password
- Administrator login name
- Administrator login password

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

2. Make sure that "Admin. Authentication" is ON and "Administrator Tools" is enabled (selected).

#### **Printer model:**

1. Open a web browser from a networked computer, and then log in to Web Image Monitor as the administrator.
2. Point to [Device Management], and then click [Configuration].
3. Click [Administrator Authentication Management] under "Device Settings".
4. From [User Administrator Authentication], [Machine Administrator Authentication], [Network Administrator Authentication], and [File Administrator Authentication], select the administrator authentication setting to [On], and then click [OK].

#### **MF model:**

1. Set "Admin. Authentication" to [On].

[User Tools] > [Machine Features] > [System Settings] > [Administrator Tools] >



[Administrator Authentication Management] > [Admin. Authentication] > [On]

2. Select the settings to manage from "Available Settings".

[User Tools] > [Machine Features] > [System Settings] > [Administrator Tools] > [Administrator Authentication Management] > [Available Settings]

**Note**

If these settings are disabled, ask the customer these settings must be enabled before you do the installation procedure.

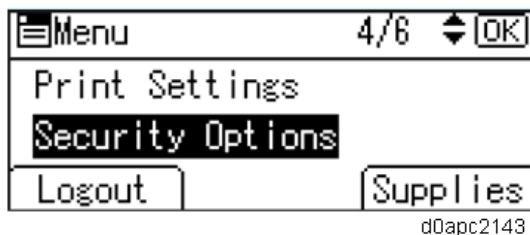
### Enable Encryption Setting (Printer Model)

Machine Data Encryption Settings can be enabled by the following procedure.

**Important**

When setting up encryption, specify whether to start encryption after deleting data (initialize) or encrypt and retain existing data. If data is retained, it may take some time to encrypt it.

1. Press the [Menu] key.
2. Log in as the machine administrator from the operation panel.
3. Select [Security Options], and then press the [OK] key.



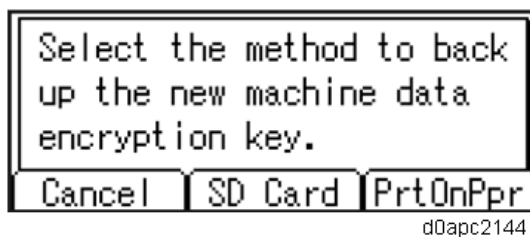
4. Select [Machine Data Encryption], and then press the [OK] key.
5. Make sure that [Encrypt] is selected, and then press the [OK] key.
6. When the optional hard disk is installed, select the data to be carried over to the hard disk and not be reset, and then press the [OK] key.

To carry all of the data over to the HDD, select [All Data].

To carry over only the machine settings data, select [File System Data Only].

To reset all of the data, select [Format All Data].

7. Select how to back up the encryption key.



If you have selected [SD Card], insert an SD card into the upper media slot on the back of the machine and press the [OK] key to back up the machine's data encryption key.

If you have selected [PrtOnPpr], press the [Print] key. Print out the machine's data

## Security Settings

encryption key, and then press the [Exit] key.

8. Press [Exit].
9. Log out.
10. Power cycle the machine.

The machine will start to convert the data on the memory. Wait until the message "Memory conversion complete. Turn the main power switch off." appears, and then turn the machine off again.

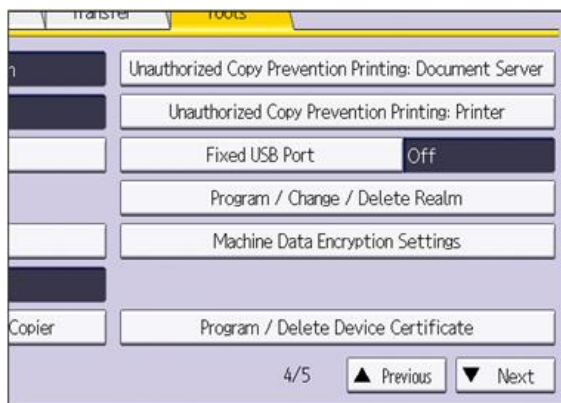
### ***Enable Encryption Setting (MF Model)***

Machine Data Encryption Settings can be enabled by the following procedure.

#### **★ Important**

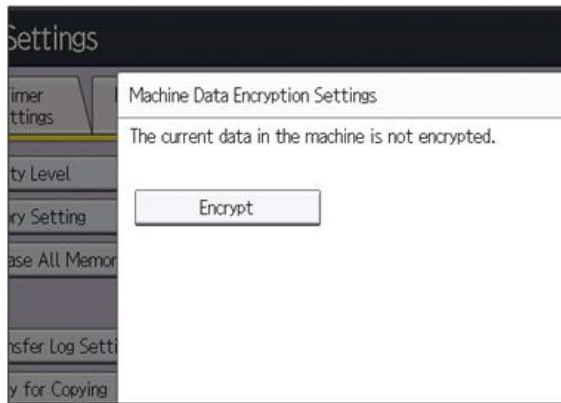
When setting up encryption, specify whether to start encryption after deleting data (initialize) or encrypt and retain existing data. If data is retained, it may take some time to encrypt it.

1. Log in as the machine administrator from the operation panel.
2. Press the [User Tools] icon.
3. Press [Machine Features].
4. Press [System Settings].
5. Press [Administrator Tools].
6. Press [Next] three times.
7. Press [Machine Data Encryption Settings].



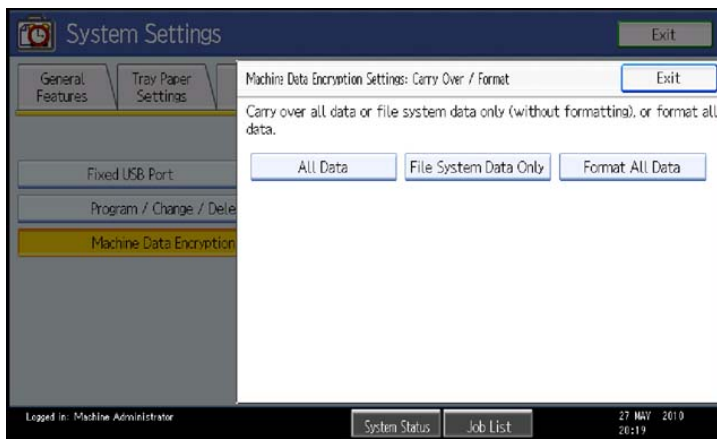
w\_d1822518

8. Press [Encrypt].



w\_d1822519

9. Select the data to be carried over to the HDD and not be reset.



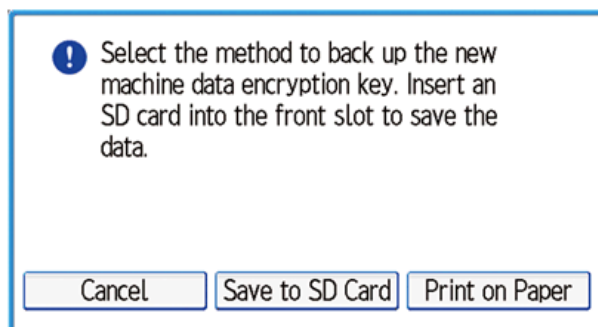
d1420093

To carry all of the data over to the HDD, select [All Data].

To carry over only the machine settings data, select [File System Data Only].

To reset all of the data, select [Format All Data].

10. Select the backup method.



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If you have selected [Save to SD Card], load an SD card into the media slot on the side of the control panel and press [OK] to back up the machine's data encryption key.

If you have selected [Print on Paper], press the [Start] key. Print out the machine's data encryption key.

11. Press [Exit].

12. Press [Exit].
13. Log out.
14. Power cycle the machine.

The machine will start to convert the data on the memory. Wait until the message "Memory conversion complete. Turn the main power switch off." appears, and then turn the machine off again.

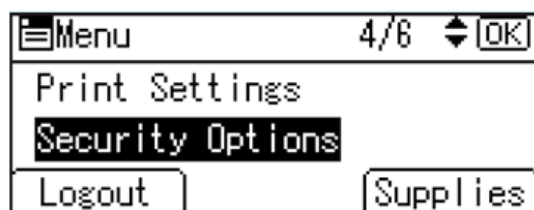
### ***Backing Up the Encryption Key (Printer Model)***

The encryption key can be backed up. Select whether to save it to an SD card or to print it.

**★ Important**

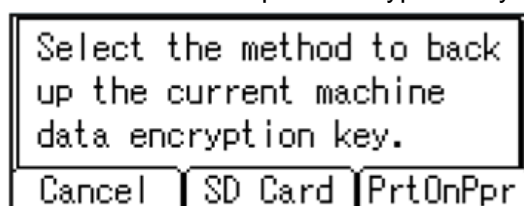
The encryption key is required for data recovery if the machine malfunctions. Be sure to store the encryption key safely for retrieving backup data.

1. Press the [Menu] key.
2. Log in as the machine administrator from the operation panel.
3. Select [Security Options], and then press the [OK] key.



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4. Select [Machine Data Encryption], and then press the [OK] key.
5. select [Back Up Encryption Key], and then press the [OK] key.
6. Select how to back up the encryption key.



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If you have selected [SD Card], insert an SD card into the upper slot on the back of the machine and press the [OK] key to back up the machine's data encryption key.

If you have selected [PrtOnPpr], press the [Start] key. Print out the machine's data encryption key and then press the [Exit] key.

7. Press [Exit].
8. Log out.

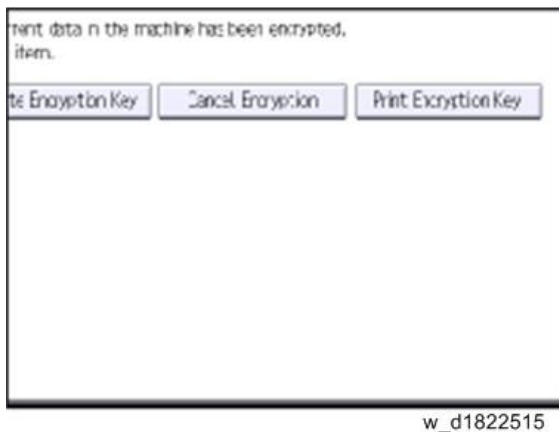
## Backing Up the Encryption Key (MF Model)

The encryption key can be backed up. Select whether to save it to an SD card or to print it.

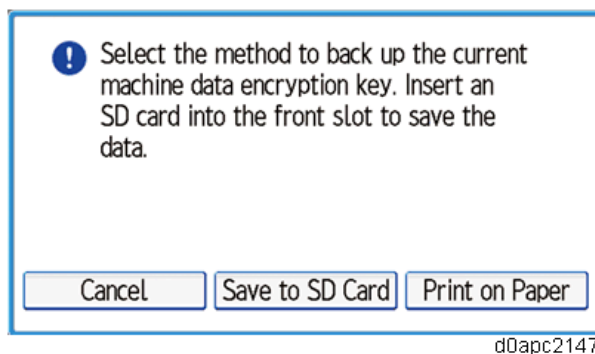
### ★ Important

The encryption key is required for data recovery if the machine malfunctions. Be sure to store the encryption key safely for retrieving backup data.

1. Log in as the machine administrator from the operation panel.
2. Press the [User Tools] icon.
3. Press [Machine Features].
4. Press [System Settings].
5. Press [Administrator Tools].
6. Press [Next] three times.
7. Press [Machine Data Encryption Settings].
8. Press [Print Encryption Key].



9. Select the backup method.



If you have selected [Save to SD Card], load an SD card into the media slot on the side of the operation panel and press [OK] to backed up the machine's data encryption key.

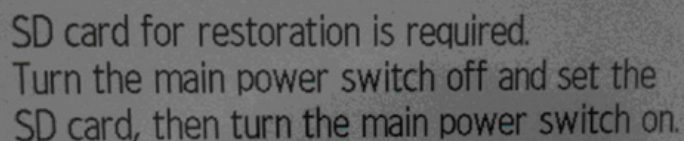
If you have selected [Print on Paper], press the [Start] key. Print out the machine's data encryption key.

10. Press [Exit].
11. Log out.

## Encryption Key Restoration

### How to restore the old encryption key to the machine

The following message appears after the controller board is replaced. In such a case, it is necessary to restore the encryption key to the new controller board.



SD card for restoration is required.  
Turn the main power switch off and set the  
SD card, then turn the main power switch on.

d1420101

To do this, follow the procedure below.

1. Prepare an SD card that has been initialized in FAT16 format.
2. Using a PC, create a folder in the SD card and name it "restore\_key".
3. Create a folder in the "restore\_key" folder and name it the same as machine's serial number, "xxxxxxxxxxx" (11 digits).
4. Create a text file called "key\_xxxxxxxxxxxx.txt" and save it in the "xxxxxxxxxxx" folder. Write the encryption key in the text file.

/restore\_key/xxxxxxxxxxx/key\_xxxxxxxxxxxx.txt

#### Note

- Ask an Administrator to enter the encryption key. The key has already been printed out by the user and may have been saved in the "key\_xxxxxxxxxxxx.txt" file. (The function of back-up the encryption key to the SD card directly is provided 11A products or later.)

5. Turn the machine on.
6. Confirm that a message is displayed on the LCD telling to insert the SD card that contains the encryption key.
7. Turn the machine off.
8. Insert the SD card that contains the encryption key into the lower media slot on the back of the machine.
9. Turn the machine on.

#### Note

The machine will automatically restore the encryption key to the flash memory on the controller board.

10. Turn the machine off when the machine has returned to normal status.
11. Remove the SD card from the media slot.

### How to do a forced startup with no encryption key

If the encryption key back-up has been lost, follow the procedure below to do a forced start-up.

#### Important

- The HDD will be formatted after the forced start-up.

- Encrypted data will be deleted.
  - User settings will be cleared.
1. Prepare an SD card.
  2. Create a directory named "restore\_key" inside the root directory of the SD card. Then, save the "nvram\_key.txt" file using the following name:  
/restore\_key/nvram\_key.txt
  3. Create a text file and write "nvclear".
 

★ **Important**

    - Write this string at the head of the file.
    - Use all lower-case letters.
    - Do not use quotation marks or blank spaces.
    - It is judged that a forced start has been selected when the content of "nvclear" is executed and the machine shifts to the alternate system (forced start).
  4. Confirm that a message is displayed on the LCD telling to insert the SD card that contains the encryption key.
  5. Turn the machine off.
  6. Insert the SD card that contains the encryption key into the lower media slot on the back of the machine.
  7. Turn the machine on.  
The machine automatically clears the HDD encryption.
  8. Turn OFF the main power when the machine has returned to normal status.
  9. Remove the SD card from the media slot.
  10. Turn the machine on.
  11. Memory clear SP5-801-xx (Exclude SP-5-801-001: All Clear and SP-5-801-002: Engine), and clear SP5-846-046: the address book.
  12. Set necessary user settings in User Tools key.

### ***SP descriptions***

- **SP5-878-002 (Option Setup: HDD Encryption)**  
Executes the setup for encryption.
- **SP5-990-005 (SP Print Mode: Diagnostic Report)**  
Prints the configuration sheets of the system and user settings: SMC.  
Make sure to shut down and reboot the machine once before printing the SMC. Otherwise, the latest settings may not be collected when the SMC is printed.
- **SP5-801-001 (Memory Clear: All Clear)**  
Resets all correction data for process control and all software counters, and returns all modes and adjustments to their default values.
- **SP5-801-002 (Memory Clear: Engine)**  
Clears non-volatile memory of engine.

## Security Settings

- **SP5-846-046 (UCS Setting: Addr Book Media)**

Displays the slot number where an address book data is in.

- 0: Unconfirmed
- 1: SD Slot 1
- 2: SD Slot 2
- 3: SD Slot 3
- 4: USB Flash ROM
- 10: SD Slot 10
- 20: HDD
- 30: Nothing



## 2.29 SETTINGS FOR @REMOTE SERVICE

### Note

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

### 2.29.1 POINTS TO CHECK BEFORE MAKING @REMOTE SETTINGS

1. The setting of SP5-816-201 in the machine must be "0".
2. Print the SMC with SP5-990-002 and then check if a device ID2 (SP5-811-003) must be correctly programmed.
  - 6 spaces must be put between the 3-digit prefix and the following 8-digit number (e.g. xxx\_\_\_\_xxx).
  - ID2 (SP5-811-003) and the serial number (SP5-811-001) must be the same (e.g. ID2: A01\_\_\_\_23456789 = serial No. A0123456789)
  - Make sure to shut down and reboot the machine once before printing the SMC. Otherwise, the latest settings may not be collected when the SMC is printed.
3. The following settings must be correctly programmed.
  - Use Proxy (SP5-816-062) set to "1: Use".
  - Proxy server IP address (SP5-816-063)
  - Proxy server Port number (SP5-816-064)
  - Proxy User ID (SP5-816-065)
  - Proxy Password (SP5-816-066)
4. Get a Request Number.

### SP descriptions

- **SP5-816-201 (Remote Service: Regist Status)**  
Displays a number that indicates the status of the @Remote service device.  
0: Neither the registered device by the external nor embedded RCG device is set.  
1: The embedded RCG device is being set. Only Box registration is completed. In this status, this unit cannot answer a polling request from the external RCG.  
2: The embedded RCG device is set. In this status, the external RCG unit cannot answer a polling request.  
3: The registered device by the external RCG is being set. In this status, the embedded RCG device cannot be set.  
4: The registered module by the external RCG has not started.
- **SP5-990-002 (SP Print Mode: SP Mode Data List)**  
Prints the configuration sheets of the system and user settings: SMC.

Make sure to shut down and reboot the machine once before printing the SMC. Otherwise, the latest settings may not be collected when the SMC is printed.

- **SP5-811-003 (Machine No. Setting: ID2 Code Display)**  
Sets the ID-2 code used to identify the @remote device at installation.
- **SP5-816-062 (Remote Service: Use Proxy)**  
0: Not use  
1: Use  
This SP setting determines if the proxy server is used when the machine communicates with the service center.
- **SP5-816-063 (Remote Service: Proxy server IP address)**  
This SP sets the address of the proxy server used for communication between the RCG device and the gateway. Use this SP to set up or display the customer proxy server address.  
The address is necessary to set up the embedded RCG-N.  
The address display is limited to 127 characters. Characters beyond the 127 characters are ignored.  
This address is customer information and is not printed in the SMC report.
- **SP5-816-064 (Remote Service: Proxy server Port number)**  
This SP sets the port number of the proxy server used for communication between the embedded RCG-N and the gateway. This setting is necessary to set up the embedded RC Gate-N.  
This port number is customer information and is not printed in the SMC report.
- **SP5-816-065 (Remote Service: Proxy User ID)**  
This SP sets the HTTP proxy certification username.  
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.
- **SP5-816-066 (Remote Service: Proxy Password)**  
This SP sets the HTTP proxy certification password.  
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.

## 2.29.2 EXECUTE THE @REMOTE SETTINGS

1. Enter the SP mode.
2. Using SP5-816-202, input the request number which you have obtained from @Remote Center GUI, and then enter [OK].
3. Confirm the request number, and then execute SP5-816-203.
4. Check the confirmation result using SP5-816-204.

Value	Meaning	Solution/ Workaround
0	Succeeded	-
1	Request number error	Check the request number again.
3	Communication error (proxy enabled)	Check the network condition.
4	Communication error (proxy disabled)	Check the network condition.
5	Proxy error (authentication error)	Check Proxy username and password.
8	Other error	See "SP5816-208 Error Codes" below this.
9	Request number confirmation executing	Processing... Please wait.
20	Dial-up authentication error	* These errors occur only in the modems that support @Remote.
21	Answer tone detection error	
22	Carrier detection error	
23	Invalid setting value (modem)	
24	Low power supply current	
25	unplugged modem	
26	Busy line	

5. Using SP5-816-205, check that the screen displays the location Information only when it has been input at the Center GUI.
6. Execute the registration with SP5-816-206.
7. Check the registration result using SP5-816-207

Value	Meaning	Solution/ Workaround
0	Succeeded	-
1	Request number error	Check the request number again.
3	Communication error (proxy enabled)	Check the network condition.
4	Communication error (proxy disabled)	Check the network condition.
5	Proxy error (Authentication error)	Check Proxy username and password.
8	Other error	See "SP5-816-208 Error Codes" below this.
9	Request number confirmation executing	Processing... Please wait.
20	Dial-up authentication error	* These errors occur only in the modems that support @Remote.
21	Answer tone detection error	
22	Carrier detection error	
23	Invalid setting value (modem)	

Value	Meaning	Solution/ Workaround
24	Low power supply current	
25	unplugged modem	
26	Busy line	

8. Exit the SP mode.

### **SP5-816-208 Error Codes**

Caused by Operation Error, Incorrect Setting

Code	Meaning	Solution/ Workaround
-12002	An Inquiry or registration attempted without acquiring a request number.	Obtain a Request Number before inquiry or registration.
-12003	Attempted registration without execution of a confirmation and no previous registration.	Perform Confirmation before attempting registration.
-12004	Attempted setting with illegal entries for certification and ID2.	Check ID2 of the machine.
-12005	@Remote communication is prohibited. The device has an Embedded RC gate-related problem.	Make sure that "Remote Service" in User Tools is set to "Do not prohibit".
-12006	A confirmation request was made after the confirmation had been already completed.	Execute registration.
-12007	The request number used at registration was different from the one used at confirmation.	Check the request number.
-12008	Update certification failed because mainframe was in use.	Check the machine status. If the machine is in use, try again later.
-12009	The ID2 in the NVRAM does not match the ID2 in the individual certification.	Check ID2 of the machine.
-12010	The certification area is not initialized.	Initialize the certification area.

Error Caused by Response from GW URL

Code	Meaning	Solution/ Workaround
-2385	Other error	
-2387	Not supported at the Service Center	
-2389	Database out of service	
-2390	Program out of service	
-2391	Two registrations for the same machine	Check the registration condition of the machine
-2392	Parameter error	
-2393	External RCG not managed	
-2394	Machine not managed	
-2395	Box ID for external RCG is illegal.	

Code	Meaning	Solution/ Workaround
-2396	Mainframe ID for external RCG is illegal.	
-2397	Incorrect ID2 format	Check the ID2 of the machine.
-2398	Incorrect request number format	Check the request number.

### ***SP descriptions***

- **SP5-816-202 (Remote Service: Letter Number)**  
Allows entry of the number of the request needed for the RCG-N device.
- **SP5-816-203 (Remote Service: Confirm Execute)**  
Executes the inquiry request to the @Remote GW URL.
- **SP5-816-204 (Remote Service: Confirm Result)**  
Displays a number that indicates the result of the inquiry executed with SP5816 203.
- **SP5-816-205 (Remote Service: Confirm Place)**  
Displays the installed section informed from G/W for the response of request number inquiry if the section is enrolled on the G/W.
- **SP5-816-206 (Remote Service: Register Execute)**  
Executes "Embedded RCG Registration".
- **SP5-816-207 (Remote Service: Register Result)**  
Displays a number that indicates the registration result.

## 2.30 AUTO REMOTE FIRMWARE UPDATE (ARFU)

### SETTINGS

Specify ARFU settings as required.

**★ Important**

**Operating Conditions:**

- ARFU requires an Internet connection. Be sure to get permission from the customer before setting ARFU up. Otherwise, it may cause an incident.
- ARFU is available only for machines that contain an HDD. If the machine does not have an HDD, an option HDD must be installed.

**↓ Note**

- The connection is one-way, so the user's data cannot be accessed from the firmware server.

**Procedure:**

1. ARFU enable setting
2. Server connection check
3. Prohibited date and time setting

**(1) Enable ARFU**

1. Set SP5-886-111 (Auto Update Setting) to "1 (ON)".  
1: ON / 0: OFF (Default)

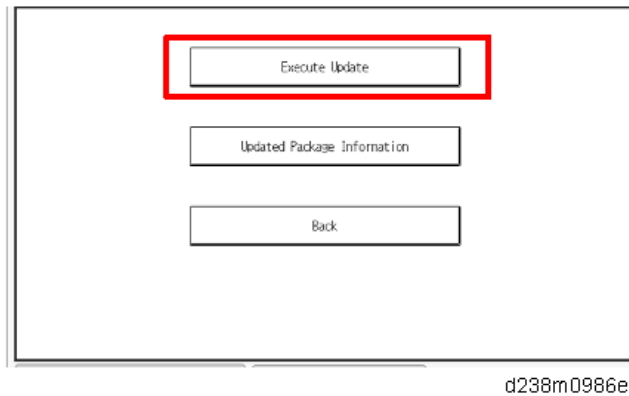
**↓ Note**

To download the firmware only using SFU (Smart Firmware Update), and not by ARFU, specify the settings as follows:

- SP5-886-111(Auto Update Setting) to "0 (OFF)"
- SP5-886-115 (SFU Auto Download Setting) to "1 (ON)"

**(2) Server connection check**

1. Enter the SP mode.
2. Press [Firmware update] > [Update] > [Execute update].



3. Check if one of the following messages appears: "Will you download the latest package Ver \*\*\* and update?" or "The installed package is the latest version.".

If the message appears, it is possible to execute ARFU. Press "No" and close SP mode to complete the configuration.

**★ Important**

The update will run immediately if you press "Yes" at the message "Will you download the latest package Ver \*\*\* and update?" The update cannot be canceled if it is run by SFU. (The update can be canceled if ARFU is used.)

**↓ Note**

SP5-886-116 (Auto Update Prohibit Term Setting) displays the scheduled date and time of the next ARFU.

If error code 71: [Network connection error] appears when you click "Execute update", see troubleshooting below.

### (3) Prohibited date and time setting

Ask the customer for the prohibited times and days of the week for ARFU execution and set the following as needed. The default prohibited time is from 9 a.m. to 5 p.m. and there is no prohibited day.

- SP5-886-112 (Auto Update Prohibit Term Setting) Default: 1 (ON)
- SP5-886-113 (Auto Update Prohibit Start hour) Default: 9
- SP5-886-114 (Auto Update Prohibit End hour) Default: 17
- SP5-886-120 (Auto Update Prohibit Day Of Week Setting) Default: 00000000 [00H]

Set the bits for the days of the week to prohibit updating.

Prohibited (Monday - Sunday): bit 7, Monday: bit 6, Tuesday: bit 5

Wednesday: bit 4, Thursday: bit 3, Friday: bit 2, Saturday: bit 1, Sunday: bit 0

e.g.) Prohibited on Mon., Fri., Sat., and Sun.: 01000111 [47H]

**↓ Note**

They can be specified also via Web Image Monitor if logged in as the machine administrator from the device if SP5-886-111(Auto Update Setting) is set to "1 (ON)". For details, see

[Specifying the Time and Day of the Week to Prohibit Updating via Web Image Monitor.](#)

**Troubleshooting: If error code 71: [Network connection error] appears**

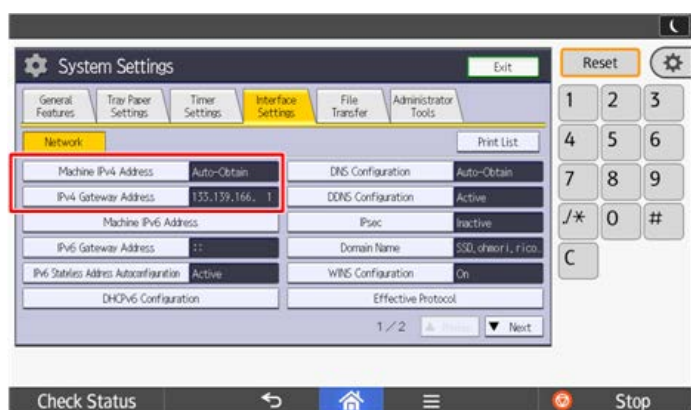
If error code 71: [Network connection error] appears when you click [Firmware Update] > [Update] > [Execute update] in SP mode, check the following.

- 4-1. IPv4 address, Subnet mask of the machine and Gateway IPv4 address
- 4-2. IPv4 address of the DNS server
- 4-3. Proxy server settings
- 4-4. Encryption level setting SP

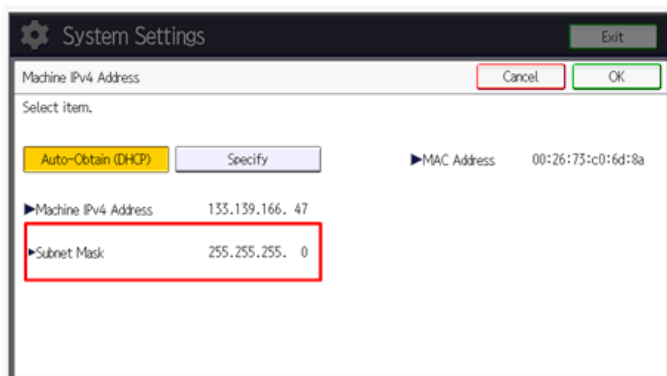
**4-1. IPv4 address, Subnet mask of the machine and Gateway IPv4 address**

Check the machine's IPv4 address, subnet mask, and gateway IPv4 address.

(In User Tools > Machine Features > System Settings > Interface Settings)



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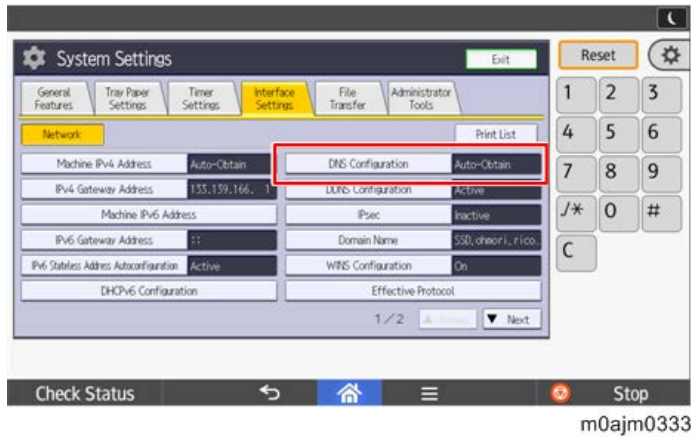
m0ajm0331

**4-2. IPv4 address of the DNS server**

Check the DNS IPv4 address and check the connection.

(In User Tools > Machine Features > System Settings > Interface Settings > DNS configuration)



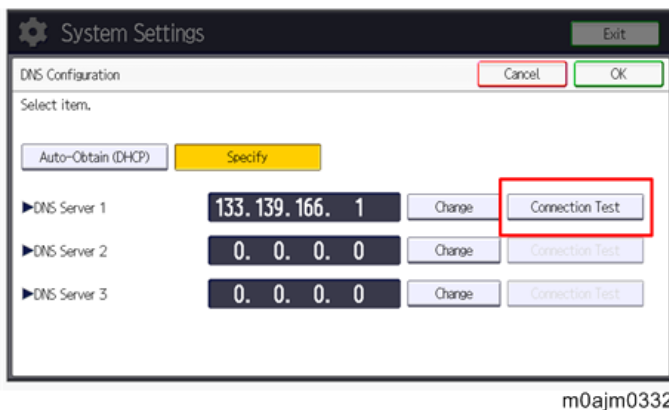


#### Note

How to find the IP address:

Ask the customer to tell you the IP address of the DNS server. If the customer does not know it, ask the customer to check the IP address by one of the following ways:

1. Run "ipconfig / all" at the command prompt on the computer, then check the IP address of the DNS server.
2. Open the IPv4 properties dialog box on the computer, then check whether the IP address setting of the DNS server is manual or automatic.
  - If the setting of the DNS IP address is automatic, select [Auto-Obtain (DHCP)] at the MFP machine's DNS settings.
  - If the setting of the DNS IP address is manual, select [Specify] and specify the DNS server 1 to 3.
  - Press [Connection Test] to check the connection with the input address. Make sure that it is connected successfully.



### 4-3. Proxy server settings

Check the user's network environment and, as required, specify the proxy server settings in the following SPs:

- SP5-816-062 (Use Proxy)
  - 1: Used / 0: Not used

## Auto Remote Firmware Update (ARFU) Settings

- SP5-816-063 (Proxy Host)
- SP5-816-064 (Proxy PortNumber)
- SP5-816-065 (Proxy User Name)
- SP5-816-066 (Proxy Password)

### ★ Important

If access to the external server is restricted, request the network administrator (customer) to permit the following FQDN name for communication. - FQDN: p-rfu-ds2.support.ricoh.com

### ↓ Note

They can be specified also via Web Image Monitor if logged in as the machine administrator from the device if SP5-886-111(Auto Update Setting) is set to "1(ON)". For details, see [Specifying the Time and Day of the Week to Prohibit Updating via Web Image Monitor](#).

## 4-4. Encryption level setting SP

Check SP5-816-087 (Remote Service: CERT:Macro Ver) and make sure the encryption level is [2]: 2048 bit.

### ★ Important

If SP5-816-087 is [1]: 512 bit, specify the settings as follows:

1. Initialize the encryption level by executing SP5-870-003 (Common Key Info Writing: Initialize)
2. Rewrite as 2048 bit in SP5-870-004 (Common Key Info Writing: Writing 2048 bit).
3. Turn the main switch off and on.

### ↓ Note

Make sure to check the conditions before changing the encryption level and do the corresponding workaround. ARFU uses the same certificate as @Remote to communicate with the Global Server. This may cause failure in connecting with the Center Server if the device is to be installed in the following conditions.

### Conditions

#### 1) Customer uses RC Gate Type BN1.

RC Gate Type BN1 does not support 2048 bit encryption level communication with Ricoh devices (HTTPS Managed device). Therefore, the device cannot be registered under RC Gate Type BN 1.

#### 2) Ricoh device (HTTPS Managed) that supports only 512-bit encryption level is registered as an external appliance.

Only one encryption level can be set for an external appliance for its communication with imaging devices. If a 512-bit encryption level Ricoh device (HTTPS Managed) is registered, the external appliance, as well as other devices, must also use 512-bit encryption even if 2048 bit encryption is supported on those devices.

### Workaround

#### For Condition 1:

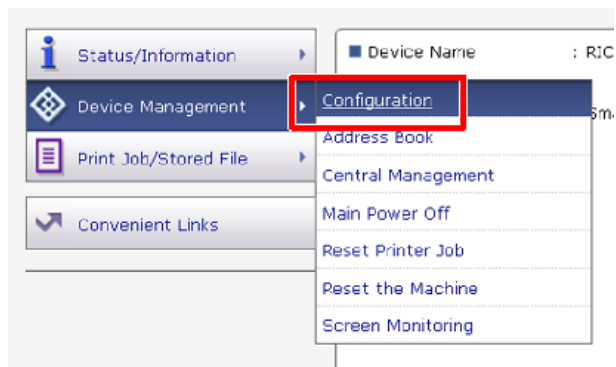
Advise your customer to change to the latest appliance that supports 2048 bit encryption level communication.

**For Condition 2:**

1. Manage the device with embedded RC Gate (2048 bit)
2. Exclude non-supported devices (i.e., those devices that cannot be changed from 512-bit to 2048-bit) from the external appliances, then change the encryption level of external appliances and all managed devices (from 512 bit to 2048 bit).

## 2.30.2 SPECIFYING THE TIME AND DAY OF THE WEEK TO PROHIBIT UPDATING VIA WEB IMAGE MONITOR

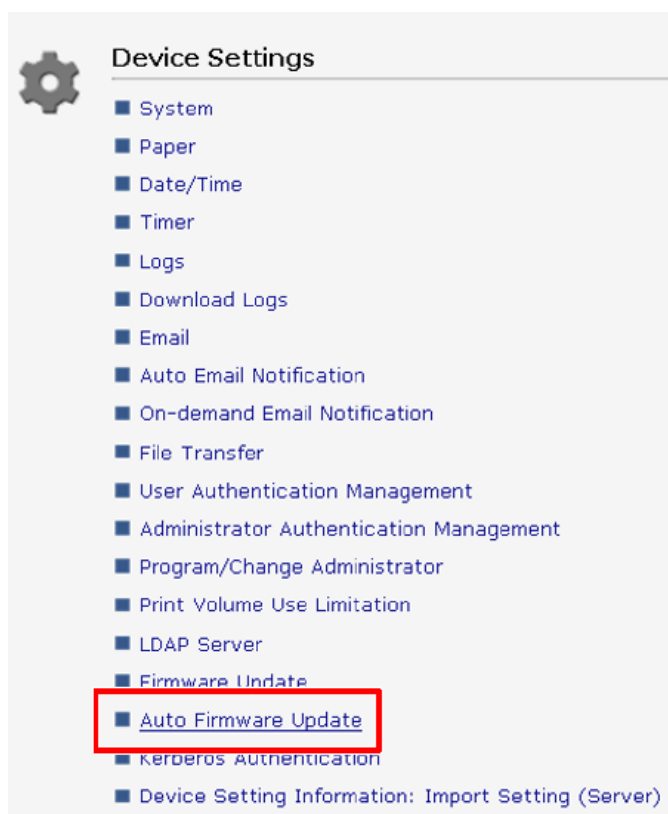
1. Start Web Image Monitor.
2. Log in as the machine administrator.
3. Point to [Device Management], and then click [Configuration].



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## Auto Remote Firmware Update (ARFU) Settings

- Click "Auto Firmware Update".

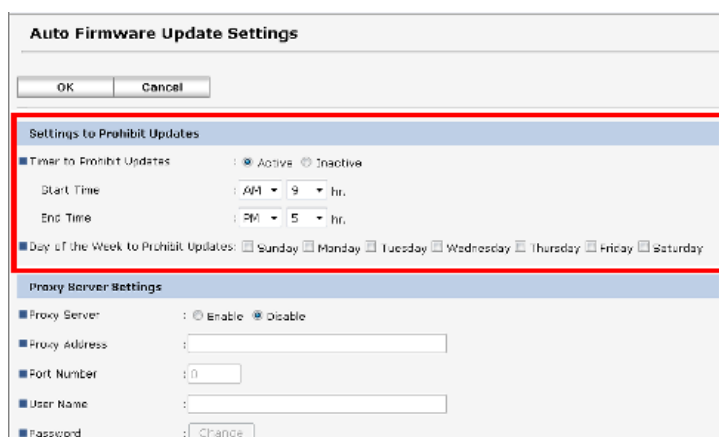


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### Note

Turn the main power OFF and back ON again after setting SP5-886-111 (AutoUpdateSetting) to "1 (ON)". "Auto Firmware Update" will appear in the menu list of Web Image Monitor.

- Specify the times and days of the week to prohibit updating.  
Select the check boxes of the applicable days of the week to prohibit updating on that day.



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## 2.31 INSTRUCTIONS FOR THE CUSTOMERS

Provide instructions on the following matters to customers. For detailed procedures, see the user manuals.

- Operating the printer/copier/scanner/fax functions
- Loading paper and other consumables
- Operating the main power switch
- Removing jammed paper
- Registering/changing/deleting data in the address book
- Precautions on use
- Connecting to computers (such as configuring the port setting)
- A brief explanation of the tabs in the drivers

## 2.32 REMOTECONNECT SUPPORT SETTINGS (MF MODEL ONLY)

### 2.32.1 OVERVIEW

The RemoteConnect Support function allows monitoring and remote control of the customer's machine's control panel.

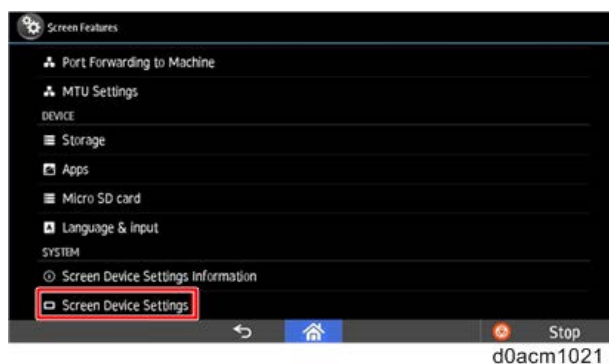
- Allow a customer support operator to remotely connect with client's machine equipped with the Smart Operation panel (SOP-G2), or PC over the internet.
- Enable the support center to diagnose and resolve the issue through real-time screen sharing, remote guidance, and operation.



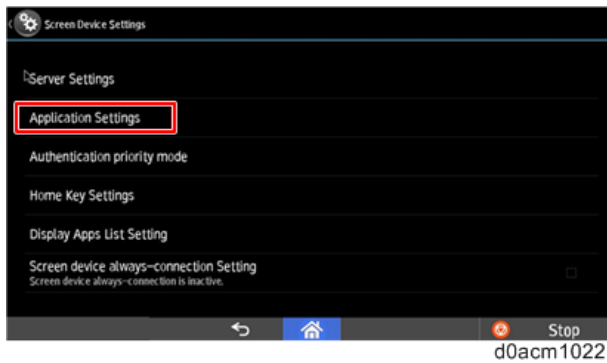
The function was enabled by default. So, it's necessary to confirm with customers whether enabling the remote function is acceptable. If after explaining the function and benefits, the customer does not agree, then disable it via SP mode.

### 2.32.2 HOW TO ENABLE/DISABLE REMOTECONNECT SUPPORT

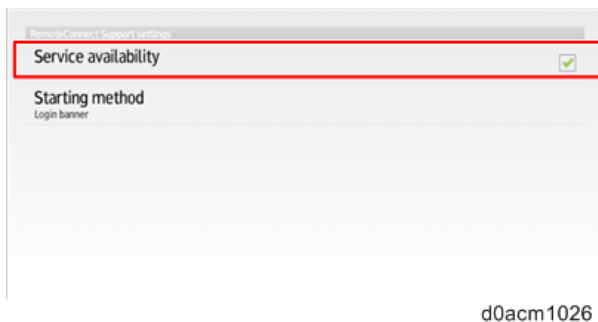
1. Log in to Screen SP mode.
2. Select "Screen Device Settings".



3. Select "Application Settings".



4. Select "Settings" in "RemoteSupportService" and check "Service availability".



**Note**

The setting is located in RemoteSupportService. However, the name of settings menu is RemoteConnect Support settings,

You can find "RemoteConnectSupport" in the applications list, however, it does not have any settings, be sure to open the settings of "RemoteSupportService".



5. Return the Home screen.

6. Confirm if a connection can be established.

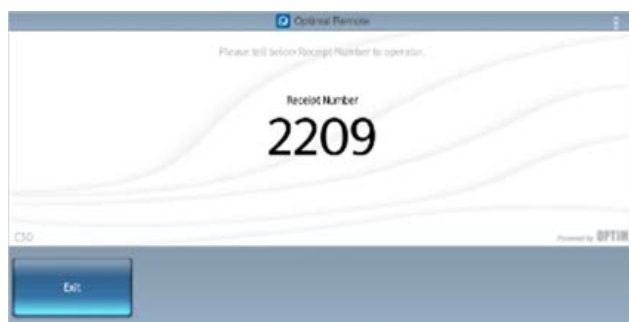
To confirm if RemoteConnect Support is working properly, open the application from "Check Status" menu or by pressing down on the status bar on the Smart Operation Panel for over five seconds and RemoteConnect Support will open.

## RemoteConnect Support Settings (MF Model Only)



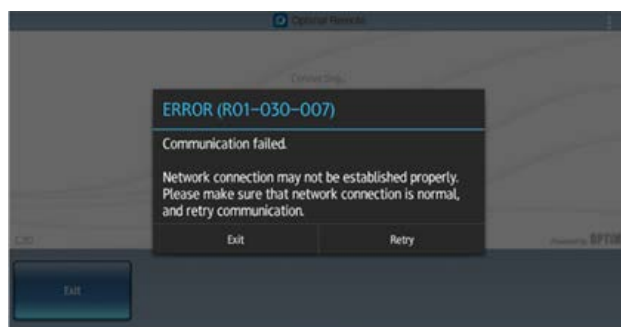
d0acm1028

7. If setup was done correctly, four digits will be displayed on the panel. Press the Exit key. If the setup was not done correctly, the four digits will not be displayed.



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RemoteConnect Service needs an Internet connection, so the following error message might appear after long-pressing the status bar if an Internet connection is not detected. To check the connection, open the web browser in Smart Operation Panel and navigate to a webpage to confirm that the machine is connected to the Internet.



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### Note

If a webpage cannot be connected to via the web browser, check the general network configuration settings, such as the IP address and proxy settings.



### 2.32.3 UNINSTALLING REMOTECONNECT SUPPORT

Some customers might ask for this feature to be disabled because of security precautions. In many cases, disabling RemoteConnect Support should be sufficient.

However, if a customer asks for RemoteConnect Support to be completely uninstalled, remove it by conducting the following procedure:

1. Log in to Screen SP mode.
2. Select Apps > Install.
3. Select Uninstall for the following two applications:

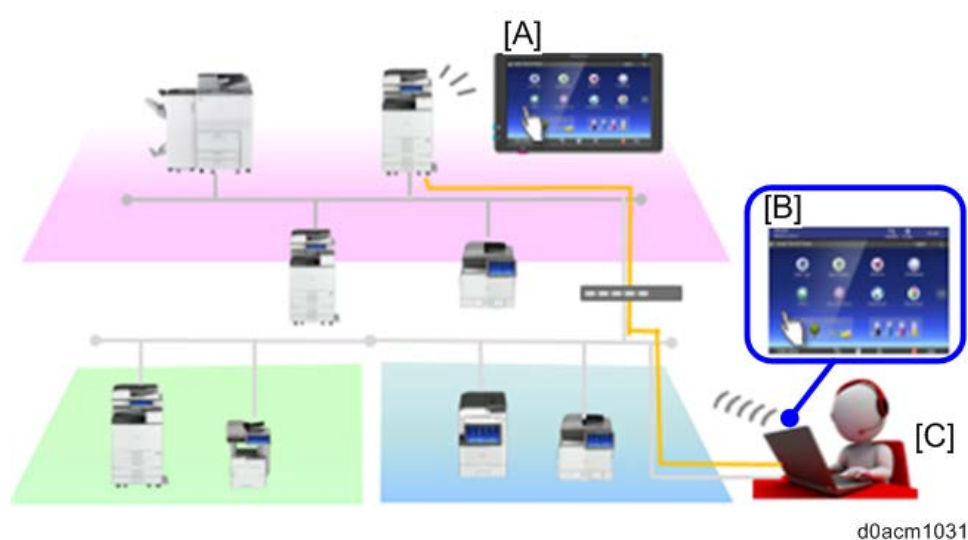
Firmware Type	Part Number
RemoteConnectSupport	D2411470A
RemoteSupportService	D1961459A

## 2.33 REMOTE PANEL OPERATION SETTINGS (MF MODEL ONLY)

### 2.33.1 OVERVIEW

Remote Panel Operation is a built-in function.

Using Web Image Monitor, you can view on your computer screen the operation panels of devices on the same network as well as remotely control such devices. For example, in a large company, the machine administrator can use the remote control to check for errors, operate machines, and change settings to provide support and manage machines easily.



[A]: Smart Operation Panel

[B]: Web browser

[C]: IT manager/ administrator

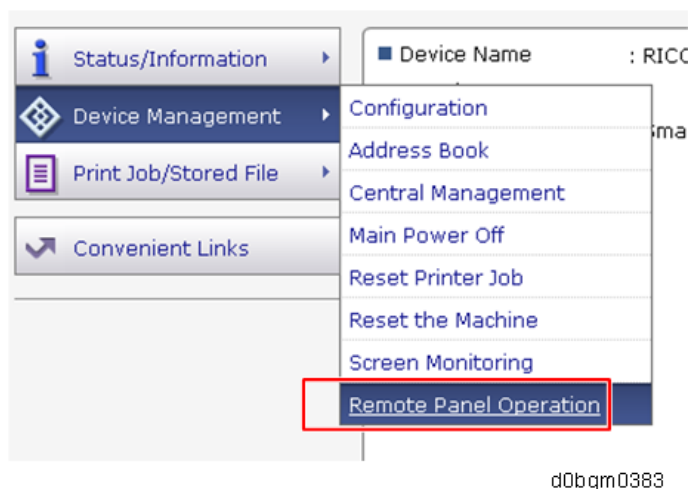
- Eliminating a trip to device
- Reducing end user's wait time

#### Usage

- Remote Panel Operation enables the IT manager or in-house help desk staff to remotely view and operate the Smart Operation Panel screen through a Web UI.
- It can be used to provide real-time interactive user support and also facilitate customer training.

**Start-Up**

1. Log in to Web Image Monitor as the administrator.
2. Click [Device Management] > [Remote Panel Operation]

**Notes**

- When connected by the Remote Panel Operation function, the machine does not automatically switch to Sleep mode, and the Auto Logout and System Auto Reset functions do not operate.
- You cannot connect to a single unit from multiple computers and operate it by the Remote Panel Operation function.
- The Remote Panel Operation function is supported by Internet Explorer 11 and later versions, Google Chrome 62 and later versions, Firefox 56 and later versions, and Microsoft Edge 40 and later versions.

**About the Settings**

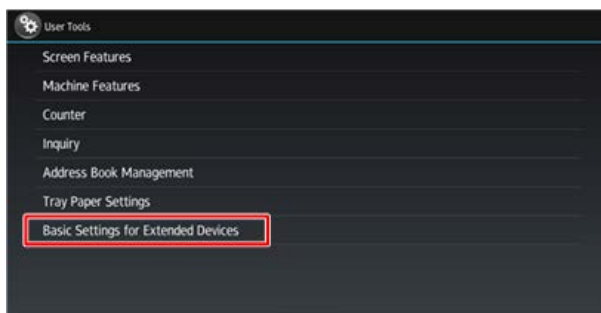
- This function has been preinstalled. (Its icon does not appear on the control panel.)
- For security reasons, the settings have not been specified by default. Enable or disable each setting according to the customer's request.

### 2.33.2 HOW TO ENABLE/DISABLE REMOTE PANEL OPERATION/MONITORING

1. Enable machine administrator authentication and login as administrator.
2. Press the "Settings" icon on the HOME screen.

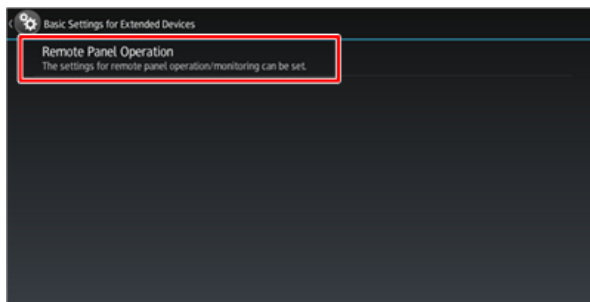
## Remote Panel Operation Settings (MF Model Only)

3. Press "Basic Settings for Extended Devices".



d0acm1038

4. Press "Remote Panel Operation".



d0acm1039

5. Enable "Remote Operation/Monitoring Functions".



d0acm1040

### Note

- "Remote Operation/Monitoring" Functions is disabled by default. When it is disabled, Remote Panel Operation is not displayed in the Web Image Monitor.

# PREVENTIVE MAINTENANCE

REVISION HISTORY		
Page	Date	Added/Updated/New
		None



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## 3. PREVENTIVE MAINTENANCE

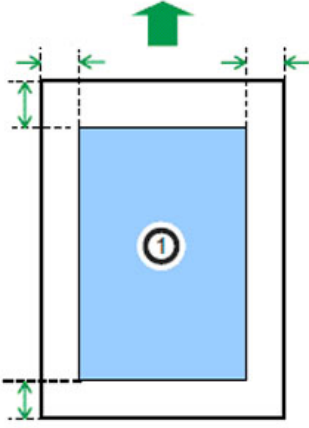
### 3.1 PREVENTIVE MAINTENANCE TABLES

See "Appendices" for the following information:

- Preventive Maintenance

## 3.2 IMAGE QUALITY STANDARDS

### Engine

Item	Specification	Remarks
Assured Image Area	Leading edge: 4.2 mm Left/Right: 4.2 mm Trailing edge: 4.2 mm	
Magnification Error	Main: $\pm 0.75\%$ or less Sub: <ul style="list-style-type: none"> <li>In an office environment: <math>\pm 0.75\%</math> or less</li> <li>In other environments: <math>\pm 1.0\%</math> or less</li> </ul>	
Perpendicularity	$\pm 0.7$ mm/100 mm	
Linearity	$\pm 0.25$ mm/100 mm	
Parallelism	Standard tray/Optional tray: <ul style="list-style-type: none"> <li>In an office environment: <math>\pm 1.0</math> mm or less</li> <li>In other environments: <math>\pm 1.8</math> mm or less</li> </ul> Bypass tray: <ul style="list-style-type: none"> <li>In all environments: <math>\pm 1.7</math> mm or less</li> </ul>	

### Copy

Item	Specification	Remarks
Resolution	<ul style="list-style-type: none"> <li>Exposure glass 100%/Enlargement: Min 4.0 lines/mm or more Reduction: Min <math>3.6 \times M</math> lines /mm or more</li> <li>SPDF 100%/Enlargement: Min 2.8 lines/mm or more</li> </ul>	M: Magnification ratio



Item	Specification	Remarks
	Reduction: Min 2.8 × M lines /mm or more	
Assured Image Area	Leading edge: 4.2 mm Left/Right: 4.2 mm Trailing edge: 4.2 mm	
Magnification Error	<b>100%/Reduced-size/Enlarged-size</b> Main: ± 1.25% or less Sub: <ul style="list-style-type: none"> <li>• In an office environment: ± 1.25% or less</li> <li>• In other environments: ± 1.5% or less</li> </ul>	Not applicable when using the SPDF
Perpendicularity	± 1.2 mm/100 mm or less	Not applicable when using the SPDF
Missing Image Area	Left: 2.0 ± 1.5 mm Right: 2.0 mm Leading edge: 3.0 ± 1.5 mm Trailing edge: 3.0 mm	

**SPDF**

Item	Specification	Remarks
Magnification Error	<b>100% SEF:</b> ± 1% or less <b>Reduction/Enlargement SEF:</b> ± 1% or less	
Linearity	1.05 mm/100 mm or less	

 **Note**

To check whether the problem is with the image or is due to another issue, print the test pattern.

### 3.3 PAPER TRANSFER QUALITY STANDARDS

#### *Engines*

Item	Specification	Remarks
Margin position	<b>Single Side:</b> Main Scan: $0 \pm 2.5$ mm Sub Scan: $0 \pm 2.0$ mm  <b>Duplex:</b> Main Scan: $0 \pm 2.5$ mm Sub Scan: $0 \pm 2.0$ mm	
Skew	<b>Single Side:</b> $\pm 1.8$ mm/200 mm or less (B5 SEF or more) $\pm 1.3$ mm/100 mm or less (Less than B5 SEF)  <b>Duplex:</b> $\pm 1.3$ mm/100 mm or less (B5 SEF or more) $\pm 1.8$ mm/100 mm or less (Less than B5 SEF)	Not applicable to paper fed from the bypass tray (Reference value when using the bypass tray: $\pm 1.0$ mm/100 mm)
Curling after fusing	20 mm or less from the leading and trailing edges with a radius of 40 mm or greater.	In an office environment

#### *SPDF*

Item	Specification	Remarks
Margin position	Main Scan: $0 \pm 1.5$ mm Sub Scan: $0 \pm 2.0$ mm	
Skew	<b>Single Side/ Duplex</b>  $\pm 2.0$ mm/200 mm or less (B5 SEF or more) $\pm 2.5$ mm/200 mm or less (Less than B5 SEF, excluding A6 SEF and B6 SEF) $\pm 3.7$ mm/200 mm or less (A6 SEF, B6 SEF)	

These standards are determined using standard paper under standard conditions.

Values may vary depending on environmental conditions such as temperature, humidity, use of used paper, etc.

# REPLACEMENT AND ADJUSTMENT

REVISION HISTORY		
Page	Date	Added/Updated/New
		None



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## 4. REPLACEMENT AND ADJUSTMENT

### 4.1 NOTES ON THE MAIN POWER SWITCH

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

#### 4.1.1 CHARACTERISTICS OF THE PUSH SWITCH (DC SWITCH)

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

The push switch in this machine uses DC (direct current). Therefore, if the AC power cord is connected to an electrical outlet, power is supplied to the controller board, the operation unit, and other modules even when the main power is turned OFF. When replacing the controller board and the operation unit in this state, not only these boards, it will damage other electrical components. So, when performing maintenance work such as replacing parts, in addition to turning off the main power with the push switch, always unplug the AC power cord.

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

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

--How to remove the residual charge inside the machine--

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

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

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

#### Note

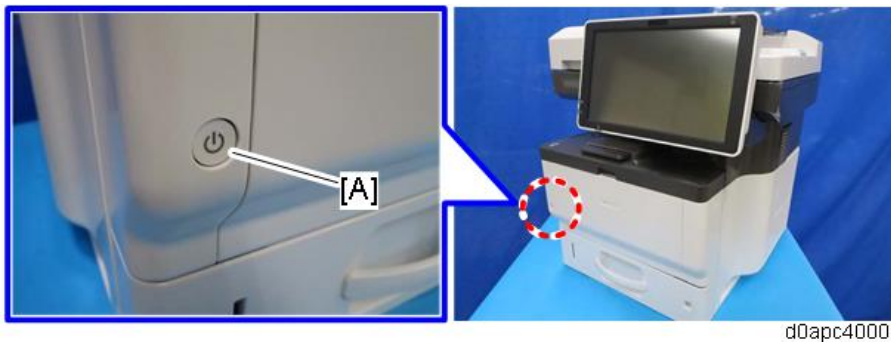
- Automatic restart deals with cases when you accidentally unplugged the AC power cord or unexpected power outages. By keeping the power flag ON, after the

resumption of power, the machine will start up automatically.

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

#### 4.1.2 SHUTDOWN METHOD

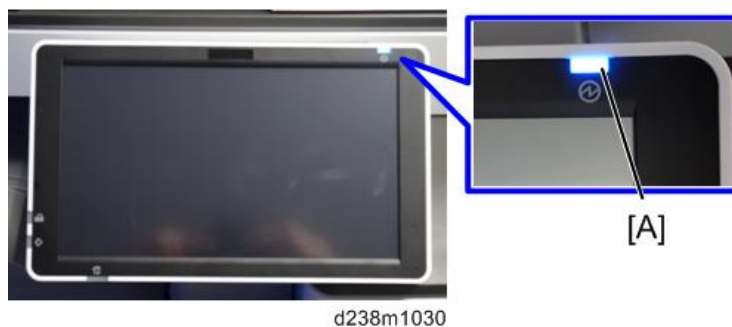
1. Press the main power switch [A] on the left side of the machine.



2. The shutdown message appears. After the shutdown process, the main power is turned off automatically. The LED on the operation panel is turned off when the machine completes the shutdown.

#### ★ Important

MF models: Even after the shutdown message disappears, do not disconnect the power cord while the main power indicator [A] is flashing to indicate that the machine is still shutting down.



#### ⚠ CAUTION

Before attempting to remove or adjust any boards, follow the procedure below to obviate the need for replacing the board which may get damaged by the residual charge.

1. After shutdown, unplug the power cord.
2. Press and hold the power button for a second to discharge the residual charge.

### ***How to start from shutdown***

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

### **4.1.3 FORCED SHUTDOWN**

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

To force shutdown the machine, press and hold the main power switch for 6 seconds.

Normally, do not execute a forced shutdown.

#### **★ Important**

- Forced shutdown can damage the HDD, the memory, and the machine. Use the force shutdown only if it is unavoidable.

## 4.2 GENERAL CAUTIONS

### CAUTION

- Turn off the main power switch and disconnect the power cord.
- After replacement, make sure that all removed harnesses are connected again and secured in their clamps.



### 4.3 SPECIAL TOOLS AND LUBRICANTS

No.	Part Number	Description	Q'ty	Unique or Common	Notes
1	VSSG9006	MOLYKOTE(R) G-1077 GREASE 50G	1	C (General)	<i>(Locations to Apply Grease)</i>
2	VSSG0006	DRYSURF MDF-2400 25G	1	C (General)	Quick drying grease <i>(Locations to Apply Quick Drying Grease)</i>
3	A2579300	GREASE-BARRIERTA-S552R	1	C (General)	For fusing unit <i>(Locations to Apply Grease in the Fusing Unit)</i>
4	VSSG9008	FLOIL-G348 GREASE 20G	1	C (General)	For scanner unit <i>(Locations to Apply Grease in the Scanner Unit)</i>
5	B6455030	SD card 2GB	1	C (General)	
6	B6455040	SD card 8GB	1	C (General)	
7	B6455060	SD card 16GB	1	C (General)	
8	C4019503	20X Magnification Scope	1	C (General)	

 Note

- A PC is required for creating the Encryption key file on an SD card when replacing the controller board for a model in which HDD encryption has been enabled.

### 4.3.1 LOCATIONS TO APPLY GREASE

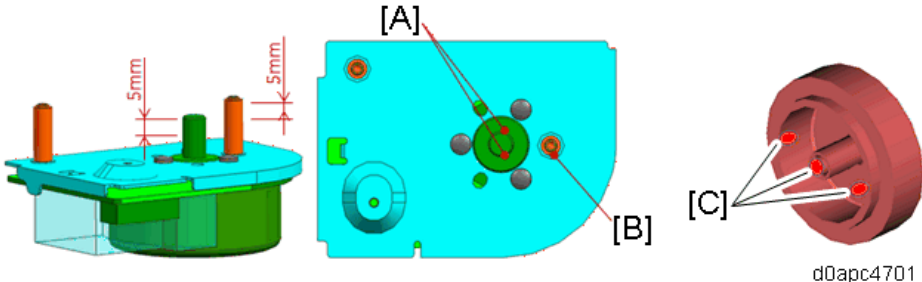
**Drum Drive**

**Drum Motor**

Apply grease to the drum motor as shown below.

	Location	Part name	Note
[A]	Drum motor shaft	DC BRUSHLESS MOTOR:DRUM:26W	Apply 5 mm to shaft tip.
[B]	Drum motor peen	BRACKET:DRIVE:MOTOR:PEEN	Apply 5 mm to shaft tip.

- May also be applied to opposing gear [C] (Gear: Drum: 1st) instead of [A] and [B].



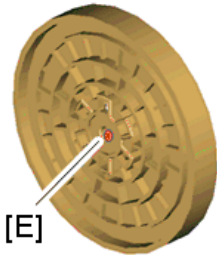
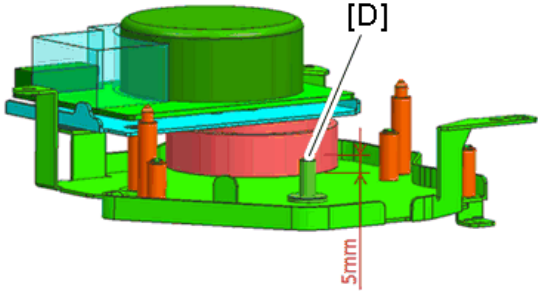
Coating Amt.	Maximum	Minimum
[A]	 d0apc4707	 d0apc4708
[B]	 d0apc4710	 d0apc4711

**Drum Motor Unit**

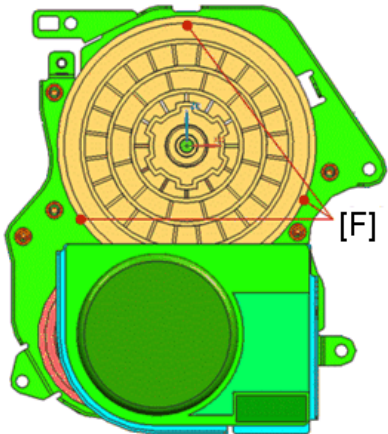
Apply grease in the drum motor unit as shown below.

	Location	Part name	Note
[D]	Drum motor unit peen	BRACKET:DRIVE:DRUM:PEEN	Apply 5 mm to shaft tip.
[F]	Drum motor unit gear teeth	GEAR:DRIVE:DRUM	3 places

- May also be applied to opposing gear [E] (GEAR: DRIVE: DRUM shaft instead of [D]).



d0apc4702



d0apc4703

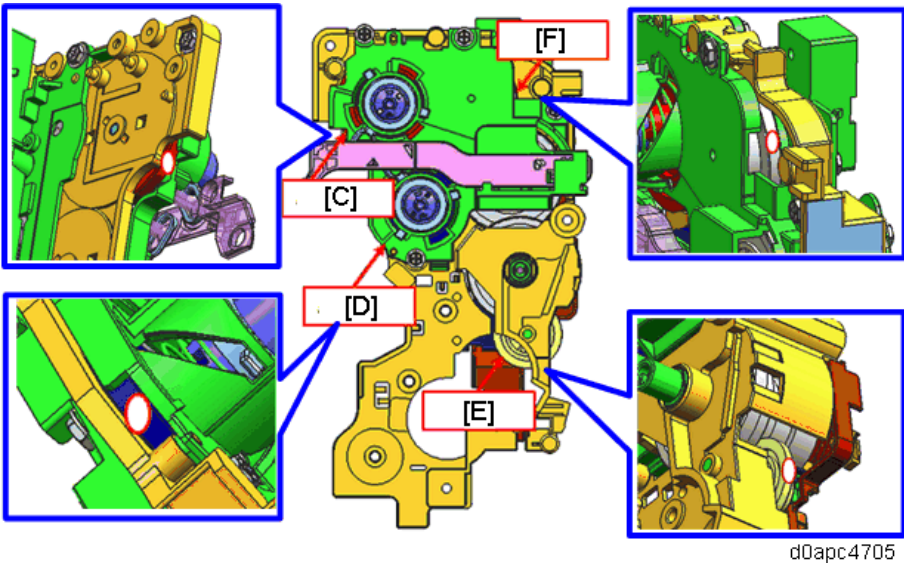
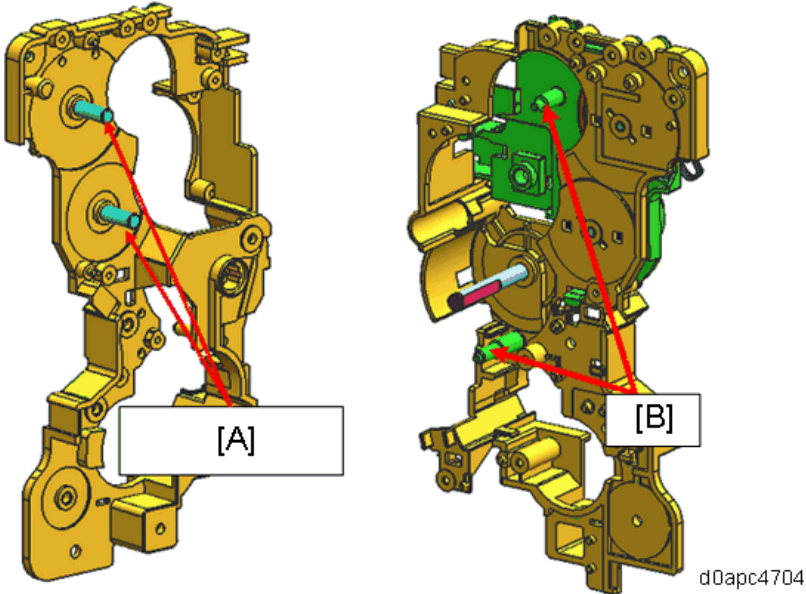
Coating Amt.	Maximum	Minimum
[D]	 d0apc4713	 d0apc4714
[F]	 d0apc4716	 d0apc4717





**Paper Feed Drive**

**Gear Unit**

Apply silent grease to the gear unit at the locations shown below.

	Location	Part name	Note
[A]	Gear unit housing	HOUSING:DRIVE:PAPER FEED:ASS'Y	2 places. Apply 10 mm to shaft tip.
[B]		HOUSING:DRIVE:PAPER FEED:ASS'Y HOLDER:DRIVE:TONER SUPPLY	Apply 10 mm to shaft tip.
[C]	Gear unit gear teeth	GEAR:DRIVE:TONER SUPPLY:NO.6	
[D]		GEAR:DRIVE:TONER RECYCLING:NO.2	
[E]		GEAR:DRIVE:CONNECTING:NO.3	
[F]		GEAR:DRIVE:TONER SUPPLY:NO.3	

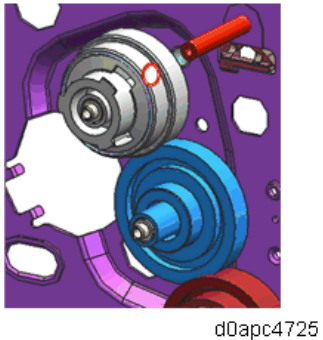
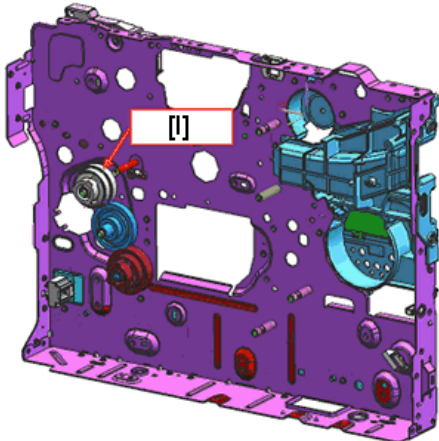
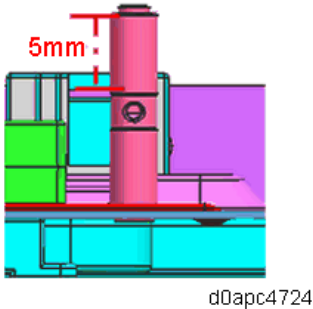
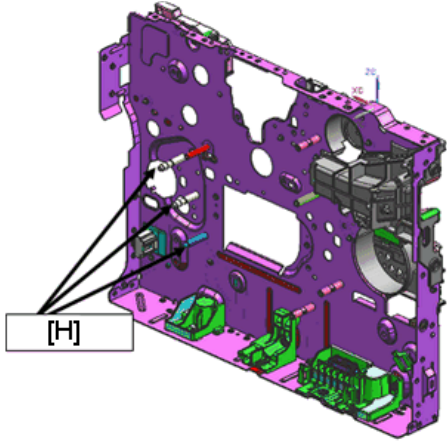


Coating Amt.	Maximum	Minimum
[A] [B]	 d0apc4718	 d0apc4720
[C] [D] [E] [F]	 d0apc4722	 d0apc4723

**Main Unit Side Plates**

Apply silent grease to the main unit side plates at the locations shown below.

	Location	Part name	Note
[H]	The crimped shaft of the main unit side plate	SIDE PLATE:RIGHT:500:PEEN	3 places. Apply 5 mm to shaft tip.
[I]	Ass'y gear on the main unit side plate	GEAR:DRIVE:PAPER FEED:NO.3	Pulley not exposed.

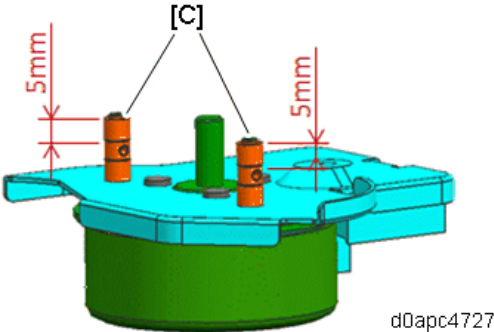
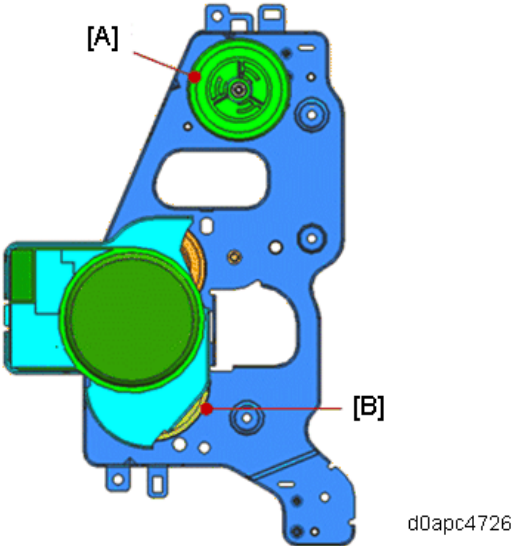


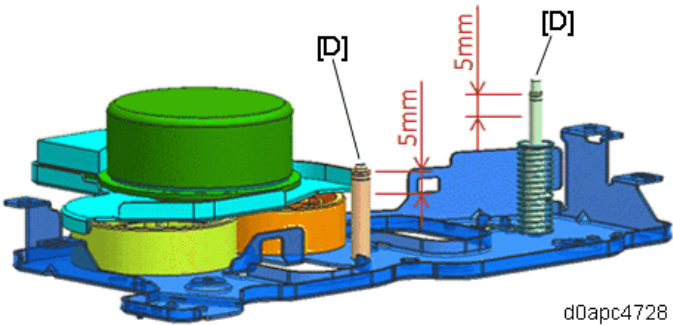
**Feed/Fusing Drive**

**Feed/fusing Motor Unit**

Apply silent grease to the feed/fusing motor (M4) at the locations shown below.

	Location	Part name	Note
[A]	Feed/fusing motor unit gears	GEAR:DRIVE:FUSING:NO.5	
[B]	Feed/fusing motor gears	GEAR:DRIVE:TRANSPORT:NO.1	
[C]	Feed/fusing motor peen tip	BRACKET:DRIVE:FUSING:MOTOR:PEEN	2 places. Apply 5 mm to shaft tip.
[D]	Feed/fusing motor unit peen tip	BRACKET:DRIVE:FUSING:NO.1:PEEN	2 places. Apply 5 mm to shaft tip.





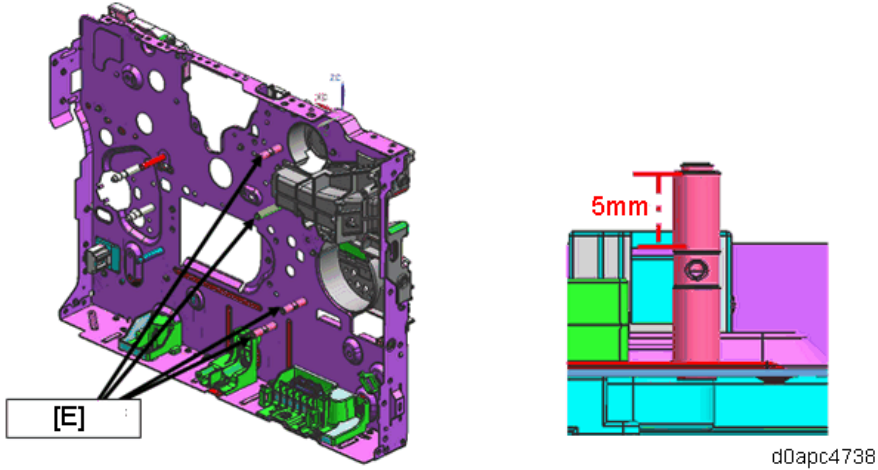
d0apc4728

Coating Amt.	Maximum	Minimum
[A]	 d0apc4729	 d0apc4731
[B]	 d0apc4732	 d0apc4734
[C] [D]	 d0apc4735	 d0apc4737

**Main Unit Side Plates**

Apply silent grease to the main unit side plates at the locations shown below.

	Location	Part name	Note
[E]	Main unit side plate peens	SIDE PLATE:RIGHT:500:PEEN	4 places. Apply 5 mm to shaft tip.



Coating Amt.	Maximum	Minimum
[E]	 d0apc4739	 d0apc4741

**Fusing Pressure/Release Motor Drive**

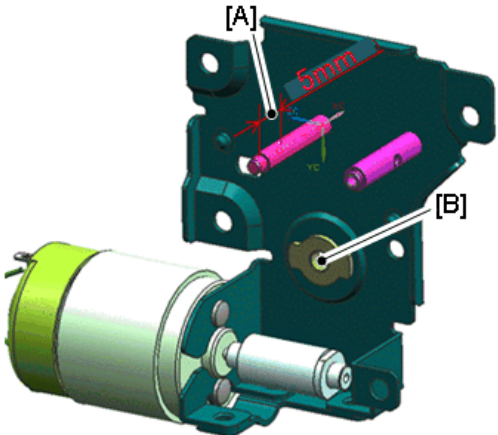
**Fusing Pressure/Release Motor Unit**

Apply silent grease to the fusing pressure/release motor unit at the locations shown below.

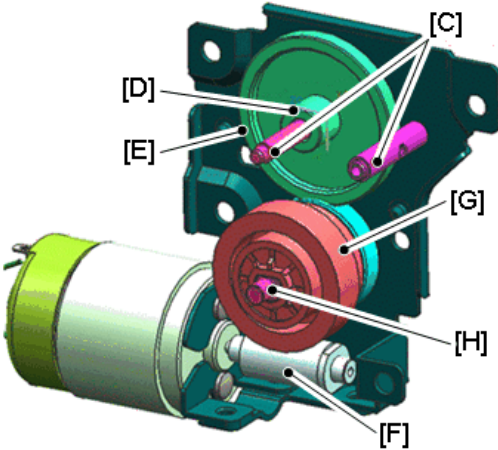
	Location	Part name	Note
[A]	Fusing pressure/release motor peen	BRACKET:DRIVE:PRESSURE RELEASE:PEEN	5 mm from the tip.
[B]	Lubricated bearing of fusing pressure/release motor	PLAIN SHAFT BEARING:4X8X2.8	
[C]	Fusing pressure/release motor peen	BRACKET:DRIVE:PRESSURE RELEASE:PEEN	2 places. 5 mm from the tip.
[D]	Small gear teeth of fusing pressure/release motor unit	GEAR:DRIVE:PRESSURE RELEASE:SUN	
[E]	Large gear teeth of fusing pressure/release motor unit		
[F]	Worm gear of fusing pressure/release motor	WORM GEAR:DRIVE:PRESSURE RELEASE:Z2	Motor bearing housing cannot be exposed.
[G]	Surfaces of fusing pressure/release motor unit gear teeth	WORM WHEEL:DRIVE:PRESSURE RELEASE:Z25	



	Location	Part name	Note
[H]	Tip of fusing pressure/release motor peen	SHAFT:DRIVE:PRESSURE RELEASE:PRESS FIT	













d0apc4742



d0apc4743

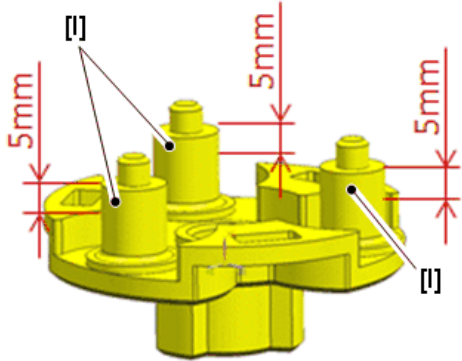
Coating Amt.	Maximum	Minimum
[A] [C]	 d0apc4744	 d0apc4746
[B]	 d0apc4747	 d0apc4749

Coating Amt.	Maximum	Minimum
[D]	 <p>d0apc4750</p>	 <p>d0apc4752</p>
[E]	 <p>d0apc4753</p>	 <p>d0apc4755</p>
[F]	 <p>d0apc4756</p>	 <p>d0apc4758</p>
[G]	 <p>d0apc4759</p>	 <p>d0apc4761</p>
[H]	 <p>d0apc4762</p>	 <p>d0apc4764</p>

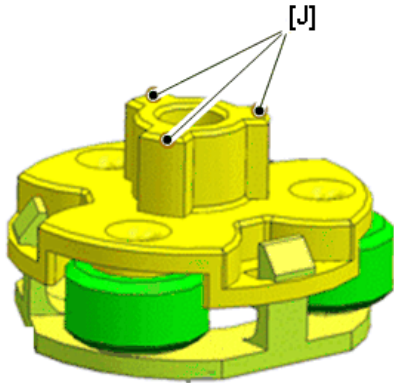
**Pressure Release Support Shaft**

Apply silent grease to the pressure release support shaft at the locations shown below.





	Location	Part name	Note
[I]	Support shaft	SUPPORT SHAFT:DRIVE:PRESSURE RELEASE:PLANETARY	3 places. Apply 5 mm to shaft tip.
[J]	Support shaft coupling		3 places.



d0apc4765



d0apc4766

Coating Amt.	Maximum	Minimum
[I]	 d0apc4767	 d0apc4769
[J]	 d0apc4770	 d0apc4772

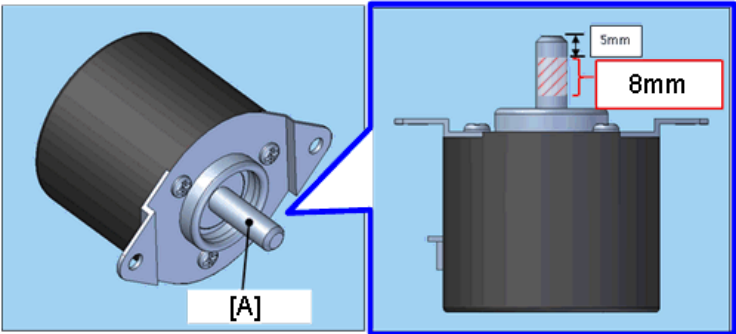
\* The amount of grease shown with the colored parts.

**Paper Feed Drive (Optional Bank)**

**Bank Drive Motor**

Apply silent grease to the gear unit at the location shown below.

	Location	Pate name	Note
[A]	Bank drive motor shaft	DC MOTOR:GEAR:10W	Apply an 8mm wide band of grease, 5 to 13 mm from the tip of the roller as shown.



d0apc4788

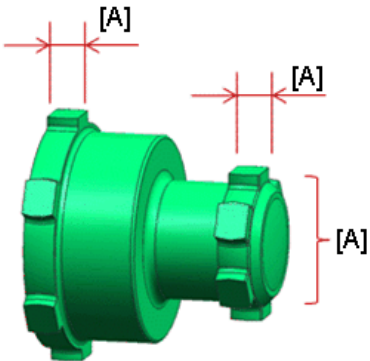
Coating Amt.	Maximum	Minimum
[A]	<p>d0apc4789</p>	<p>d0apc4790</p>

### 4.3.2 LOCATIONS TO APPLY QUICK DRYING GREASE

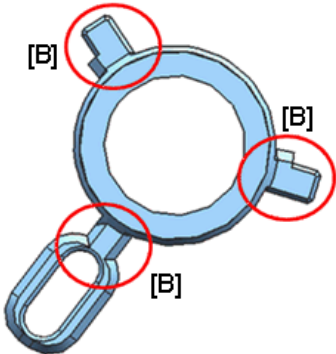
#### Drum Drive

Apply quick-drying grease to the locations shown below.

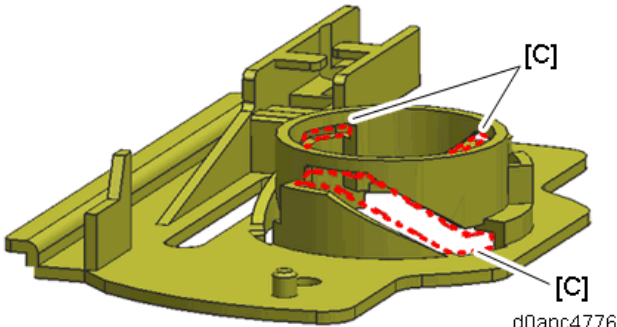
	Location	Part name	Note
[A]	Tip of drum joint cogs	JOINT:DRIVE:DRUM	3 places. Apply around the cogs, and surface of the shaft tip.
[B]	Link tabs	LINK:DRIVE:DRUM	3 places. Apply to the tab surfaces.
[C]	Cam link connection	CAM:DRIVE:DRUM	3 places. Apply to the surface of the openings marked with red.



d0apc4774



d0apc4775

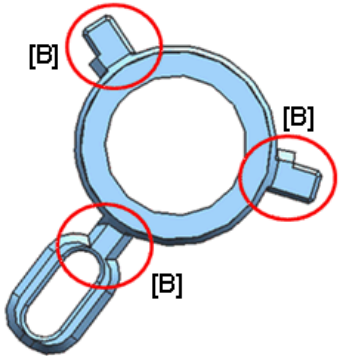
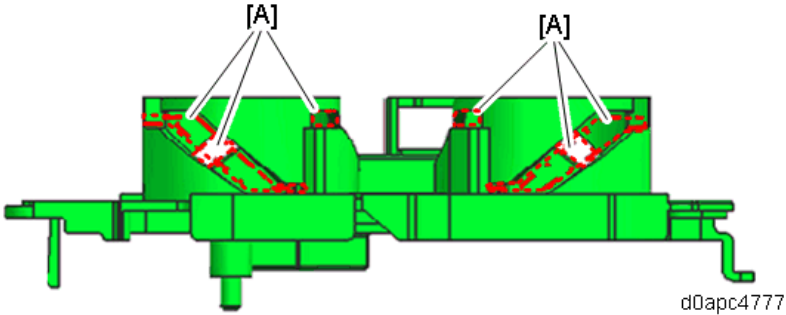


d0apc4776

#### Paper Feed Drive

Apply quick-drying grease to the locations shown below.

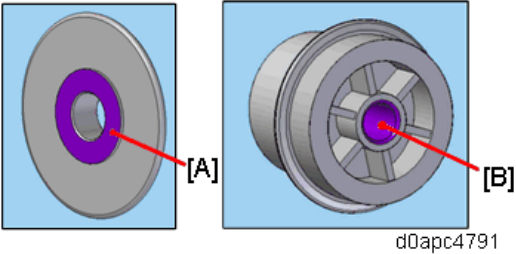
	Location	Parts name	Note
[A]	Holder grooves	HOLDER:DRIVE:TONER SUPPLY	6 places. Apply to the groove surfaces.
[B]	Link tab	LINK:DRIVE:TONER SUPPLY	3 places. Apply to the tab surfaces.



**Paper Feed Drive (Optional Bank)**

Apply quick-drying grease to the locations shown below.

	Location	Parts name	Note
[A]	Flange	FLANGE:SYNCHRONOUS BELT	Apply to flange and sliding surface.
[B]	Timing pulley shaft	GEAR:TIMING PULLEY:TRANSPORT:Z29/T36	Apply to the recessed surface.

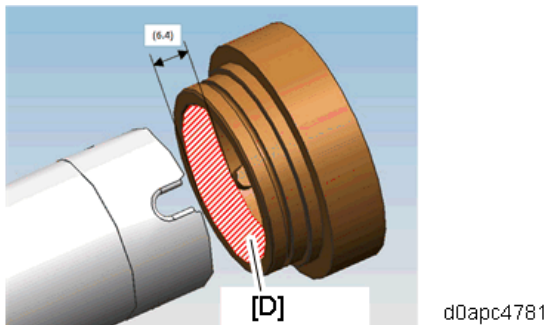
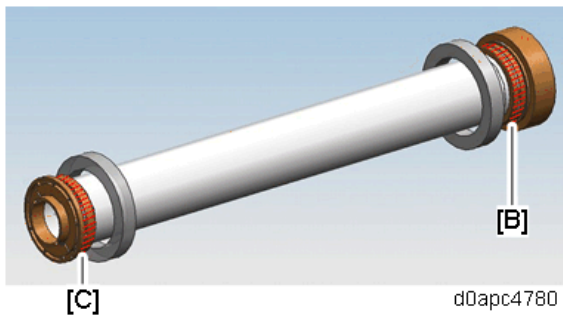
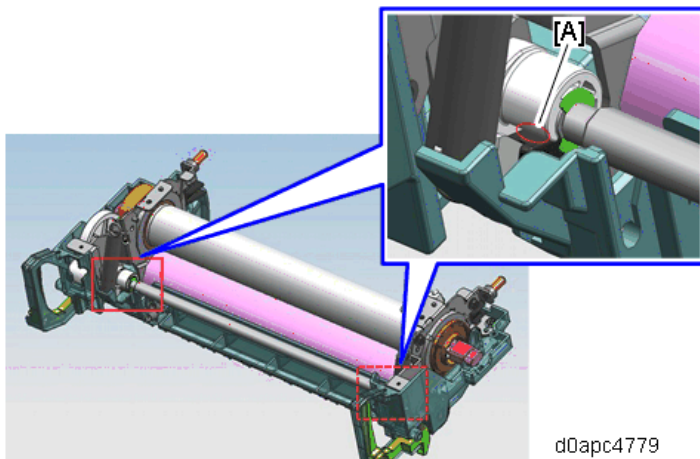


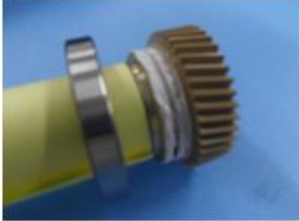
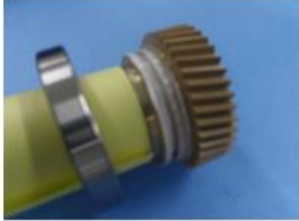
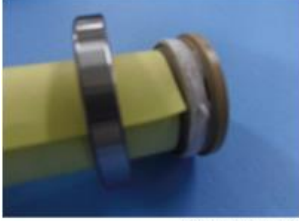



### 4.3.3 LOCATIONS TO APPLY GREASE IN THE FUSING UNIT

#### Inside Fusing Unit

Apply Barrierta grease at the locations shown below

	Location	Part name	Note
[A]	Between fusing unit separation cam and pressure lever	CAM:ON-OFF, COVER:LEVER:PRESSURE	2 places.
[B]	Hot roller bushing insertion point	GEAR:HOT ROLLER	2 places (both sides of hot roller bushing).
[C]		THERMAL INSULATING BUSHING:HOT ROLLER	
[D]	Inside hot roller gear	GEAR:HOT ROLLER	



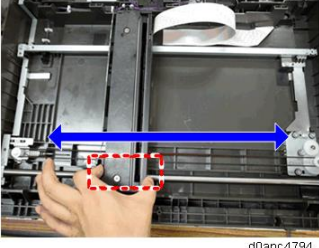
Coating Amt.	Maximum	Minimum
[B]	 <p>d0apc4782</p>	 <p>d0apc4783</p>
[C]	 <p>d0apc4784</p>	 <p>d0apc4785</p>
[D]	 <p>d0apc4786</p>	 <p>d0apc4787</p>

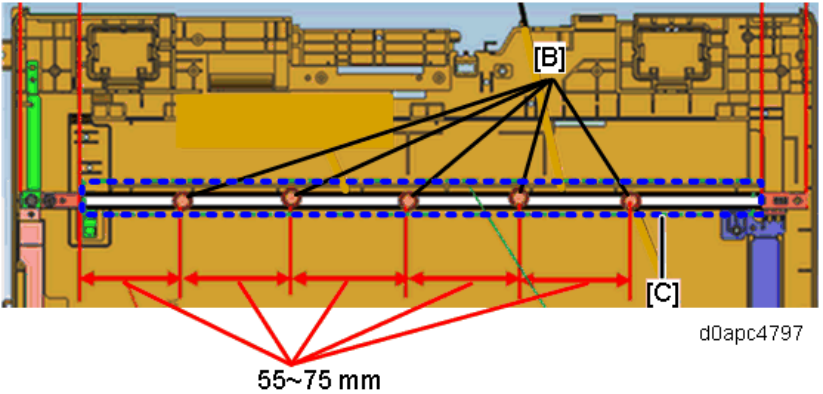
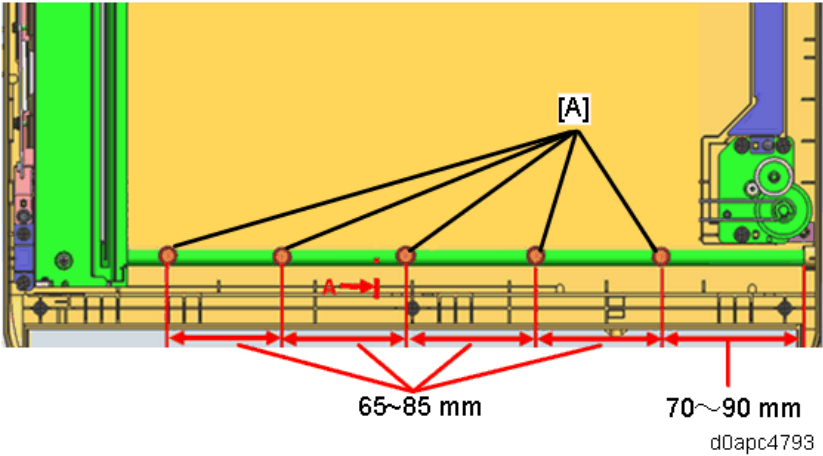


### 4.3.4 LOCATIONS TO APPLY GREASE IN THE SCANNER UNIT


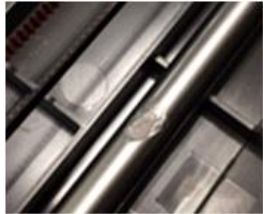


#### Inside Scanner Unit

Apply grease (FLOIL G-348) at the locations shown below.

	Location	Part name	Note
[A]	Scanner guide rod	GUIDE ROD: SCANNER	5 places. Hold the scanner carriage with the hand, and then move it right and left three times from the end to the end of the guide rod to spread the grease to the whole. 
[B]	Scanner rail	RAIL: SCANNER	5 places. Spread the grease on the entire rail (range of [C]) with a brush.



Replacement & Adjustments

Coating Amt.	Maximum	Minimum
[A]	 d0apc4795	 d0apc4796
[B]	 d0apc4798	 d0apc4799

### 4.4 SMC REPORT STORAGE

The SMC Report that lists the factory settings is stored behind the platen sheet of the SPDF on MF models. An SMC Report is not provided with the printer model when it is shipped from the factory. However, the factory settings can be output with SP5-990-006 (SP Print Mode: Non-Default). If you are installing this printer model, print the SMC Report and store it in a safe place.

#### Sample SMC Report for MF models



d0apc4052

#### Factory Settings List (SP Print mode: Non-Default)

SP No.	SP name	Description
1-003-011	Paper Buckle By-pass: Plain	
1-003-012	Paper Buckle By-pass: Thick	
1-003-013	Paper Buckle By-pass: Envelope	
1-003-021	Paper Buckle Tray1: Plain	
1-003-022	Paper Buckle Tray1: Thick	

SP No.	SP name	Description
1-003-023	Paper Buckle Tray1: Envelope	
1-003-031	Paper Buckle Tray2: Plain	
1-003-032	Paper Buckle Tray2: Thick	
1-003-041	Paper Buckle Tray3: Plain	
1-003-042	Paper Buckle Tray3: Thick	
1-003-051	Paper Buckle Tray4: Plain	
1-003-052	Paper Buckle Tray4: Thick	
1-003-061	Paper Buckle Duplex: Plain	
1-003-062	Paper Buckle Duplex: Thick	
1-921-011	Fact LeadEdge Reg By-pass: Plain	
1-921-012	Fact LeadEdge Reg By-pass: Thick	
1-921-013	Fact LeadEdge Reg By-pass: Envelope	
1-921-021	Fact LeadEdge Reg Tray1: Plain	
1-921-022	Fact LeadEdge Reg Tray1: Thick	
1-921-023	Fact LeadEdge Reg Tray1: Envelope	
1-921-031	Fact LeadEdge Reg Tray2: Plain	
1-921-032	Fact LeadEdge Reg Tray2: Thick	
1-921-041	Fact LeadEdge Reg Tray3: Plain	
1-921-042	Fact LeadEdge Reg Tray3: Thick	
1-921-051	Fact LeadEdge Reg Tray4: Plain	
1-921-052	Fact LeadEdge Reg Tray4: Thick	
1-921-061	Fact LeadEdge Reg Duplex: Plain	
1-921-062	Fact LeadEdge Reg Duplex: Thick	
1-922-001	Fact S-to-S Reg By-pass	
1-922-002	Fact S-to-S Reg Tray 1	
1-922-003	Fact S-to-S Reg Tray 2	
1-922-004	Fact S-to-S Reg Tray 3	
1-922-005	Fact S-to-S Reg Tray 4	
1-922-006	Fact S-to-S Reg Duplex	
4-008-001	Sub Scan Magnification Adj.	MF models only
4-010-001	Sub Scan Registration Adj.	MF models only
4-011-001	Main Scan Registration Adj.	MF models only
4-609-001	Gray Balance Set: R Book Scan	MF models only
4-609-002	Gray Balance Set: R DF Scan	MF models only
4-610-001	Gray Balance Set: G Book Scan	MF models only
4-610-002	Gray Balance Set: G DF Scan	MF models only
4-611-001	Gray Balance Set: B Book Scan	MF models only

SP No.	SP name	Description
4-611-002	Gray Balance Set: B DF Scan	MF models only
4-712-001	CIS GB Adj. Value: R	MF models only
4-713-001	CIS GB Adj. Value: G	MF models only
4-714-001	CIS GB Adj. Value: B	MF models only
5-745-211	DeemedPowerConsumption Controller Standby	
5-745-212	DeemedPowerConsumption TR	
5-745-213	DeemedPowerConsumption Main Power Off	
5-745-214	DeemedPowerConsumption Scanning and Printing	
5-745-215	DeemedPowerConsumption Printing	
5-745-216	DeemedPowerConsumption Scanning	
5-745-217	DeemedPowerConsumption Engine Standby	
5-745-218	DeemedPowerConsumption Low Power Consumption	
5-745-219	DeemedPowerConsumption Silent condition	
5-745-220	DeemedPowerConsumption Heater Off	
5-849-001	Installation Date: Display	
6-006-001	ADF Adjustment Side-to-Side Regist: Face	MF models only
6-006-002	ADF Adjustment Side-to-Side Regist: Back	MF models only
6-006-003	ADF Adjustment L-Edge Regist (1-Pass): Face	MF models only
6-006-004	ADF Adjustment L-Edge Regist (1-Pass): Back	MF models only
6-006-010	ADF Adjustment T-Edge Erase (1-Pass): Face	MF models only
6-006-011	ADF Adjustment T-Edge Erase (1-Pass): Back	MF models only
6-017-001	ADF Adjustment Magnification	MF models only

## 4.5 EXTERIOR COVERS (PRINTER MODEL)

### 4.5.1 RIGHT COVER (PRINTER)

1. Remove the paper cassette.
2. Open the front cover [A] by pressing the front cover button.



d0apc4001

3. Open the rear cover [A].



d0apc4002

4. Remove the right cover [A].



Note

The right cover is held in position by bosses on the frame of the main machine, so the right cover must be disconnected from these bosses before removal.



## 4.5.2 LEFT COVER (PRINTER)

1. Remove the paper cassette.
2. Open the front cover [A] by pressing the front cover button.



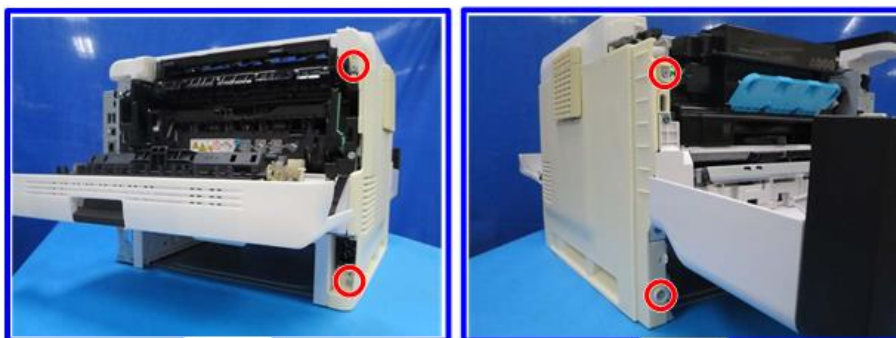
d0apc4001

3. Open the rear cover [A].



d0apc4002

4. Remove the left cover [A].



d0apc4004



**Note**

The left cover is held in position by bosses on the frame of the main machine, so disconnect these bosses before you remove the left cover.

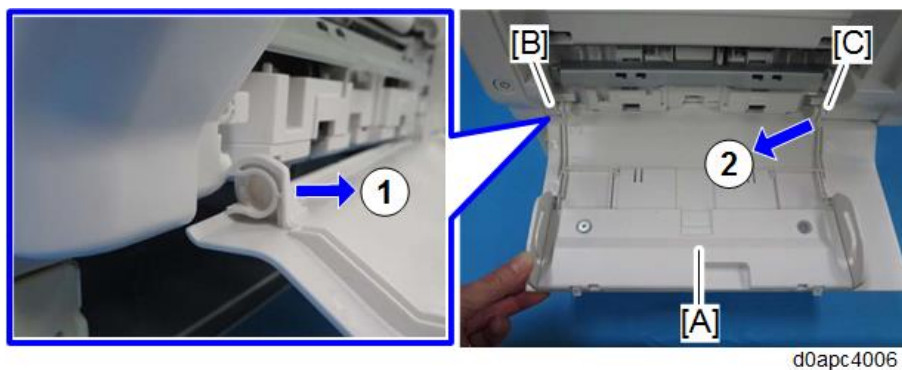


### 4.5.3 FRONT COVER (PRINTER)

1. Remove the right cover. (*Right Cover (Printer)*)
2. Close the front cover, and open the bypass tray [A].
3. Release the four hinges to detach the paper guide plate [B].



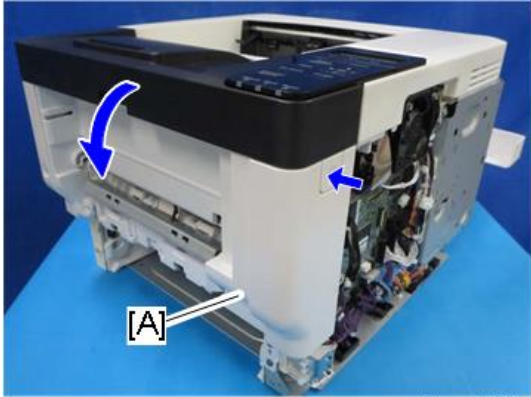
4. Open the bypass tray about 90 degrees and remove the bypass tray [A]. Release the left hinge [B] first (which is C-cut) by pulling forward, and then release the right hinge [C] by pulling obliquely toward the left, front.



**Note**

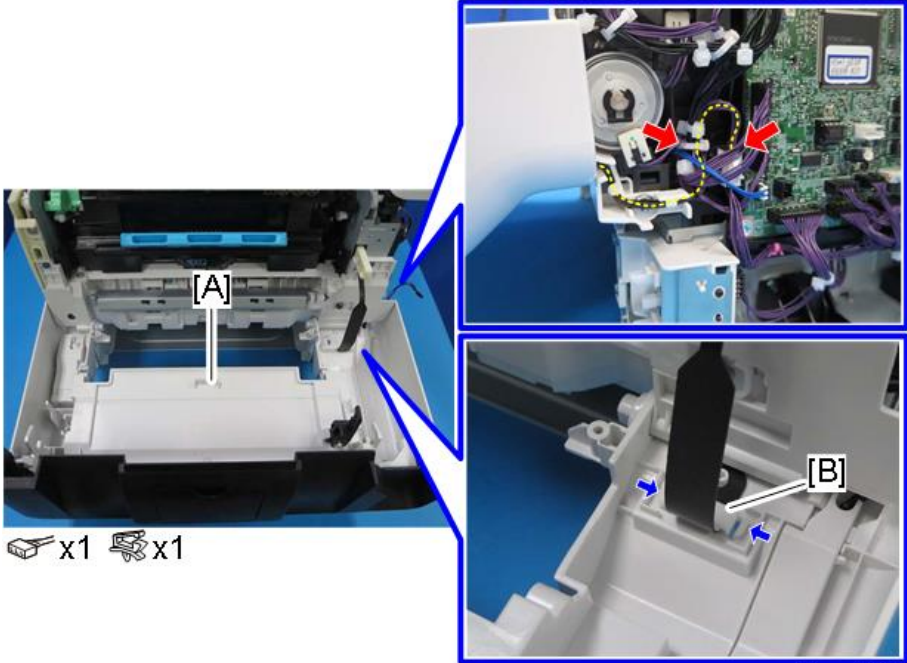
When reinstalling the bypass tray, first set the right hinge with the bypass tray wide open.

5. Open the front cover [A] by pressing the front cover button.



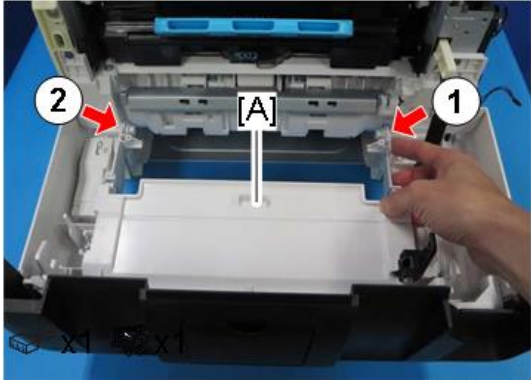
d0apc4007

6. Disconnect the harness from the front cover [A] and remove the fastened part [B] of the belt.



d0apc4008

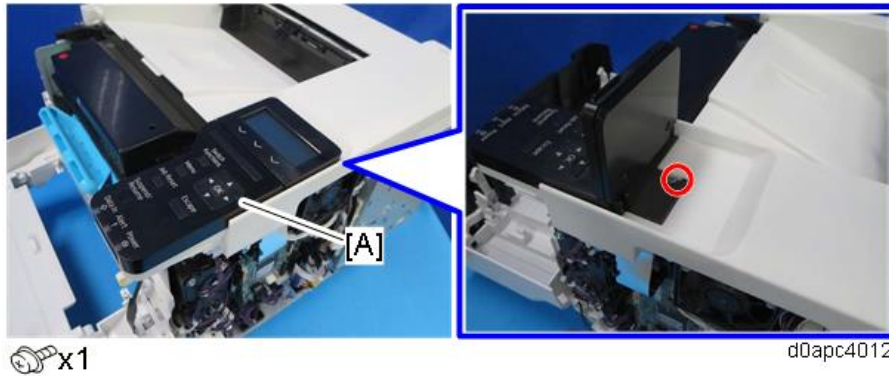
7. Release both hinges to remove the front cover [A]. Release the right hinge first.



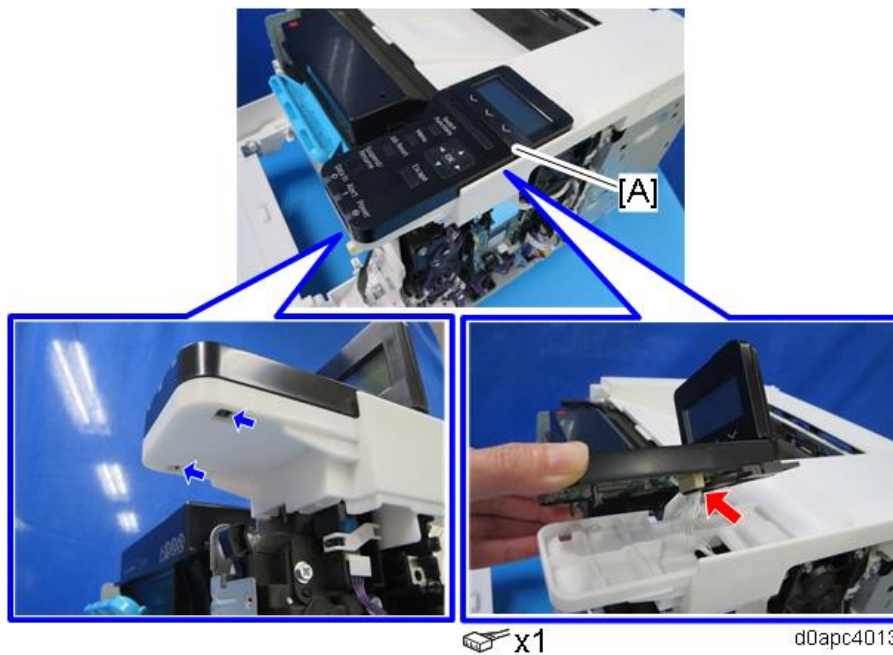
d0apc4009

#### 4.5.4 OPERATION PANEL (PRINTER)

1. Remove the right cover. (*Right Cover (Printer)*)
2. Lift up the display [A], and then remove the screw.

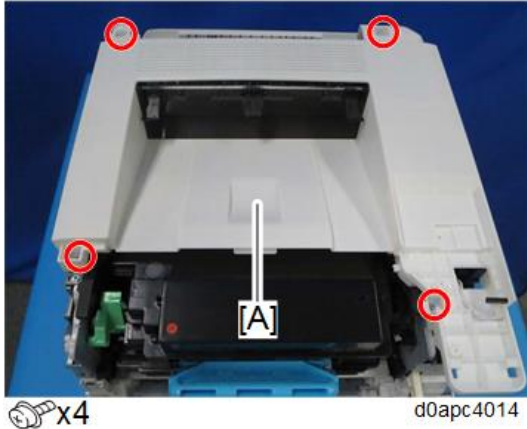


3. Release the two hooks to remove the operation panel [A], and then disconnect the harness from the operation panel.



### 4.5.5 UPPER COVER (PRINTER)

1. Remove the right cover. ([Right Cover \(Printer\)](#))
2. Remove the left cover. ([Left Cover \(Printer\)](#))
3. Remove the operation panel. ([Operation Panel \(Printer\)](#))
4. Remove the upper cover [A].



### 4.5.6 REAR LOWER COVER (PRINTER)

1. Remove the right cover. ([Right Cover \(Printer\)](#))
2. Remove the left cover. ([Left Cover \(Printer\)](#))
3. Remove the rear lower cover [A].



#### Note

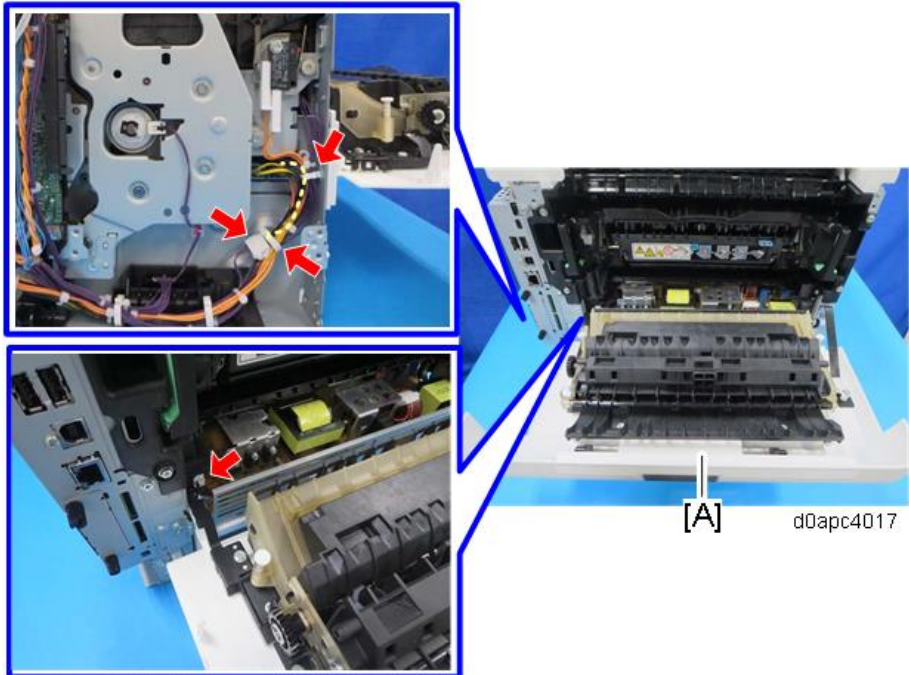
Open the rear cover slightly and remove the rear lower cover.





d0apc4011

### 4.5.7 REAR COVER (PRINTER)

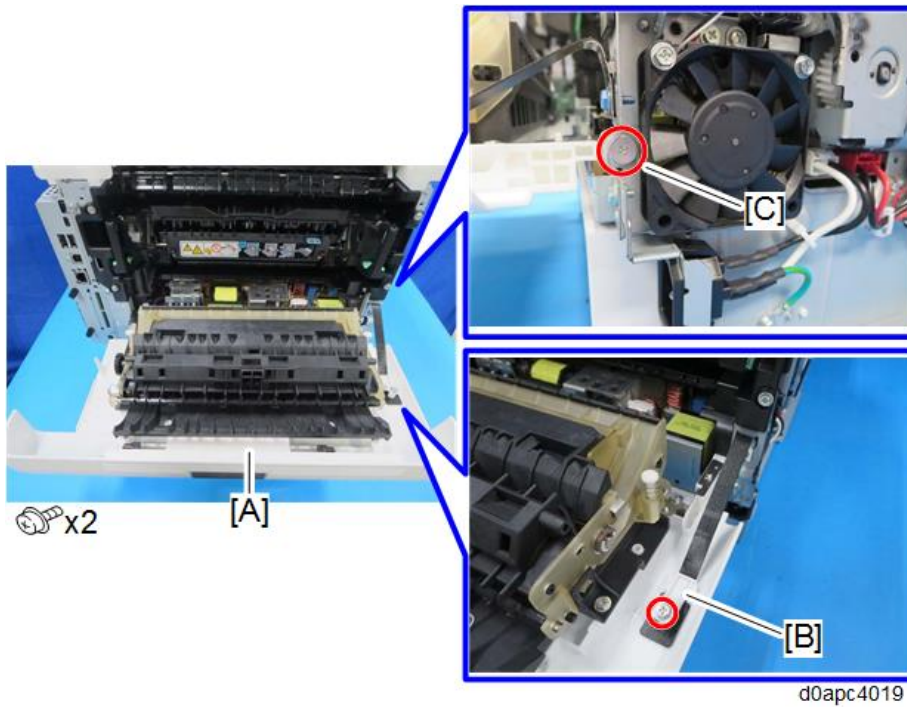
1. Remove the rear lower cover. (*Rear Lower Cover (Printer)*)
2. Remove the controller board. (*Controller Board (Printer Model)*)
3. Release the harness from rear cover [A].



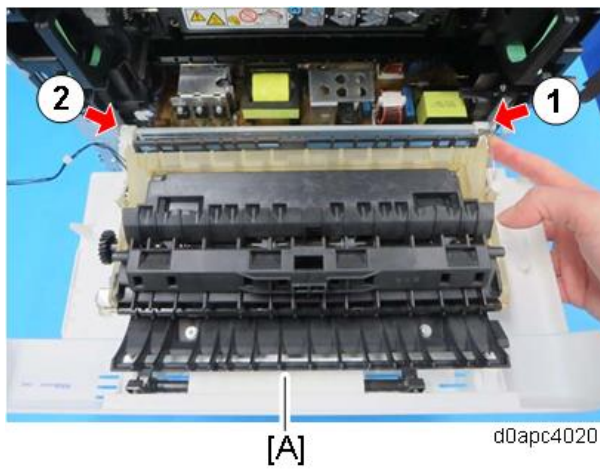
d0apc4017

 x1  x3

- Remove the fixed part [B] for the belt of rear cover [A], and then remove the screw [C] fastening the hinge.



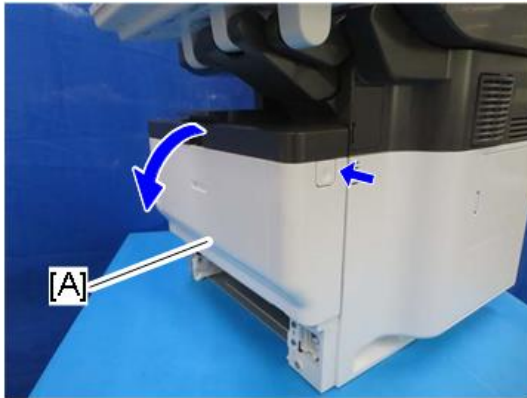
- Release both sides of the hinge to remove the rear cover [A]. Release the right hinge first.



## 4.6 EXTERIOR COVERS (MF MODEL)

### 4.6.1 RIGHT COVER (MF)

1. Remove the paper cassette.
2. Open the front cover [A] by pressing the front cover button.



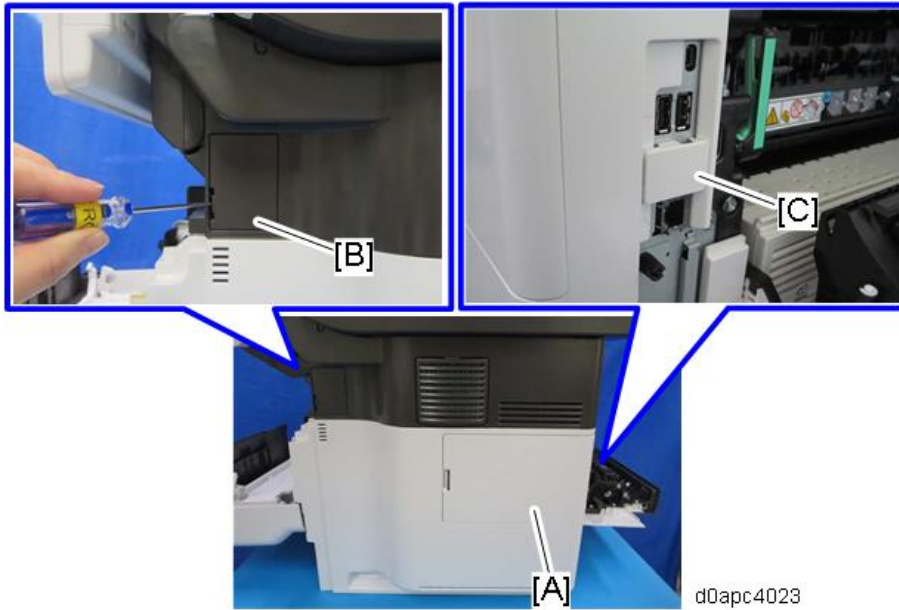
d0apc4021

3. Open the rear cover [A].

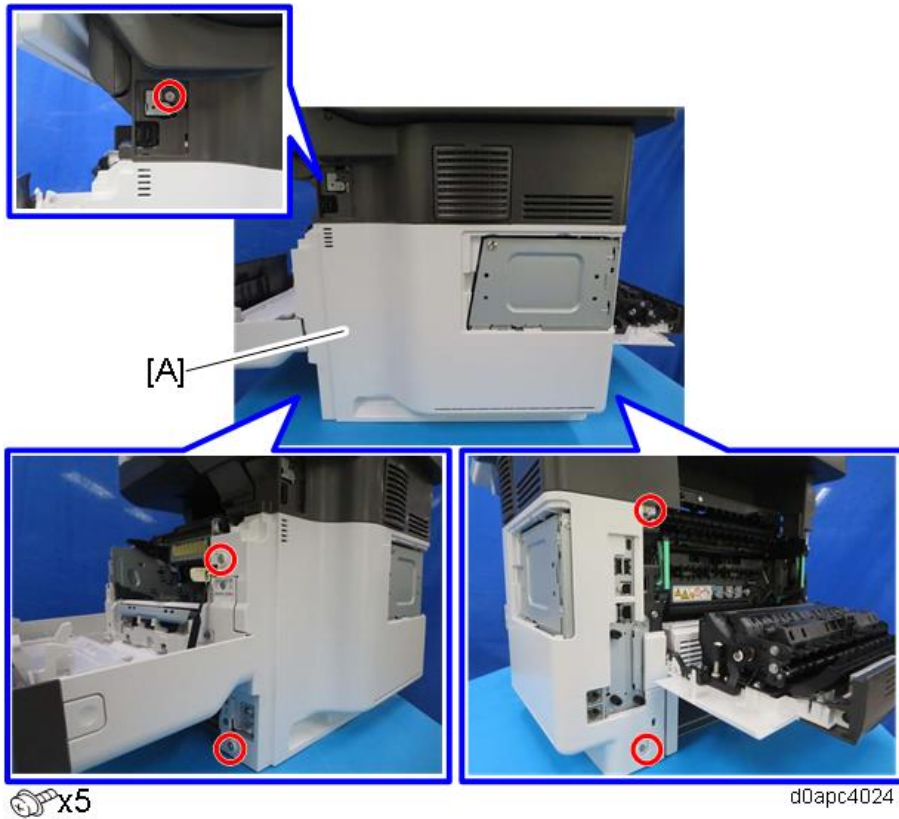


d0apc4022

4. Remove the HDD cover [A] and the connector cover [B] and [C].  
Use a flathead screwdriver to remove the connector cover [B].



5. Remove the right cover [A].



**Note**

The right cover is held in position by bosses on the frame of the main machine, so disconnect these bosses before you remove the right cover. The rear upper boss is not visible from outside so confirm its location in the photo below.





**Note**

If the optional offline stapler is installed, do the following, instead of removing the connector cover in step 4. Do not remove the stapler unit cradle attached to the right cover with double-sided tape.

1. Pull out the stapler unit [A] from the stapler unit cradle.

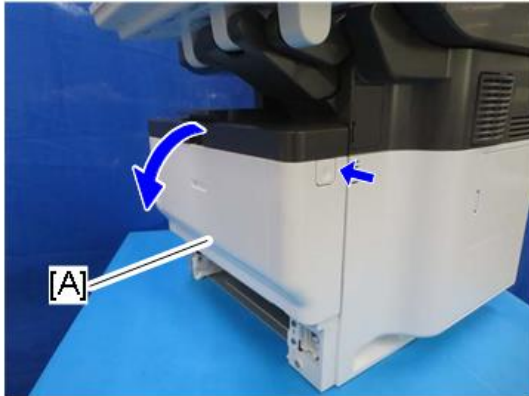


2. Loosen the screw.



## 4.6.2 LEFT COVER (MF)

1. Remove the paper cassette.
2. Open the front cover [A] by pressing the front cover button.



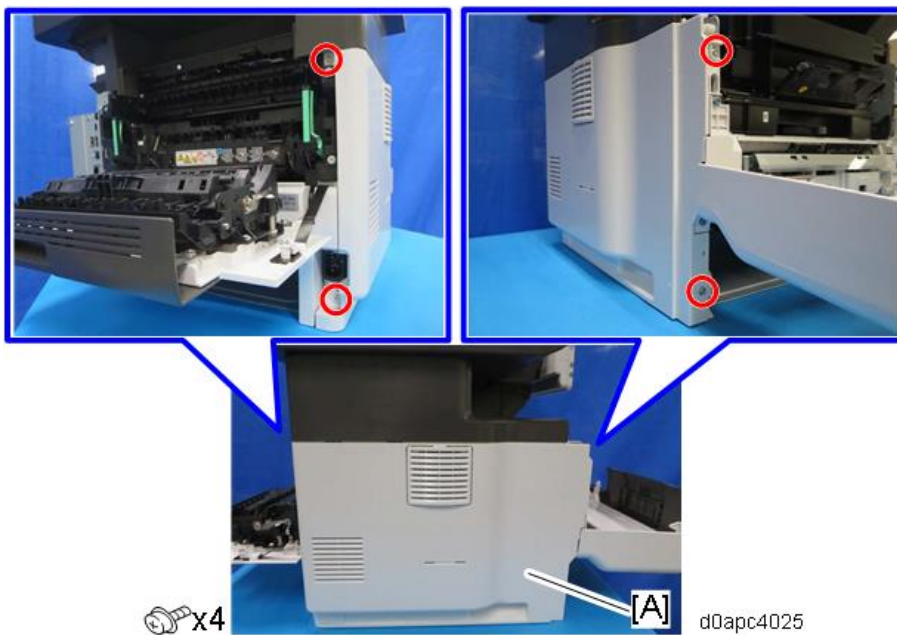
d0apc4021

3. Open the rear cover [A].



d0apc4022

4. Remove the left cover [A].



d0apc4025

**Note**

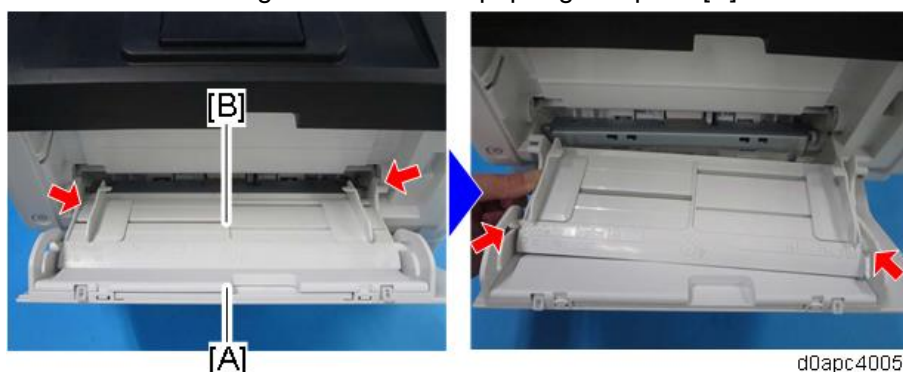
The left cover is held in position by bosses on the frame of the main machine, so the left cover must be disconnected from these bosses before removal. The rear upper boss is not visible from outside so confirm its location in the photo below.



d0apc4049

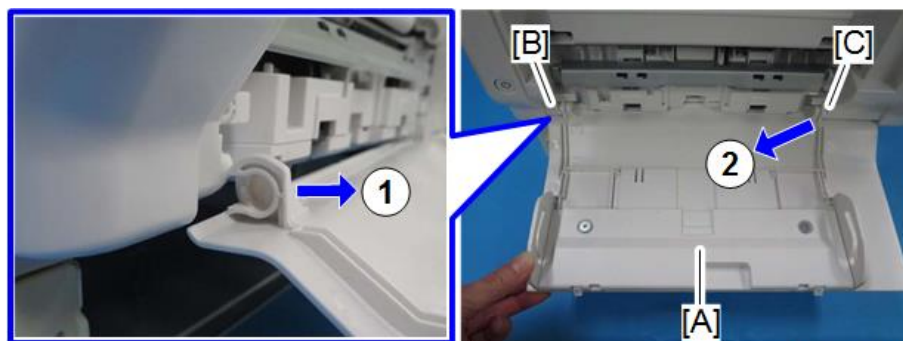
### 4.6.3 FRONT COVER (MF)

1. Remove the right cover. (*Right Cover (MF)*)
2. Close the front cover, and then open the bypass tray [A].
3. Release the four hinges to detach the paper guide plate [B].



d0apc4005

4. Open the bypass tray about 90 degrees and remove the bypass tray [A]. Release the left hinge [B] first (which is C-cut) by pulling forward, and then release the right hinge [C] by pulling obliquely toward the left, front.

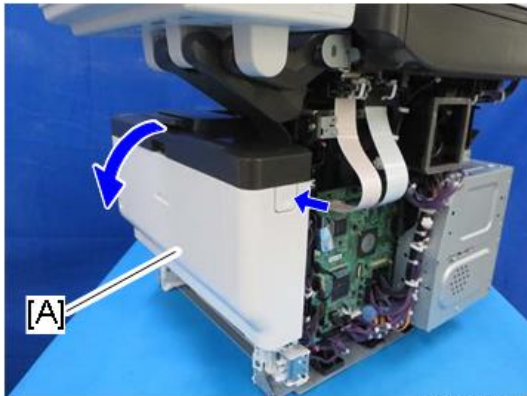


d0apc4006

**Note**

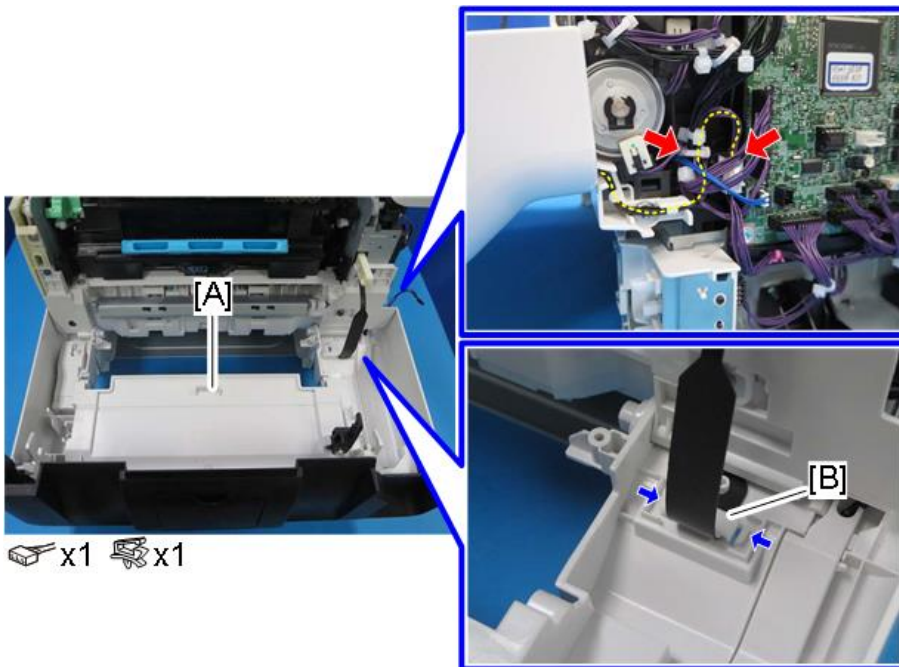
When reinstalling the bypass tray, first set the right hinge with the bypass tray wide open.

- Open the front cover [A] by pressing the front cover button.



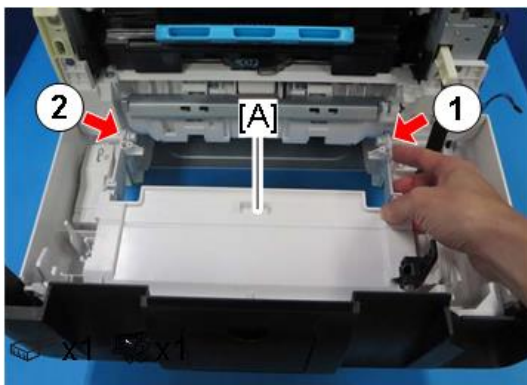
d0apc4026

- Disconnect the harness from the front cover [A] and remove the fastened part [B] of the belt.



d0apc4008

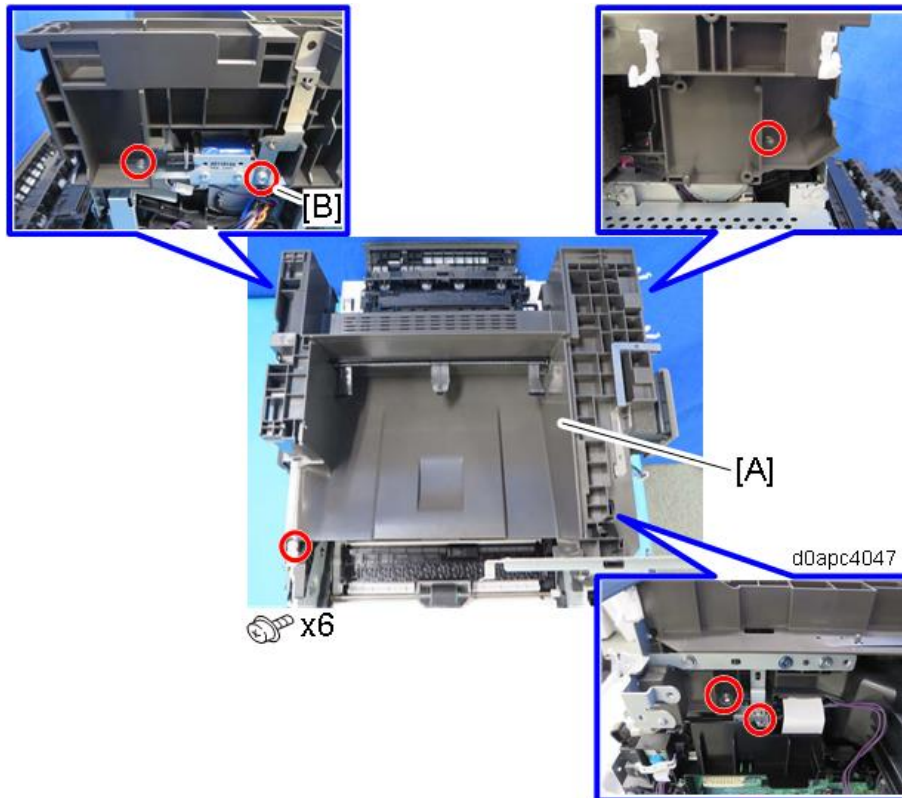
- Release both hinges to remove the front cover [A]. Release the right hinge first.



d0apc4009

#### 4.6.4 UPPER COVER (MF)

1. Remove the right cover. (*Right Cover (MF)*)
2. Remove the left cover. (*Left Cover (MF)*)
3. Remove the operation panel. (*Operation Panel Unit*)
4. Remove the scanner unit. (*Scanner Unit (with SPDF)*)
5. Remove the upper cover [A].

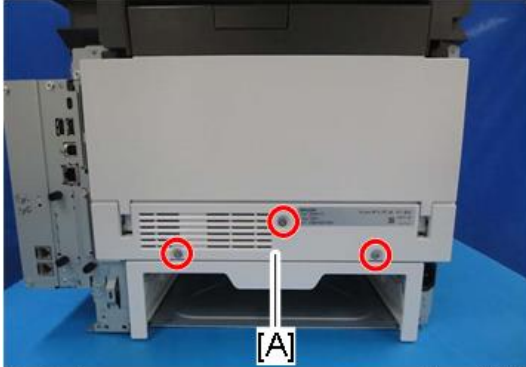


#### Note

Remove only screw [B] from the side, and then remove the other screws from the top.

### 4.6.5 REAR LOWER COVER (MF)

1. Remove the right cover. (*Right Cover (MF)*)
2. Remove the left cover. (*Left Cover (MF)*)
3. Remove the rear lower cover [A].



 x3

d0apc4027

#### Note

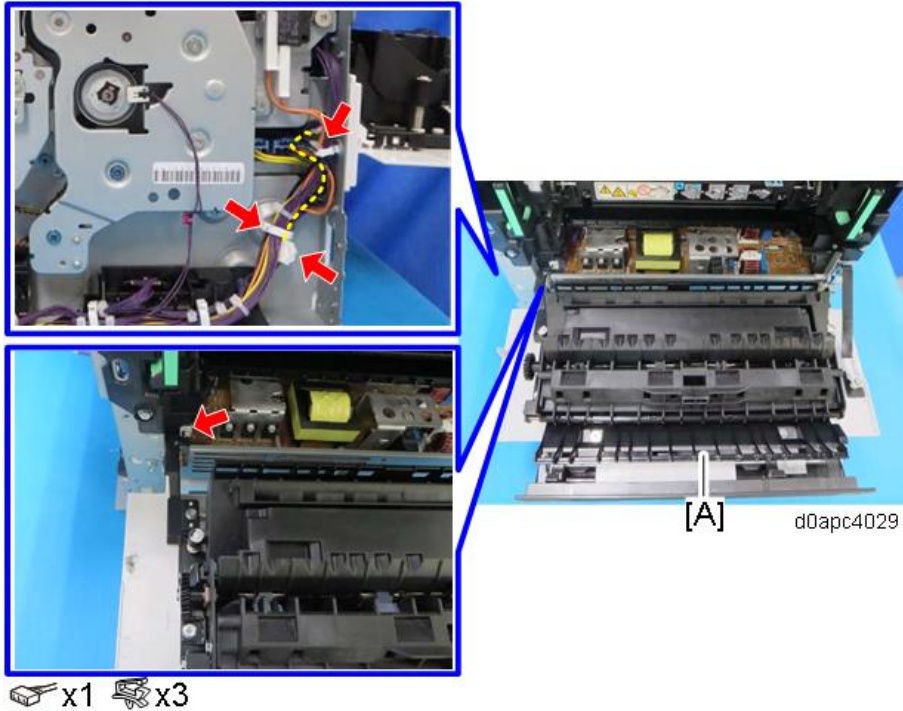
Open the rear cover slightly and remove the rear lower cover.



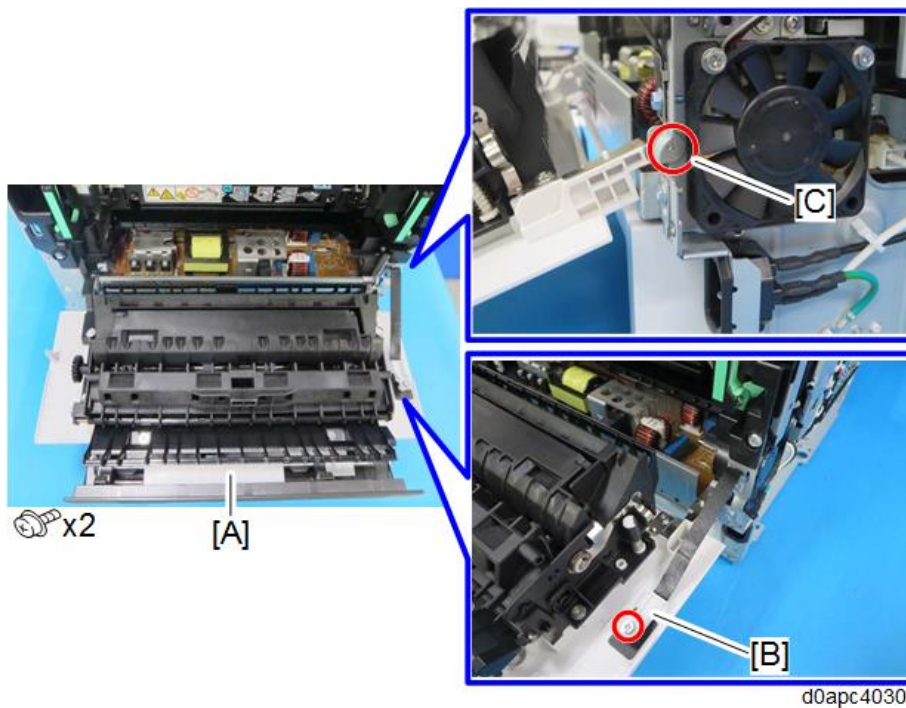
d0apc4028

### 4.6.6 REAR COVER (MF)

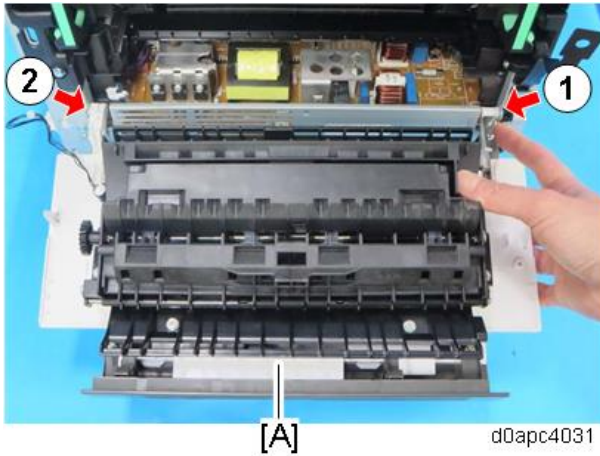
1. Remove the rear lower cover. (*Rear Lower Cover (MF)*)
2. Remove the SCB with bracket. (*SCB with the Controller Box (MF Model)*)
3. Release the harness from rear cover [A].



4. Remove the fastened part [B] for the belt of rear cover [A], and then remove the screw [C] holding the hinge.



5. Release both hinges to remove the rear cover [A]. Release the right hinge first.





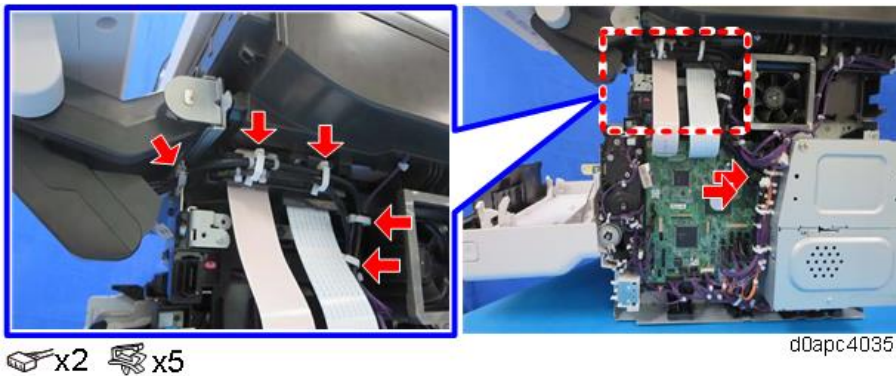
## 4.7 SMART OPERATION PANEL (MF MODEL)

### 4.7.1 OPERATION PANEL UNIT

#### ★ Important

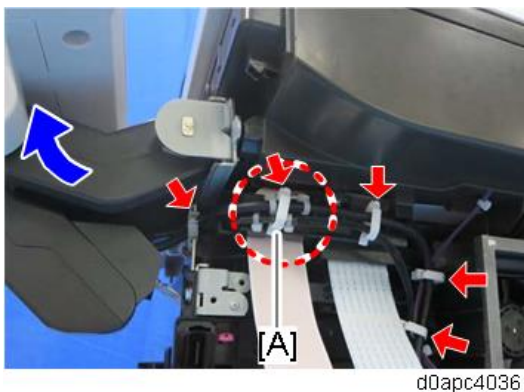
Application settings and additional applications installed on the Smart Operation panel can be backed up automatically and can be restored. For details, refer to [Automatic Backup/Restore for Application and Settings of SOP](#).

1. Remove the right cover. ([Right Cover \(MF\)](#))
2. Remove the scanner front cover. ([Scanner Front Cover](#))
3. Disconnect the harnesses from the operation panel unit.

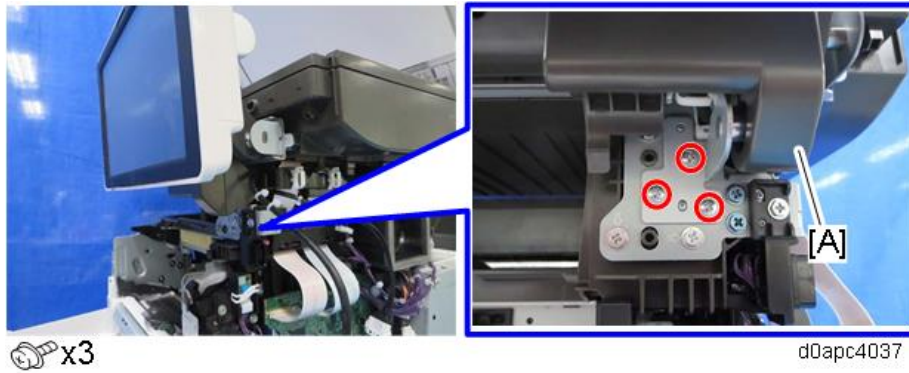


#### ↓ Note

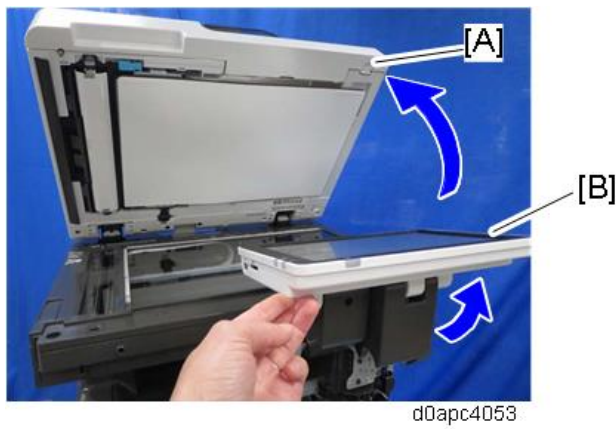
When reconnecting the harnesses, route the harnesses with the operation panel unit horizontal and clamp the harnesses. The clamp [A] fixes between the bands of the harnesses.



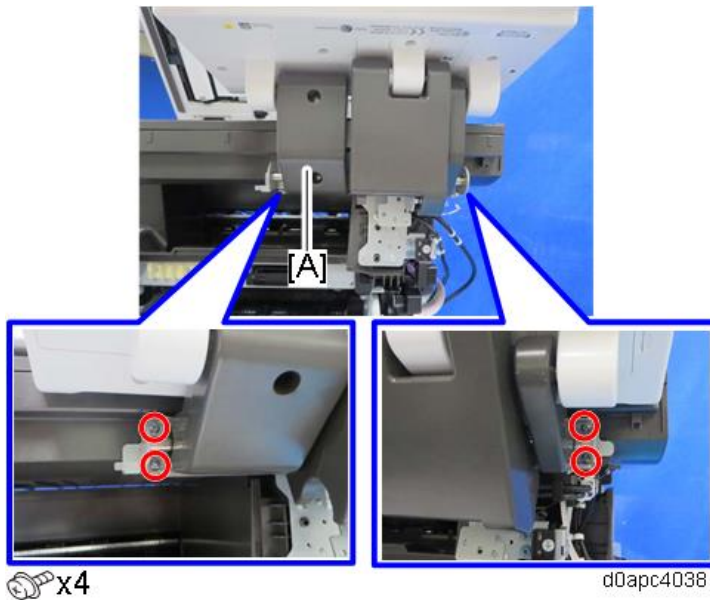
4. Set the operation panel vertically and remove the screws of the sub arm [A].



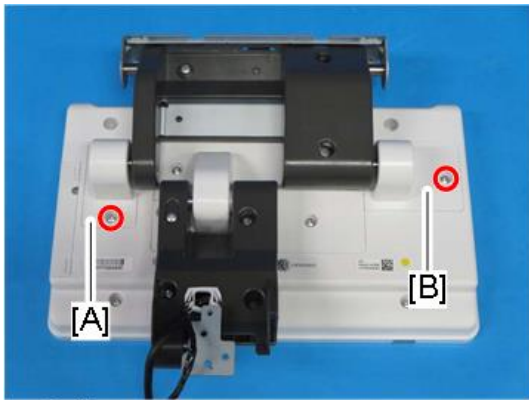
5. Open the SPDF [A], and then hold the operation panel [B] horizontal and lift it out.



6. Remove the screws of the main arm [A], and then remove the operation panel unit.

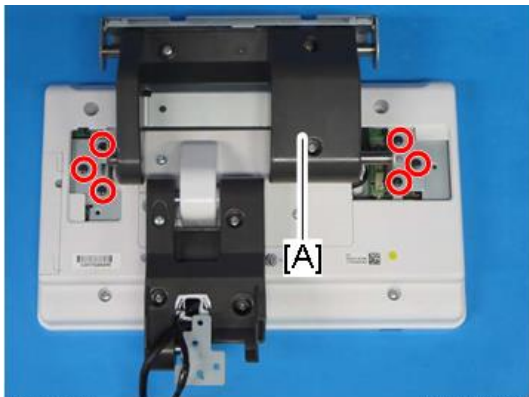


7. Turn over the operation panel unit, and remove the hinge covers [A] and [B].



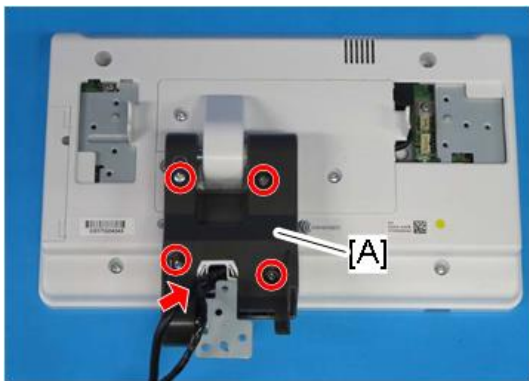
 x2 d0apc4055

8. Remove the main arm [A].



 x6 d0apc4056

9. Remove the sub arm cover [A].



 x4  x1 d0apc4039

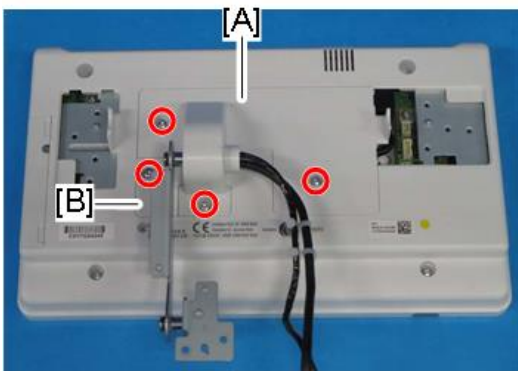
10. Release the two hooks to remove the sub-arm lower cover [A].



 x1

d0apc4040

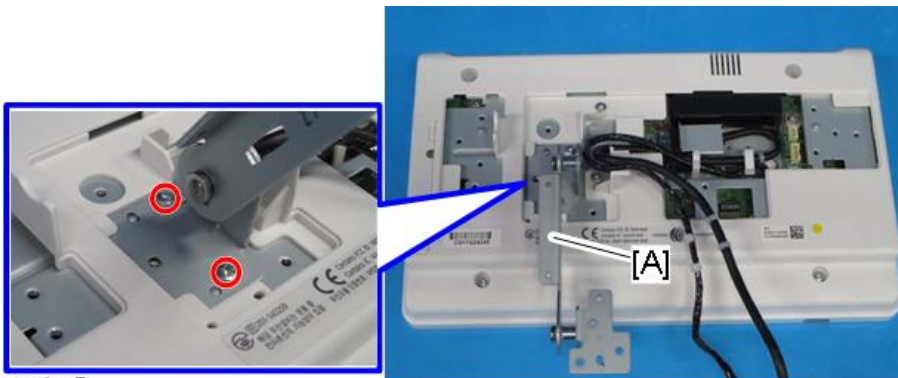
11. Remove the hinge covers [A] and [B].



 x4

d0apc4042

12. Remove the sub-arm [A].



 x2

d0apc4043

13. Release the clamps.

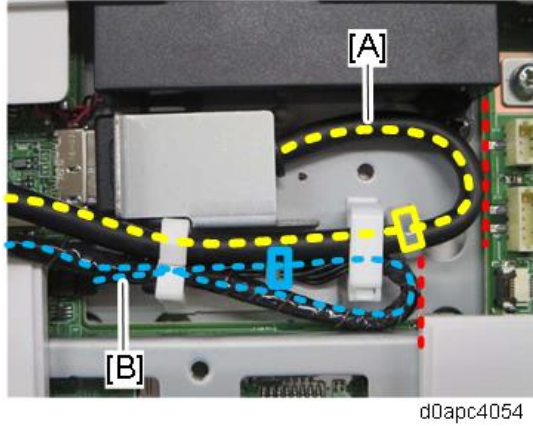


 x2

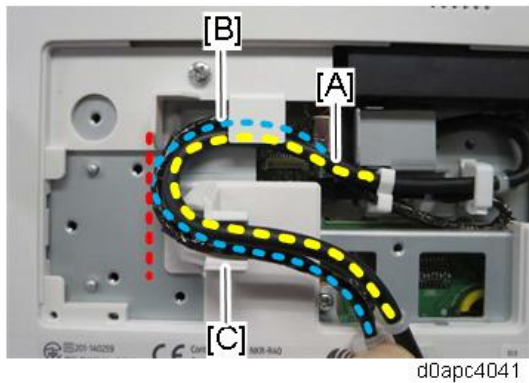
d0apc4044

**Note**

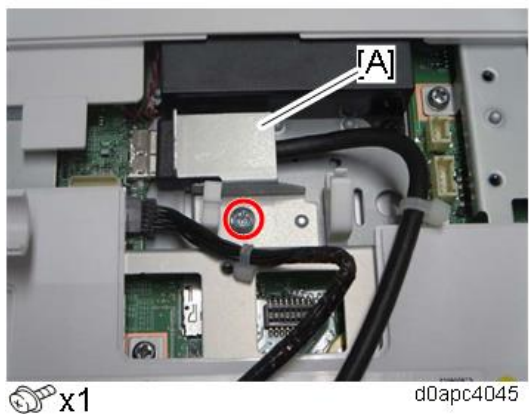
When clamping the USB cable [A], route the cable so it does not ride up on the operation panel PCB. Working carefully at the binding position, clamp the USB cable [A] and wire [B] at the positions shown below.



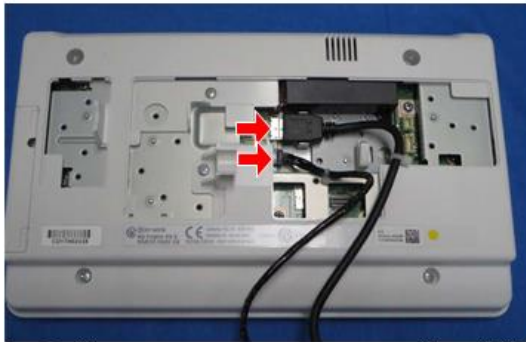
When you route the harnesses, place USB cable [A] so harness [B] is folded inside, bending it inward from inside the cover. Set the harness in the recess [C] so it will not be pinched by the hinge cover.



**14. Remove the harness cover [A].**



15. Disconnect the harnesses.



 x2

d0apc4046

 **Note**

When re-connecting the harnesses, connect them straight as shown above.

 **Important**

When re-installing the operation panel unit, route the harnesses by referring to the photo in the reverse order.

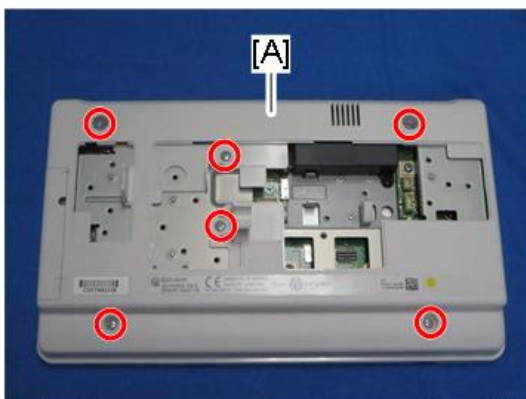
## 4.7.2 INTERNAL PARTS

Refer to the FSM for "Smart Operation Panel 2nd Generation (New Type)".

Since only the shape of the bottom cover is different from other models, refer to the next page only for removing the bottom cover.

### **Bottom Cover**

1. Remove the operation panel unit. (*Operation Panel Unit*)
2. Remove the bottom cover [A].

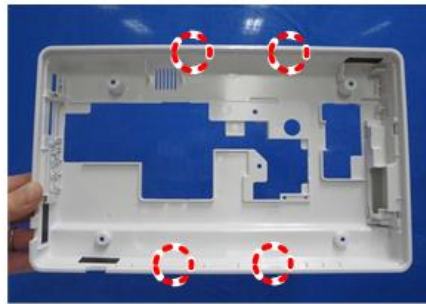
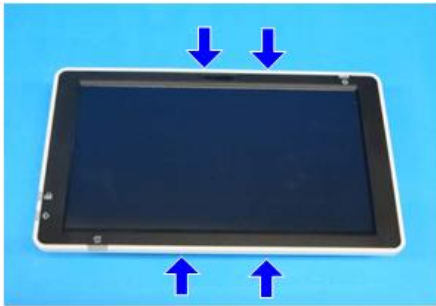


 x6

d0apc4050

**Note**

There are four hooks inside the operation panel unit. Before removing it, check the photos below.

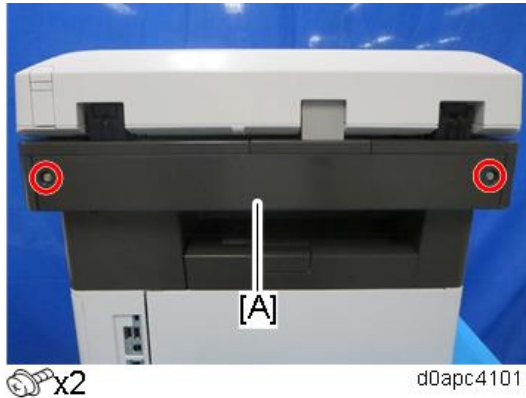


d0apc4051

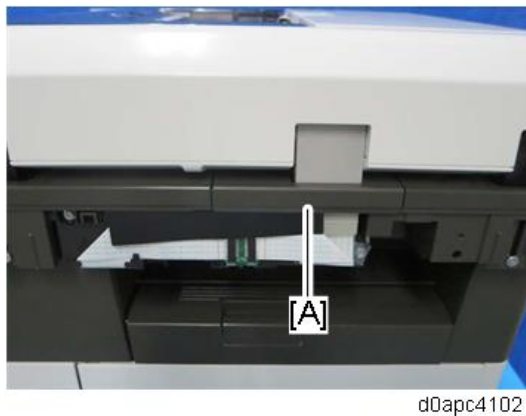
## 4.8 SPDF (MF MODEL ONLY)

### 4.8.1 SPDF UNIT

1. Remove the scanner rear cover [A].

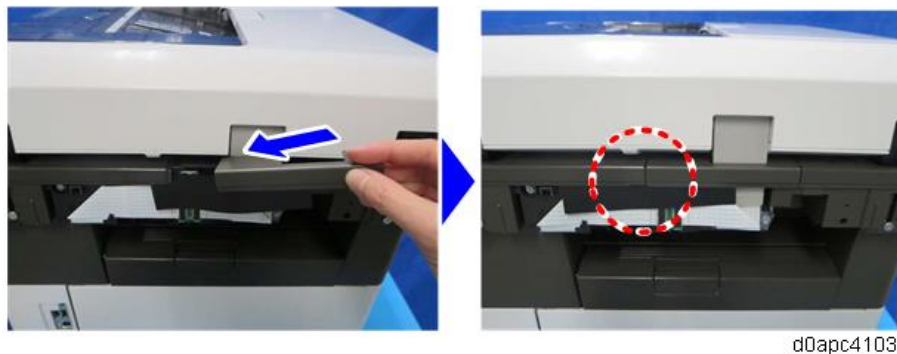


2. Remove the scanner rear upper cover [A].



#### ⓘ Note

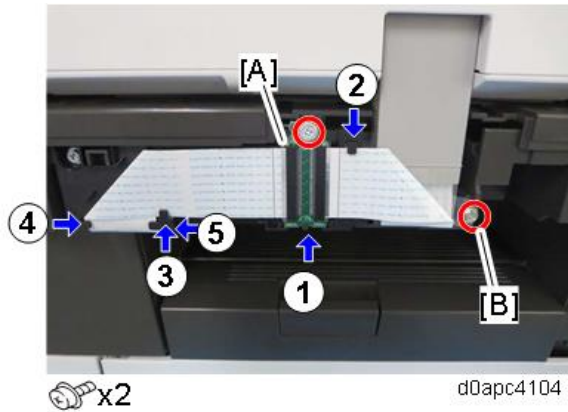
When you reattach the rear upper cover of the scanner, insert the antistatic sheet from the right side. It will slide inside the cover, and make sure that the sheet does not move on the scanner cover. Static electricity can damage the CIS unit if the sheet is not installed correctly.



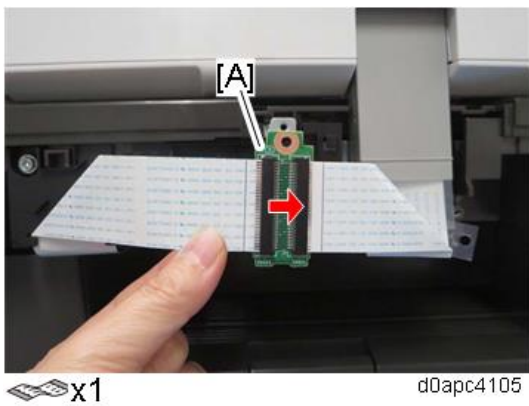
3. Remove the relay board [A] and remove the FFC screw [B].



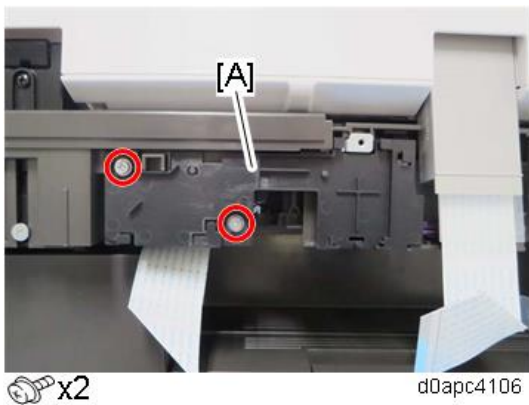
- Release the five hooks in order as shown below to free the FFC.



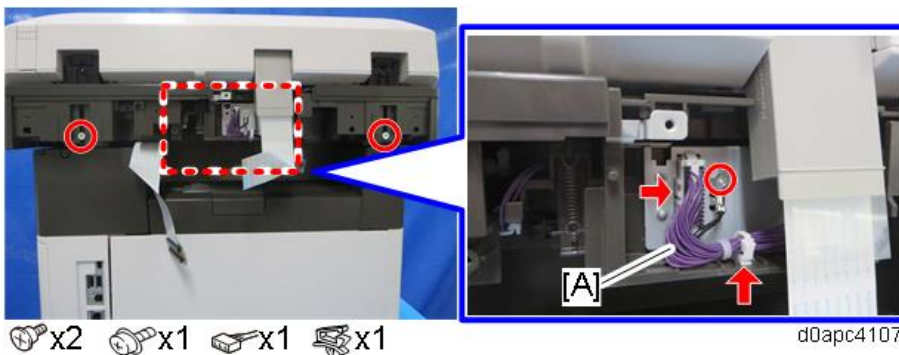
- Disconnect the right FFC from the relay board [A].



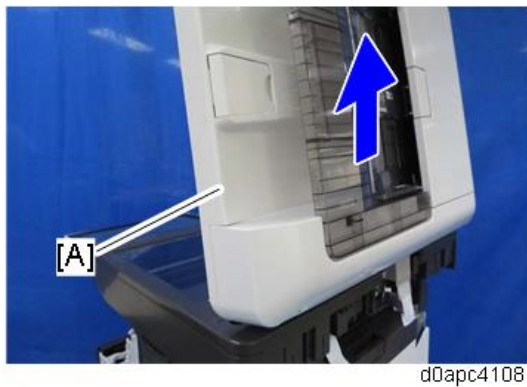
- Remove the harness guide [A].



- Disconnect the harnesses [A] from the SPDF, and then remove the two shoulder screws.

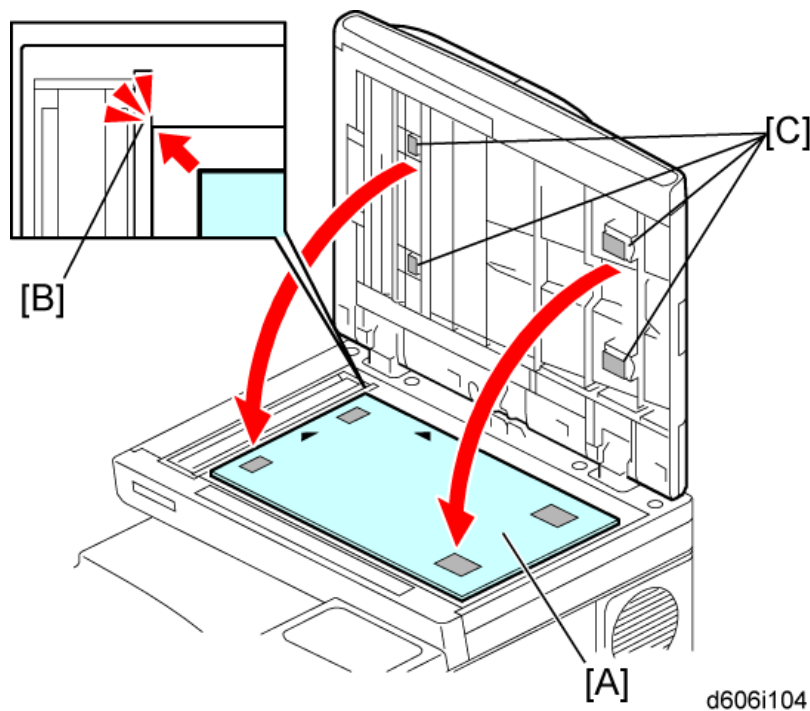


8. Open the SPDF, and then remove the SPDF unit [A].



### ***When Installing the SPDF***

1. Open the SPDF.
2. Do the following steps:
  - Place the platen sheet [A] on the exposure glass.
  - Align the platen sheet with Velcro tape [C], with the rear left corner [B] on the exposure glass as a reference.



3. Close the SPDF.
4. Reopen the SPDF.
5. Press the surface of the platen sheet gently to fix it on the SPDF firmly.

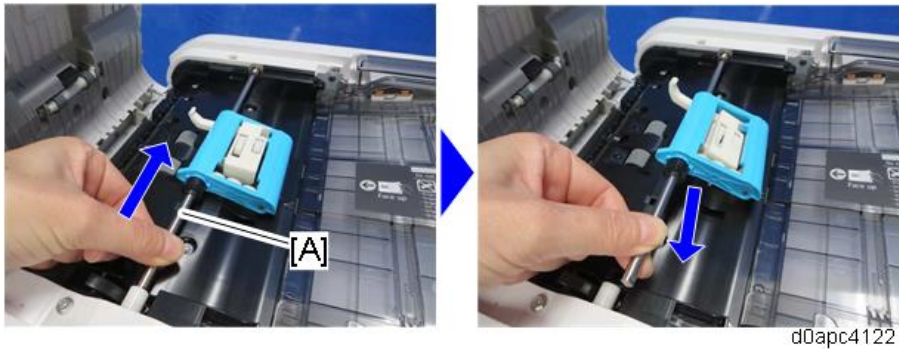
## 4.8.2 ORIGINAL FEED UNIT

### ★ Important

Before replacing the original feed unit, reset the PM counter.

- 1.** Turn the power ON and enter the SP mode.
- 2.** Execute the following SPs to reset the PM counter.
  - SP7-804-008 (Reset PM Counter: ADF Pickup)
  - SP7-804-009 (Reset PM Counter: ADF Feed)
- 3.** Turn the power OFF.

1. Open the SPDF top cover.
2. Slide the shaft [A] of the original feed unit toward the rear and remove it.



## 4.8.3 SPDF FRICTION PAD

### ★ Important

Before replacing the SPDF friction pad, reset the PM counter.

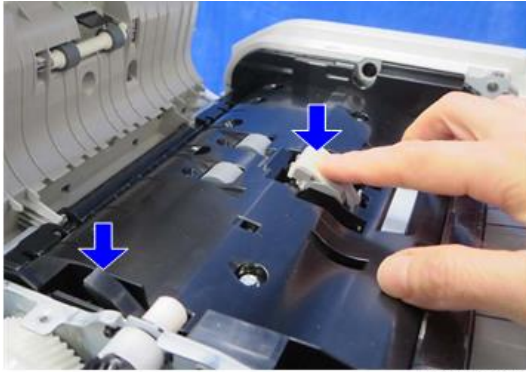
- 1.** Turn the power ON and enter the SP mode.
- 2.** Execute the SP7-804-007 (Reset PM Counter: ADF Pad) to reset the PM counter.
- 3.** Turn the power OFF.

1. Remove the original feed unit. (*Original Feed Unit*)
2. Push the lock lever [A] and then remove the SPDF friction pad [B].



**Note**

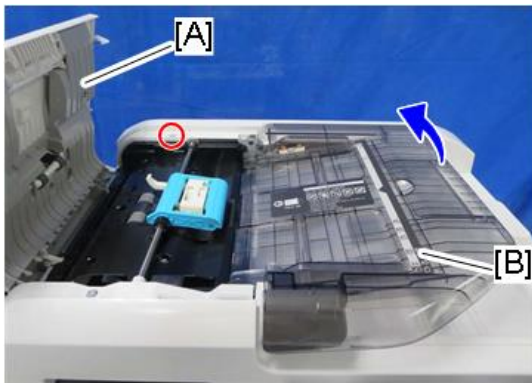
When reinstalling the SPDF friction pad, push the lock lever and friction pad down together.



d0apc4131

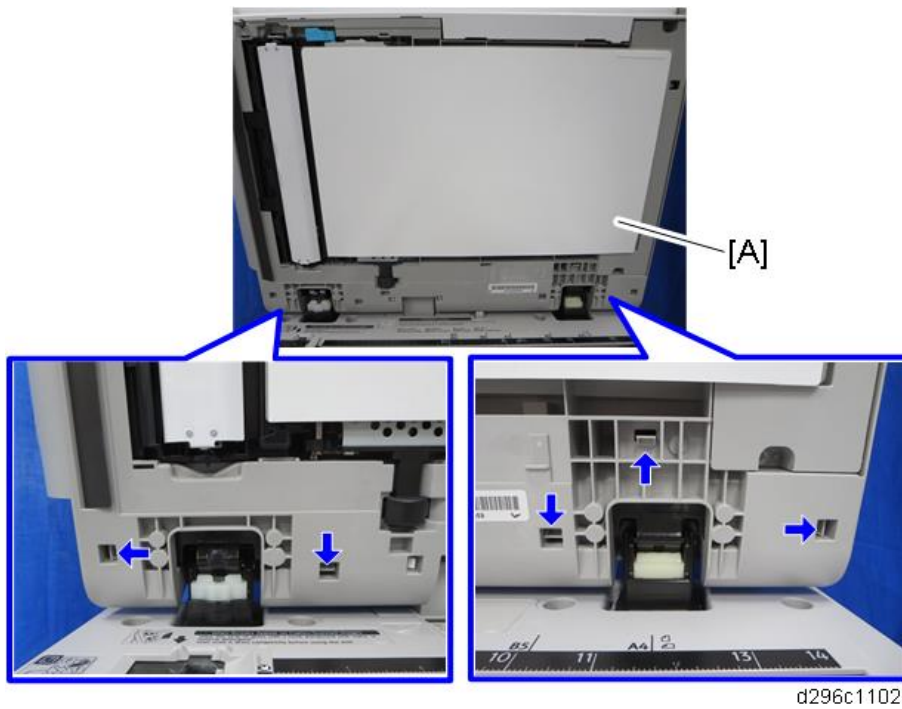
#### 4.8.4 SPDF REAR COVER

1. Open the SPDF top cover [A] and remove the screw.
2. Lift the original tray [B].

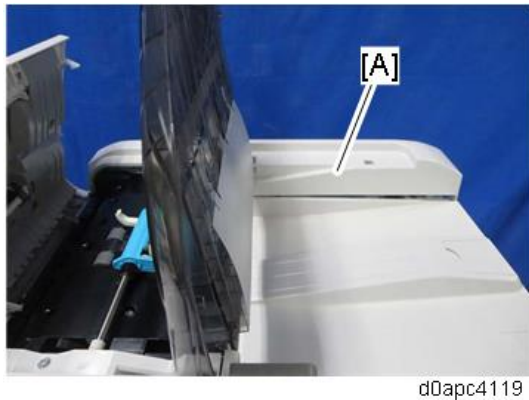


d0apc4118

3. Open the SPDF [A], and then release the five tabs of the SPDF rear cover with a small screwdriver.

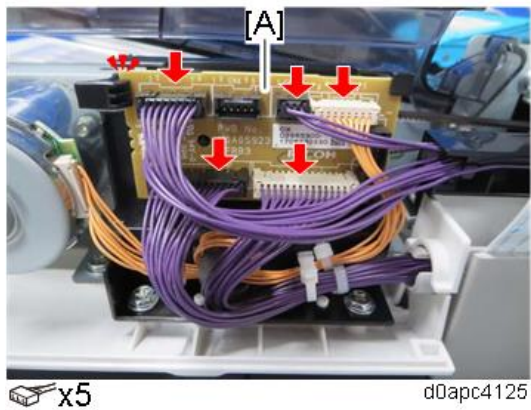


4. Remove the SPDF rear cover [A].



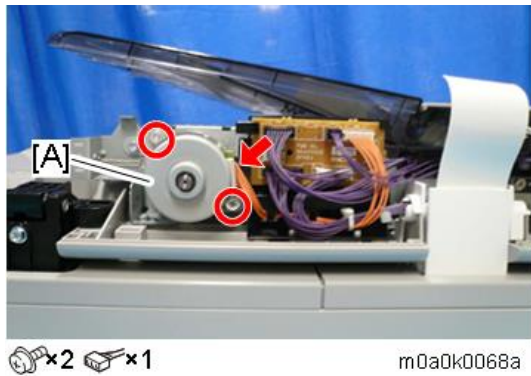
### 4.8.5 SPDF RELAY BOARD

1. Remove the SPDF rear cover. ([SPDF Rear Cover](#))
2. Release the hook, and then remove the SPDF relay board [A].



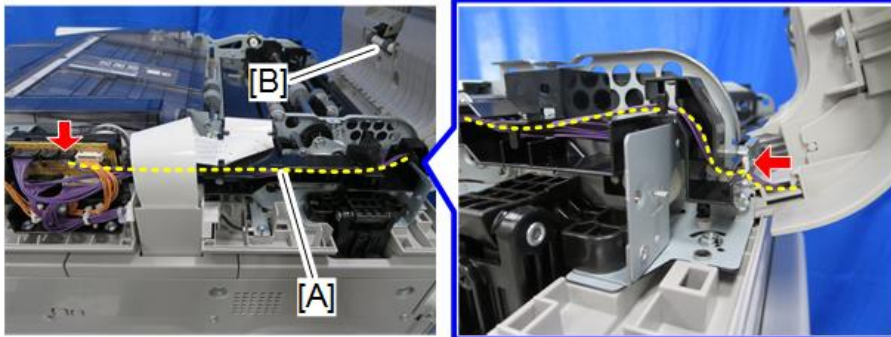
### 4.8.6 SPDF DRIVE MOTOR (M6)

1. Remove the SPDF rear cover. ([SPDF Rear Cover](#))
2. Remove the SPDF drive motor (M6) [A].



### 4.8.7 SPDF FEED SENSOR (S17)

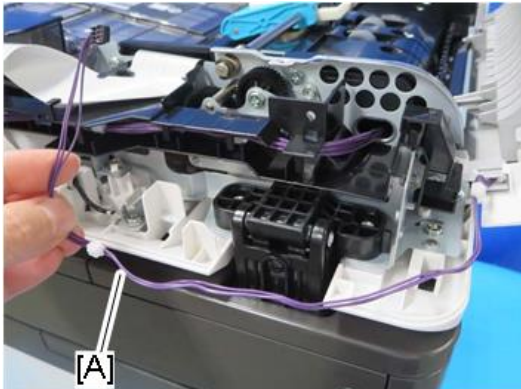
1. Remove the SPDF rear cover. ([SPDF Rear Cover](#))
2. Disconnect the harness [A] from the SPDF top cover [B], and then release the clamp.



x1 x1

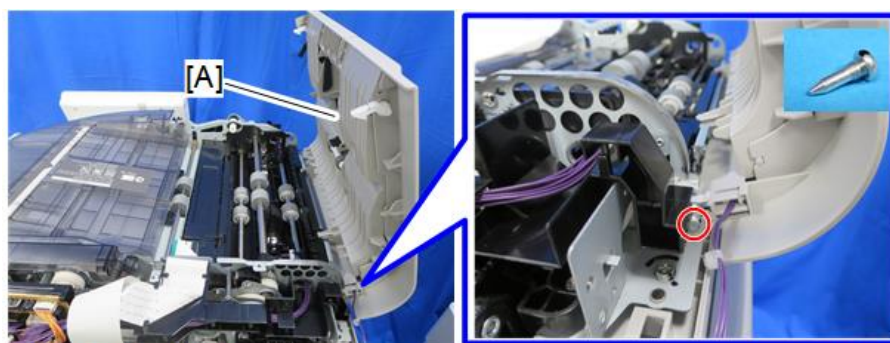
d296c1110

3. Remove the harness [A] from the harness guide.



d0apc4124

4. Remove the SPDF top cover [A].



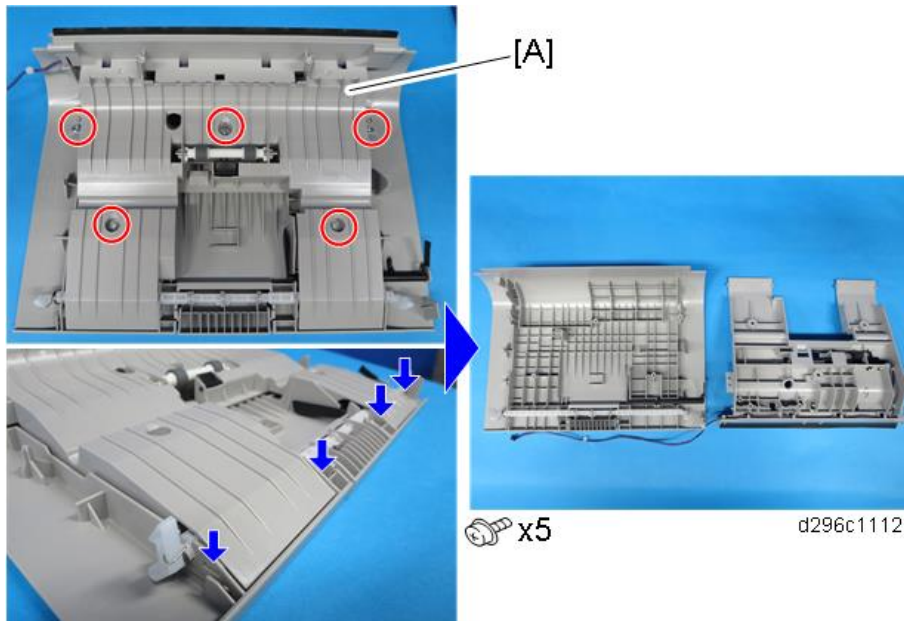
Pivot screw x1

d296c1111

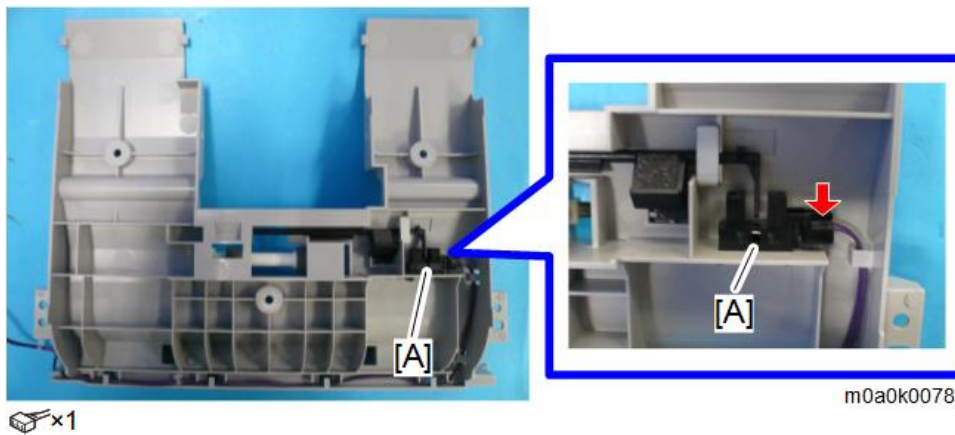
5. Remove the five screws and release the four tabs, and then remove the inner cover [A].

**Important**

To prevent bending or damaging the inner cover, place it on a flat surface before you remove it.

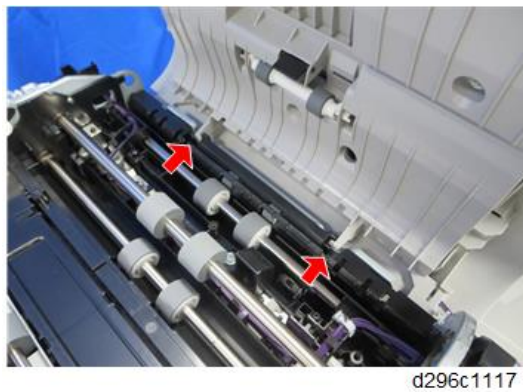


6. Remove the SPDF feed sensor (S17) [A].



**Note**

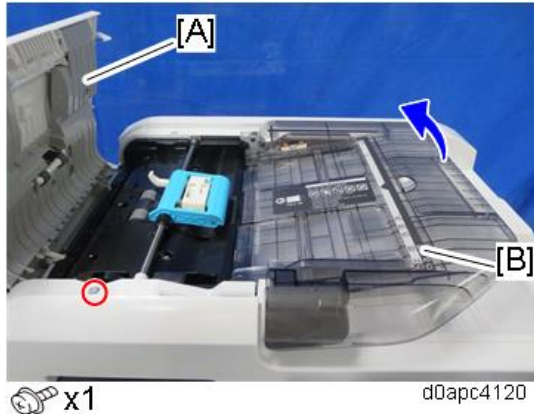
When reattaching the SPDF top cover, make sure to place it correctly so that the two tabs fit into the holes.



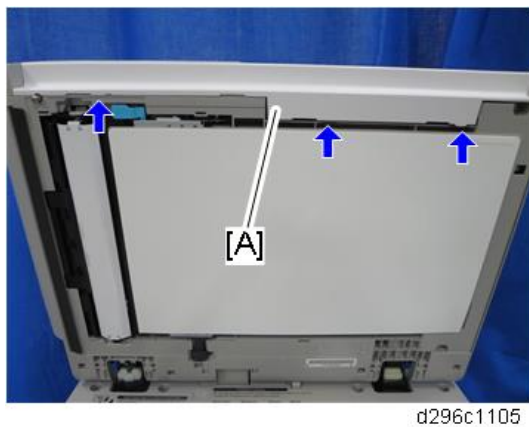


### 4.8.8 SPDF FRONT COVER

1. Open the SPDF top cover [A].
2. Remove the screw, and then raise the original tray [B].



3. Open the SPDF, and then release the three tabs of the SPDF front cover [A].



4. Close the SPDF slightly, and then remove the SPDF front cover [A] while releasing the two tabs with a thin screwdriver.

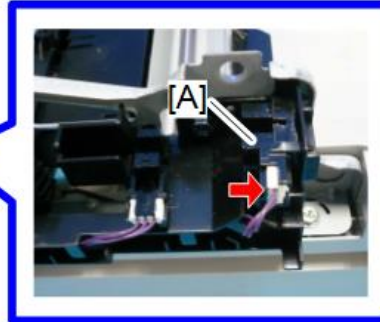


### 4.8.9 FEED COVER SENSOR (S15), ORIGINAL SET SENSOR (S14)

1. Remove the SPDF front cover. (*SPDF Front Cover*)
2. Remove the feed cover sensor (S15) [A].



 x1

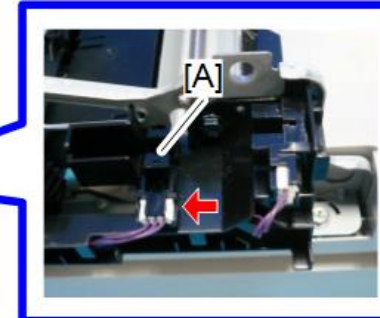


m0a0k0069

3. Remove the original set sensor (S14) [A].



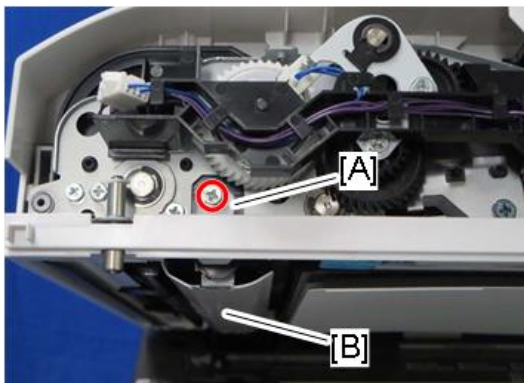
 x1



m0a0k0070

### 4.8.10 SPDF REGISTRATION SENSOR (S16)

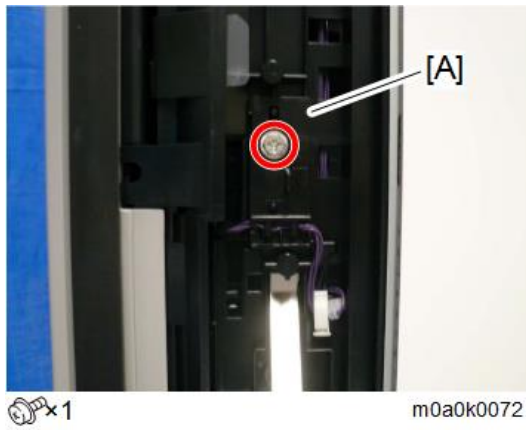
1. Remove the SPDF front cover. (*SPDF Front Cover*)
2. Open the SPDF.
3. Remove the plate [A] and then remove the scanning guide plate [B].



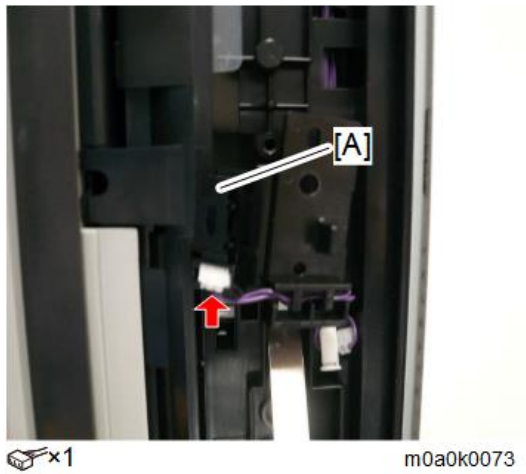
 x1

d0apc4129

4. Remove the SPDF registration sensor (S16) with the bracket [A].

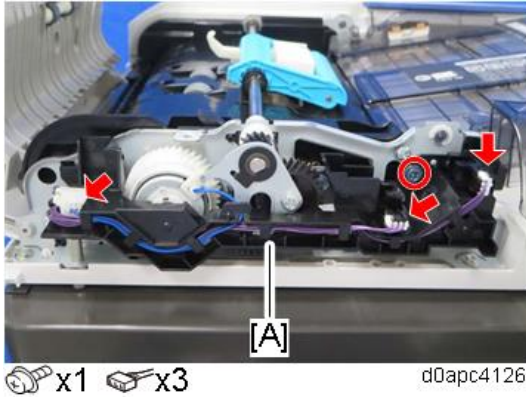


5. Remove the SPDF registration sensor (S16) [A] from the bracket.

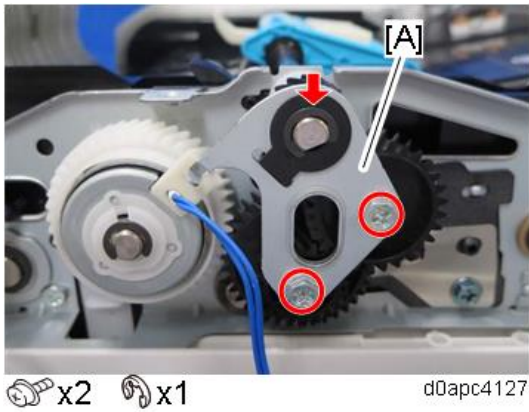


### 4.8.11 SPDF FEED CLUTCH (CL8)

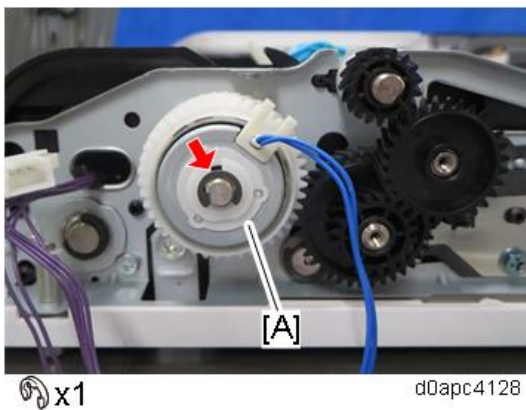
1. Remove the front cover. (*SPDF Front Cover*)
2. Release the harnesses on the harness guide [A] then remove it.



3. Remove the gear bracket [A].

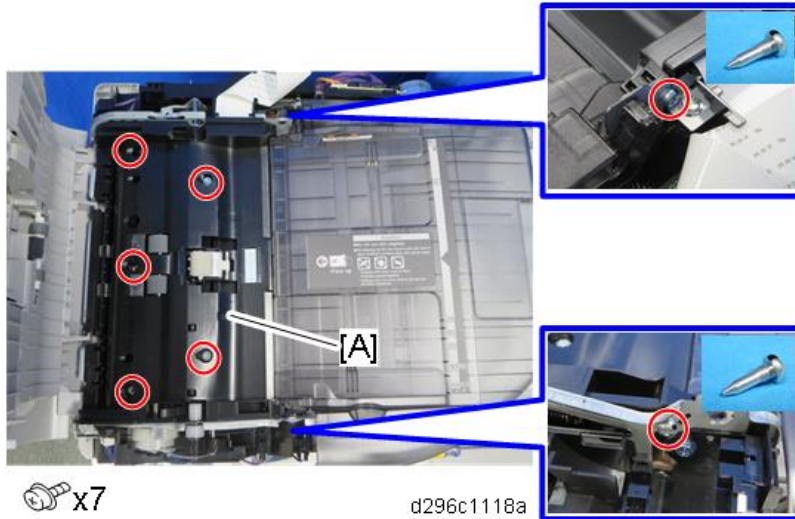


4. Remove the SPDF feed clutch (CL8) [A].



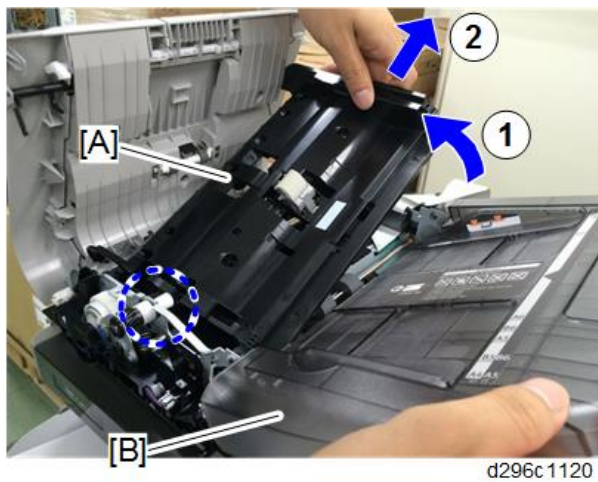
## 4.8.12 CIS UNIT

1. Remove the SPDF front cover. (*SPDF Front Cover*)
2. Remove the SPDF rear cover. (*SPDF Rear Cover*)
3. Remove the original feed unit. (*Original Feed Unit*)
4. Remove the SPDF inner cover [A].

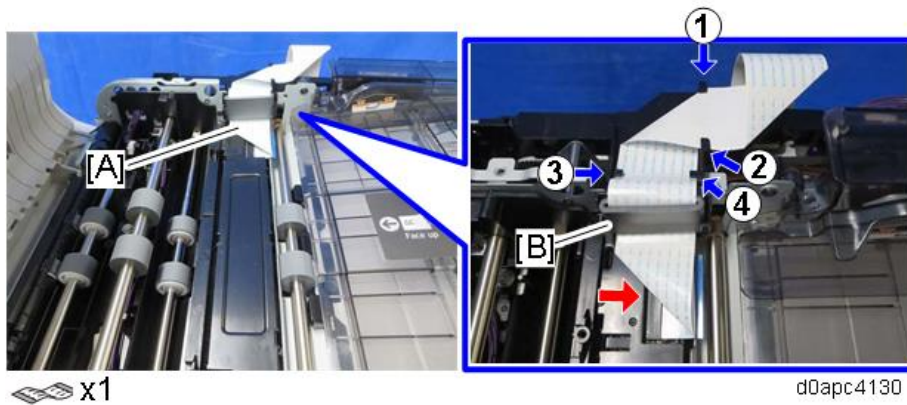


### Note

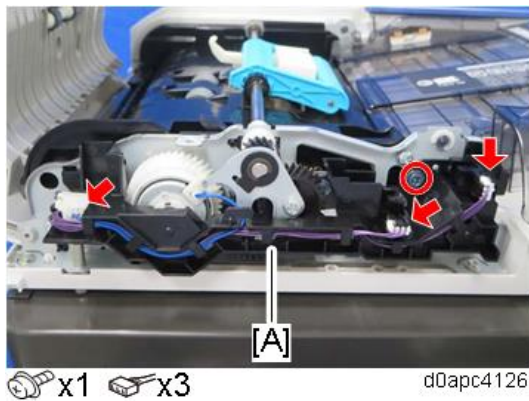
Lift the back of the SPDF inner cover [A] while raising the original tray [B], and then slide the SPDF inner cover toward the back of the SPDF unit.



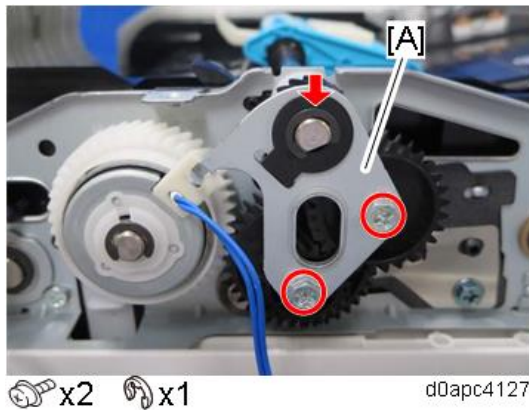
5. Release the four hooks in the order shown below, and then remove the ferrite core [B] from the holder to disconnect the FFC [A].



6. Release the routed harnesses from the harness guide [A], and then remove it.



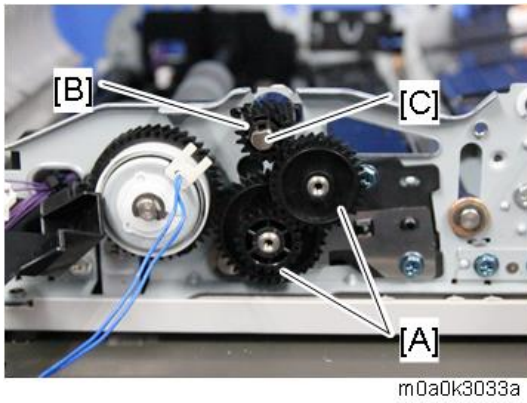
7. Remove the gear bracket [A].



8. Remove the gears [A].

**★ Important**

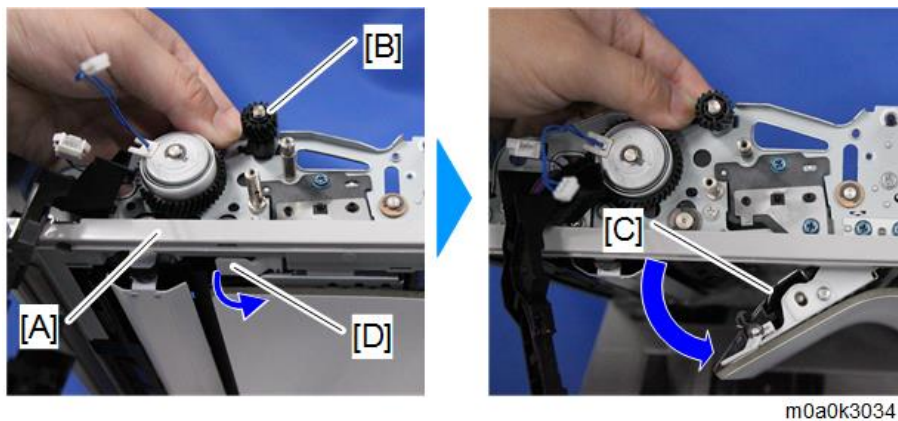
Do not remove the gear [B] (this prevents inner pin [C] from falling into the machine).



9. Open the SPDF unit [A] while holding the gear [B] by hand, and open the scanning guide plate (rear side) [C] by pulling the release lever [D].

★ Important

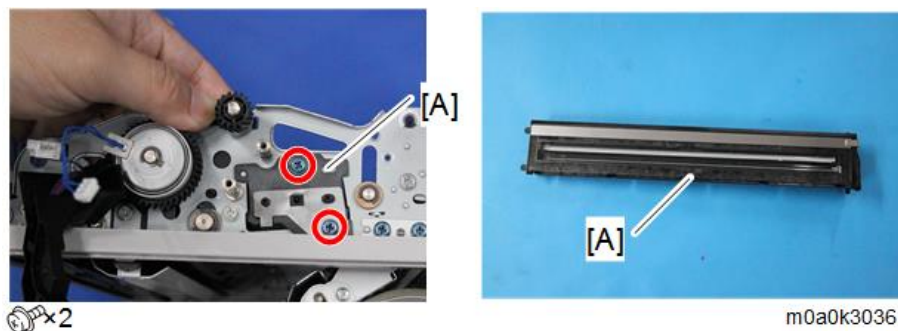
- Hold the gear [B]. It is not fastened, and it may drop into the machine.
- Open the scanning guide plate (rear side) [C] before replacing the CIS unit. Otherwise, the surface could be damaged.



10. Pull out the CIS unit [A] from the SPDF unit.

↓ Note

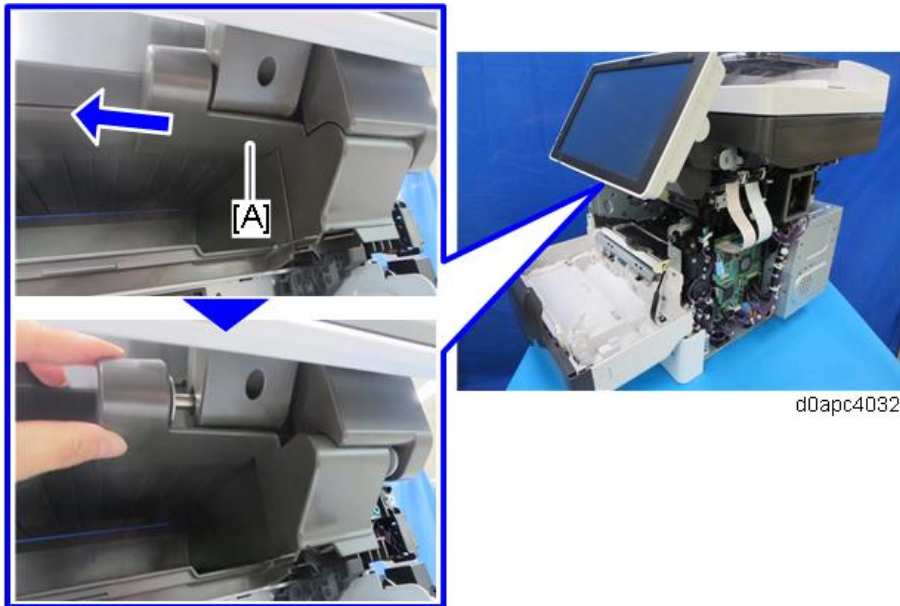
- The CIS unit can be easily removed by pushing it from behind.



## 4.9 SCANNER (MF MODEL ONLY)

### 4.9.1 SCANNER FRONT COVER

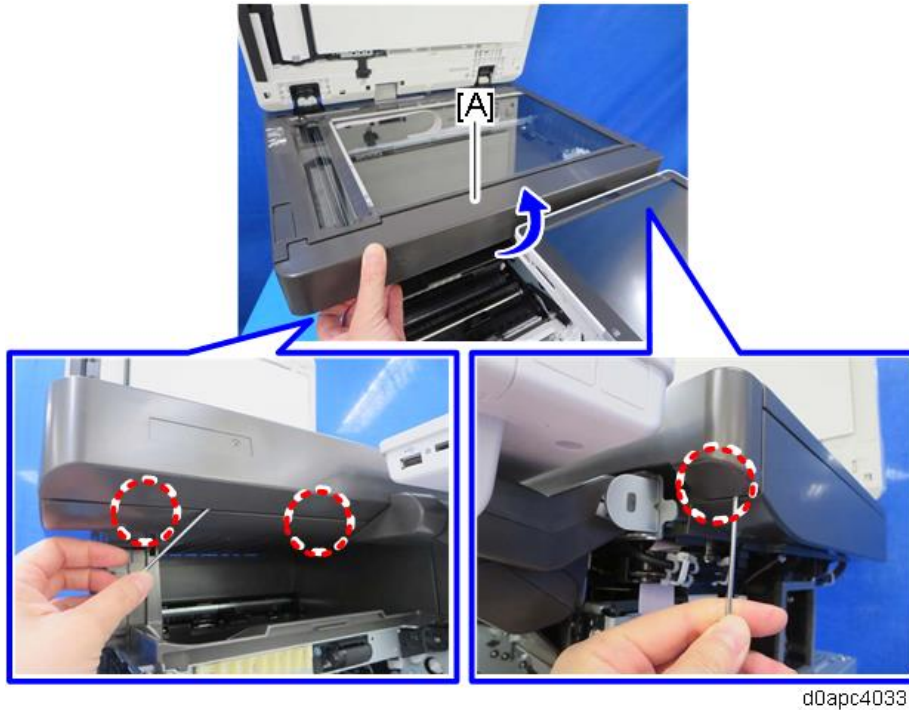
1. Remove the right cover. (*Right Cover (Printer)*, *Right Cover (MF)*)
2. Remove the PCDU. (*PCDU*)
3. Slide off the operation panel lower cover [A] to remove it.



4. Open the SPDF.
5. Release the three hooks with a small flathead screwdriver, and then remove the scanner front cover [A].

Remove the cover while raising it from the front side.

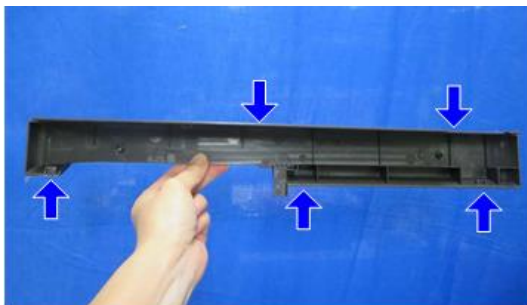




d0apc4033

**Note**

There are some hooks inside the scanner front cover. Before removing the cover, confirm the positions of the hooks in the photo below.

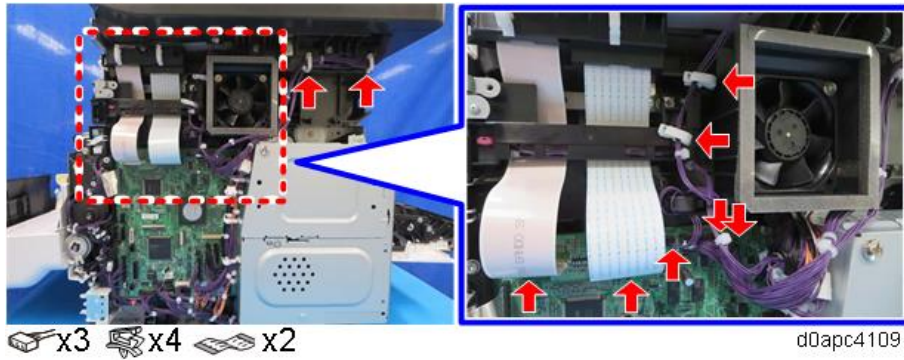


d0apc4034

#### 4.9.2 SCANNER UNIT (WITH SPDF)

1. Remove the right cover. (*Right Cover (MF)*)
2. Remove the left cover. (*Left Cover (MF)*)
3. Remove the operation panel unit. (*Operation Panel Unit*)

4. Disconnect the harnesses and FFCs from the scanner unit.

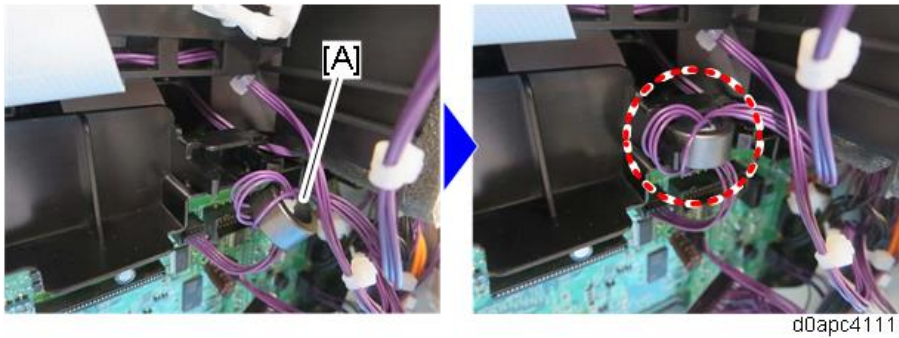


**Note**

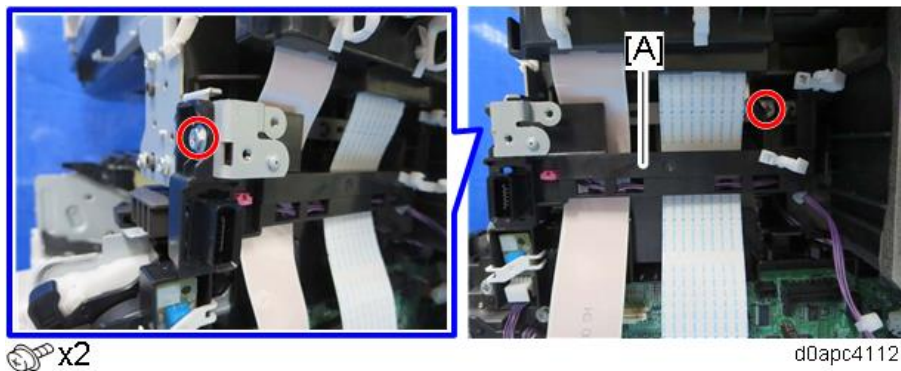
The FFC on the left side has a lock mechanism. Press the lock lever to disconnect it.



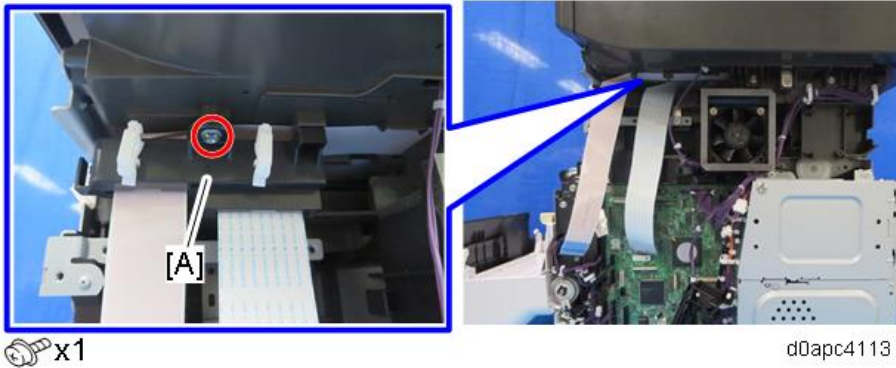
Set the ferrite core [A] in the holder when you connect the harnesses.



5. Remove the harness guide [A].

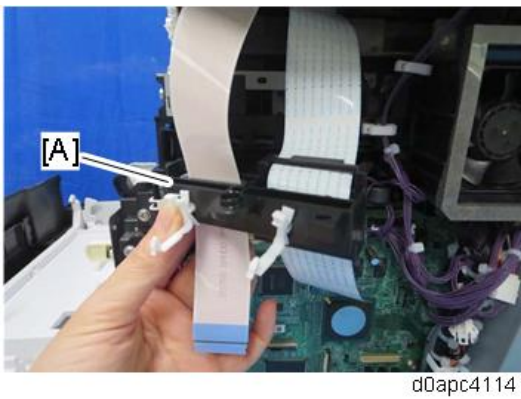


- Remove the ferrite core holder [A].

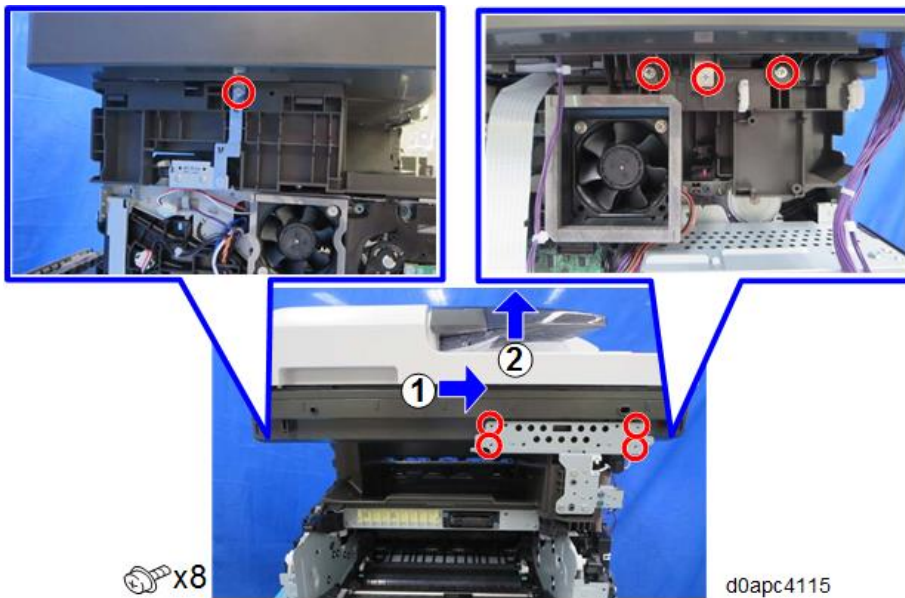


**Note**

When you attach the ferrite core holder [A], route the FFCs through the two ferrite cores.

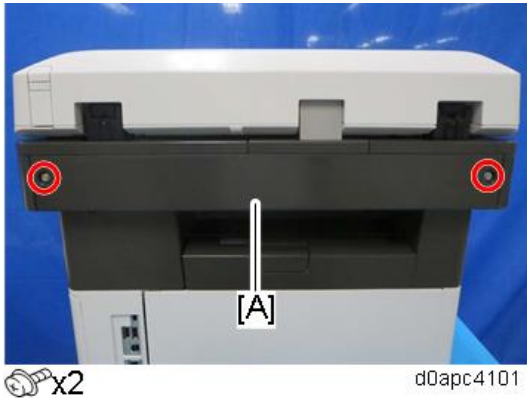


- Slide the scanner unit and SPDF to the right, and then lift it off the machine.

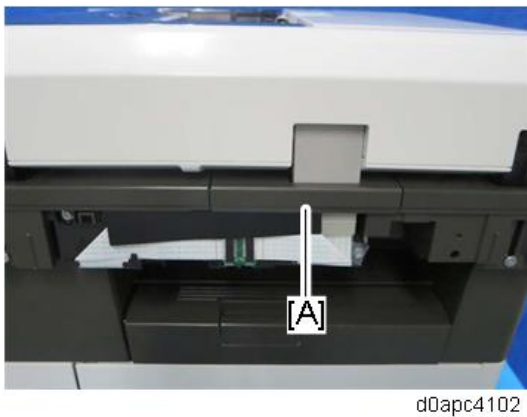


### 4.9.3 PLATEN COVER SENSOR (S13)

1. Remove the scanner rear cover [A].



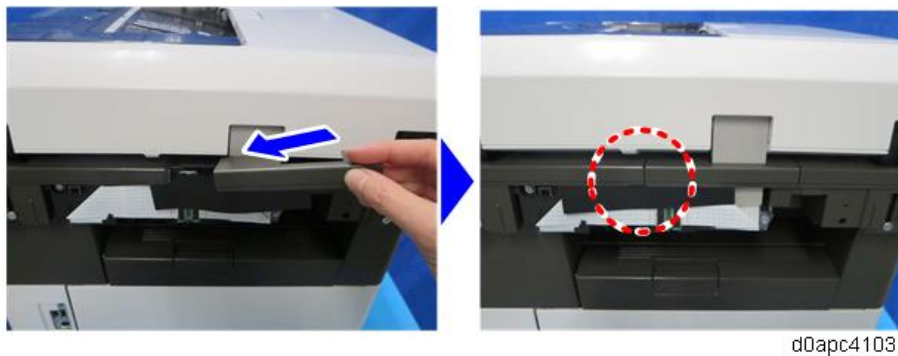
2. Remove the scanner rear upper cover [A].



#### Note

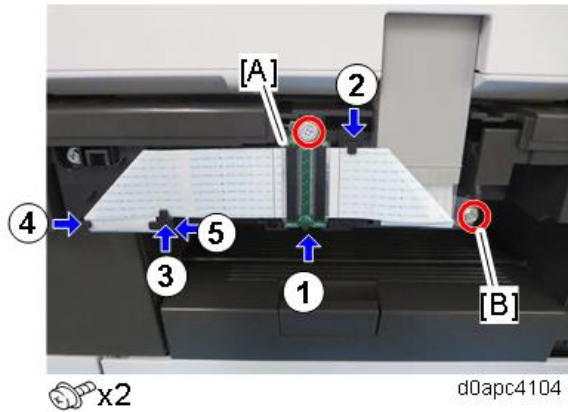
When you attach the rear upper cover of the scanner, insert the anti-static sheet from the right so it slides inside the cover, and confirm that the sheet does not ride up on the scanner cover.

If the protective sheet is not installed correctly, static electricity could damage the CIS unit.

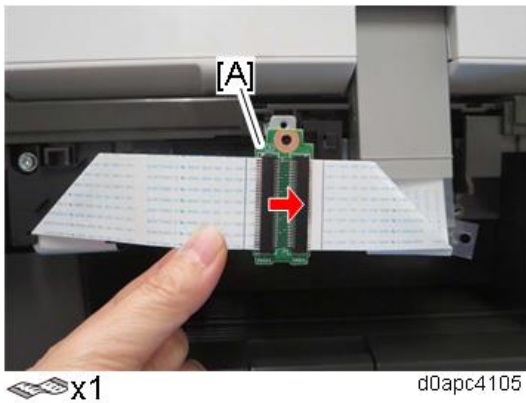


3. Remove the relay board [A] and remove the screw [B] fastened the FFC.

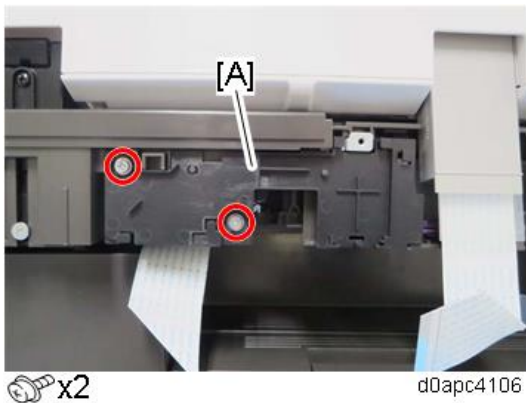
4. Release the five hooks in the order shown below to free the FFC.



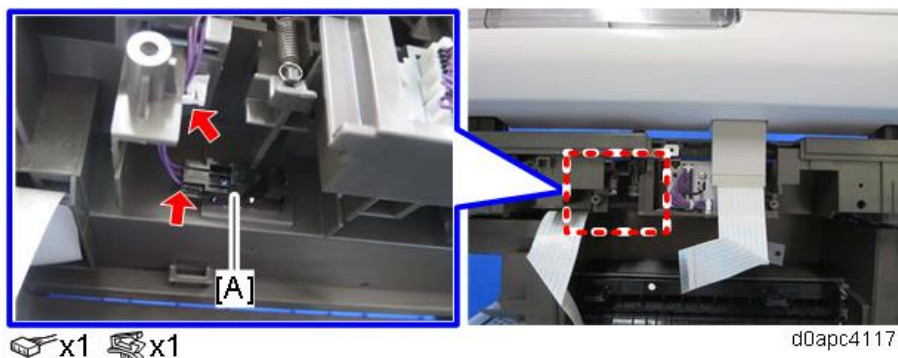
5. Disconnect the right FFC from the relay board [A] while pulling it out straight. (There is no locking mechanism.)



6. Remove the harness guide [A].

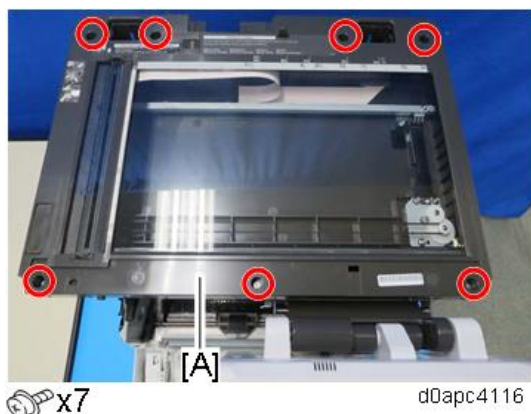


- Open the SPDF to move the feeler, and then remove the platen cover sensor (S13) [A].

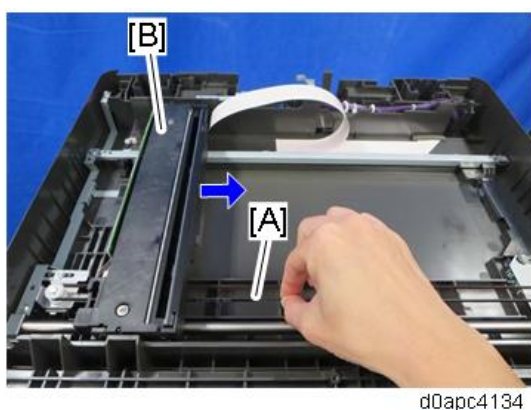


#### 4.9.4 SCANNER HP SENSOR (S12)

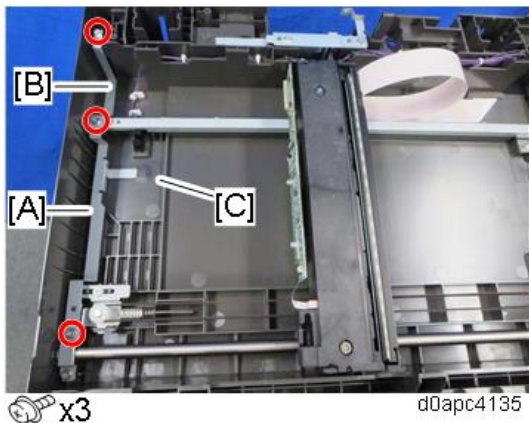
- Remove the SPDF unit. (*SPDF Unit*)
- Remove the scanner front cover. (*Scanner Front Cover*)
- Remove the scanner upper cover [A].



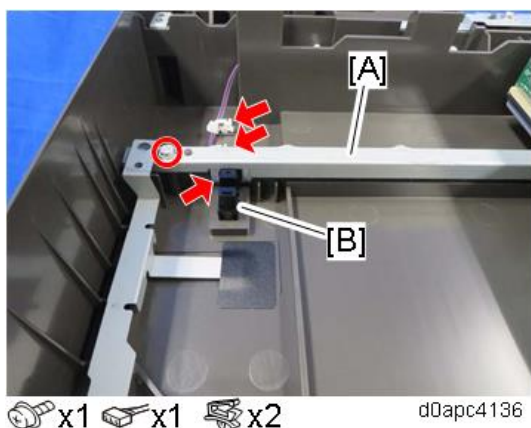
- Pull the carriage belt [A] slowly to move the scanner carriage unit [B] to the right. Never push or pull on the carriage unit directly.



- Remove the screws of the brackets [A], and then remove the bracket [B]. Bracket [A] is attached with tape [C] and cannot be removed. Let bracket [A] float free slightly, and then remove bracket [B].

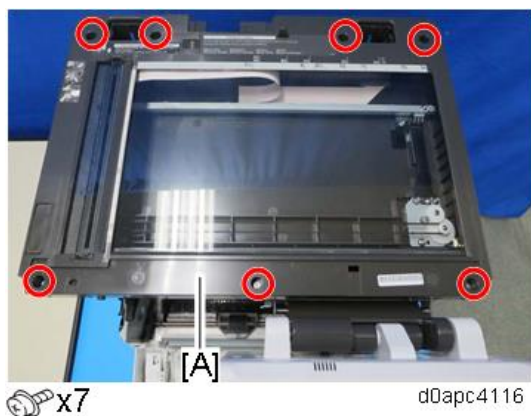


6. While raising rail [A] slightly, remove the scanner HP sensor (S12) [B].

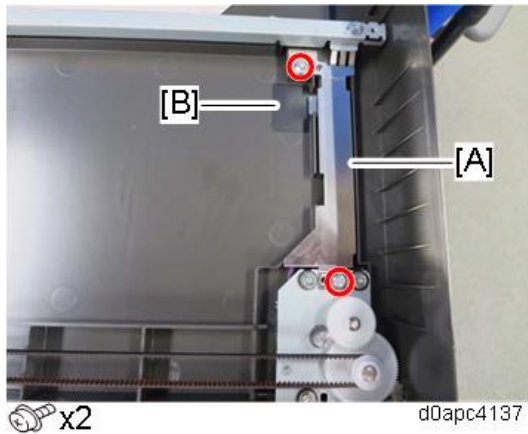


#### 4.9.5 SCANNER MOTOR (M5)

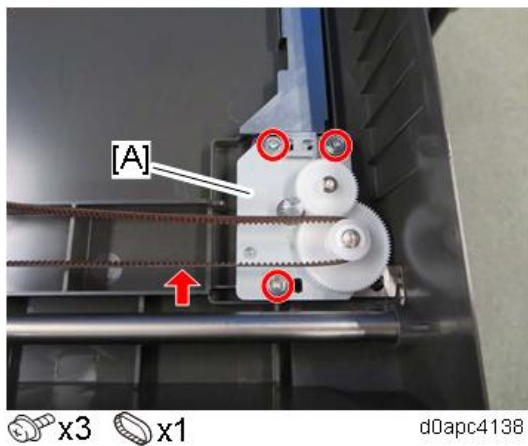
1. Remove the SPDF unit. (*SPDF Unit*)
2. Remove the scanner front cover. (*Scanner Front Cover*)
3. Remove the scanner upper cover [A].



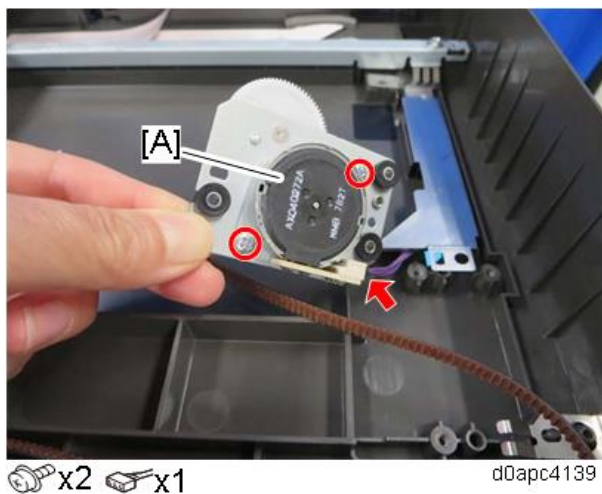
- Remove screws of light shield [A], and then let it float free. The shield is attached with tape [B] so do not remove it.



- Remove the scanner motor (M5) with the bracket [A].



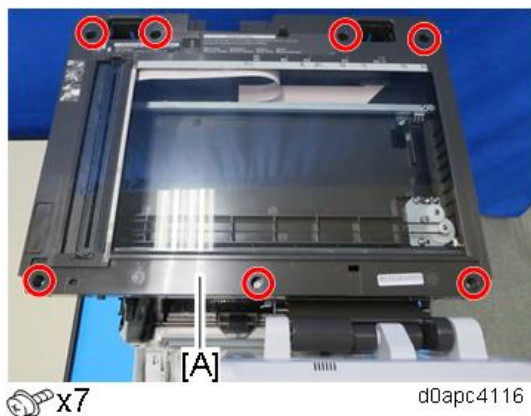
- Remove the scanner motor (M5) [A].



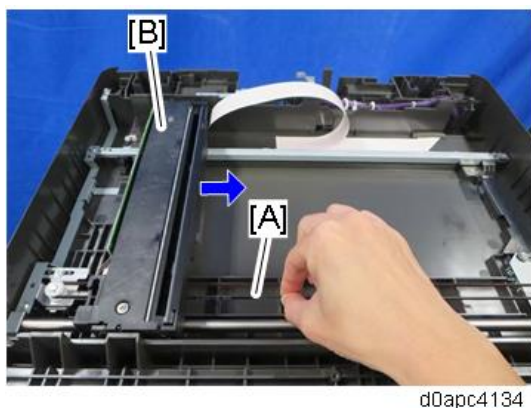


## 4.9.6 SCANNER CARRIAGE

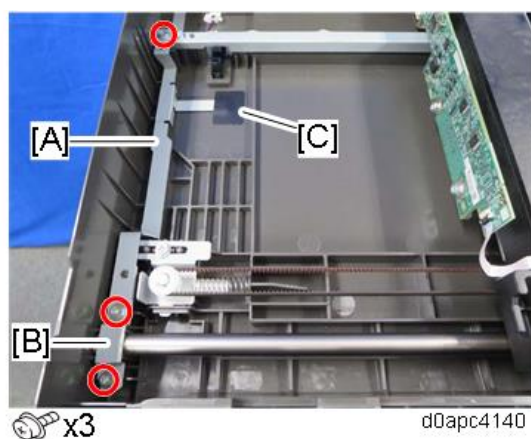
1. Remove the SPDF unit. (*SPDF Unit*)
2. Remove the scanner front cover. (*Scanner Front Cover*)
3. Remove the scanner upper cover [A].



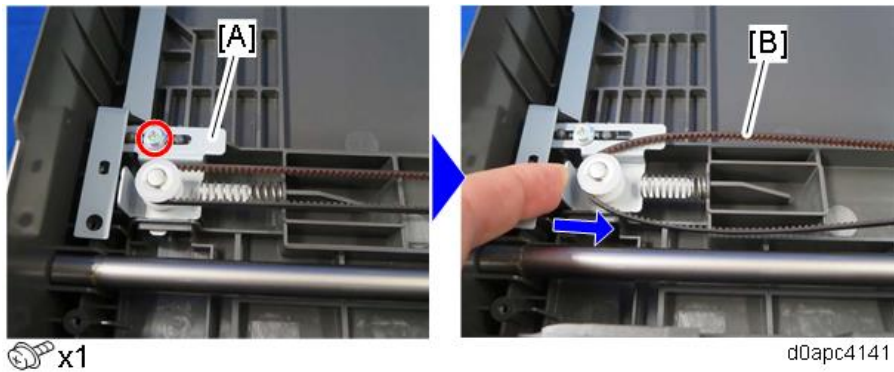
4. Pull the carriage belt [A] slowly to move the scanner carriage unit [B] to the right. Never push or pull on the carriage unit directly.



5. Remove the screw of brackets [A] and then remove bracket [B]. Bracket [A] is attached with tape [C] and cannot be removed. Let bracket [A] float free slightly, and then remove bracket [B].



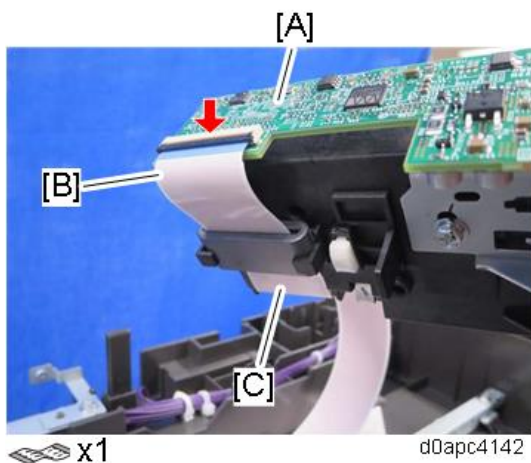
6. Slide the bracket [A] and then detach the carriage belt [B] from the pulley.



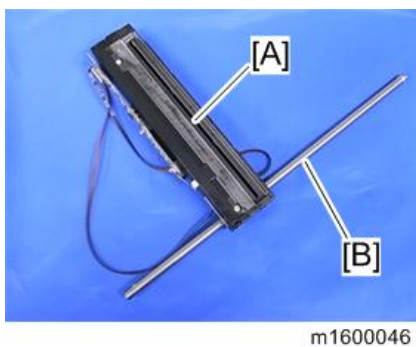
7. Disconnect the FFC [B] while lifting up the scanner carriage [A].

**Note**

- The FFC is attached at [C] with double-sided tape. Do not try to strip the FFC off with force.
- When reassembling, be sure to align the tape position where it was originally attached.



8. Remove the shaft [B] from the carriage [A].



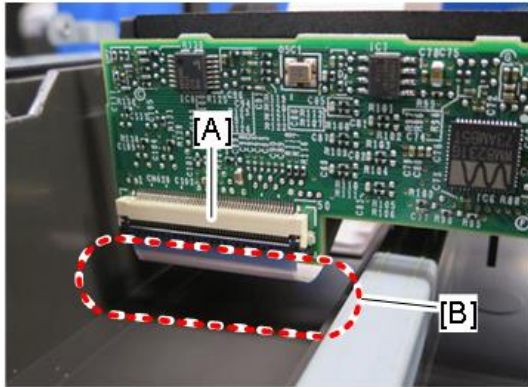
**Note**

- Never wipe grease on the shaft of the scanner carriage.

## Reinstalling the Scanner Carriage

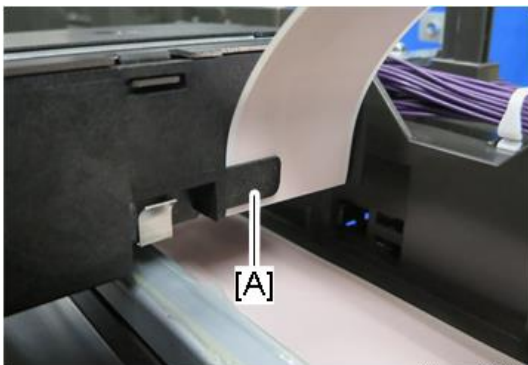
Make sure that the FFC of the scanner carriage is connected and routed correctly:

- The FFC [A] must be connected straight, and not at an angle. Otherwise, the SCB may be damaged.
- The FFC must not sag or drag on the bottom of the scanner unit [B].



d0apc4143

- FFC must be hooked at [A] of the scanner carriage.

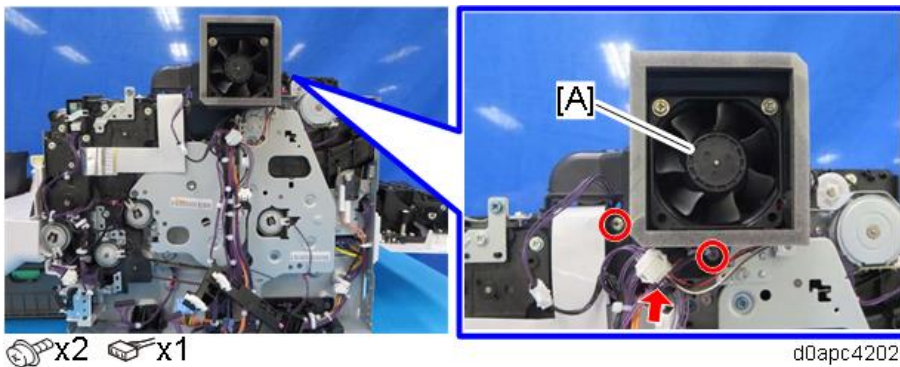


d0apc4144

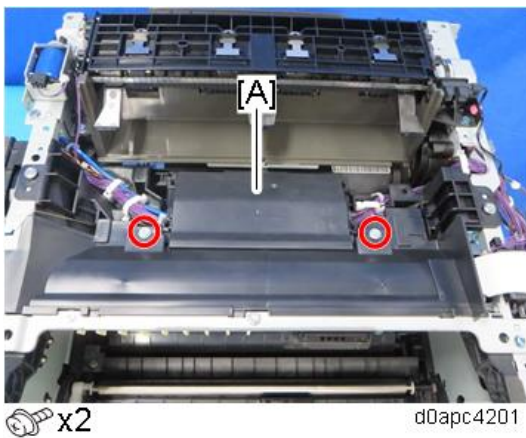
## 4.10 LED OPTICS

### 4.10.1 LED HEAD

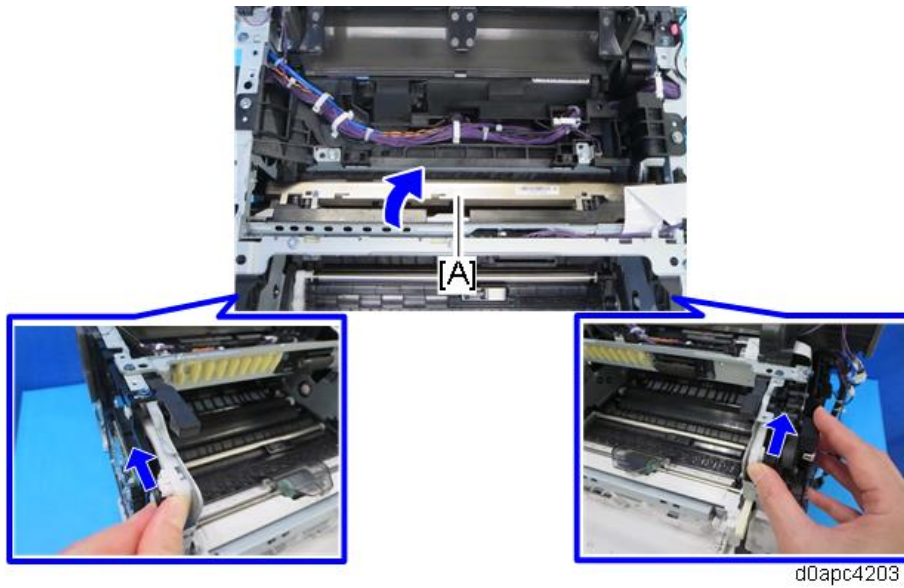
1. Remove the PCDU. (*PCDU*)
2. Remove the upper cover. (*Upper Cover (Printer)*, *Upper Cover (MF)*)
3. **MF model:** Remove the SCB with bracket. (*SCB with the Controller Box (MF Model)*)
4. **MF model:** Remove the PCDU cooling fan (right) (FAN1) (right) with duct [A].



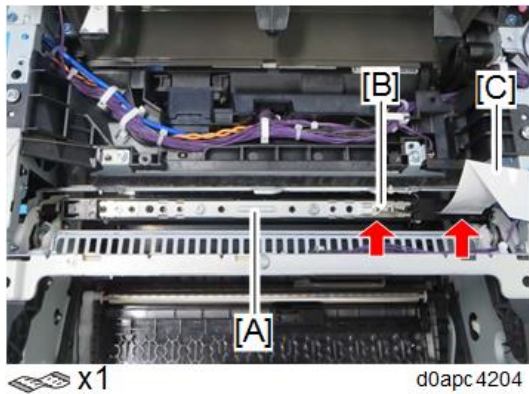
5. Remove the inner cover [A].



6. Push the LED unit [A] in.  
Close the front door, or push the link on the left and right to push the LED unit in.

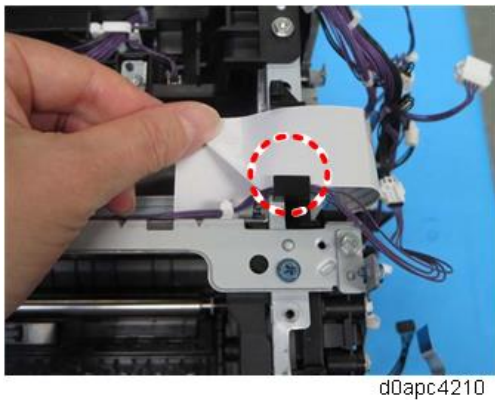


7. Disconnect the ground wire [B] and FFC [C] straight from the LED unit [A].

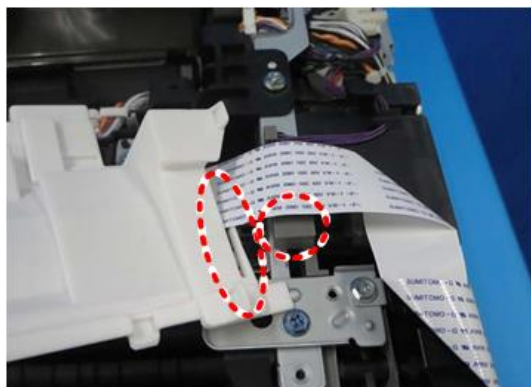


**Note**

**MF model:** When re-connecting the FFC, attach it on the hook of the harness guide. The FFC must be connected straight.



**Printer model:** When re-connecting the FFC, attach it on the hook of the harness guide and the hook of the inner cover. The FFC must be connected straight.



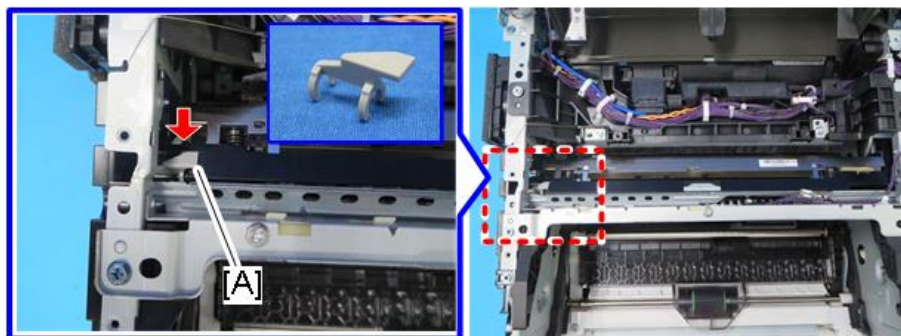
d0apc4211

8. Return the LED unit to its original position.  
To unlock, open the front cover or use a small flathead screwdriver to raise the joints (circled in red) on the left and right.



d0apc4205

9. Remove the spacer [A].

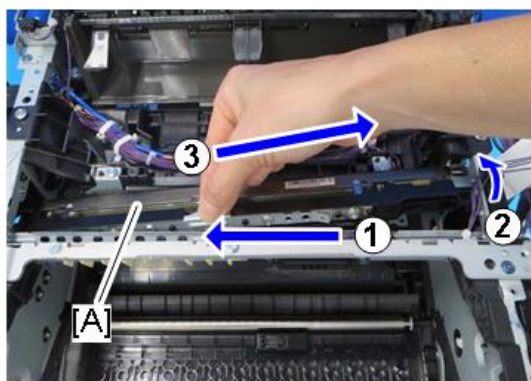


d0apc4206

10. Pull out the LED unit [A].  
Slide the LED unit to left, and then pull out the LED unit's right shaft.

**★ Important**

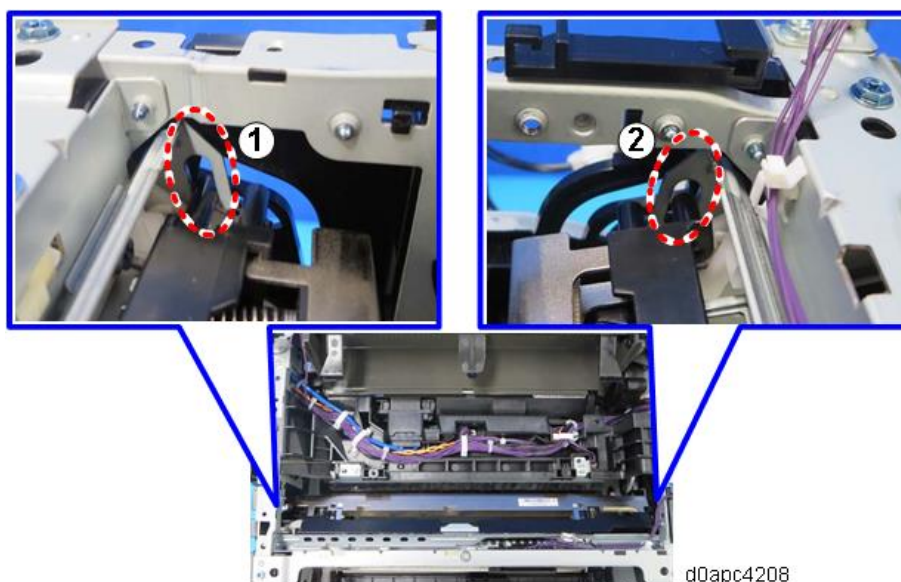
Work carefully when removing the LED unit to avoid hitting the lenses. A damaged lens could cause vertical streaks to appear on prints.



d0apc4207

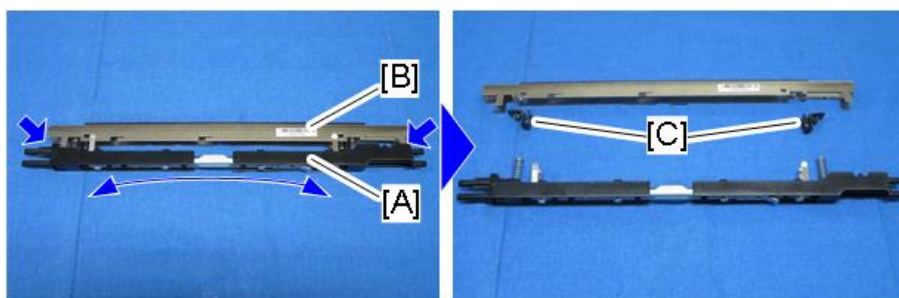
**Note**

When reinstalling the LED unit work carefully to avoid touching the lens surfaces. When re-attaching the LED unit, make sure that the ends of the LED shaft at the top fit into the holes of the LED unitholder. Attach the left end of the LED unit first.



d0apc4208

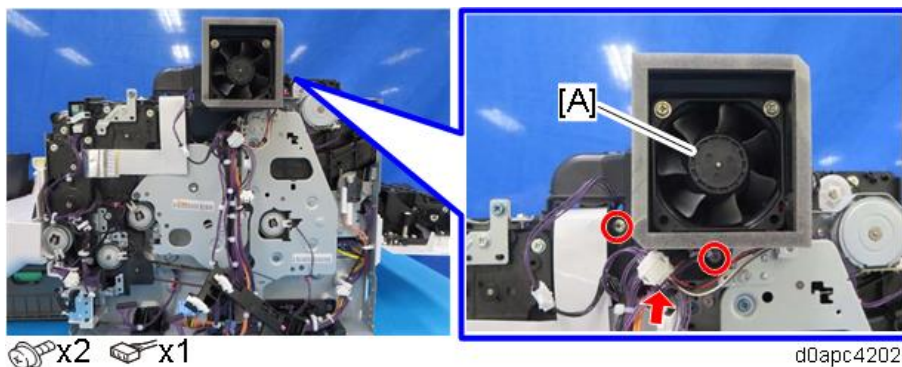
11. Bend the stay [A] to release the left and right tabs, and then separate the stay from the LED head [B].
12. Remove the two spring holders [C] from the LED head.



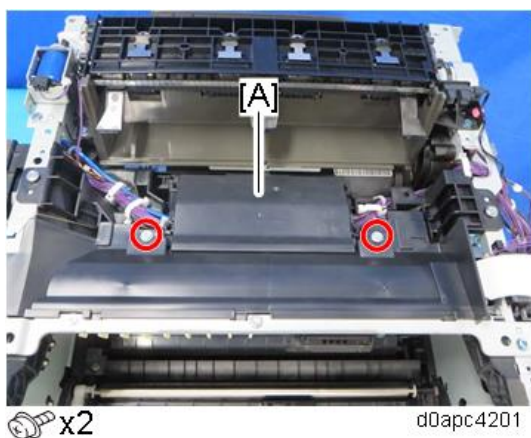
d0apc4209

## 4.10.2 QUENCHING LAMP

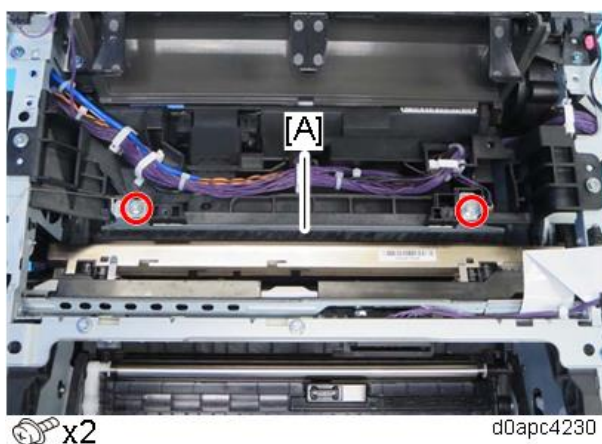
1. Remove the PCDU. (*PCDU*)
2. Remove the upper cover. (*Upper Cover (Printer), Upper Cover (MF)*)
3. **MF model:** Remove the SCB with bracket. (*SCB with the Controller Box (MF Model)*)
4. **MF model:** Remove the PCDU cooling fan (right) (FAN1) with duct [A].



5. Remove the inner cover [A].

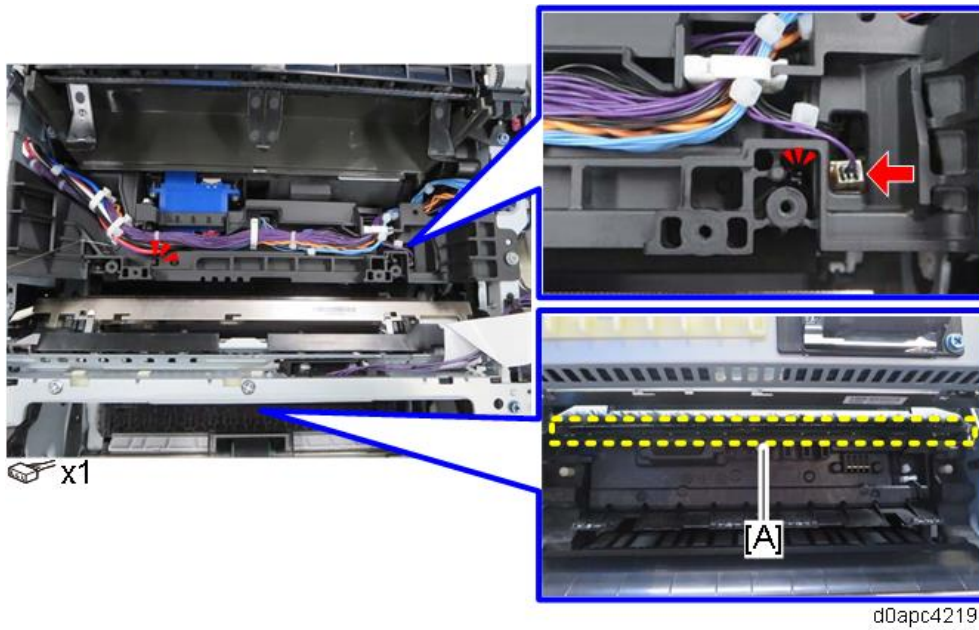


6. Remove the cleaning brush with the bracket [A].

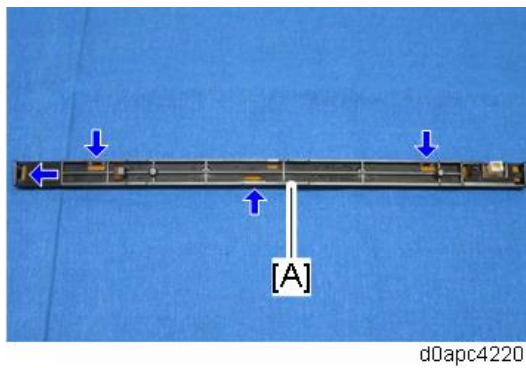




7. Release the two hooks to remove the quenching lamp with the case [A].



8. Release the four hooks to remove the quenching lamp from the case [A].



## 4.11 PCDU

### 4.11.1 PCDU

**★ Important**

Do not touch the ID chip with bare hands.



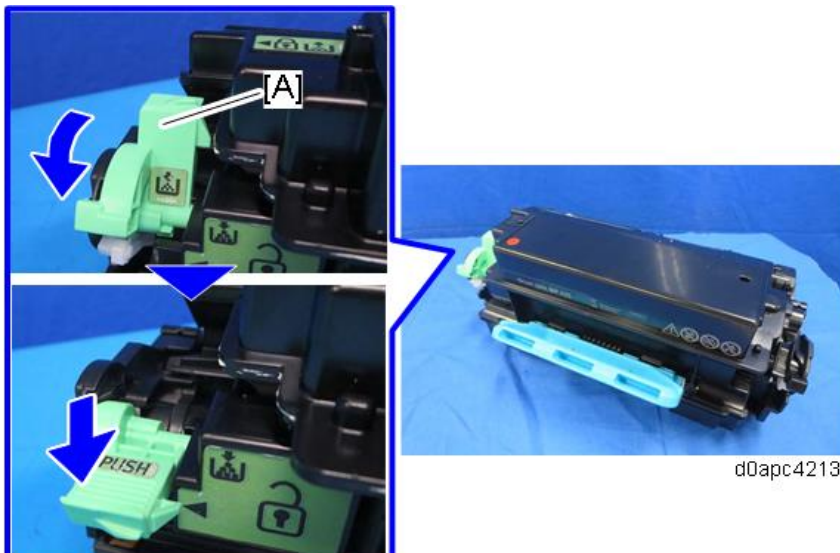
d0apc4232

1. Open the front cover by pressing the front cover button.
2. Hold the grip to pull out the PCDU with the toner cartridge [A].



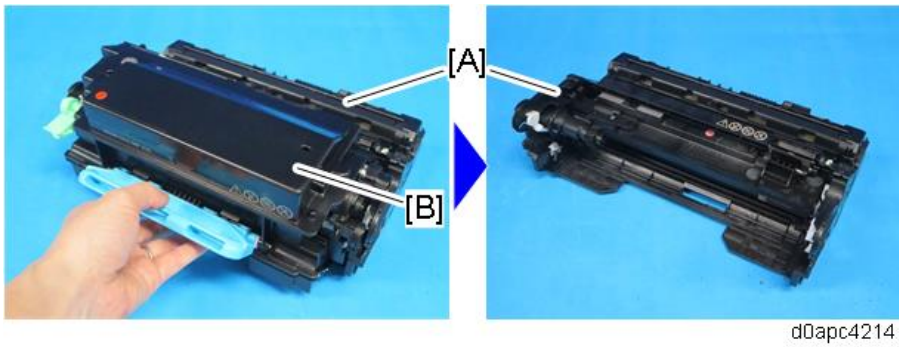
d0apc4212

3. Turn the lock lever [A], and then press down until it is horizontal.



d0apc4213

4. Remove the toner cartridge [B] from the PCDU [A].



d0apc4214

**★ Important**

Never disassemble a PCDU. Disassembling a PCDU could cause the focus of the LED to shift, resulting in poor images.

## 4.12 TONER CARTRIDGE

### 4.12.1 TONER CARTRIDGE

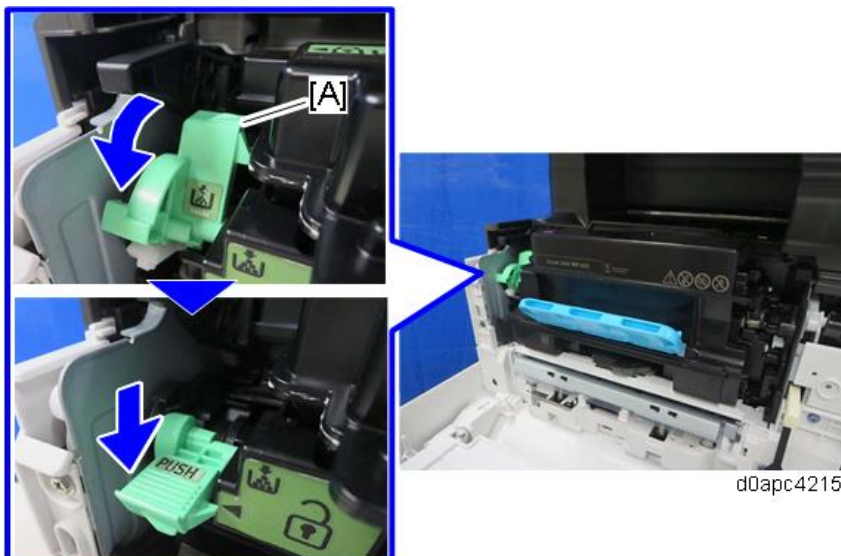
**★ Important**

Do not touch the ID chip with bare hands.



d0apc4233

1. Open the front cover by pressing the front cover button.
2. Turn the lock lever [A], and then press down until it is horizontal.



d0apc4215

3. Hold the grip to pull the toner cartridge [A] out.



d0apc4216

## 4.13 IMAGE TRANSFER

### 4.13.1 IMAGE TRANSFER ROLLER

#### *Before Replacing the Image Transfer Roller*

##### **User maintenance model:**

Replace with an image transfer roller provided by the Maintenance Kit. The PM counter for the fusing unit is reset automatically, and at the same time, the counter for the image transfer roller is also reset.

##### **Service maintenance model:**

Before replacing the image transfer roller, reset the PM counter.

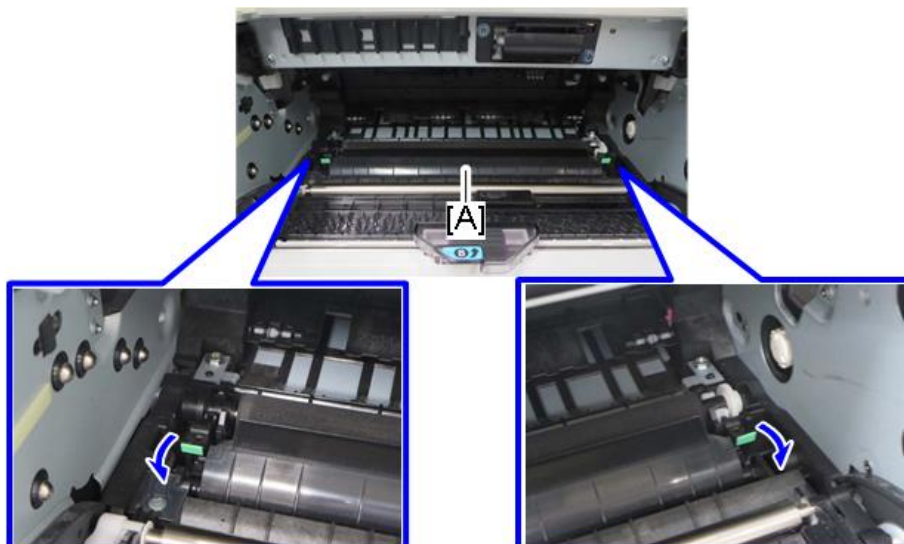
1. Turn the power ON and enter the SP mode.
2. Execute the SP7-804-004 (Reset PM Counter: Trans.) to reset the PM counter.
3. Turn the power OFF.

#### *Replacing the Image Transfer Roller*

##### **Note**

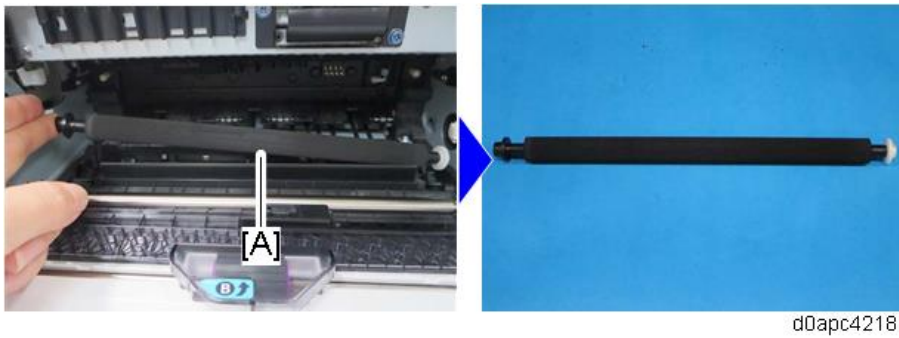
Do not touch the surface of the new image transfer roller.

1. Remove the PCDU. (*PCDU*)
2. Pinch both green ends of the guide [A], and then pull it towards you.



d0apc4217

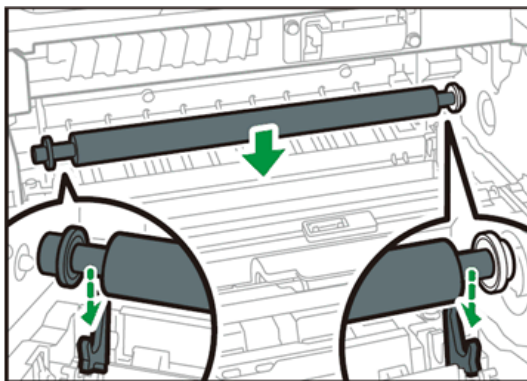
3. Remove the image transfer roller [A].



d0apc4218

**Note**

Attach the image transfer roller with the black ring on the left end and the white ring on the right end. Place the transfer roller on the bearing of the guide plate pulled out in Step 2, and then gently push the guide plate down.



d0apc4231

## 4.13.2 DISCHARGE PLATE

### *To Remove the Discharge Plate*

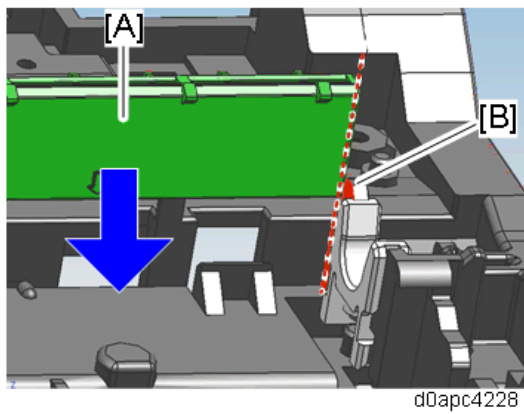
1. Remove the PCDU. ([PCDU](#))
2. Remove the image transfer roller. ([Image Transfer Roller](#))
3. Slide the discharge plate [A] to the right to remove it.



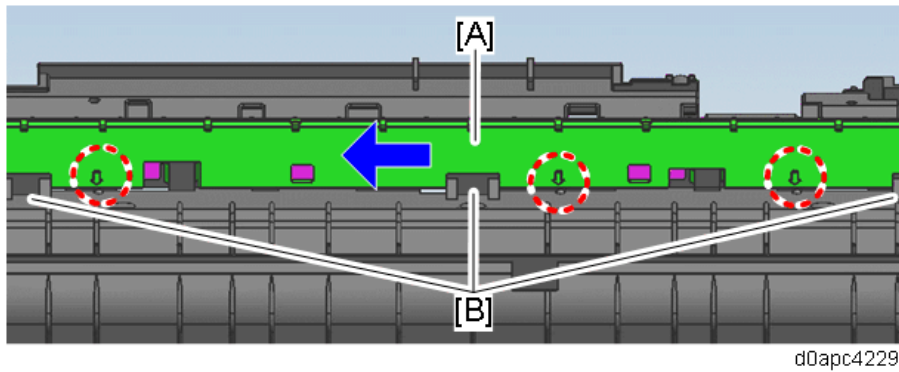
d0apc4224

### *To Install the Discharge Plate*

1. Set the discharge plate [A] against the right side [B], and then insert it at the bottom.



2. Insert the discharge plate [A] into the gap between the tabs [B] and the back frame, and then slide it to the left.
3. Make sure that the position of the arrow marked on the discharge plate matches the three marks on the main frame shown below.



### 4.13.3 IMAGE CREATION THERMISTOR (TH5)

1. Remove the PCDU. (*PCDU*)
2. Remove the HVPS with the bracket. (*HVPS with the Bracket*)
3. Remove the cover seal [A] for the image creation thermistor (TH5).



d0apc4225

#### Note

Do not reuse the removed cover seal. Replace it with a new seal.

4. Remove the image creation thermistor (TH5) [A].



⚙️ x1   ⚙️ x1   ⚙️ x2

d0apc4226



## 4.14 FUSING

### 4.14.1 FUSING UNIT

#### *Before Replacing the Fusing Unit*

##### **User maintenance model:**

Replace with a fusing unit provided by the Maintenance Kit. The new fusing unit detection fuse is provided with the fusing unit in the Maintenance Kit.

When the machine detects the new fusing unit, the PM counter is reset automatically, and at the same time, the counter for the image transfer roller is also reset.

##### **Service maintenance model:**

Before replacing the fusing unit, reset the PM counter.

1. Turn the power ON and enter the SP mode.
2. Execute the SP7-804-003 (Reset PM Counter: Fuser) to reset the PM counter.
3. Turn the power OFF.

#### *Replacing the Fusing Unit*

##### **⚠ CAUTION**

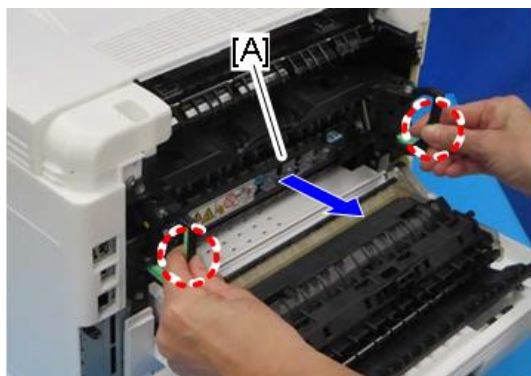
Fusing unit parts are very hot and may cause burn injury. Please wait after powering off the machine until it is cool to the touch before advancing.

1. Open the rear cover [A].



d0apc4002

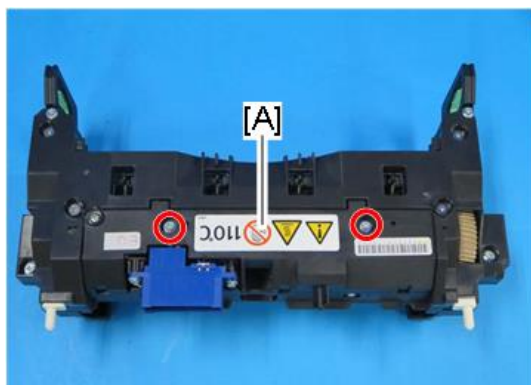
2. Remove the fusing unit [A] while pinching the green levers on the handle.



d0apc4401

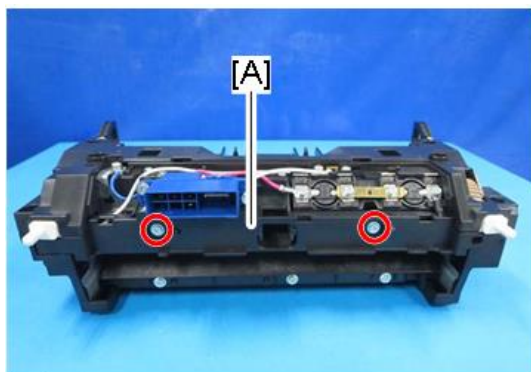
#### 4.14.2 FUSING UPPER COVER

1. Remove the fusing unit. (*Fusing Unit*)
2. Remove the drawer connector cover [A].


 x2

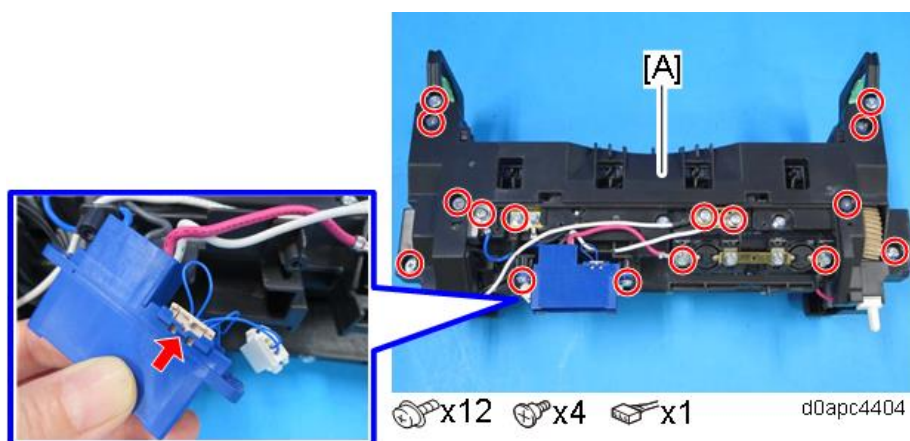
d0apc4402

3. Remove the fusing front cover [A].


 x2

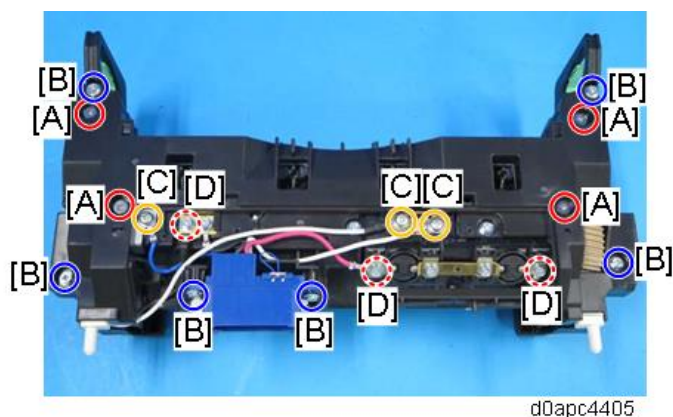
d0apc4403





- Remove the fusing upper cover [A].



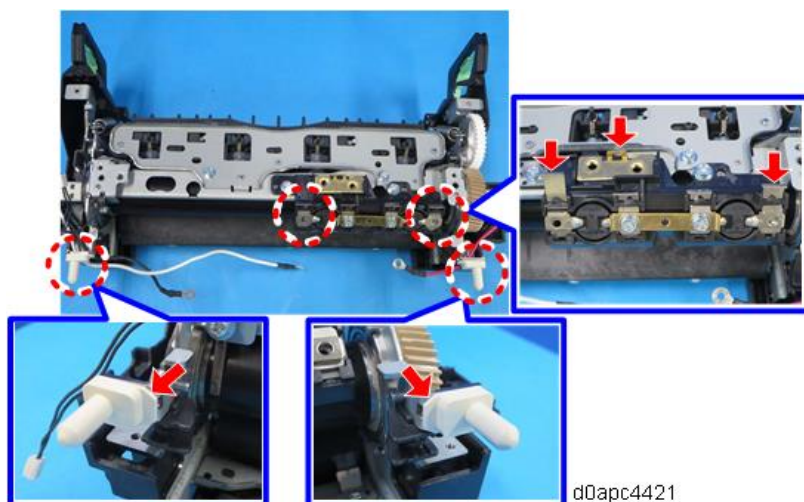
**Note**

Since the four kinds of screws are used, be careful when assembling.



Call out	Screw	Call out	Screw
[A]	Shoulder screw 	[B]	Tapping screw (M3) 
[C]	Bind screw with washer (M4) 	[D]	Hexagonal screw with washer (M3) 

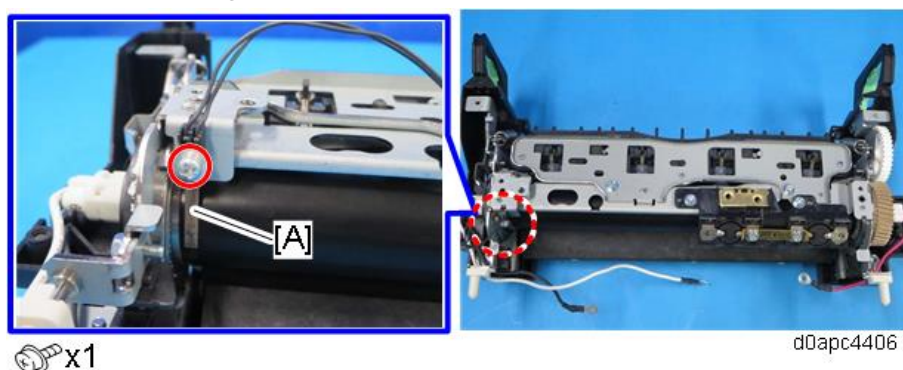
The plate nuts, pins, and plate can be easily removed. After removing the fusing upper cover, do not lose until assembling the fusing unit.



d0apc4421

#### 4.14.3 FUSING THERMISTOR (TH1)

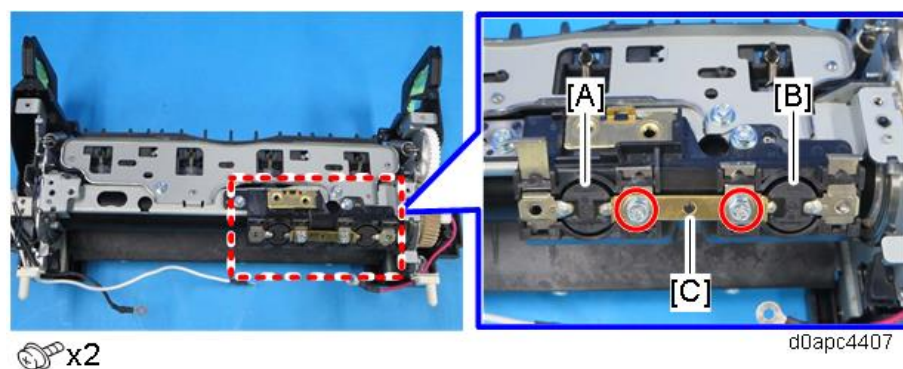
1. Remove the fusing upper cover. (*Fusing Upper Cover*)
2. Remove the fusing thermistor (TH1) [A].



d0apc4406

#### 4.14.4 FUSING THERMOSTAT (CENTER, END) (TH4, TH3)

1. Remove the fusing upper cover (*Fusing Upper Cover*)
2. Remove the plate nut [C] to remove the fusing thermostat (center) (TH4) [A] and the fusing thermostat (end) (TH3) [B].

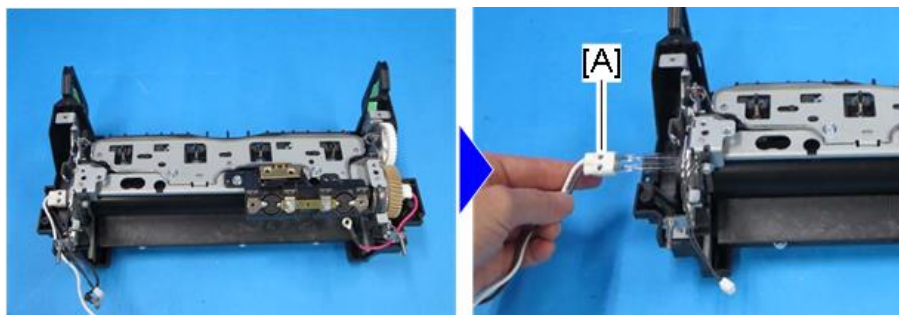


d0apc4407

#### 4.14.5 FUSING LAMP

1. Remove the fusing upper cover. (*Fusing Upper Cover*)

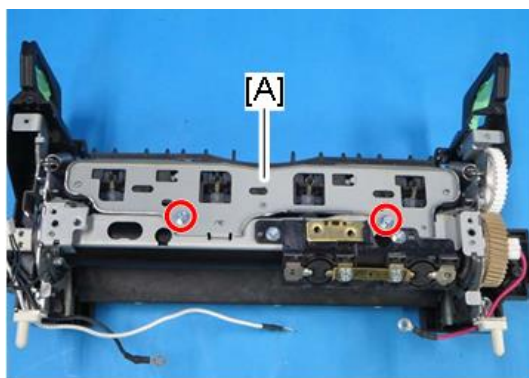
2. Pull out the fusing lamp [A] from the left side.



d0apc4408

#### 4.14.6 HOT ROLLER STRIPPER

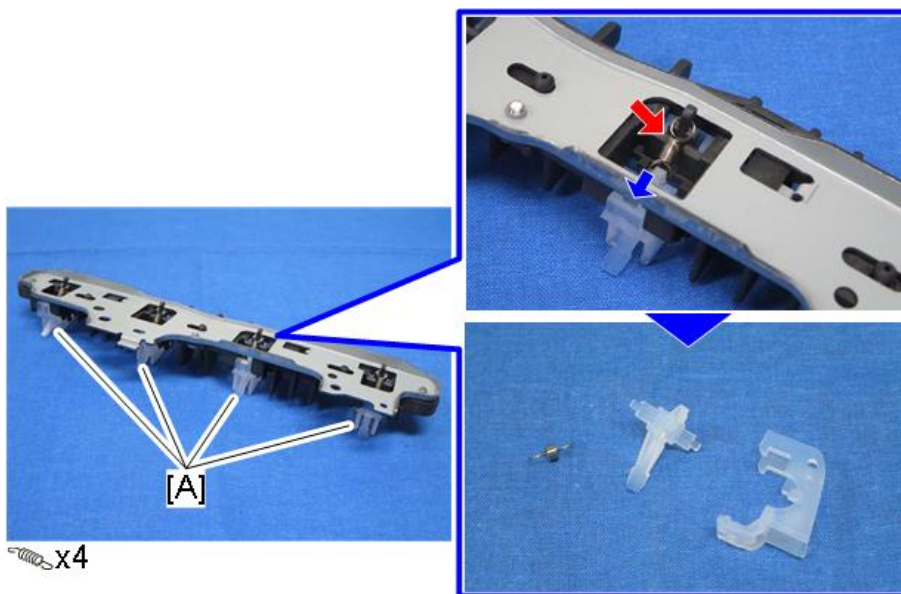
1. Remove the fusing upper cover. (*Fusing Upper Cover*)
2. Remove the hot roller strippers with the bracket [A].



x2

d0apc4409

3. Release the hooks and springs to remove the hot roller strippers [A].

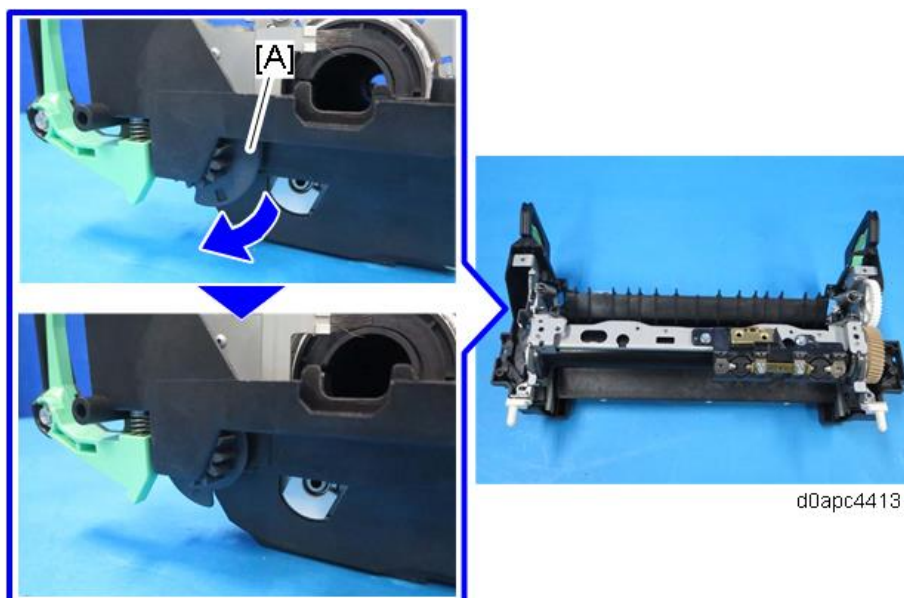


x4

d0apc4410

#### 4.14.7 HOT ROLLER

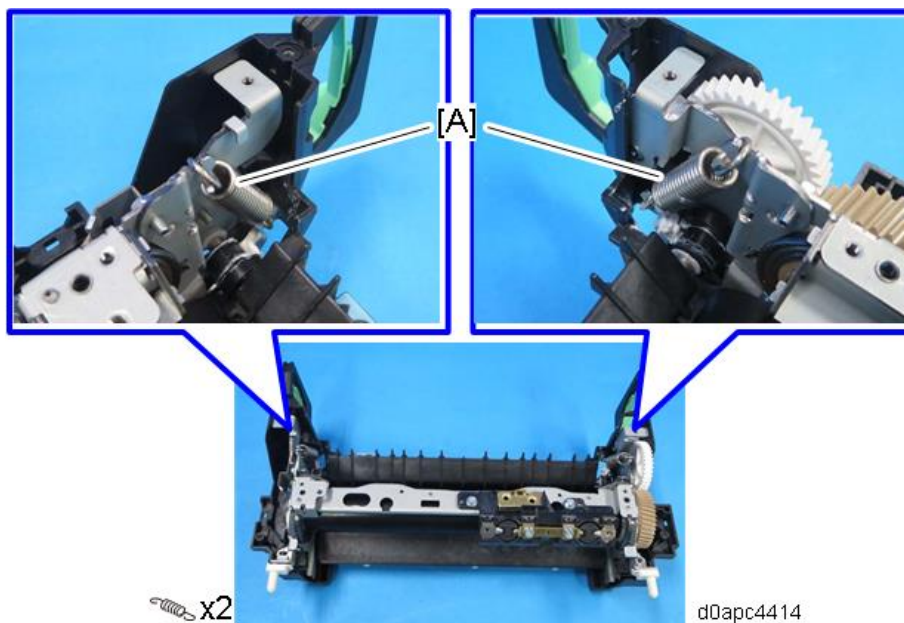
1. Remove the fusing upper cover. (*Fusing Upper Cover*)
2. Remove the fusing thermistor (TH1). (*Fusing Thermistor (TH1)*)
3. Remove the fusing lamp. (*Fusing Lamp*)
4. Remove the hot roller strippers with the bracket. (*Hot Roller Stripper*)
5. Turn the position detection feeler [A] lightly clockwise to release the spring tension.



##### Note

When the machine power supply is off, the hot roller and pressure roller are pulled apart, so the pressure spring is extended (under high tension).

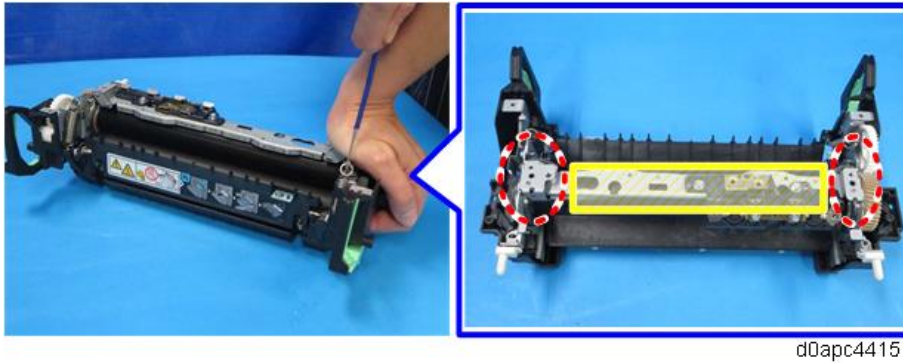
6. Remove the springs [A] on both sides.



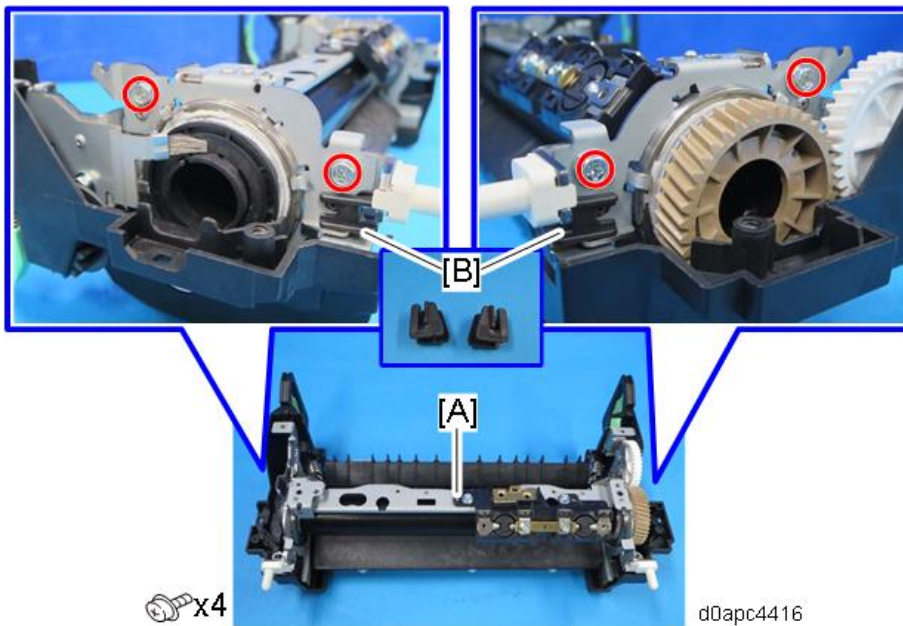
##### Important

When removing the springs, press the side plates (circled in red). Do not apply force the

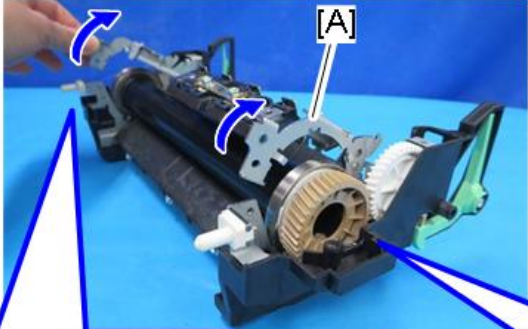
top plate (marked yellow).



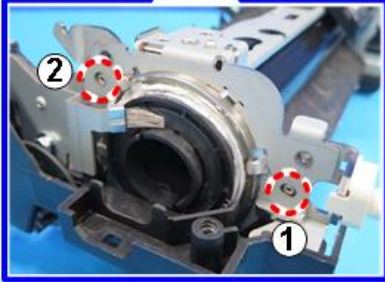
7. Remove the screws of the bracket [A] on both sides, and then remove the harness guide [B].



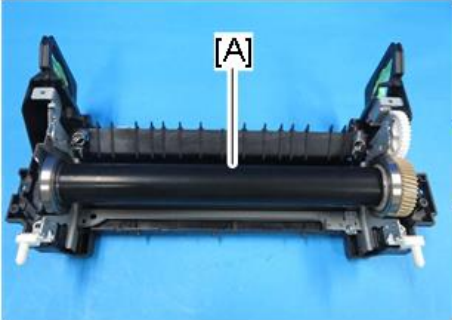
8. Remove the bracket [A].  
Release the boss cap (1), raise bracket [A], and then release the boss cap (2).



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9. Remove the hot roller [A].

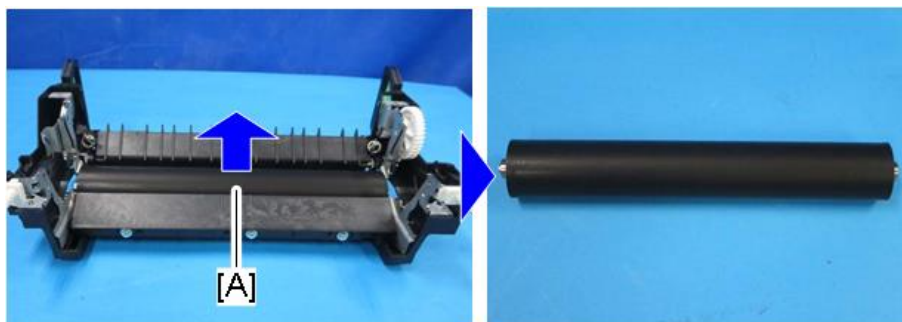


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#### 4.14.8 PRESSURE ROLLER

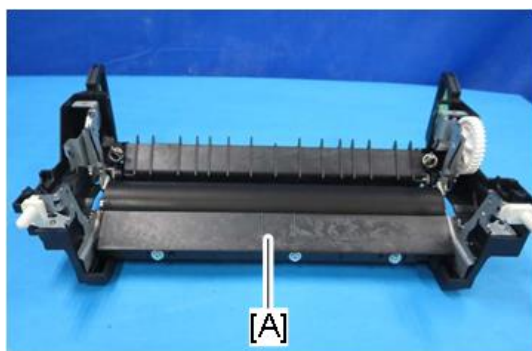
1. Remove the hot roller. (*Hot Roller*)
2. Remove the pressure roller [A].



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#### ★ Important

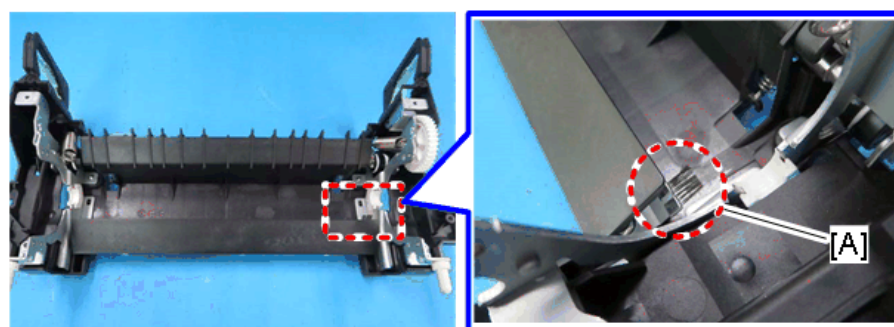
Never disassemble entrance guide plate [A]. Disassembling the entrance guide plate could cause the paper wrinkles.



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#### ↓ Note

The discharge brush [A] is attached while it is in contact with the pressure roller.

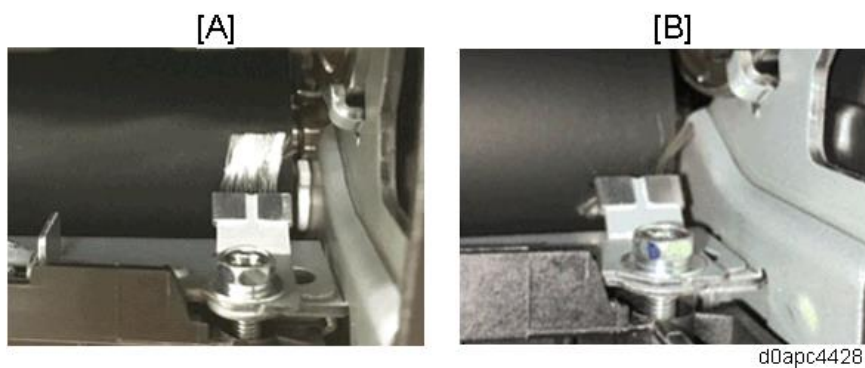


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After reattaching the pressure roller, you need to make the discharge brush in the correct position without removing the entrance guide plate. Rotate the pressure roller in the backward direction, or scoop up the discharge brush with a flat-head screwdriver.

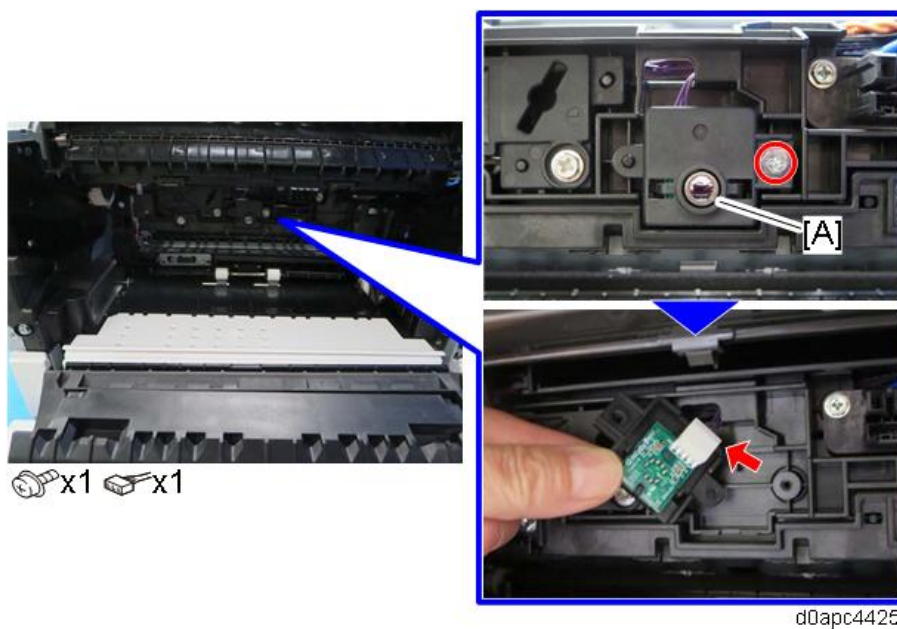
[A]: Correct position

[B]: Abnormal position

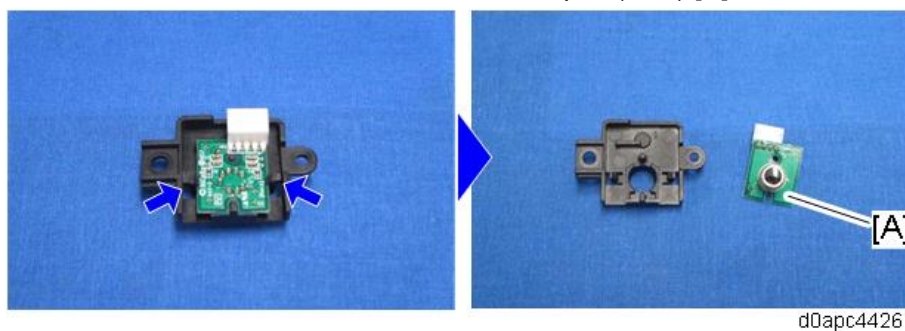


#### 4.14.9 FUSING THERMOPILE (TH2)

1. Remove the fusing unit. (*Fusing Unit*)
2. Remove the fusing thermopile (TH2) with the cover [A], and then disconnect the connector.

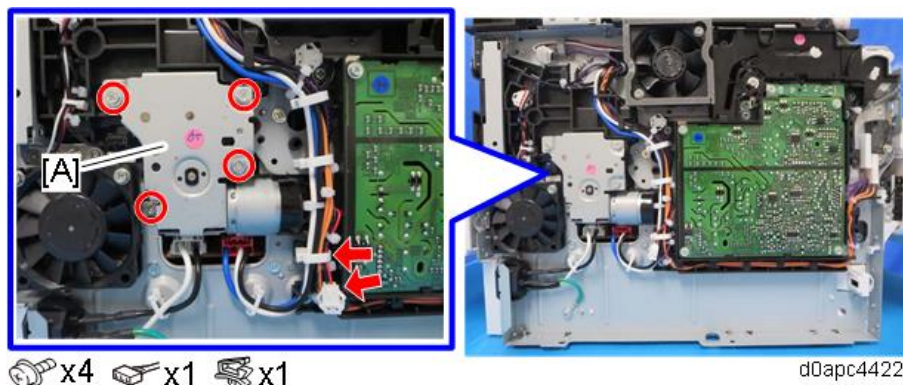


3. Release the two hooks to remove the thermopile (TH2) [A] from the cover.



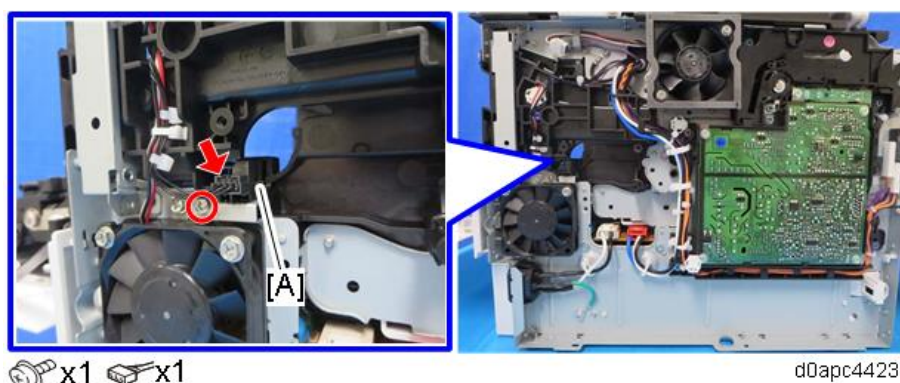
#### 4.14.10 FUSING PRESSURE/RELEASE MOTOR (M2)

1. Remove the left cover. (*Left Cover (Printer)*, *Left Cover (MF)*)
2. Remove the fusing unit. (*Fusing Unit*)
3. Remove the fusing pressure/release motor (M2) [A].

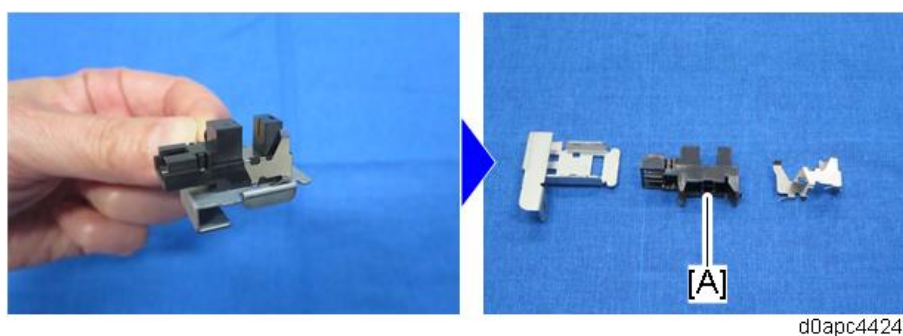


#### 4.14.11 FUSING NIP PRESSURE POSITION SENSOR (S7)

1. Remove the fusing pressure/release motor (M2). (*Fusing Pressure/Release Motor (M2)*)
2. Remove the Fusing nip pressure position sensor (S7) [A] with the bracket.



3. Remove the Fusing nip pressure position sensor (S7) [A] from the bracket.



## 4.15 PAPER FEED

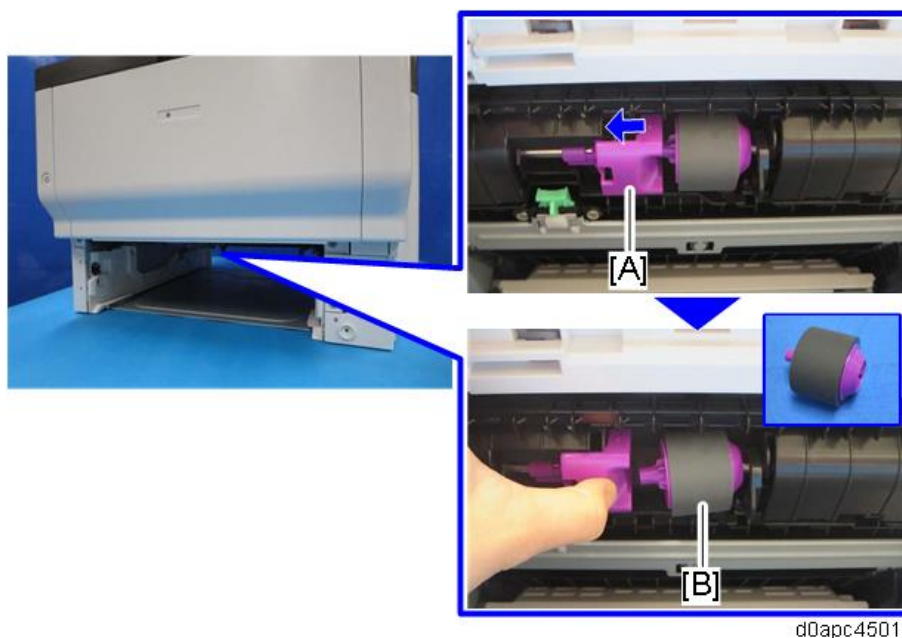
### 4.15.1 PAPER FEED ROLLER

**★ Important**

Before replacing the paper feed roller, reset the PM counter.

- 1.** Turn the power ON and enter the SP mode.
- 2.** Execute the SP7-804-005 (Reset PM Counter: Feed Tray) to reset the PM counter.
- 3.** Turn the power OFF.

1. Remove the paper tray.
2. Slide the lever [A] to the left to remove the paper feed roller [B].



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### 4.15.2 SEPARATION ROLLER

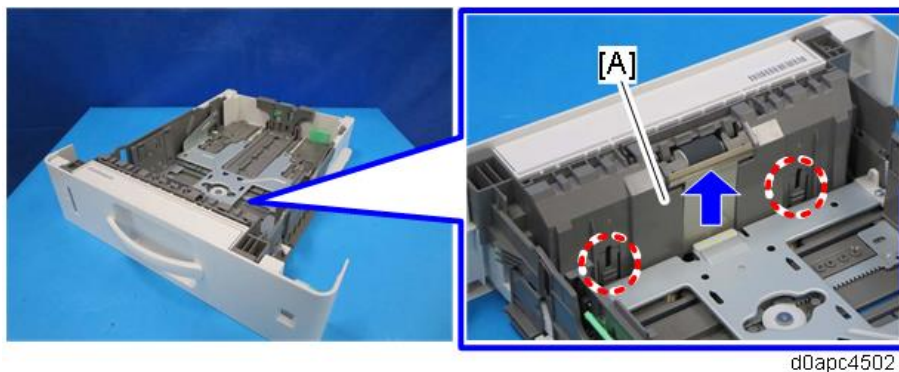
**★ Important**

Before replacing the separation roller, reset the PM counter.

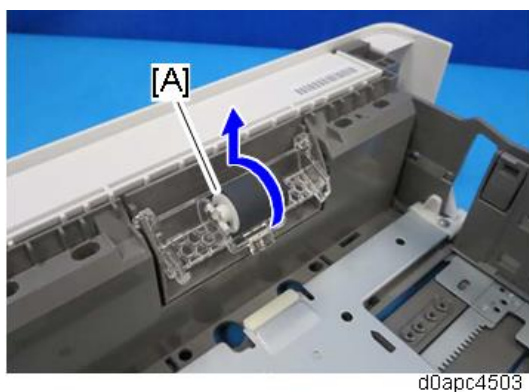
- 1.** Turn the power ON and enter the SP mode.
- 2.** Execute the SP7-804-006 (Reset PM Counter: Spr. Tray) to reset the PM counter.
- 3.** Turn the power OFF.

1. Pull out the paper tray.

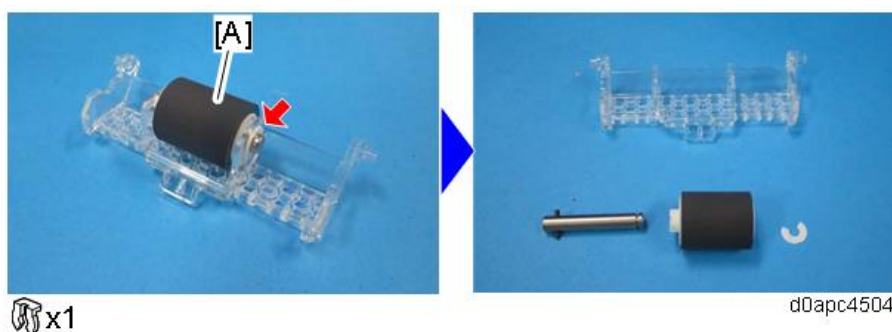
- Remove the inner cover [A] while pressing the two lock buttons in the paper tray.



- Raise the holder of the separation roller [A] and remove it.



- Remove the separation roller [A] from the holder.



### 4.15.3 BYPASS FEED ROLLER

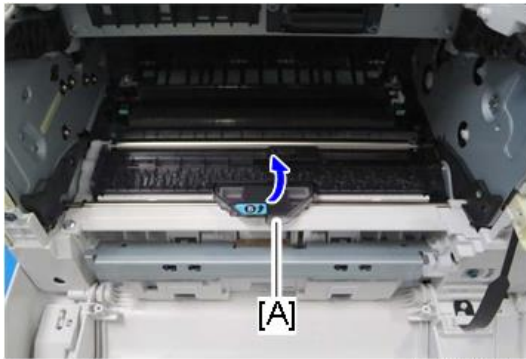
#### ★ Important

Before replacing the bypass feed roller, reset the PM counter.

- Turn the power ON and enter the SP mode.
- Execute the SP7-804-057 (Reset PM Counter: Feed Bypass) to reset the PM counter.
- Turn the power OFF.

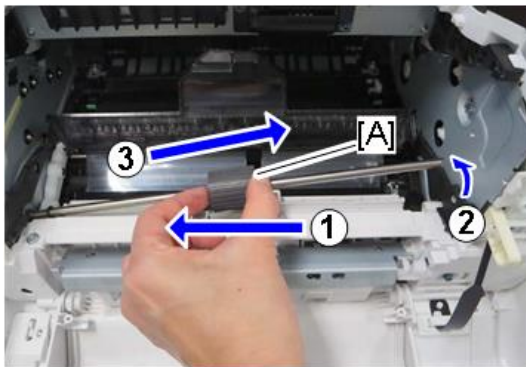
- Remove the PCDU. (**PCDU**)

- Open the cover [A] of the bypass feed roller.



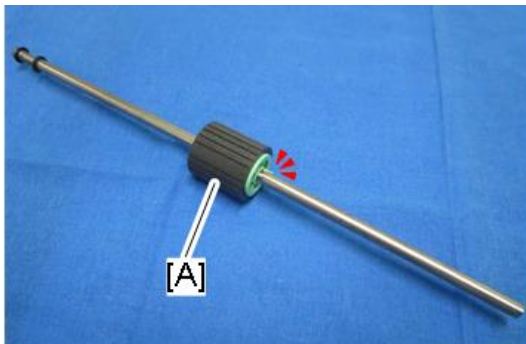
d0apc4519

- Remove the bypass feed roller [A] with the shaft.  
Slide the shaft to the left, and then detach the right end of the roller first.



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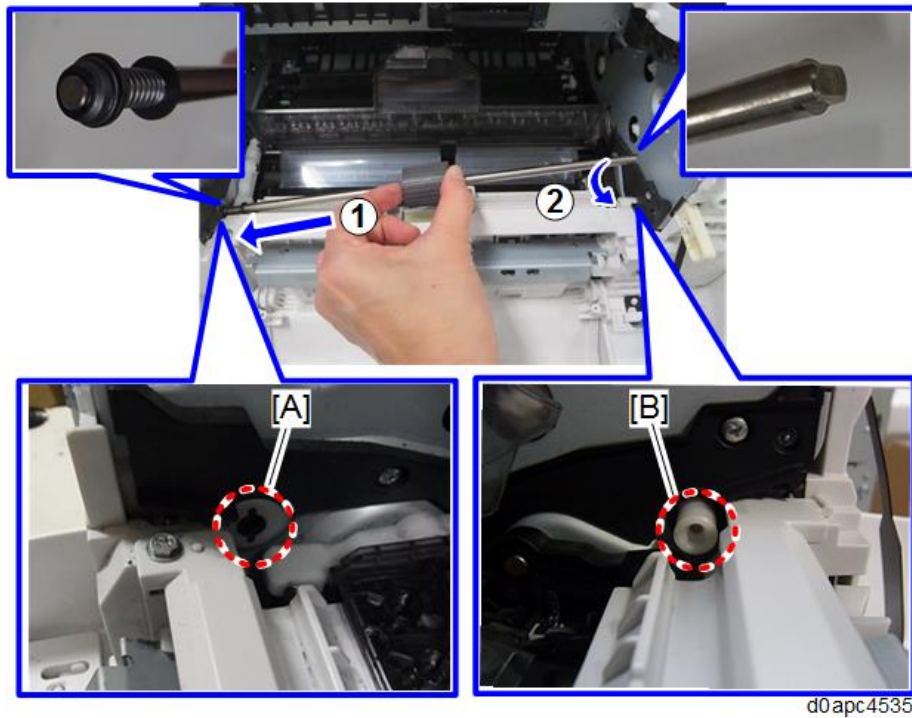
- Release the hook to remove the bypass feed roller [A].



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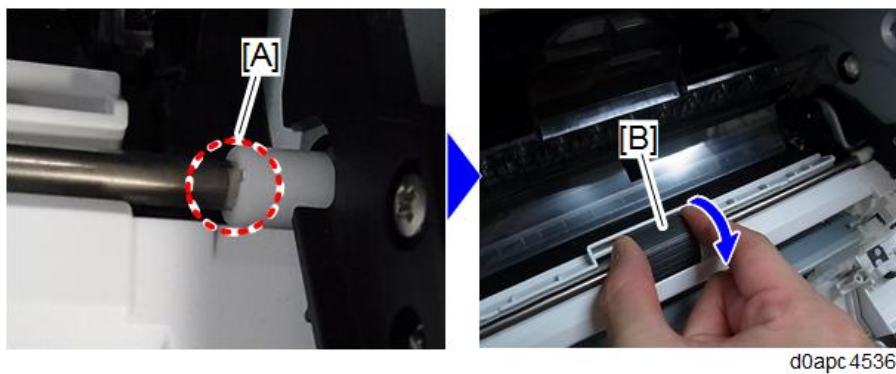
**Note**

When attaching the bypass feed roller, insert the left end of the roller with the spring into the hole [A] of side plate first. Then slide the roller to the left, and then insert the right end of the roller into bearing [B].



If the shaft is not attached correctly, a paper jam will occur.

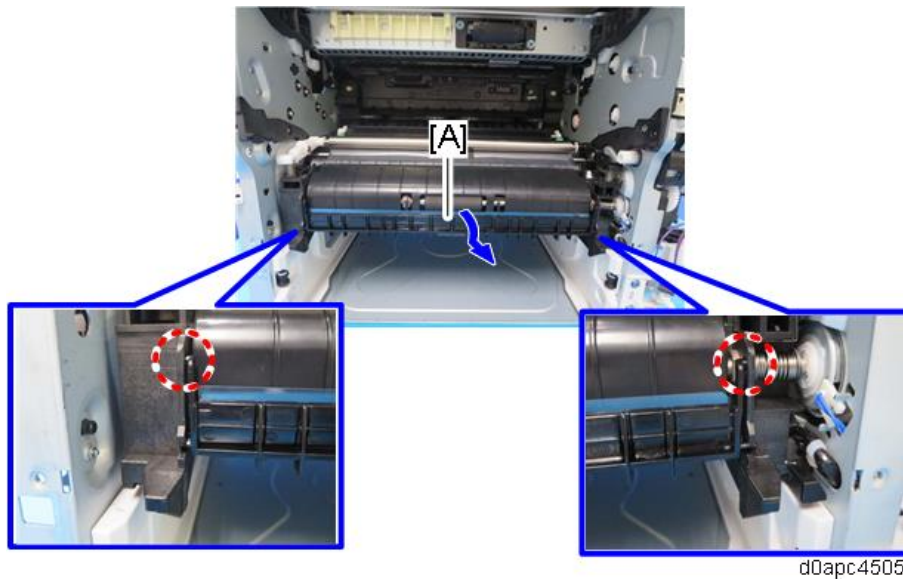
If the roller surface [A] is not set correctly as shown below, hold the end of the bypass feed roller [B] and turn it manually several times in the feed direction to seat the roller automatically. Avoid touching the surface of the roller while doing this.



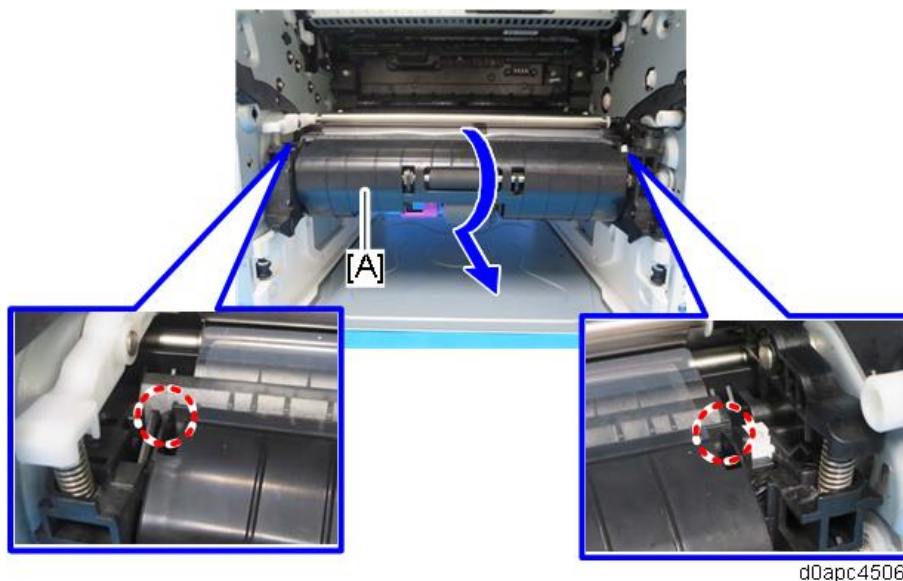
#### 4.15.4 PAPER END SENSOR (S6), PAPER NEAR-END SENSOR (S4)

1. Remove the bypass feed unit. (*Bypass Feed Unit*)

2. Release the two hooks on the upper side, and then turn the inner cover [A] toward you to remove it.



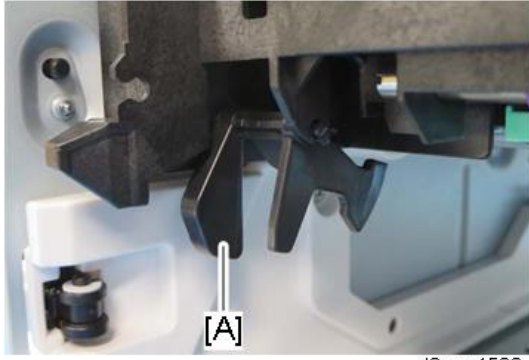
3. Release the two hooks on the upper side, and then turn the paper feed guide [A] toward you to remove it.



**Note**

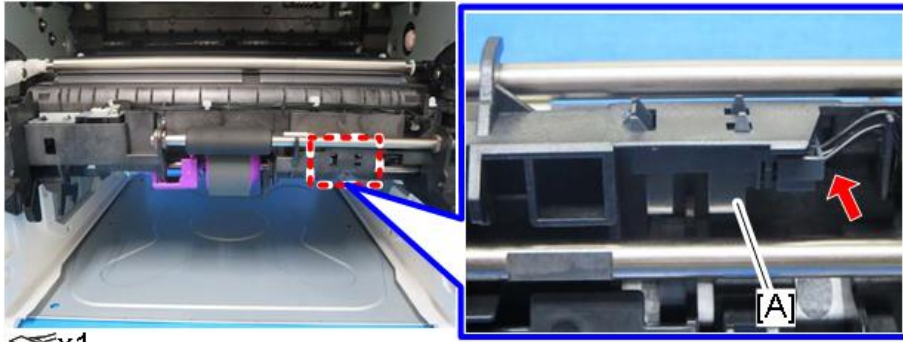
When attaching the paper feed guide, make sure that the paper near-end sensor feeler [A] is set correctly as shown below.





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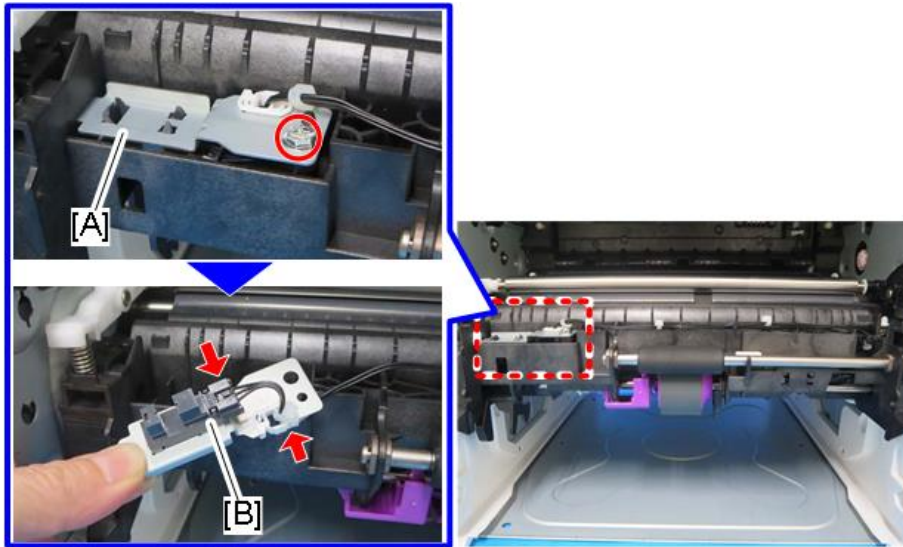
4. Remove the paper end sensor (S6) [A].



x1

d0apc4507

5. Remove the bracket [A], and then remove the paper near-end sensor (S4) [B].

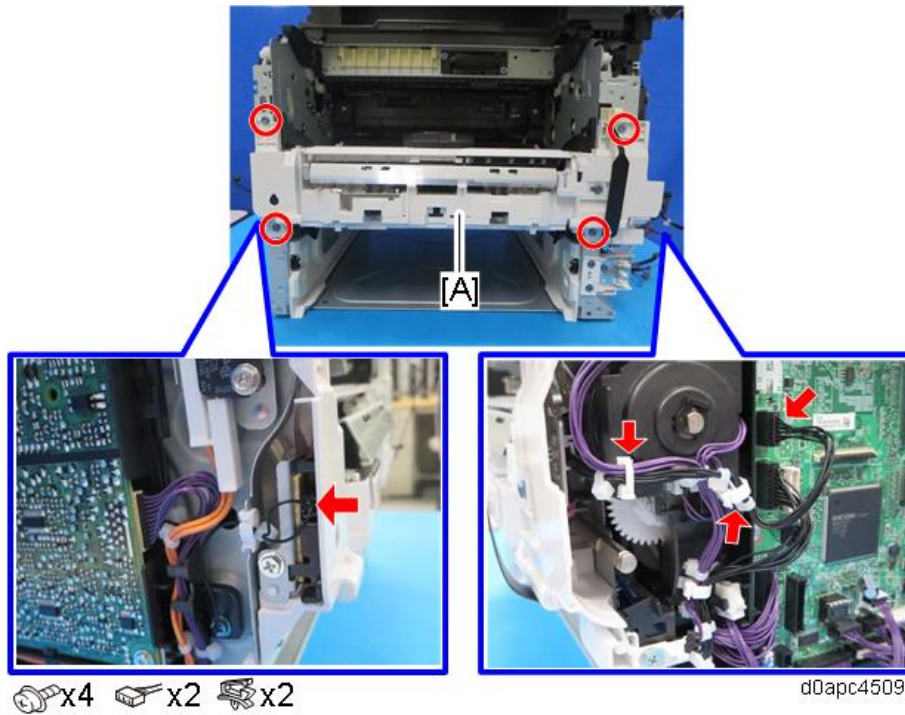


x1 x1 x1

d0apc4508

### 4.15.5 BYPASS FEED UNIT

1. Remove the right cover. (*Right Cover (Printer)*, *Right Cover (MF)*)
2. Remove the left cover. (*Left Cover (Printer)*, *Left Cover (MF)*)
3. Remove the front cover. (*Front Cover (Printer)*, *Front Cover (MF)*)
4. Remove the bypass feed roller. (*Bypass Feed Roller*)
5. Remove the bypass lift clutch (CL3). (*Bypass Lift Clutch (CL3)*)
6. Remove the bypass feed unit [A].



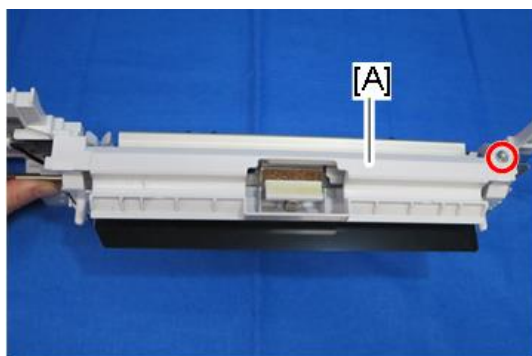
## 4.15.6 BYPASS FRICTION PAD

### ★ Important

Before replacing the bypass friction pad, reset the PM counter.

1. Turn the power ON and enter the SP mode.
2. Execute the SP7-804-058 (Reset PM Counter: Spr. Bypass) to reset the PM counter.
3. Turn the power OFF.

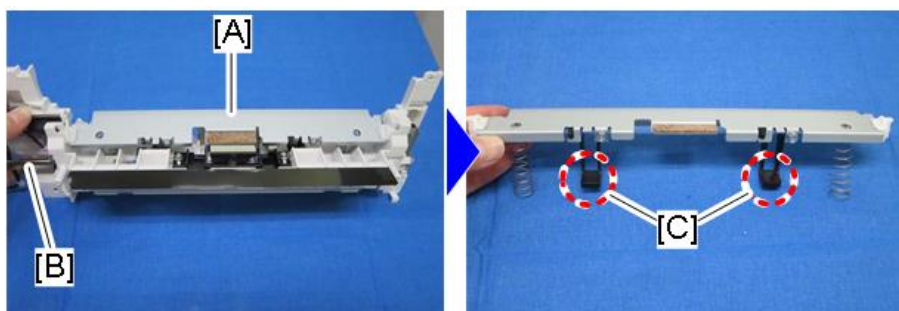
1. Remove the bypass feed unit. (*Bypass Feed Unit*)
2. Remove the guide plate [A].



⊗ x1

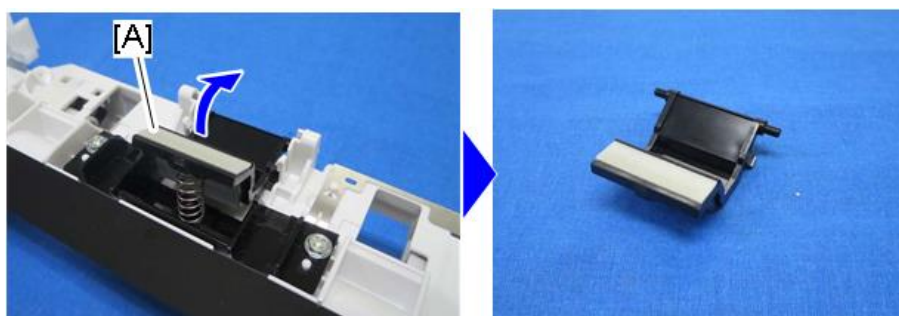
d0apc4539

3. Remove the bottom plate [A] upward.  
While turning the shaft of the bypass lift clutch (CL3) [B], avoid snagging the cam on lift link [C] on the bottom plate while removing it.



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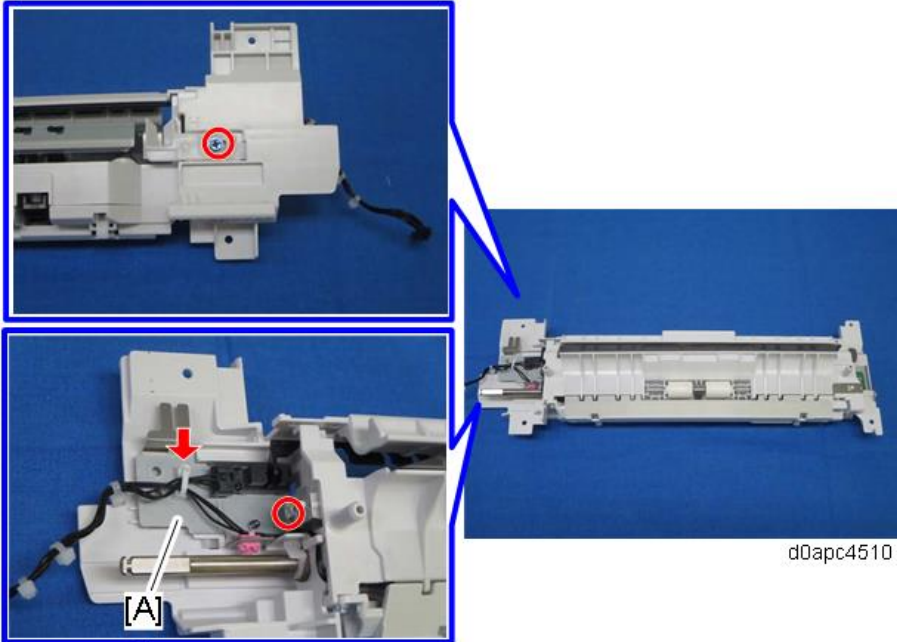
4. Remove the bypass friction pad [A].



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### 4.15.7 BYPASS PAPER END SENSOR (S2)

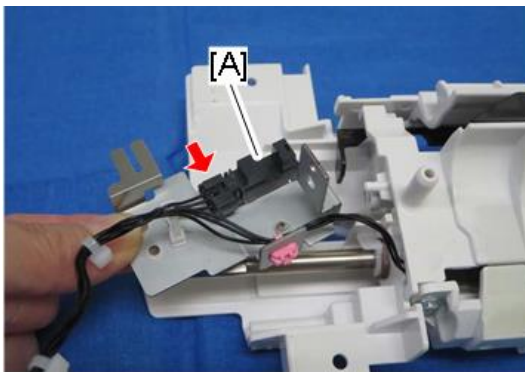
1. Remove the bypass feed unit. (*Bypass Feed Unit*)
2. Remove the bracket [A] with the bypass paper end sensor (S2).



d0apc4510

⚙️ x2 🛠️ x1

3. Remove the bypass paper end sensor (S2) [A] from the bracket.

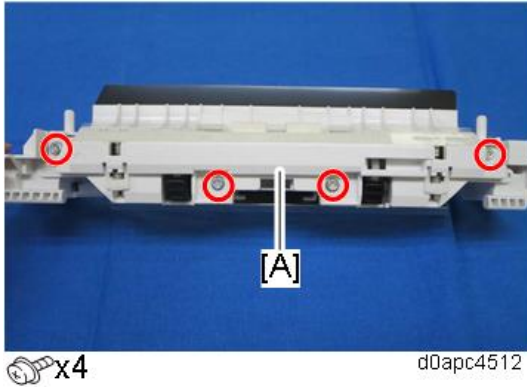


🛠️ x1

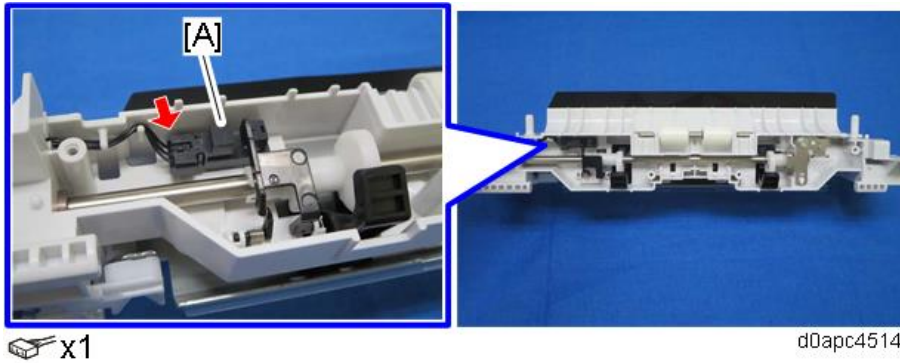
d0apc4511

### 4.15.8 BYPASS TRAY SENSOR (S3)

1. Remove the bypass feed unit. (*Bypass Feed Unit*)
2. Remove the bypass feed unit lower cover [A].

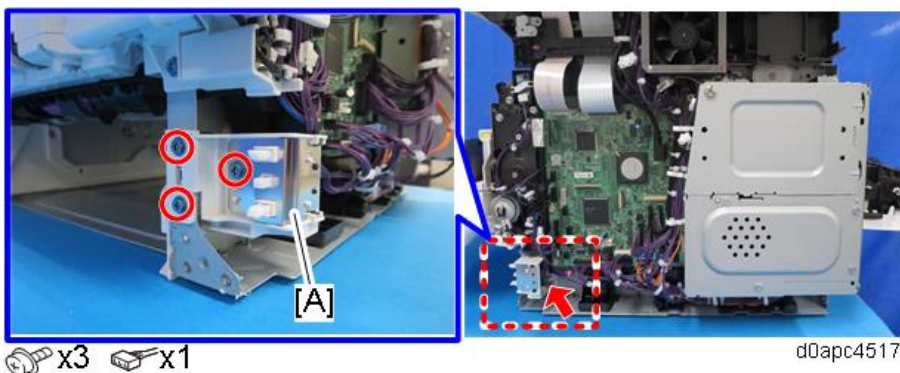


3. Remove the bypass tray sensor (S3) [A].

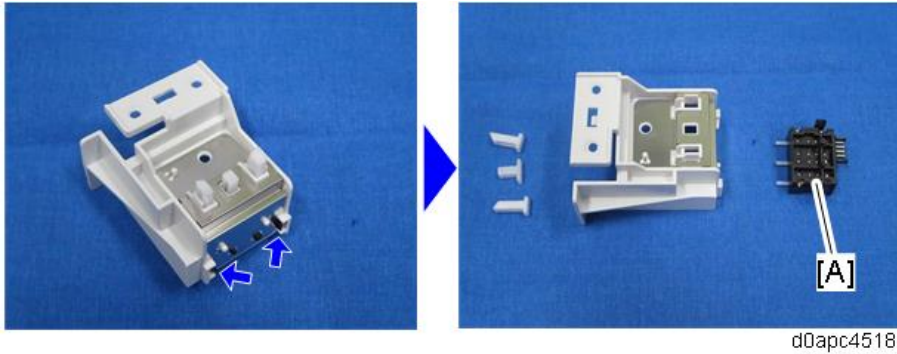


### 4.15.9 PAPER SIZE SWITCH (SW4)

1. Remove the right cover. (*Right Cover (Printer), Right Cover (MF)*)
2. Remove the bracket [A] with paper size switch (SW4).



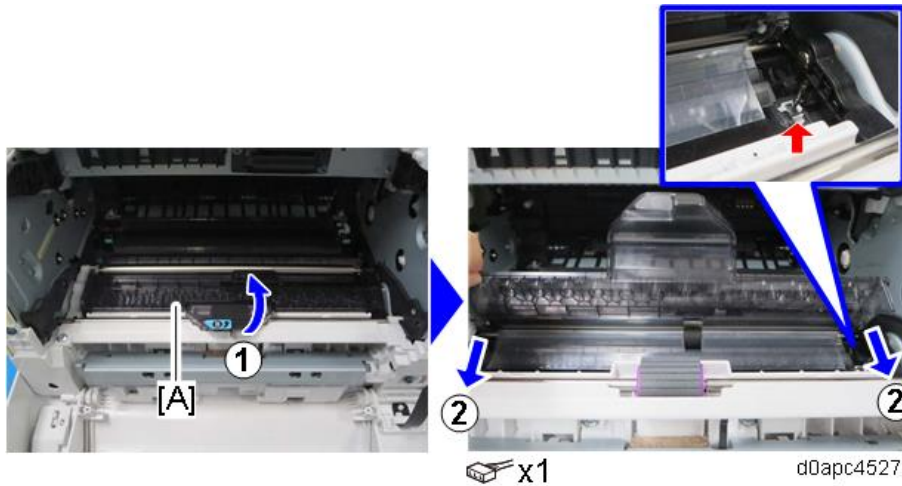
3. Release the two hooks to remove the paper size switch (SW4) [A] from the bracket.



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#### 4.15.10 REGISTRATION SENSOR (S5)

1. Remove the PCDU. (*PCDU*)
2. Open the cover [A] of the bypass feed roller to disconnect the connector, and then pull it towards you to remove.

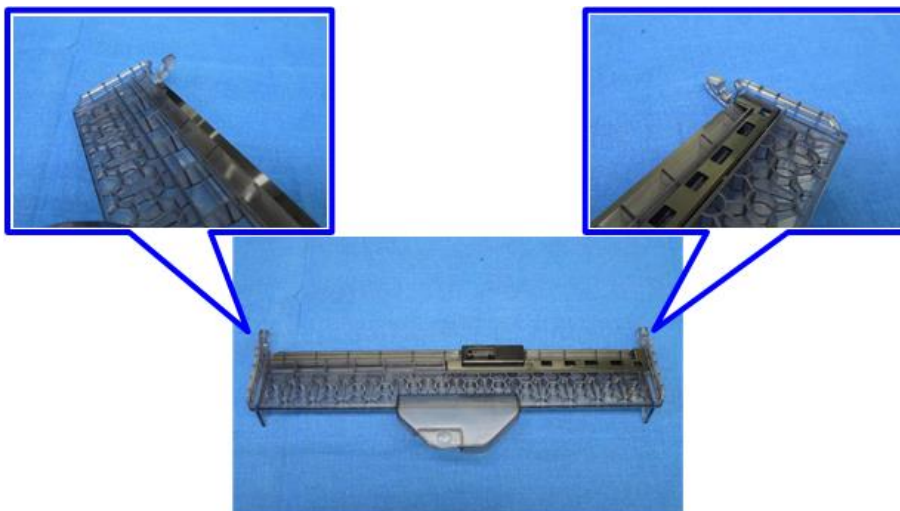


x1

d0apc4527

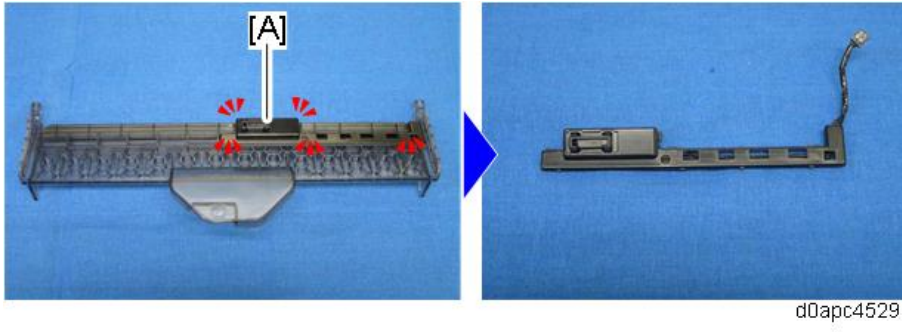
**Note**

The cover of the bypass feed roller is notched, so pull while raising it.

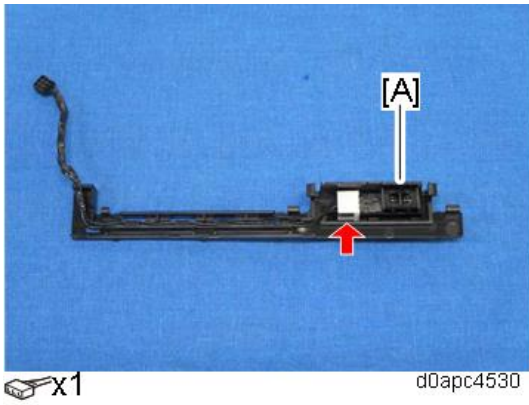


d0apc4528

3. Release the five hooks to remove the harness cover [A].

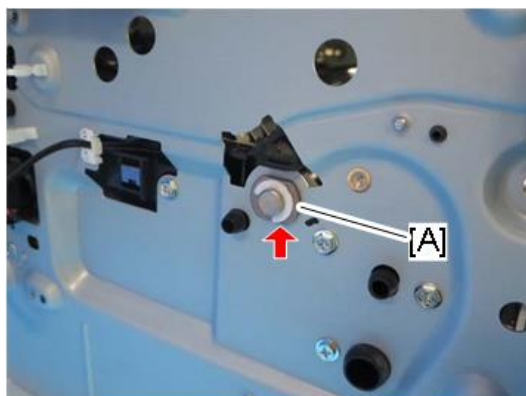


4. Remove the registration sensor (S5) [A].



### 4.15.11 REGISTRATION ROLLER

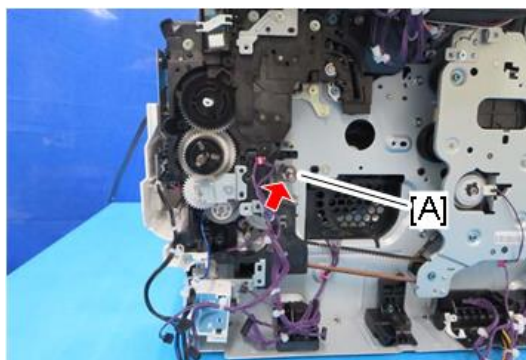
1. Remove the bypass feed unit. (*Bypass Feed Unit*)
2. Remove the HVPS with the bracket. (*HVPS with the Bracket*)
3. Remove the bearing [A] of the registration drive roller on the left side.



 x1

d0apc4531

4. Remove the registration clutch (CL5). (*Registration Clutch (CL5)*)
5. Remove the bearing [A] of the registration drive roller on the right side.



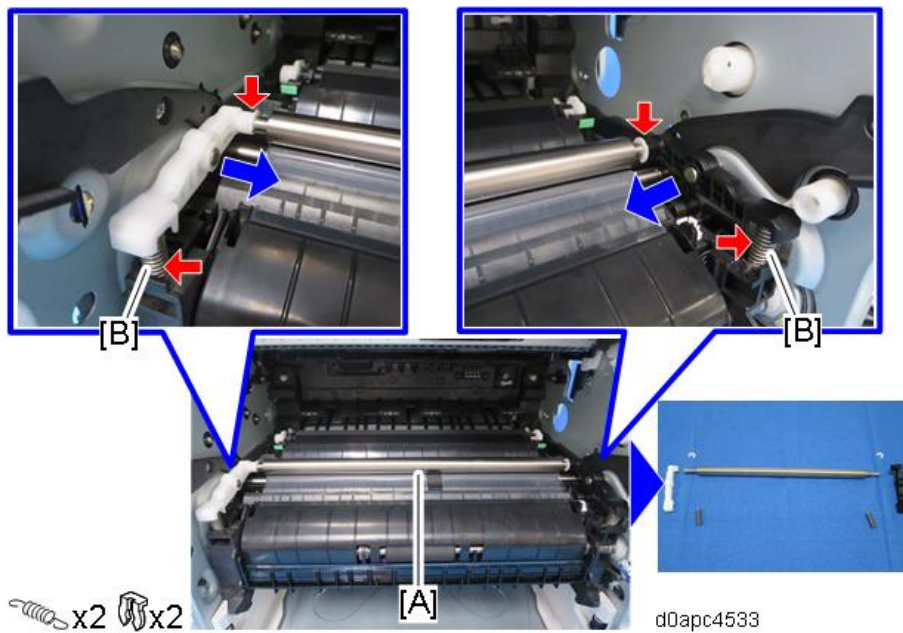
 x1

d0apc4532

6. Remove the registration sensor (S5). (*Registration Sensor (S5)*)



7. Remove the springs [B] of the holders for registration driven roller [A] on both sides, and then slide the holder (left end white, right end black) to remove the registration driven roller with the holders.



8. Remove the registration drive roller [A].



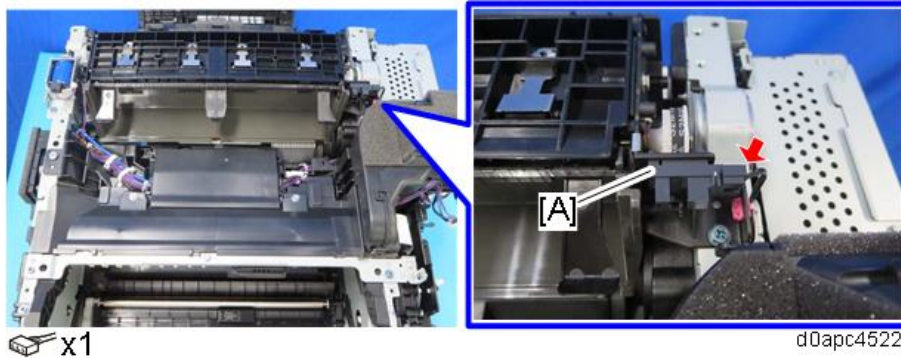
**Note**

When attaching/removing the registration drive roller, be careful not to damage it with the edge of the cover sheet.

## 4.16 PAPER EXIT/ DUPLEX

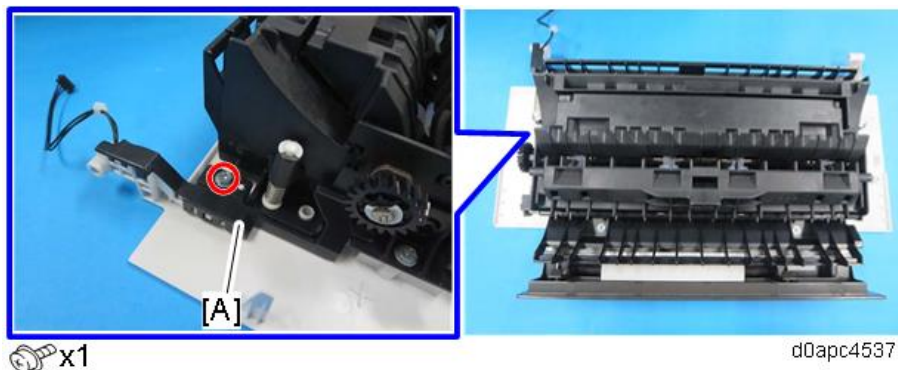
### 4.16.1 PAPER EXIT FULL SENSOR (S10)

1. Remove the upper cover. (*Upper Cover (Printer)*, *Upper Cover (MF)*)
2. Remove the Paper exit full sensor (S10) [A].



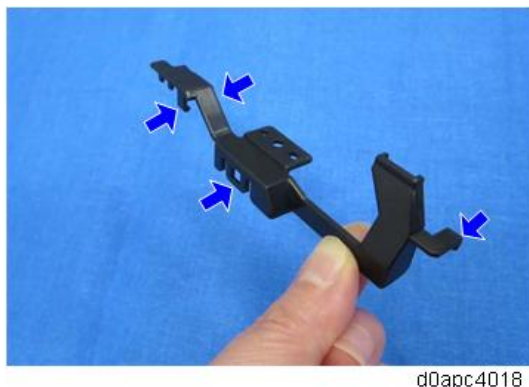
### 4.16.2 PAPER EXIT/REVERSE SENSOR (S1)

1. Remove the rear cover. (*Rear Cover (Printer)*, *Rear Cover (MF)*)
2. Remove the harness cover [A] and release the harness.

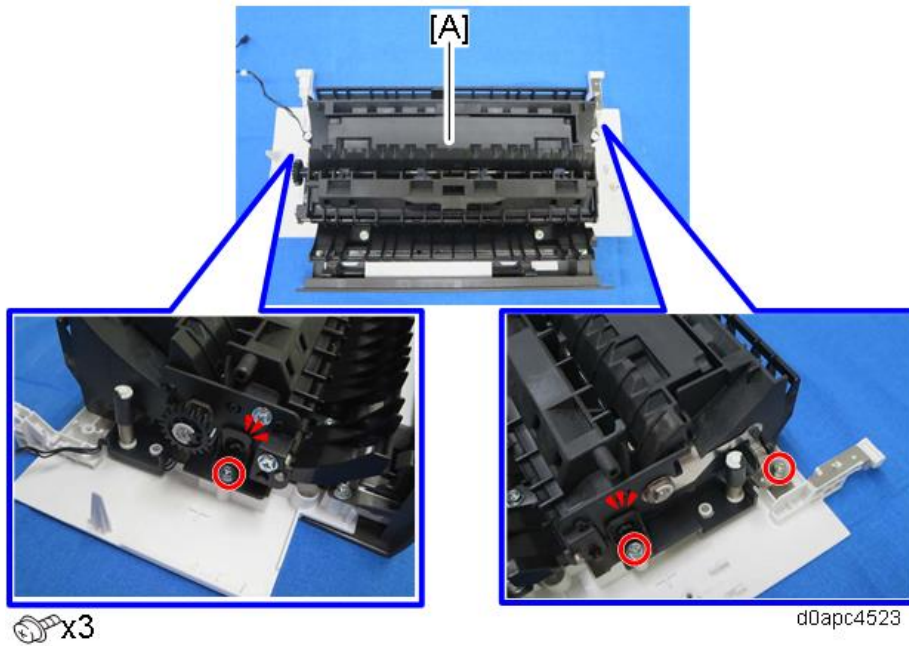


#### ⓘ Note

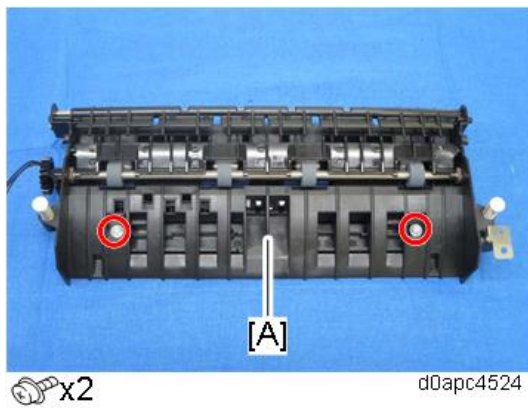
There are four hooks inside the harness cover. Before removing the harness cover, check the locations of the hooks in the photo below.



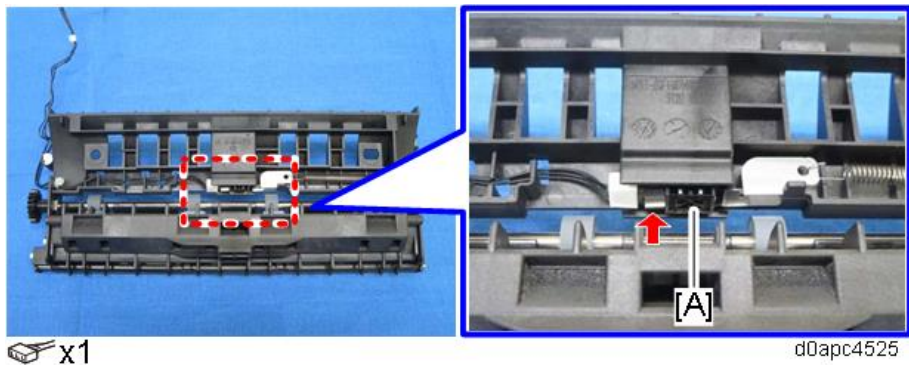
3. Release the two hooks, and then remove the duplex unit [A].



4. Remove the guide plate [A].

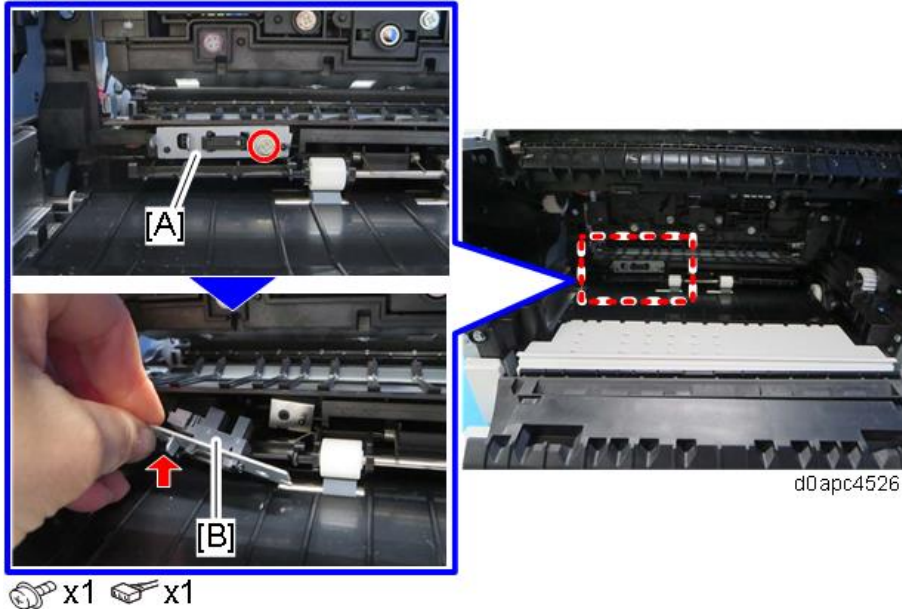


5. Remove the paper exit/reverse sensor (S1) [A].



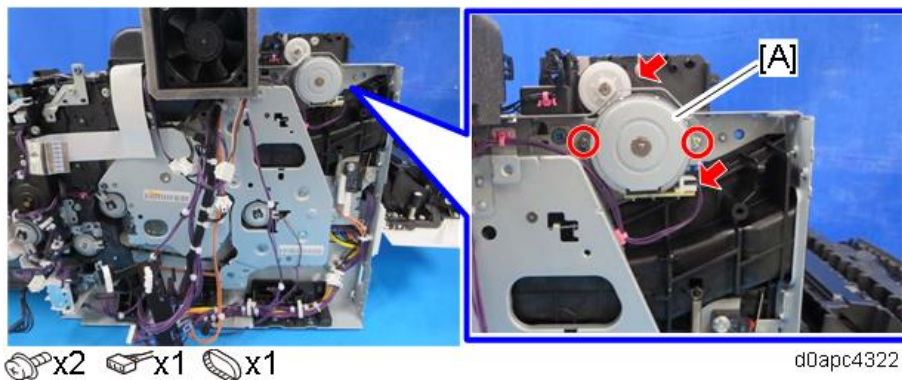
### 4.16.3 DUPLEX ENTRANCE SENSOR (S8)

1. Remove the Fusing unit. (*Fusing Unit*)
2. Remove the bracket [A], and then remove the duplex entrance sensor (S8) [B].



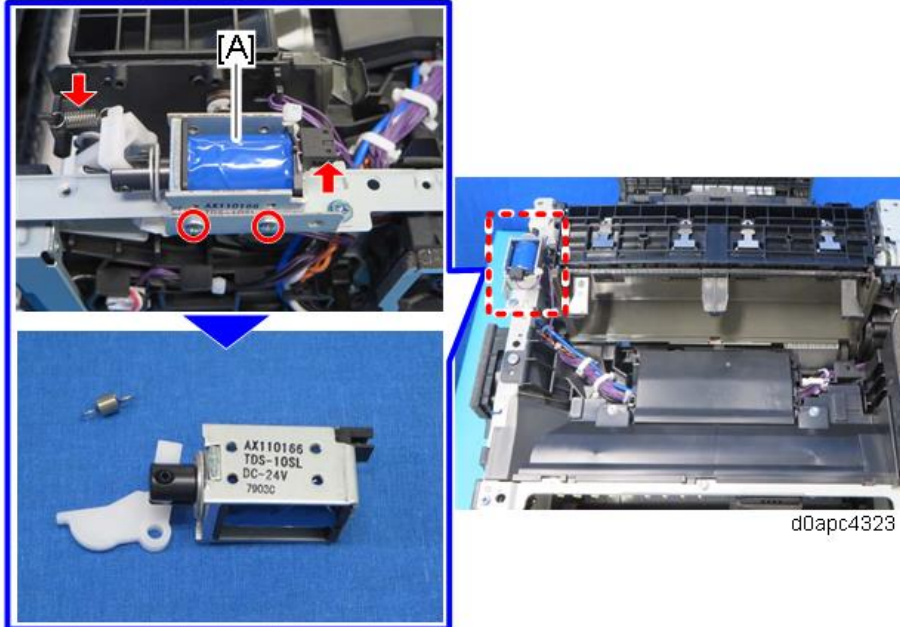
### 4.16.4 EXIT/REVERSE MOTOR (M1)

1. Remove the upper cover. (Printer models: *Upper Cover (Printer)*, MF models: *Upper Cover (MF)*)
2. **MF model:** Remove the SCB with bracket. (*SCB with the Controller Box (MF Model)*)  
**Printer model:** Remove the controller board. (*Controller Board (Printer Model)*)
3. Remove the exit/reverse motor (M1) [A].



#### 4.16.5 EXIT JUNCTION GATE SOLENOID (SOL1)

1. Remove the upper cover. (*Upper Cover (Printer)*, *Upper Cover (MF)*)
2. Remove the exit junction gate solenoid (SOL1) [A].

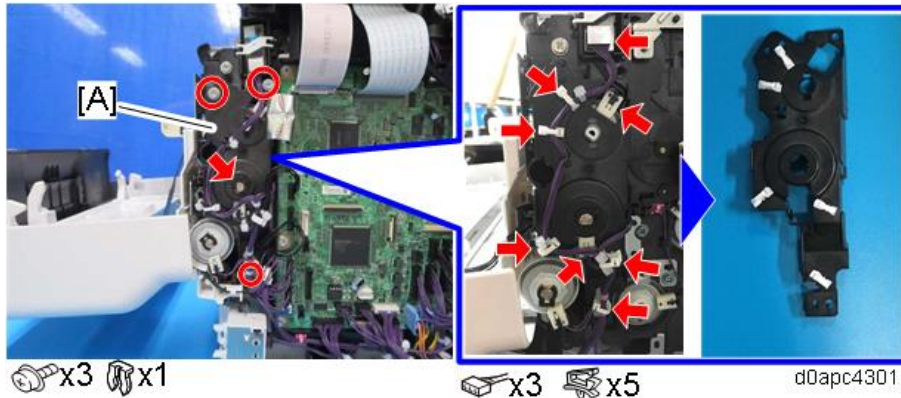


⊕ x2   ⊕ x1   🌀 x1

## 4.17 DRIVE UNITS

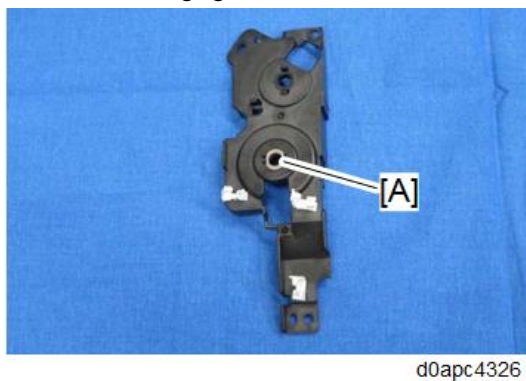
### 4.17.1 TONER SUPPLY CLUTCH (CL2)

1. Remove the right cover. (*Right Cover (Printer)*, *Right Cover (MF)*)
2. Remove the clutch cover [A].

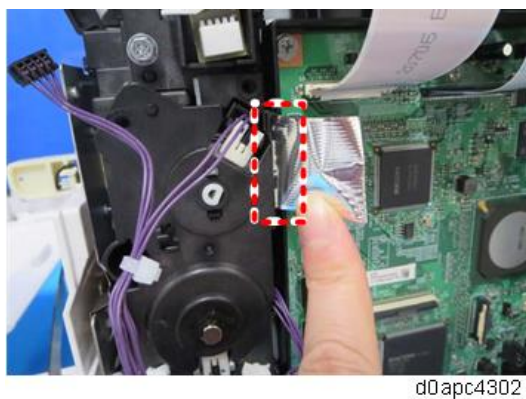


#### Note

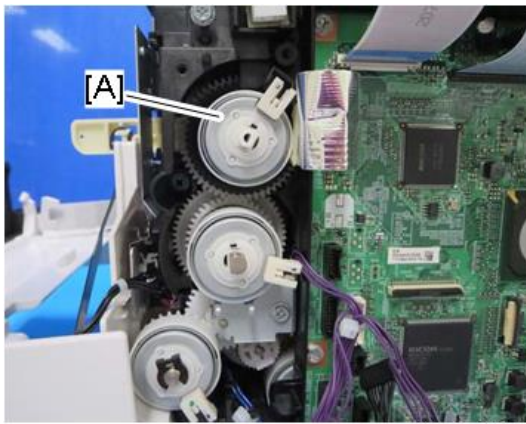
Work carefully when assembling. The bearing [A] can catch easily on the clutch cover and become disengaged.



**MF model:** Carefully remove the FFC attached to the clutch cover with double-sided tape to avoid damage to the FFC.



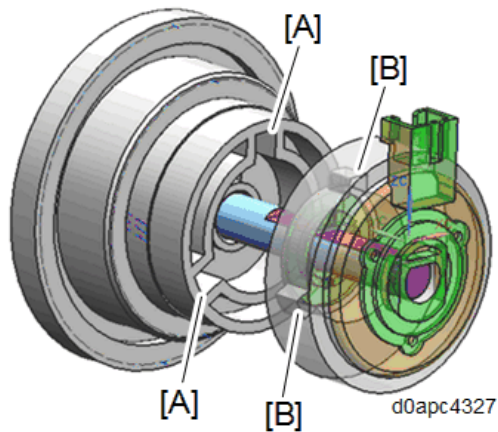
3. Remove the toner supply clutch (CL2) [A].



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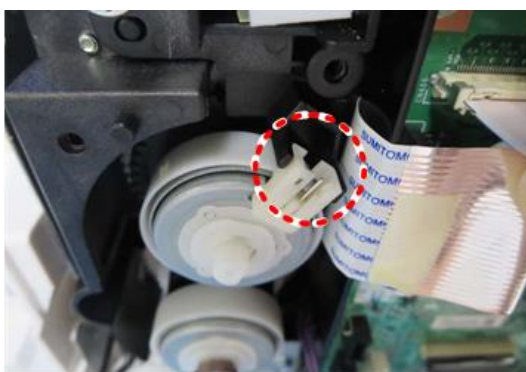
**Note**

When you install the toner supply clutch (CL2), match the gear notches [A] (x3) with the cogs [B] (x3). Also, the gear shaft is "D" cut so match it with the "D" cut hole of the clutch.



d0apc4327

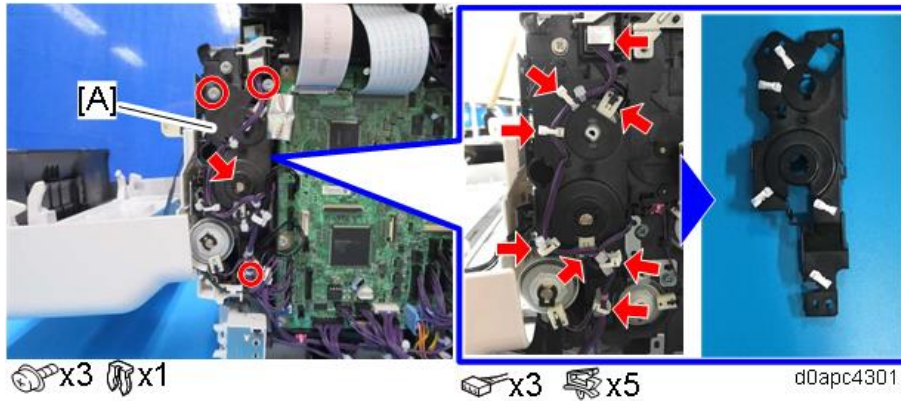
When attaching the toner supply clutch (CL2), make sure that the clutch connector is set over the holder.



d0apc4304

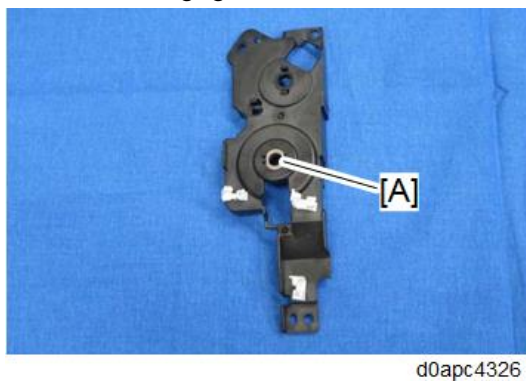
## 4.17.2 BYPASS FEED CLUTCH (CL4)

1. Remove the right cover. (*Right Cover (Printer)*, *Right Cover (MF)*)
2. Remove the clutch cover [A].

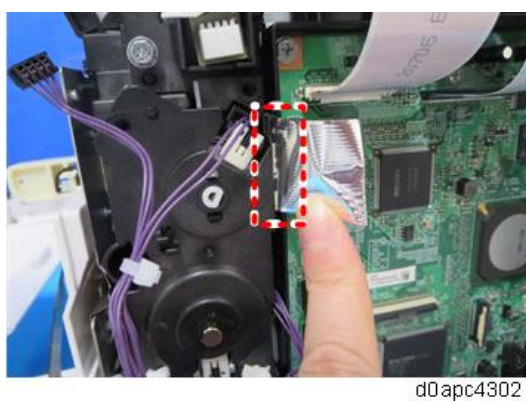


### Note

Work carefully when assembling. The bearing [A] can catch easily on the clutch cover and become disengaged.

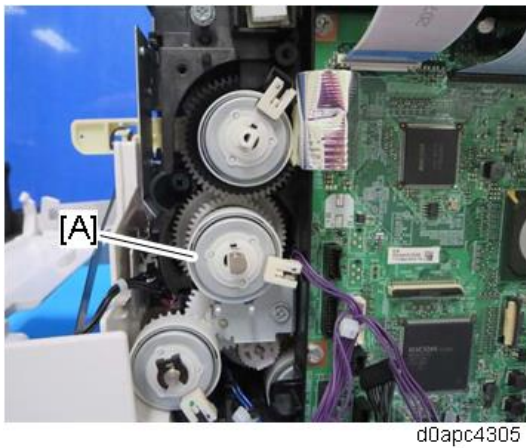


**MF model:** Carefully remove the FFC attached to the clutch cover with double-sided tape to avoid damage to the FFC.



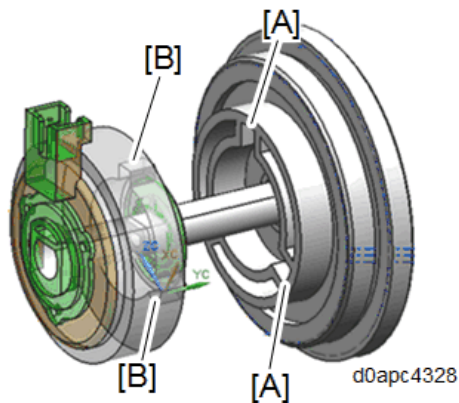


3. Remove the bypass feed clutch (CL4) [A].

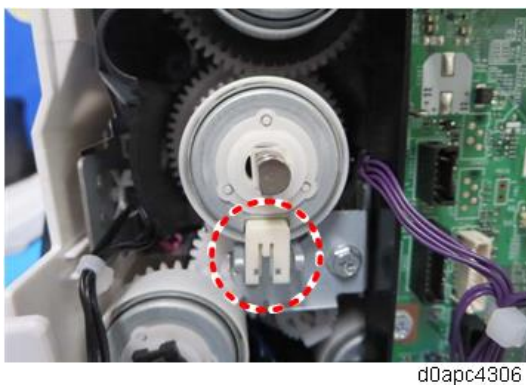


**Note**

When you install the bypass feed clutch (CL4), match the gear notches [A] (x3) with the cogs [B] (x3). Also, the gear shaft is "D" cut so match it with the "D" cut hole of the clutch.

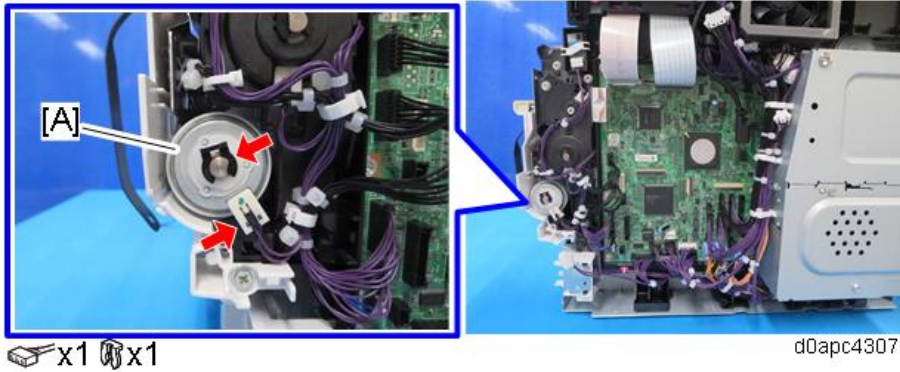


When attaching the bypass feed clutch (CL4), make sure that the connector of the clutch is set over the holder as shown below.



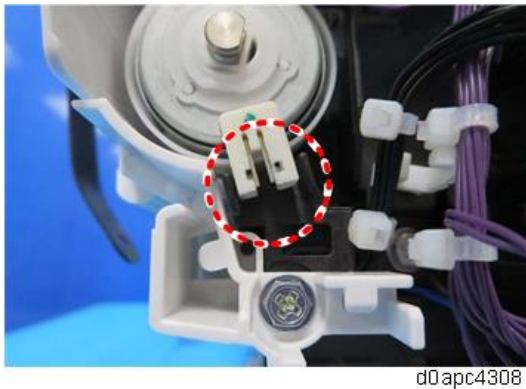
### 4.17.3 BYPASS LIFT CLUTCH (CL3)

1. Remove the right cover. (*Right Cover (Printer)*, *Right Cover (MF)*)
2. Remove the front cover. (*Front Cover (Printer)*, *Front Cover (MF)*)
3. remove the bypass lift clutch (CL3) [A].



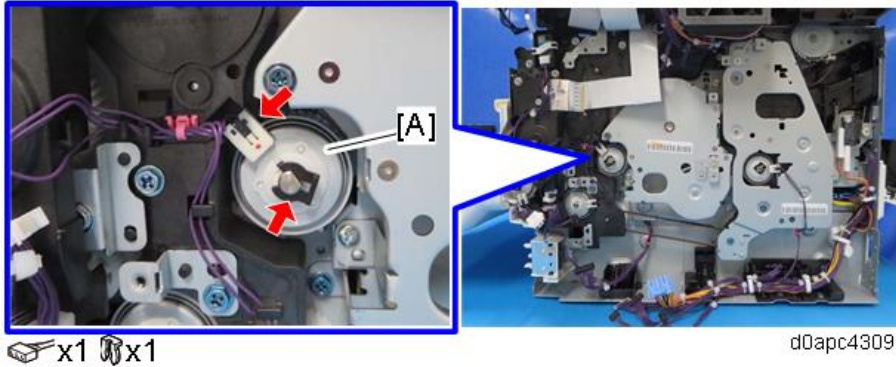
#### Note

When attaching the bypass lift clutch (CL3), make sure that the connector of the clutch is set over the holder as shown below.



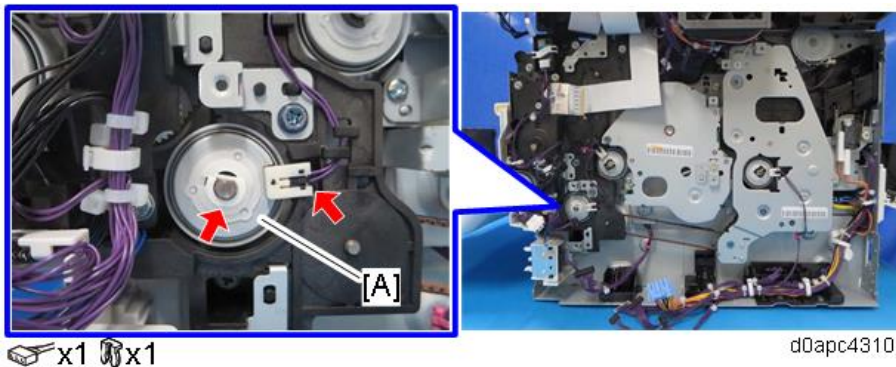
#### 4.17.4 REGISTRATION CLUTCH (CL5)

1. **MF model:** Remove the SCB with the bracket. (*SCB with the Controller Box (MF Model)*)  
**Printer model:** Remove the BCU with bracket. (*BCU with the Bracket (Printer Model)*)
2. Remove the registration clutch (CL5) [A].



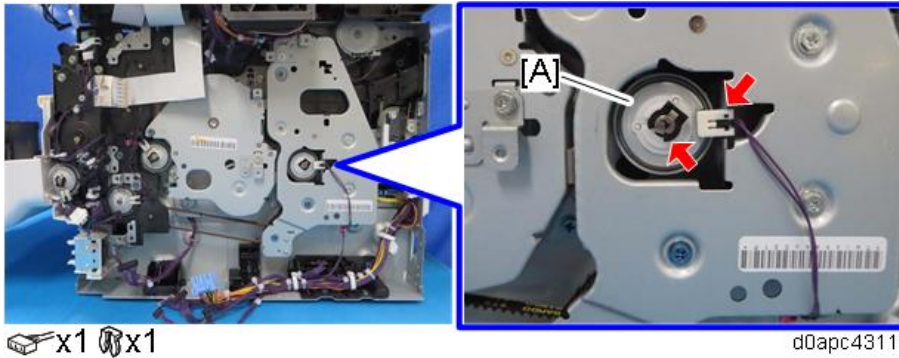
#### 4.17.5 PAPER FEED CLUTCH (CL6)

1. **MF model:** Remove the SCB with the bracket. (*SCB with the Controller Box (MF Model)*)  
**Printer model:** Remove the BCU with the bracket. (*BCU with the Bracket (Printer Model)*)
2. Remove the paper feed clutch (CL6) [A].



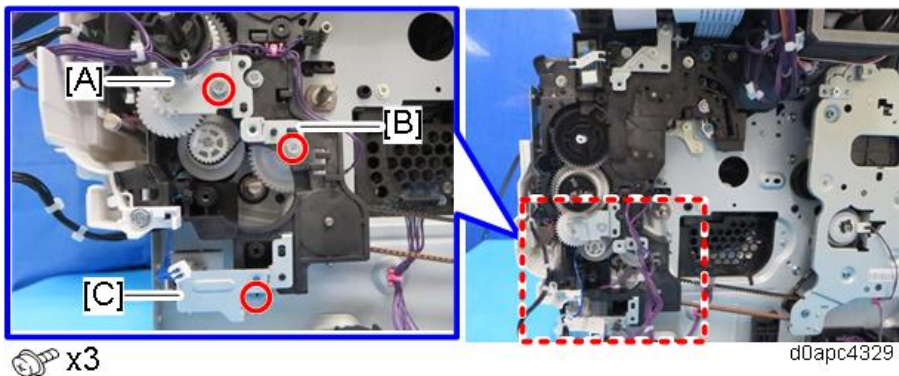
### 4.17.6 DUPLEX CLUTCH (CL1)

1. MF model: Remove the SCB with the bracket. (*SCB with the Controller Box (MF Model)*)  
Printer model: Remove the controller board. (*Controller Board (Printer Model)*)
2. Remove the duplex clutch (CL1) [A].

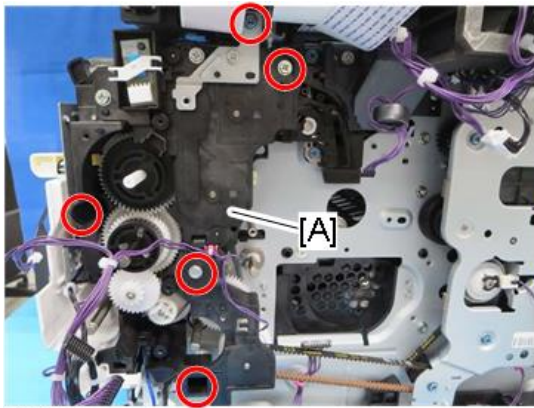


### 4.17.7 RELAY CLUTCH (CL7)

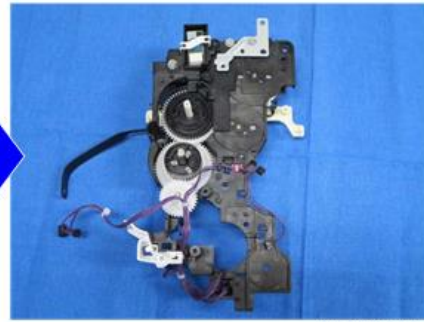
1. Remove the toner supply clutch (CL2). (*Toner Supply Clutch (CL2)*)
2. Remove the bypass feed clutch (CL4). (*Bypass Feed Clutch (CL4)*)
3. Remove the bypass lift clutch (CL3). (*Bypass Lift Clutch (CL3)*)
4. Remove the registration clutch (CL5). (*Registration Clutch (CL5)*)
5. Remove the paper feed clutch (CL6). (*Paper Feed Clutch (CL6)*)
6. Remove the drum motor unit. (*Drum Motor (M3)*)
7. Remove the paper size switch (SW4). (*Paper Size Switch (SW4)*)
8. Remove the brackets [A], [B], and [C].



9. Remove the gear unit [A].



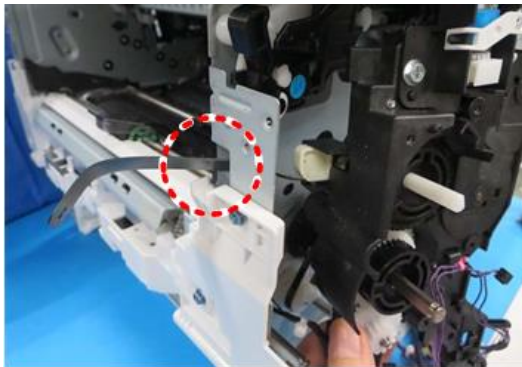
x5



d0apc4312

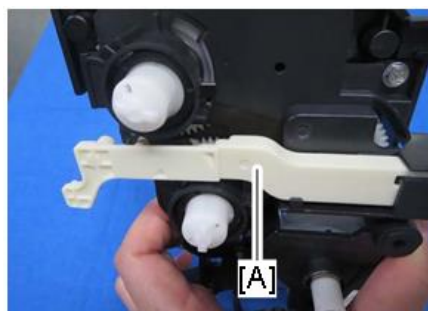
Note

When removing the gear unit, be careful not to injure the belt linked to the front cover.



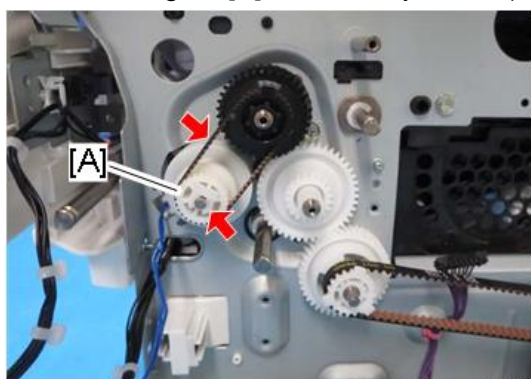
d0apc4330

When you install the gear unit, confirm that the two pegs of the joint lever [A] are inserted correctly into the rings of the toner supply/collection drive link.



d0apc4315

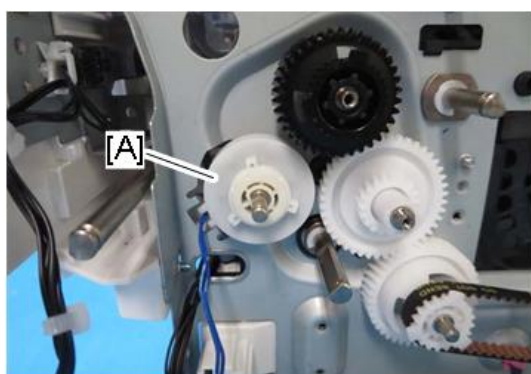
10. Remove the gear [A] on the relay clutch (CL7).



 x1  x1

d0apc4313

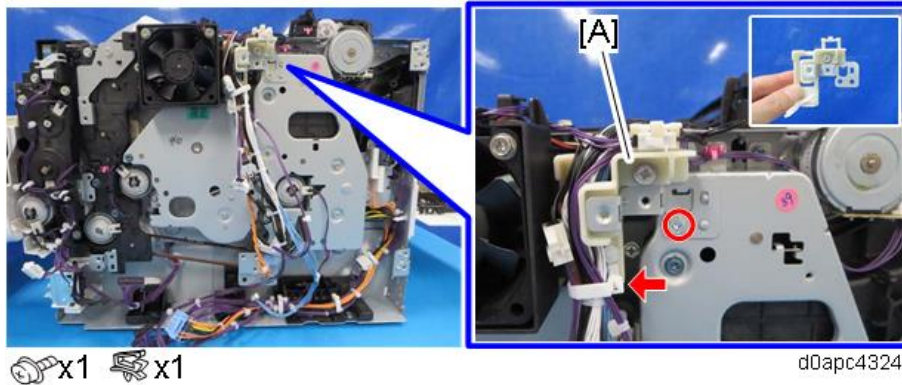
11. Remove the relay clutch (CL7) [A].



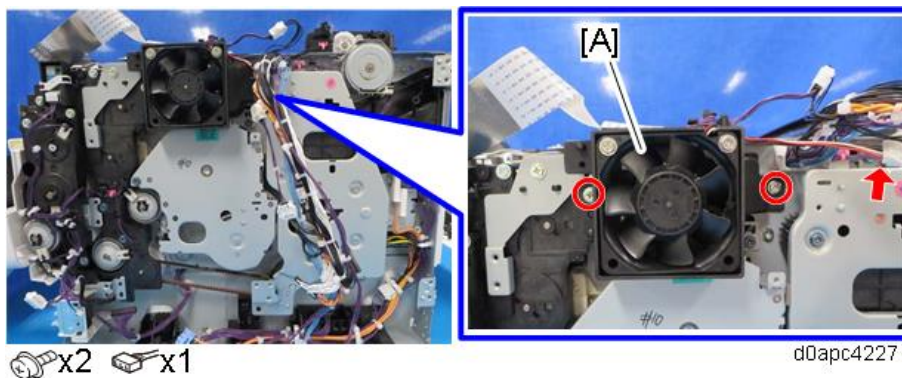
d0apc4314

### 4.17.8 DRUM MOTOR (M3)

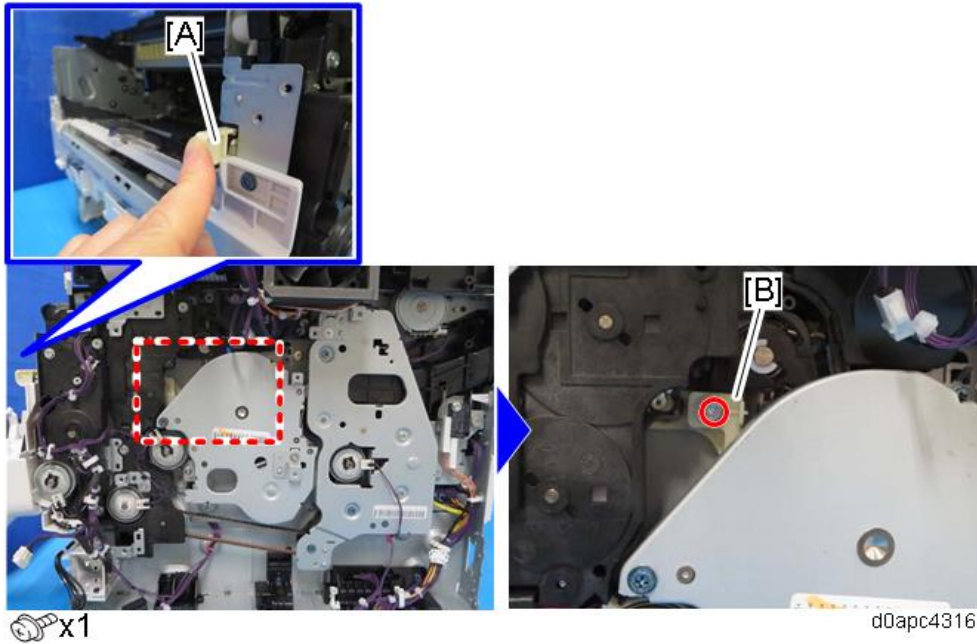
1. **MF model:** Remove the SCB with the bracket. (*SCB with the Controller Box (MF Model)*)  
**Printer model:** Remove the BCU with the bracket. (*BCU with the Bracket (Printer Model)*)
2. **Printer model:** Remove the harness guide [A].



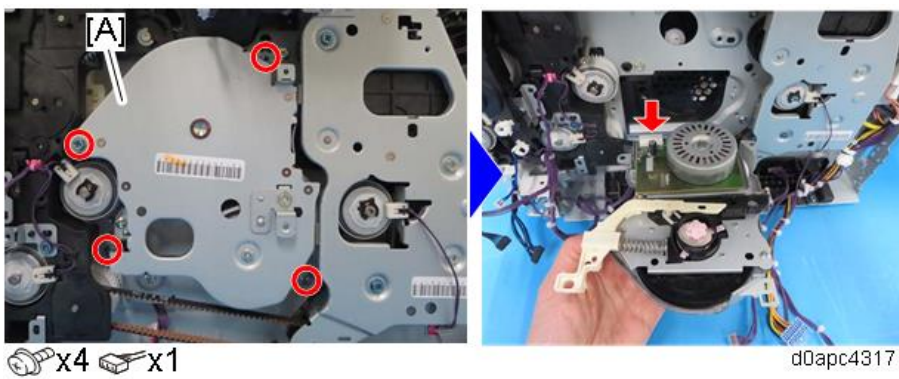
3. **Printer model:** Remove the PCDU cooling fan (right) (FAN1) [A] with the duct.



4. Close the front cover or push in the joint lever [A], then remove the screw at the joint lever junction [B] that came out.

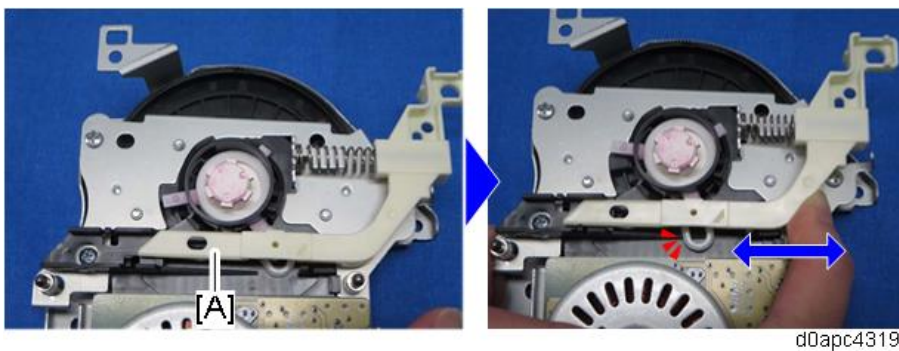


5. Remove the drum motor (M3) unit [A].



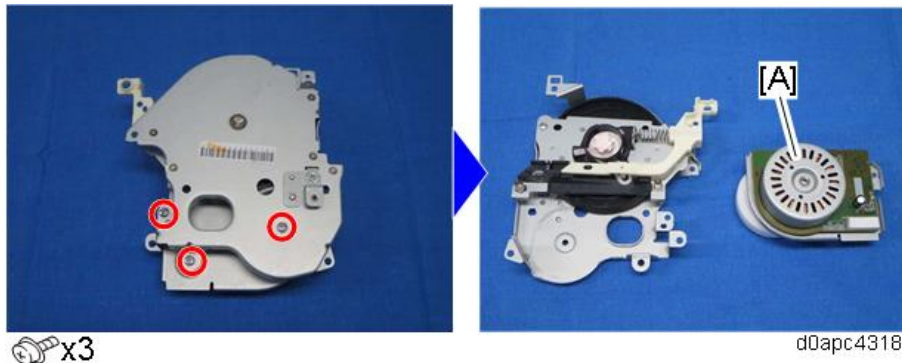
**Note**

When you re-install the drum motor (M3) unit, confirm that the joint lever [A] is set correctly in the drive link ring of the drum as shown below.



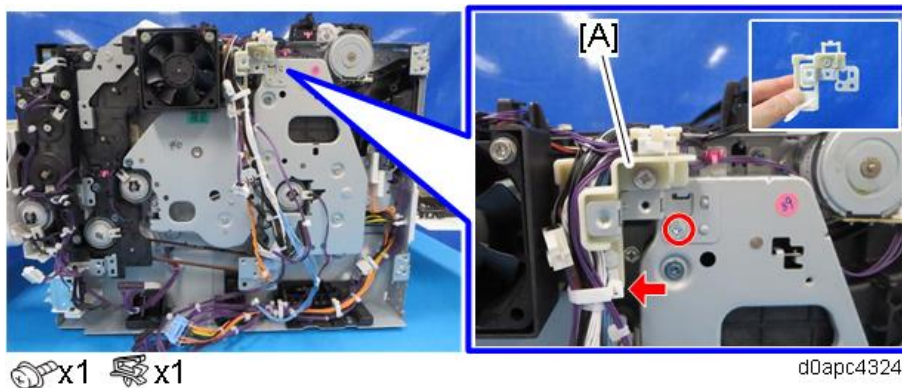


6. Remove the drum motor (M3) [A].

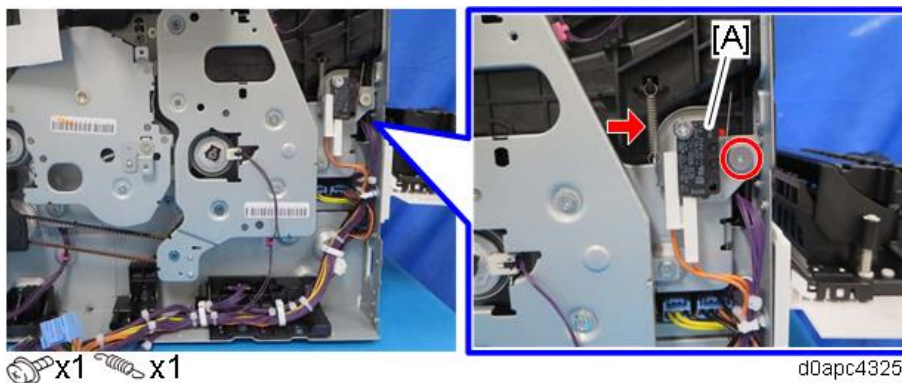


### 4.17.9 FEED/FUSING MOTOR (M4)

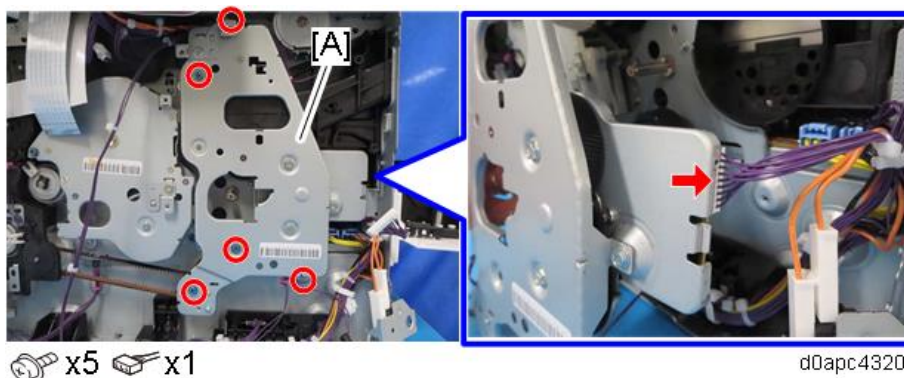
1. **MF model:** Remove the SCB with the bracket. (*SCB with the Controller Box (MF Model)*)  
**Printer model:** Remove the BCU with the bracket. (*BCU with the Bracket (Printer Model)*)
2. **Printer model:** Remove the harness guide [A].



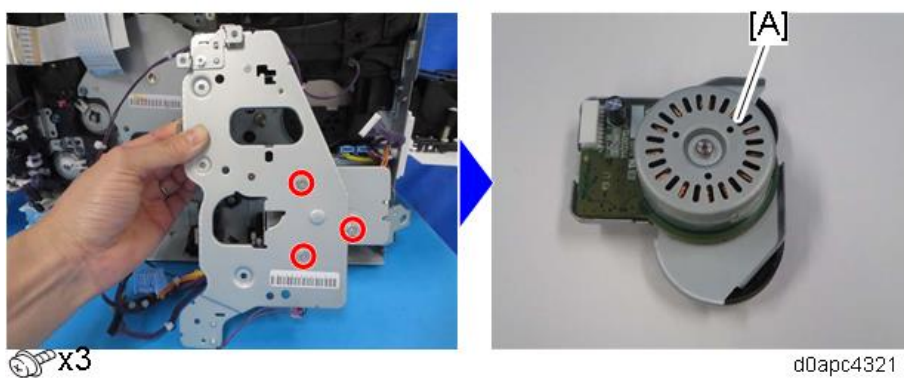
3. Remove the duplex clutch (CL1). (*Duplex Clutch (CL1)*)
4. Remove the Rear interlock switch (SW2) [A] with the bracket.



- Remove the feed/fusing motor (M4) unit [A].



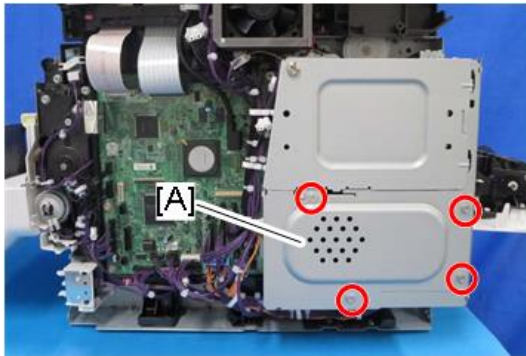
- Remove the feed/fusing motor (M4) [A].



## 4.18 ELECTRICAL COMPONENTS

### 4.18.1 SCB (MF MODEL)

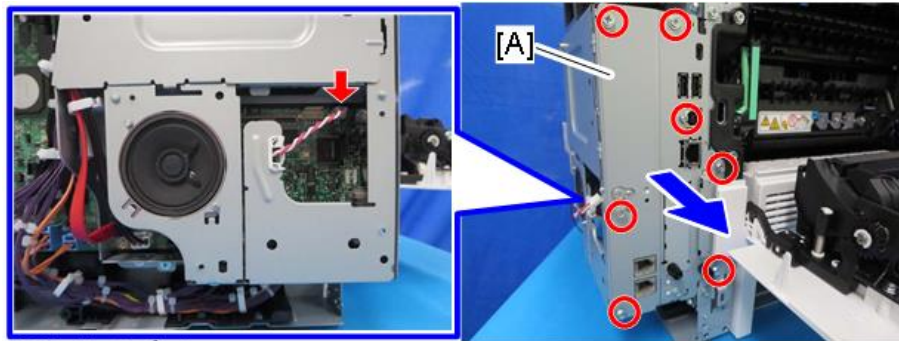
1. Remove the right cover. (*Right Cover (MF)*)
2. Remove the controller box lower cover [A].



⚙️ x4

d0apc4601

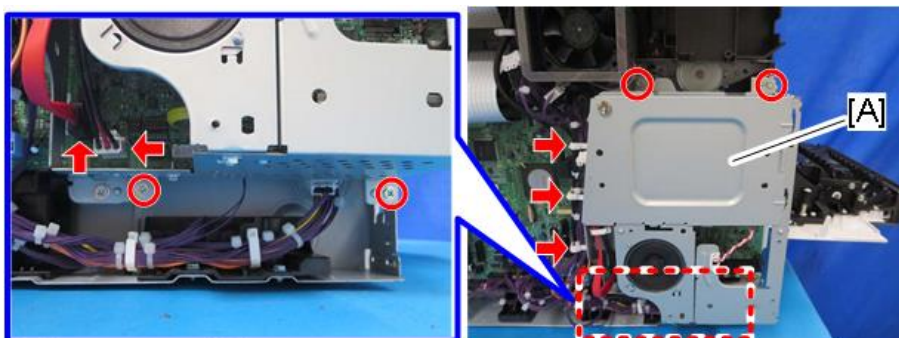
3. Disconnect the harness, and then pull out the interface cover [A] to remove it.



⚙️ x7 🗝️ x1

d0apc4602

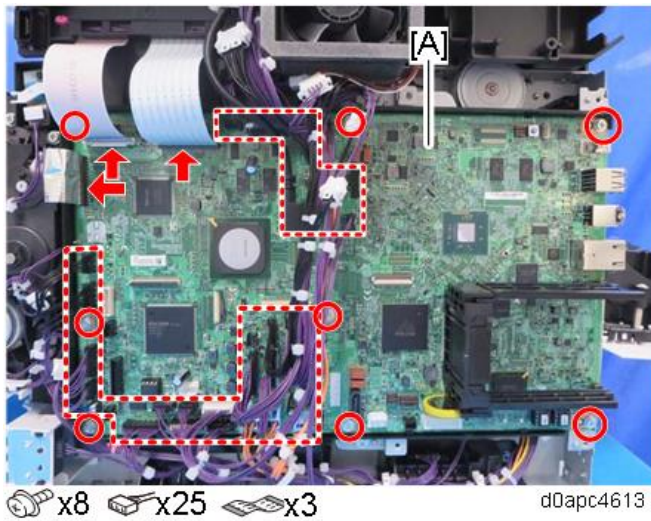
4. Remove the controller box [A].



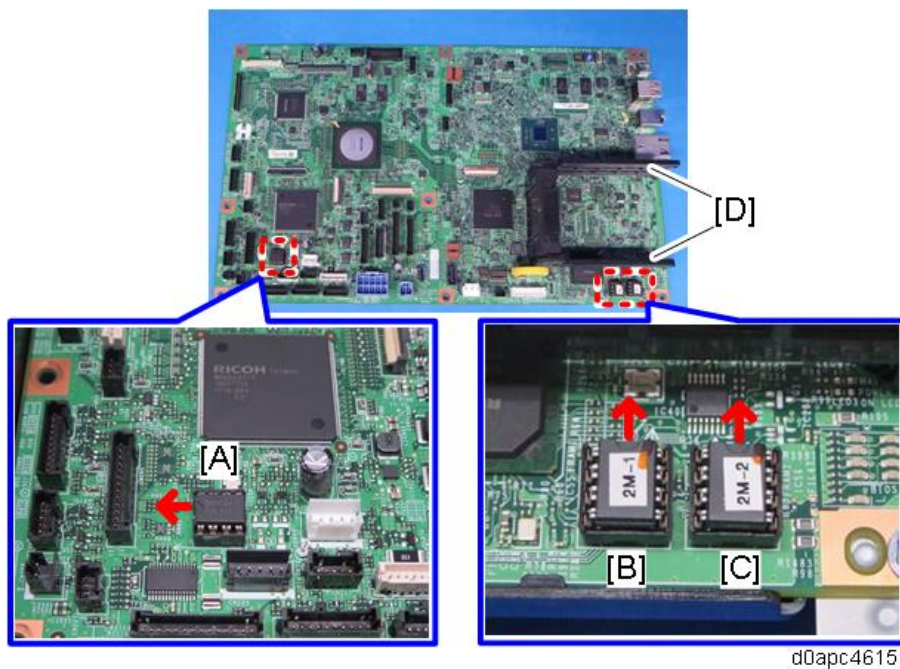
⚙️ x4 🗝️ x2 🗝️ x3

d0apc4603

5. Remove the SCB [A].



6. Remove the NVRAM [A], [B], [C], and the two guide rails [D] from the old SCB, and then install them on the new SCB.



**Note**

Install the NVRAM so the indentation on the NVRAM, face the indentation marks on the SCB. If they are not installed correctly, the SCB may be damaged.

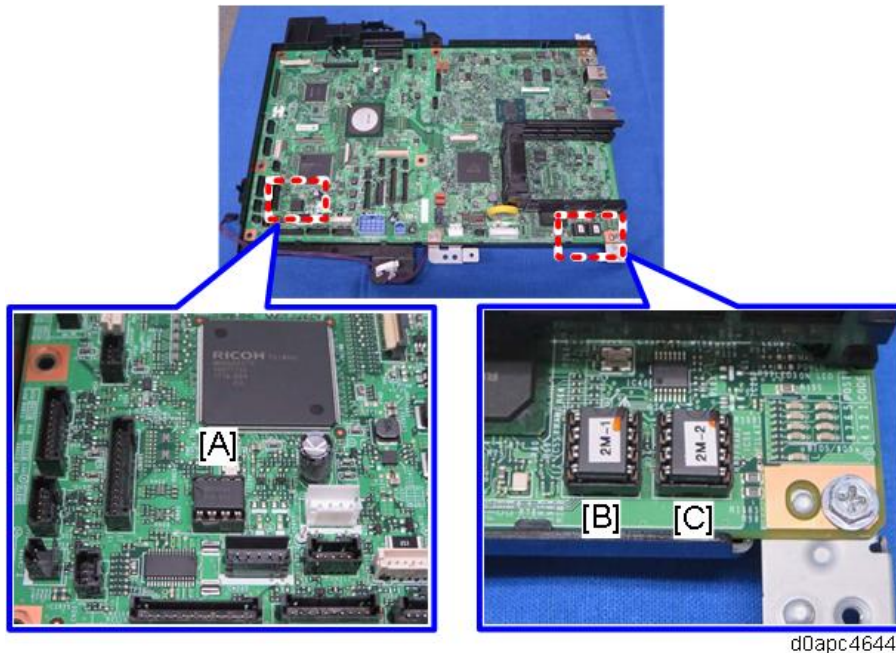
Make sure that the three NVRAMs are correctly installed on the SCB as shown above at:

- [A]: No seal
- [B]: 2M-1
- [C]: 2M-2

If a message tells that you need an SD card to restore settings after the NVRAM replacement, create an "SD card for restoration".

## NVRAM on the SCB

Three NVRAM are mounted on the SCB, one engine NVRAM [A] and two controller NVRAM [B] and [C]. When you replace an NVRAM, follow the steps in the engine NVRAM and controller NVRAM replacement procedures described below. Always replace controller NVRAM together as a paired set.



### Engine NVRAM Replacement

1. Make sure you have the SMC Report (factory settings).
2. Print out the SMC Report (all data) with SP5-990-001.
3. Turn the main power OFF.
4. Install an SD card into SD Card Slot 2 (lower slot).
5. Turn the main power ON.
6. Copy the NVRAM data to an SD card with SP5-824-001.
7. Turn the main power OFF. Disconnect the power cord.
8. Replace the NVRAM on the SCB and reassemble the machine. (**SCB (MF Model)**)
9. Connect the power cord. Then turn the main power ON.

**Note**

When you do this, SC995 will be displayed. However, DO NOT turn off the main power. Continue with this procedure.

10. Select the destination setting with SP5-131-001. (JPN: 0, NA: 1, EU/AA/TWN/CHN: 2)
11. Enter the SCB serial number and area code.

**Note**

- For information on how to configure this SP, contact the supervisor in your branch office.

- Refer to the following area code/destination list.
  - 1: Japan
  - 2: North America
  - 3: Europe
  - 4: Taiwan
  - 5: Asia
  - 6: China
  - 7: Korea

**12. Power cycle the machine.**

**Note**

If the SCB serial number is not entered correctly, SC995-01 (serial number entry error) will occur.

- 13.** Copy the data from the SD card to the new NVRAM with SP5-825-001.
- 14.** Turn the main power OFF.
- 15.** Remove the SD card from SD Card Slot 2 (lower slot).
- 16.** Turn the main power ON.
- 17.** Check the factory settings sheet from step 1 and the SMC data printout from step 2, and then set the user tool and SP settings so they are the same as before.

### ***Controller NVRAM Replacement***

- 1.** Make sure you have the SMC Report (factory settings).
- 2.** Print out the SMC report (all data) with SP5-990-001.
- 3.** Turn the main power OFF.
- 4.** Install an SD card into SD Card Slot 2 (lower slot).
- 5.** Turn the main power ON.
- 6.** Copy the NVRAM data to an SD card with SP5-824-001.

**Note**

Note the following SP settings. They will not be automatically uploaded to the SD card.

These settings will be input manually.

- SP5-895-001 (Application invalidation: Printer)  
0: Valid, 1: Invalid
- SP5-895-002 (Application invalidation: Scanner)  
0: Valid, 1: Invalid
- SP5-985-001 (Device Setting: On Board NIC)  
0: Invalid, 1: Valid
- SP5-985-002 (Device Setting: On Board USB)  
0: Invalid, 1: Valid

- 7.** Make sure the customer has a backup of their address book data. If they do not, do the following procedure to create a backup.

1. Insert an SD card into SD slot 2, and then turn the main power ON.

2. Save the address book data in the SD card using SP5-846-051.

 **Note**

- The address data stored in the machine will be discarded later during this procedure. So be sure to obtain a backup of the customer's address book data.
- Note that the counters for the user will be reset when doing the backup/restore of the address book data.
- If they have a backup of the address book data, use their own backup data for restoration. There is a risk that the data cannot be backed up properly depending on the NVRAM condition.

8. Do the following steps if the machine has the fax unit. If not, skip this step.

1. Print the Box List by with the User Tools/Counter.

- [User Tools/Counter] - [Facsimile Features] - [General Settings] - [Box Setting: Print List]

2. Print the Special Sender List by pressing these buttons in the following order.

- [User Tools/Counter] - [Facsimile Features] - [Reception Settings] - [Program Special Sender: Print List]

3. Write down the following fax settings.

- [Receiver] in [User Tools/Counter] - [Facsimile Features] - [Reception Settings] - [Reception File Settings] - [Forwarding].
- [Notify Destination] in [User Tools/Counter] - [Facsimile Features] - [Reception Settings] - [Reception File Settings] - [Store].
- [Specify User] in [User Tools/Counter] - [Facsimile Features] - [Reception Settings] - [Stored Reception File User Setting].
- [Notify Destination] in [User Tools/Counter] - [Facsimile Features] - [Reception Settings] - [Folder Transfer Result Report].
- Specified folder in [User Tools/Counter] - [Facsimile Features] - [Send Settings] - [Backup File TX Setting].
- [Receiver] in [User Tools/Counter] - [Facsimile Features] - [Reception Settings] - [Reception File Settings] - [Output Mode Switch Timer].
- [Store: Notify Destination] in [User Tools/Counter] - [Facsimile Features] - [Reception Settings] - [Output Mode Switch Timer].
- All the destination information is shown on the display.

 **Note**

In the fax settings, address book data is stored with entry IDs, which the system internally assigns to each data. The entry IDs may be changed due to re-assigning in backup/restore operations.

4. Make sure that there are no files queued for sending. Ask the customer to send any files waiting for transmission.

9. Turn the main power OFF. Disconnect the power cord.
10. Remove the SD card containing the NVRAM data from Slot 2.
11. Replace the NVRAM on the controller board and reassemble the machine. (*SCB (MF Model)*)
12. Connect the AC power cord, and then turn the main power ON.

**Note**

- Do not insert anything into SD Card Slot 2.
- SC673 appears at start-up, but this is normal because the controller and the smart operation panel cannot communicate with each other due to changes in the operation panel SP settings.

13. Change the SP settings for the operation panel.

If you switch the screen to enter the SP mode, SC995-02 is displayed. However, continue the following steps.

- SP5-748-101: (OpePanel Setting: Op Type Action Setting): Change bit 0 from 0 to 1.
- SP5-748-201: (OpePanel Setting: Cheetah Panel Connect Setting): Change the value from 0 to 1.

14. Change the Flair API SP values.

- SP5-752-001 (Copy FlairAPIFunction Setting): Change bit from 0 to 1.
- SP3-301-001 (FAX:FlairAPI Setting) Change bit from 0 to 1.

15. Power cycle the machine.

**Note**

- The model information is written on the NVRAM (Novita), so SC995-02 does not occur.
- Program/Change Administrator will be displayed in Japanese, but this is normal.

16. Enter the SP mode and input the following SP settings according to the notes you made in Step 6.

- SP5-985-001 (Device Setting: On Board NIC)
- SP5-985-002 (Device Setting: On Board USB)

17. Re-insert the SD card that you removed in Step 10 back into Slot 2.

18. Download the old NVRAM data from the SD card onto the new NVRAM with SP5-825-001 (NVRAM Data Download).

**Note**

This will take about 2 or 3 minutes.

19. Turn the main power OFF, and then remove the SD card from the lower slot.

20. Turn the main power ON.

The screen "Program/Change Administrator" will be displayed in the language that is the same language as the time when the data was uploaded to the SD card in Step 6.

21. Execute SP5-755-002 (Hide Administrator Password Change Scrn).

After you execute this SP and exit SP mode, the Home screen is displayed and user



functions can be used.

22. Check that the fax and scanner icons are displayed, and then input the following SP settings according to the notes taken in Step 6.
  - SP5-895-001 (Application invalidation: Printer)
  - SP5-895-002 (Application invalidation: Scanner)
23. If the security functions (e.g. Stored file encryption/ Auto Erase Memory Setting) were applied, set the functions again.
24. Ask the customer to restore their address book or restore the address book data using SP5-846-052 (UCS Setting: Restore All Addr Book), and then ask the customer to ensure the address book data has been restored properly.

**★ Important**

If you obtained the backup of the customer's address book data in step 3, delete the backup immediately after the NVRAM replacement to avoid accidentally removing customer information from the work site.

25. Output all the SMC data with SP5-990-001 and make sure all the SP/UP settings, except counter information, are properly restored by checking the factory setting sheet from Step 1 and the SMC Report from Step 2.

**↓ Note**

The counters will be reset.

26. Make sure that the "Reception Settings" and "Send Settings" correspond with the notes taken in Step 8. Correct the settings if they are wrong.
27. Power cycle the machine.

**★ Important**

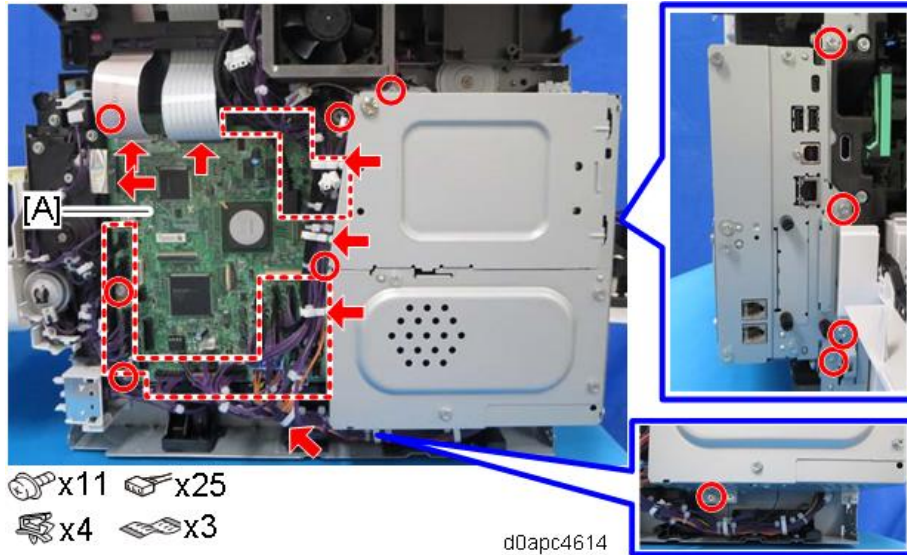
If SP5-824-001 (NVRAM Data Upload) and SP5-825-001 (NVRAM Data Download) cannot be executed for some reason, enter all data on the SMC Report manually.

**↓ Note**

If the message "SD card for restoration is required." appears after the NVRAM replacement, restore the encryption key.

### 4.18.2 SCB WITH THE CONTROLLER BOX (MF MODEL)

1. Remove the right cover. (*Right Cover (MF)*)
2. Remove the SCB [A] with the controller box.



### 4.18.3 HDD (MF MODELS)

#### *Before HDD Replacement*

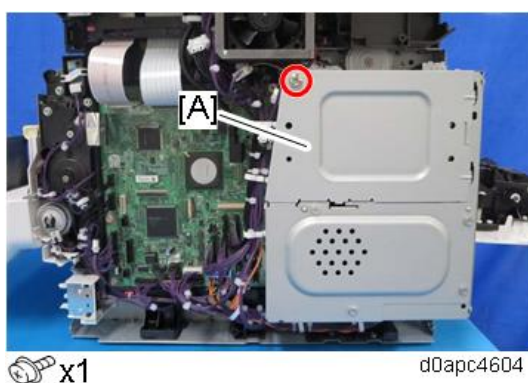
1. Insert an SD card in SD Card Slot 2 (lower slot).
2. Enter the SP mode.
3. Execute SP5-846-051 to upload the address book data to the SD card.

#### **Note**

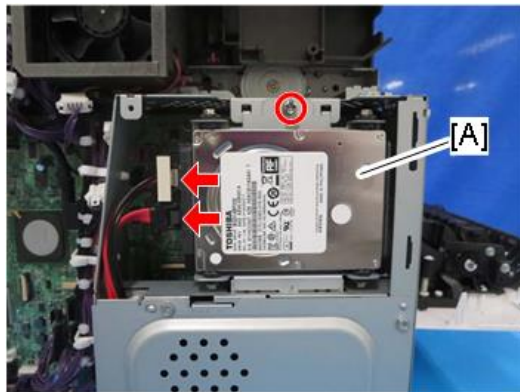
If the HDD is damaged, you may not be able to retrieve this data from the HDD.

#### *Replacement Procedure*

1. Remove the right cover. (*Right Cover (MF)*)
2. Remove the HDD cover [A].



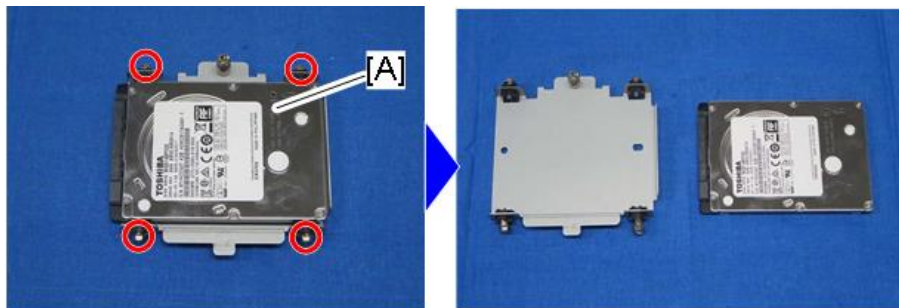
3. Remove the HDD [A] with the bracket.



 x1  x2

d0apc4605

4. Remove the HDD [A] from the bracket.



 x4

d0apc4606

#### ★ Important

- HDD units must not be removed without the consent of owner from the machine under no circumstances, even if you suspect that it has been damaged.
- For the safekeeping or disposal reasons, leave the HDD unit with the customer.
- The HDD may contain proprietary or classified information (confidential, personal or sensitive data). Such as Document Server data and/or temporary files created automatically during copying, job sorting, and jam recovery. This data stored on the HDD is encrypted and cannot be read directly however it is possible to access via 3rd party.

#### **After HDD Replacement**

When you turn the main power ON after installing the new HDD, initialization of the disk starts automatically.

1. Enter the SP mode.
2. Execute SP5-846-052 to restore the address book data from the SD card to the HDD.

#### ↓ Note

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

## 4.18.4 FCU BOARD (FAX MODEL)

### Accessory

The FCU board of the service part contains the following items included in the package.

- FCU
- FFC
- Jumper
- Bracket

When you replace the FCU board, transfer the SRAM data from the old FCU board to the new FCU board.

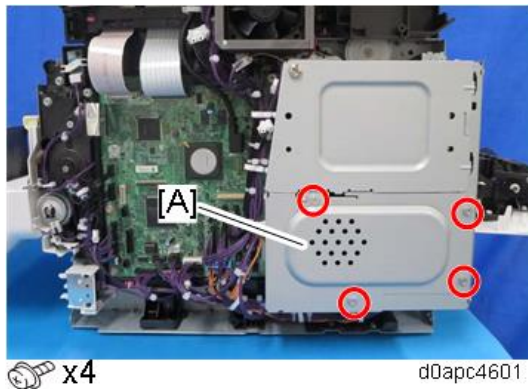
#### Note

The following data can be transferred:

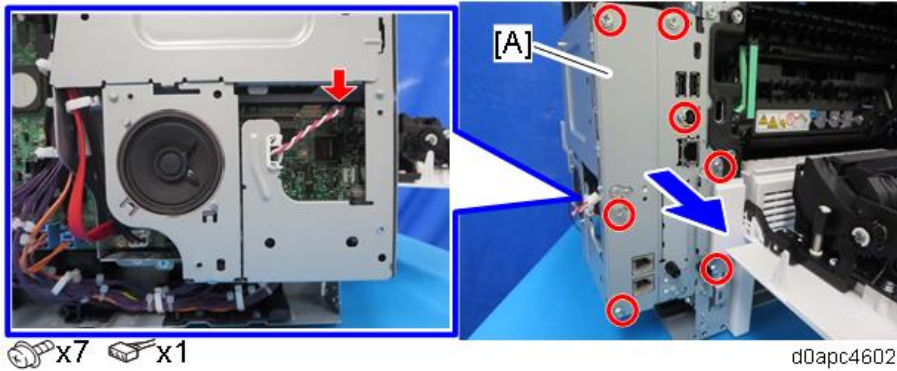
- TTI
- RTI
- CSI
- Fax bit switch settings
- RAM address settings
- NCU parameter settings.

### Replacement Procedure

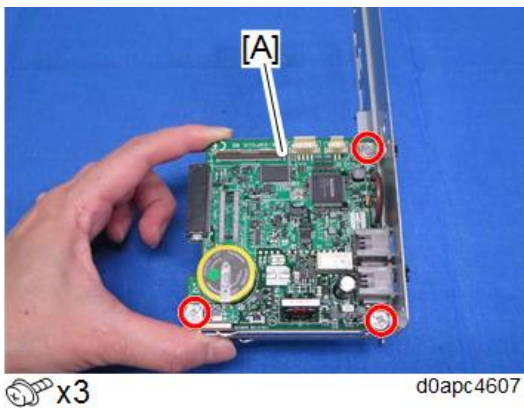
1. Remove the right cover. (*Right Cover (MF)*)
2. Remove the controller box lower cover [A].



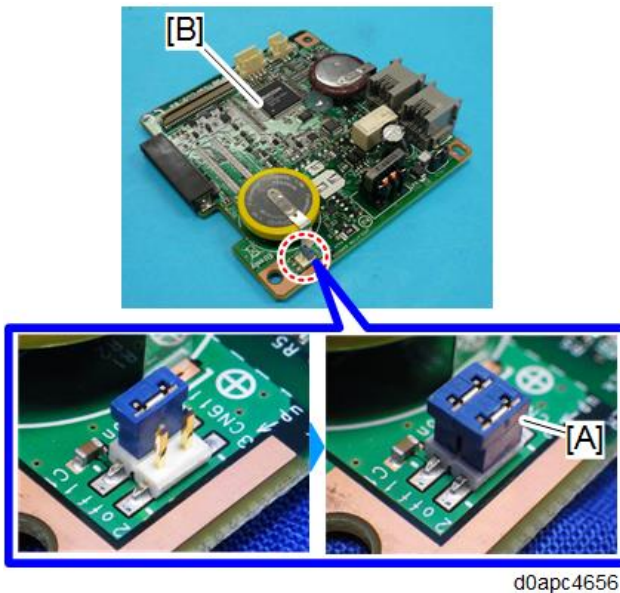
3. Disconnect the harness, and then pull out the interface cover [A] to remove it.



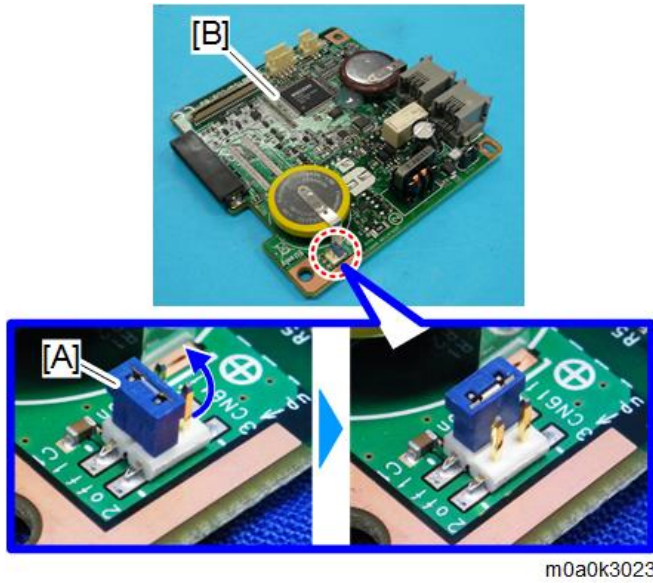
4. Remove the FCU [A].



5. Attach the jumper [A] on the removed FCU board [B]. The jumper comes with the new FCU board.

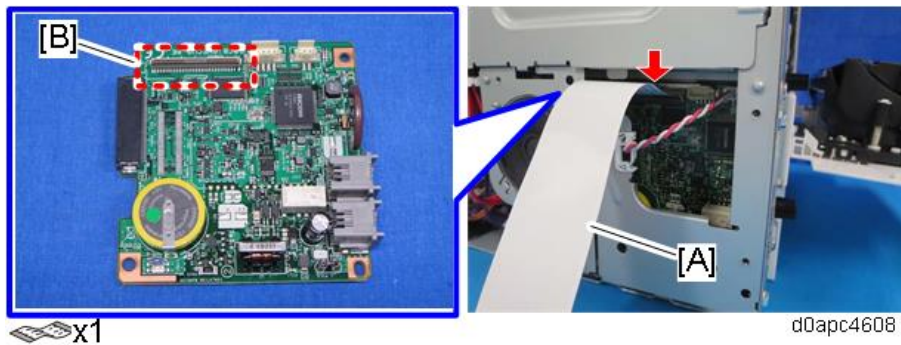


6. Change the position of the battery jumper [A] on the new FCU board [B]. If the battery jumper is not in the correct position, SC820 will occur.



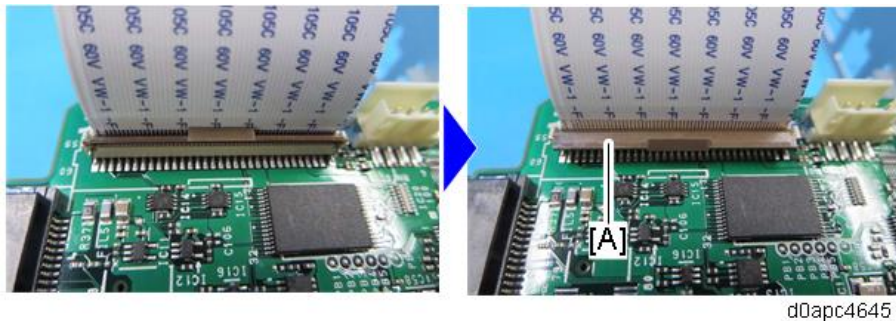
7. Attach the new FCU board to the interface cover.
8. Attach the interface cover to the machine, and then connect the harness.
9. Connect one end of the supplied FFC [A] into the CN603 connector [B] on the new FCU board.

Make sure that the blue tape of the flat cable faces outward.

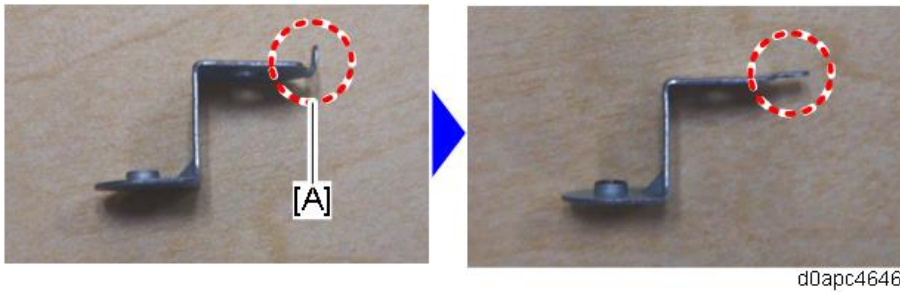


**Note**

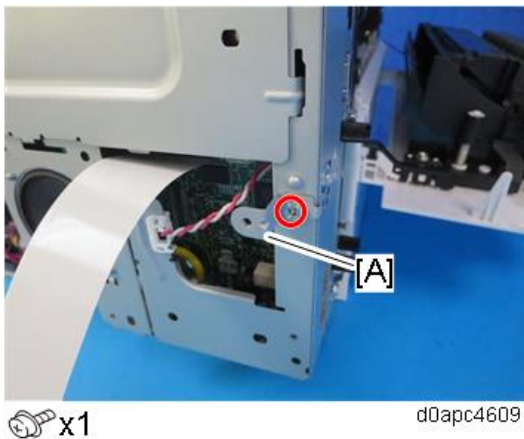
The FFC connector has a lock lever [A]. Tilt the lever to lock the FFC.



10. Use a pair of radio pliers to flatten the marked tab [A] against the bracket provided with the new FCU board.

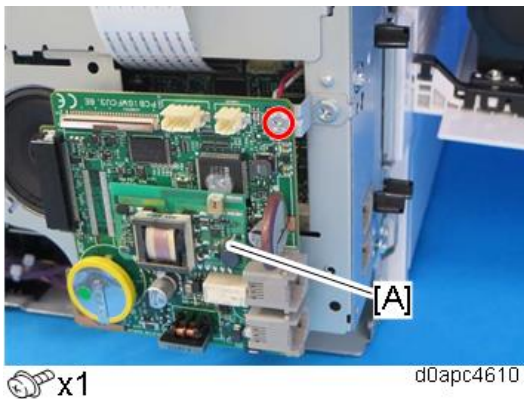


11. Attach the bracket [A] above to the controller box.



 x1

12. Attach the old FCU board [A] to the bracket temporarily.

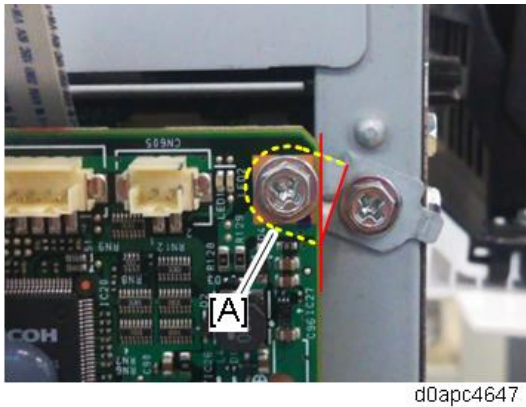


 x1

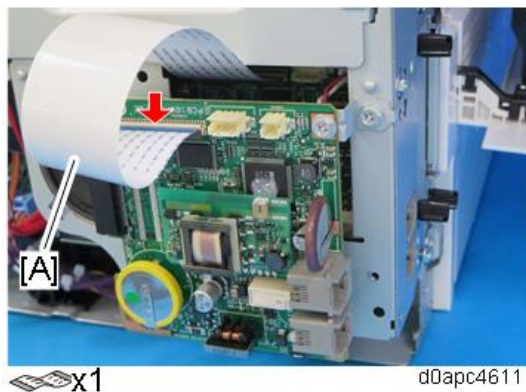
**Note**

Mount the PCB and bracket so both are horizontal.

If the contact surface of bracket [A] cuts into the base plate as shown below, this could cause a short circuit between the element and the bracket and damage the PCB.



13. Connect the other end of the FFC [A] into the CN603 connector on the old FCU board. Make sure that the blue tape of the flat cable faces outward.



↓ Note

The FFC connector has the lock lever [A], so tilt the lever to lock the FFC.

14. Turn the main power ON.
15. The SRAM data transfer begins. Once the transfer is completed, it will beep to indicate that the process has been completed.

↓ Note

- The volume of the beeping is set to the same level as the speaker volume.
  - If the speaker volume is set to off, the volume of the beeping is set to its initial factory-set level.
  - If the machine does not beep, turn the main power OFF and then ON, and attempt data transfer again. Try several times if necessary.
  - Be sure to check the transfer result after executing data transfer. If the transfer has failed, you need to specify settings manually in the SP mode.
16. When "Ready" is displayed on the control panel, turn the power OFF, and remove the AC power plug from the receptacle.
  17. Disconnect the FFC from both FCU boards, and then remove the old FCU board with the bracket.
  18. Reattach the covers.
  19. Turn the main power ON.



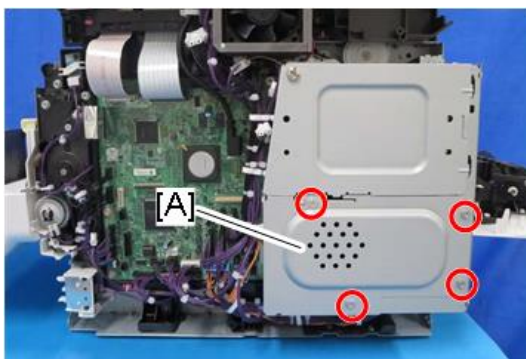
20. Enter the SP mode.
21. Print the system parameter list from SP6-101 in the Fax SP menu, and then check the list to see whether the SRAM data has been transferred correctly.
22. Set the correct date and time from the [User Tools].  
User Tools > Machine Features > System Settings > Timer Setting > Set Date/Time

**Note**

If any of the SRAM data was not transferred, input those settings manually.

#### 4.18.5 SPEAKER (FAX MODEL)

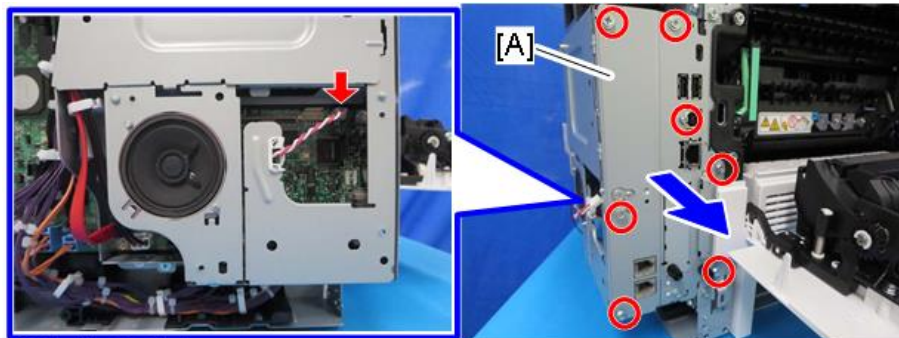
1. Remove the right cover. (*Right Cover (MF)*)
2. Remove the controller box lower cover [A].



x4

d0apc4601

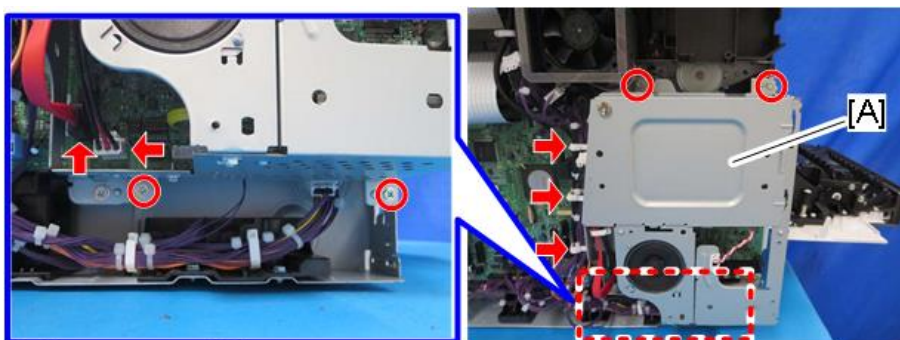
3. Disconnect the harness, and then pull out the interface cover [A] to remove it.



x7 x1

d0apc4602

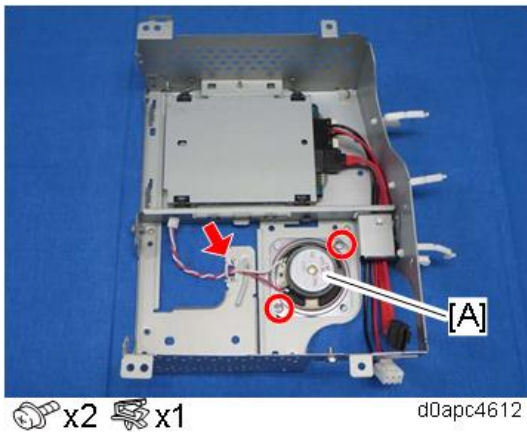
4. Remove the controller box [A].



x4 x2 x3

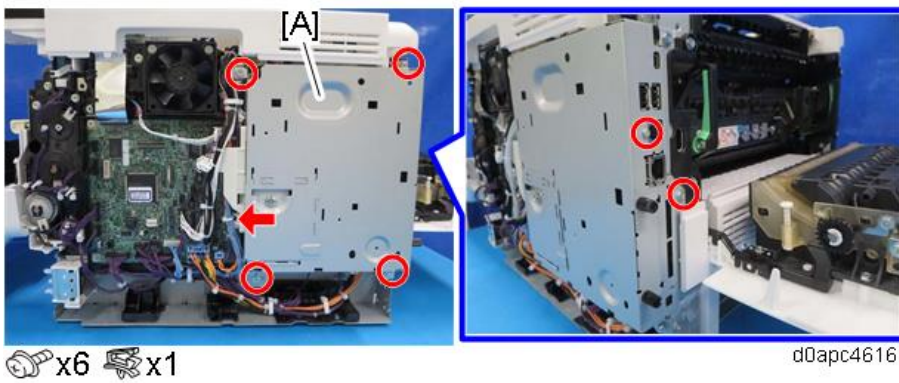
d0apc4603

- Remove the speaker [A] from the controller box.

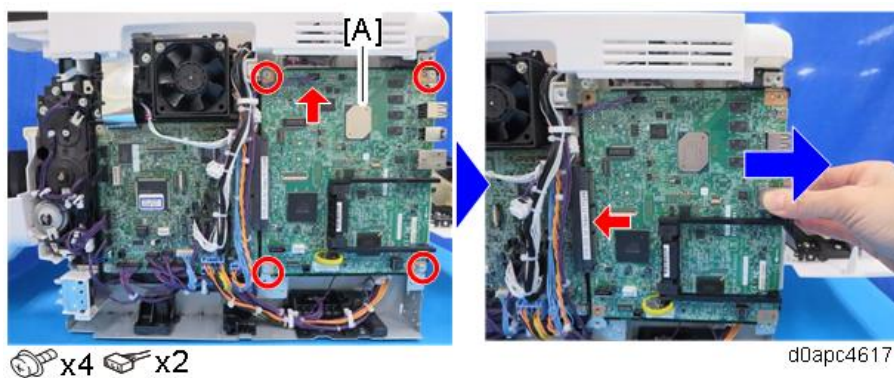


#### 4.18.6 CONTROLLER BOARD (PRINTER MODEL)

- Remove the right cover. (*Right Cover (Printer)*)
- Remove the controller box [A].

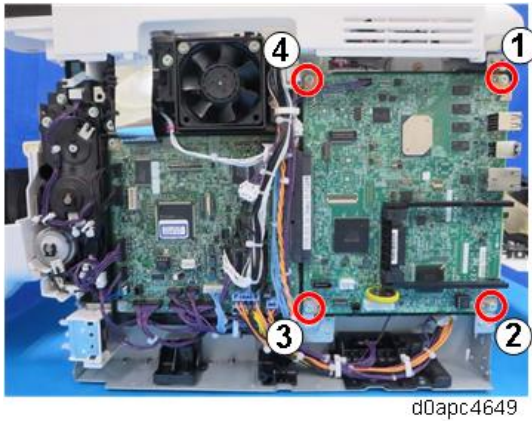


- Slide the controller board [A] with the bracket to the right.



**Note**

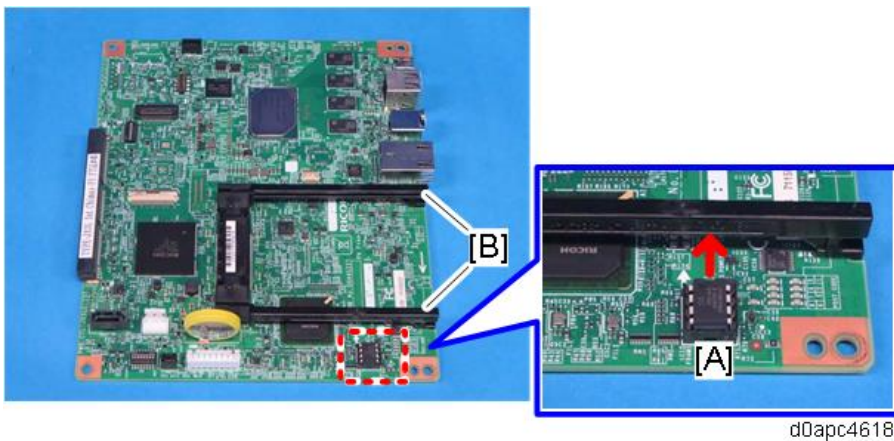
When attaching the controller board, fasten the screws in the following order.



4. Release the three hooks, and then remove the controller board [A].



5. Remove the NVRAM [A] and the two guide rails [B] from the old controller board, and then install them on the new controller board.



**Note**

Install the NVRAM so that the indentation on the NVRAM face the indentation marks on the controller board. If they are not installed correctly, the controller board may be damaged. Make sure that the NVRAM [A] is correctly installed on the controller board by comparing with the photo above.

If a message tells you that you need an SD card to restore settings after the NVRAM replacement, create an "SD card for restoration".

### ***NVRAM on the Controller Board***

1. Print out the SMC Report (factory settings) with SP5-990-006.
2. Print out the SMC Report (all data) with SP5-990-001.
3. Turn the main power OFF.
4. Install an SD card into SD Card Slot 2 (lower slot).
5. Turn the main power ON.
6. Copy the NVRAM data to an SD card with SP5-824-001.
7. Turn the main power OFF. Disconnect the power cord.
8. Remove the SD card containing the NVRAM data from Slot 2.
9. Replace the NVRAM on the controller board and reassemble the machine. (***Controller Board (Printer Model)***)
10. Connect the AC power cord, and then turn the main power ON.

**Note**

- Do not insert an SD Card in Slot 2.
- When you do this, SC995-02 (Defective NVRAM) will be displayed. However, DO NOT turn the main power OFF. Continue with this procedure.

11. Reinsert the SD card that you removed in Step 8 back into Slot 2.
12. Download the old NVRAM data from the SD card onto the new NVRAM using SP5-825-001 (NVRAM Data Download).

**Note**

This will take about 2 or 3 minutes.

13. Turn the main power OFF, and then remove the SD card from the lower slot.
14. Turn the main power ON.
15. If the security functions (e.g. Stored file encryption/ Auto Erase Memory Setting) were applied, set the functions again.
16. Output all the SMC data with SP5-990-001, and make sure all the SP/UP settings except for counter information are properly restored by checking the factory setting sheet from step 1 and the SMC Report from step 2.

**Note**

The counters will be reset.

17. Power cycle the machine.

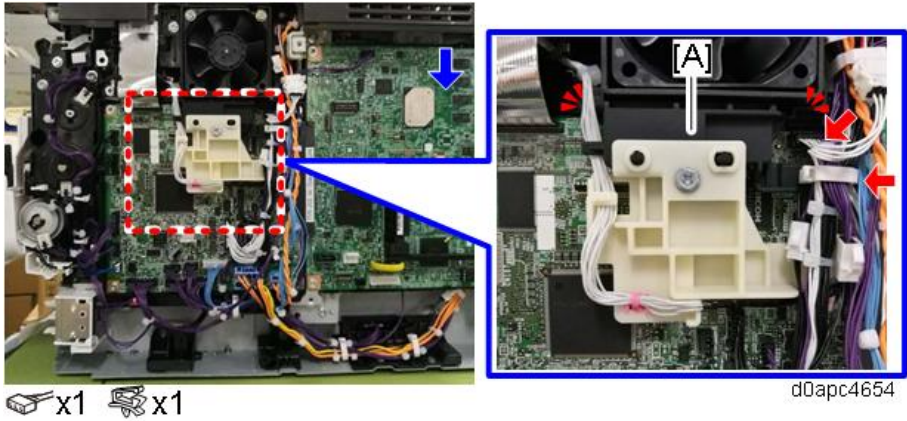
**Important**

If SP5-824-001 (NVRAM Data Upload) and SP5-825-001 (NVRAM Data Download) cannot be executed for some reason, enter all data on the SMC Report manually.

### **4.18.7 BCU (PRINTER MODEL)**

1. Remove the controller board. (***Controller Board (Printer Model)***)

2. Remove the upper cover. (*Upper Cover (Printer)*)
3. Release the two hooks to remove the harness guide [A].

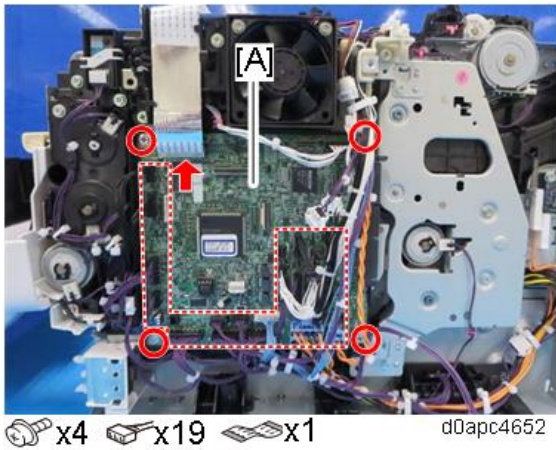


**Note**

Remove the harness guide tab from the right side. Check the position of the harness guide tab in the photo below.

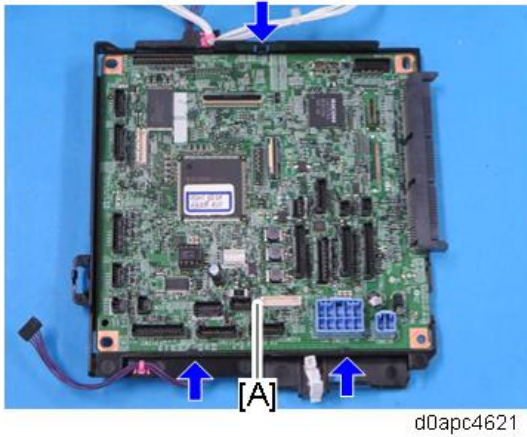


4. Remove the BCU [A].



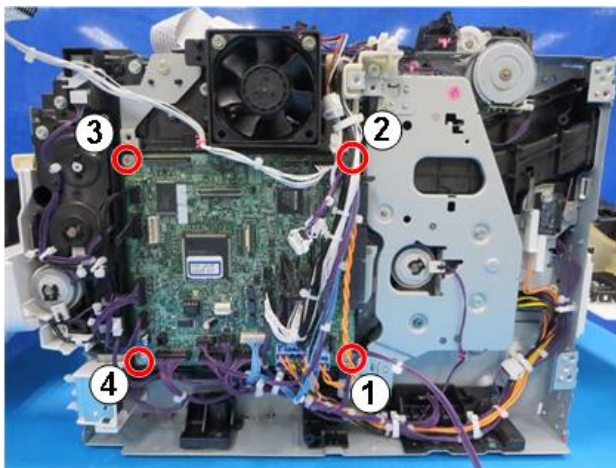
**Note**

The board [A] is fastened to the bracket with three tabs. Before removing the BCU, confirm the locations of the tabs in the photo below.



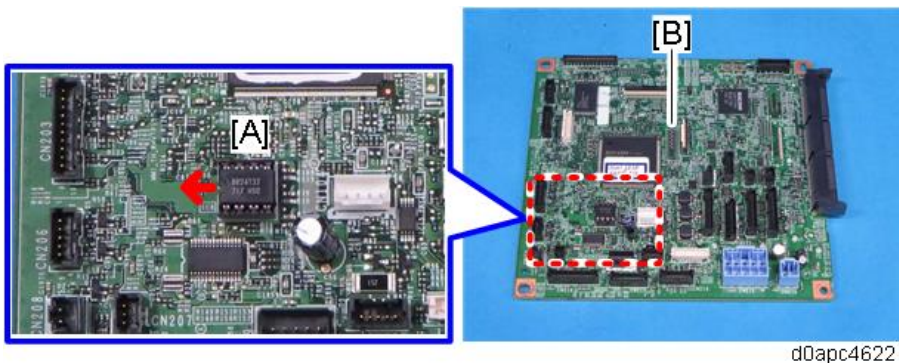
d0apc4621

When attaching the BCU, fasten the screws in the following order.



d0apc4650

- Remove the NVRAM [A] from the old BCU, and then install it on the new BCU [B].



d0apc4622

**Note**

Install the NVRAM so that the indentation on the NVRAM faces the indentation mark on the controller board. If they are not installed correctly, the controller board may be damaged. Make sure that the NVRAM is correctly installed on the controller board by comparing the installation with the photo above.

Set the DIP switches [B] on the new BCU to the same settings as the old board.

- Attach the new BCU.
- Reattach the covers.

8. Turn the main power ON and enter the SP mode.
9. Enter the BCU serial number with SP5-811-004.

**Note**

If the BCU serial number is not entered correctly, SC995-01 (serial number entry error) will occur.

10. Power cycle the machine.

### ***NVRAM on the BCU***

1. Print out the SMC Report (factory settings) with SP5-990-006.
2. Print out the SMC Report (all data) with SP5-990-001.
3. Turn the main power OFF.
4. Install an SD card into SD Card Slot 2 (lower slot).
5. Turn the main power ON.
6. Copy the NVRAM data to an SD card with SP5-824-001.
7. Turn the main power OFF. Disconnect the power cord.
8. Replace the NVRAM on the BCU and reassemble the machine. (**BCU (Printer Model)**)
9. Connect the power cord. Then turn the main power ON.

**Note**

When you do this, SC995 will be displayed. However, DO NOT turn the main power OFF. Continue with this procedure.

10. Select the destination setting with SP5-131-001. (JPN: 0, NA: 1, EU/AA/TWN/CHN: 2)
11. Enter the BCU serial number and area code.

**Note**

- For information on how to configure this SP, contact the supervisor in your branch office.
- Refer to the following area code/destination list.
  - 1: Japan
  - 2: North America
  - 3: Europe
  - 4: Taiwan
  - 5: Asia
  - 6: China
  - 7: Korea

12. Power cycle the machine.

**Note**

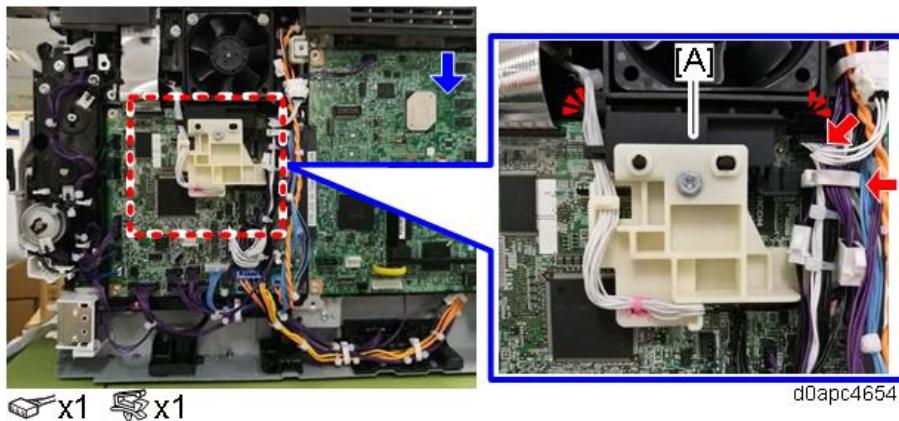
If the BCU serial number is not entered correctly, SC995-01 (serial number entry error) will occur.

13. Copy the data from the SD card to the new NVRAM with SP5-825-001.
14. Turn the main power OFF.

15. Remove the SD card from SD Card Slot 2 (lower slot).
16. Turn the main power ON.
17. Check the factory settings sheet from Step 1 and the SMC data printout from Step 2, and set the user tool and SP settings so they are the same as before.

#### 4.18.8 BCU WITH THE BRACKET (PRINTER MODEL)

1. Remove the controller board. (*Controller Board (Printer Model)*)
2. Remove the upper cover. (*Upper Cover (Printer)*)
3. Release the two hooks to remove the harness guide [A].



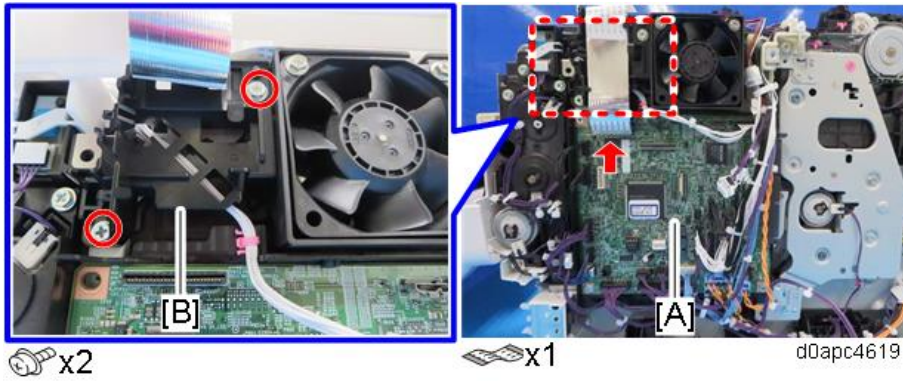
#### Note

Remove the harness guide tab from the right side. Check the position of the harness guide tab in the photo below.

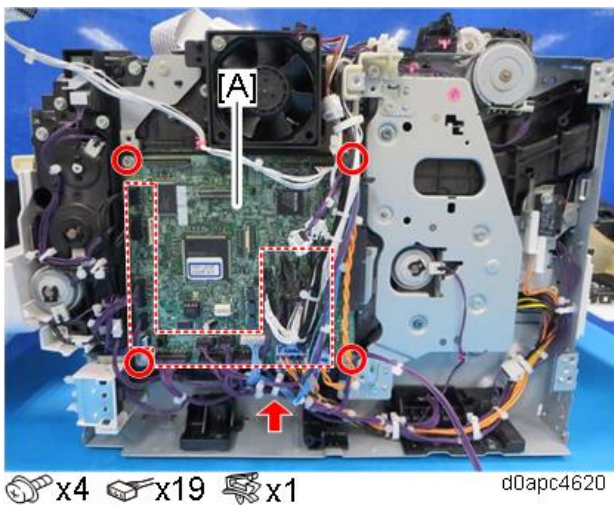




- Disconnect the FFC from the BCU [A], and then remove the harness guide [B].

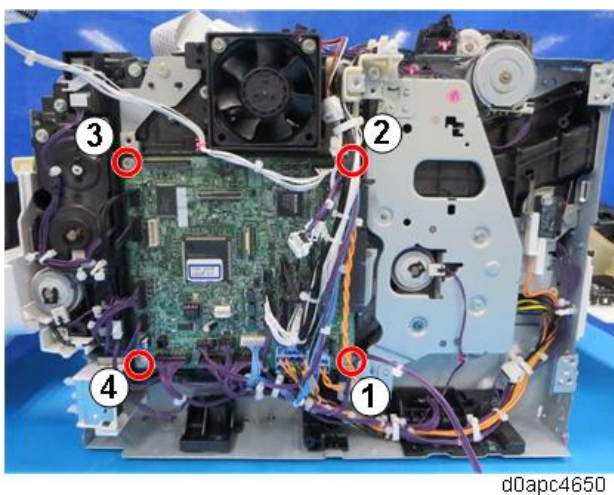


- Remove the BCU [A] with the bracket.



**Note**

When attaching the BCU, fasten the screws in the following order.



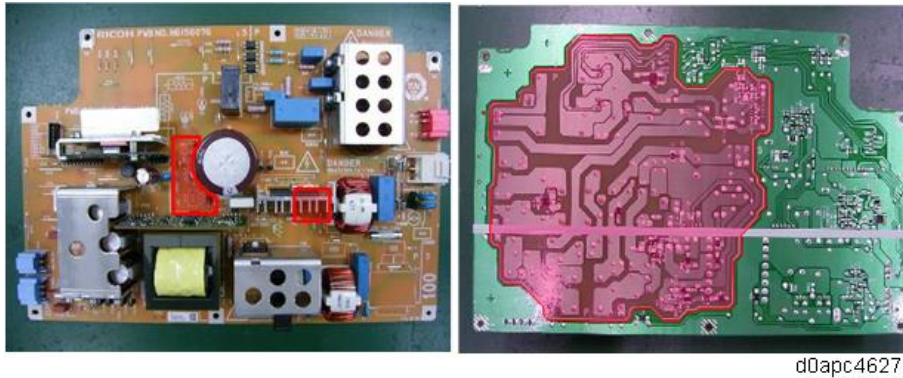
## 4.18.9 PSU

### ⚠ CAUTION

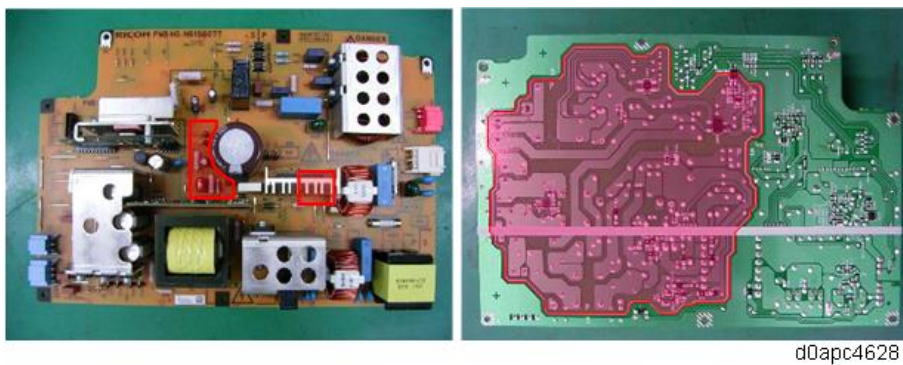
Do not touch the areas outlined in red in the following diagrams when replacing the PSU.

Residual charge on the board may cause electric shock.

100V models:

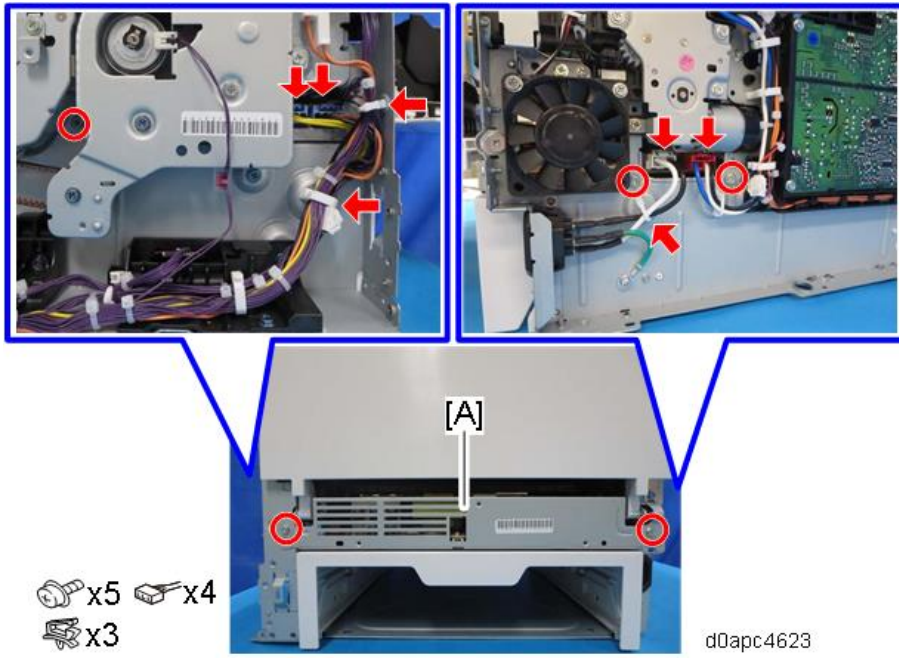


200V models:

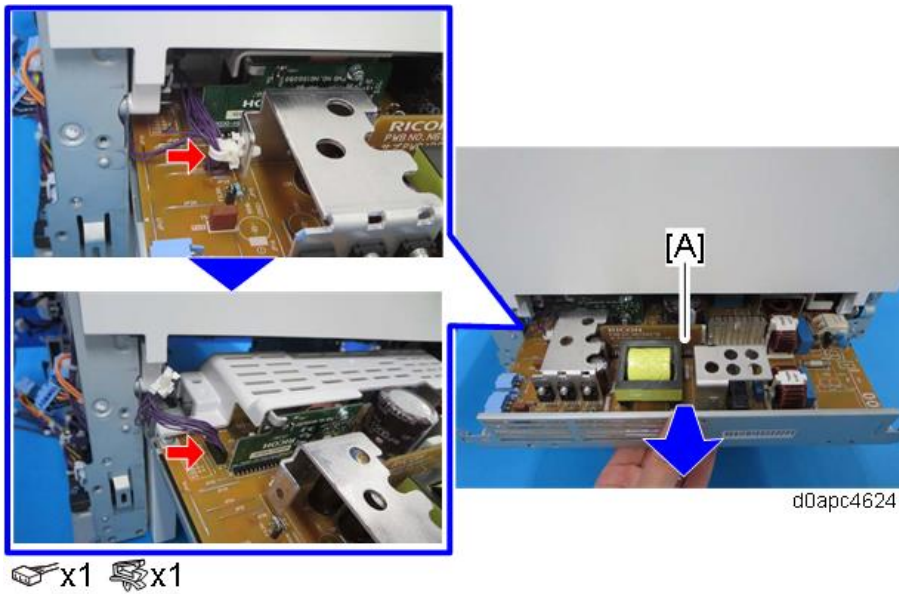


1. Remove the rear lower cover. (Printer models: *Rear Lower Cover (Printer)*, MF models: *Rear Lower Cover (MF)*)
2. For MF models, remove the SCB with the bracket. (*SCB with the Controller Box (MF Model)*)  
For printer models, remove the controller board. (*Controller Board (Printer Model)*)

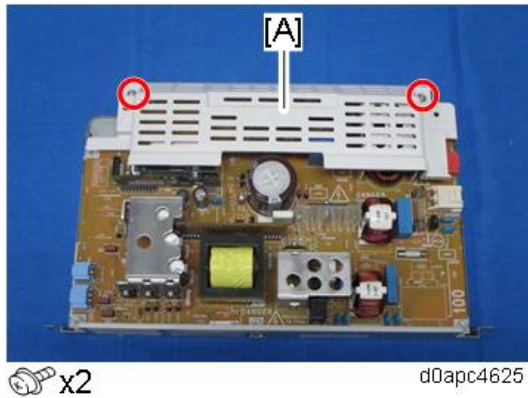
3. Disconnect the harnesses from the PSU [A].



4. Remove the PSU [A] with the bracket. The harness is connected at the back. Pull it out slowly as you remove it by pushing the bracket downward.

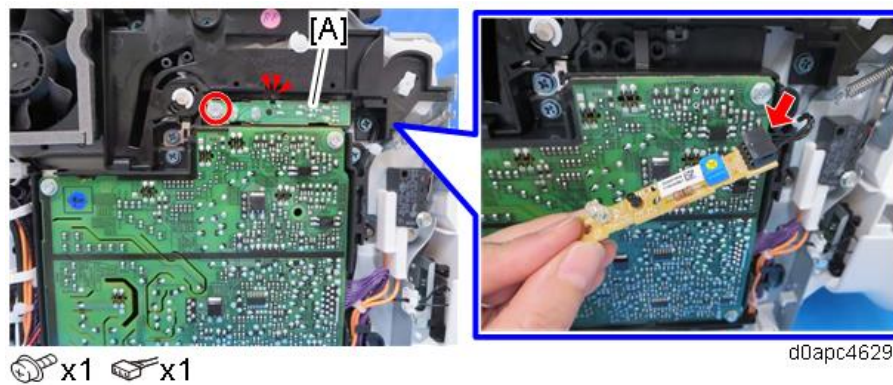


- Remove the cover [A] from the PSU.



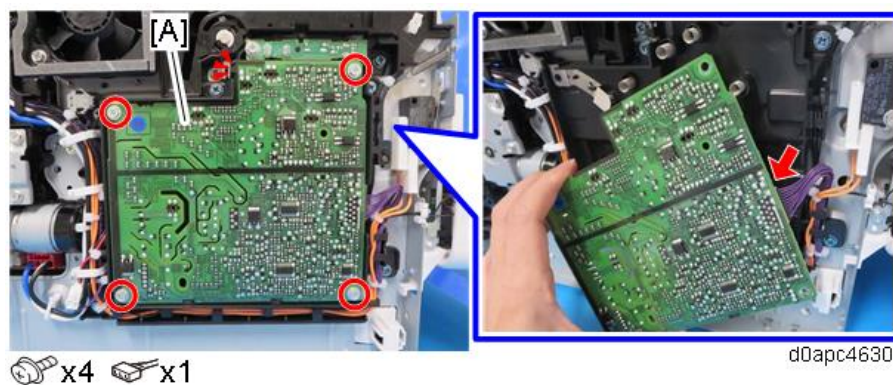
#### 4.18.10 TONER END SENSOR (S9)

- Remove the left cover. (*Left Cover (Printer)*, *Left Cover (MF)*)
- Remove the toner end sensor (S9) [A].



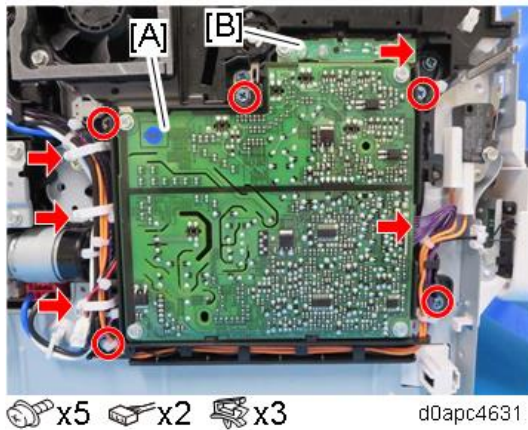
#### 4.18.11 HVPS

- Remove the left cover. (*Left Cover (Printer)*, *Left Cover (MF)*)
- Release the hook to remove the HVPS [A].



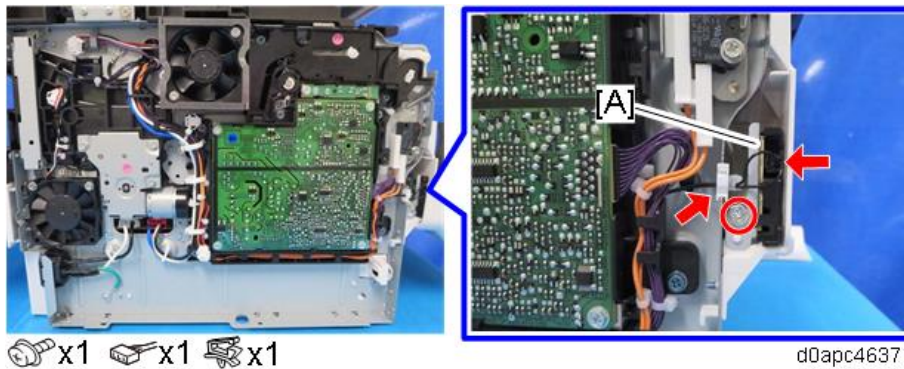
#### 4.18.12 HVPS WITH THE BRACKET

1. Remove the left cover. (*Left Cover (Printer)*, *Left Cover (MF)*)
2. Release the harnesses on the bracket, and then remove the HVPS [A] and toner end sensor [B] with the bracket.

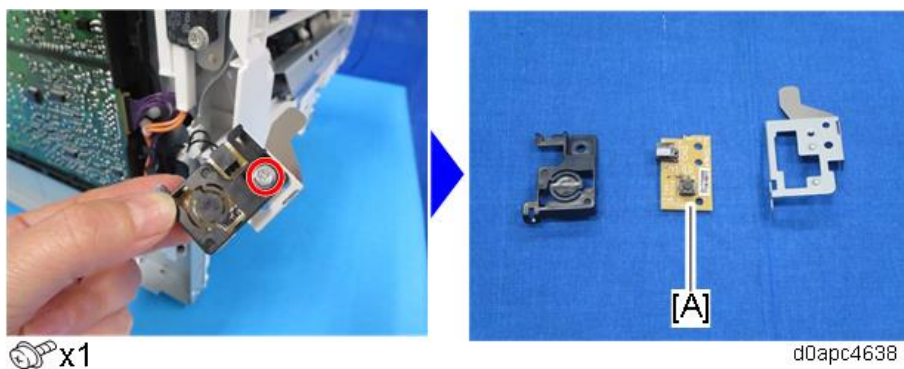


#### 4.18.13 DC SWITCH (SW4)

1. Remove the left cover. (*Left Cover (Printer)*, *Left Cover (MF)*)
2. Remove the DC switch (SW3) [A] with the bracket.

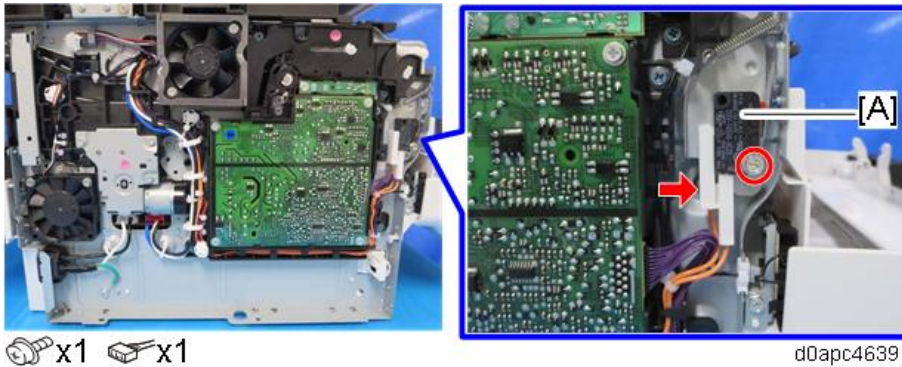


3. Remove the DC switch (SW3) [A] from the bracket.



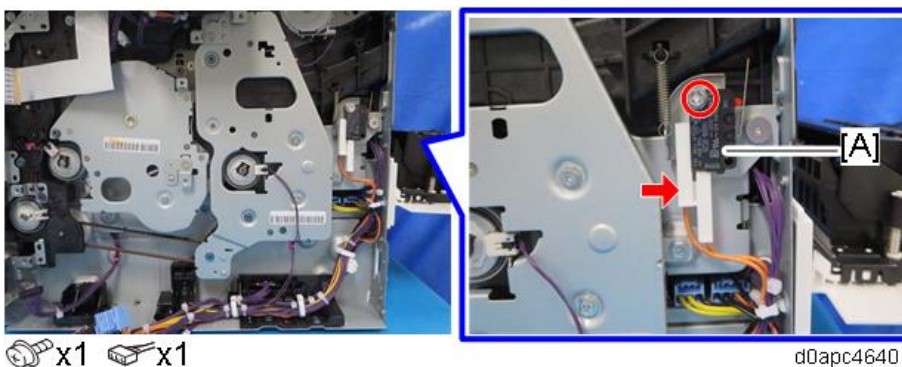
#### 4.18.14 FRONT INTERLOCK SWITCH (SW1)

1. Remove the left cover. (*Left Cover (Printer)*, *Left Cover (MF)*)
2. Remove the front interlock switch (SW1) [A].



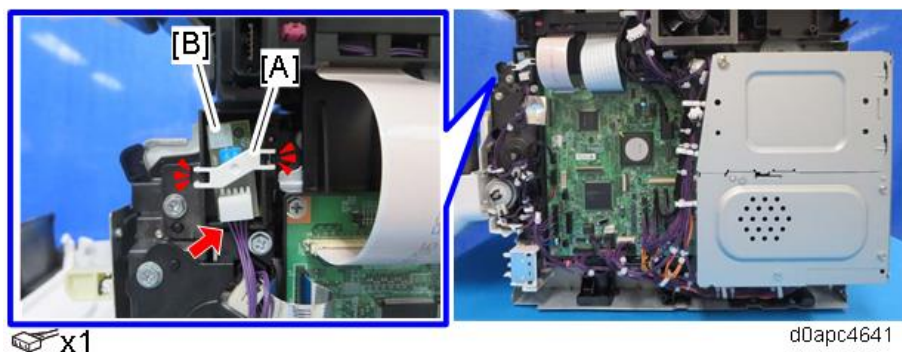
#### 4.18.15 REAR INTERLOCK SWITCH (SW2)

1. **MF model:** Remove the SCB with bracket. (*SCB with the Controller Box (MF Model)*)  
**Printer model:** Remove the controller board. (*Controller Board (Printer Model)*)
2. Remove the rear interlock switch (SW2) [A].



#### 4.18.16 TEMPERATURE/HUMIDITY SENSOR (S11)

1. Remove the right cover. (*Right Cover (Printer)*, *Right Cover (MF)*)
2. Release the two hooks to remove the cover [A], and then remove the temperature/humidity sensor (S11) [B].

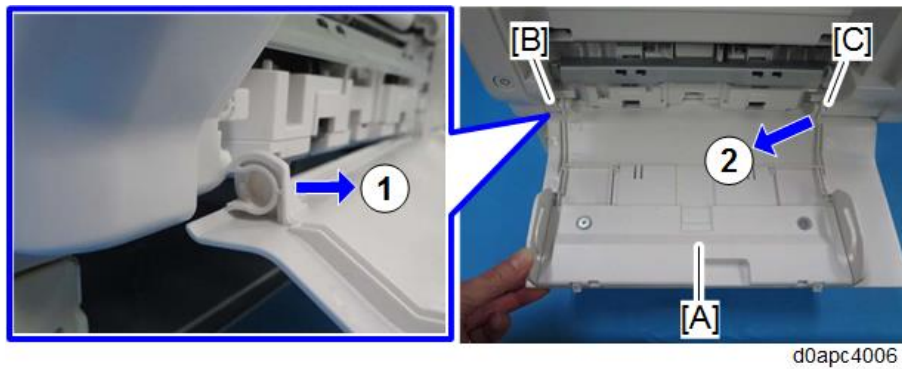


### 4.18.17 NFC BOARD

1. Open the bypass tray [A].
2. Release the four hinges to detach the paper guide plate [B].



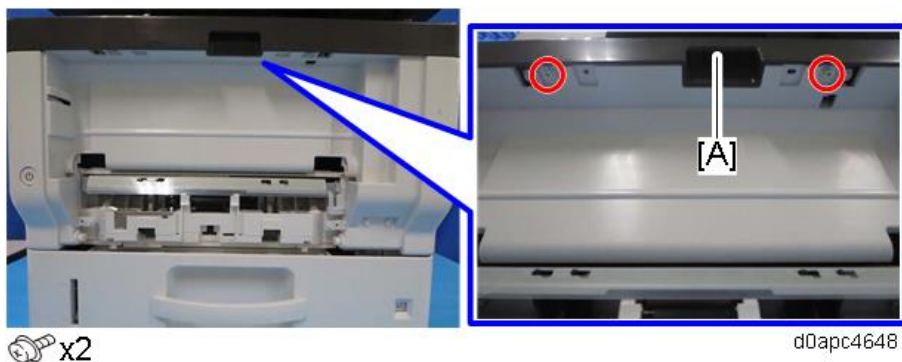
3. Open the bypass tray about 90 degrees, and then remove the bypass tray [A]. Release the left hinge [B] first (which is C-cut) by pulling forward, and then release the right hinge [C] by pulling obliquely toward the left, front.



#### Note

When re-installing the bypass tray, first set the right hinge with the bypass tray wide open.

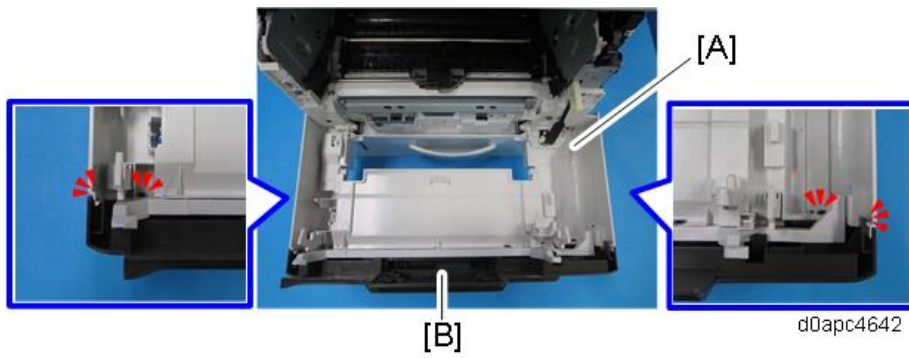
4. Remove the screws of the front upper cover [A].



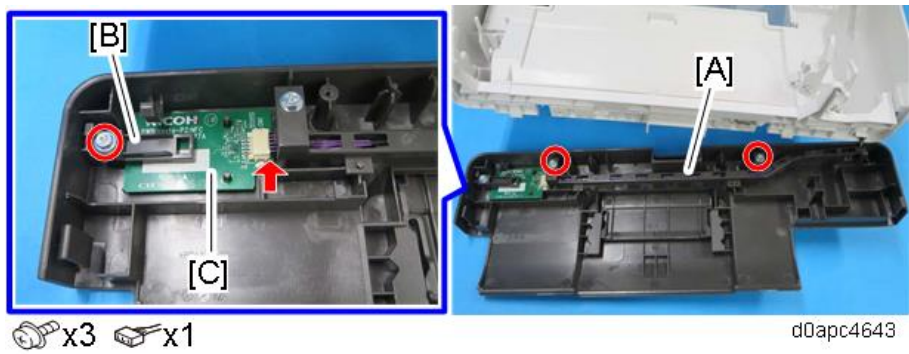
 x2

5. Open the front cover [A] by pressing the front cover button.

6. Release the four hooks to remove the front upper cover [B].



7. Remove the harness guide [A] and cover [B], and then remove the NFC board [C].



⌀ x3    ⚡ x1

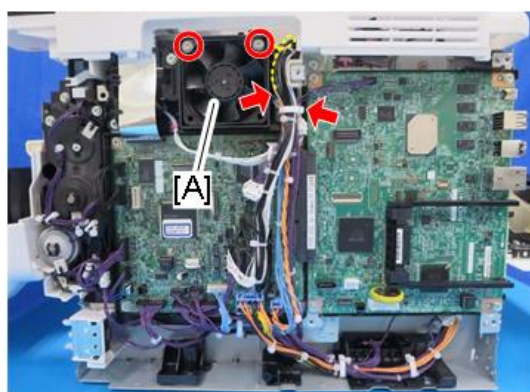


## 4.19 FANS/ FILTERS

### 4.19.1 PCDU COOLING FAN (RIGHT) (FAN1)

1. Remove the right cover. (*Right Cover (Printer)*, *Right Cover (MF)*)
2. **Printer model:** Remove the upper cover. (*Upper Cover (Printer)*)
3. Remove the PCDU cooling fan (right) (FAN1) [A].

**Printer model:**

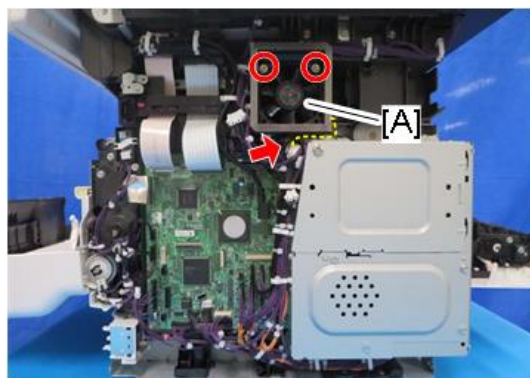


x2 x1 x1



d0apc4634

**MF model:**



x2 x1

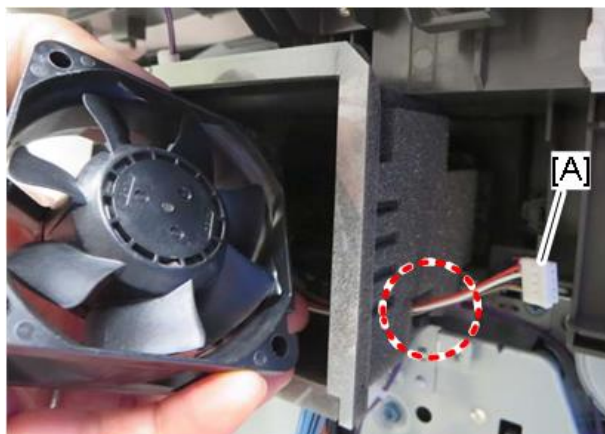


d0apc4633

**Note**

Fasten the cooling fan with its decal facing inside the machine.

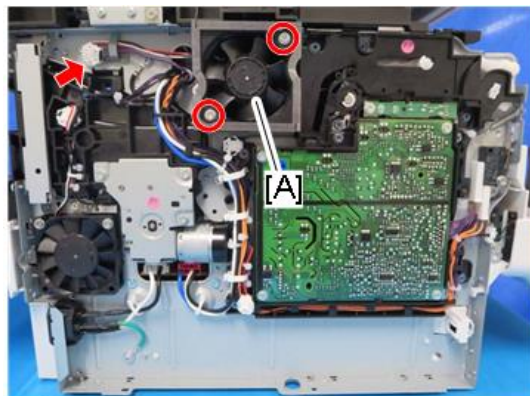
**MF model:** When you remove or install a fan, pass the fan connector [A] through the sponge hole on the side of the duct. The sponge hole slightly is smaller than the connector, so work carefully to avoid tearing the sponge.



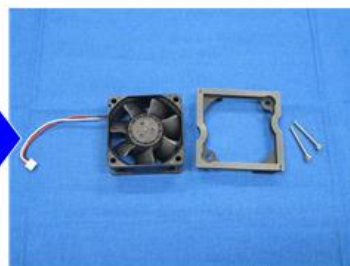
d0apc4651

#### 4.19.2 PCDU COOLING FAN (LEFT) (FAN2)

1. Remove the left cover. (*Left Cover (Printer)*, *Left Cover (MF)*)
2. Remove the PSU cooling fan (left) (FAN2) [A].



⚙️ x2   📦 x1



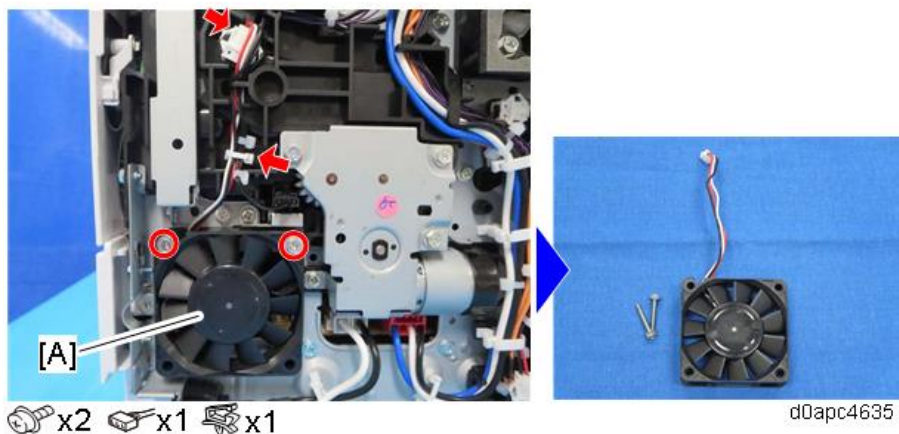
d0apc4632

#### ⚠️ Note

Fasten the cooling fan with its decal facing inside the machine.

### 4.19.3 PSU COOLING FAN (FAN3)

1. Remove the left cover. (*Left Cover (Printer)*, *Left Cover (MF)*)
2. Remove the PSU cooling fan (FAN3) [A].

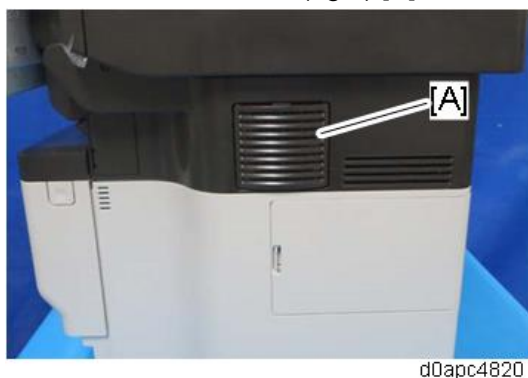


#### Note

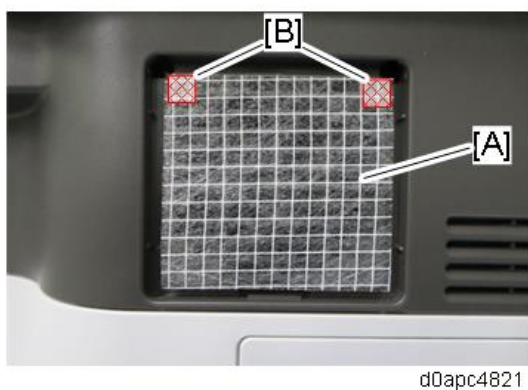
Fasten the cooling fan with its decal facing the inside of the machine.

### 4.19.4 AIR FILTERS

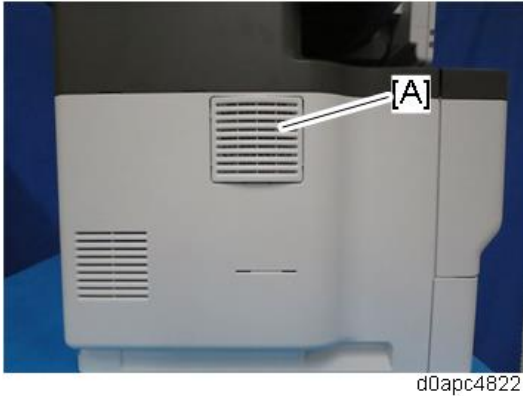
1. Remove the filter cover (right) [A].



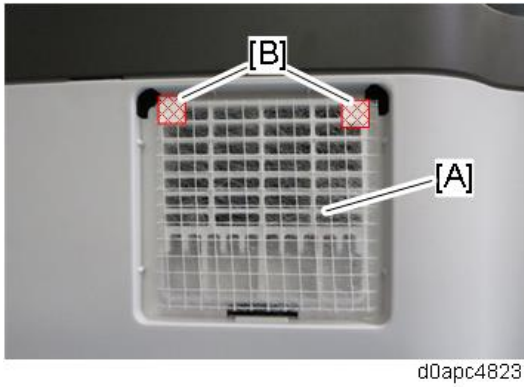
2. Remove the air filter (right) [A].  
The filter is attached with double-sided tapes [B].



3. Remove the filter cover (left) [A].



4. Remove the air filter (left) [A].  
The filter is attached with double-sided tapes [B].



# SYSTEM MAINTENANCE

REVISION HISTORY		
Page	Date	Added/Updated/New
		None



---

## 5. SYSTEM MAINTENANCE

### 5.1 SERVICE PROGRAM MODE

**Note**

- Make sure that the data-in LED (↻) is not on before you go into the SP mode. This LED indicates that some data is coming to the machine. When the LED is on, wait for the printer to process the data.

#### 5.1.1 SP TABLES

See "Appendices" for the following information:

- SP Tables - SP1-XXX
- SP Tables - SP2-XXX
- SP Tables - SP3-XXX
- SP Tables - SP4-XXX
- SP Tables - SP5-XXX
- SP Tables - SP6-XXX
- SP Tables - SP7-XXX
- SP Tables - SP8-XXX
- Printer SP Mode
- Scanner SP Mode
- Input and Output Check

#### 5.1.2 ENABLING AND DISABLING SERVICE PROGRAM MODE

**Note**

- The Service Program Mode is for use by service representatives only, so that they can properly maintain product quality. If this mode is used by anyone other than service representatives for any reason, data might be deleted or settings might be changed. In such a case, product quality cannot be guaranteed anymore.

#### ***Entering SP Mode***

For details, ask your supervisor.

**Note**

In the MF Model, if there are no Classic Application (copy/printer/scanner/fax) icons on the Home screen, follow the procedure below to display the number keyboard.

1. Press and hold the button [B] located at the right side of the operation panel and "Check Status [A]" at the same time, until the number keyboard is displayed.



m0b0m0350

2. Enter the key code for SP mode.



d238m0748

### ***Exiting SP Mode***

Press "Exit" on the LCD twice to return to the user screen.

In the printer model, press the [Escape] key.

**Note**

- To make the settings effective, turn the main power switch off and on after exiting service mode.

## **5.1.3 TYPES OF SP MODES**

### ***For Printer Model***

Type	Description
Service SP	SP modes related to the controller/printer functions
Engine SP	SP modes related to the engine functions

Select one of the Service Program modes (Service, or Engine) with "Up/Down" keys, and then push the "OK" key.





m0b0m0132

### For MF Models

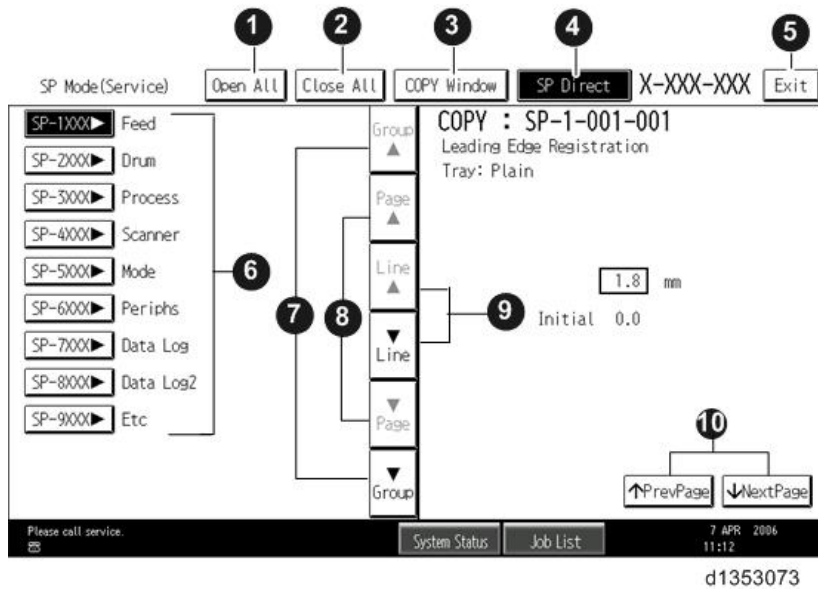
- System SP: SP modes related to the engine functions
- Printer SP: SP modes related to the controller functions
- Scanner SP: SP modes related to the scanner functions
- Fax SP: SP modes related to the fax functions

Select one of the Service Program modes (System, Printer, Scanner, or Fax) from the touch panel as shown in the diagram below after you access the SP mode. This section explains the functions of the System/Printer/Scanner SP modes. Refer to the Fax service manual for the Fax SP modes.



d197z3001

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



1	Opens all SP groups and sublevels.
2	Closes all open groups and sublevels and restores the initial SP mode display.
3	Opens the copy window (copy mode) so you can make test copies. Press SP Mode (highlighted) in the copy window to return to the SP mode screen,
4	Enter the SP code directly with the number keys if you know the SP number. Then press [#]. The required SP Mode number will be highlighted when pressing [#]. If not, just press the required SP Mode number.)
5	Press two times to leave the SP mode and return to the copy window to resume normal operation.
6	Press any Class 1 number to open a list of Class 2 SP modes.
7	Press to scroll the show to the previous or next group.
8	Press to scroll to the previous or next display in segments the size of the screen display (page).
9	Press to scroll the show the previous or next line (line by line).
10	Press to move the highlight on the left to the previous or next selection in the list.

### **Switching Between SP Mode and Copy Mode for Test Printing**

1. In the SP mode, select the test print. Then press "Copy Window".
2. Use the copy window (copier mode), to select the appropriate settings (paper size, etc.) for the test print.
3. Press [Start] key to start the test print.
4. Press SP Mode (highlighted) to return to the SP mode screen and repeat from step 1.

### **5.1.4 SERVICE MODE LOCK/UNLOCK**

At locations where the machine contains sensitive data, the customer engineer cannot operate the machine until the Administrator turns the service mode lock off. This function makes sure

that work on the machine is always done with the permission of the Administrator.

1. If you cannot go into the SP mode, ask the Administrator to log in with the User Tool and then set "Service Mode Lock" to OFF after he or she logs in:

User Tools > System Settings > Administrator Tools > Service Mode Lock > OFF

- This unlocks the machine and lets you get access to all the SP codes.
  - The CE can service the machine and turn the machine off and on. It is not necessary to ask the Administrator to log in again each time the machine is turned on.
2. Go into the SP mode and set SP5169 to "1" if you must use the printer bit switches.
  3. After machine servicing is completed:
    - Change SP5169 from "1" to "0".
    - Turn the machine off and on. Tell the administrator that you have completed servicing the machine.
    - The Administrator will then set the "Service Mode Lock" to ON.

## 5.2 TEST PATTERN PRINTING

After changing an SP value for registration or image adjustment, print a test pattern to check the adjustment result.

1. Enter the SP mode.
2. Select SP2-109-001 (Test Printing: pattern Selection).
3. Select the number for a test pattern that you want to print.

**Printer model:** Press [▲] [▼] key to select the test pattern, and then press [OK] key.

**MF model:** Press the test pattern key, and then press [OK] key.

No.	Pattern	No.	Pattern
0	None	9	Arg.Grid20mm
1	Vert. (1dot)	10	Indep.(1dot)
2	Hori. (1dot)	11	Indep.(2dot)
3	Vert. (2dot)	12	lIndep.(4dot)
4	Hori. (2dot)	13	Full
5	Grid Vert.	14	Band
6	Grid Hori.	15	Trim Area
7	Grid 20mm	16	White (MF model only)
8	Arg. Grid	17	SFBC Pattern (MF model only)

4. Enter SP2-109-002 (1 Sheet Printing) or SP2-109-003 (Continue Printing), and then press "Execute" to print test pattern.

When 1 sheet printing, you can select the print side with SP2-109-004 (Print Side Select).

5. Exit SP mode.

## 5.3 FIRMWARE UPDATE BY SD CARD

### 5.3.1 OVERVIEW

#### ★ Important

- An SD card is a precision device, so when you handle an SD card, respect the following.
  - When the power is turned ON, do not insert or remove a card.
  - During installation, do not turn the power OFF.
  - Since the card is manufactured to high precision, do not store it in a hot or humid location, or in direct sunlight.
  - Do not bend the card, scratch it, or give it a strong shock.
  - Before downloading firmware to an SD card, check whether write-protection of the SD card is canceled. If write-protection is enabled, an error code (error code 44, etc.) will be displayed during download, and the download will fail.
- Before updating the firmware, disconnect the network cable and remove the wireless board from this machine (so that they are not accessed during the update).
- If SC818 is generated during the software update, switch the power OFF -> ON, and complete the update which was interrupted.

### 5.3.2 PREPARATION

- If the SD card is blank, copy the entire "romdata" folder onto the SD card.
- If the SD card already contains the "romdata" folder, copy the "M0D1 (machine code)" folder onto the card.
- If the card already contains folders up to "M0D1 (machine code)", copy the necessary firmware files (e.g. M0D1xxxx.fwu) into this folder.

#### ↓ Note

Do not put multiple machine firmware programs on the same SD card. Copy the only model firmware you want.

### 5.3.3 UPDATING PROCEDURE (PRINTER MODEL)

1. Download the new firmware to the SD card.
2. Turn the power off.
3. Remove the SD card slot cover.
4. Insert the SD card into the lower SD card slot.
5. Slowly push the SD card into the slot so it locks in place. You will hear it click. Make sure the SD card locks in place.

#### ↓ Note

- Check whether the card is properly in the SD card slot. When an SD card is

inserted, a click is heard, and it is locked.

- To remove the SD, push it in to unlock the spring lock. Then release it so it pops out of the slot.

6. Disconnect the network cable if the machine is connected to a network.
7. Turn the power on.

After about 45 seconds, the initial version update screen appears on the LCD in English.

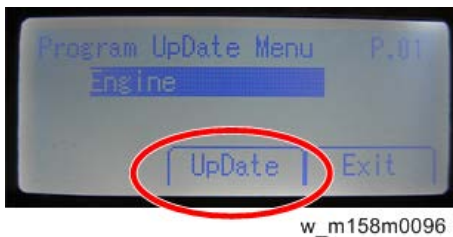
8. On the screen, press the corresponding key (Up and Down keys) to select the update file that you want to update.

You can change the module name screen or module version screen by using the left and right keys.



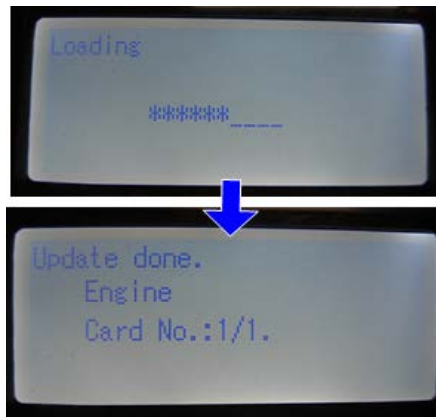
ROM/NEW	Contents
ROM:	Display installed module number (upper row)/ version information (lower row).
NEW:	Display module number (upper row)/ version information (lower row) on the SD card.

9. Press the [OK] key after selecting the item that you want to update.  
The [UpDate] button appears.
10. Press the [UpDate] key to start the update.



**Note**

The progress bar appears on the LCD.



w\_m158m0097

11. The "Update Done" message appears after completing the updating.  
The message differs depending on the firmware that has been updated.
12. After turning the power off, remove the SD card.
13. Turn the power on again, and check whether the machine is operating normally.
14. Attach the SD card slot cover to the original position.

**Note**

- When the power supply is switched OFF during firmware update, the update is interrupted, and the power is switched ON again, normal operation cannot be guaranteed.
- To guarantee operation, an update error continues to be displayed until the update is successful.
  - In this case, insert the SD card again, switch the power ON, and continue download of firmware from the SD card automatically.
- The PS3 firmware program is included in the preinstalled PDF firmware. In the default state, although the PS3 firmware program is hidden in the disabled state, the function is enabled by installing the PS3 card. (The program installed in the PS3 card is a dongle (key) for enabling the PS3 function).
  - Due to the above specification, the self-diagnosis result report shows the ROM module number/software version of the PDF firmware at the PS location.

### 5.3.4 UPDATING PROCEDURE (MF MODELS)

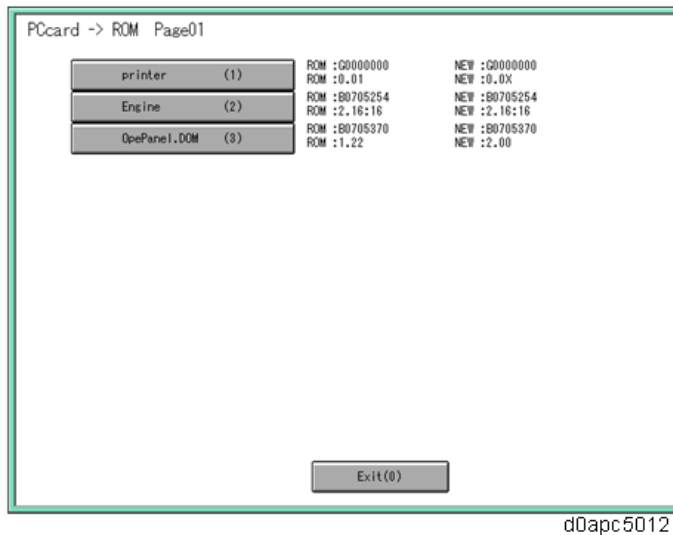
1. Download the new firmware to the SD card.
2. Turn the power off.
3. Remove the SD card slot cover.
4. Insert the SD card into the SD card lower slot.

**Note**

- Check whether the card is properly in the SD card slot. When an SD card is inserted, a click is heard, and it is locked.
- To remove the SD, push it in to unlock the spring lock. Then release it so it pops

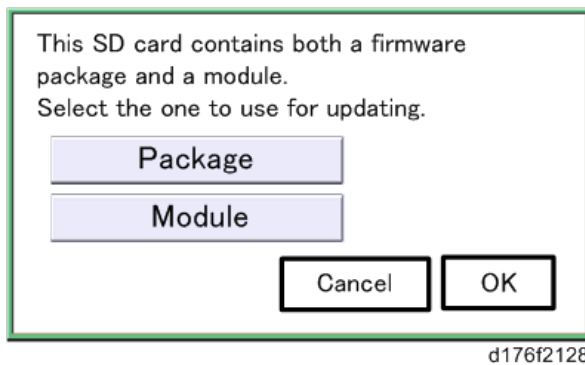
out of the slot.

5. Turn the power on.
6. Wait until the update screen starts (about 45 seconds).  
When it appears, "Please Wait" is displayed.
7. Check whether a program installation screen is displayed. (The screen is always in English, regardless of the machine's language settings.) When the SD card contains two or more software modules, they are displayed as follows.



**Note**

When the SD card contains both a firmware package and one or more modules, the following display may show up. Select the [Module] and touch [OK] to move above. If you want to update the package firmware, refer to "Package Firmware Update (MF Model Only) > [Update via SD card.](#)"

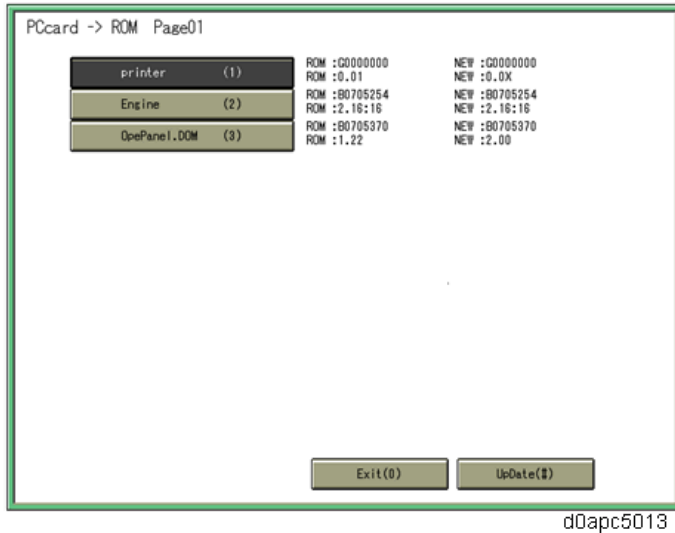


8. Select the modules you want to update. The selected module is highlighted, and [Update] are displayed.

**Note**

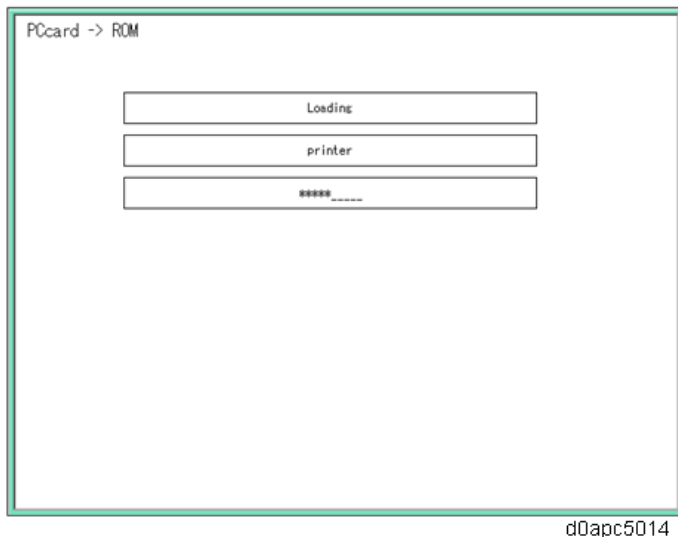
- Depending on the combination of modules to update, it may not be possible to select all of them simultaneously.





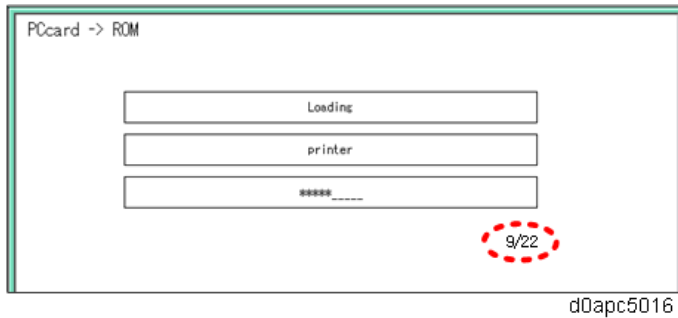
ROM/NEW	Contents
ROM:	Display installed module number (upper row)/ version information (lower row).
NEW:	Display module number (upper row)/ version information (lower row) on the SD card.

9. Press the [Update]. The software will be updated.
10. During the firmware update, a "firmware update/ verification progress screen" is displayed. When the firmware update is complete, the "firmware update end screen" is displayed.
  - In the middle row, the name of the module currently being updated is displayed (in this case, the printer module is being updated).
  - In the lower row, a progress bar is displayed in ten steps. (The more \*, the more the progress.)

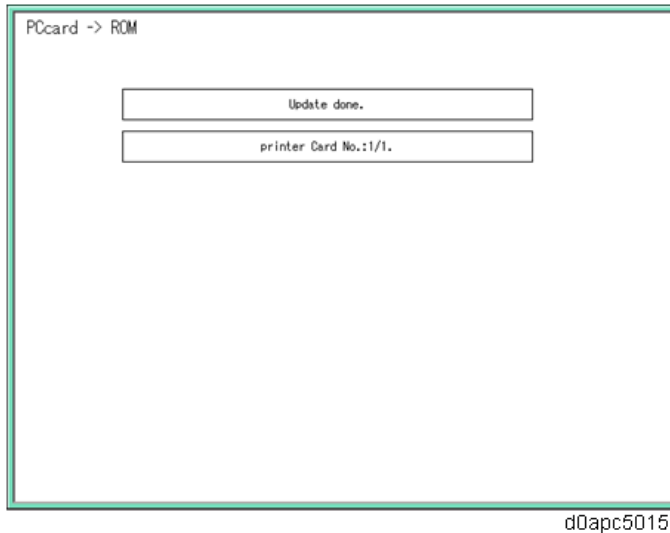


**Note**

The figures at the lower right of the display indicate "Number of updated items/ All items to be updated".



11. When the update was completed normally, the "Update done" is displayed.



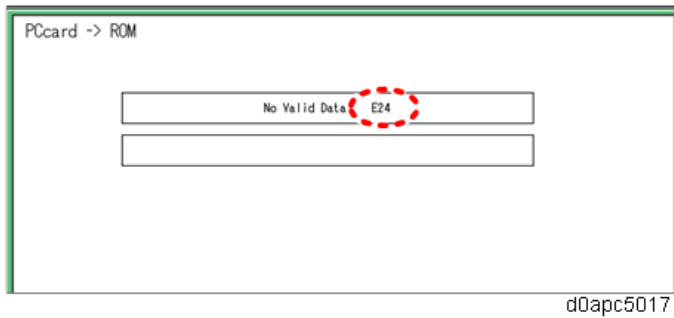
12. After turning the power off, remove the SD card.
13. Turn the power on again, and check whether the machine is operating normally.
14. Attach the SD card slot cover to the original position.

**Note**

- When the power supply is switched OFF during the firmware update, the update process is interrupted, and when the power is switched ON again, normal operation cannot be guaranteed.
- To guarantee operation, an update error continues to be displayed until the update is successful.
  - In this case, insert the SD card again, switch the power ON, and continue download of firmware from the SD card automatically.
- The PS3 firmware program is included in the preinstalled PDF firmware. In the default state, although the PS3 firmware program is hidden in the disabled state, the function is enabled by installing the PS3 card. (The program installed in the PS3 card is a dongle (key) for enabling the PS3 function).
  - Due to the above specification, the self-diagnosis result report shows the ROM module number/software version of the PDF firmware at the PS location.

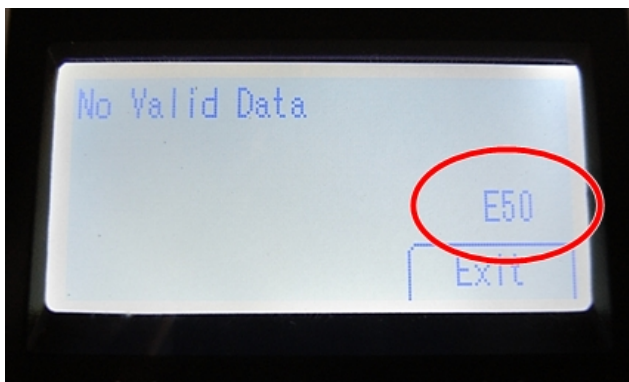
### 5.3.5 ERROR SCREENS DURING UPDATING

#### MF Models



d0apc5017

#### Printer Model



w\_m158m2015

EXX shows an error code.

For error codes, refer to the following table:

#### Error Code List

Code	Contents	Solutions
1	The module data does not match.	<ul style="list-style-type: none"> <li>• Power cycle the machine and try updating again.</li> <li>• If the update cannot be made even if you insert the correct SD card, there is a possibility that the SD card is broken. Retry again with a different SD card.</li> <li>• If you cannot resolve the problem with the above steps, replace the controller board.</li> </ul>
2	An error occurred while initializing the update program.	<ul style="list-style-type: none"> <li>• &gt;Power cycle the machine and try updating again.</li> <li>• If you cannot resolve the problem with the above step, replace the controller board.</li> </ul>
3	The ROM data to be rewritten is missing.	<ul style="list-style-type: none"> <li>• Power cycle the machine and try updating again.</li> </ul>

Code	Contents	Solutions
		<ul style="list-style-type: none"> <li>• Turn the power off, switch DIPSW-1 on the controller board to ON, and then turn the power back on to force the ROM data to be rewritten.</li> <li>• Reset the ROM-DIMM.</li> <li>• If you cannot resolve the problem with the above steps, replace the controller board.</li> </ul>
4	Failed to check the GNU ZIP data.	<ul style="list-style-type: none"> <li>• &gt;Power cycle the machine and try updating again.</li> <li>• Turn the power off, switch DIPSW-1 on the controller board to ON, and then turn the power back on to force the ROM data to be rewritten.</li> <li>• Replace the ROM-DIMM.</li> <li>• If you cannot resolve the problem with the above steps, replace the controller board.</li> </ul>
5	A device error occurred while rewriting data.	<ul style="list-style-type: none"> <li>• Power cycle the machine and try updating again.</li> <li>• Turn the power off, switch DIPSW-1 on the controller board to ON, and then turn the power on to force the ROM data to be rewritten.</li> <li>• Reset the ROM-DIMM.</li> <li>• If you cannot resolve the problem with the above steps, replace the controller board.</li> </ul>
6	CPU clock error	<ul style="list-style-type: none"> <li>• Turn the power off, switch DIPSW-1 on the controller board to ON, and then turn the power on to force the ROM data to be rewritten.</li> <li>• If you cannot resolve the problem with the above steps, replace the controller board.</li> </ul>
10	A startup option error has occurred.	<ul style="list-style-type: none"> <li>• Restore the SD card for installation.</li> </ul>
11	An error occurred while waiting to read the installed SD card.	<ul style="list-style-type: none"> <li>• &gt;Power cycle the machine and try updating again.</li> <li>• Restore the SD card for installation.</li> <li>• Retry updating with a different SD card.</li> <li>• If you cannot resolve the problem with the above steps, replace the controller board.</li> </ul>

Code	Contents	Solutions
12	Configuration file error	<ul style="list-style-type: none"> <li>• Power cycle the machine and try updating again.</li> <li>• Restore the SD card for installation.</li> <li>• Retry updating with a different SD card.</li> </ul>
13	The memory is insufficient to install the data.	<ul style="list-style-type: none"> <li>• Reduce the number of module files to be installed.</li> </ul>
14	Failed to execute a system call.	<ul style="list-style-type: none"> <li>• &gt;Power cycle the machine and try updating again.</li> <li>• Restore the SD card for installation.</li> <li>• Retry updating with a different SD card.</li> <li>• If you cannot resolve the problem with the above steps, replace the controller board.</li> </ul>
15	Failed to execute self-update.	<ul style="list-style-type: none"> <li>• Power cycle the machine and try updating again.</li> <li>• Restore the SD card for installation.</li> <li>• Retry updating with a different SD card.</li> <li>• If you cannot resolve the problem with the above steps, replace the controller board.</li> </ul>
19	Schedule data error	<ul style="list-style-type: none"> <li>• Turn the power off, switch DIPSW-1 on the controller board to ON, and then turn the power on to force the ROM data to be rewritten.</li> <li>• If you cannot resolve the problem with the above steps, replace the controller board.</li> </ul>
20	Physical address mapping cannot be performed.	<ul style="list-style-type: none"> <li>• Power cycle the machine and try updating again.</li> <li>• Re-insert the SD card to reboot.</li> <li>• If you cannot resolve the problem with the above steps, replace the controller board.</li> </ul>
21	Insufficient memory for the download	<ul style="list-style-type: none"> <li>• Power cycle the machine and try updating again.</li> <li>• If you cannot resolve the problem with the above step, replace the controller board.</li> </ul>
22	Decompression of compressed data failed.	<ul style="list-style-type: none"> <li>• Power cycle the machine and try updating again.</li> <li>• Replace the SD card used for the update.</li> <li>• If you cannot resolve the problem with the above steps, replace the controller board.</li> </ul>

Code	Contents	Solutions
23	Failed to execute self-update.	<ul style="list-style-type: none"> <li>• Power cycle the machine and try updating again.</li> <li>• Turn the power off, switch DIPSW-1 on the controller board to ON, and then turn the power on to force the ROM data to be rewritten.</li> <li>• If you cannot resolve the problem with the above steps, replace the controller board.</li> </ul>
24	SD card access error	<ul style="list-style-type: none"> <li>• Re-insert the SD card.</li> <li>• &gt;Power cycle the machine and try updating again.</li> <li>• Replace the SD card used for the update.</li> <li>• Replace the controller board if the above solutions do not solve the problem.</li> </ul>
31	<p>An error to continue downloading has occurred.</p> <p>When using two or more SD cards to download data, the data from the second or later SD card was incompatible.</p>	<ul style="list-style-type: none"> <li>• Install the SD card containing the subsequent program(s), and then turn the power off and then back on to resume downloading.</li> <li>• Replace the SD card used for the update.</li> <li>• If the problem persists even if you try to install the subsequent data using another SD card, turn the power off, switch DIPSW-1 on the controller board to ON, and then turn the power on to force the ROM data to be rewritten.</li> <li>• If forcing the data to be rewritten fails, replace the controller board.</li> </ul>
32	<p>The SD card used after download suspension is incorrect.</p> <p>The SD card which was inserted after the power interruption is different from the one which was inserted before power interruption.</p>	<ul style="list-style-type: none"> <li>• Insert the SD card containing the same program as when the firmware update was suspended, and then cycle the machine off/on and try updating again.</li> <li>• There is a possibility that the SD card is damaged if the update cannot be done after the correct SD card has been inserted. In this case, try again with a different SD card.</li> <li>• Replace the controller board if the above solutions do not solve the problem.</li> </ul> <p>Replace all relevant boards if the update is</p>

Code	Contents	Solutions
		done for the engine board and FCU function. Replace the operation panel unit if the update is done for the operation panel.
33	Card version error. The wrong card version is downloaded.	<ul style="list-style-type: none"> <li>• &gt;Copy the correct update data for each version on the SD card.</li> </ul>
34	Destination error. A card for the wrong destination is inserted.	<ul style="list-style-type: none"> <li>• Copy the correct update data for each destination (JPN/ EXP/ OEM) on the SD card.</li> </ul>
35	Model error. A card for the wrong model is inserted.	<ul style="list-style-type: none"> <li>• Copy the correct update data for each model on the SD card.</li> </ul>
36	Module error. The program to be downloaded does not exist on the main unit. The download destination specified by the card does not match the destination for the main unit's program.	<ul style="list-style-type: none"> <li>• Install the program to be updated in advance.</li> <li>• There is a possibility that the SD card containing the program to be updated has not been mounted. Check to confirm that the SD card has been correctly mounted.</li> <li>• The SD card is incorrect if the program to be updated has been correctly installed. In this case, insert the correct SD card.</li> </ul>
38	The version of the downloaded program has not been authorized for the update.	<ul style="list-style-type: none"> <li>• Make sure that the program to be overwritten is the specified version.</li> </ul>
40	Engine download fails.	<ul style="list-style-type: none"> <li>• Power cycle the machine and try updating again.</li> <li>• If the download fails again, replace the engine board.</li> </ul>
41	Fax download fails.	<ul style="list-style-type: none"> <li>• Power cycle the machine and try updating again.</li> <li>• If the download fails again, replace the FCU board.</li> </ul>
42	Operation panel/ language download fails.	<ul style="list-style-type: none"> <li>• Power cycle the machine and try updating again.</li> <li>• If the download fails again, replace the operation panel unit.</li> </ul>
43	Printing download fails.	<ul style="list-style-type: none"> <li>• Power cycle the machine and try updating again.</li> <li>• The SD card is damaged if the update fails</li> </ul>

Code	Contents	Solutions
		again. Replace the SD card.
44	The data to be overwritten cannot be accessed when controller-related programs are downloaded.	<ul style="list-style-type: none"> <li>Power cycle the machine and try updating again.</li> <li>Copy the correct update data on the SD card.</li> <li>Replace the controller board if the data to be overwritten is contained on the controller board.</li> </ul>
49	Firmware updates are currently prohibited.	<ul style="list-style-type: none"> <li>The setting of Update Firmware in the Administrator Tools has been set to [Prohibit] by an administrator. Amend the setting to [Do not Prohibit] and try again.</li> </ul>
50	The results of the electronic authorization check have rejected the update data.	<ul style="list-style-type: none"> <li>Copy the correct update data on the SD card.</li> </ul>
57	@Remote is not connected at the date/time reserved for receiving the package firmware update from the network.	<ul style="list-style-type: none"> <li>Check the @Remote connection.</li> </ul>
58	The update cannot be done due to a reception route problem.	<ul style="list-style-type: none"> <li>Check the @Remote connection.</li> </ul>
59	HDD is not mounted.	<ul style="list-style-type: none"> <li>Install the HDD correctly.</li> </ul>
60	HDD could not be used during the package firmware update.	<ul style="list-style-type: none"> <li>Power cycle the machine and try updating again.</li> <li>If the HDD is damaged, replace it.</li> </ul>
61	The module ID for the package firmware update is incorrect.	<ul style="list-style-type: none"> <li>Prepare the correct package file.</li> </ul>
62	The configuration of the package firmware update files is incorrect.	<ul style="list-style-type: none"> <li>Prepare the correct package file.</li> </ul>
63	Reception fails due to power off at the reserved date/time of the remote firmware update from the network.	<ul style="list-style-type: none"> <li>The update is to be done automatically when the next reception time has elapsed.</li> </ul>
64	Reception fails due to power off at the reserved date/time of the package firmware update from the network.	<ul style="list-style-type: none"> <li>Reset the reservation date/time for the remote update.</li> </ul>
65	Reception fails due to a status error of the machine at the reserved date/time of the remote firmware update from the network.	<ul style="list-style-type: none"> <li>The update is to be done automatically when the next reception time has elapsed.</li> </ul>



Code	Contents	Solutions
66	Reception failed due to a status error of the machine at the reserved date/time of the package firmware update from the network.	<ul style="list-style-type: none"> <li>Reset the reservation date/time for the remote update.</li> </ul>
67	Acquisition of the latest version information from the Gateway fails at the reserved date/time of the remote firmware update from the network.	<ul style="list-style-type: none"> <li>Check that the network is connected correctly.</li> </ul>
68	Acquisition of the latest version information from the Gateway fails.	<ul style="list-style-type: none"> <li>Check that the network is connected correctly.</li> </ul>
69	Download fails at the reserved date/time of the remote firmware update from the network.	<ul style="list-style-type: none"> <li>Check that the network is connected correctly.</li> </ul>
70	Package firmware download from the network fails.	<ul style="list-style-type: none"> <li>Check that the network is connected correctly.</li> </ul>
71	Network communication error occurs at the reserved date/time of the package firmware update from the network.	<ul style="list-style-type: none"> <li>Check that the network is connected correctly.</li> </ul>
72	The setting of @Remote is invalid at the reserved date/time of the package firmware update from the network.	<ul style="list-style-type: none"> <li>Set the @Remote Service on the Administrator Tools to [Do not Prohibit].</li> </ul>
74	Decompression of compressed package data failed.	<ul style="list-style-type: none"> <li>Copy the correct package data on the SD card and try updating again.</li> <li>Replace the DIMM on the controller board if the above solution does not solve the problem.</li> <li>Replace the HDD if the above solution does not solve the problem.</li> </ul>
75	The upper limit of the number of update files exceeds.	<ul style="list-style-type: none"> <li>Make two or more of the same module do not exist under the /romdata directory on the SD card.</li> </ul>
221	Failed to terminate an application when attempting to update or uninstall it.	<ul style="list-style-type: none"> <li>If a job is underway in the target application, wait until the job is finished, and then try updating again.</li> <li>Power cycle the machine and try updating again.</li> </ul>

Code	Contents	Solutions
222	Failed to verify the signature attached to the application or firmware.	<ul style="list-style-type: none"> <li>Try updating again using a valid signature.</li> </ul>
224	The storage capacity is not enough.	<ul style="list-style-type: none"> <li>Reduce the number of applications to be installed.</li> <li>Uninstall unnecessary applications.</li> </ul>
228	The target firmware file cannot be found.	<ul style="list-style-type: none"> <li>Copy the correct update data and try updating again.</li> </ul>
229	<p>The target update file is invalid. Occurs in the following cases.</p> <ul style="list-style-type: none"> <li>Failed to decompress the file.</li> <li>Failed to obtain application information.</li> <li>Failed to read the public key for signature verification.</li> </ul>	<ul style="list-style-type: none"> <li>Copy the correct update data and try updating again.</li> </ul>
230	The folder directory of the Smart Operation Panel firmware is invalid.	<ul style="list-style-type: none"> <li>Copy the correct update data and try updating again.</li> </ul>
231	Failed to write data when updating the Smart Operation Panel firmware. (There is a problem with the hardware.)	<ul style="list-style-type: none"> <li>Power cycle the machine and try updating again.</li> <li>Replace the operation panel if the above solution does not solve the problem.</li> </ul>
235	The target file is invalid, and the Android OS returns an error.	<ul style="list-style-type: none"> <li>Copy the correct update data and try updating again.</li> <li>If the same application has already been installed, uninstall it and then try updating again.</li> </ul>
236	The Android SDK version required by the application is not installed on the Smart Operation Panel.	<ul style="list-style-type: none"> <li>Check that the Android SDK version required by the application is installed on the Smart Operation Panel.</li> </ul>
255	Software malfunction	<ul style="list-style-type: none"> <li>Power cycle the machine and try updating again.</li> </ul>

## 5.4 PACKAGE FIRMWARE UPDATE

### ⚠ CAUTION

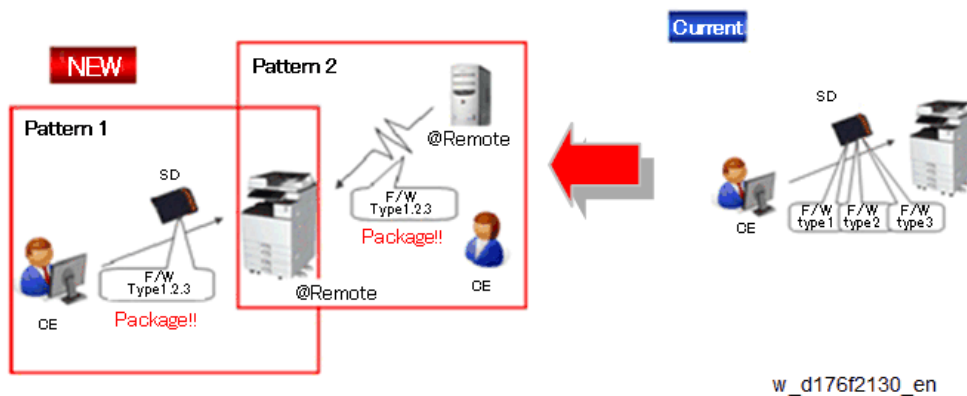
The HDD unit must be installed on the machine to enable the SFU (Smart Firmware Update) or the package firmware update via SD card.

### 5.4.1 OVERVIEW

Previous update method was consisted of modules (System/Copy, Engine etc.). However, current application is all-inclusive (System/Copy, Engine etc.) firmware packages.

There are two ways to update using the package firmware update:

- Via the network: SFU (Smart Firmware Update)
- Or using an SD card



#### **Package Firmware Update via a network: SFU (Smart Firmware Update)**

- There are two methods for SFU.
  - Immediate Update: To update the firmware when visiting
  - Update at the next visit: To set the date and time for downloading. The firmware will be automatically downloaded beforehand and updated at the following visit.
- “Update at the next visit” is recommended since firmware download may take some minutes due to the network condition.

#### **Package Firmware Update via an SD Card**

Package firmware update can also be performed using the conventional SD card method by writing the package firmware directly to the SD card.

#### **Types of firmware update files, supported update methods:**

	SFU	SD card	RFU	ARFU
Individual firmware	N/A	Available	Available	N/A
Package firmware	Available	Available	Available	Available

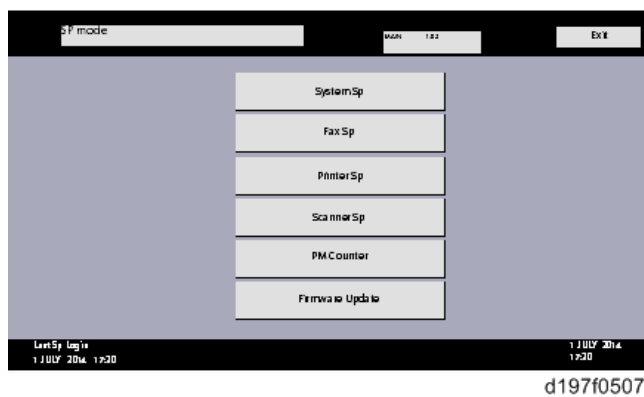
## 5.4.2 IMMEDIATE UPDATE

Enter the [Firmware Update] menu in the SP mode and update the package firmware.

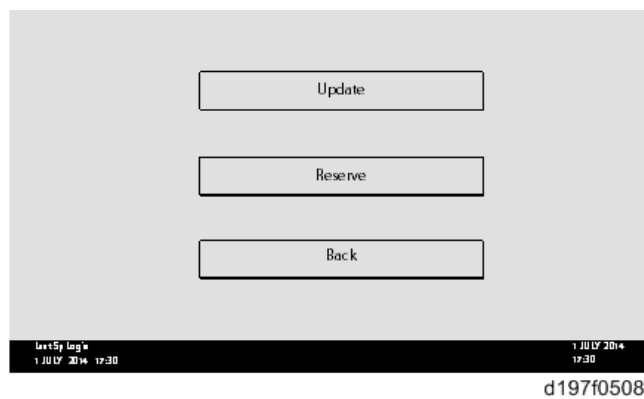
### Note

- The [Firmware Update] button will appear even when a machine is connected to @Remote with a device which does not have an embedded @Remote communicating function.
- If an error code is displayed, refer to Error screens during updating (Error Screens During Updating).

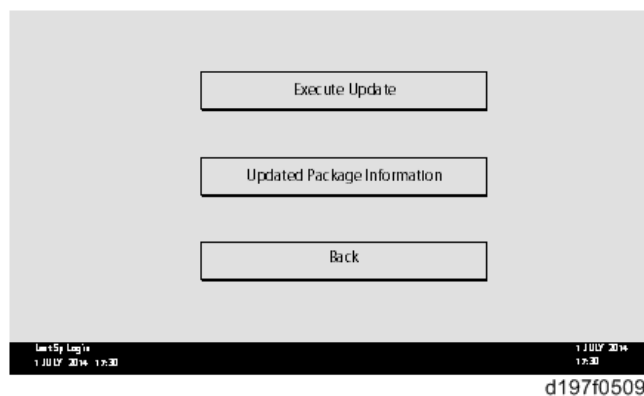
1. Enter the SP mode.
2. Press [Firmware Update].



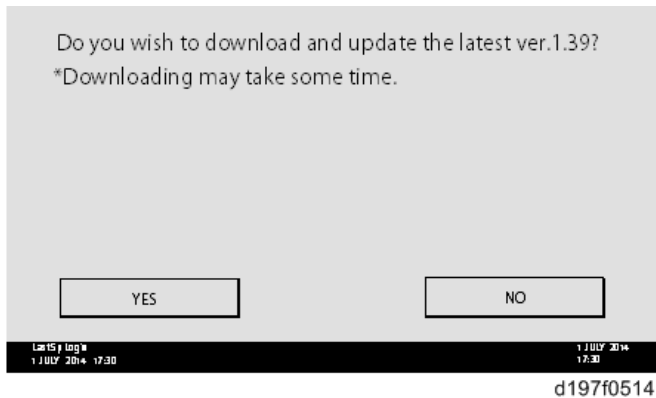
3. Press [Update].



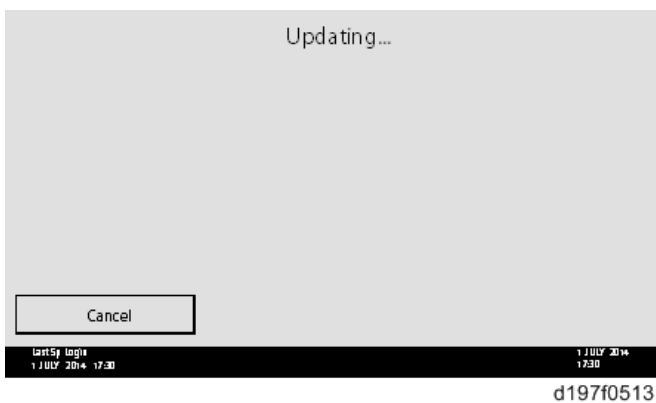
4. Press [Execute Update].



## 5. Press [YES].

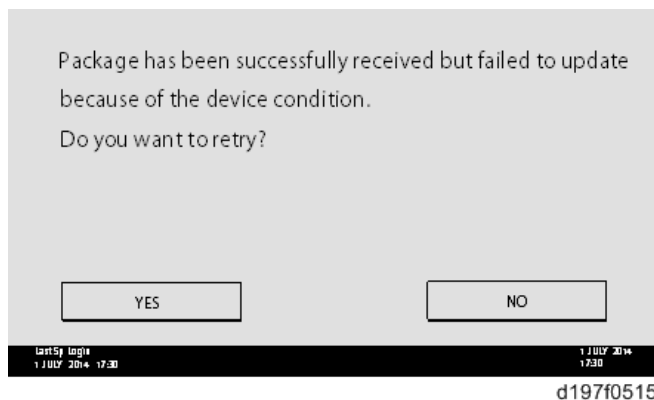


## 6. The following screen will be displayed.



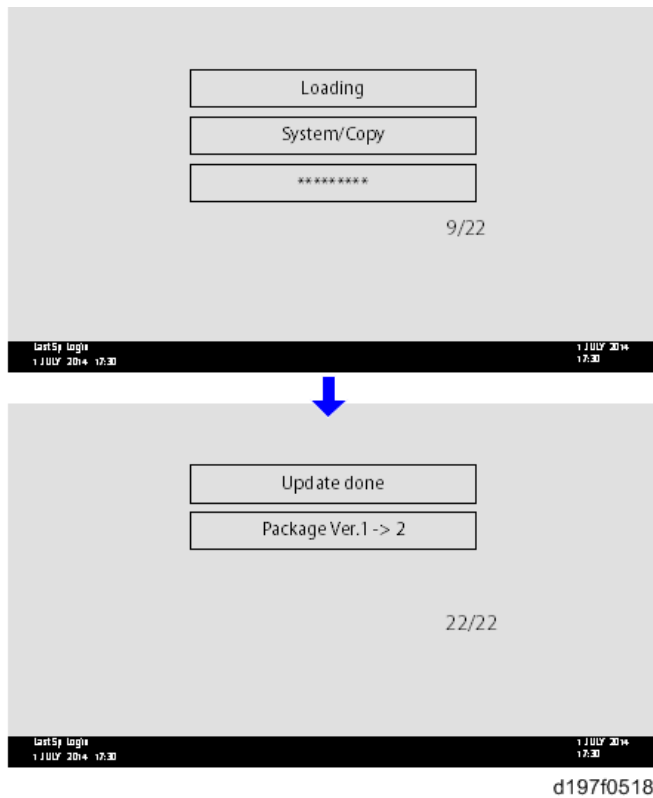
⬇️ Note

- If the error code E66, which indicates that the download of the firmware has failed, is displayed, implement this procedure from step 1.
- Update will be started automatically after the download is finished.
- When the machine is in the update mode, the automatic update is suspended if a print job is implemented. After the print job is finished, Press [YES] on the display shown with the following picture to restart updating.



## 7. [Update done] is displayed.

- The machine will automatically reboot itself.



#### Note

- The figures at the right bottom part of the status indicators “Number of updated items/ All items to be updated”.

### 5.4.3 UPDATE AT THE NEXT VISIT (RESERVE)

It is possible to set the machine to download the package firmware which is necessary for SFU in advance, and then perform the actual installation at the next service visit. This saves waiting time for the firmware to download at the service visit.

#### ***How to Set the Machine to Download Firmware Later (Reserve)***

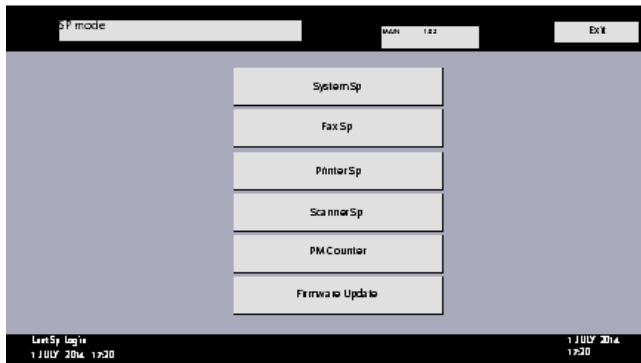
Enter the [Firmware Update] menu in the SP mode and update the package firmware.

#### Note

- The [Firmware Update] button will appear even when a machine is connected to @Remote with a device which does not have an embedded @Remote communicating function. If an error code is displayed, refer to Error Screens During Updating.

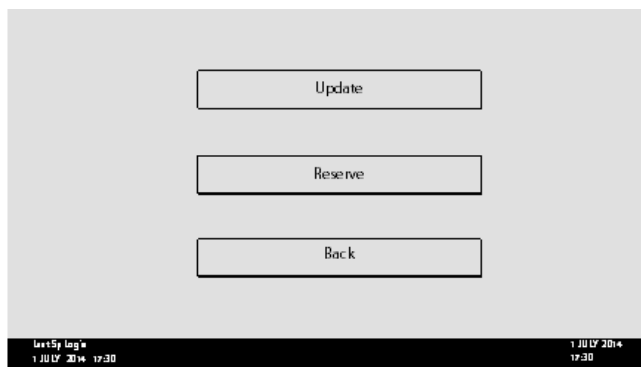
1. Enter the SP mode.

2. Press [Firmware Update].



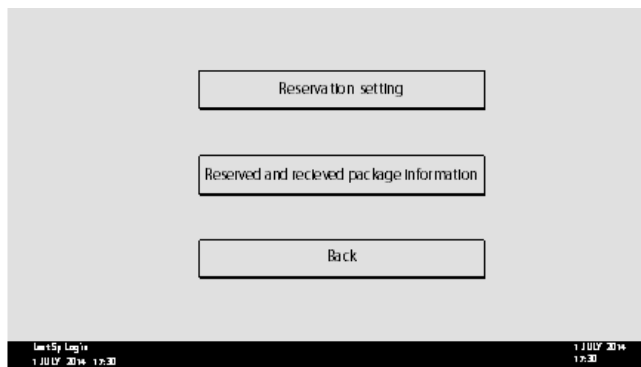
d197f0507

3. Press [Reserve].



d197f0508

4. Press [Reservation setting].



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5. Enter the dates and times of the next visit and start of receiving data.

- "Next time to visit this customer": The package firmware will be automatically downloaded by this time/date.
- "When to receive? (1-7)": The download of the package firmware will begin this number of days before the next visit.

Next time to visit this customer

2013 / 05 / 22 15 : 00  
 year month day hour minute

When to receive? (1-7) 1 day(s) before visit

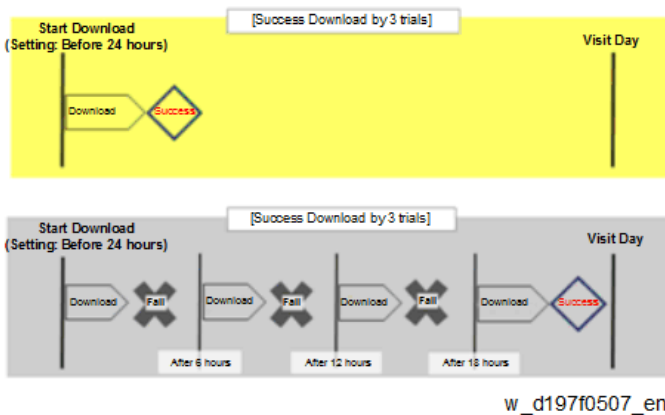
Set Clear Cancel

1 JULY 2014 17:30 1 JULY 2014 17:30

d197f0512

### Successful Download

In the two diagrams below, the firmware is set to be downloaded by the day before the next scheduled visit. In the first diagram, the download is successful on the first try. In the second diagram, the download fails three times and is successful on the fourth try.

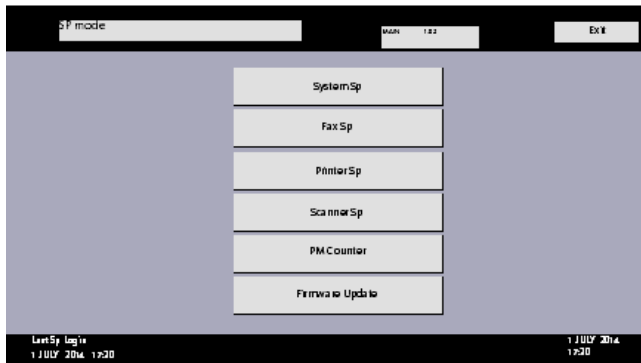


- If the firmware download fails or cannot be completed due to the network settings/condition, no power to the machine, or other reason, the machine will continue retrying every six hours until the scheduled deadline (up to a maximum of four tries). For example, if the download is set for the day before the next visit, the machine will attempt the download at 24 hours before the visit, and then continue trying every six hours (max. four tries total).
- The retry is only performed in cases when the firmware download has failed.
- If the machine is in Energy Saver mode when the download is scheduled to begin, the download will be performed in the background and the machine/panel will stay in Energy Saver mode.
- The download will continue uninterrupted even if the customer initiates a print job, copy job, fax receiving or other operation while the download is in progress.
- The download will be terminated if the customer turns OFF the main power while the download is in progress.
- If the download cannot be completed successfully by the time of the next scheduled visit, the machine will stop trying to download the firmware.



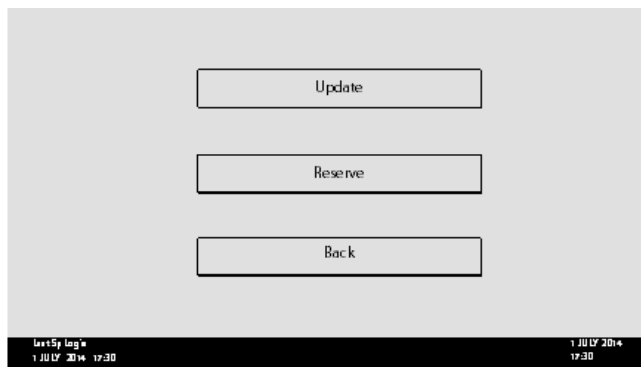
## How to Check if the Firmware Downloaded with Reserve

1. Enter the SP mode.
2. Press [Firmware Update].



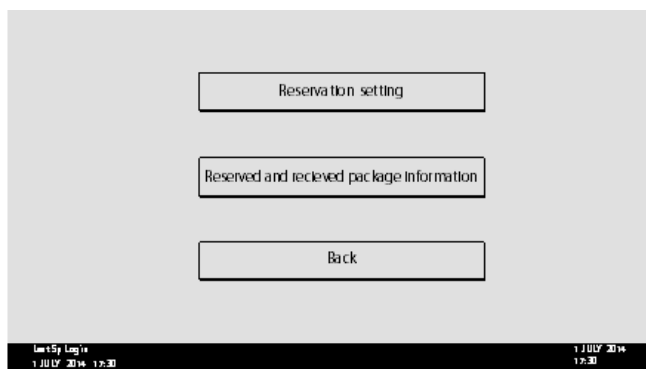
d197f0507

3. Press [Reserve].



d197f0508

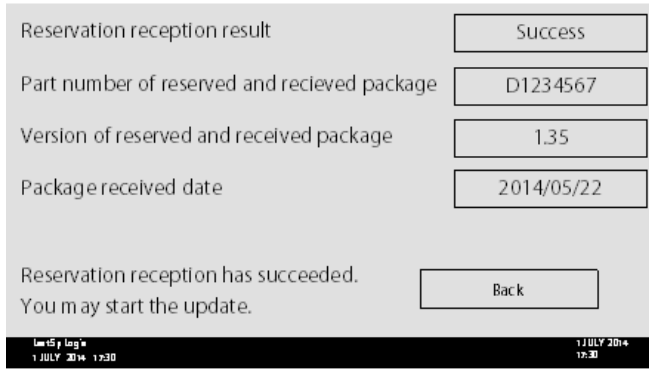
4. Press [Reserve and received package information].



d197f0510

5. Check the information displayed.

When the package firmware is downloaded successfully, the details of the download result are displayed as the following picture shows.



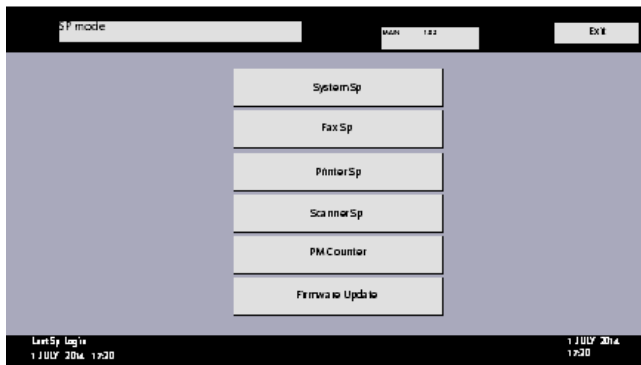
d197f0511

**Note**

- This information will only be displayed if the reserved firmware has already been downloaded. If not, all the data items are indicated with “-”.

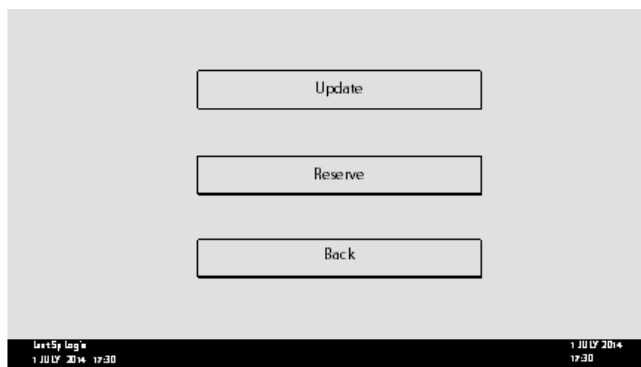
**How to Install Firmware Downloaded with Reserve**

1. Enter the SP mode.
2. Press [Firmware Update].



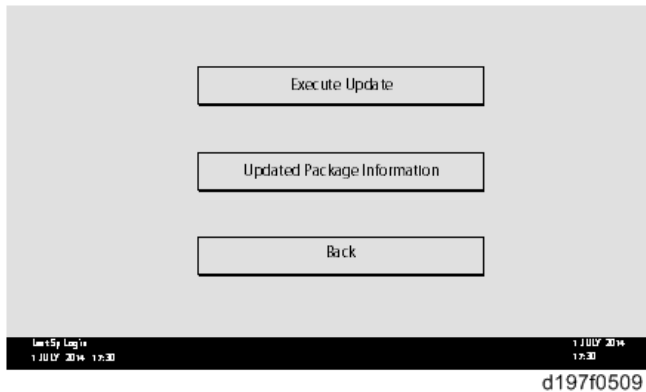
d197f0507

3. Press [Update].



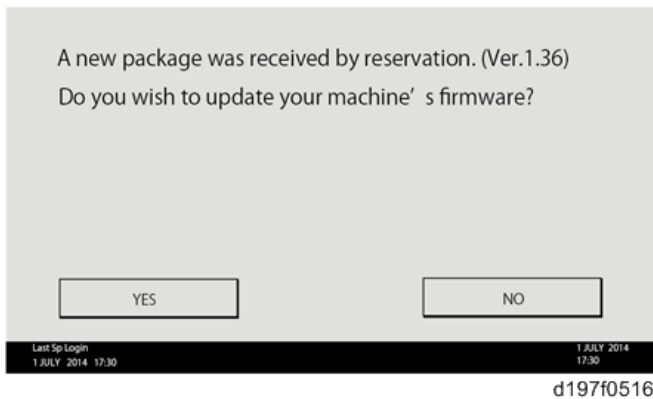
d197f0508

## 4. Press [Execute Update].



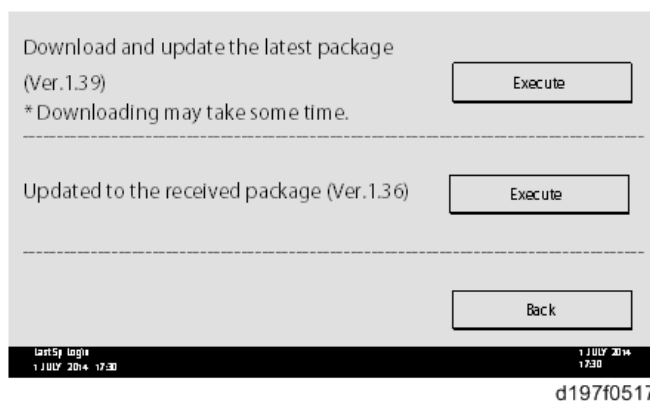
## 5. Check the version of the received package firmware, and then Press [YES].

- The update is started.



**Note**

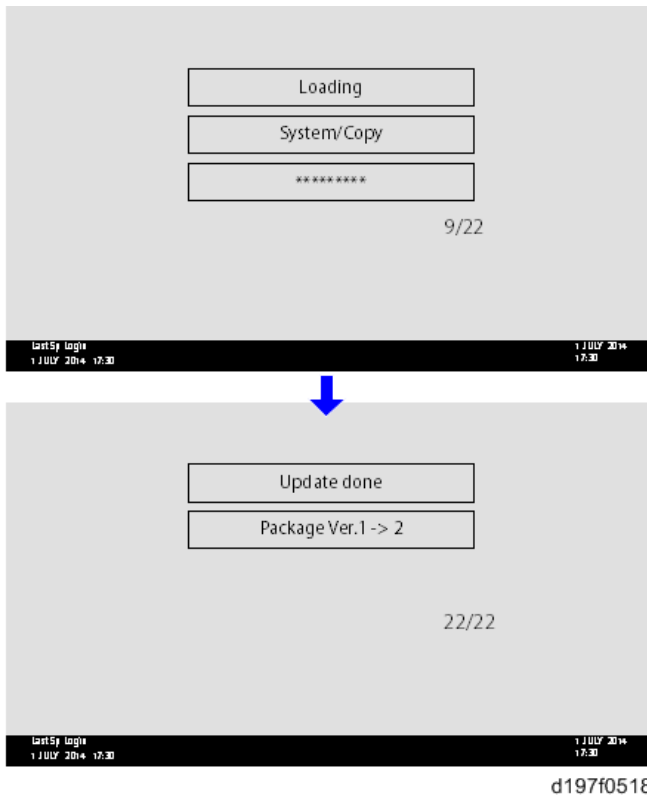
- If the version of the reserved package in the HDD is older than the latest version, the messages shown in the following picture are displayed.



- If you wish to download the latest version, Press [Execute] beside the message "Download and update the latest package." Then the update of the package firmware will be started.
- If you wish to update using the firmware in the HDD (old version), Press [Execute] beside the message "Update to the received package."

## 6. [Update done] message is displayed.

- The machine will automatically reboot itself.



**Note**

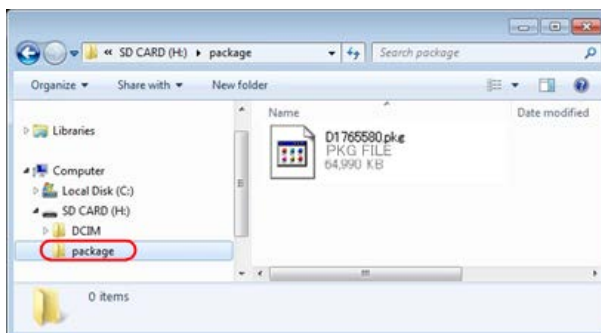
- The figures at the lower right of the display indicate “Number of updated items/ All items to be updated”.

### 5.4.4 UPDATE VIA SD CARD

Update with an SD card, which is the conventional method, is available if you write the package firmware to the SD card.

**Note**

- If an error code is displayed, refer to Error Screens During Updating.
1. Create a new folder on the SD card, and then name it “package”.
  2. Copy the package firmware (xxxxxxx.pkg) to this folder.



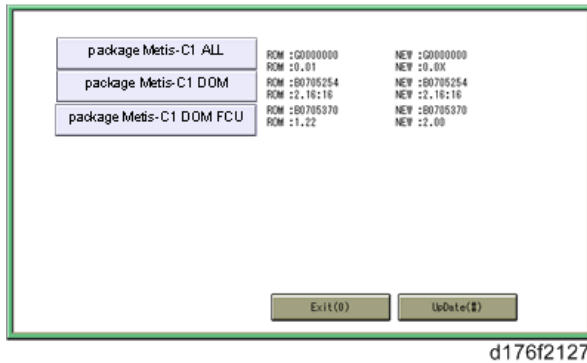
d197f0504

**Important**

- If you copy the package firmware into the conventional “romdata” folder, the

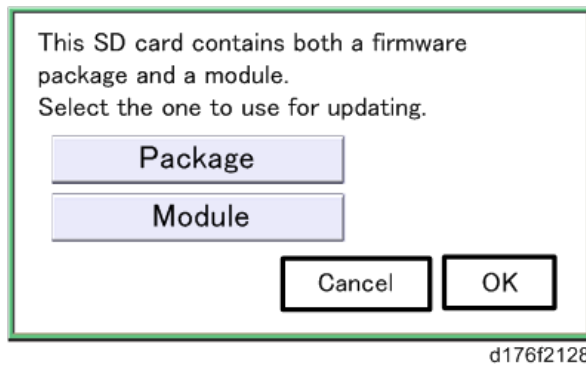
update will not work.

- Only one version of the package firmware should be copied into the folder. If you copy multiple versions of package firmware to the SD card, the machine will select only one version of the firmware randomly.
3. Turn OFF the main power.
  4. Insert the SD card which contains the package into SD card slot 2 (for service).
  5. Turn ON the main power
  6. Press [Update].



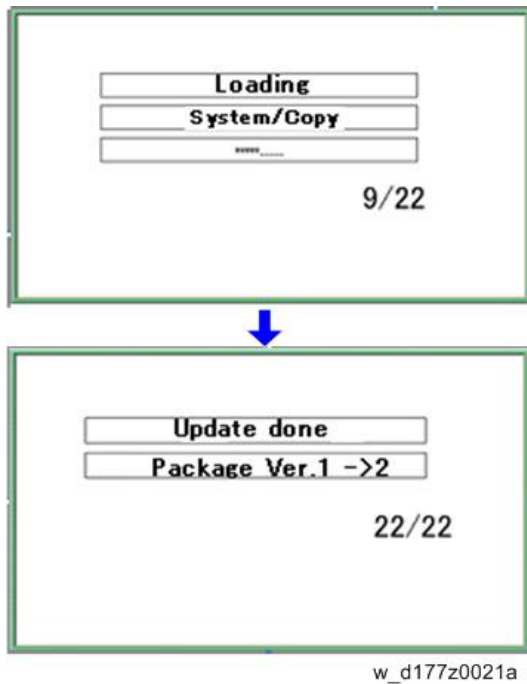
**Note**

- When the SD card contains both a firmware package and one or more modules, the following display may show up. Select [Package] and Press [OK] to move to step 4 above.



7. The update is started automatically after the package firmware download to the HDD has been completed.

- When the update is completed, "Update done" is displayed.

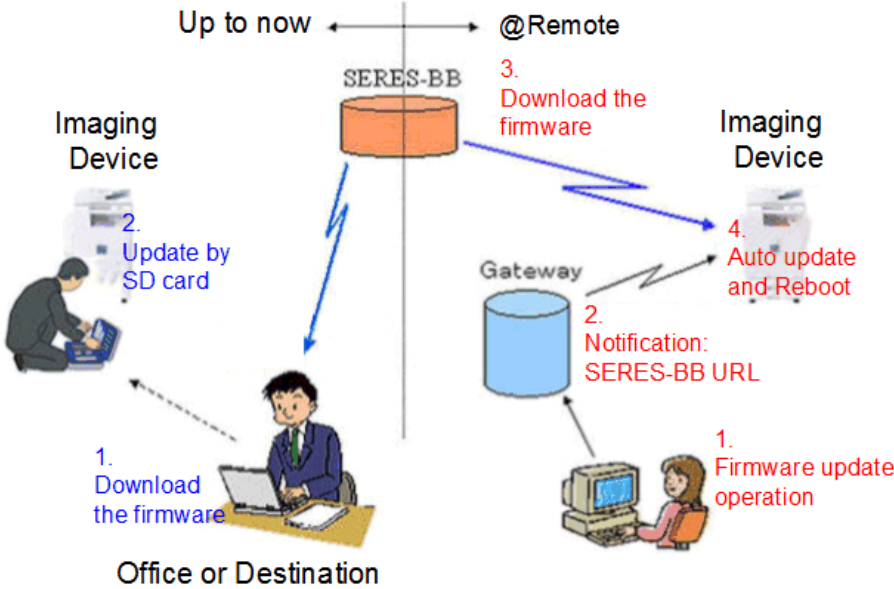


**Note**

- The figures at the lower right of the display indicate "Number of updated items/ All items to be updated".
- Turn OFF the main power.
  - Pull out the SD card from SD card slot 2.
  - Turn ON the main power.

### 5.5 REMOTE FIRMWARE UPDATE

On this machine, the software can be updated by remote control using @Remote.



w\_d1463115a\_en

#### 5.5.1 RFU PERFORMABLE CONDITION

RFU is performable for a device which meets the following conditions.

- 1. The customer consents to the use of RFU.
- 2. The device is connected to a network via TCP/IP for @Remote.

## 5.6 AUTO REMOTE FIRMWARE UPDATE (MF MODEL ONLY)

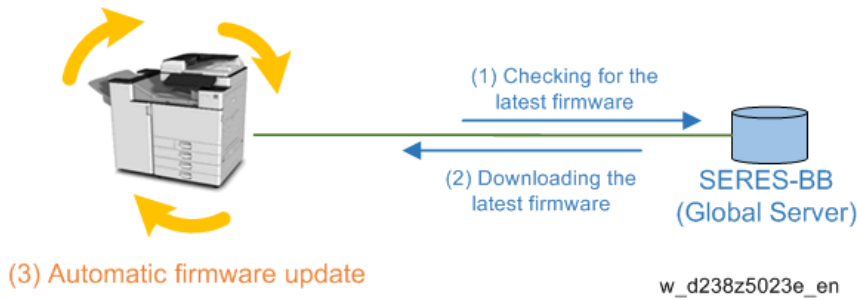
**Note**

Auto remote firmware update (ARFU) requires an Internet connection. Be sure to get permission from the customer before setting up this feature.

### 5.6.1 OVERVIEW

By Auto Remote Firmware Update (ARFU), the firmware is updated by checking the global server every 76 hours and downloading the latest package if there is a more recent one.

#### Function Overview



#### Types of firmware update files supported update methods:

	SFU	SD Card	RFU	ARFU
Individual firmware	N/A	Available	Available	N/A
Package firmware	Available	Available	Available	Available

#### What is Included in the Firmware Package

Modules included in the firmware package are indicated by ticks (✓) in the firmware download web site.

Firmware not included in the package require updating by SD cards, etc.

The table below is an example:

Included	Firmware
-	aics
✓	animation
✓	Application Site
✓	BluetoothService
✓	CheetahSystem
-	CSPF
-	Data Erase Onb



Included	Firmware
-	EcoInfoWidget
✓	Engine

## 5.6.2 DOWNLOADING AND UPDATING PROCESS

### Latest Package Download

The machine checks the server for the latest version of the package.

If the version of the package on the global server is later than that of the package installed on the machine, or if the machine has not downloaded the firmware package yet, the machine will be downloading the latest package in the background even when it is in use.

If the download fails, the machine will retry download every 76 hours.

The downloaded package can also be used with SFU (Smart Firmware Update). A package downloaded with SFU (Smart Firmware Update) can be used with ARFU (Auto Remote Firmware Update) and vice versa.

When replacing the controller board, the firmware package data becomes lost from the controller board. Even if the latest firmware is on the new controller board, be sure to receive the latest package data.

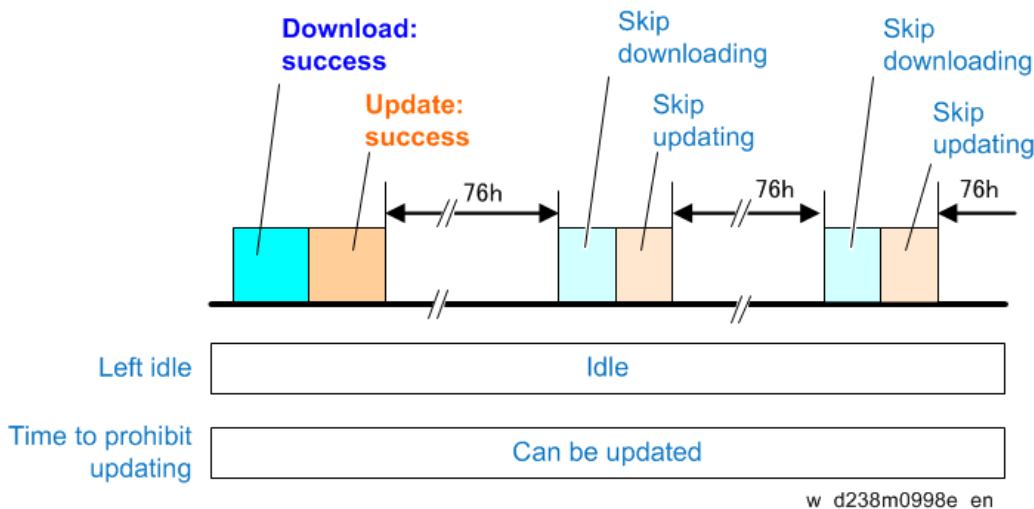
When the machine connects to the server where the package files are stored, the DNS settings and the name solution by DNS is needed. The machine will still try to download the package even if the name cannot be resolved, but will fail because the name is not resolved.

The time and date to send the next inquiry to the global server can be checked with SP5-886-116 (Firm Update Setting: Auto Update Next Date).

The auto remote firmware update is executed every 76 hours.

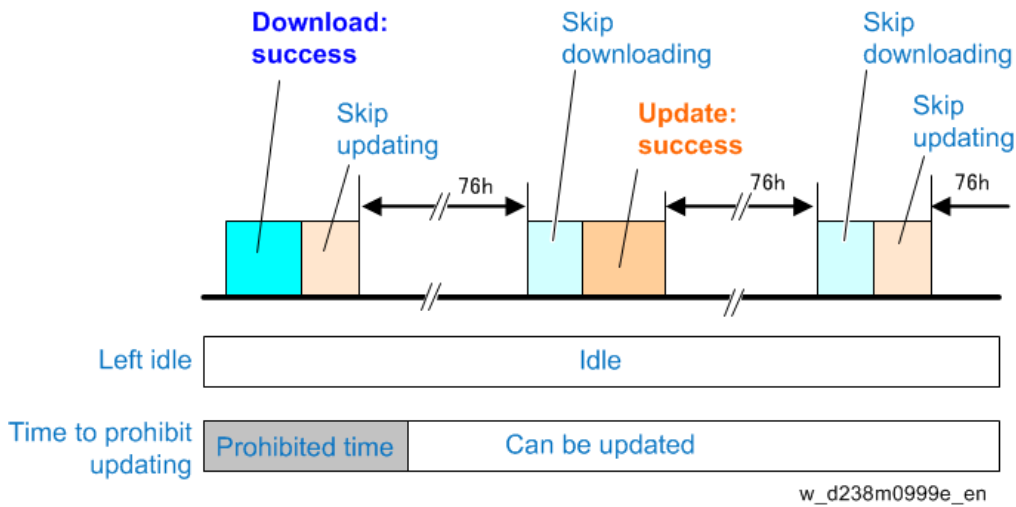
### Validation of ARFU

Update validation is done when the latest update package is successfully downloaded, or the package has already been downloaded.

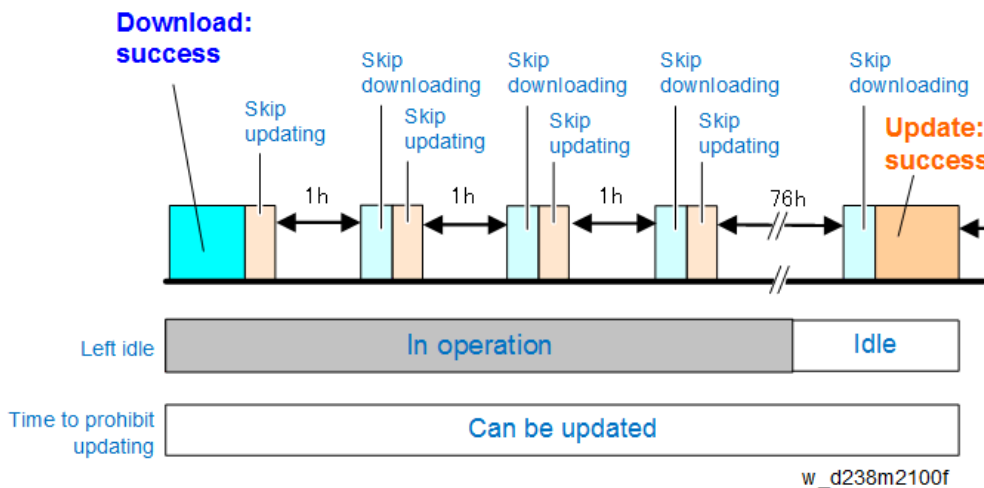


If the validation timing is in the range of the update prohibited time or day set with SP or WIM,

the machine will retry the update after 76 hours.



If the machine is in use when the validation process runs, the process will be retried. Retry is done up to three times every hour (can be changed with SP) and if the machine is in use for all three retries, the machine will retry the update after 76 hours.



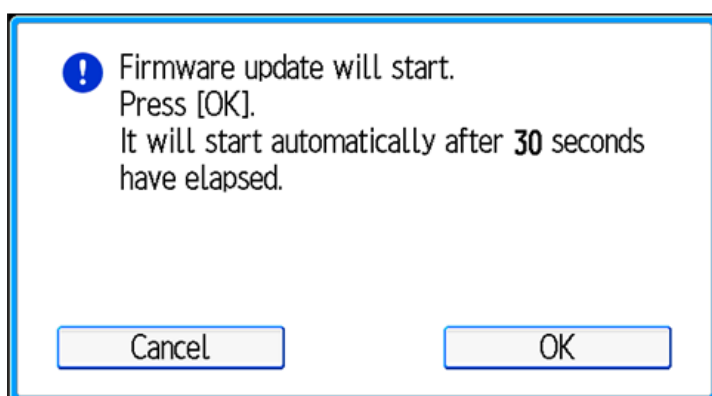
**Situations validated as the machine in use**

No.	Situations validated as the machine in use
1	When the control panel is used within 30 seconds
2	During firmware update
3	While firmware update is disabled
4	While printing (copy, printer, fax, re-printing via network)
5	While scanning (copy, scanner, fax)
6	Retrieving image data via the network
7	While initial setting (User Tools settings) or SP is being set
8	While fax is transferring data
9	During on-hook / on the handset
10	During the PC-FAX process (from PC to machine data transfer to the end of the job)

No.	Situations validated as the machine in use
11	While shifting to/from the energy server mode
12	When not being able to run the firmware update due to the modules that are running e.g.) Waiting for DCS transfer (refer to appendix), accessing devices such as eMMC/SD card, etc.
13	While displaying a preview
14	While the document server function is in use
15	Connecting to TWAIN
16	During the interrupt copy process
17	While displaying the printer menu
18	While updating the display for the document server function via WIM or for stored fax documents
19	While writing log information
20	While accessing the address book
21	During SC
22	While shutting down
23	While importing or exporting preferences
24	Until rebooting after changing settings that require a reboot (A reboot notification message pops up after changing the settings)
25	While verifying operation panel firmware on startup

### Update Process

When the machine has decided to run the auto firmware update, the following message is displayed.



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The popup will have "Cancel" and "OK" buttons and the update process will start either when the "OK" button is selected or 30 seconds have passed.

When the "Cancel" button is selected, the machine will run the "Retry update" process.

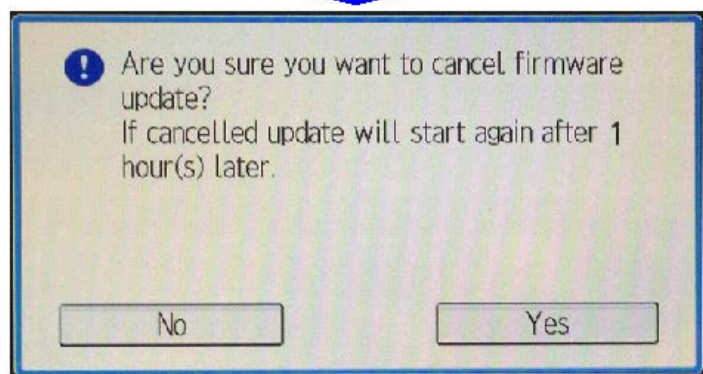
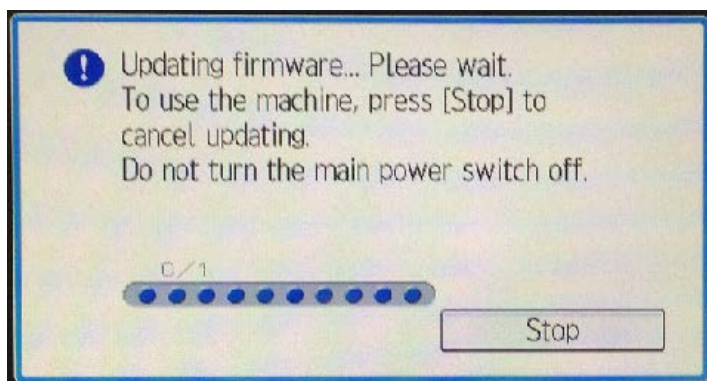
When the device update and three retries in recovery mode both fail, it is determined as a device defect and will display an SC for the defective device. If such an SC appears, replace the indicated board. In the case of SC845, the SC cannot be reported to the call center.

**Device and corresponding SC number**

Device name	SC number
Engine board	SC845-01
Controller board	SC845-02
Operation panel (normal panel)	SC845-03
Operation panel (smart panel)	SC845-04
FCU function (on the controller board and the fax board)	SC845-05

**Canceling the update**

It is possible to cancel the Auto Remote Firmware Update (ARFU) or update in recovery mode from the operation panel.



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But this is not possible while updating the operation panel itself. On the other hand, the update for the operation panel will run at the final stage of the update. Thus canceling the update at that stage has no real effect.

When the update is canceled, the machine will reboot when updates for all modules of one of the following devices is done.

1. Engine Board
2. FCU function on the controller board and the fax board
3. Controller Board
4. Operation Panel

For example, when the update process is canceled while updating the first module of the operation panel, the machine will reboot when all modules in the operation panel have been updated.

The firmware contents included in the package can be referred to in the release note in the SERES release of the package.

The next update will run 76 hours after the cancellation. The old (canceled) package will be discarded if the package downloaded 76 hours later is the latest.

### 5.6.3 CHECKING THE ARFU RESULT

1. Enter the SP mode.
2. Press [Firmware update].
3. Press [Update].
4. Press [Update Package Information].
5. If the firmware package is the same as the one on the global server, the update was completed successfully. Otherwise, check the result using the logging date.  
In SP7-520-041 to -045 (Update Log: Auto:Version), you can check the versions of the packages updated by ARFU. (-041 displays the latest result. It is also printed on the SMC sheet.)

### 5.6.4 CHECKING THE RESULT USING THE LOG DATA

1. Enter the SP mode.
2. Press [System/Copy].
3. Check the results for ARFU by SP7-520-051 to 060 (Update Log: Auto:Result)  
"-051" is the latest update result. For details about the number of each result log, see the next section "Related SP."

### 5.6.5 RELATED SPS

SP Number	Selection Def.	Overview
SP5-886-111	<b>0: OFF</b> 1: ON	Sets auto update by ARFU ON/OFF.
SP5-886-112	<b>0: OFF</b> 1: ON	Will not run the update when update prohibited time setting is ON and the current time is in the range of the time set.
SP5-886-113	0 to 23 <b>9</b>	<ul style="list-style-type: none"> <li>Start time &lt; End time: Prohibited time is from the start time to the end time on the same day.</li> </ul>
SP5-886-114	0 to 23 <b>17</b>	<ul style="list-style-type: none"> <li>Start time &gt; End time: Prohibited time is from the start time to the end time on the next day.</li> <li>Start time == End time: Prohibited time setting is disabled. (Update will not be prohibited.)</li> </ul>

SP Number	Selection Def.	Overview
SP5-886-115	<b>0: OFF</b> 1: ON	Even when the update function is disabled, downloading the package is allowed. The downloaded package can be used with SFU.
SP5-886-116	Display only	Displays when the latest package check will run.
SP5-886-117	1 to 24 <b>1</b>	Set time for the next version check after retry.
SP5-886-120	<b>0x00</b>	The update will not run if the corresponding bit for each day below is set to 1. <ul style="list-style-type: none"> <li>• Prohibited at all times: bit 7</li> <li>• Monday: bit 6</li> <li>• Tuesday: bit 5</li> <li>• Wednesday: bit 4</li> <li>• Thursday: bit 3</li> <li>• Friday: bit 2</li> <li>• Saturday: bit 1</li> <li>• Sunday: bit 0</li> </ul> This setting is not changed by the prohibited time setting. e.g.) Prohibited on Mon., Fri., Sat., and Sun. : 0x47 (01000111)
SP7-520-011 to 015	Display only	History of dates and times when the update has started. The five most recent are recorded, the lowest number being the most recent. If the last update failed, this is not recorded.
SP7-520-021 to 025	Display only	History of dates and times when the update has finished. The five most recent are recorded, the lowest number being the most recent. The record is created when the update has successfully finished. When the update is canceled, no record is created.
SP7-520-031 to 035	Display only	History of the package numbers (including suffix) for which update has completed. The five most recent are recorded, the lowest number being the most recent. The record is created when the update has successfully finished. When the update is canceled, no record is created.
SP7-520-041 to 045	Display only	History of the package versions for which update has completed. The five most recent are recorded, the lowest number being the most recent.

SP Number	Selection Def.	Overview
		The record is created when the update has successfully finished. When the update is canceled, no record is created.
SP7-520-051 to 060	Display only	History of the results of the download and the update. Refer below for the numbers set.

**Numbers set for the result history for SP7-520-051 to 060**

No.	Result	Description
1	Downloading with SFU	Cannot download or update because the machine is now downloading the package for SFU.
2	HDD not installed	Cannot download or update because the machine has no HDD.
3	Updating with SFU	Cannot download or update because the machine is being updated with SFU.
4	HDD error	Cannot download or update because the HDD cannot be used.
5	Version information obtain error	Cannot download or update because the version information cannot be obtained.
6	Update download error	Cannot download or update because the update download failed. In the non @Remote method, this shows that the download failed because there was no proxy set.
7	Name resolution error	Cannot download or update because the name cannot be resolved upon downloading the update.
8	Auto update setting disabled	The package has been downloaded but will not run the update because SP5-886-111 (auto update setting) is disabled and SP5-886-115 (auto download setting for SFU) is enabled.
9	Update prohibited time	Cannot start to update because the auto-update prohibited time setting (SP5-886-112) is enabled and the time update initiated was in the range of prohibited time (SP5-886-113 to 114). Or the day which update was initiated was a day for which update was prohibited (SP5-886-120).
10	Update postponed due to the machine in use	Cannot start update due to the following conditions when the update was initiated. <ul style="list-style-type: none"> <li>The machine is in use by a user (the panel was used within 30 seconds)</li> </ul>

No.	Result	Description
		<ul style="list-style-type: none"> <li>• Machine offline for other reasons</li> <li>• Operation prohibited</li> <li>• Displaying SP/UP menu</li> <li>• The firmware update is running with another method</li> <li>• Configuration change prohibited</li> <li>• Verifying the operation panel (smart panel)</li> </ul>
11	Update canceled by the user	The update was canceled because a user selected "Cancel" in the popup shown before starting the update.
12	Offline failed	Cannot start to update because the machine is offline for other reasons.
13	Update successful	The update was started and successfully completed.
14	Update failed	An update was started but failed.
15	Update deemed completed	<p>The update was canceled after the process was initiated because a user selected "Cancel". There is no need to resume the update due to one of the following reasons:</p> <ul style="list-style-type: none"> <li>• A newer update has been released and received.</li> <li>• When retrying ARFU, the update has already been completed by another method.</li> </ul>
16	Update canceled by the user after update initiated	The update was canceled after the process initiated because a user selected "Cancel" during the update.
17	Version information obtain error (communication error occurred for hostname)	Cannot download or update because the name cannot be resolved when obtaining version information.
18	Version information obtain error (proxy verification failure)	Cannot download or update because the proxy verification failed with proxy settings when obtaining version information.
19	Version information obtain error (other than proxy verification failure when the proxy is set)	Cannot download or update because an error other than proxy verification with proxy settings occurred when obtaining version information.
20	Update download error (proxy verification failure)	Cannot download or update because the proxy verification failed with proxy settings when downloading the package.
21	Update download error (other than proxy verification failure when the proxy is set)	Cannot download or update because an error other than proxy verification with proxy settings occurred when downloading the package.
22	Update by retry successful	After a power failure, unsuccessful update, or rebooting, update by retry is executed successfully.



No.	Result	Description
		<p>However, this does not apply to the case where the update was canceled after the process was initiated because a user selected "Cancel".</p> <p>In this case, the update is "successful" if the retry is not executed between the start and completion of the next update (76 hours after the cancellation).</p>

## 5.7 UPDATING JAVAVM (PRINTER MODEL)

### 5.7.1 OVERVIEW

Updating Java VM is performed with a PC using the update tool.

- Prepare the following items in advance.
  - SD memory card reader/writer
  - PC
- The updating procedure is as follows.
  1. Deactivate the SDK applications
  2. Remove the VM Card Type P18 from the main machine.
  3. Update Java VM with the PC using the update tool.
  4. Insert the VM Card Type P18 in the main machine.
  5. Activate the SDK applications

### 5.7.2 DEACTIVATING SDK APPLICATIONS AND REMOVING THE VM CARD

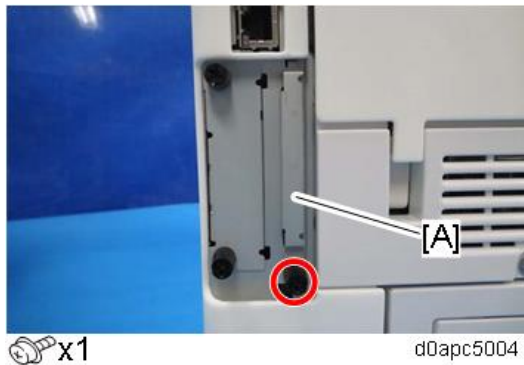
1. Log in as the administrator from Web Image Monitor.
2. Take a note of the current heap size setting in [Heap / Stack Size Settings].
  - [Device Management] > [Configuration] > [Extended Feature Settings] > [Administrator Tools] > [Heap / Stack Size Settings]
3. Stop all SDK applications except for Java TM Platform.
  1. Display the [Startup Setting] menu.
    - [Device Management] > [Configuration] > [Extended Feature Settings] > [Startup Setting]
  2. Check the radio button of the SDK application which status is "Starting Up".
  3. Click [Start Up/Stop] to stop the application.
  4. "Stop" is displayed in the status column.

 **Note**

Do not change the status of Java TM Platform to "Stop".

4. Make sure that "Auto Start" is set to "Off" for each SDK application.
  1. Click the [Details] icon (📄) for each SDK application in [Startup Setting].
  2. Make sure that "Auto Start" is set to "Off". (Default: On)
5. Turn the power OFF.

- Remove the SD card slot cover [A].



- Remove the VM Card from the SD Slot 1 (Upper).

### 5.7.3 UPDATING JAVAVM AND INSERTING THE VM CARD

- Insert VM Card into the SD memory card reader/writer of your PC.
- Check that the SD memory card reader/writer is detected on your PC, and then write down the drive letter. (If the SD memory card reader/writer is detected as (F:), the drive letter is "f")
- Download the update modules from the Firmware Download Center.
- Unzip the downloaded file, and then execute the .exe file.
- The folder is generated.
- Execute the .bat file in the folder.
- Input the drive letter following the message "Please input drive letter of SD card [a - x]: ". (If the SD memory card reader/writer is detected as (F:), input "f")



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- Press the [Enter] key to start updating Java VM.  
It takes 3 minutes to update Java VM.
- After completing the update, remove VM Card from the SD memory card reader/writer of your PC.
- Insert VM Card into SD Slot 1 (upper) of the machine.
- Attach the SD card slot cover.

## 5.7.4 ACTIVATING SDK APPLICATIONS

1. Make sure that the VM card is fully inserted, and then turn the machine power ON.
2. Log in as the machine administrator from Web Image Monitor.
3. Set "Auto Start" whose status is "OFF" to "On".
4. Compare the current heap size settings and the values recorded before the update.  
If the settings are not the same as the recorded values, correct the settings to the recorded values.
5. Enable the disabled SDK application.

## 5.8 UPDATING JAVAVM (MF MODEL)

### 5.8.1 CREATING AN SD CARD FOR UPDATING

1. Download the update modules from Firmware Download Center. As one of the model modules, "Java VM v12 UpdateTool" is available for download. (The version differs depending on the model.)
2. Unzip the downloaded file. Copy the whole "sdk" folder to the root of the SD card directly below.

#### Note

When unzipping the downloaded file, two subfolders ("update" and "sdk") exist in the "sdk" folder. Rather than just copying the subfolder "sdk", copy the whole folder "sdk".

### 5.8.2 UPDATING PROCEDURE

#### ⚠ CAUTION

- An SD card can be inserted with the machine power off.
  - During the updating process, do not turn off the power.
  - If you turn off the power during the updating, the machine performance is not guaranteed. (There is a possibility that an SC and boot failure occurs.)
  - If you accidentally turn off the power during the updating, retry the updating procedure from the beginning. (If the update fails again, you will need to replace the controller board.)
1. If the boot priority application is set to the ESA application, switch to the copy application. ([System Settings] > [General Features] > [Function Priority])
  2. Take a note of the current Heap size. ([User Tools] > [Machine Features] > [Extended Feature Settings] > [Extended Feature Settings] > [Administrator Tools] > [Heap/Stack Size Settings])  
The Heap size setting is changed to the initial setting when updating.
  3. Turn the power off.
  4. Insert the SD card for update into the service slot.
  5. Turn the power on.
  6. After booting Java VM, the update of the application is started. "Updating SDK/J" appears in the system message of the touch panel display after 1 minute. (Estimated time: about 2.5 minutes)
  7. After completing the update and starting the Java VM, "Update SDK / J done SUCCESS" appear in the System message of the touch panel display. After turning off the power, remove the SD card from the slot.

When you fail to update, "Update SDK/J done FAIL" is displayed. You can confirm the cause of the error message below.

8. Turn the power on.
9. Reconfigure the Heap size in reference to step 2.

**Note**

- If you have not done step 2, see the manual for the ESA application to know what value to set for the heap size.

10. Return to the previous setting for the boot priority application.

### 5.8.3 LIST OF ERROR MESSAGES

Update results are output as a text file on the SD card called "sdkjversionup.log" in the "\sdk\update" folder.

Result	File contents	Description of the output
Success	script file = /mnt/sd0/sdk/update/bootscript 2012/08/22 17:57:47 start 2012/08/22 17:59:47 end SUCCESS	Boot script path Boot scripts processing start time End time boot script processing, the results
Failure	script file = /mnt/sd0/sdk/update/bootscript 2012/08/22 17:57:47 start XXXX Error 2012/08/22 17:57:57 end FAIL	Boot script path Boot scripts processing start time Error message (Possibly multiple) End time boot script processing, the results

Error Message	Cause	Remedy
PIECEMARK Error,machine=XXXXXX	Applied the wrong updating tool (Using the updating tool of a different model)	Use the correct updating tool for this model.
pasePut() - error : The file of the copy origin is not found Put Error!	Inadequacy with the SD card for updating (Files are missing in the updating tool)	Re-create the SD card for updating.
paseCopy() - error : The file of the copy origin is not found. Copy Error!	Inadequacy SD card for updating (Files in the updating tool are missing)	Inadequate SD card for updating (Files in the updating tool are missing)
[file name: XX] error,No space left on device pasePut() - error : The destination directory cannot	Writing destination is full. (The NAND flash memory on the controller board is full.)	Uninstall the unnecessary SDK applications. If you cannot uninstall it, implement escalation, stating the "model name, application configuration, SMC sheet

Error Message	Cause	Remedy
be made. pasePut() - error : fileCopy Error. Put Error!		(SP5-990-006/024/025), and error file."
[file name: XX] error, No space left on device paseCopy() - error : The destination directory cannot be made. paseCopy() - error : fileCopy Error. Copy Error!	Writing destination is full. (The NAND flash memory on the controller board is full.)	Uninstall the unnecessary SDK applications. If you cannot uninstall it, implement escalation stating the "model name, application configuration, SMC sheet (SP5-990-006/024/025), and error file."
Put Error! *1	Error, not normally expected to occur	If you cannot uninstall it, implement escalation stating the "model name, application configuration, SMC sheet (SP5-990-006/024/025), and error file." *1 Without the foregoing error message, only "Put Error / Copy Error" will be displayed
Copy Error! *1		
Delete Error!		
[XXXXX] is an unsupported command.		
Version Error		

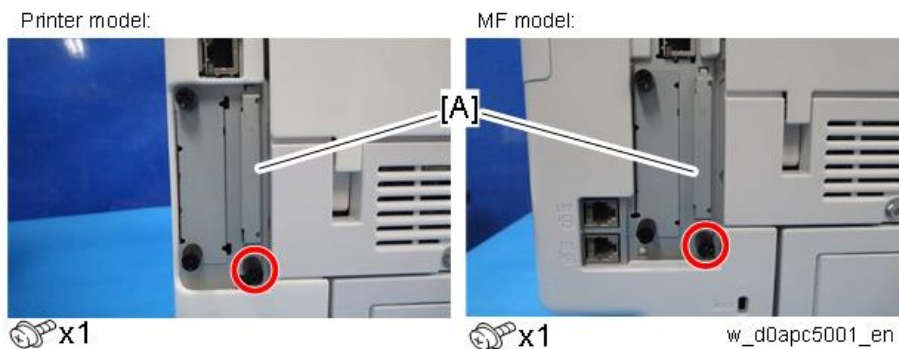
## 5.9 NVRAM DATA UPLOAD/DOWNLOAD

### 5.9.1 UPLOADING CONTENT OF NVRAM TO AN SD CARD

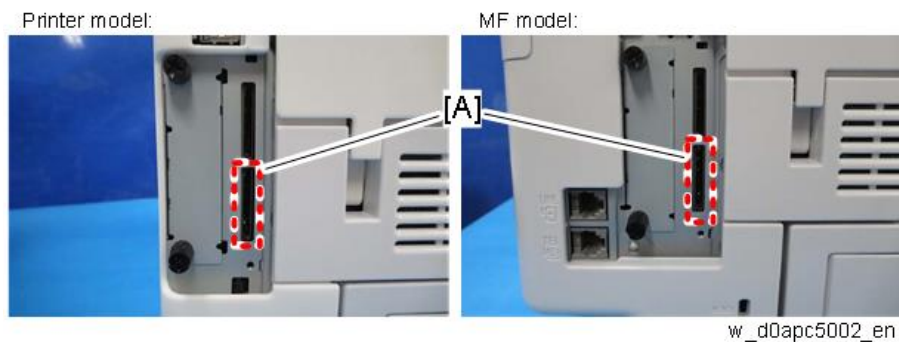
Do the following procedure to upload SP code settings from NVRAM to an SD card.

**Note**

- This data should always be uploaded to an SD card before the NVRAM is replaced.
  - Make sure that the write protection of an SD card is unlocked
1. Do SP5-990-001 (SMC Print) before turning OFF the power. You will need a record of the NVRAM settings if the upload fails.
  2. Turn the power off.
  3. Remove the SD card slot cover [A].



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



5. Turn the power on.
6. Execute SP5-824-001 (NVRAM Data Upload) and then press the “Execute” key.
7. The following files are copied to an NVRAM folder on the SD card when the upload procedure is finished.

The file is saved to the path and the following filename:

**NVRAM\<serial number>.NV**

Here is an example with Serial Number “K5000017114”:

**NVRAM\K5000017114.NV**



8. In order to prevent an error during the download, be sure to mark the SD card that holds the uploaded data with the number of the machine from which the data was uploaded.

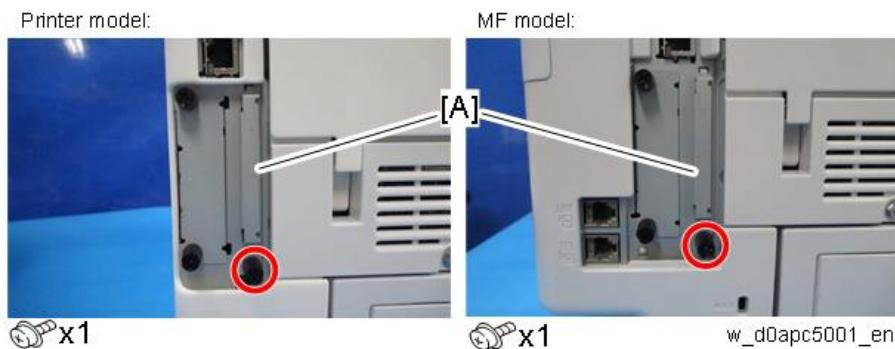
**Note**

You can upload NVRAM data from more than one machine to the same SD card.

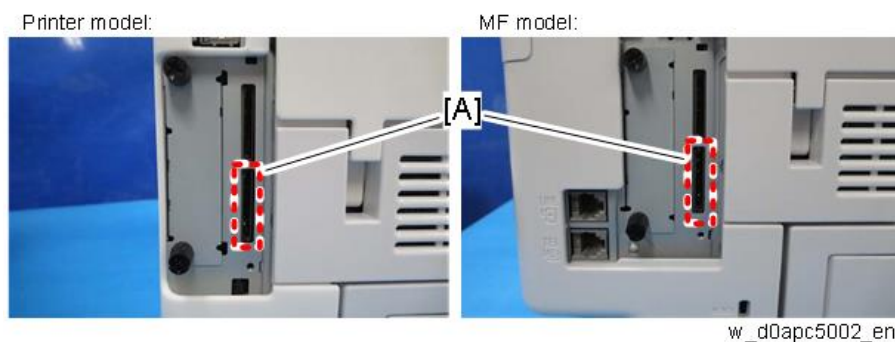
## 5.9.2 DOWNLOADING DATA FROM AN SD CARD TO NVRAM

Do the following procedure to download SP data from an SD card to the NVRAM in the machine.

- The NVRAM data download may fail if the SD card with the NVRAM data is damaged, or if the connection between the controller and BCU is defective.
  - Do the download procedure again if the download fails.
  - Do the following procedure if the second attempt fails:
  - Enter the NVRAM data manually using the SMC print you created before uploading the NVRAM data.
1. Turn the power on.
  2. Remove the SD card slot cover [A].



3. Insert the SD card with the NVRAM data into SD slot 2 [A] (lower).



4. Turn the power off.
5. Do SP5-825-001 (NVRAM Data Download) and press the “Execute” key.

**Note**

- The serial number of the file on the SD card must match the serial number of the machine for the NVRAM data to download successfully. The download fails if the serial numbers do not match.

This procedure does not download the following data to the NVRAM:

- Total Count
- C/O, P/O Count

## 5.10 SP DATA IMPORT/EXPORT

### 5.10.1 OVERVIEW

#### *Import/Export Conditions*

Import/export is possible between devices only if their model type, region of use, and the following device configurations match.

- Optional paper feed unit
- Whether or not equipped with a hard disk
- Whether or not equipped with a Fax unit

#### *Data That Can Be Imported and Exported*

- System SP
- Printer SP
- Fax SP
- Scanner SP

### 5.10.2 EXPORTING DEVICE INFORMATION

When exporting SP device information from the control panel, the data is saved on an SD card.

1. Insert an SD card into the media slot on the side of the control panel.
2. Enter SP mode.
3. Press SP5-749-001 (Import/Export: Export)
4. Select "Target" SP settings (System/Printer/Fax/Scanner) to be exported.
5. Select "Option" settings (Unique/Secret).

Item	Specification	Note
Unique	Unique information of the machine is included in the exported file if you select "Unique" setting.	<p><b>Unique information that can be updated</b></p> <p>#1. Items that are to be used to identify the machine. Example: Network Information/ Hostname / Information related to fax number /Mail address assigned to the machine</p> <p>#2. Items for specifying the options equipped on the machine. Example: Lot number for developer</p> <p><b>Unique information that cannot be updated</b></p> <p>#1. Items that may cause a problem if imported</p>

Item	Specification	Note
		<p>Example: Serial number / Information related to @Remote</p> <p>#2. Items for managing the history of the machine</p> <p>Example: Time and date / Counter information / Installation date</p> <p>#3. Setting values for the Engine</p>
Secret	Secret information is exported if you select "Secret" setting.	<p><b>Secret information</b></p> <p>#1. Data that cannot be exported without being encrypted. (Exported data is encrypted.) Example: Password / Encryption key / PIN code</p> <p>#2. Confidential information for the customer Example: Username / User ID / Department code / Mail address / <b>Phone number</b></p> <p>#3. Personal information Example: Document name / Image data</p> <p>#4. Sensitive information for the customer Example: MAC address / Network parameters</p>

\* The IP address is exported when both 'Unique' and 'Secret' are selected.

6. Select "Crpt config" setting (Encryption).

Encryption	<p>Select whether to encrypt or not when exporting.</p> <p>If you push the "Encryption" key, you can export secret information.</p>	<p>If the encryption function is used, the setting of an encryption key is required by direct input.</p> <ul style="list-style-type: none"> <li>• Type the arbitrary password using the soft keyboard</li> <li>• Can enter up to 32 characters</li> </ul>
------------	---	---

7. Press [Execute].

8. Press [OK].

 Note

- If data export fails, the details of the error can be viewed in the log.

### 5.10.3 IMPORTING DEVICE INFORMATION

Import device information saved on an SD card.

1. Insert an SD card into the media slot on the side of the control panel.
2. Enter SP mode.
3. Press SP5-749-101(Import/Export: Import)
4. Select a unique setting.
5. Press [Encryption Key], if the encryption key was created when the file was exported.
6. Select an encryption setting.

Unique	If you want to apply the unique information to the target machine, select the "Unique" key.	Refer to the above information.
Encryption	If an encrypted file is selected as the import file, this setting is required.	

7. Press [Execute].
8. Press [OK].

**Note**

- If data export fails, the details of the error can be viewed in the log.

### 5.10.4 POSSIBLE SOLUTIONS FOR IMPORT/EXPORT PROBLEMS

The access log file is created when export/import is executed. The file is stored in the same location as the exported device setting information file.

If an error occurs, check the log's result code in the access log file first. Values other than 0 indicate that an error occurred.

The result code will appear in the circled area illustrated below.

- Example of a log file

```

"1.0.0"
"ExecType", "Date", "SerialNo", "PnP", "Model", "Destination", "IP", "Host", "Storage", "FileName", "FileID", "TotalItem", "NumOfOkItem", "ResultCode", "ResultName", "Identifier"
"IMPORT"
"2012-07-05T15:29:16+09:00"
"3C35-7M0014"
"Brand Name"
"Product Name"
"0"
"10"
"10.250.155.125"
"RNP00267332582D"
"SD"
"201207051519563C35-710220.csv"
"201207051519563C35-710220"
" 0"
" 2"
".....ID REQUEST"
"TargetID", "ModuleID", "PrefID", "Item", "NgCode", "NgName"
    
```

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If you cannot solve the problem or do not know how to solve it after checking the code, note down the error log entry, then contact your supervisor.

Result Code	Cause	Solutions
2 (INVALID REQUEST)	A file import was attempted between different models or machines with different device configurations.	Import files exported from the same model with the same device configurations.
4 (INVALID OUTPUT DIR)	Failed to write the device information to the destination device.	Check whether the destination device is operating normally.
7 (MODULE ERROR)	An unexpected error occurred during import or export.	Turn OFF then ON the main power, and then try the operation again. If the error persists, contact your supervisor.
8 (DISK FULL)	The available storage space on the external medium is insufficient.	Execute the operation again after making sure there is enough storage space.
9 (DEVICE ERROR)	Failed to write or read the log file.	Check whether the path to the folder for storing the file or the folder in which the file is stored is missing.
10 (LOG ERROR)	The hard disk is faulty.	Contact your supervisor.
20 (PART FAILED)	Failed to import some settings.	<p>The reason for the failure is logged in "NgCode". Check the code.</p> <p><b>Reason for the Error (Ng-Name)</b></p> <p>2. INVALID VALUE The specified value exceeds the allowable range.</p> <p>3. PERMISSION ERROR The permission to edit the setting is missing.</p> <p>4. NOT EXIST The setting does not exist in the system.</p> <p>5. INTERLOCK ERROR The setting cannot be changed because of the system status or interlocking with other specified settings.</p> <p>6. OTHER ERROR The setting cannot be changed for some other reason.</p>
21 (INVALID FILE)	Failed to import the file because it is in the wrong format in the external	Check whether the file format is correct. The import file should be a CSV file.

Result Code	Cause	Solutions
	medium.	
22 (INVALID KEY)	The encryption key is not valid.	Use the correct encryption key.

**Note**

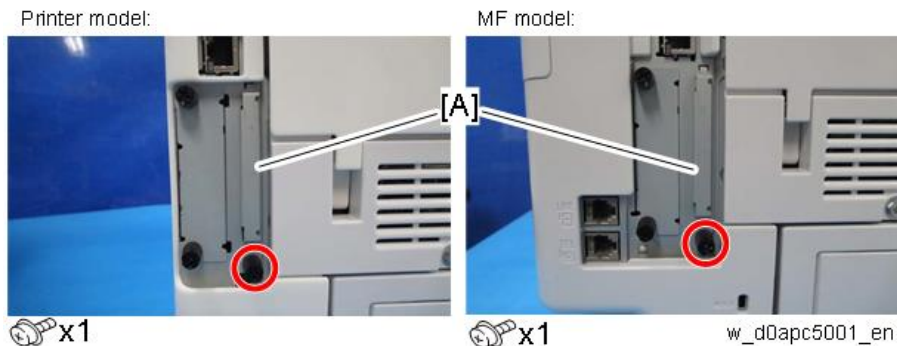
- When exporting device information from the control panel, the data can be saved only on an SD card.
- The file format for exports is CSV.

## 5.11 ADDRESS BOOK EXPORT/IMPORT

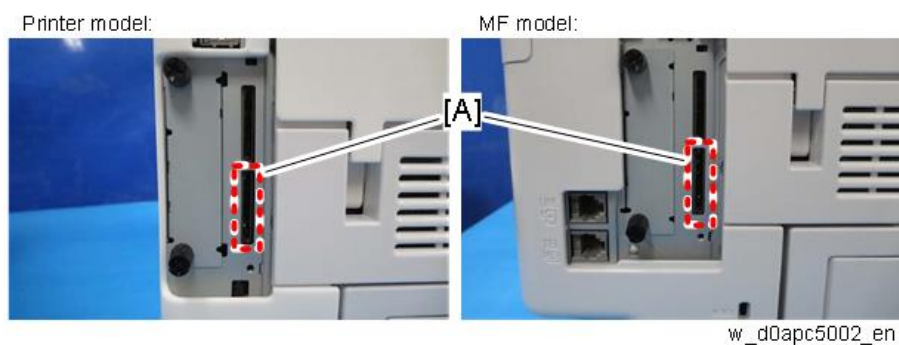
### 5.11.1 EXPORT

Backup address book information on SD card formatted with the specified software.

1. Turn the power off.
2. Remove the SD slot cover [A].



3. Insert the SD card in the service slot [A] (lower).



4. Turn the power on.
5. Execute SP5-846-051 (Backup All Addr Book) full address book back up.
6. Turn the power off.
7. Remove the SD card.
8. Attach the SD slot cover to the original position.

**Note**

- When local user information to be uploaded is not contained in the SD card, an execute malfunction is displayed. It cannot be used in the write-protect state.
- Since the address book is the customer's information, take care about handling it, and never bring it back.

### 5.11.2 IMPORT

1. Turn the power off.
2. Remove the SD slot cover of the controller unit.
3. Set the SD card in the service slot.



4. Turn the power on.
5. Execute SP5-846-052 (address book information restore).
6. Turn the power off.
7. Remove the SD card.
8. Attach the SD slot cover to the original position.
9. Turn the power on, and check that the address book has been restored.

**Note**

- User code counter information is initialized.
- Administrator and supervisor information is not backed up. Also, it is not erased during restore.
- If a download file does not exist, or if erasure is complete, execution malfunction is displayed.

### 5.11.3 SPECIFICATION

The information which can be exported /imported is the following items. In the printer model, there is information that is not covered.

- Entry information
- User code information
- E-mail information
- Protection code information
- Fax information
- Fax additional information
- Group information
- Title information
- Title position information
- Folder information
- SMTP attestation
- Local authorization
- Folder authorization information
- Account ACL information
- New document initial ACL information
- LDAP authorization information

## 5.12 CAPTURING THE DEBUG LOGS

### 5.12.1 OVERVIEW

With this feature, you can save debug logs that are stored in the machine (HDD or operation panel) on an SD card. It allows the Customer Engineer to save and retrieve error information for analysis.

The Capturing Log feature saves debug logs for the following four.

- Controller debug log including operation log
- Engine debug log
- FCU debug log
- Operation panel log

#### ★ Important

- In older models, a technician enabled the logging tool after a problem occurred. After that, when the problem had been reproduced, the technician was able to retrieve the debug log.
- However, this new feature saves the debug logs at the time that problems occur. Then you can copy the logs to an SD card.
- You can retrieve the debug logs using an SD card without a network.
- Analysis of the debug log is effective for problems caused by the software. Analysis of the debug log is not valid for the selection of defective parts or problems caused by hardware.

#### ***Types of debug logs that can be saved***

Type	Storage Timing	Destination (maximum storage capacity)
Controller debug log including operation log	<ul style="list-style-type: none"> <li>• Saved at all times</li> </ul>	HDD (4 GB) or SD card connected to the service slot. When the data gets over 4.0 GB, the older data is deleted.
Engine debug log	<ul style="list-style-type: none"> <li>• When an engine SC occurs</li> <li>• When paper feeding/output stop by jams</li> <li>• When the machine doors are opened during normal operation</li> </ul>	HDD or SD card connected to the service slot (Up to 300 times)
FCU debug log	<ul style="list-style-type: none"> <li>• When a specified amount of FCU debug log is stored in the FCU. If fax application is unavailable (e.g. not installed), the machine</li> </ul>	HDD or SD card connected to the service slot

Type	Storage Timing	Destination (maximum storage capacity)
	does not transfer the log.	
Operation panel log	<ul style="list-style-type: none"> <li>When an error related to the operation panel occurs.</li> </ul>	Memory in the operation panel.

**Note**

- **Debug logs are not saved in the following conditions:**
- While erasing all memory
- While data encryption equipment is installed
- While changing the firmware configuration
- Forced power OFF (accidentally disconnecting the outlet)
- Engine debug log in shutdown
- When the power supply to the HDD is off because of energy saving (engine OFF mode /STR mode)
- When one of the following SC occurs: SC672, SC816, SC819, SC878, SC899, SC859, SC860, SC861, SC863, or SC864

**Note**

- **Following logs are not saved:**
- Log related to the energy saver mode (Engine-off, suspend-mode, or other cases)
- Network communication log
- Logs related to NRS
- IP-FAX log
- Access log for the unauthorized user (guest)
- HTTP session timeout log
- Auto log-out log
- IC card related log
- Authorization for Fax

### ***Security of the Operation Log***

The following operation logs related to security are not saved.

- User ID
- Password
- IP address
- Telephone number
- Encryption key
- Transition to SP mode

### ***Storing the Device Logs on an SD Card***

The model without HDD does not have space to store device logs. To store device logs on such

a model, insert an SD card into the service slot on the back of the machine.

**★ Important**

It is recommended to use the SD card (16 GB) provided as a service part. The part number of the SD card that is registered as a service part is "B6455060".

1. Insert the SD card into the service SD card slot (lower slot).
2. Turn the power on.
3. Enter SP mode.
4. Set SP5-858-001 (Save Machine Info) to "1 (ON)".
5. Set SP5-858-002 (Target) to "1 (SD)".
6. Execute SP5-858-003 (Make LogTrace Dir).
7. Power cycle the machine.

After the power is turned on, the machine starts to store the device logs on the SD card.

## 5.12.2 RETRIEVING THE DEBUG LOGS

**★ Important**

- Retrieve debug logs to identify the date of occurrence of the problems and to find details of the problems
- e.g.: At around 8:00 am on March 10, an engine stall occurred. The operation panel does not respond. Turn OFF then ON the main power.
- Analysis of the debug log is effective for problems caused by the software. Analysis of the debug log is not valid for the selection of defective parts or problems caused by hardware

### ***Procedure for Retrieving the Debug Log with SD Card***

1. Insert the SD card into the slot on the side of the operation panel (MF model only) or the machine's service slot.

**★ Important**

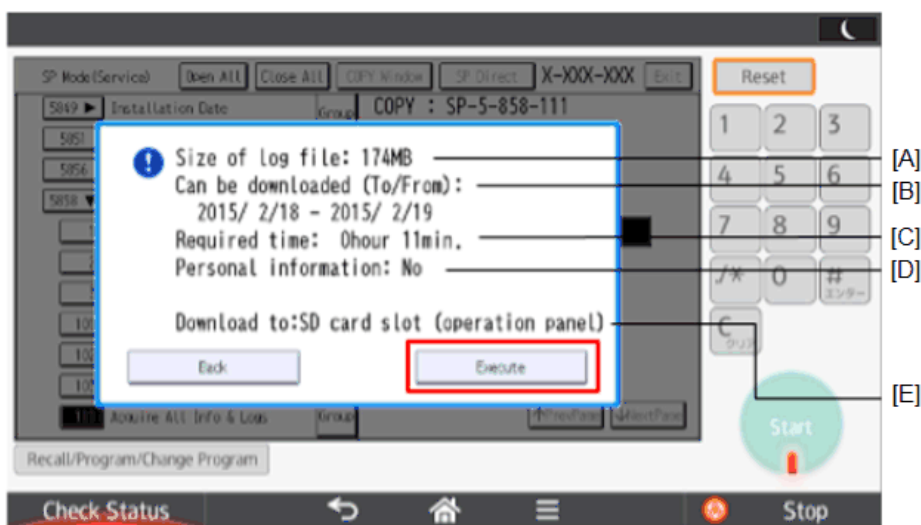
- It is recommended to use either the SD card with 2GB (P/N: B6455030) or 8GB (P/N: B6455040) provided as service parts. This is because the log data can be acquired much faster than when using commercially available SD cards.
  - Format the SD card by using SD Formatter from Panasonic before copying the logs:  
[https://www.sdcard.org/downloads/formatter\\_4/](https://www.sdcard.org/downloads/formatter_4/) (The URL is current as of Jun. 2016, and is subject to change)
2. Turn the power on.
  3. Enter SP mode.
  4. Specify the date that the problem occurred in SP5-858-101 (Start Date) by setting it to the year-month-day calendar format.
    - For example, if a problem occurred on February 1, 2015, the date should be set to

"20150201", as shown above.

- Be sure to confirm the date when the problem occurred before obtaining the logs.
5. Specify the number of days to collect the logs in SP5-858-102 (Days of Tracing).
    - "2" is set by default, which is the minimum needed for investigating the problem.
    - A value of "1" to "180" can be set.
  6. Execute SP5-858-111 (Acquire All Info & Logs) to copy all of the log types to an SD card. It is possible to obtain the logs separately by the SPs below.

SP	Collectable Information and/or Logs
SP5-858-111	All of the information and logs that are collected by executing the SPs from SP5-858-121 to SP5-858-145, and SMC.
SP5-858-121	Configuration page
SP5-858-122	Font page
SP5-858-123	Print settings list
SP5-858-124	Error log
SP5-858-131	Fax information (whether the fax destinations are included or not depends on the setting of SP5-858-103.)
SP5-858-141	Controller log, engine log, operation panel log, FCU, and SMC.
SP5-858-142	Controller log
SP5-858-143	Engine log
SP5-858-144	Operation panel log
SP5-858-145	FCU log
SP5-992-001	SMC

7. After executing the SP for copying the information and/or logs, a confirmation screen will appear (MF model only). To proceed to obtain the information and/or logs, press [execute].



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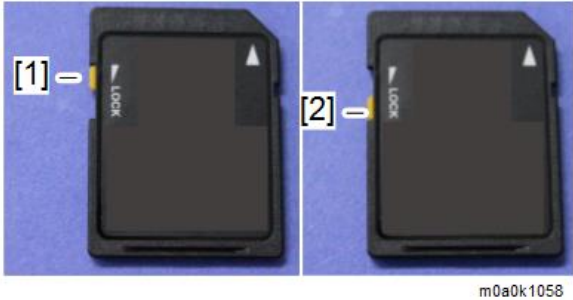
[A]	File size
[B]	Period to copy
[C]	Estimated time to copy

[D]	If [Fax Contacts] is displayed, it means that the fax destinations will be included in the fax information.
[E]	Where the data will be copied.

**Note**

- The approximate time it takes to transfer the debug log is as follows. Transfer time may be affected by the type or format of the SD card.  
 Controller log (GW debug log): 2 - 20 minutes  
 Engine log: 2 minutes  
 Operation panel log: 2 - 20 minutes

If the estimated time is not calculated due to an error, an error code will be displayed.

Error code	Description
-1	Other problem.
-2	No SD card is inserted in the service slot or in the SD slot on the side of the operation panel. Insert an SD card to either of the SD slots.
-3	The SD card is locked. Unlock the SD card as shown below.  1. Unlocked 2. Locked

- Wait for the information and/or logs to be copied to the SD card.
- After a message stating that the process has completed appears on the operation panel, make sure that the LED light next to the SD slot is not flashing. Then, remove the SD card.

**Note**

- The process of obtaining logs fails in the following cases:
  - When the size of the logs to obtain exceeds the amount of space available on the SD card.
  - When the SD card is removed while the logs are being copied to it.
  - When the SD card is not formatted.
- If 'failed' appears on the touch panel display, turn the power off, and then recover from step 1 again.

**Note**

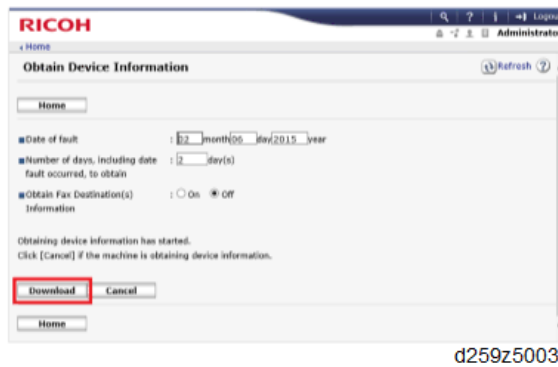
Refer to "[Log File List](#)" to check the location of log files and file name.

## Procedure for Retrieving the Debug Log via Web Image Monitor

1. Access the following URL and login as an administrator:  
[http://\[IP address or hostname\]/web/entry/df/websys/direct/getSysinfo.cgi](http://[IP address or hostname]/web/entry/df/websys/direct/getSysinfo.cgi)

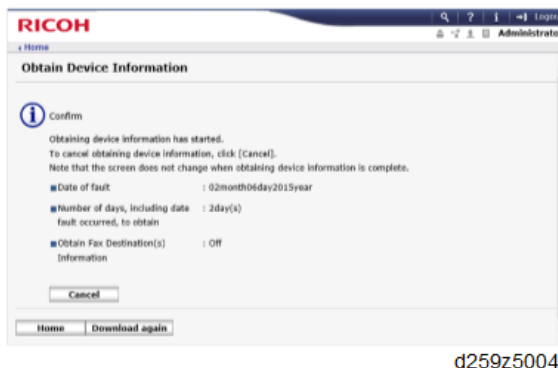


2. Specify the date that the problem occurred and the number of days to download the logs. If the fax destinations need to be included in the fax information, set [On] as [Obtain Fax Destination(s) Information]. Then press [Download].



**Note**

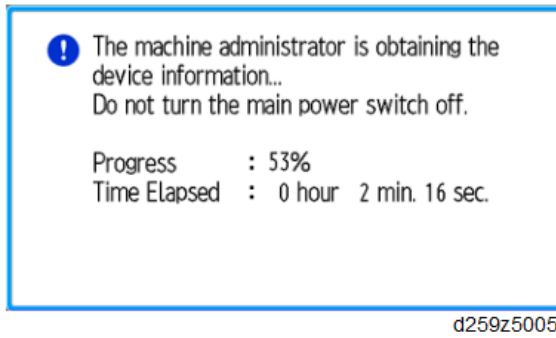
- 2 (days) is set by default. The value can be changed from 1 to 180.
  - [Obtain Fax Destination(s) Information] is set to [Off] by default.
3. The confirmation screen will appear and the information and/or logs will start being downloaded. To proceed to download the information and/or logs, wait for the open-or-save dialog to appear.



**Note**

- To cancel downloading, press [Cancel].
- To reconfigure some settings, press [Download again].
- For the MF model, the operation panel shows the following while downloading the

logs:



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4. After a while, the open-or-save dialog will appear. Specify where to download and save the file.



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**Note**

Refer to "[Log File List](#)" to check the location of log files and file name.

### Log File List

The logs are saved with the following file path + names.

Controller debug log (mmesg)	/LogTrace/[*the model number]/watching/[yyyymmdd_hhmmss]_[aunique value].gz
Engine debug log	/LogTrace/[*the model number]/engine/[yyyymmdd_hhmmss].gz
Operation panel log	/LogTrace/[*the model number]/opepanel/[yyyymmdd_hhmmss].tar.gz
SMC	/LogTrace/[*the model number]/smc/[*the model number]_[5992xxx]_[yyyymmdd_hhmmss].csv
Configuration page	/LogTrace/[*the model number]/gps/ConfigurationPage/ConfigurationPage_[yyyymmdd_hhmmss].csv
Font page	<ul style="list-style-type: none"> <li>• /LogTrace/[*the model number]/gps/FontPage/FontPage_PCL_[the page number]_[yyyymmdd_hhmmss].jpg</li> <li>• /LogTrace/[*the model number]/gps/FontPage/FontPage_PDF_[the page number]_[yyyymmdd_hhmmss].jpg</li> <li>• /LogTrace/[*the model number]/gps/FontPage/FontPage_PS_[the page number]_[yyyymmdd_hhmmss].jpg</li> </ul>
Print setting	<ul style="list-style-type: none"> <li>• /LogTrace/[*the model</li> </ul>



list	<p>number]/gps/PrintSettingList/PrintSettingList_RPGL_[yyyymmdd_hhmmss].txt</p> <ul style="list-style-type: none"> <li>• /LogTrace/[*the model number]/gps/PrintSettingList/PrintSettingList_RTIF_[yyyymmdd_hhmmss].csv</li> </ul>
Error log	/LogTrace/[*the model number]/gps/ErrorLog/[yyyymmdd_hhmmss].csv
Fax information	/LogTrace/[*the model number]/faxreport/[yyyymmdd_hhmmss].csv
FCU debug log	/LogTrace/*the model number]/fcuLog/[yyyymmdd_hhmmss].gz



## 5.13 AUTOMATIC BACKUP/RESTORE FOR APPLICATION AND SETTINGS OF SOP

### Note

This tool is supported by Cheetah system version V1.01 or later.

### 5.13.1 OVERVIEW

The application settings and add-on applications can be automatically backed up and restored after a Smart Operation Panel replacement.

#### ***Data to be backed up and restored:***

- System application settings\*<sup>1</sup>
- Standard application settings\*<sup>1</sup>
- Pre-install application settings\*<sup>1</sup>
- Add-on applications (including hybrids)\*<sup>2</sup>

\*1: The system application, standard installed application, and pre-installed application are installed in Smart Operation Panel, so the application itself is not backed up or restored after replacement.

\*2: Add-on applications settings are not backed up or restored.

### 5.13.2 AUTOMATIC BACKUP

### Note

Neither operator nor service technician can execute backup manually.

No other operation can be executed while the backup is in progress and while the message is displayed: "Now Backup. Please wait."

- Backup is executed 24 hours after the most recent backup. If there is no backup data on the machine, the first backup is executed at 2 a.m.
- In the following cases the backup is suspended and attempted one hour later:
  - When downloading the firmware from a website during ARFU.
  - LCD lamp on the operation panel is ON.
  - The HDD cannot be accessed for 60 sec.
- A backup does not execute if the backup data has not changed. (Up to 7 days max.)
- The LCD lamp remains off while the backup is in progress.
- Backup data is stored on the HDD.

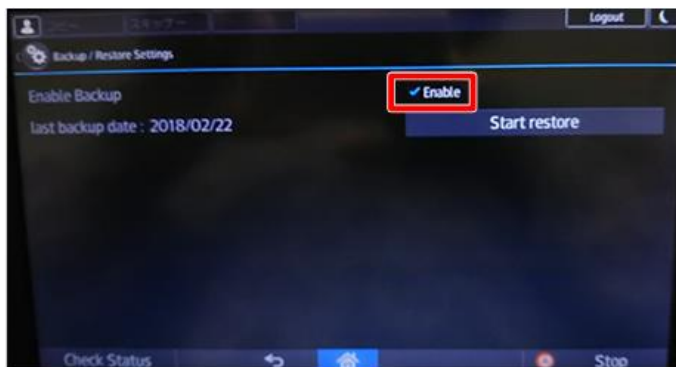
- Here is an estimate of the time required to complete backup.

	Data Size	Backup Time
Add-on application	106MB	1 min. 6 sec.
Application settings	0.2MB	36 sec.

### To disable automatic backup

The default setting is “Enabled”.

In the operation panel service mode > [Screen Device Settings] > [Backup/Restore Settings]



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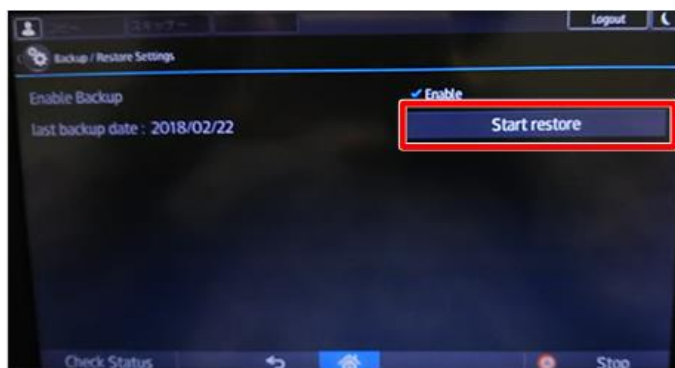
To disable the default settings, just uncheck [Enabled]. A machine restart is not required.

## 5.13.3 RESTORE

### Note

The restore function cannot be used if there is no backup data on the machine.

- Log in to the operation panel in service mode, and execute [Screen Device Settings] > [Backup/Restore Settings] > [Start Restore].



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- After the message is displayed, touch [Execute].  
The machine displays a message for about 10 min.

3. Touch "Close" in the dialog, "The restore is completed. Please restart."
4. Cycle the machine off/on

### ***Restore Error Codes***

An error code will appear on the operation panel display if the restore operation fails.

Error Code	Content	Action
1	Add-on application restore operation failed.	Attempt to run the restore procedure again.
3	Application setting restore application failed.	Attempt to run the restore procedure again.

# TROUBLESHOOTING

REVISION HISTORY		
Page	Date	Added/Updated/New
		None



## 6. TROUBLESHOOTING

### 6.1 SELF-DIAGNOSTIC MODE

#### 6.1.1 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 checks the CPU, memory, HDD, and so on. An SC code is displayed if the self-diagnostic program detects any malfunction or abnormal condition. In the case of the error that can start the machine, record it in System Error Log.

#### 6.1.2 SC LOGGING

When an SC is generated, the "total count value when the SC is generated" and the "SC code" are logged. However, if the total count value during the SC is the same as last time, logging is not performed.

Logged data can be checked by outputting an administrative report (SMC print). The SC history is logged up to the last 10 entries, and if there are more than 10 entries, data are progressively deleted starting from the oldest.

#### 6.1.3 SC AUTOMATIC REBOOT

When an ordinary SC (type D) is generated, automatically reboot is performed. Automatic reboot or reboot by user operation can be set by SP5-875-001 (SC automatic reboot setting out) (default value: 1 "OFF").

When a type D occurs, an automatic reboot is done or the machine display asks the customer if it can reboot. However, when the SC occurs twice in a short time, the machine sends a report to the @Remote server without rebooting. This is because just rebooting may not be a good solution if an SC occurs twice.

When an automatic reboot is performed, a confirmation screen is displayed after reboot. The confirmation screen can be canceled by pressing the [OK] key (display is not canceled only when the main power switch is switched OFF to ON).

##### ***Screen display during reboot***

- Status display on the current screen
  - Post-processing ..... Post-processing during printing, etc.
  - Automatic reboot .... After operation end

Post-processing

■ ■ □ □ □ □ □ □ □ □

Until automatic reboot

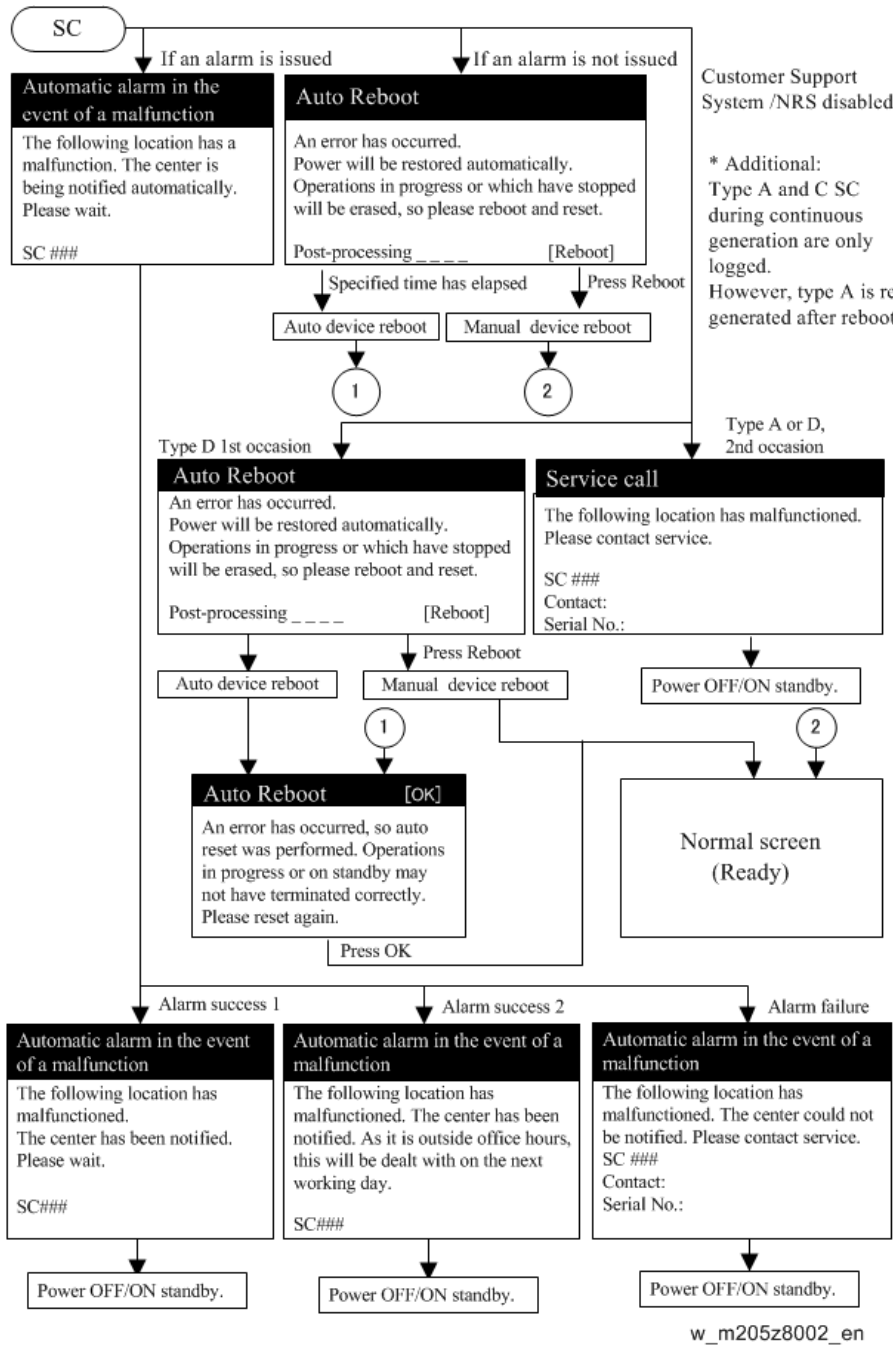


- [Reboot] key  
Key to perform the reboot
- Turn ON spanner LED (same as when an SC is generated).

### ***Operation during SC reboot***

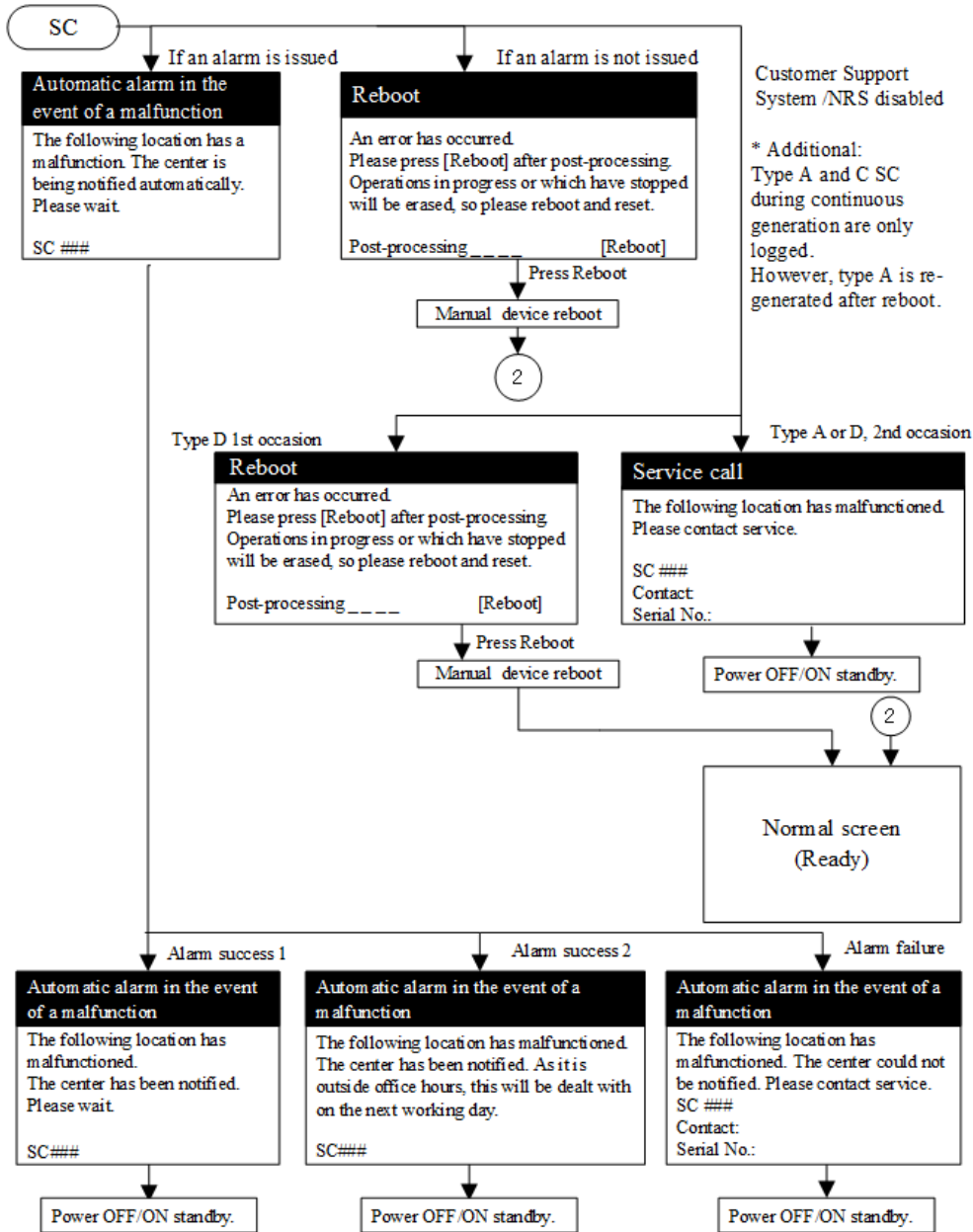
- Timing of SC reboot  
When @Remote is enabled, and when a NRS alarm\*1 is not generated, the corresponding SC is the object of an automatic reboot.  
\*1 NRS alarm: Issued when an ordinary SC (type D) is generated twice while the total counter counts 10 times.
- Time to automatic reboot  
Reboot is performed 30 seconds after an engine reboot is possible, after the end of post-processing during printing, etc.  
At that time, a reboot is performed even if the MFP is operating. The engine does not start process control when a reboot is possible.
- Automatic reboot  
See the flowchart below.





### 6.1.4 SC MANUAL REBOOT

When the automatic reboot is disabled in SP5-875-001 (SC automatic reboot setting), user reboot the machine manually. See the flowchart below.



w\_m205z8003\_en

## 6.2 SERVICE CALL

### 6.2.1 SERVICE CALL CONDITIONS

The 'SC Table' section shows the SC codes for controller errors and other errors. The latter are put into four types. The type is determined by their reset procedures. The table shows the classification of the SC codes.

Type	Display	How to reset	SC call or SC alarm in customer support system
A	The SC is immediately displayed on the operation panel when SC occurs. The error involves the fusing unit. The machine operation is disabled. The user cannot reset the error.	Reset the SC (set SP5-810-1) and then cycle the main power off and on.	Occurrence & alarm count ↓ Immediate alarm
B	When a function is selected, the SC is displayed on the operation panel. The machine cannot be used (downtime mitigation).	Turn the operation switch off and on.	Occurrence & alarm count ↓ Power OFF and ON ↓ Alarm count and alarm only if recurrence
C	No display on the operation panel. The machine operates as usual.	Only the SC history is updated.	Occurrence ↓ Logging count & alarm count
D	The SC is displayed on the operation panel. The machine cannot be used (machine-error SC).	Turn the main power switch off and on.	Occurrence & alarm count ↓ Power OFF and ON ↓ Alarm count and alarm only if recurrence

#### ↓ Note

- When an ordinary SC (type D) is generated, an automatic reboot is performed. When an event is reported by the customer support system, even in the event of an ordinary SC, a reboot is not performed. During the automatic reboot, a confirmation screen is

displayed after the reboot.

- When automatic reboot occurs twice continuously, an SC is displayed without rebooting, and logging count is performed. Also, when an SMC print is output, an asterisk (\*) mark is added alongside the SC number for clarity.
- The automatic reboot can be enabled or disabled with SP5-875-001 (SC automatic reboot setting) (default value: OFF).

### **SP descriptions**

- **SP5-875-001 (SC automatic reboot: Reboot Setting)**

Enables or disables the automatic reboot function when an SC error occurs.

0: The machine reboots automatically when the machine issues an SC error and logs the SC error code. If the same SC occurs again, the machine does not reboot.

1: The machine does not reboot when an SC error occurs.

The reboot is not executed for the pattern A or C.

## **6.2.2 SC100 (SCANNING)**

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC101-01	D	LED error (scanning)
		The peak white level is less than the prescribed value. This SC is detected when the machine adjusts the LED's light intensity or before just scanning.
		<ul style="list-style-type: none"> <li>• Condensation in the scanner unit</li> <li>• Loose, broken or defective connector</li> <li>• Scanner carriage defective</li> <li>• Engine board defective</li> <li>• Harness defective</li> <li>• Scanning guide plate is dirty or defective</li> </ul>
		Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step. <ol style="list-style-type: none"> <li>1. Reconnect the FFC connectors (scanner carriage to SCB).</li> <li>2. Clean and replace the scanning guide plate (exposure glass).</li> <li>3. Replace the scanner carriage.</li> <li>4. Replace the SCB.</li> <li>5. Replace the FFC (scanner carriage to SCB).</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC101-02	D	LED error (LED illumination adjustment)
		The peak white level is less than the prescribed value.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		This SC is detected when the machine adjusts the LED's light intensity.
		<ul style="list-style-type: none"> <li>• Defective LED</li> <li>• LED driver PCB error</li> <li>• Loose, broken, defective connector or defective harness</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p> <ol style="list-style-type: none"> <li>1. Reconnect the FFC connectors (Scanner carriage to SCB).</li> <li>2. Replace the scanner carriage.</li> <li>3. Replace the FFC (Scanner carriage to SCB).</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC102-00	D	LED illumination adjustment error
		The white level peak reached the prescribed threshold when the scanning guide plate was scanned after a specified number of adjustments.
		<ul style="list-style-type: none"> <li>• Loose, broken, or defective connector</li> <li>• Scanner carriage defective</li> <li>• Engine board defective</li> <li>• Harness defective</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p> <ol style="list-style-type: none"> <li>1. Reconnect the FFC connectors (scanner carriage to SCB).</li> <li>2. Clean and replace the scanning guide plate (exposure glass).</li> <li>3. Replace the scanner carriage.</li> <li>4. Replace the SCB.</li> <li>5. Replace the FFC (scanner carriage to SCB).</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC111-01	D	LED error (scanning): rear side
		The peak white level is less than the prescribed value.
		<ul style="list-style-type: none"> <li>• Loose, broken, or defective connector</li> <li>• SPDF CIS unit defective</li> <li>• Harness defective</li> <li>• Scanning guide plate is dirty or defective</li> <li>• Engine board defective</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on</p>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		<p>after each step.</p> <ol style="list-style-type: none"> <li>1. Clean and replace the scanning guide plate (rear side).</li> <li>2. Reconnect the FFC connectors (SPDF CIS unit to SCB).</li> <li>3. Clean and replace the scanning guide plate.</li> <li>4. Replace the SPDF CIS unit.</li> <li>5. Replace the FFC (SPDF CIS unit to SCB).</li> <li>6. Replace the SCB.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC112-00	D	<p>LED illumination adjustment error: rear side</p> <p>The white level peak reached the prescribed threshold when the scanning guide plate was scanned after a specified number of adjustments.</p> <ul style="list-style-type: none"> <li>• Loose, broken, or defective connector</li> <li>• SPDF CIS unit defective</li> <li>• Harness defective</li> <li>• Scanning guide plate is dirty or defective</li> <li>• Engine board defective</li> </ul> <p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p> <ol style="list-style-type: none"> <li>1. Clean and replace the scanning guide plate on the rear side.</li> <li>2. Reconnect the FFC connectors (SPDF CIS unit to SCB)</li> <li>3. Clean and replace the scanning guide plate.</li> <li>4. Replace the SPDF CIS unit.</li> <li>5. Replace the FFC (SPDF CIS unit to SCB).</li> <li>6. Replace the SCB.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC120-00	D	<p>Scanner home position error 1</p> <p>The scanner HP sensor (S12) did not go OFF :</p> <ul style="list-style-type: none"> <li>• During homing operation (power ON, leaving low power mode)</li> <li>• During auto adjustment (power ON, leaving low power mode)</li> <li>• During document, book scanning</li> </ul> <ul style="list-style-type: none"> <li>• Scanner motor (M5) drive PCB error</li> <li>• Scanner motor (M5) defective</li> <li>• Scanner HP sensor (S12) defective</li> <li>• Harness defective</li> <li>• Timing belt, pulley, wire, or carriage not installed correctly</li> </ul>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p> <ol style="list-style-type: none"> <li>1. Replace the scanner HP sensor (S12).</li> <li>2. Replace the scanner motor (M5).</li> <li>3. Replace the harness.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC121-00	D	<p>Scanner home position error 2</p> <p>The scanner HP sensor (S12) did not go ON :</p> <ul style="list-style-type: none"> <li>• During homing operation</li> <li>• During auto adjustment</li> <li>• During document, book scanning</li> </ul> <ul style="list-style-type: none"> <li>• Scanner motor (M5) drive PCB error</li> <li>• Scanner motor (M5) defective</li> <li>• Scanner HP sensor (S12) defective</li> <li>• Harness defective</li> <li>• Timing belt, pulley, wire, or carriage not installed correctly</li> </ul> <p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p> <ol style="list-style-type: none"> <li>1. Replace the scanner HP sensor (S12).</li> <li>2. Replace the scanner motor (M5).</li> <li>3. Replace the harness.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC141-00	D	<p>Black level correction error</p> <p>The automatic adjustment has failed to correct the black level to the permissible range.</p> <ul style="list-style-type: none"> <li>• Loose, broken, or defective connector</li> <li>• Scanner carriage defective</li> <li>• Engine board defective</li> <li>• Harness defective</li> </ul> <p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p> <ol style="list-style-type: none"> <li>1. Reconnect the FFC connectors (scanner carriage (SBU) to SCB).</li> <li>2. Replace the scanner carriage</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		3. Replace the SCB. 4. Replace the FFC (scanner carriage (SBU) to SCB)

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC142-00	D	White level correction error
		The automatic adjustment has failed to correct the white level to the permissible range.
		<ul style="list-style-type: none"> <li>• SBU defective</li> <li>• LED defective</li> <li>• Engine board defective</li> <li>• Loose, broken, defective connector or defective harness</li> <li>• Scanner motor (M5) defective</li> <li>• Dirty or incorrect mirror and/or lens</li> <li>• Dirty or incorrect scanning guide plate</li> </ul>
		Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.
		<ol style="list-style-type: none"> <li>1. Reconnect the FFC connectors (scanner carriage (SBU) to SCB).</li> <li>2. Clean and replace the scanning guide plate (exposure glass).</li> <li>3. Replace the scanner carriage.</li> <li>4. Replace the SCB.</li> <li>5. Replace the FFC (scanner carriage (SBU) to SCB)</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC144-00	D	SBU communication error
		Cannot correctly establish communication with the SBU.
		<ul style="list-style-type: none"> <li>• Scanner carriage defective</li> <li>• Engine board defective</li> <li>• Harness defective</li> </ul>
		Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.
		<ol style="list-style-type: none"> <li>1. Reconnect the FFC connectors (scanner carriage (SBU) to SCB).</li> <li>2. Replace the scanner carriage.</li> <li>3. Replace the SCB.</li> <li>4. Replace the FFC (scanner carriage (SBU) to SCB)</li> </ol>



SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC151-00	D	Black level correction error: rear side
		The automatic adjustment has failed to correct the black level (rear side) to the permissible range.
		<ul style="list-style-type: none"> <li>• Loose, broken, or defective connector</li> <li>• SPDF CIS unit defective</li> <li>• Engine board defective</li> <li>• Harness defective</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p> <ol style="list-style-type: none"> <li>1. Reconnect the FFC connectors (SPDF CIS unit to SCB).</li> <li>2. Replace the SPDF CIS unit.</li> <li>3. Replace the SCB.</li> <li>4. Replace the FFC (SPDF CIS unit to SCB).</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC152-00	D	White level correction error: rear side
		The automatic adjustment has failed to correct the white level (rear side) to the permissible range.
		<ul style="list-style-type: none"> <li>• SPDF CIS unit defective</li> <li>• Engine board defective</li> <li>• Harness defective</li> <li>• Loose, broken, or defective connector</li> <li>• Dirty or incorrect scanning guide plate</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p> <ol style="list-style-type: none"> <li>1. Clean or replace the scanning guide plate on the rear side.</li> <li>2. Reconnect the FFC connectors (SPDF CIS unit to SCB).</li> <li>3. Replace the SPDF CIS unit.</li> <li>4. Replace the SCB.</li> <li>5. Replace the FFC (SPDF CIS unit to SCB).</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC154-00	D	CIS communication error: rear side
		Cannot correctly establish communication with the CIS.
		<ul style="list-style-type: none"> <li>• SPDF CIS unit defective</li> </ul>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		<ul style="list-style-type: none"> <li>• Engine board defective</li> <li>• Harness defective</li> <li>• Loose, broken, or defective connector</li> </ul>
		<p>Check if the SC occurs by turning the power OFF then ON. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power after each step.</p> <ol style="list-style-type: none"> <li>1. Reconnect the FFC connectors (SPDF CIS unit to SCB).</li> <li>2. Replace the SPDF CIS unit.</li> <li>3. Replace the SCB.</li> <li>4. Replace the FFC (SPDF CIS unit to SCB).</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC161-20	D	DRAM initialization failure
		An error occurred every time the machine is turned on or returns to full operation from energy saver mode.
		<ul style="list-style-type: none"> <li>• Engine board defective</li> <li>• DRAM device defective</li> </ul>
		<p>Check if the SC occurs by turning the power OFF then ON. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power after each step.</p> <ol style="list-style-type: none"> <li>1. Reconnect all the connectors on the SCB if they are disconnected or loose.</li> <li>2. Replace the SCB.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC195-00	D	Machine Serial Number Error
		Comparison of the product identification code in the machine serial number (11 digits).
		The product identification code in the machine serial number (11 digits) does not match.
		Re-enter the machine serial number.

### 6.2.3 SC200 (LED OPTICS)

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC230-00	D	FGATE ON error
		The FGATE signal did not turn ON within the given time period after the writing process started.
		<ul style="list-style-type: none"> <li>• Connection error between Engine and Controller</li> <li>• Engine board failure (Damaged ASIC)</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p> <ol style="list-style-type: none"> <li>1. Check the connection between the BCU and the controller board. (Printer model only)</li> <li>2. Replace the engine board (Printer: BCU, MF: SCB).</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC231-00	D	FGATE OFF error
		The FGATE signal did not turn OFF within the given time period after the writing process ended.
		<ul style="list-style-type: none"> <li>• Connection error between Engine and Controller</li> <li>• Engine board failure (Damaged ASIC)</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p> <ol style="list-style-type: none"> <li>1. Check the connection between the BCU and the controller board. (Printer model only)</li> <li>2. Replace the engine board (Printer: BCU, MF: SCB).</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC277-00	D	LEDA communication error
		There was a communication error between the LED head array and the engine board when the machine was turned on or recovered from the Energy Save mode.
		<ul style="list-style-type: none"> <li>• Loose connector, broken, defective or harness defective</li> <li>• LED head defective</li> <li>• Engine board (Printer: BCU, MF: SCB) defective</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		<ol style="list-style-type: none"> <li>1. Check if the SC reoccurs by returning from energy saver mode.</li> <li>2. Reconnect the FFC connectors (LED head - engine board).</li> <li>3. Replace the FFC.</li> <li>4. Replace the LED head.</li> <li>5. Replace the engine board.</li> </ol>
SC277-10	D	<p>LEDA communication error (other)</p> <p>Power supply to the LED head array is abnormal after the machine was turned on or recovered from the Energy Save mode.</p> <ul style="list-style-type: none"> <li>• Engine board (Printer: BCU, MF: SCB) defective</li> </ul> <p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p> <ol style="list-style-type: none"> <li>1. Check if the SC reoccurs by returning from energy saver mode.</li> <li>2. Check if the SC reoccurs by normal printing.</li> <li>3. Replace the engine board.</li> </ol>

#### 6.2.4 SC300 (IMAGE PROCESSING)

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC332-00	D	<p>Toner end detection error</p> <p>Under the condition that the toner cartridge has not reached SP2-995-001, an error that no toner is supplied has been detected over "n" times in succession. (n: SP2-931-005)</p> <ul style="list-style-type: none"> <li>• Overloaded toner feeding system (toner clogging)</li> <li>• Detection screw of the PCDU not rotating</li> <li>• Failure in the toner end sensor: Light leak</li> <li>• Failure in the toner supply clutch (CL2)</li> </ul> <p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p> <ol style="list-style-type: none"> <li>1. Reconnect the toner end sensor (S9) connector.</li> <li>2. Reconnect the toner supply clutch (CL2) connector.</li> <li>3. Re-install the PCDU.</li> <li>4. Replace the PCDU.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC364-00	D	<p>Toner end sensor (S9) output count error</p> <p>Under the condition that the toner cartridge has not reached the end, an error that no toner is supplied has been detected over "n" times in succession. (n:</p>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		SP2-931-003)
		<ul style="list-style-type: none"> <li>• Connector defective (disconnected, loose) or harness defective</li> <li>• Toner end sensor (S9) defective (no light emission)</li> <li>• Dirty detection surface of the toner cartridge</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p> <ol style="list-style-type: none"> <li>1. Check and clean the detection surface of the toner cartridge.</li> <li>2. Reconnect the toner end sensor (S9) connector.</li> <li>3. Re-install the PCDU.</li> <li>4. Replace the PCDU.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC396-01	D	Drum motor (M3) error
		The motor LOCK signal is detected for more than 2 seconds while the motor START signal is ON.
		<ul style="list-style-type: none"> <li>• Drum motor (M3) defective</li> <li>• Loose, broken, defective connector or harness defective</li> <li>• Engine board (Printer: BCU, MF: SCB) defective</li> <li>• PCDU overload</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p> <ol style="list-style-type: none"> <li>1. Replace the drum motor (M3).</li> <li>2. Reconnect the drum motor (M3) connector.</li> <li>3. Replace the drum motor (M3) harness.</li> <li>4. Replace the engine board.</li> <li>5. Replace the PCDU.</li> </ol>
SC396-02	D	Drum motor (M3) error (When the motor is deactivated)
		The motor LOCK signal is not detected for more than 2 seconds while the motor START signal is OFF
		<ul style="list-style-type: none"> <li>• Drum motor (M3) defective</li> <li>• Harness defective</li> <li>• Engine board (Printer: BCU, MF: SCB) defective</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p> <ol style="list-style-type: none"> <li>1. Replace the drum motor (M3).</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		2. Replace the drum motor (M3) harness. 3. Replace the engine board.

### 6.2.5 SC400 (IMAGE PROCESSING)

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC440-01	D	High voltage power: Transfer bias output error
		A continuous error signal was detected for 200 ms during transfer positive bias output.
		Hardware related causes: <ul style="list-style-type: none"> <li>• Contact failure</li> <li>• Loose, broken, defective connector on the controller side</li> <li>• Grounding, open-circuit in the high voltage route</li> <li>• Arc discharge due to lack of space</li> <li>• The shorted harness on the controller side</li> <li>• Engine board malfunction due to signal error</li> <li>• HVPS defective</li> </ul> Load related causes: <ul style="list-style-type: none"> <li>• Short-circuit</li> <li>• Arc discharge due to lack of space</li> <li>• Increase in transfer roller impedance (Low-temperature environment, due to dirt )</li> <li>• Open-circuit in the power supply route</li> </ul>
		Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step. <ol style="list-style-type: none"> <li>1. Re-install the transfer roller.</li> <li>2. Replace the transfer roller.</li> <li>3. Reconnect the CN220 connector on engine board (Printer: BCU, MF: SCB).</li> <li>4. Reconnect the CN800 connector on HVPS.</li> <li>5. Re-install the HVPS.</li> <li>6. Replace the HVPS.</li> <li>7. Replace the engine board (Printer: BCU, MF: SCB).</li> <li>8. Replace the harnesses on HVPS.</li> </ol>
SC440-02	D	High voltage power: Loose connector
		An error signal was detected continuously for 40 ms in standby mode with the front cover closed.
		<ul style="list-style-type: none"> <li>• Loose connector on the controller side</li> </ul>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		<ul style="list-style-type: none"> <li>• Harness defective</li> <li>• Engine board malfunction due to signal error</li> <li>• HVPS defective</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p> <ol style="list-style-type: none"> <li>1. Reconnect the CN800 connector on HVPS.</li> <li>2. Reconnect the CN220 connector on engine board (Printer: BCU, MF: SCB).</li> <li>3. Replace the HVPS.</li> <li>4. Replace the engine board (Printer: BCU, MF: SCB).</li> <li>5. Replace the harnesses on HVPS.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC490-00	D	High voltage power: Charge/development bias output error
		An error signal was detected continuously for 200 ms during charge bias output.
		<p>Hardware related causes:</p> <ul style="list-style-type: none"> <li>• Contact failure</li> <li>• Loose, broken, or defective connector on the controller side</li> <li>• Grounding, open-circuit in the high voltage route</li> <li>• Arc discharge due to lack of space</li> <li>• The shorted harness on the controller side</li> <li>• Engine board malfunction due to signal error</li> <li>• HVPS defective</li> </ul> <p>Load related causes:</p> <ul style="list-style-type: none"> <li>• Short-circuit</li> <li>• Arc discharge due to lack of space</li> <li>• Drum deterioration, or condensation on drum caused by overcurrent</li> <li>• Drum condensation, pinhole overcurrent</li> <li>• The incorrect gap between the drum and charge roller</li> <li>• Overcurrent due to condensation on the drum surface</li> </ul>
		<p>Check if the SC occurs by turning the power OFF then ON. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power after each step.</p> <ol style="list-style-type: none"> <li>1. Re-install the PCDU.</li> <li>2. Check if there are scratches on the drum surface. If you can see the internal element of the drum (bare metal) on the surface, replace the</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		PCDU. 3. Reconnect the CN220 connector on engine board (Printer: BCU, MF: SCB). 4. Reconnect the CN800 connector on HVPS. 5. Re-install the HVPS. 6. Replace the HVPS. 7. Replace the engine board (Printer: BCU, MF: SCB). 8. Replace the harnesses on HVPS.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC497-00	D	Image creation thermistor (TH5) error The output of the image creation thermistor (TH5) is out of the following range. <ul style="list-style-type: none"> <li>• 70°C or more</li> <li>• -20°C or less</li> </ul> <ul style="list-style-type: none"> <li>• Loose, broken, defective connector or harness defective</li> <li>• Image creation thermistor (TH5) defective</li> </ul> Check if the SC occurs by turning the power OFF then ON. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power after each step. <ol style="list-style-type: none"> <li>1. Reconnect the image creation thermistor (TH5) connector.</li> <li>2. Replace the image creation thermistor (TH5).</li> <li>3. Replace the image creation thermistor (TH5) harness.</li> <li>4. Replace the engine board (Printer: BCU, MF: SCB).</li> </ol>



## 6.2.6 SC500 (PAPER FEED AND FUSING)

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC508-00	B	Bypass bottom plate operation error
		The bypass tray sensor (S3) signal did not change (ON/OFF or OFF/ON) for more than 4 sec. after the bypass lift clutch (CL3) activated, and this malfunction was detected three consecutive times.
		<ul style="list-style-type: none"> <li>• Bypass left clutch defective</li> <li>• Bypass tray sensor (S3) connection lose, broken, defective, or sensor defective</li> <li>• Engine board defective</li> <li>• Harness connector lose, broken, defective, or harness defective</li> <li>• Bypass feed roller missing</li> <li>• A foreign object has fallen into the machine</li> <li>• Tray not sliding smoothly</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p> <ol style="list-style-type: none"> <li>1. Check operation of the bottom plate. If the SC error displays and the bottom tray is not moving, go to "2." If the SC error displays and the bottom tray moves up and down, go to "3." If the operation of the bottom tray is abnormal (spurious noise, snagging), go to "11."</li> <li>2. Re-connect the connector of the bypass lift clutch (CL3).</li> <li>3. Confirm that the bypass feed roller is installed. If the bypass feed roller is missing, install it.</li> <li>4. Re-connect the connector of the bypass tray sensor (S3). Go to "7" if problem not solved.</li> <li>5. Replace bypass lift clutch (CL3).</li> <li>6. Replace bypass lift clutch (CL3) harness. Go to "9" if problem not solved.</li> <li>7. Replace the bypass tray sensor (S3).</li> <li>8. Replace the bypass tray harness.</li> <li>9. Replace the bypass feed unit.</li> <li>10. Replace the engine board (Printer: BCU, MF: SCB).</li> <li>11. If the bottom plate moves, make sure that the plate is snagging on a foreign object below the plate or the cam. If something has fallen in, remove it.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		12. Apply quick-drying lubricant to the sliding parts of the bottom tray.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC520-01	D	Feed/fusing motor (M4) malfunction (operating).
		A motor malfunction was detected because the lock signal remained HIGH (motor not rotating normally) 20 consecutive times when checked at 100 ms intervals after the motor switched ON.
		<ul style="list-style-type: none"> <li>• Feed/fusing motor (M4) defective</li> <li>• Harness connector lose, broken, defective, or harness defective</li> <li>• Engine board defective</li> <li>• Unit torque high</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p> <ol style="list-style-type: none"> <li>1. Replace the feed/fusing motor (M4).</li> <li>2. Re-connect the connector of the feed/fusing motor (M4).</li> <li>3. Replace the feed/fusing motor (M4) harness.</li> <li>4. Replace the engine board (Printer: BCU, MF: SCB).</li> <li>5. Replace the feed/fusing drive unit.</li> </ol>
SC520-02	D	Feed/fusing motor (M4) operation malfunction (at rest)
		A motor malfunction was detected because the lock signal was detected LOW 20 consecutive times (motor not stopped normally) when checked at 100 ms intervals after the motor switched ON.
		<ul style="list-style-type: none"> <li>• Feed/fusing motor (M4) defective</li> <li>• Connector harness has broken</li> <li>• Engine board defective</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p> <ol style="list-style-type: none"> <li>1. Replace the feed/fusing motor (M4).</li> <li>2. Replace the feed/fusing motor (M4) harness.</li> <li>3. Replace the engine board (Printer: BCU, MF: SCB).</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC530-00	D	PCDU cooling fan (right) (FAN1) (operating)
		A motor malfunction was detected because the lock signal remained HIGH (motor not rotating normally) 50 consecutive times when checked at 100 ms intervals after the motor switched ON.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		<ul style="list-style-type: none"> <li>PCDU cooling fan (right) (FAN1) defective</li> <li>Harness connector lose, broken, defective, or harness defective</li> <li>Engine board defective</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p> <ol style="list-style-type: none"> <li>Replace PCDU cooling fan (right) (FAN1).</li> <li>Re-connect the connector of the PCDU cooling fan (right) (FAN1).</li> <li>Replace PCDU cooling fan (right) (FAN1) harness.</li> <li>Replace the engine board (Printer: BCU, MF: SCB).</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC531-00	D	PSU cooling fan (FAN3) error (operating)
		A motor malfunction was detected because the lock signal remained HIGH (motor not rotating normally) 50 consecutive times when checked at 100 ms intervals after the motor switched ON.
		<ul style="list-style-type: none"> <li>PSU cooling fan (FAN3) defective</li> <li>Harness connector lose, broken, defective, or harness defective</li> <li>Engine board defective</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p> <ol style="list-style-type: none"> <li>Replace the PSU cooling fan (FAN3).</li> <li>Re-connect the connector of the PSU cooling fan (FAN3).</li> <li>Replace the PSU cooling fan (FAN3) harness.</li> <li>Replace the engine board (Printer: BCU, MF: SCB).</li> </ol>
SC531-01	D	PSU cooling fan (FAN3) error (at rest)
		A motor malfunction was detected because the lock signal detected LOW 70 consecutive times (motor not stopped normally) when checked at 100 ms intervals after the motor switched ON.
		<ul style="list-style-type: none"> <li>PSU cooling fan (FAN3) defective</li> <li>Harness connector lose, broken, defective, or harness defective</li> <li>Engine board defective</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p> <ol style="list-style-type: none"> <li>Replace the PSU cooling fan (FAN3).</li> <li>Re-connect the connector of the PSU cooling fan (FAN3).</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		3. Replace the PSU cooling fan (FAN3) harness. 4. Replace the engine board (Printer: BCU, MF: SCB).

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC532-00	D	PSU cooling fan (left) (FAN2) error (operating)
		A motor malfunction was detected because the lock signal remained HIGH (motor not rotating normally) 50 consecutive times when checked at 100 ms intervals after the motor switched ON.
		<ul style="list-style-type: none"> <li>• PSU cooling fan (left) (FAN2) defective</li> <li>• Harness connector loose, broken, defective, or harness defective</li> <li>• Engine board defective</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p> <ol style="list-style-type: none"> <li>1. PSU cooling fan (left) (FAN2) defective</li> <li>2. Re-connect the connector of the PSU cooling fan (left) (FAN2).</li> <li>3. Replace the PSU cooling fan (left) (FAN2) harness.</li> <li>4. Replace the engine board (Printer: BCU, MF: SCB).</li> </ol>
SC532-01	D	PSU cooling fan (left) (FAN2) error (at rest)
		Motor malfunction detected because the lock signal detected LOW 70 consecutive times (motor not stopped normally) when checked at 100 ms intervals after the motor switched ON.
		<ul style="list-style-type: none"> <li>• PSU cooling fan (left) (FAN2) defective</li> <li>• Harness connector loose, broken, defective, or harness defective</li> <li>• Engine board defective</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p> <ol style="list-style-type: none"> <li>1. PSU cooling fan (left) (FAN2) defective</li> <li>2. Re-connect the connector of the PSU cooling fan (left) (FAN2).</li> <li>3. Replace the PSU cooling fan (left) (FAN2) harness.</li> <li>4. Replace the engine board (Printer: BCU, MF: SCB).</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC534-00	B	Bank 1 cooling fan error
SC535-00	B	Bank 2 cooling fan error
SC536-00	B	Bank 3 cooling fan error
		Problem detected with internal bank cooling fan

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		<ul style="list-style-type: none"> <li>• Harness connector lose, broken, defective</li> <li>• Bank cooling fan defective</li> <li>• Bank controller board defective</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. After each step cycle the machine off/on, and then do the output check for the item (SP5-804-162, -167, -173) to see if the SC error reoccurs.</p> <ol style="list-style-type: none"> <li>1. Re-connect the connector of the bank cooling fan.</li> <li>2. Replace the bank cooling fan.</li> <li>3. Replace the bank controller board.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC541-01	A	<p>Fusing thermopile (TH2) disconnect error (center: abnormal low temperature)</p> <p>A temperature reading of -20°C was detected continuously for 5.5 sec. (over 10 detections at 0.5 sec. intervals)</p> <ul style="list-style-type: none"> <li>• Fusing thermopile (TH2) disconnected</li> <li>• Harness connector lose, broken, or defective</li> </ul> <ol style="list-style-type: none"> <li>1. Release the SC code in the SP mode, and then cycle the machine off/on to recover normal operation.</li> <li>2. Replace the fusing thermopile (TH2).</li> <li>3. Re-connect the connector of the fusing thermopile (TH2).</li> <li>4. Replace the fusing thermopile (TH2) harness.</li> </ol>
SC541-02	A	<p>Fusing temperature variation error between center and end of the hot roller</p> <ul style="list-style-type: none"> <li>• 10 sec. after a printer job ended or after entering standby mode, within 1.2 sec. the machine detected a 12°C temperature change at the center or end of the hot roller.</li> <li>• Normally, a temperature increase over 39°C is detected at the center of the hot roller 6 times within 1.2 sec.</li> <li>• Normally, a temperature increase over 24°C is detected at the end of the hot roller 6 times within 1.2 sec.</li> </ul> <p>Drawer connector defective</p> <ol style="list-style-type: none"> <li>1. Release the SC code in the SP mode, and then cycle the machine off/on to recover normal operation.</li> <li>2. Replace the fusing unit.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC542-01	A	No reload temperature (temperature gradient detection at the center of the hot roller)
		Measurement starts 2.4 sec. after the fusing lamps switch on, and within 2.4 sec. 5 temperature increases below 29°C were detected 5 consecutive times. (If the temperature is below 45°C, after the fusing thermopile (TH2) detects 45°C measurement starts after 2.4 sec. have elapsed.)
		<ul style="list-style-type: none"> <li>• Fusing lamp (center) disconnected</li> <li>• Overheating protection device triggered (blown fusing thermostat)</li> <li>• Power supply voltage low</li> <li>• Fusing thermopile (TH2) output abnormal</li> </ul>
		<ol style="list-style-type: none"> <li>1. Release the SC code in the SP mode, and then cycle the machine off/on to recover normal operation.</li> <li>2. Replace the fusing lamps.</li> <li>3. Replace the fusing thermostats (TH3, TH4).</li> <li>4. If the problem is low voltage, ask the client to connect the machine directly to a rated power source and to refrain from using extension cords.</li> <li>5. Replace the fusing thermopile (TH2).</li> </ol>
SC542-03	A	No reload temperature (timeout at the center of the hot roller)
		The fusing unit did not reach the reload temperature within 14.2 sec. after the start of fusing temperature control.
		<ul style="list-style-type: none"> <li>• Fusing lamp (center) disconnected</li> <li>• Overheating protection device triggered (blown fusing thermostat)</li> <li>• Power supply voltage low</li> <li>• Fusing thermopile (TH2) output abnormal</li> </ul>
		<ol style="list-style-type: none"> <li>1. Release the SC code in the SP mode, and then cycle the machine off/on to recover normal operation.</li> <li>2. Replace the fusing lamps.</li> <li>3. Replace the fusing thermostats (TH3, TH4).</li> <li>4. If the problem is low voltage, ask the client to connect the machine directly to a rated power source and to refrain from using extension cords.</li> <li>5. Replace the fusing thermopile (TH2).</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC543-00	A	High-temperature software error (center)
		245°C detected continuously for 1 sec. at the center of the hot roller
		<ul style="list-style-type: none"> <li>• TRIAC short</li> <li>• Engine board defective</li> <li>• Fusing thermopile (TH2) defective</li> </ul>
		<ol style="list-style-type: none"> <li>1. Release the SC code in the SP mode, and then cycle the machine off/on to recover normal operation.</li> <li>2. If TRIAC damaged, replace PSU.</li> <li>3. Replace the engine board (Printer: BCU, MF: SCB).</li> <li>4. Replace the fusing thermopile (TH2).</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC544-00	A	High-temperature (center) hardware error
		Temperature over 250°C detected (high-temperature flag detected)
		<ul style="list-style-type: none"> <li>• TRIAC short</li> <li>• Engine board defective</li> <li>• Fusing thermopile (TH2) defective</li> <li>• Fusing thermistor (TH1) defective</li> <li>• Fusing temperature control software crashed</li> </ul>
		<ol style="list-style-type: none"> <li>1. Release the SC code in the SP mode, and then cycle the machine off/on to recover normal operation.</li> <li>2. If TRIAC damaged, replace the PSU.</li> <li>3. Replace the engine board (Printer: BCU, MF: SCB).</li> <li>4. Replace the fusing thermopile (TH2).</li> <li>5. Replace the fusing thermistor (TH1).</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC545-00	A	Fusing lamp (center) remains ON
		After reaching reload temperature, the fusing lamp remained on for more than 5.9 sec., the maximum DUTY time allowed after reloading.
		<ul style="list-style-type: none"> <li>• Fusing thermopile (TH2) output abnormal</li> <li>• Fusing lamp (center) disconnected</li> <li>• Overheating protection device triggered (blown fusing thermostat)</li> </ul>
		<ol style="list-style-type: none"> <li>1. Release the SC code in the SP mode, and then cycle the machine off/on to recover normal operation.</li> <li>2. Replace the fusing thermopile (TH2).</li> <li>3. Replace the fusing lamps.</li> <li>4. Replace the fusing thermostats (TH3, TH4).</li> </ol>



SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC547-01	D	Zero cross-error (relay contact fusion)
		After zero cross interrupt was enabled, the zero cross interrupts occurred more than four times within 50 ms ( $\pm 20$ ms).
		<ul style="list-style-type: none"> <li>• Damaged fusion relay (contact fusion)</li> <li>• Fusion relay circuit defective</li> </ul>
		<ol style="list-style-type: none"> <li>1. Power cycle the machine.</li> <li>2. Replace the PSU.</li> <li>3. Check the harness connections between the PSU and the engine board (Printer: BCU, MF: SCB).</li> <li>4. Replace the harnesses between the PSU and the engine board.</li> <li>5. Replace the engine board.</li> </ol>
SC547-02	D	Zero cross-error (relay contact error)
		Zero cross processing executed for 0.5 sec., but relay shut OFF/ON when zero cross was not generated even once. The process is done four or five times.
		<ul style="list-style-type: none"> <li>• Damaged fusion relay (contact open)</li> <li>• Fusion relay circuit defective</li> <li>• PSU fuse (24VS) blown</li> </ul>
		<ol style="list-style-type: none"> <li>1. Power cycle the machine.</li> <li>2. If the PSU fuse (24VS) has blown, replace it.</li> <li>3. Replace the PSU.</li> <li>4. Check the harness connections between the PSU and the engine board (Printer: BCU, MF: SCB).</li> <li>5. Replace the harnesses between the PSU and the engine board.</li> <li>6. Replace the engine board.</li> </ol>
SC547-03	D	Zero cross-error (abnormally low frequency)
		Zero cross count processing is executed at 0.5 sec. intervals.
		<ul style="list-style-type: none"> <li>• When the zero-cross count is 45 to 54, the frequency is set to 50 Hz.</li> <li>• When the zero-cross count is 55 to 65, the frequency is set to 60 Hz.</li> <li>• For cases other than the above ranges, the low-frequency detection count is added.</li> </ul> <p>The above processing is executed for 11 counts when the number of low-frequency detections is 2 or more.</p>
		<p>Frequency is the input power source is unstable.</p> <ol style="list-style-type: none"> <li>1. Power cycle the machine.</li> <li>2. Check the input power source.</li> <li>3. Check the harness connections between the PSU and the engine board</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		(Printer: BCU, MF: SCB). 4. Replace the harnesses between the PSU and the engine board. 5. Replace the engine board.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC548-00	D	Fusing thermopile (TH2) output error (center of the hot roller): Condensation detection 3.6 sec. after the fusing lamps switched on, the rise in temperature at the center and end of the hot roller were sampled at 1.2 sec. intervals. The rise in temperature at the center was divided by the rise in temperature at the end and the result was less than 1.24, and the temperature at the center of the hot roller was less than 110°C. Condensation on the fusing thermopile (TH2) 1. If the ambient temperature has suddenly risen, wait for the condensation to evaporate before turning the machine on (about one or two hours). 2. Clean the lens of the fusing thermopile (TH2).

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC551-00	A	Fusing thermistor (TH1) disconnect error (end: abnormal low temperature) Low temperature was detected down by 20°C continuously for 8.7 sec. <ul style="list-style-type: none"> <li>• Fusing thermistor (TH1) disconnected</li> <li>• Harness connector lose, broken, or defective</li> </ul> 1. Release the SC code in the SP mode, and then cycle the machine off/on to recover normal operation. 2. Re-connect the connector of the fusing thermistor (TH1). 3. Replace the fusing thermistor (TH1).

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC552-01	A	No reload temperature (temperature gradient detection at end of hot roller) Measurement starts 2.4 sec. after the fusing lamps switch on. Within 2.4 sec. 5 temperature increases below 19°C were detected 5 consecutive times. (If the temperature is below 45°C, after the fusing thermopile (TH2) detects 45°C measurement starts after 2.4 sec. have elapsed.) <ul style="list-style-type: none"> <li>• Fusing lamp (end) disconnected</li> <li>• Overheating protection device triggered (blown fusing thermostat)</li> <li>• Power supply voltage low</li> <li>• Fusing thermistor (TH1) output abnormal</li> </ul> 1. Release the SC code in the SP mode, and then cycle the machine off/on

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		<p>to recover normal operation.</p> <ol style="list-style-type: none"> <li>Replace the fusing lamps.</li> <li>Replace the fusing thermostats (TH3, TH4).</li> <li>If the problem is low voltage, ask the client to connect the machine directly to a rated power source and to refrain from using extension cords.</li> <li>Replace the fusing thermistor (TH1).</li> </ol>
SC552-03	A	<p>No reload temperature (timeout at end of the hot roller)</p> <p>The fusing unit did not reach the reload temperature within 18.6 sec. after the start of fusing temperature control.</p> <ul style="list-style-type: none"> <li>Fusing lamp (end) disconnected</li> <li>Overheating protection device triggered (blown fusing thermostat)</li> <li>Power supply voltage low</li> <li>Fusing thermistor (TH1) output abnormal</li> </ul> <ol style="list-style-type: none"> <li>Release the SC code in the SP mode, and then cycle the machine off/on to recover normal operation.</li> <li>Replace the fusing lamps.</li> <li>Replace the fusing thermostats (TH3, TH4).</li> <li>If the problem is low voltage, ask the client to connect the machine directly to a rated power source and to refrain from using extension cords.</li> <li>Replace the fusing thermistor (TH1).</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC553-00	A	<p>High-temperature software error (end)</p> <p>245°C was detected continuously for 1 sec.</p> <ul style="list-style-type: none"> <li>TRIAC short</li> <li>Engine board defective</li> <li>Fusing thermistor (TH1) defective</li> </ul> <ol style="list-style-type: none"> <li>Release the SC code in the SP mode, and then cycle the machine off/on to recover normal operation.</li> <li>If TRIAC damaged, replace PSU.</li> <li>Replace the engine board (Printer: BCU, MF: SCB).</li> <li>Replace the fusing thermistor (TH1).</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC554-00	A	<p>High-temperature (end) hardware error</p> <p>The temperature at the center of the hot roller was less than 250°C, and the</p>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		temperature at the end of the hot roller was 250°C or higher and triggered an abnormally high-temperature detection flag.
		<ul style="list-style-type: none"> <li>• TRIAC short</li> <li>• Engine board defective</li> <li>• Fusing thermopile (TH2) defective</li> <li>• Fusing thermistor (TH1) defective</li> <li>• Fusing temperature control software crashed</li> </ul>
		<ol style="list-style-type: none"> <li>1. Release the SC code in the SP mode, and then cycle the machine off/on to recover normal operation.</li> <li>2. If TRIAC damaged, replace the PSU.</li> <li>3. Replace the engine board (Printer model: BCU, MF model: SCB).</li> <li>4. Replace the fusing thermopile (TH2).</li> <li>5. Replace the fusing thermistor (TH1).</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC555-00	A	Fusing lamp (end) remains ON
		After reaching reload temperature, the fusing lamp remained on for more than 13.1 sec. (the maximum DUTY time allowed after reloading).
		<ul style="list-style-type: none"> <li>• Fusing thermistor (TH1) output error</li> <li>• Fusing lamp (end) disconnected</li> <li>• Overheating protection device triggered (blown fusing thermostat)</li> </ul>
		<ol style="list-style-type: none"> <li>1. Release the SC code in the SP mode, and then cycle the machine off/on to recover normal operation.</li> <li>2. Replace the fusing thermistor (TH1).</li> <li>3. Replace the fusing lamps.</li> <li>4. Replace the fusing thermostats (TH3, TH4).</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC557-00	C	Zero cross frequency too high
		Zero cross count processing is executed at 0.5 sec. intervals.
		<ul style="list-style-type: none"> <li>• When the zero-cross count is 45 to 54, the frequency is set to 50 Hz.</li> <li>• When the zero-cross count is 55 to 65, the frequency is set to 60 Hz.</li> <li>• For cases other than the above ranges, the low-frequency detection count is added.</li> </ul>
		The above processing is executed for 11 counts when the number of low-frequency detections is 1 or more.
		Frequency is the input power source is unstable, and there is noise on the line.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		None

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC559-00	A	Fusing jam detected for 3 counts
		Fusing jam detected for a 3 count when paper failed to arrive at the paper exit/reverse sensor.
		A jammed paper is blocking the paper path in the fusing unit, and paper cannot feed.
		<ol style="list-style-type: none"> <li>1. Remove the fusing unit, and then remove the jammed paper.</li> <li>2. Check the fusing thermistor (TH1) and confirm that is positioned correctly (not floating free) and undamaged.</li> <li>3. After re-installing the fusing unit, go into the SP mode, and then release the SC code error.</li> <li>4. Power cycle the machine, and then confirm that the machine starts normally.</li> <li>5. Do some test copies to make sure the machine is printing normally and paper is feeding and exiting correctly.</li> <li>6. If the copies are dirty, there may be some dirt on the hot roller, so continue to do some test prints until the copies appear clean.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC569-01	D	Fusing unit roller pressure mechanism error (pressure apply)
		During counter-clockwise rotation (when applying pressure), the SNS signal remained LOW for more than 1 sec.
SC569-02	D	Fusing unit roller pressure mechanism error (pressure release)
		During clockwise rotation (when releasing pressure), the SNS signal remained LOW for more than 1 sec.
		<ul style="list-style-type: none"> <li>• Fusing pressure/release motor (M2) lock</li> <li>• Fusing pressure/release motor (M2) PCB drive board defective</li> <li>• Fusing nip pressure position sensor (S7) defective</li> <li>• Harness connector of fusing nip pressure position sensor (S7) loose, broken, defective, or harness is defective.</li> </ul> <ol style="list-style-type: none"> <li>1. Re-connect the fusing nip pressure position sensor (S7).</li> <li>2. Replace the fusing nip pressure position sensor (S7).</li> <li>3. Replace the fusing pressure/release motor (M2).</li> <li>4. Replace the gears of the fusing pressure/release motor (M2).</li> <li>5. Replace the fusing unit.</li> </ol>

## 6.2.7 SC600 (DEVICE COMMUNICATION)

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC622-00	D	1st paper bank communication error
		Detected an error when connecting the communication line.
		<ul style="list-style-type: none"> <li>• 1st paper bank control board defective</li> <li>• Engine board defective</li> <li>• 1st paper bank to the main machine connection fault</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p> <ol style="list-style-type: none"> <li>1. Reconnect the connectors between the engine board and the 1st paper bank controller board.</li> <li>2. Replace the harnesses between the engine board and the 1st paper bank controller board.</li> <li>3. Replace the 1st paper bank controller board.</li> <li>4. Replace the paper bank.</li> <li>5. Replace the engine board (Printer: BCU, MF: SCB).</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC623-00	D	2nd paper bank communication error
		Detected an error when connecting the communication line.
		<ul style="list-style-type: none"> <li>• 1st paper bank control board defective</li> <li>• 2nd paper bank control board defective</li> <li>• 1st paper bank to 2nd paper bank connection fault</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p> <ol style="list-style-type: none"> <li>1. Reconnect the connectors between the 1st paper bank controller board and 2nd paper bank controller board.</li> <li>2. Replace the harnesses between the 1st paper bank controller board and 2nd paper bank controller board.</li> <li>3. Replace the 1st paper bank controller board.</li> <li>4. Replace the 2nd paper bank controller board.</li> <li>5. Replace the paper bank.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC624-00	D	3rd paper bank communication error
		Detected an error when connecting the communication line.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		<ul style="list-style-type: none"> <li>• 2nd paper bank control board defective</li> <li>• 3rd paper bank control board defective</li> <li>• 2nd paper bank to 3rd paper bank connection fault</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p> <ol style="list-style-type: none"> <li>1. Reconnect the connectors between the 2nd paper bank controller board and 3rd paper bank controller board.</li> <li>2. Replace the harnesses between the 2nd paper bank controller board and 3rd paper bank controller board.</li> <li>3. Replace the 2nd paper bank controller board.</li> <li>4. Replace the 3rd paper bank controller board.</li> <li>5. Replace the paper bank.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC641-00	D	Engine to controller communication error (No response)
		The controller sent a data frame by RAPI protocol, but there was no response after trying 3 times, once every 100ms.
		<ul style="list-style-type: none"> <li>• Controller board or software failure</li> <li>• Engine board or software failure</li> <li>• Controller board and engine board are not connected properly.</li> </ul>
		<ul style="list-style-type: none"> <li>• Check the connection between the controller board and engine board. (Printer model only)</li> <li>• Power cycle the machine.</li> </ul>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC641-01	D	Engine serial communication error (Time-out)
		No response over the specified time.
SC641-02	D	Engine serial communication error (Retry-over)
		When commands are sent in the normal mode, communication fails over the upper limit numbers (3 times) of command byte retry.
SC641-03	D	Engine serial communication error (Download Error)
		In the download command mode or download data mode, a communication error is returned from the engine.
SC641-04	D	Engine serial communication error (UART Error)
		UART receive errors (Break condition, Framing, Parity or Overrun error) are detected.
		<ul style="list-style-type: none"> <li>• Controller board or software failure</li> </ul>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		<ul style="list-style-type: none"> <li>• Controller board-engine board connection fault</li> <li>• Engine board or software failure</li> </ul>
		<ul style="list-style-type: none"> <li>• Check and reconnect the connectors between the controller board and engine board. (Printer model only)</li> <li>• Power cycle the machine.</li> </ul>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC645-01	C	ID tag connection error (Toner cartridge)
		An error is notified during EEPROM communication and the machine does not recover after two retries.
		<ul style="list-style-type: none"> <li>• Noise</li> <li>• ID tag connection failure</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p> <ol style="list-style-type: none"> <li>1. Check if there are dirty or abnormality on the ID chip connector. If you can see the dirty or abnormality, clean or replace the ID chip connector.</li> <li>2. Replace the harness between the engine board (Printer: BCU, MF: SCB) and ID chip connector.</li> <li>3. Replace the toner cartridge.</li> <li>4. Replace the ID chip connector.</li> <li>5. Replace the engine board (Printer: BCU, MF: SCB).</li> </ol>
SC645-02	C	ID tag connection error (PCDU)
		An error is notified during EEPROM communication and the machine does not recover after two retries.
		<ul style="list-style-type: none"> <li>• Noise</li> <li>• ID tag connection failure</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p> <ol style="list-style-type: none"> <li>1. Check if there are dirty or abnormality on the ID chip connector. If you can see the dirty or abnormality, clean or replace the ID chip connector.</li> <li>2. Replace the harness between the engine board (Printer: BCU, MF: SCB) and ID chip connector.</li> <li>3. Replace the PCDU.</li> <li>4. Replace the ID chip connector.</li> <li>5. Replace the engine board (Printer: BCU, MF: SCB).</li> </ol>



No.	Type	Error Name/Error Condition/Major Cause/Solution
SC667-01	D	Master device mode setting error
		When the machine starts or returns from the energy saver mode, a CPU mode setting error is detected.
		<ul style="list-style-type: none"> <li>Engine board defective</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p> <ol style="list-style-type: none"> <li>Replace the engine board (Printer: BCU, MF: SCB).</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC669-01	D	EEPROM communication error: ID error during EEPROM OPEN
SC669-02	D	EEPROM communication error: Channel error during EEPROM OPEN
SC669-03	D	EEPROM communication error: Device error during EEPROM OPEN
SC669-04	D	EEPROM communication error: Communication interrupted error during EEPROM OPEN
SC669-05	D	EEPROM communication error: Communication timeout error
SC669-06	D	EEPROM communication error: Not operating error during EEPROM OPEN
SC669-07	D	EEPROM communication error: Buffer full during EEPROM OPEN
SC669-08	D	EEPROM communication error: No error code during EEPROM OPEN
SC669-09	D	EEPROM communication error: ID error
SC669-10	D	EEPROM communication error: No error code during EEPROM Close
SC669-11	D	EEPROM communication error: ID error during EEPROM data write
SC669-12	D	EEPROM communication error: Channel error during EEPROM data write
SC669-13	D	EEPROM communication error: Device error during EEPROM data write
SC669-14	D	EEPROM communication error: Communication interrupted error during EEPROM data write
SC669-15	D	EEPROM communication error: Communication timeout error
SC669-16	D	EEPROM communication error: Not operating error during EEPROM data write
SC669-17	D	EEPROM communication error: Buffer full during EEPROM data write
SC669-18	D	EEPROM communication error: No error code during EEPROM data write
SC669-19	D	EEPROM communication error: ID error during EEPROM data read
SC669-20	D	EEPROM communication error: Channel error EEPROM data read
SC669-21	D	EEPROM communication error: Device error during EEPROM data read
SC669-22	D	EEPROM communication error: Communication interrupted error during EEPROM data read
SC669-23	D	EEPROM communication error: Communication timeout error

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC669-24	D	EEPROM communication error: Not operating error during EEPROM data read
SC669-25	D	EEPROM communication error: Buffer full during EEPROM data read
SC669-26	D	EEPROM communication error: No error code during EEPROM data read
SC669-36	D	EEPROM communication error: Verification error
SC669-37	D	EEPROM communication error: Error Detection
		<p>An error is notified during EEPROM communication and the machine does not recover after three retries.</p> <ul style="list-style-type: none"> <li>• Electromagnetic noise</li> <li>• EEPROM error</li> <li>• Engine board defective</li> </ul> <p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p> <ol style="list-style-type: none"> <li>1. Re-install the EEPROM on the engine board (Printer: BCU, MF: SCB).</li> <li>2. Replace the EEPROM on the engine board.</li> <li>3. Replace the engine board (Printer: BCU, MF: SCB).</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC670-00	D	Engine startup error
		Engine board does not start up.
		<ul style="list-style-type: none"> <li>• Engine board defective</li> <li>• PSU defective</li> <li>• Controller board defective</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p> <ol style="list-style-type: none"> <li>1. Power cycle the machine ten times.</li> <li>2. Check the connection between the controller board and BCU. (Printer model only)</li> <li>3. Replace the engine board (Printer: BCU, MF: SCB).</li> <li>4. Replace the PSU.</li> <li>5. Replace the controller board. (Printer model only)</li> </ol>

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC670-01	D	ASIC device mode setting error
		When the machine starts or returns from the energy saver mode, an ASIC mode setting error is detected.
		<ul style="list-style-type: none"> <li>Engine board defective</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p> <ol style="list-style-type: none"> <li>Check the LED lighting on the engine board (Printer: BCU, MF: SCB). If abnormal lighting, replace the engine board. <ul style="list-style-type: none"> <li>Normal lighting: ON and OFF repeats at regular intervals</li> <li>Abnormal lighting: LED lights twice, then turns OFF for 4 sec.</li> </ul> </li> <li>Check the connection between the controller board and engine board. (Printer model only)</li> <li>Replace the controller board (Printer: Controller board, MF: SCB).</li> <li>Replace the engine board.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC672		Controller startup error
SC672-00	D	After the machine was powered on, communication between the controller and the operation panel was not established, or communication with the controller was interrupted after a normal startup.
SC672-10	D	After the machine was powered on, communication between the controller and the operation panel was not established.
SC672-11	D	After the machine was powered on, communication between the controller and the operation panel was not established, or communication with the controller was interrupted after a normal startup.
SC672-12	D	Communication with the controller was interrupted after a normal startup.
SC672-13	D	The operation panel detected that the controller is down due to other reason that shown in SC672-00 to -12.
		<ul style="list-style-type: none"> <li>Controller stalled</li> <li>Board installed incorrectly</li> <li>Controller board defective</li> <li>Operation panel connector lose, broken, or defective</li> <li>Controller late</li> </ul>
		Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		<ol style="list-style-type: none"> <li>1. Replace the USB cable/harness between the operation panel and the controller board.</li> <li>2. Replace the controller board (Printer: Controller board, MF: SCB).</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC672-20	D	<p>Controller startup error</p> <p>After the machine was powered on, communication between the controller and the operation panel was not established, or communication with the controller was interrupted after a normal startup.</p> <ul style="list-style-type: none"> <li>• USB cable defective</li> </ul> <p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p> <ol style="list-style-type: none"> <li>1. Turn the power OFF, and press the SW5 on the controller board (Printer: Controller board, MF: SCB).</li> <li>2. Replace the controller board.</li> <li>3. Replace the USB cable/harness between the operation panel and the controller board.</li> <li>4. Replace the operation panel.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC672-21	D	<p>Controller startup error</p> <p>After the machine was powered on, communication between the controller and the operation panel was not established, or communication with the controller was interrupted after a normal startup.</p> <ul style="list-style-type: none"> <li>• Controller failure</li> </ul> <p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p> <ol style="list-style-type: none"> <li>1. Turn the power OFF, and press the SW5 on the controller board (Printer: Controller board, MF: SCB).</li> <li>2. Replace the controller board.</li> <li>3. Replace the USB cable/harness between the operation panel and the controller board.</li> <li>4. Replace the operation panel.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC672-99	D	Controller startup error
		The operation panel software ended abnormally.
		<ul style="list-style-type: none"> <li>Controller stalled</li> <li>Board installed incorrectly</li> <li>Controller board (Printer: Controller board, MF: SCB) defective</li> <li>Operation panel connector loose, broken, or defective</li> <li>Controller late</li> </ul>
		Power cycle the machine.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC673-01	D	Operation panel Flair communication error (Smart Operation Panel)
		System application (MonitorService) error occurred
		System application (MonitorService) terminated abnormally
		<ul style="list-style-type: none"> <li>Press the [Reboot] on the SC screen.</li> <li>Power cycle the machine.</li> </ul>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC673-10	D	Operation panel Flair communication error (Smart Operation Panel)
		The Smart Operation Panel is communicating with the main machine (this is called "flair communication"), and there was no response from the main machine.
		This SC is detected when the controller cannot respond to the notification from the monitoring service module (operation panel).
		<ul style="list-style-type: none"> <li>Power cycle the machine.</li> <li>Replace the SCB.</li> </ul>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC681-01	D	Device ID is not identified (toner cartridge): Device ID error (Incorrect ID)
SC681-06	D	Device ID is not identified (toner cartridge): Channel error
SC681-11	D	Device ID is not identified (toner cartridge): Device ID error (No ID chip)
SC681-16	D	Device ID is not identified (toner cartridge): Communication error
SC681-21	D	Device ID is not identified (toner cartridge): Communication timeout
SC681-26	D	Device ID is not identified (toner cartridge): The device has stopped its operation
SC681-27	D	Device ID is not identified (toner cartridge): The device has stopped its operation

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC681-28	D	Device ID is not identified (toner cartridge): The device has stopped its operation
SC681-29	D	Device ID is not identified (toner cartridge): The device has stopped its operation
SC681-31	D	Device ID is not identified (toner cartridge): The requested buffer is full
SC681-36	D	Device ID is not identified (toner cartridge): SRAM OPEN: Verification error
		An error is notified during the ID identification after three retries.
		<ul style="list-style-type: none"> <li>• Malfunction</li> <li>• Noise</li> <li>• ID tag contact failure</li> </ul>
		Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.
		<ol style="list-style-type: none"> <li>1. Check if there are dirty or abnormality on the ID chip connector. If you can see the dirty or abnormality, clean or replace the ID chip connector.</li> <li>2. Reconnect the connectors between the engine board (Printer: BCU, MF: SCB) and ID chip connector.</li> <li>3. Replace the toner cartridge.</li> <li>4. Replace the harness between the engine board and ID chip connector.</li> <li>5. Replace the engine board.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC682-01	D	Device ID is not identified (PCDU): Device ID error (Incorrect ID)
SC682-06	D	Device ID is not identified (PCDU): Channel error
SC682-11	D	Device ID is not identified (PCDU): Device ID error (No ID chip)
SC682-16	D	Device ID is not identified (PCDU): Communication error
SC682-21	D	Device ID is not identified (PCDU): Communication timeout
SC682-26	D	Device ID is not identified (PCDU): The device has stopped its operation
SC682-27	D	Device ID is not identified (PCDU): The device has stopped its operation
SC682-28	D	Device ID is not identified (PCDU): The device has stopped its operation
SC682-29	D	Device ID is not identified (PCDU): The device has stopped its operation
SC682-31	D	Device ID is not identified (PCDU): The requested buffer is full
SC682-36	D	Device ID is not identified (PCDU): SRAM OPEN: Verification error
		An error is notified during the ID identification after three retries.
		<ul style="list-style-type: none"> <li>• Malfunction</li> <li>• Noise</li> <li>• ID tag contact failure</li> </ul>
		Power cycle the machine to see if the error reoccurs. If the SC occurs again,

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		<p>do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p> <ol style="list-style-type: none"> <li>1. Check if there are dirty or abnormality on the ID chip connector. If you can see the dirty or abnormality, clean or replace the ID chip connector.</li> <li>2. Reconnect the connectors between the engine board (Printer: BCU, MF: SCB) and ID chip connector.</li> <li>3. Replace the PCDU.</li> <li>4. Replace the harness between the engine board and ID chip connector.</li> <li>5. Replace the engine board.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC687-00	D	<p>PER receipt failure</p> <p>Even though 120 seconds have elapsed after RAPI-PES (request for image transfer) is issued, a RAPI-PER receipt is not received from the controller board.</p> <ul style="list-style-type: none"> <li>• Defective controller board</li> <li>• Noise</li> </ul> <p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step.</p> <ol style="list-style-type: none"> <li>1. Update the firmware</li> <li>2. Replace the engine board (Printer: BCU, MF: SCB).</li> <li>3. Replace the controller board (Printer: Controller board, MF: SCB).</li> </ol>

### 6.2.8 SC700 (PERIPHERALS)

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC790-00	D	<p>Maximum number of banks (paper bank) exceeded</p> <p>When the power is turned ON, the number of mounted paper banks is detected and the number exceeds four.</p> <p>The number of mounted paper tray units exceeds the specifications.</p> <p>Reduce the number of mounted paper tray units according to the specifications.</p>

## 6.2.9 SC800 (CONTROLLER)

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC816	-	Energy save I/O subsystem error
SC816-01	D	Subsystem error
SC816-02	D	Sysarch (LPUX_GET_PORT_INFO) error
SC816-03	D	Transition to STR was denied.
SC816-04	D	Interrupt in kernel communication driver
SC816-05	D	Preparation for transition to STR failed.
SC816-07	D	Sysarch (LPUX_GET_PORT_INFO) error
SC816-08	D	Sysarch (LPUX_ENGINE_TIMERCTRL) error
SC816-09	D	Sysarch (LPUX_RETURN_FACTOR_STR) error
SC816-10	D	Sysarch (LPUX_GET_PORT_INFO) error
SC816-11	D	Sysarch (LPUX_GET_PORT_INFO) error
SC816-12	D	Sysarch (LPUX_GET_PORT_INFO) error
SC816-13	D	open() error
SC816-14	D	Memory address error
SC816-15	D	open() error
SC816-16	D	open() error
SC816-17	D	open() error
SC816-18	D	open() error
SC816-19	D	Double open() error
SC816-20	D	open() error
SC816-22	D	Parameter error
SC816-23	D	read() error
SC816-24	D	read() error
SC816-25	D	write() error
SC816-26	D	write() communication retry error
SC816-27	D	write() communication retry error
SC816-28	D	write() communication retry error
SC816-29	D	read() communication retry error
SC816-30	D	read() communication retry error
SC816-35	D	read() error
SC816-36 to -98	D	Subsystem error
		Energy save I/O subsystem detected some abnormality.
		<ul style="list-style-type: none"> <li>• Energy save I/O subsystem defective</li> <li>• Energy save I/O subsystem detected a controller board error</li> </ul>



SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		(non-response). <ul style="list-style-type: none"> <li>An error was detected during preparation for the transition to STR.</li> </ul>
		Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on after each step. <ol style="list-style-type: none"> <li>Update the "System/Copy" firmware and the other system firmware to the latest version.</li> <li>Disable the STR shift function with SP5-191-001 (Power Str Set).</li> <li>Replace the controller board (Printer: Controller board, MF: SCB).</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC819-00	D	Fatal kernel error [XXXX]: Detailed error code
		[0x5032] HAIC-P2 error HAIC-P2 decompression error (An error occurred in the ASIC compression/decompression module.) <ol style="list-style-type: none"> <li>Power cycle the machine.</li> <li>Replace the HDD.</li> <li>Replace the controller board (Printer: Controller board, MF: SCB).</li> </ol>
	[0x5245]	Link up error 0x53554D45 -> "Link up error" <ol style="list-style-type: none"> <li>Power cycle the machine.</li> <li>Replace the controller board (Printer: Controller board, MF: SCB).</li> <li>Replace the engine board (Printer: BCU, MF: SCB).</li> </ol>
		[0c5355] L2 status timeout 0x5350454E44 -> "L2 status time out" <ol style="list-style-type: none"> <li>Power cycle the machine.</li> <li>Replace the controller board (Printer: Controller board, MF: SCB).</li> <li>Replace the engine board (Printer: BCU, MF: SCB).</li> </ol>
	[0x6261]	HDD defective 6261 6420 6469 7200 00 -> "bad dir" Power cycle the machine.
		[0x696e] gwinit process ending If an unexpected error occurs at SCS processing end, gwinit processing also halts (this result is judged a kernel stop error, by gwinit specification) "0x69742064" -> "init died" Power cycle the machine.
	Console	Other error (characters on operation panel)

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
	string	Error in the OS
		Power cycle the machine.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC840-00	D	EEPROM access error
		<ul style="list-style-type: none"> <li>During the I/O processing, a reading error occurred. The 3rd reading failure causes this SC code.</li> <li>During the I/O processing, a writing error occurred.</li> </ul>
		EEPROM is defective or has reached its end of life.
		-

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC841-00	D	EEPROM read data error
		Mirrored data of the EEPROM is different from the original data in EEPROM.
		Data in the EEPROM is overwritten for some reason.
		-

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC842-00	C	Nand-Flash updating verification error
		SCS write error (verify error) occurred at the Nand-Flash module when remote ROM or main ROM was updated.
		Nand-Flash defective
		Power cycle the machine.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC842-01	C	Insufficient Nand-Flash blocks (threshold exceeded)
		At startup, or when machine returned from energy saver mode, the Nand-Flash status was read and judged that the number of unusable blocks had exceeded the threshold, and then SCS generated the SC code.
		Number of unusable blocks exceeded the threshold for Nand-Flash
		Replace the controller board (Printer: Controller board, MF: SCB).

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC842-0 2	C	The number of Nand-Flash block deletions exceeded
		At startup, or when the machined returned from energy saver mode, the Nand-Flash was read and judged that the number of deleted blocks had exceeded the threshold, and then SCS generated this SC code.
		Number of blocks deleted exceeded threshold for Nand-Flash
		Replace the controller board (Printer: Controller board, MF: SCB).

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC843-02	B	eMMC rewrite frequency exceeded the threshold (Smart Operation Panel)
		At startup, or when the machined returned from energy saver mode, the eMMC was read and judged that the number of rewrote blocks had exceeded the threshold.
		Number of blocks rewrote exceeded threshold for eMMC
		Replace the Smart Operation Panel.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC845-01	D	Hardware error detected when the automatic firmware update: Engine board
SC845-02	D	Hardware error detected when the automatic firmware update: Controller board
SC845-03	D	Hardware error detected when the automatic firmware update: Operation panel (normal)
SC845-04	D	Hardware error detected when the automatic firmware update: Operation panel (Smart Operation Panel)
SC845-05	D	Hardware error detected when the automatic firmware update: FCU
		When updating the firmware automatically (ARFU), the firmware cannot be read or written normally, and the firmware update cannot be completed even by 3 retries.
		Hardware abnormality of the target board
		Replacing the target board. For SC852-02, HDD may cause the problem. Replace the HDD if the SC cannot be recovered by replacing the controller board.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC855-01	B	Wireless LAN board error (driver attachment failure)
		Wireless LAN board error (wireless LAN card: 802.11 is covered)
		<ul style="list-style-type: none"> <li>• Defective wireless LAN board</li> <li>• Loose connection</li> </ul>
		<ol style="list-style-type: none"> <li>1. Power cycle the machine.</li> <li>2. Replace wireless LAN board.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC857-00	B	USB I/F Error
		The USB interface is unusable because of a driver error.
		USB driver error (There are three causes of USB error: RX error/CRC error/STALL. SC is issued only in the case of STALL.)
		<ol style="list-style-type: none"> <li>1. Check the USB connection.</li> <li>2. Replace the controller board (Printer: Controller board, MF: SCB).</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC860-00	B	HDD startup error at power on (HDD error)
		<ul style="list-style-type: none"> <li>• The HDD is connected but the driver detected the following errors. <ul style="list-style-type: none"> <li>• SS_NO.T_READY: (-2): HDD does not become READY</li> <li>• SS_BAD_LABEL: (-4): Partition type incorrect</li> <li>• SS_READ_ERROR: (-5): Error occurred while reading or checking the label</li> <li>• SS_WRITE_ERROR: (-6): Error occurred while writing or checking the label</li> <li>• SS_FS_ERROR: (-7): Failed to repair the filesystem</li> <li>• SS_MOUNT_ERROR: (-8): Failed to mount the filesystem</li> <li>• SS_COMMAND_ERROR: (-9): Drive not responding to the command</li> <li>• SS_KERNEL_ERROR: (-10): Internal kernel error</li> <li>• SS_SIZE_ERROR: (-11): Drive size too small</li> <li>• SS_NO._PARTITION:(-12): The specified partition does not exist</li> <li>• SS_NO._FILE: (-13): Device file does not exist</li> </ul> </li> <li>• Attempted to acquire HDD status through the driver but there has been no response for 300 seconds or more.</li> </ul>
		<ul style="list-style-type: none"> <li>• Unformatted HDD</li> <li>• Label data corrupted</li> <li>• HDD defective</li> </ul>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		Format the HDD with SP5-832-001.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC860-01	D	HDD file system error at power on (HDD error)
		Even one partition mount of HDD failed
		<ul style="list-style-type: none"> <li>• Power off during file writing to HDD</li> <li>• Shutting down while writing the file to HDD</li> </ul>
SC860-02	D	HDD label error (HDD error)
		HDD partition information is abnormal
		<ul style="list-style-type: none"> <li>• Power off during HDD initialization</li> <li>• HDD defective</li> </ul>
SC860-03	D	HDD encryption key error (HDD error)
		HDD encryption key could not be read with HDD encryption
		Simultaneous breakage of the controller's ROM (NAND) and NVRAM
		<ol style="list-style-type: none"> <li>1. Power cycle the machine.</li> <li>2. Format the HDD with SP5-832-001.</li> <li>3. Replace the HDD.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC863-01	D	HDD data read failure
		The data written to the HDD cannot be read normally.
		Bad sectors were generated during operation. (An error occurred in an area that does not belong to a partition, such as a disk label area.)
		<p>Guide for when to replace the HDD</p> <ol style="list-style-type: none"> <li>1. When SC863 has occurred ten times or more <ul style="list-style-type: none"> <li>• The interval is short.</li> <li>• Repeatedly occurs in the same situation (At power-on, etc.).</li> <li>• Startup takes a long time when the main power is turned on.</li> </ul> </li> <li>2. It takes a long time after main power on for the operation panel to become ready.</li> </ol> <p>HDD access may be consuming time. Normal HDD access time after main power on is about 5 seconds. If the machine is not waiting for the engine to be ready and it still takes 20 to 30 seconds or more, the HDD may be the cause. If there is a problem with the HDD, HDD-related SCs such as SC860 and SC863 will occur frequently. Print the SC log data and check them.</p>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC863-01	D	HDD data read failure (An error occurred in an area that does not belong to a partition, such as a disk label area.)
SC863-02	D	HDD data read failure (An error occurred in partition "a".)
SC863-03	D	HDD data read failure (An error occurred in partition "b".)
SC863-04	D	HDD data read failure (An error occurred in partition "c".)
SC863-05	D	HDD data read failure (An error occurred in partition "d".)
SC863-06	D	HDD data read failure (An error occurred in partition "e".)
SC863-07	D	HDD data read failure (An error occurred in partition "f".)
SC863-08	D	HDD data read failure (An error occurred in partition "g".)
SC863-09	D	HDD data read failure (An error occurred in partition "h".)
SC863-10	D	HDD data read failure (An error occurred in partition "i".)
SC863-11	D	HDD data read failure (An error occurred in partition "j".)
SC863-12	D	HDD data read failure (An error occurred in partition "k".)
SC863-13	D	HDD data read failure (An error occurred in partition "l".)
SC863-14	D	HDD data read failure (An error occurred in partition "m".)
SC863-15	D	HDD data read failure (An error occurred in partition "n".)
SC863-16	D	HDD data read failure (An error occurred in partition "o".)
SC863-17	D	HDD data read failure (An error occurred in partition "p".)
SC863-18	D	HDD data read failure (An error occurred in partition "q".)
SC863-19	D	HDD data read failure (An error occurred in partition "r".)
SC863-20	D	HDD data read failure (An error occurred in partition "s".)
SC863-21	D	HDD data read failure (An error occurred in partition "t".)
SC863-22	D	HDD data read failure (An error occurred in partition "u".)
SC863-23	D	HDD data read failure (An error occurred in partition "v".)
		The data written to the HDD cannot be read normally.
		Bad sectors were generated during operation.
		<p>Guide for when to replace the HDD</p> <ol style="list-style-type: none"> <li>When SC863 has occurred ten times or more <ul style="list-style-type: none"> <li>The interval is short.</li> <li>Repeatedly occurs in the same situation (At power-on, etc.).</li> <li>Startup takes a long time when the main power is turned on.</li> </ul> </li> <li>It takes a long time after main power on for the operation panel to become ready.</li> </ol> <p>HDD access may be consuming time. Normal HDD access time after main power on is about 5 seconds. If the machine is not waiting for the engine to be ready and it still takes 20 to 30 seconds or more, the HDD may be the cause. If there is a problem with the HDD, HDD-related</p>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		SCs such as SC860 and SC863 will occur frequently. Print the SC log data and check them.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC864-01	D	HDD data CRC error (An error occurred in an area that does not belong to a partition, such as a disk label area.)
SC864-02	D	HDD data CRC error (An error occurred in partition "a".)
SC864-03	D	HDD data CRC error (An error occurred in partition "b".)
SC864-04	D	HDD data CRC error (An error occurred in partition "c".)
SC864-05	D	HDD data CRC error (An error occurred in partition "d".)
SC864-06	D	HDD data CRC error (An error occurred in partition "e".)
SC864-07	D	HDD data CRC error (An error occurred in partition "f".)
SC864-08	D	HDD data CRC error (An error occurred in partition "g".)
SC864-09	D	HDD data CRC error (An error occurred in partition "h".)
SC864-10	D	HDD data CRC error (An error occurred in partition "i".)
SC864-11	D	HDD data CRC error (An error occurred in partition "j".)
SC864-12	D	HDD data CRC error (An error occurred in partition "k".)
SC864-13	D	HDD data CRC error (An error occurred in partition "l".)
SC864-14	D	HDD data CRC error (An error occurred in partition "m".)
SC864-15	D	HDD data CRC error (An error occurred in partition "n".)
SC864-16	D	HDD data CRC error (An error occurred in partition "o".)
SC864-17	D	HDD data CRC error (An error occurred in partition "p".)
SC864-18	D	HDD data CRC error (An error occurred in partition "q".)
SC864-19	D	HDD data CRC error (An error occurred in partition "r".)
SC864-20	D	HDD data CRC error (An error occurred in partition "s".)
SC864-21	D	HDD data CRC error (An error occurred in partition "t".)
SC864-22	D	HDD data CRC error (An error occurred in partition "u".)
SC864-23	D	HDD data CRC error (An error occurred in partition "v".)
		During HDD operation, the HDD returned a CRC error.
		Bad sectors were generated during operation.
		1. Format the HDD. 2. Replace the HDD.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC865-01	D	HDD access error (An error occurred in an area that does not belong to a partition, such as a disk label area.)
SC865-02	D	HDD access error (An error occurred in partition "a".)

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC865-03	D	HDD access error (An error occurred in partition "b".)
SC865-04	D	HDD access error (An error occurred in partition "c".)
SC865-05	D	HDD access error (An error occurred in partition "d".)
SC865-06	D	HDD access error (An error occurred in partition "e".)
SC865-07	D	HDD access error (An error occurred in partition "f".)
SC865-08	D	HDD access error(An error occurred in partition "g".)
SC865-09	D	HDD access error (An error occurred in partition "h".)
SC865-10	D	HDD access error (An error occurred in partition "i".)
SC865-11	D	HDD access error (An error occurred in partition "j".)
SC865-12	D	HDD access error (An error occurred in partition "k".)
SC865-13	D	HDD access error (An error occurred in partition "l".)
SC865-14	D	HDD access error (An error occurred in partition "m".)
SC865-15	D	HDD access error (An error occurred in partition "n".)
SC865-16	D	HDD access error (An error occurred in partition "o".)
SC865-17	D	HDD access error (An error occurred in partition "p".)
SC865-18	D	HDD access error (An error occurred in partition "q".)
SC865-19	D	HDD access error (An error occurred in partition "r".)
SC865-20	D	HDD access error (An error occurred in partition "s".)
SC865-21	D	HDD access error (An error occurred in partition "t".)
SC865-22	D	HDD access error (An error occurred in partition "u".)
SC865-23	D	HDD access error (An error occurred in partition "v".)
		During HDD operation, the HDD returned an error.
		The HDD returned an error that does not constitute SC863 (bad sector) or SC864 (CRC error).
		Replace the HDD.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC865-50	D	HDD time-out error (An error occurred in an unknown area.)
SC865-51	D	HDD time-out error (An error occurred in an area that does not belong to a partition.)
SC865-52	D	HDD time-out error (An error occurred in partition "a".)
SC865-53	D	HDD time-out error (An error occurred in partition "b".)
SC865-54	D	HDD time-out error (An error occurred in partition "c".)
SC865-55	D	HDD time-out error (An error occurred in partition "d".)
SC865-56	D	HDD time-out error (An error occurred in partition "e".)
SC865-57	D	HDD time-out error (An error occurred in partition "f".)
SC865-58	D	HDD time-out error(An error occurred in partition "g".)



SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC865-59	D	HDD time-out error (An error occurred in partition "h".)
SC865-60	D	HDD time-out error (An error occurred in partition "i".)
SC865-61	D	HDD time-out error (An error occurred in partition "j".)
SC865-62	D	HDD time-out error (An error occurred in partition "k".)
SC865-63	D	HDD time-out error (An error occurred in partition "l".)
SC865-64	D	HDD time-out error (An error occurred in partition "m".)
SC865-65	D	HDD time-out error (An error occurred in partition "n".)
SC865-66	D	HDD time-out error (An error occurred in partition "o".)
SC865-67	D	HDD time-out error (An error occurred in partition "p".)
SC865-68	D	HDD time-out error (An error occurred in partition "q".)
SC865-69	D	HDD time-out error (An error occurred in partition "r".)
SC865-70	D	HDD time-out error (An error occurred in partition "s".)
SC865-72	D	HDD time-out error (An error occurred in partition "t".)
SC865-72	D	HDD time-out error (An error occurred in partition "u".)
SC865-73	D	HDD time-out error (An error occurred in partition "v".)
		The machine does not detect a reply from the HDD during the HDD operation.
		The HDD does not respond to the read/ write command from the machine.
		1. Check the harness connections between the controller board and HDD. 2. Replace the HDD.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC866-00	B	SD card authentication error
		When a correct license for digital authentication is not found in an SD card application.
		The SD card contains the wrong program data.
		Store the correct program data on the SD card.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC867-00	B	SD card removal detection
		When an application SD card is removed from the slot (/mnt/sd0) while the application is being activated.
SC867-01	B	SD card removal detection
		When an application SD card is removed from the slot (/mnt/sd1) while the application is being activated.
SC867-02	B	SD card removal detection
		When an application SD card is removed from the slot (/mnt/sd2) while the

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		application is being activated.
		An application SD card has been removed from the slot (from the mount point /mnt/sd*).
		Power cycle the machine.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC868-00	D	SD card access error The SD controller returned an error during operation. (An error occurred at the mount point of /mnt/sd0)
SC868-01	D	SD card access error The SD controller returned an error during operation. (An error occurred at the mount point of /mnt/sd1)
SC868-02	D	SD card access error The SD controller returned an error during operation. (An error occurred at the mount point of /mnt/sd2)
		<ul style="list-style-type: none"> <li>• SD card defective</li> <li>• SD controller defective</li> </ul> SD card that starts an application: <ul style="list-style-type: none"> <li>• Power cycle the machine and check the SD card insertion status.</li> <li>• If no problem is found, insert the SD card and turn the main power on.</li> <li>• If an error occurs, replace the SD card.</li> </ul> SD card for users: <ul style="list-style-type: none"> <li>• In case of a file system error, reformat the SD card (using the "SD Formatter" made by Panasonic).*</li> <li>• In case of a device access error, turn the power off and check the SD card insertion status. <ul style="list-style-type: none"> <li>• If no problem is found, insert the SD card and turn the power on.</li> <li>• If an error occurs, use another SD card.</li> <li>• If the error persists even after replacing the SD card, replace the controller board.</li> </ul> </li> </ul>

\* Do not format the SD card supplied with the main machine or sold as an option. You may only format SD cards used for firmware update by the Customer Engineer.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC870-00	B	Address book data error (Anytime: Address book error.)
SC870-01	B	Address book data error (On startup: Media required for storing the address book is missing.)
SC870-02	B	Address book data error (On startup: encryption is configured but the module required for encryption (DESS) is missing.)

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC870-03	B	Address book data error (Initialization: Failed to generate a file to store internal address book.)
SC870-04	B	Address book data error (Initialization: Failed to generate a file to store delivery sender.)
SC870-05	B	Address book data error (Initialization: Failed to generate a file to store delivery destination.)
SC870-06	B	Address book data error (Initialization: Failed to generate a file to store information required for LDAP search.)
SC870-07	B	Address book data error (Initialization: Failed to initialize entries required for machine operation.)
SC870-08	B	Address book data error (Machine configuration: HDD is present but the space for storing the address book is unusable.)
SC870-10	B	Address book data error (Machine configuration: Cannot make a directory for storing the address book in the SD/USB FlashROM.)
SC870-11	B	Address book data error (On startup: Inconsistency in the address book entry number.)
SC870-20	B	Address book data error (File I/O: Failed to initialize file.)
SC870-21	B	Address book data error (File I/O: Failed to generate the file.)
SC870-22	B	Address book data error (File I/O: Failed to open the file.)
SC870-23	B	Address book data error (File I/O: Failed to write to file.)
SC870-24	B	Address book data error (File I/O: Failed to read the file.)
SC870-25	B	Address book data error (File I/O: Failed to check the file size.)
SC870-26	B	Address book data error (File I/O: Failed to delete data.)
SC870-27	B	Address book data error (File I/O: Failed to add data.)
SC870-30	B	Address book data error (Search: Failed to obtain data from the cache when searching in the machine address book. delivery destination/sender.)
SC870-31	B	Address book data error (Search: Failed to obtain data from cache during LDAP search.)
SC870-32	B	Address book data error (Search: Failed to obtain data from cache while searching the WS-scanner address book.)
SC870-41	B	Address book data error (Cache: failed to obtain data from the cache.)
SC870-50	B	Address book data error (On startup: Detected abnormality of the address book encryption status.)
SC870-51	B	Address book data error (Encryption settings: Failed to create the directory required for conversion between plaintext and encrypted text.)
SC870-52	B	Address book data error (Encryption settings: Failed to convert from plaintext to encrypted text.)
SC870-53	B	Address book data error (Encryption settings: Failed to convert from

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		encrypted text to plain text.)
SC870-54	B	Address book data error (Encryption settings: Detected data inconsistency when reading the encrypted address book.)
SC870-55	B	Address book data error (Encryption settings: Failed to delete the file when changing encryption setting.)
SC870-56	B	Address book data error (Encryption settings: Failed to erase the file that records the encryption key during an attempt to change the encryption setting.)
SC870-57	B	Address book data error (Encryption settings: Failed to move a file during an attempt to change the encryption setting.)
SC870-58	B	Address book data error (Encryption settings: Failed to delete a directory during an attempt to change the encryption setting.)
SC870-59	B	Address book data error (Encryption settings: Detected a resource shortage during an attempt to change the encryption setting.)
SC870-60	B	Address Book data error (Unable to obtain the on/off setting for administrator authentication.)
		<p>When an error related to the Address Book is detected during startup or operation.</p> <ul style="list-style-type: none"> <li>• Software bug</li> <li>• Inconsistency of Address Book source location (machine/delivery server/LDAP server)</li> <li>• Inconsistency of Address Book encryption setting or encryption key (NVRAM or HDD was replaced individually without formatting the Address Book)</li> <li>• The address Book storage device (SD/HDD) was temporarily removed or hardware configuration does not match the application configuration.</li> <li>• Address Book data corruption was detected.</li> </ul> <ol style="list-style-type: none"> <li>1. Check the HDD connection.</li> <li>2. Initialize all UCS settings and address/authentication information (SP5-846-046).</li> <li>3. Initialize the address book partition (SP5-832-006).</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC871-01	D	FCU error
		An error occurred when FCS detects FCU defective.
		<ul style="list-style-type: none"> <li>• Time-out error</li> <li>• Abnormal parameter</li> </ul>
		<ol style="list-style-type: none"> <li>1. Power cycle the machine.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		2. Update the firmware if the more recent firmware was released.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC874-05	D	Delete all error (Delete data area) : Read error
SC874-06	D	Delete all error (Delete data area) : Write error
SC874-09	D	Delete all error (Delete data area) : No response from HDD
SC874-10	D	Delete all error (Delete data area) : Error in Kernel
SC874-12	D	Delete all error (Delete data area) : No designated partition
SC874-13	D	Delete all error (Delete data area) : No device file
SC874-14	D	Delete all error (Delete data area) : Start option error
SC874-15	D	Delete all error (Delete data area) : No designated sector number
SC874-16	D	Delete all error (Delete data area) : failure in performing hdd erase
SC874-41	D	Delete all error (Delete data area) : Other fatal errors
SC874-42	D	Delete all error (Delete data area) : End by cancellation
SC874-61	D	Delete all error (Delete data area) : Library error
SC874-62	D	Delete all error (Delete data area) : Library error
SC874-63	D	Delete all error (Delete data area) : Library error
SC874-64	D	Delete all error (Delete data area) : Library error
SC874-65	D	Delete all error (Delete data area) : Library error
SC874-66	D	Delete all error (Delete data area) : Unavailable
SC874-67	D	Delete all error (Delete data area) : Erasing not finished
SC874-68	D	Delete all error (Delete data area) : HDD format failure (Normal)
SC874-69	D	Delete all error (Delete data area) : HDD format failure (Abnormal)
SC874-70	D	Delete all error (Delete data area) : Unauthorized library
SC874-99	D	Delete all error (Delete data area) : other errors
		An error occurred while data was being erased on HDD or NVRAM
		<ul style="list-style-type: none"> <li>• Error detected in HDD data delete the program</li> <li>• Error detected in NVRAM data delete the program</li> <li>• The "Delete All" option was not set</li> </ul>
		<ol style="list-style-type: none"> <li>1. Turn the main power switch off and back on, and then execute "Erase All Memory" under UP mode again. (However, if there is a defective sector or other problem with the hard disk, the error will persist even after trying the above.)</li> <li>2. If the "Delete All" option is not installed when this error occurs, install the option.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC875-01	D	Delete all error (HDD erasure) (hddchack -i error)
SC875-02	D	Delete all error (HDD erasure) (Data deletion failure)
		An error was detected before HDD/data erasure starts. (Failed to erase data/failed to logically format HDD)
		<ul style="list-style-type: none"> <li>• HDD logical formatting failed.</li> <li>• The modules failed to erase data.</li> </ul>
		Power cycle the machine.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC877-00	B	Data Overwrite Security card error
		The "Auto Erase Memory" function of the Data Overwrite Security is enabled but it cannot be executed.
		<ul style="list-style-type: none"> <li>• Data Overwrite Security option SD card is broken.</li> <li>• Data Overwrite Security option SD card has been removed.</li> </ul>
		<ul style="list-style-type: none"> <li>• If the SD card is broken, prepare a new Data Overwrite Security option SD card and replace the NVRAM.</li> <li>• If the SD card has been removed, turn the main power off and reinstall a working Data Overwrite Security option SD card.</li> </ul>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC878-00	D	TPM electronic authentication error
		The machine failed TPM electronic authentication.
		System hash registered in the TPM did not match the data on the USB flash.
		<ul style="list-style-type: none"> <li>• System module was updated in an unauthorized manner.</li> <li>• USB flash is not working correctly.</li> </ul>
		Replace the controller board (Printer: Controller board, MF: SCB).

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC878-01	D	USB Flash error
		USB Flash file system error
		USB Flash file system has been destroyed.
		Replace the controller board (Printer: Controller board, MF: SCB).

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC878-02	D	TPM error
		An error occurred in the TPM or TPM driver.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		TPM is defective
		Replace the controller board (Printer: Controller board, MF: SCB).

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC878-03	D	TCSD error
		An error occurred in TPM software stack.
		<ul style="list-style-type: none"> <li>• Unable to start TPM</li> <li>• Necessary files missing from the TPM.</li> </ul>
		Replace the controller board (Printer: Controller board, MF: SCB).

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC878-20	D	Random Number Generator Error
		An error occurred when doing self-check against seed for random number generated.
		TPM is defective
		<ul style="list-style-type: none"> <li>• Power cycle the machine.</li> <li>• Replace the controller board (Printer: Controller board, MF: SCB).</li> </ul>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC899-00	D	Software performance error (signal reception end)
		-
		Occurs when an internal program behaves abnormally.
		In the case of a hardware defect
		<ul style="list-style-type: none"> <li>• Replace the hardware.</li> </ul>
		In the case of a software error
		<ul style="list-style-type: none"> <li>• Power cycle the machine.</li> <li>• Try updating the firmware.</li> </ul>

### 6.2.10 SC900 (OTHERS)

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC900-00	D	Electronic counter error
		The electronic total counter value is not the specified value. This error is detected when the counter moves forward.
		<ul style="list-style-type: none"> <li>The NVRAM connection is not correct.</li> <li>The NVRAM is defective.</li> <li>The NVRAM data is corrupted.</li> <li>The data was written in the wrong area due to external factors.</li> <li>When PRT received signals at SRM, the requested count is not completed.</li> </ul>
		Replace the NVRAM.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC920-02	B	Printer Error 1 (WORK memory not acquired)
SC920-04	B	Printer Error 1 (Filter processing ended abnormally)
		When an error is detected in the application, which makes continued operation impossible.
		<ul style="list-style-type: none"> <li>Software bug</li> <li>Unexpected hardware configuration (such as insufficient memory)</li> </ul>
		Power cycle the machine.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC921-00	B	Printer application error (Resident font not found)
		The Resident font was not found at printer startup.
		Preinstalled font files not found.
		Power cycle the machine.

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC925-00	B	NetFile function error
SC925-01	B	NetFile 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.
		<ul style="list-style-type: none"> <li>HDD defective</li> </ul>



No.	Type	Error Name/Error Condition/Major Cause/Solution
		<ul style="list-style-type: none"> <li>• Power loss while data was writing to HDD</li> <li>• Software bug</li> </ul> <p>Procedure 1</p> <ol style="list-style-type: none"> <li>1. If the machine shows SC codes for HDD errors (SC860 to SC865) with SC 925, do the recovery procedures for SC860 to SC865.</li> </ol> <p>Procedure 2</p> <ol style="list-style-type: none"> <li>1. If the machine does not show one of the five HDD errors (SC860 to SC865), cycle the main power OFF/ON.</li> <li>2. If this is not the solution for the problem, then initialize the NetFile partition on the HDD with SP5-832-11 (HDD Formatting - Ridoc I/F). NetFiles: These are jobs printed from the document server using a PC and DeskTopBinder. Before you initialize the NetFile partition on the HDD, tell the customer: <ul style="list-style-type: none"> <li>• Received faxes on the delivery server will be erased</li> <li>• All captured documents will be erased</li> <li>• Desk Top Binder/Print Job Manager/Desk Top Editor job history will be erased</li> <li>• Documents on the document server, and scanned documents will not be erased.</li> <li>• 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).</li> </ul> </li> <li>3. Before you initialize the Netfile partition with SP5-832-11, do these steps:</li> <li>4. In the User Tools mode, do Document Management&gt; Batch Delete Transfer Documents. Do SP5-832-011, and power cycle the machine.</li> </ol> <p>Procedure 3</p> <ol style="list-style-type: none"> <li>1. If "Procedure 2" is not the solution to the problem, do SP5-832-001 (HDD Formatting - All)</li> <li>2. Cycle the power machine off/on.</li> </ol> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>• SP5-832-001 erases all document and address book data on the hard disks. Consult with the customer before you do this SP code.</li> </ul> <p>Procedure 4</p> <ol style="list-style-type: none"> <li>1. If "Procedure 3" does not solve the problem, replace the HDD.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC940-01	C	Registration clutch (CL5) non-drive error
		When the clutch is not driven, the registration value of the failure detection is "0" three times consecutively.
		<ul style="list-style-type: none"> <li>• Connector disconnected</li> <li>• Harness broken</li> <li>• Clutch defective</li> <li>• Driver defective</li> <li>• Interlock power off</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on and duplex printing after each step.</p> <ol style="list-style-type: none"> <li>1. Reconnect the connector on the engine board (Printer: BCU, MF: SCB).</li> <li>2. Reconnect the registration clutch (CL5).</li> <li>3. Replace the registration clutch (CL5).</li> <li>4. Replace the engine board (Printer: BCU, MF: SCB).</li> <li>5. Replace the harness between the registration clutch (CL5) and engine board.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC940-02	C	Paper feed clutch (CL6) non-drive error
		When the clutch is not driven, the registration value of the failure detection is "0" three times consecutively.
		<ul style="list-style-type: none"> <li>• Connector disconnected</li> <li>• Harness broken</li> <li>• Clutch defective</li> <li>• Driver defective</li> <li>• Interlock power off</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on and duplex printing after each step.</p> <ol style="list-style-type: none"> <li>1. Reconnect the connector on the engine board (Printer: BCU, MF: SCB).</li> <li>2. Reconnect the paper feed clutch (CL6).</li> <li>3. Replace the paper feed clutch (CL6).</li> <li>4. Replace the engine board (Printer: BCU, MF: SCB).</li> <li>5. Replace the harness between the paper feed clutch (CL6) and engine board.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC940-03	C	Bypass feed clutch (CL4) non-drive error
		When the clutch is not driven, the registration value of the failure detection is "0" three times consecutively.
		<ul style="list-style-type: none"> <li>• Connector disconnected</li> <li>• Harness broken</li> <li>• Clutch defective</li> <li>• Driver defective</li> <li>• Interlock power off</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on and printing from bypass tray after each step.</p> <ol style="list-style-type: none"> <li>1. Reconnect the connector on the engine board (Printer: BCU, MF: SCB).</li> <li>2. Reconnect the bypass feed clutch (CL4).</li> <li>3. Replace the bypass feed clutch (CL4).</li> <li>4. Replace the engine board (Printer: BCU, MF: SCB).</li> <li>5. Replace the harness between the bypass feed clutch (CL4) and engine board.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC940-04	C	Bypass lift clutch (CL3) non-drive error
		When the clutch is not driven, the registration value of the failure detection is "0" three times consecutively.
		<ul style="list-style-type: none"> <li>• Connector disconnected</li> <li>• Harness broken</li> <li>• Clutch defective</li> <li>• Driver defective</li> <li>• Interlock power off</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on and printing from bypass tray after each step.</p> <ol style="list-style-type: none"> <li>1. Reconnect the connector on the engine board (Printer: BCU, MF: SCB).</li> <li>2. Reconnect the bypass lift clutch (CL3).</li> <li>3. Replace the bypass lift clutch (CL3).</li> <li>4. Replace the engine board (Printer: BCU, MF: SCB).</li> <li>5. Replace the harness between the bypass lift clutch (CL3) and engine board.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC940-05	C	Relay clutch (CL7) non-drive error
		When the clutch is not driven, the registration value of the failure detection is "0" three times consecutively.
		<ul style="list-style-type: none"> <li>• Connector disconnected</li> <li>• Harness broken</li> <li>• Clutch defective</li> <li>• Driver defective</li> <li>• Interlock power off</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on and duplex printing after each step.</p> <ol style="list-style-type: none"> <li>1. Reconnect the connector on the engine board (Printer: BCU, MF: SCB).</li> <li>2. Reconnect the relay clutch (CL7).</li> <li>3. Replace the relay clutch (CL7).</li> <li>4. Replace the engine board (Printer: BCU, MF: SCB).</li> <li>5. Replace the harness between the relay clutch (CL7) and engine board.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC940-06	C	Duplex clutch (CL1) non-drive error
		When the clutch is not driven, the registration value of the failure detection is "0" three times consecutively.
		<ul style="list-style-type: none"> <li>• Connector disconnected</li> <li>• Harness broken</li> <li>• Clutch defective</li> <li>• Driver defective</li> <li>• Interlock power off</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on and duplex printing after each step.</p> <ol style="list-style-type: none"> <li>1. Reconnect the connector on the engine board (Printer: BCU, MF: SCB).</li> <li>2. Reconnect the duplex clutch (CL1).</li> <li>3. Replace the duplex clutch (CL1).</li> <li>4. Replace the engine board (Printer: BCU, MF: SCB).</li> <li>5. Replace the harness between the duplex clutch (CL1) and engine board.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC940-07	C	Toner supply clutch (CL2) non-drive error
		When the clutch is not driven, the registration value of the failure detection is "0" three times consecutively.
		<ul style="list-style-type: none"> <li>• Connector disconnected</li> <li>• Harness broken</li> <li>• Clutch defective</li> <li>• Driver defective</li> <li>• Interlock power off</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on and do OUTPUT check with SP after each step. At this time, remove the toner cartridge.</p> <ol style="list-style-type: none"> <li>1. Reconnect the connector on the engine board (Printer: BCU, MF: SCB).</li> <li>2. Reconnect the toner supply clutch (CL2).</li> <li>3. Replace the toner supply clutch (CL2).</li> <li>4. Replace the engine board (Printer: BCU, MF: SCB).</li> <li>5. Replace the harness between the toner supply clutch (CL2) and engine board.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC940-08	C	Fusing pressure/release motor (M2) non-drive error
		When the motor is not driven, the registration value of the failure detection is "0" three times consecutively.
		<ul style="list-style-type: none"> <li>• Connector disconnected</li> <li>• Harness broken</li> <li>• Motor defective</li> <li>• Driver defective</li> <li>• Interlock power off</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on and duplex printing after each step.</p> <ol style="list-style-type: none"> <li>1. Reconnect the connector on the engine board (Printer: BCU, MF: SCB).</li> <li>2. Reconnect the fusing pressure/release motor (M2).</li> <li>3. Replace the fusing pressure/release motor (M2).</li> <li>4. Replace the engine board (Printer: BCU, MF: SCB).</li> <li>5. Replace the harness between the fusing pressure/release motor (M2) and engine board.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC940-09	C	Exit junction gate solenoid (SOL1) non-drive error
		When the solenoid is not driven, the registration value of the failure detection is "0" three times consecutively.
		<ul style="list-style-type: none"> <li>• Connector disconnected</li> <li>• Harness broken</li> <li>• Solenoid defective</li> <li>• Driver defective</li> <li>• Interlock power off</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on and duplex printing after each step.</p> <ol style="list-style-type: none"> <li>1. Reconnect the connector on the engine board (Printer: BCU, MF: SCB).</li> <li>2. Reconnect the exit junction gate solenoid (SOL1).</li> <li>3. Replace the exit junction gate solenoid (SOL1).</li> <li>4. Replace the engine board (Printer: BCU, MF: SCB).</li> <li>5. Replace the harness between the exit junction gate solenoid (SOL1) and engine board.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC940-10	C	Exit/reverse motor (M1) non-drive error
		When the motor is not driven, the registration value of the failure detection is "0" three times consecutively.
		<ul style="list-style-type: none"> <li>• Connector disconnected</li> <li>• Harness broken</li> <li>• Motor defective</li> <li>• Driver defective</li> <li>• Interlock power off</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on and duplex printing after each step.</p> <ol style="list-style-type: none"> <li>1. Reconnect the connector on the engine board (Printer: BCU, MF: SCB).</li> <li>2. Reconnect the exit/reverse motor (M1).</li> <li>3. Replace the exit/reverse motor (M1).</li> <li>4. Replace the engine board (Printer: BCU, MF: SCB).</li> <li>5. Replace the harness between the exit/reverse motor (M1) and engine board.</li> </ol>

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC940-50	C	Optional counter interface unit error
		Setting of the optional counter interface is ON, and register values, of the set detection signal of the optional counter interface unit, is "1" 3 times in a row.
		Driver's error of the optional counter interface
		<ul style="list-style-type: none"> <li>Power cycle the machine.</li> <li>If the problem cannot be solved, replace the SCB.</li> </ul>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC940-51	C	Registration clutch (CL5) drive error
		When the clutch is driven, the registration value of the failure detection is "1" three times consecutively.
		<ul style="list-style-type: none"> <li>Driver defective</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on and duplex printing after each step.</p> <ol style="list-style-type: none"> <li>Reconnect the connector on the engine board (Printer: BCU, MF: SCB).</li> <li>Reconnect the registration clutch (CL5).</li> <li>Replace the registration clutch (CL5).</li> <li>Replace the engine board (Printer: BCU, MF: SCB).</li> <li>Replace the harness between the registration clutch (CL5) and engine board.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC940-52	C	Paper feed clutch (CL6) drive error
		When the clutch is driven, the registration value of the failure detection is "1" three times consecutively.
		<ul style="list-style-type: none"> <li>Driver defective</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on and duplex printing after each step.</p> <ol style="list-style-type: none"> <li>Reconnect the connector on the engine board (Printer: BCU, MF: SCB).</li> <li>Reconnect the paper feed clutch (CL6).</li> <li>Replace the paper feed clutch (CL6).</li> <li>Replace the engine board (Printer: BCU, MF: SCB).</li> <li>Replace the harness between the paper feed clutch (CL6) and engine board.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC940-53	C	Bypass feed clutch (CL4) drive error
		When the clutch is driven, the registration value of the failure detection is "1" three times consecutively.
		<ul style="list-style-type: none"> <li>• Driver defective</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on and printing from bypass tray after each step.</p> <ol style="list-style-type: none"> <li>1. Reconnect the connector on the engine board (Printer: BCU, MF: SCB).</li> <li>2. Reconnect the bypass feed clutch (CL4).</li> <li>3. Replace the bypass feed clutch (CL4).</li> <li>4. Replace the engine board (Printer: BCU, MF: SCB).</li> <li>5. Replace the harness between the bypass feed clutch (CL4) and engine board.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC940-54	C	Bypass lift clutch (CL3) drive error
		When the clutch is driven, the registration value of the failure detection is "1" three times consecutively.
		<ul style="list-style-type: none"> <li>• Driver defective</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on and printing from bypass tray after each step.</p> <ol style="list-style-type: none"> <li>1. Reconnect the connector on the engine board (Printer: BCU, MF: SCB).</li> <li>2. Reconnect the bypass lift clutch (CL3).</li> <li>3. Replace the bypass lift clutch (CL3).</li> <li>4. Replace the engine board (Printer: BCU, MF: SCB).</li> <li>5. Replace the harness between the bypass lift clutch (CL3) and engine board.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC940-55	C	Relay clutch (CL7) drive error
		When the clutch is driven, the registration value of the failure detection is "1" three times consecutively.
		<ul style="list-style-type: none"> <li>• Driver defective</li> </ul>
		<p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on and duplex printing after each step.</p>



SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		<ol style="list-style-type: none"> <li>1. Reconnect the connector on the engine board (Printer: BCU, MF: SCB).</li> <li>2. Reconnect the relay clutch (CL7).</li> <li>3. Replace the relay clutch (CL7).</li> <li>4. Replace the engine board (Printer: BCU, MF: SCB).</li> <li>5. Replace the harness between the relay clutch (CL7) and engine board.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC940-56	C	<p>Duplex clutch (CL1) drive error</p> <p>When the clutch is driven, the registration value of the failure detection is "1" three times consecutively.</p> <ul style="list-style-type: none"> <li>• Driver defective</li> </ul> <p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on and duplex printing after each step.</p> <ol style="list-style-type: none"> <li>1. Reconnect the connector on the engine board (Printer: BCU, MF: SCB).</li> <li>2. Reconnect the duplex clutch (CL1).</li> <li>3. Replace the duplex clutch (CL1).</li> <li>4. Replace the engine board (Printer: BCU, MF: SCB).</li> <li>5. Replace the harness between the duplex clutch (CL1) and engine board.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC940-57	C	<p>Toner supply clutch (CL2) drive error</p> <p>When the clutch is driven, the registration value of the failure detection is "1" three times consecutively.</p> <ul style="list-style-type: none"> <li>• Driver defective</li> </ul> <p>Power cycle the machine to see if the error reoccurs. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power off/on and do OUTPUT check with SP after each step. At this time, remove the toner cartridge.</p> <ol style="list-style-type: none"> <li>1. Reconnect the connector on the engine board (Printer: BCU, MF: SCB).</li> <li>2. Reconnect the toner supply clutch (CL2).</li> <li>3. Replace the toner supply clutch (CL2).</li> <li>4. Replace the engine board (Printer: BCU, MF: SCB).</li> <li>5. Replace the harness between the toner supply clutch (CL2) and engine board.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC940-59	C	Exit junction gate solenoid (SOL1) drive error
		When the solenoid is driven, the registration value of the failure detection is "1" three times consecutively.
		<ul style="list-style-type: none"> <li>• Driver defective</li> </ul>
		<p>Check if the SC occurs by turning the power OFF then ON. If the SC occurs again, do the following steps. Check if the SC reoccurs by cycling the power and duplex printing after each step.</p> <ol style="list-style-type: none"> <li>1. Reconnect the connector on the engine board (Printer: BCU, MF: SCB).</li> <li>2. Reconnect the exit junction gate solenoid (SOL1).</li> <li>3. Replace the exit junction gate solenoid (SOL1).</li> <li>4. Replace the engine board (Printer: BCU, MF: SCB).</li> <li>5. Replace the harness between the exit junction gate solenoid (SOL1) and engine board.</li> </ol>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC990-00	D	Software performance error
		The software attempted to make an unexpected operation.
		<ul style="list-style-type: none"> <li>• Incorrect argument</li> <li>• Incorrect internal parameter</li> <li>• Insufficient working memory</li> <li>• Abnormal performance caused by an error that cannot be detected in normal SC detection due to hardware specifications.</li> </ul>
		<ul style="list-style-type: none"> <li>• Power cycle the machine.</li> <li>• Reinstall the software of the controller board (Printer: Controller board, MF: SCB).</li> <li>• Reinstall the software of the engine board (Printer: BCU, MF: SCB).</li> </ul>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC991-00	C	Recoverable software operation error
		The software performed an unexpected function and the program cannot continue. Recovery processing allows the program to continue.
		<ul style="list-style-type: none"> <li>• Abnormal variable</li> <li>• Internal parameter error</li> <li>• Insufficient work memory</li> <li>• Hardware error not detected by SC</li> </ul>
		Logging only

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC992-00	D	Undefined Error (No SC Code)
		An error not controlled by the system occurred (the error does not come under any other SC code).
		Software defective
		Power cycle the machine.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC994-00	C	Application Item Error
		The numbers of executed application items on the operation panel reach the maximum limit for the operation panel structure.
		Too many executed application items
		Logging only

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC995-01	D	CPM setting error 1
		Comparison of machine serial number (11 digits) and machine identification code. Details: <ul style="list-style-type: none"> <li>Machine serial number cannot be identified because of BICU replacement or malfunctioning.</li> <li>Machine serial number cannot be identified because of NV-RAM replacement</li> </ul>
		Machine serial number (11 digits) or machine identification code does not match.
		<ul style="list-style-type: none"> <li>Enter the machine serial number using SP5-811, and then cycle the power off/on.</li> <li>Attach the NV-RAM that was installed previously.</li> </ul>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC995-02	D	CPM setting error 2
		Comparison of machine serial number (11 digits) and machine identification code. Details: Machine serial number cannot be identified because of NV-RAM replacement or malfunctioning.
		Machine serial number (11 digits) or machine identification code does not match.
		<ul style="list-style-type: none"> <li>• Attach the NV-RAM that was installed previously.</li> <li>• Download data on the NV-RAM using SP5-825.</li> </ul>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC995-03	D	CPM setting error 3
		Comparison of machine serial number (11 digits) and machine identification code. Details: Unable to recognize machine identification code because the controller was replaced incorrectly or is malfunctioning.
		Machine serial number (11 digits) or machine identification code does not match.
		Replace it with a specified controller.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC995-04	D	CPM setting error 4
		Comparison of machine serial number (11 digits) and machine identification code.
		Machine serial number (11 digits) or machine identification code does not match.
		Return the parts to the original configuration, and then replace them according to the manual.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC997-00	B	Application function selection error
		The application did not function normally after pressing the application key on the operation panel.
		There is a bug in the software.
		<ul style="list-style-type: none"> <li>• Check if the options required by the application (RAM, DIMM, boards) are installed properly.</li> <li>• Check whether downloaded applications are correctly configured.</li> </ul>

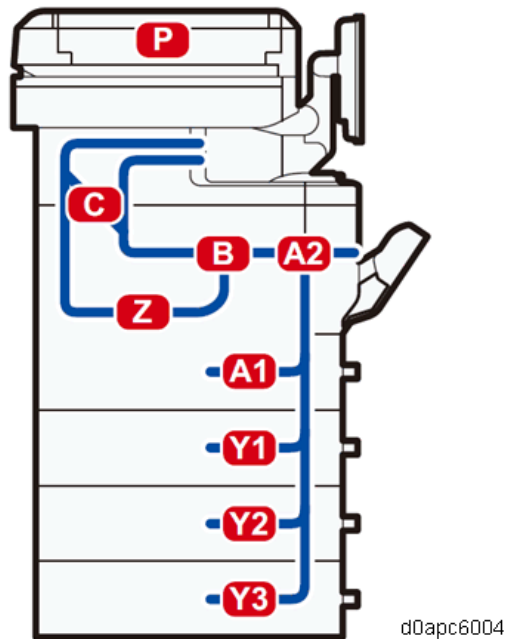
SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC998-00	D	Application start error
		<ul style="list-style-type: none"> <li>• After power ON, no application program was registered to the system within the specified period of time. (No application started or ended normally.)</li> <li>• Even though the application started up, it cannot be rendered due to an unknown fault.</li> </ul>
		<ul style="list-style-type: none"> <li>• There is a bug in the software.</li> <li>• The options required by the application (RAM, DIMM, board) are not installed.</li> </ul>
		<ul style="list-style-type: none"> <li>• Power cycle the machine.</li> <li>• Check the RAM, DIMM, and boards.</li> <li>• Check the application configurations.</li> <li>• Replace the controller board (Printer: Controller board, MF: SCB).</li> </ul>

## 6.3 JAM DETECTION

### 6.3.1 JAM DISPLAYS

When a jam occurs, the jam code is displayed on the operation panel.

Only MF model, the location where the jam occurred is displayed on the operation panel as shown below:



Printer model, the message is displayed on the operation panel as shown below:

- (A1) Open Front Cover and remove the paper.
- (A2) Remove misfeed in Trays. Opn & cls Frt. Cov.
- (B) Open Front Cover and remove the paper.
- (C) Open Front/Rear Cover and remove misfeed.
- (Y1) Remove misfeed in Tray 2. Opn & cls Frt. Cov.
- (Y2) Remove misfeed in Tray 3. Opn & cls Frt. Cov.
- (Y3) Remove misfeed in Tray 4. Opn & cls Frt. Cov.
- (Z) Open Tray1/R.Cov & remove ppr.

### 6.3.2 JAM HISTORY

#### *Checking Logs*

Plotter (print engine) jam history can be displayed using SP7-507. The jam history of the 10 latest jams is displayed.

- SP7-507-001 "Plotter Jam: History Latest"
- SP7-507-002 "Plotter Jam: History Latest1"

- SP7-507-003 "Plotter Jam: History Latest2"
- SP7-507-004 "Plotter Jam: History Latest3"
- SP7-507-005 "Plotter Jam: History Latest4"
- SP7-507-006 "Plotter Jam: History Latest5"
- SP7-507-007 "Plotter Jam: History Latest6"
- SP7-507-008 "Plotter Jam: History Latest7"
- SP7-507-009 "Plotter Jam: History Latest8"
- SP7-507-010 "Plotter Jam: History Latest9"

### Jam Display

SP7-507 shows the paper jam history.

```
CODE :011
SIZE  :05h
TOTAL:000034
DATE  :Fri Feb 15 11:44:50 2006
```

- CODE: Indicates the jam code.
- SIZE: Indicates the paper size code.
- TOTAL: Indicates the total counter (SP7-502-001).
- DATE: Indicates the date when the jam occurred.

#### Note

Initial jams at power on are not displayed here.

### Jam Codes and Position Codes

#### Note

- Jam code: Shows the cause of a jam. Appears in the log data.
- Position code: Shows the location of a jam. Appears on the operation panel.

These are lists of jam codes for the main machine and peripheral devices. Please note:

- **Late jam.** The paper has failed to arrive within the prescribed time due to a jam that has occurred upstream of the referenced sensor.
- **Lag jam.** The paper has failed to leave the location of the referenced sensor within the prescribed time due to a jam downstream of the referenced sensor.

### Main Machine

Jam Code	Jam Type	Position Code
1	Registration sensor (S5) jam	B
1	Paper exit/reverse sensor (S1) jam	C
1	Duplex entrance sensor (S8) jam	C Z
3	Tray 1: No paper feeding	A1

Jam Code	Jam Type	Position Code
33	Tray 1: No paper feeding continuously	A1
8	Bypass tray: No paper feeding	A2
38	Bypass tray: No paper feeding continuously	A2
9	Duplex: No paper feeding	Z
17	Registration sensor (S5): <b>Late jam</b>	A1
57	Registration sensor (S5): <b>Lag jam</b>	B
20	Paper exit/reverse sensor (S1): <b>Late jam</b>	B C
60	Paper exit/reverse sensor (S1): <b>Lag jam</b>	B C
26	Duplex entrance sensor (S8): <b>Late jam</b>	C
66	Duplex entrance sensor (S8): <b>Lag jam</b>	C Z

**SPDF (MF Model Only)**

Jam Code	Jam Type	Position Code
1	Initial Jam	P
4	SPDF registration sensor (S16): <b>Late jam</b>	P
54	SPDF registration sensor (S16): <b>Lag jam</b>	P
100	Motor defective	P
13	SPDF feed sensor (S17): <b>Late jam</b>	P
63	SPDF feed sensor (S17): <b>Lag jam</b>	P
97	Timing error jam	P
98	Original proximity jam	P
99	Double-feed jam	P

**Optional Bank**

Jam Code	Jam Type	Position Code
1	Tray 2 paper transport sensor jam	Y1
4	Tray 2: No paper feeding	Y1
34	Tray 2: No paper feeding continuously	Y1
13	Tray 2 paper transport sensor: <b>Late jam</b>	Y2
53	Tray 2 paper transport sensor: <b>Lag jam</b>	A1 Y1
1	Tray 3 paper transport sensor jam	Y2
5	Tray 3: No paper feeding	Y2
35	Tray 3: No paper feeding continuously	Y2
14	Tray 3 paper transport sensor: <b>Late jam</b>	Y3



Jam Code	Jam Type	Position Code
54	Tray 3 paper transport sensor: <b>Lag jam</b>	A1 Y1 Y2
1	Tray 4 paper transport sensor jam	Y3
6	Tray 4: No paper feeding	Y3
36	Tray 4: No paper feeding continuously	Y3
55	Tray 4 paper transport sensor: <b>Lag jam</b>	A1 Y1 Y2 Y3

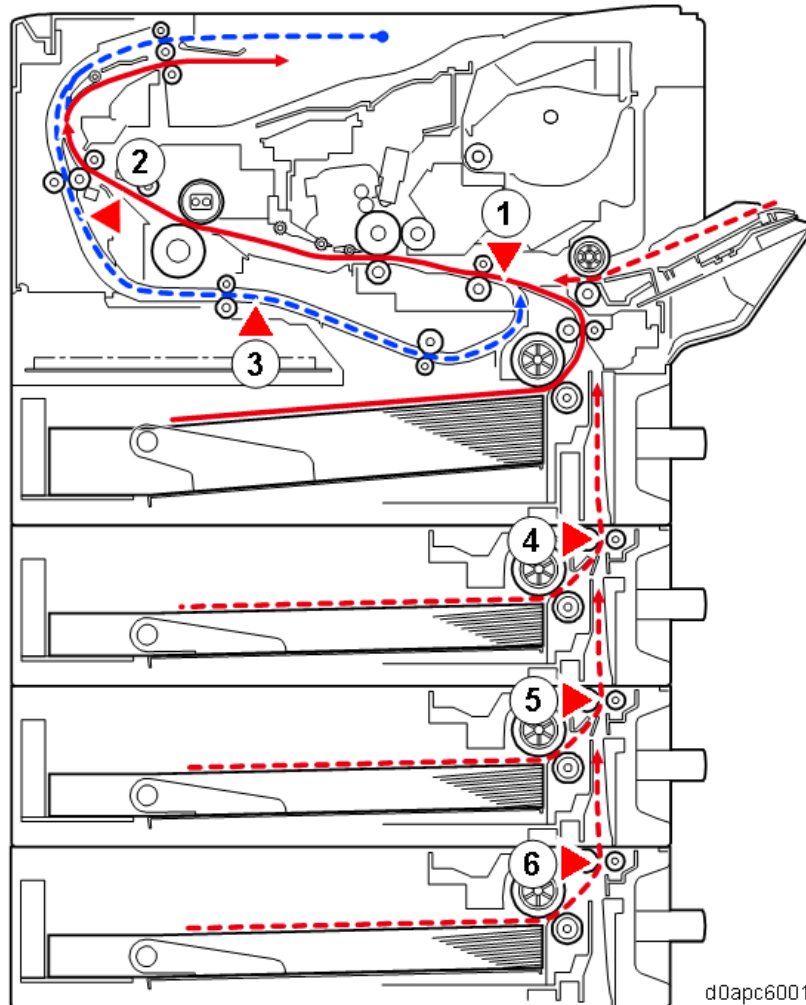
### **Paper Size Codes**

Paper size codes are as follows.

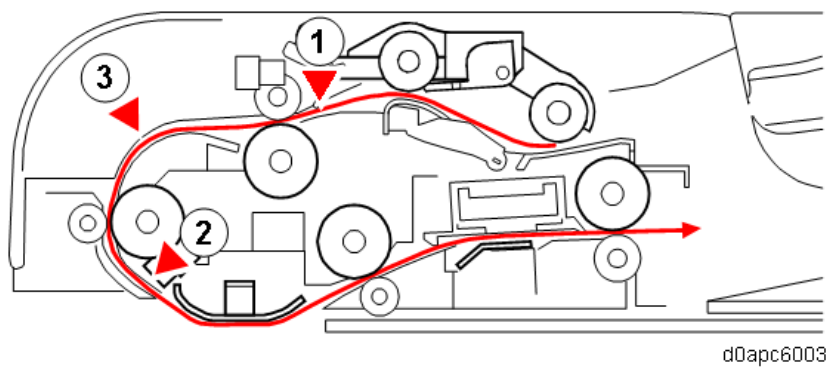
Size Code	Paper Size
005 (05H)	A4 LEF
006 (06H)	A5 LEF
014 (0EH)	B5 LEF
038 (26H)	8 1/2"x11"(LT) LEF
044 (2CH)	5 1/2"x8 1/2"(HLT) LEF
133 (85H)	A4 SEF
134 (86H)	A5 SEF
141 (8DH)	B4 SEF
142 (8EH)	B5 SEF
160 (A0H)	11"x17"(DLT) SEF
164 (A4H)	8 1/2"x14"(LG) SEF
166 (A6H)	8 1/2"x11"(LT) SEF
172 (ACH)	5 1/2"x8 1/2"(HLT) SEF
255 (FFH)	Others

### 6.3.3 SENSOR POSITION LAYOUT

#### *Main Machine and Optional Bank*



1. Registration sensor (S5)
2. Paper exit/reverse sensor (S1)
3. Duplex entrance sensor (S8)
4. Tray 2 paper transport sensor (Optional bank 1)
5. Tray 3 paper transport sensor (Optional bank 2)
6. Tray 4 paper transport sensor (Optional bank 3)

**SPDF (MF Model Only)**

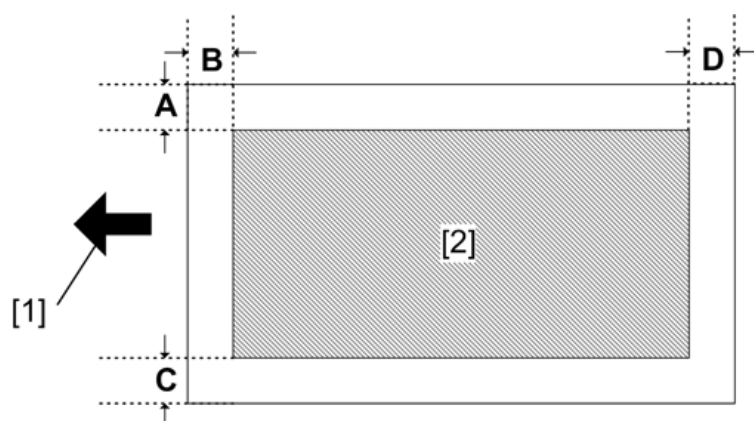
1. SPDF feed sensor (S17)
2. SPDF registration sensor (S16)
3. Double-feed sensor (Option)

## 6.4 IMAGE ADJUSTMENT

### 6.4.1 REGISTRATION ADJUSTMENT

#### Print Area

Check that the adjustment meets the product specification.



- [1]: Paper feed direction
- [2]: Print area

#### Adjustment Reference Values

- B: Leading edge (Sub scanning direction):  $3.0 \pm 1.5$  mm
- D: Trailing edge (Sub scanning direction): 3.0 mm
- C: Left (Main scanning direction):  $2.0 \pm 1.5$  mm
- A: Right (Main scanning direction): 2.0 mm

#### Adjustment Procedure

1. Enter the SP mode, and select the test pattern (15: Trim Area) with SP2-109-001 (Test Printing: Pattern Selection).
2. Print out a test pattern with SP2-109-002 (Test Printing: 1 Sheet Printing).

#### Note

Print a test pattern, and then adjust the leading edge registration in the SP mode to the optimum value.

3. Do the leading edge registration adjustment.
  - 1) Check the leading edge registration for each paper trays and adjust them with SP1-001.

SP No.	SP Name	Range
SP1-001-001	User LeadEdge Reg: By-pass: Plain	$\pm 4.0$ mm
SP1-001-002	User LeadEdge Reg: Tray1: Plain	$\pm 4.0$ mm
SP1-001-003	User LeadEdge Reg: Tray2: Plain	$\pm 4.0$ mm
SP1-001-004	User LeadEdge Reg: Tray3: Plain	$\pm 4.0$ mm
SP1-001-005	User LeadEdge Reg: Tray4: Plain	$\pm 4.0$ mm

SP No.	SP Name	Range
SP1-001-006	User LeadEdge Reg: Duplex: Plain	±4.0 mm

2) Input the value. Then press [#].

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

4. Do the side-to-side registration adjustment.

1) Check the side-to-side registration for each paper trays and adjust them with SP1-002.

SP No.	SP Name	Range
SP1-002-001	User S-to-S Reg: By-pass	±4.0 mm
SP1-002-002	User S-to-S Reg: Tray 1	±4.0 mm
SP1-002-003	User S-to-S Reg: Tray 2	±4.0 mm
SP1-002-004	User S-to-S Reg: Tray 3	±4.0 mm
SP1-002-005	User S-to-S Reg: Tray 4	±4.0 mm
SP1-002-006	User S-to-S Reg: Duplex	±4.0 mm

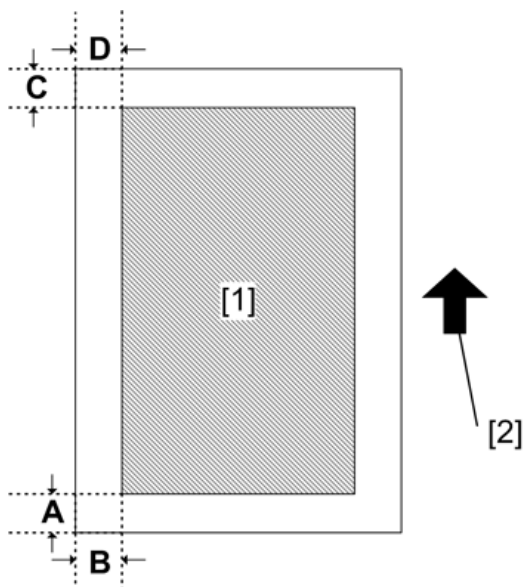
2) Input the value. Then press [#].

3) Generate a trim pattern to check the side-to-side registration adjustment.

## 6.4.2 IMAGE POSITION ADJUSTMENT

### Note

- Adjust the blank margin width only if it cannot be adjusted by registration (leading edge/side-to-side). First adjust C and D; then A and B.



- [1]: Print area
  - [2]: Paper feed direction
- Enter the SP mode, and select the test pattern (15: Trim Area) with SP2-109-001 (Test Printing: Pattern Selection).
  - Print out a test pattern with SP2-109-002 (Test Printing: 1 Sheet Printing).
  - Adjust the blank margin width of the image with SP2-103-001 to -008.

SP No.	SP Name	Range	Note
SP2-103-001	Erase Margin Adj: Lead Edge Width	0.0 to 9.9 mm (Default: 3.0 mm)	
SP2-103-002	Erase Margin Adj: Trail Edge Width	0.0 to 9.9 mm (Default: 2.0 mm)	
SP2-103-003	Erase Margin Adj: Left Edge Width	0.0 to 9.9 mm (Default: 2.0 mm)	
SP2-103-004	Erase Margin Adj: Right Edge Width	0.0 to 9.9 mm (Default: 2.0 mm)	
SP2-103-005	Erase Margin Adj: Duplex Lead EW	0.0 to 4.0 mm (Default: 0.0 mm)	Additional value against the front side.
SP2-103-006	Erase Margin Adj: Duplex Trail EW	0.0 to 4.0 mm (Default: 0.0 mm)	
SP2-103-007	Erase Margin Adj: Duplex Left EW	0.0 to 4.0 mm (Default: 0.0 mm)	
SP2-103-008	Erase Margin Adj: Duplex Right EW	0.0 to 4.0 mm (Default: 0.0 mm)	

### 6.4.3 SCANNER, SPDF IMAGE ADJUSTMENT

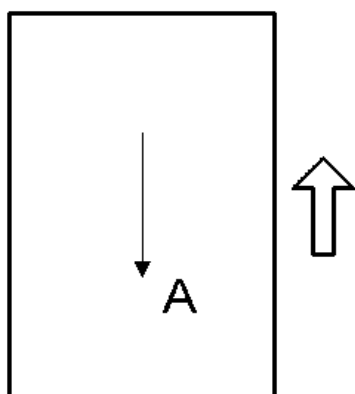
#### *Scanner Image Adjustment*

Before the scanner adjustment, do the Side-to-Side registration and image position adjustment.

#### Note

Use a test chart to adjust these settings.

#### *Magnification*

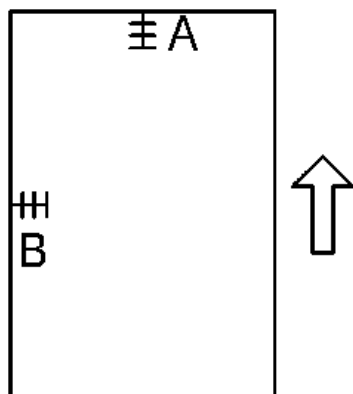


A: Sub-scan magnification

1. Put the test chart on the exposure glass and make a copy from one of the paper feed trays.
2. Check the magnification ratio. If necessary, adjust the magnification with the following SP.  
Standard:  $\pm 1.25\%$

SP No.	SP Name	Range
SP4-008-001	Sub Scan Magnification Adj.	$\pm 1.0\%$

### Registration



- A: Leading edge registration
  - B: Side-to-side registration
1. Put the test chart on the exposure glass. Then make a copy from one of the paper feed trays.
  2. Check the leading edge and side-to-side registration, and adjust as necessary with the following SPs.  
A:  $0 \pm 2.0\text{mm}$   
B:  $0 \pm 2.5\text{mm}$

SP No.	SP Name	Range
SP4-010-001	Sub Scan Registration Adj.	$\pm 1.0 \text{ mm}$
SP4-011-001	Main Scan Registration Adj.	$\pm 2.0 \text{ mm}$

### SPDF Image Adjustment

Before the scanner adjustment, do the Side-to-Side registration and image position adjustment.

#### Note

Use A4/LT paper to make a temporary test chart.

### Margin Position

1. Put the temporary test chart on the SPDF. Then make a copy from one of the paper feed trays.
2. Check the registrations, and adjust as necessary with following SPs.  
Standard:  $0 \pm 1.5 \text{ mm}$  (Main scan),  $0 \pm 2.0 \text{ mm}$  (Sub scan)

SP No.	SP Name	Range
SP6-006-001	Side-to-Side Regist:Face	$\pm 3.0 \text{ mm}$
SP6-006-002	Side-to-Side Regist:Back	$\pm 2.0 \text{ mm}$
SP6-006-010	L-Edge Regist (1-Pass):Face	$\pm 5.0 \text{ mm}$
SP6-006-011	L-Edge Regist (1-Pass):Back	$\pm 5.0 \text{ mm}$

SP No.	SP Name	Range
SP6-006-014	T-Edge Erase (1-Pass):Face	± 5.0 mm
SP6-006-015	T-Edge Erase (1-Pass):Back	± 5.0 mm

**Magnification**

1. Place the temporary test chart on the SPDF and make a copy from one of the paper feed trays.
2. Check the magnification and adjust as necessary with following SP.  
Standard: ± 1.0% or less

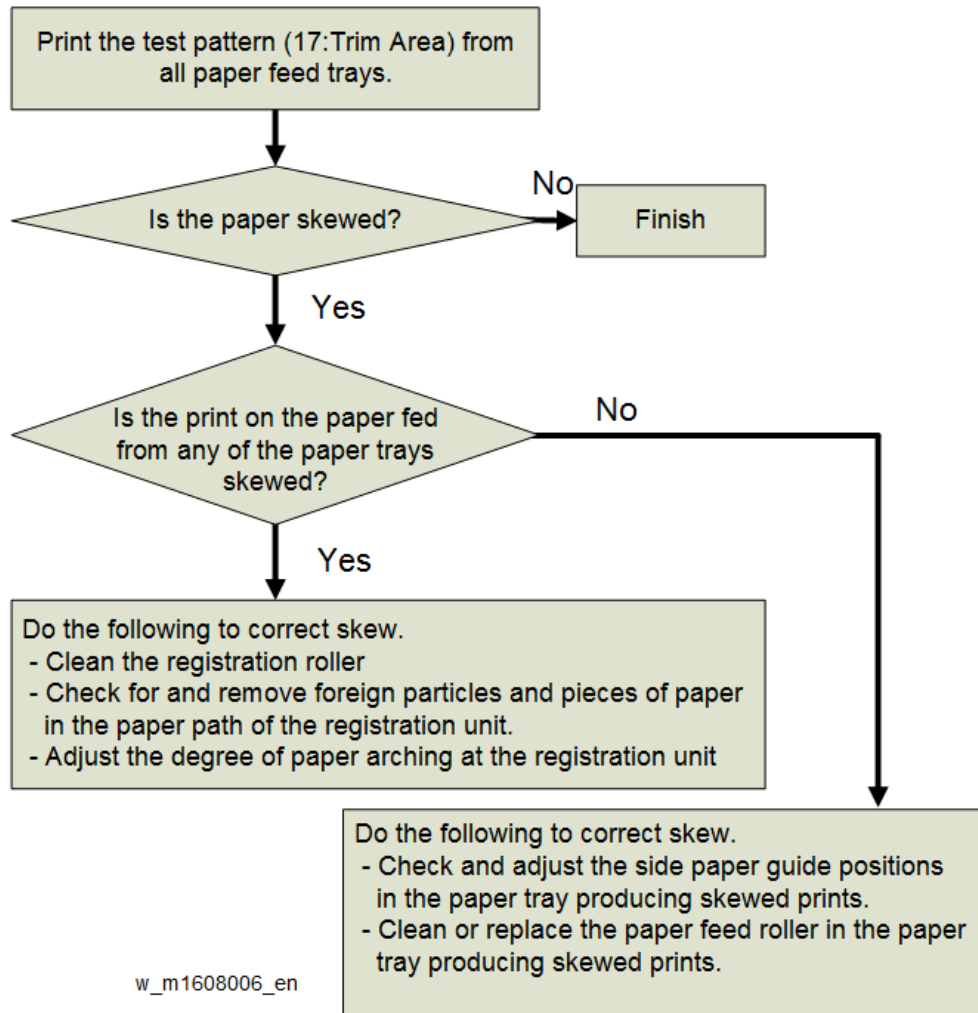
SP No.	Name	Range
SP6-017-001	SPDF Adjustment Magnification	± 5.0 %



## 6.5 OTHER TROUBLESHOOTING

### 6.5.1 PAPER FEED (SKEW)

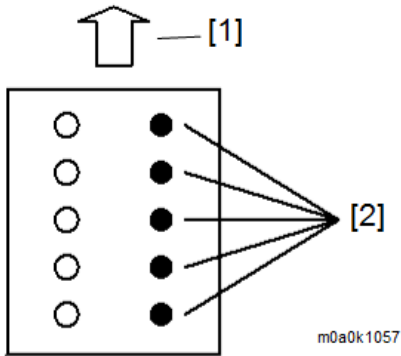
Use the following flowchart to determine the cause and deal with the problem.



### 6.5.2 PROBLEM AT REGULAR INTERVALS

Image problems may appear at regular intervals that depend on the circumference of certain components.

The following diagram shows the possible symptoms (black or white dots at regular intervals or other problems).

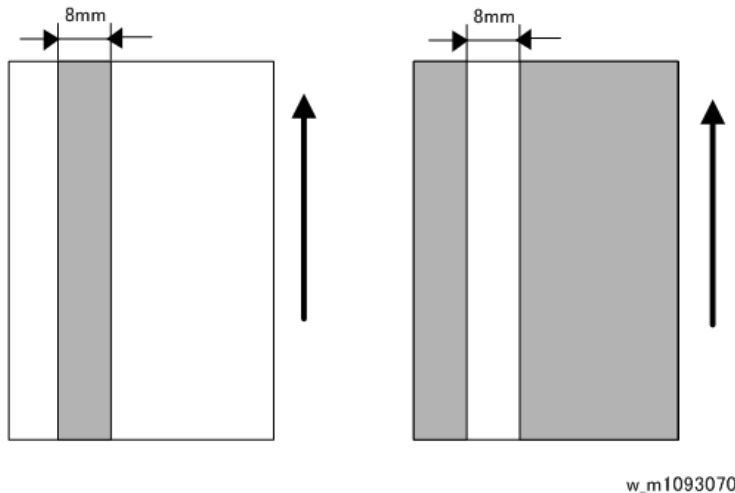


1. Paper feed direction
2. Problems at regular intervals

Problems	Intervals	Defective parts
Problems with the printed result (other than black or white dots)	113.1 mm	Paper feed roller
	62.83 mm	Separation roller
	82.47 mm	Bypass feed roller
	48.44 mm	Relay roller (Drive)
	43.98 mm	Relay roller (Driven)
	51.18 mm	Registration roller (Drive)
	37.7 mm	Registration roller (Driven)
	29.8 mm	Charge roller
	50.00 mm	Image transfer roller
	93.2 mm	Hot roller
	41.15 mm	Paper exit/reverse roller
	45.08 mm	Fusing exit roller
	45.08 mm	Duplex entrance roller
38.00 mm	Duplex relay roller	
38.00 mm	Duplex exit roller	
Black or white dots	48.1 mm	Development roller
	94.4 mm	Drum

### 6.5.3 WHEN VERTICAL LINE OF 8MM IS GENERATED

The LED head contains 26 LED chips, each covering a line 8mm wide. If a line 8mm wide extending in the paper feed direction appears, an LED chip may be damaged. If so, replace the LED head.



### 6.5.4 WHEN VERTICAL BANDING IS GENERATED

The vertical banding on a print image may be improved by the [Drum Rotation] function.

**Note**

If the [Drum Rotation] function is performed many times, the life of the drum unit may be shortened.

1. Select a drum rotation level.

**Printer model:**

Menu > Maintenance > Drum Rotation

**MF model:**

Home screen > User Tools > Machine Features > Maintenance > Drum Rotation

2. Select a drum rotation level from the following 2 levels: Level 1 (Normal) and Level 2 (Strong).

**Operation**

Level 1: Photoconductor idles for 55 seconds

Level 2: Photoconductor idles for 30 seconds (for black and white vertical banding)

**Effectively Prevented Problems**

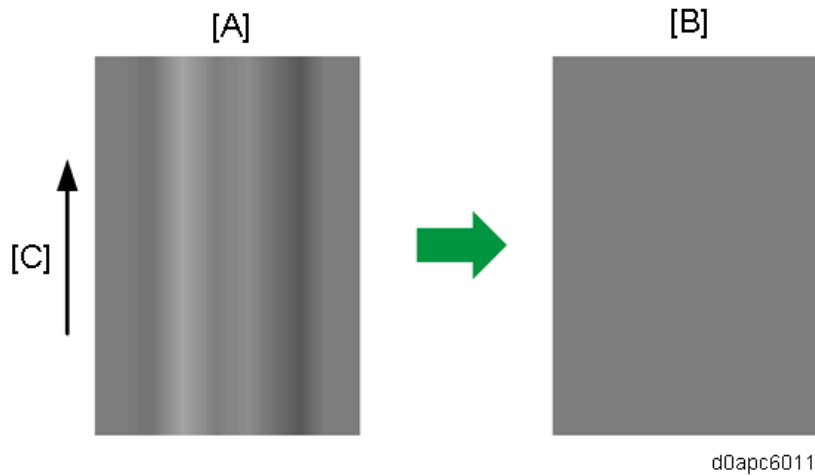
Level 1: Pieces of white banding (for halftone or continuous printing)

Level 2: White vertical banding (for halftone), black vertical banding, and black horizontal banding

### 6.5.5 WHEN VERTICAL LINES, BANDS CAUSE UNEVEN DENSITY

**(MF MODEL ONLY)**

Uneven density can be corrected by scanner feedback control when vertical stripes and bands appear in images and cause uneven density in halftone areas.



[A]: Occurrence of uneven image density

[B]: After correction

[C]: Printing direction

Correction cannot be done for the following types of images:

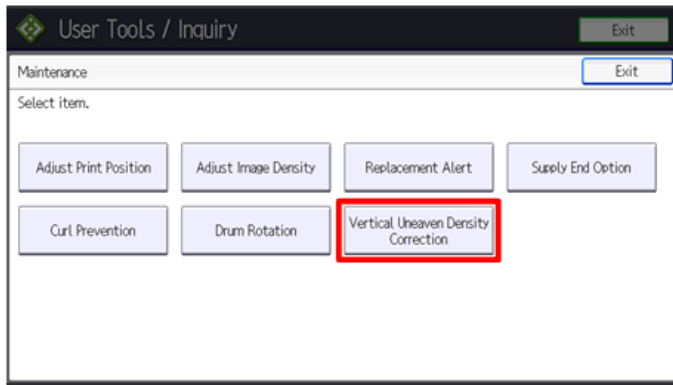
- Uneven density, stripes, or banding in any direction other than the direction of the printing
- Black stripes or black bands where there is no image
- Text characters broken by white spots

During scanner feedback control, the scanner reads the halftone image, calculates a correction value from the density data, and then returns the result of the calculation to the print heads as an SP. The correction value calculated with image output becomes the correction value for the LED head array and the PCDU.

**Correction Procedure****Preparation**

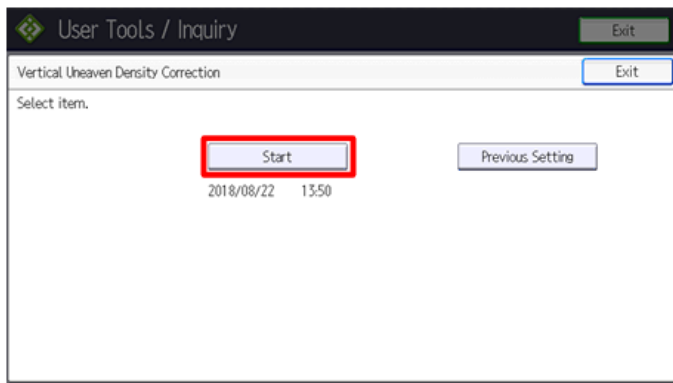
Raise the platen and clean the exposure glass before you do this procedure.

1. On the Home screen, select User Tools icon > Machine Features > Maintenance > Vertical Uneven Density Correction.



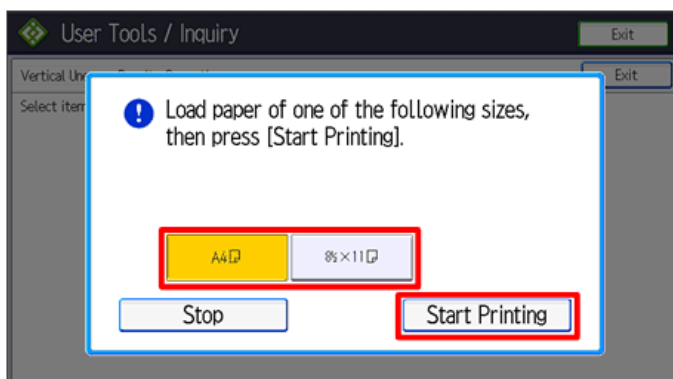
d0apc6013

2. Touch [Start].



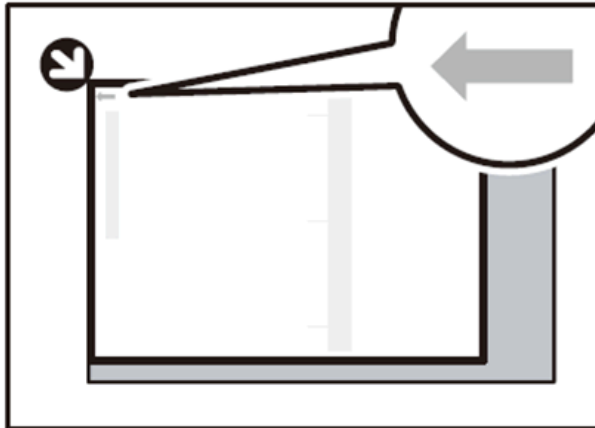
d0apc6014

3. Select [A4] or [8<sup>1</sup>/<sub>2</sub> x 11] for the size of the paper with the halftone images, and then touch [Start Printing]. The correction sheet is printed.



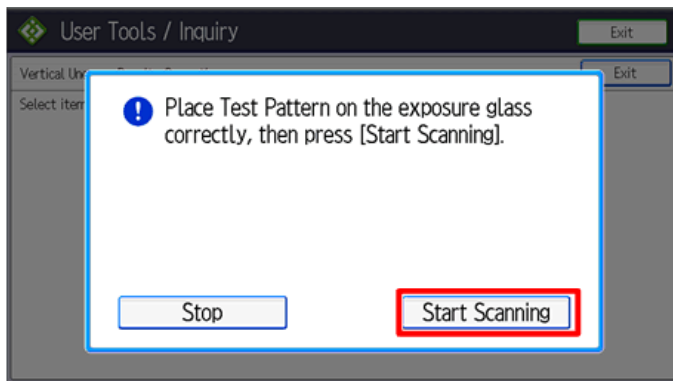
d0apc6015

- Turn the correction sheet over, and then set the sheet aligned with the upper left corner of the exposure glass as shown below.



d0apc6012

- Touch [Start Scanning]. The correction is completed with the message disappears.



d0apc6016

**Note**

If scanning fails, check the following:

- Check the orientation and position of the correction sheet.
- Check the alignment of the correction sheet. To prevent the correction sheet from shifting, place more than five blank sheets of the same size on the correction sheet and try again.

Confirm whether the scanner feedback control executed correctly with the following SP codes.

- SP2-133-001 (SFBVSC:Choice: Reflect of Correction). If executed correctly, "1" is displayed.
- SP2-132-019 (SFBVSC:Configuration: Number of Scan). Displays the cumulative execution count of the set PCD unit.

### 6.5.6 IMAGE AREA OR BACKSIDE BECOMES DIRTY WHEN FREQUENTLY PRINTING ON SMALL-SIZE PAPER

When continuously printing on paper sizes smaller than A4-width, the toner may collect on the ribs of the paper transfer exit, causing stripes and bands to form on the front or back side of the paper passing below.



To correct this problem when stripes or bands appear, clean the ribs at the paper transfer exit.



Also, if this problem occurs with A5 LEF paper, to correct this problem clean the ribs and then feed the paper by its short edge (SEF).

## 6.5.7 RECYCLED OR THIN PAPER IS SEVERELY CURLED AFTER PRINTING

If the delivered paper is curled, it cannot be stacked properly. In such a case, raise the paper stopper on the output tray and remove the paper frequently.

You can control the fuser temperature to prevent the paper from curling by User Tools.

**Printer model:** Menu > Maintenance > Quality Maintenance > Curl Prevention: Active (Default: Inactive)

**MF model:** User Tools > Machine Features > Maintenance > Curl Prevention: Active (Default: Inactive)

### Note

If set to [Active]:

- The print speed drops (30ppm). Accordingly, the first print output time is delayed.
- The fixing ability might worsen depending on the paper used.
- If "Thick Paper 2" or heavier is selected, the print speed drops around 23ppm.
- If "Thick Paper 1" or heavier is selected, idle rotation 10 seconds is added before printing.

## 6.5.8 POOR IMAGE QUALITY WHEN USING SHINY MATERIALS MODE

With previous machines scanning shiny, metallic surfaces caused abnormal images with horizontal lines. The Shiny Materials mode selection reduces the amount of light for scanning to prevent the degradation of image quality.

- [A]: Normal scan. Amount of light: 100%
- [B]: Shiny Materials mode. Amount of light: 16%



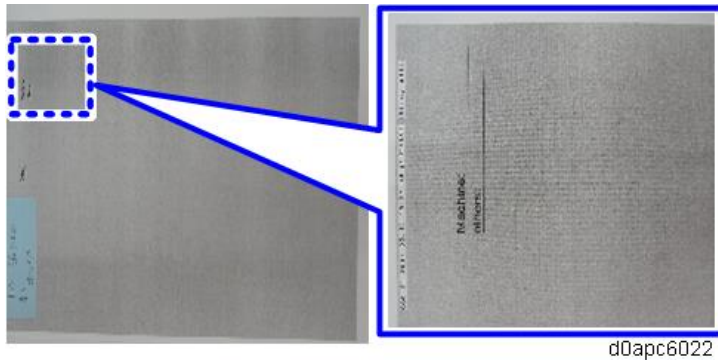
### Action

The amount of light used for Shiny Materials mode can be changed with SP4-856-001 (Shiny Materials Mode: PWM Duty). Increasing the amount of light can cause grainier images and make horizontal lines appear more prominent.



## 6.5.9 UNEVEN IMAGE DENSITY

Uneven density can occur in 2-by-2 or original halftone or filled areas during continuous print jobs longer than 20 pages with only 5 min. between print jobs.



### Cause

The following conditions could make it difficult for toner to move to electrostatic image borders on the development roller and cause worm-eaten patterns to make the texture of images appear uneven.

- The electrostatic attraction of the toner to the development roller has increased due to pressure between the development roller and the OPC.
- The Coulomb force (strength of attraction and repulsion between positive/negative elements) of the electrostatic charge is too low due to large rough areas on the development roller.

### Action

1. Stop the machine for at least 10 minutes.
2. Notch Adjustment

#### MF model:

User Tools > Machine Features > Maintenance > Adjust Image Density. Press [Darker] for 1 to 3 times

#### Printer model:

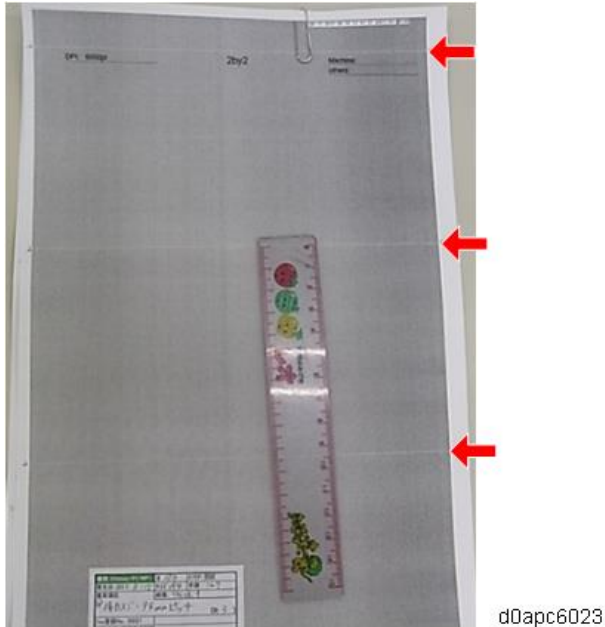
Menu > Maintenance > Quality Maintenance > Adjust Image Density: Press 1 to 3 times to get darker

3. SP adjustment

Set SP2-201-206 (DV bias Control: Coefficient: a6) to from -20 to -120. This value is added to the development bias.

## 6.5.10 HORIZONTAL WHITE BANDS 94 MM APART

Horizontal white lines appear in halftone images. This is likely to occur in a high temperature, high humidity environment.



### **Cause**

Starting and stopping the rotation of the OPC can cause "footprints" at the development roller nip, making it difficult for the toner to stick and develop images correctly at 94 mm intervals (OPC pitch) and causing white bands.

### **Action**

1. Stop the machine for at least 10 minutes.
2. Notch Adjustment:

#### **MF model**

User Tools > Machine Features > Maintenance > Adjust Image Density. Press [Darker] 1 to 3 times.

#### **Printer model**

Menu > Maintenance > Quality Maintenance > Adjust Image Density. Press 1 to 3 times.

3. SP adjustment

Set SP2-201-206 (DV bias Control: Coefficient: a6) to from -20 to -120. (This value is added to the development bias.)

### 6.5.11 EXCESSIVE CURL WHEN PRINTER IN THICK PAPER 3 MODE

A large paper curl (65mm -73mm) might develop while using “Thick Paper 3” (Paper over 165g/m<sup>2</sup>) mode. This could cause paper curling, the paper falling, or incorrect stacking.

#### **Cause**

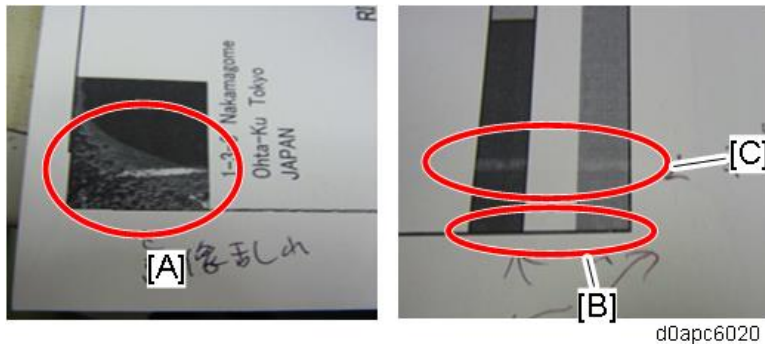
In this machine, the position of the fusing unit entrance guide is arranged closer to the fusing roller as a countermeasure to prevent excessive curl in normal paper during duplex printing, caused by paper wrapping around the fusing roller when it enters the fusing unit.

#### **Action**

Remove the sheets one by one from the paper exit tray.

## 6.5.12 DEFECTIVE IMAGES WHEN PRINTING ON ENVELOPES

Defective images like the one shown below can occur when printing on envelopes.



- [A] Image distortion due to uneven texture at paper edges (sides, trailing edge)
- [B] Poor fusing when printing more than three envelopes consecutively
- [C] Poor transfer at envelope creases

### Cause

[A] Image distortion due to uneven texture at paper edges (sides, trailing edge)

[B] Poor fusing when printing more than three envelopes consecutively

[C] Poor transfer at envelope creases

### Action

Apply any one of the countermeasures.

[A] Distorted image

- Narrow the print area of the image by increasing the white space (margins) at sides and trailing edge.
- Do not print halftones and filled areas near the edges of the image.
- Change the type of envelope.

[B] Insufficient fusing

- Change to envelopes of other types of paper with fusing temperatures: Envelope 2 (205°C), Envelope 3 (210°C).
- Raise the fusing temperature for the envelopes.

[C] Poor image transfer

- Position the image print area away from creases.
- Switch to envelopes made by another manufacturer.

### 6.5.13 WRINKLES OCCUR ON PRINTED ENVELOPES

Wrinkles can occur when printing on envelopes under the following conditions:

- After printing a large number of envelopes (printing about 100 duplex mode).
- When printing thick envelopes of average weight up to 110 g/m<sup>2</sup>.
- When printing in ambient temperature above 20°C (68°F).

#### **Cause**

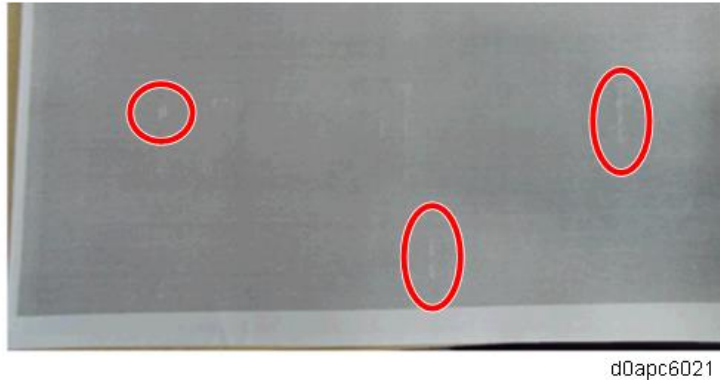
Due to the wide envelope nip and envelope shape (equivalent to several sheets of paper, and the flap), the effect of the twisting motion at the fusing nip can cause wrinkling.

#### **Action**

- If wrinkling occurs, wait at least 5 min. before printing more envelopes.
- Switch to feeding envelopes from the bypass paper tray.
- Switch to envelopes made by another manufacturer.

## 6.5.14 WATER SPOTS FROM CONDENSATION

After a long job (about 20 sheets of A4) printing on single-sided sheets, water drop patterns may appear in the following dupe print job. This is likely to occur in a cool environment, especially early in the morning before the machine is sufficiently warm.



### **Cause**

Water in the paper evaporates and accumulates in the duplex paper path during simplex printing. The paper collects the water when it passes through the duplex path which leads to poor image transfer.

### **Action**

- Wait at least 5 min. after a long simplex print job before starting a duplex print job.
- Set "Curl Prevention" to ON.

**MF model:** User Tools > Machine Features > Maintenance > Curl Prevention: Active

**Printer model:** Menu > Maintenance > Quality Maintenance > Curl Prevention: Active

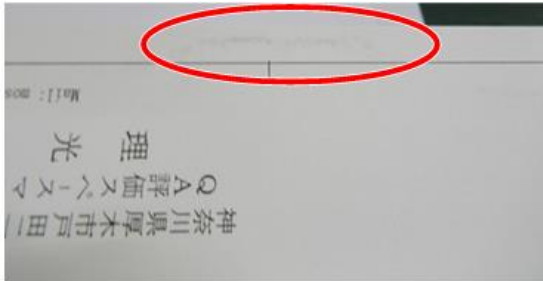
#### **Note**

If set to [Active]:

- The print speed drops (30ppm). Accordingly, the first print output time is delayed.
- The fixing ability might worsen depending on the paper used.
- If "Thick Paper 2" or heavier is selected, the print speed drops around 23ppm.
- If "Thick Paper 1" or heavier is selected, idle rotation 10 seconds is added before printing.

### 6.5.15 STAINED LEADING EDGES WHEN MANUAL DUPLEX PRINTING POSTCARDS OR THICK PAPER

Staining can occur at the leading edges during duplex printing when feeding postcards or thick paper from the Bypass Tray.



d0apc6024

#### **Cause**

During feed for duplex printing from the bypass tray, the printed first side is rubbing against the bypass paper feed rollers and peeling off toner.

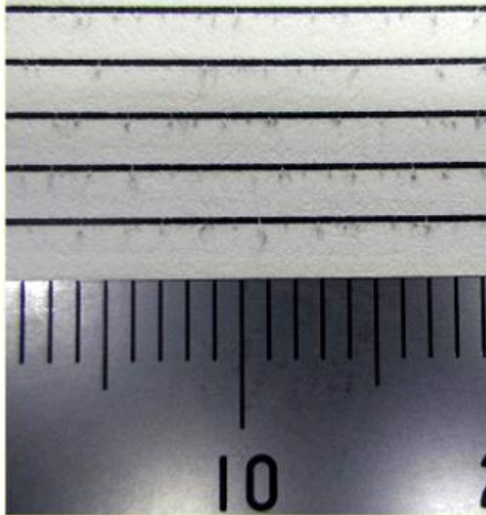
#### **Action**

If smearing or staining occurs at the leading edges within halftone and filled areas when feeding from the bypass tray, switch to paper feed to Tray 1.

## 6.5.16 BLACK SPECKLES IN IMAGES

Black spots might appear on the images:

- Printed on 43 CPM model
- On 1st or 2nd sheet of the print job on the half from the leading edge
- Under horizontal line images



d0apc6025

### **Cause**

The water content of the paper evaporates when the paper reaches the entrance of the fusing area, and the water vapor mixes with toner and causes black spots.

### **Action**

- Change the printing side (front/back) of the paper
- Change to Silent Mode printing  
If set to [Active], the print speed drops (30ppm).
- Change to the "Curl Prevention" mode

**MF model:** User Tools > Machine Features > Maintenance > Curl Prevention: Active

**Printer model:** Menu > Maintenance > Quality Maintenance > Curl Prevention: Active

#### **Note**

If set to [Active]:

- The print speed drops (30ppm). Accordingly, the first print output time is delayed.
- The fixing ability might worsen depending on the paper used.
- If "Thick Paper 2" or heavier is selected, the print speed drops around 23ppm.
- If "Thick Paper 1" or heavier is selected, idle rotation 10 seconds is added before printing.



## 6.5.17 PRINTED BARCODES CANNOT BE READ

Cases can occur when barcodes printed at 600 dpi resolution cannot be read.

### **Cause**

- Amount of applied toner is insufficient, or black lines have been lost due to uneven printing.
- If too much toner has been applied, blank areas in the patterns are too small.

### **Action**

- Use the printer driver to set printing resolution to 1200 x 1200 dpi.

## 6.5.18 EXCESSIVE CURL REDUCES EXIT TRAY CAPACITY

The amount of paper that can be stacked on the exit tray might be lower than the specification depending on the paper type.

### **Note**

For reference the number of sheets in a stack are:

- Approx. 15 mm. paper curl: about 200 sheets
- Approx. 20 mm. paper curl: about 150 sheets

### **Cause**

Curl on either side of the stack raises the height of the stack and triggers the actuator of the tray full sensor before the paper exit tray is actually full.

### **Action**

Instruct the operator to do the following:

- Turn the stack over and print on the other side
- Set "Curl Prevention" to ON.

**MF model:** User Tools > Machine Features > Maintenance > Curl Prevention: Active

**Printer model:** Menu > Maintenance > Quality Maintenance > Curl Prevention: Active

### **Note**

If set to [Active]:

- The print speed drops (30ppm). Accordingly, the first print output time is delayed.
- The fixing ability might worsen depending on the paper used.
- If "Thick Paper 2" or heavier is selected, the print speed drops around 23ppm.
- If "Thick Paper 1" or heavier is selected, idle rotation 10 seconds is added before printing.

## 6.5.19 STACK ERROR (SPILLING OF THE PAPER STACKED IN THE OUTPUT TRAY)

Depending on the number of sheets delivered, the stacked paper may spill. If the number of stacked sheets is substantial, you can prevent the stack from spilling by adjusting the stopper [A].

**Printer model:**



d0apc6005


**MF model:**



d0apc6006

## 6.5.20 TO PREVENT ACCIDENTAL POWER CORD DISCONNECTION

To prevent the accidental disconnection of the power cord, you can install the AC cord clamp for this machine.

Part name	Part number	Q'ty	Remarks
AC CODE CLAMP: RACCD86-236AS	11050754	1	 m160c9003

### Installation Procedure

1. Attach the clamp [A] to the main machine.




2. Connect and clamp the AC code and clamp.

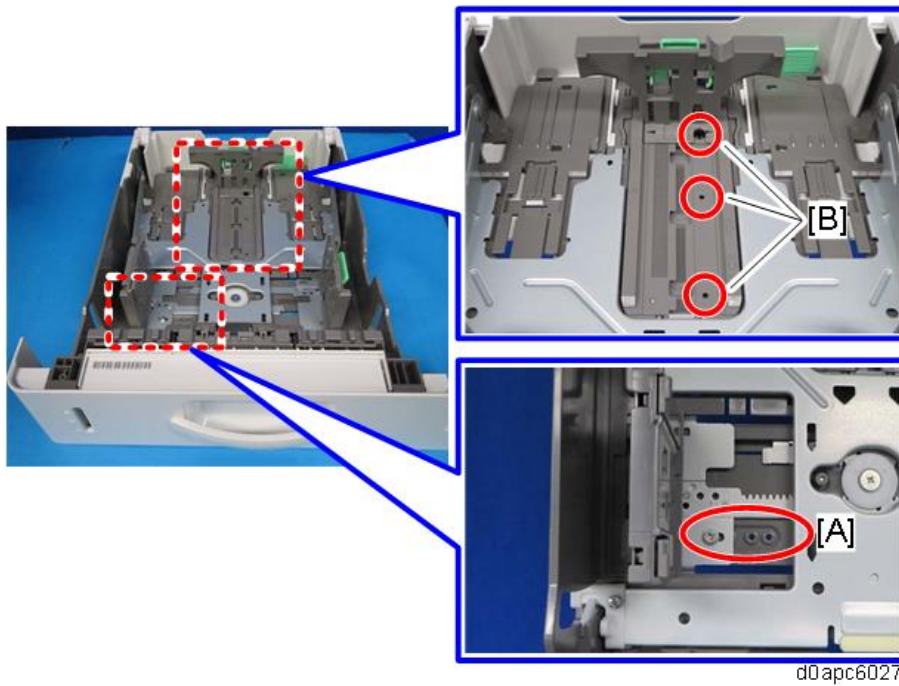


## 6.5.21 PAPER FEED TRAY SIDE FENCE AND END FENCE FASTENERS

The side fence and end fence of the paper feed trays can be fastened for operators using standard paper sizes. Use the service parts listed below to fasten the fences.

	Application	Part Name	Part No.	Note
[A]	Fastens the side fence	Hex tapping screws (+) M3x10	04583010N	
[B]	Fastens the end fence	Nylon Rivet NRP345	H0202318	 d0apc6028

### Attachment Locations



## 6.5.22 FLUORESCENT LAMP, X-RAY LIGHT, OR LED FLICKER

Fluorescent lamps, LEDs, X-ray lights flicker after the machine is installed at the work site.

### **Cause**

When the machine is turned on there is a large power surge momentarily to turn on the fusing lamps that maintain fusing temperature, causing a drop in voltage at some customer work sites.

### **Action**

Enter the SP mode, open SP1-134-001 (Inrush Control), and then change [0 (Disable: Default)] from "0" to [1: (Enable)]. (There may be occasions when you cannot solve the problem at some customer work sites.)

#### **Important**

Enabling this mode changes the machine specifications, so before doing this adjustment consult with sales district managers and customers.

#### **Note**

This Inrush Control mode is supported by the engine firmware below:

- Printer model: Ver.1.05:12 or later
- MF model: Ver.1.06:09 or later

### 6.5.23 SUPPRESSING MAXIMUM POWER CONSUMPTION

Power supply breakers trip when multiple machines at the same work site are turned on together.

The power supply capacity at the work site is small, but the customer does not want to increase power supply capacity.

#### **Cause**

The capacity of the power supply is temporarily insufficient if many machines are turned on at the same time.

#### **Action**

Enter the SP mode, open SP1-912-001 (Power Limit Mode: Mode: 0: OFF 1: ON), and then change [0 (Disable: Default)] from "0" to [1: (Enable)].

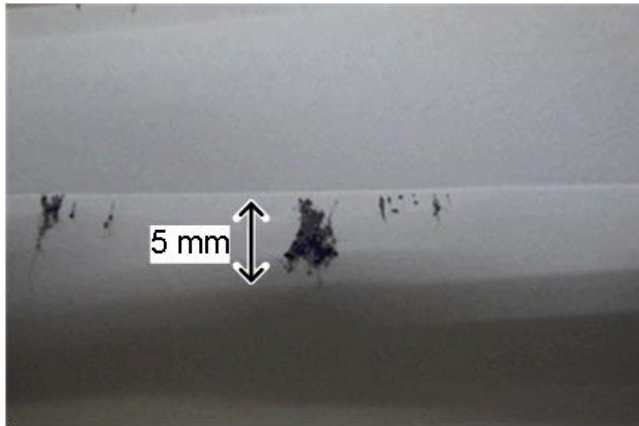
- In the maximum power consumption reduction mode, maximum power consumption can be lowered by shortening the time intervals between lighting the fusing lamps and lowering the amount of current flowing to the lamps to a level below that for normal operation mode.
- The purpose of this mode is to avoid power supply overload, not to save power.
- At startup the machine consumes power equal to that for normal operation mode.
- While this mode is enabled use Plain Paper 1 or Plain Paper 2.
- While this mode is enabled, the time needed to return from sleep mode to full operation is longer, and the fast print speed is slower than usual.

#### **Important**

Enabling this mode changes the machine specifications, so before doing so consult with the sales district managers and customers.

## 6.5.24 FIBROUS DEPOSITS OCCUR ON THE BACK SIDES OF PAPER AT THE LEADING EDGES

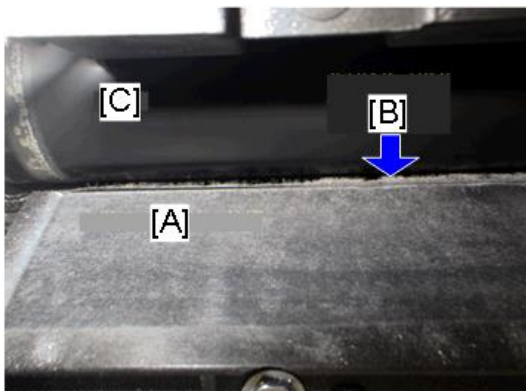
Deposits resembling fibers can occur at the leading edge on the back side of paper.



d0apc6030

### Cause

1. When the fusing entrance guide plate [A] is raised to counter paper wrinkling during fusion in this machine, this can severely abrade the back side of paper at the leading edge.
2. Paper dust from paper collects on the edge of the fusing entrance guide plate, causing toner and other matter scraped from the guide plate to form tendrils of fibrous deposits [B].
3. The build-up of these fibrous deposits collects on the back side of the paper.



d0apc6032

[A] Fusing entrance guide plate

[B] Fibrous deposits

[C] Hot roller

### Action

Do the following cleaning procedures.

1. Remove the fusing unit. (*Fusing Unit*)
2. Remove fusing unit top cover. (*Fusing Upper Cover*)

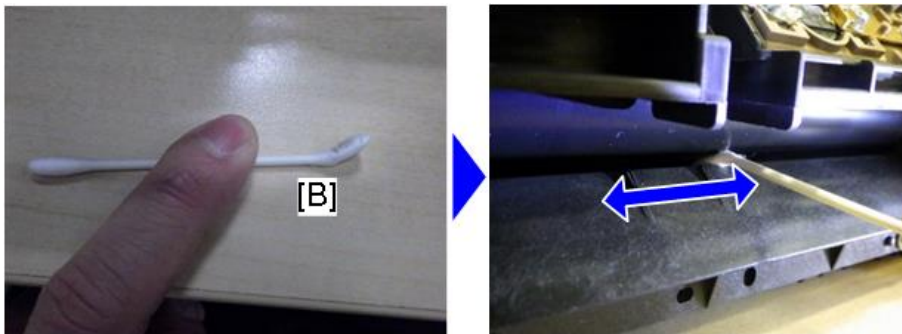
(You can do this procedure without cover removal, but this procedure makes it easier to see the fusing entrance guide.)

- Remove the deposits [A] on the inner leading edge of the fusing guide plate.

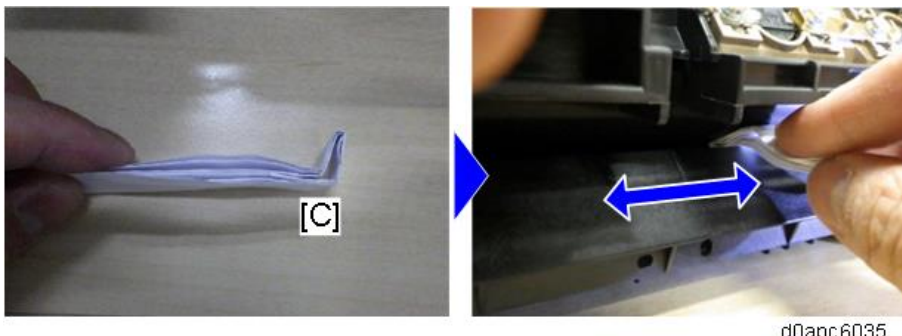


d0apc6033

- Bend the tip of a cotton swab [B], or fold a sheet of paper [C]\*1, insert it between the edge of the guide plate and the hot roller, and then move it slowly back and forth along the length of the blade. Visually check to make sure that all the fibrous deposits have been removed.



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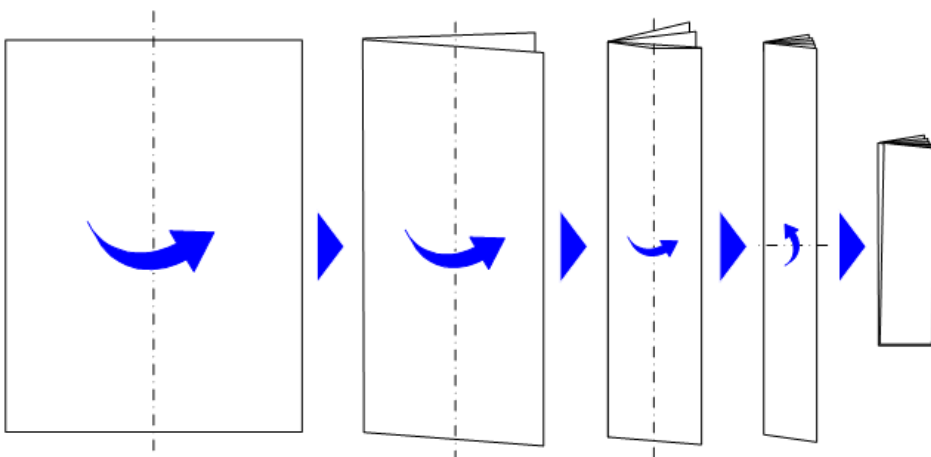


d0apc6035

**Note**

\*1 If you choose to use folded paper, fold it as described below.

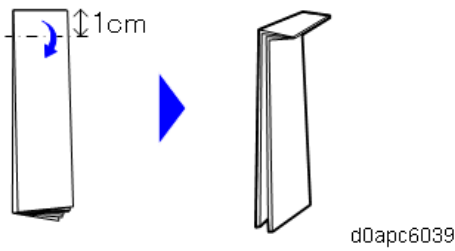
- Take one sheet of A4 paper and fold it three times in halves.



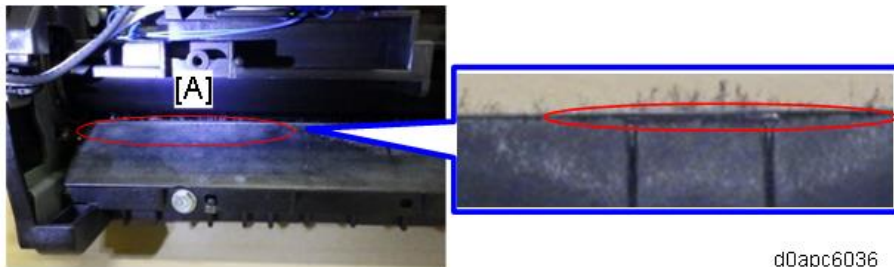
d0apc6038



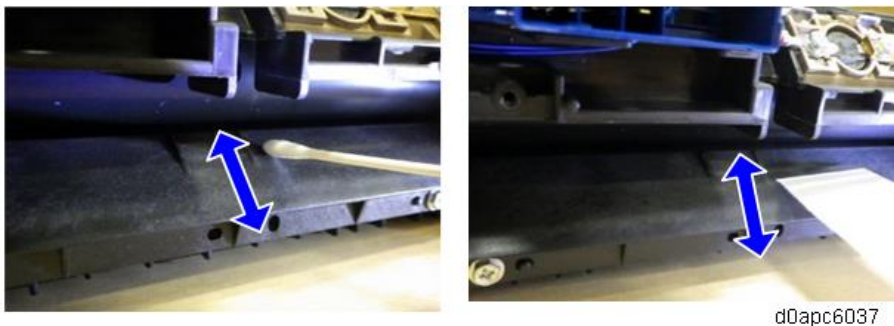
2. Make a 1 cm fold at the tip of one end.



5. Remove the deposits [A] at the leading edge of the fusing guide plate on the side where paper passes.



6. Rub the cotton swab (or tip of the folded paper) on the guide plate in the direction of paper feed.
7. Cut the tip of the folded paper (to about 30 mm), put it on the leading edge of the guide, and then move it along the direction of paper feed to make sure that nothing remains caught on the blade.



8. Reattach the cover, reinstall the fusing unit, and then confirm that paper feeds correctly. The first sheets may collect dirt from deposits that fell onto the hot roller and pressure roller during guide blade during cleaning. These deposits should disappear after more paper passes through (about 10 sheets).

### 6.5.25 TEARS OCCUR AT THE LEADING EDGES OF PAPER

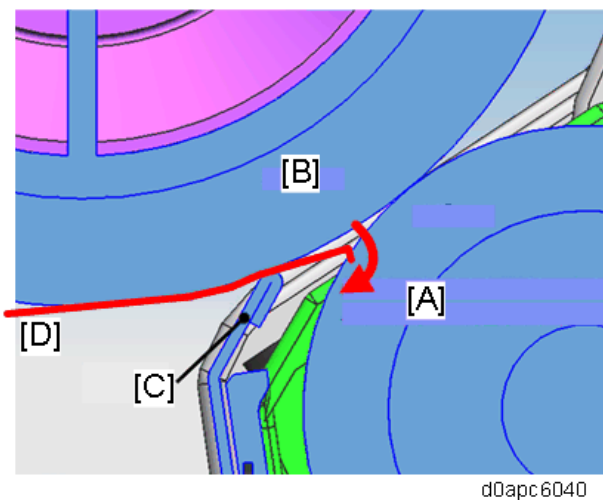
Paper may tear at the leading edges of paper if paper with residual burrs from cuttings is used. This can also cause double feeds or edges of the sheets to stick together.

#### **Cause**

Burrs caught on the edges of paper when stacks are cut during manufacturing can cause the trailing edges of the paper stick to the leading edges of the following sheets and lead to double-feeds or continuous feeds with the trailing and leading edges sticking together.

During paper separation, if there are burrs on the leading edges, the contact between the separation roller and leading edges can cause tearing at the leading edges. (See diagram below.)

Condition with cutting burrs over 0.1 mm high



- [A] Separation roller
- [B] Feed roller
- [C] Pre-separation plate
- [D] Paper

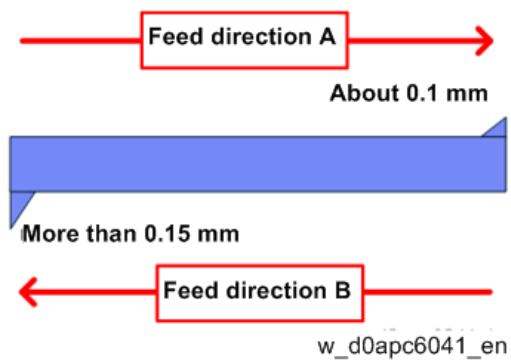
#### **Solution**

Do the following for the paper being used.

1. Change the position of the paper stack.
  - A. Swap the front and back of the stack (leading edge and the trailing edge in the direction of feed).
  - B. Turn the stack over (without changing the direction of feed).
  - C. If Step A, B does not solve the problem turn the stack over and change the direction of feed.
2. Confirm that there is no moisture in the stack.
 

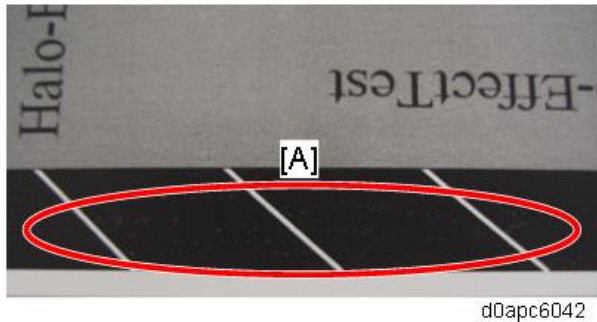
Request the operator to use paper that has been stored at acceptable range of temperature and humidity. You can also set the machine in curl reduction mode.

3. Check to see that the paper is a type not recommended for use with the machine.  
Request the operator to use only paper that is recommended for use with the machine.
  4. Make sure that the paper stack is not over the load limit for the paper feed tray.  
Set a stack of paper so it does not exceed the limit for the side fence of the paper feed tray.  
However, as shown in the figure below, for paper types whose trimming burrs are reversed at the leading edge of the paper and at the trailing edge of the paper, even if the paper is inverted with respect to the direction of feeding, there are cases where these methods are not effective.
- In paper feed direction A, small catching at the separation roller causes a small edge tearing.
  - In paper feed direction B, a large incidence of catching at the separation roller causes a large amount of edge tearing.



## 6.5.26 WHITE SPOTS OCCUR AT LOW TEMPERATURE AND HUMIDITY

If ambient temperature and humidity are low, papers that are thicker than medium thickness can cause groups of white spots [A].



### Cause

If the paper is cold, the electrical resistance will be high which can cause a discharge during image transfer.

### Solution

Suppress the electrical discharge on paper, used for printing, by changing the paper thickness setting one step at a time according to the table below. This will prevent the electrical discharge issue in the transfer unit while maintaining optimum line speed and fusing.

However, if you change the setting from Thick 2 to Thick 3, you will not be able to do duplex printing, so if you are using duplex printing, make setting changes as shown in the table below.

	Printing Paper Thickness				
	Medium	Thick 1	Thick 2 (Simplex)	Thick 2 (Duplex)	Thick 3
Thickness setting	Normal 2	Thick 2	Thick 3	Normal 2 (reduces transfer electrical current)	OHP
Silent mode	Not required	Not required	Not required	ON (line speed reduced)	Not required
SP mode changes	Not required	Not required	Not required	Change SP1-105-153, -203 to +10 (to match fusing temperature)	Not required
Comments	Change paper type in UP mode	Change paper type in UP mode	Change paper type in UP mode	Done by service technician only	Change paper type in UP mode

 **Important**

These measures are intended to avoid problems, and we recommend that you return to the original settings if the operation environment changes according to the season.



# DETAILED DESCRIPTIONS

REVISION HISTORY		
Page	Date	Added/Updated/New
		None





## 7. DETAILED DESCRIPTIONS

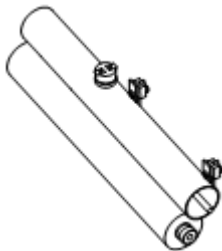
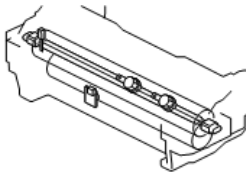
### 7.1 OVERVIEW

#### 7.1.1 GUIDANCE FOR THOSE WHO ARE FAMILIAR WITH PREDECESSOR MODELS

##### *Printer Model*

Here is a summary of the differences between this machine and its predecessors.

Item		SP 4520DN/4510DN	P 502/501 (This machine)	Reason for Change
Specification	Print speed	40 ppm	43 ppm	-
Exposure unit,	Toner	Single-element polymer toner	Single-element pulverized toner	-
Development unit	Toner cartridge lock lever position	Cartridge right side	Cartridge left side	Improved operability with an operation panel on the opposite side Used toner counter-measures
	Toner cross-mixing in the toner cartridge	No	Cross-mixing with an agitator and cross-mixing coil	Improved toner flow with pulverized toner
	Used toner recovery path	Direct path method	Separated dual-path method	Coil mechanism modified to improve toner flow
	Toner near-end control	<ul style="list-style-type: none"> <li>Definite toner near-end (calculated)</li> <li>Toner end (physical detection)</li> </ul>	<ul style="list-style-type: none"> <li>Estimated toner near-end (calculated)</li> <li>Definite toner near-end (physical detection)</li> <li>Toner end (calculated from definite near-end)</li> </ul>	SC332 (Toner end detection error) solutions

Item		SP 4520DN/4510DN	P 502/501 (This machine)	Reason for Change
	Quenching lamp	No	Yes	Countermeasure for handling latent images and dirty edges on paper
	Anti-static plate	Not removable	Removable	Improve maintenance
	LED head cleaning	Wipe with clean cloth	Automatic cleaning by linking to opening/closing front door	Simplify cleaning procedure
Fusing Unit	Fusing unit installation and removal	Lift after release with lock lever	Lock release mechanism and handle combined	Simplify installation/removal
	Fusing pressure release	Manual (lever provided for envelopes)	Automatic	-
	Handling paper jams	No	Auto pressure release	Reduces the number of paper jams in the fusing unit
	Fusing lamps	One fusing lamp	Two fusing lamps, one with a center element and one with two end elements	-
	Temperature monitoring	Hot roller end: thermistor Hot roller center: thermistor, thermostat 	Hot roller end: thermistor, thermostat Hot roller center: thermopile, thermostat 	-
Drive unit	Motor	Motor x1	Motor x2	Reduce mileage on

Item		SP 4520DN/4510DN	P 502/501 (This machine)	Reason for Change	
		<ul style="list-style-type: none"> <li>All rollers are driven by one main motor</li> </ul>	<ul style="list-style-type: none"> <li>Paper feed/fusing: Paper feed motor</li> <li>Development: Drum motor</li> </ul>	the development unit, achieve longer service life for drum	
Paper Feed	Paper feed/separation system	Friction pad method	RF (Roller Friction) method with the pre-separation plate	Countermeasure for double-feeding	
	Paper tray bottom plate lowers automatically	-	The tray can be loaded with the bottom plate down	-	
	Paper near-end sensor	No	Yes	Improve detection of the amount of paper remaining in the tray	
	Paper size mismatch operation	Paper jam	The paper exits tray without printing, machine issues size mismatch alert	Makes jam removal unnecessary	
	Failure to feed operation	Paper jam	Paper feed retry control Allows more time before jam alert issue	Makes jam removal unnecessary	
	Registration guide		Black guide plate	Transparent guide plate	Easier to see jammed paper
			-	Opening the registration guide plate releases pressure on registration roller	Makes paper jam removal easier
Electrical Components	NFC tag module	No	Yes	-	

**MF Model**

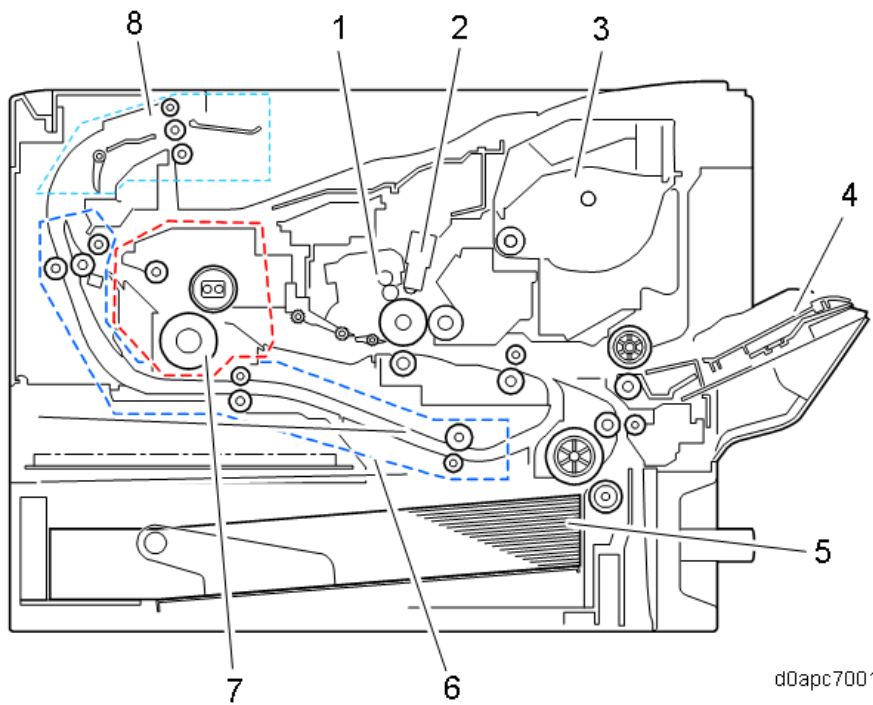
Here is a summary of the differences between this machine and its predecessors.

Item		MP 402SPF	IM 430Fb/430F/350F/350 (This machine)	Reason for Change
Specification	Print speed	40 ppm	43 ppm/ 35 ppm	-
SPDF/Scanner	Carriage lock	No	Yes	-
	Double-feed detection	No	Option	-
Exposure unit, Development unit	Toner	Single-element polymer toner	Single-element pulverized toner	-
	Toner cartridge lock lever position	Cartridge right side	Cartridge left side	Improved operability with the operation panel on the opposite side Used toner counter-measures
	Toner cross-mixing in toner cartridge	No	Cross-mixing with an agitator and cross-mixing coil	Improved toner flow with pulverized toner
	Used toner recovery path	Direct path method	Separated dual-path method	Coil mechanism modified to improve toner flow
	Toner near-end control	<ul style="list-style-type: none"> <li>Definite toner near-end (calculated)</li> <li>Toner end (physical detection)</li> </ul>	<ul style="list-style-type: none"> <li>Estimated toner near-end (calculated)</li> <li>Definite toner near-end (physical detection)</li> <li>Toner end (calculated from definite near-end)</li> </ul>	SC332 (Toner end detection error) solutions
	Quenching lamp	No	Yes	Countermeasure for handling latent images and dirty edges on paper
	Anti-static plate	Not removable	Removable	Improve maintenance

Item		MP 402SPF	IM 430Fb/430F/350F/350 (This machine)	Reason for Change
	LED head cleaning	Wipe with clean cloth	Automatic cleaning by linking to opening/closing front door	Simplify cleaning procedure
Fusing Unit	Fusing unit installation and removal	Lift after release with the lock lever	Lock release mechanism and handle combined	Simplify installation/removal
	Fusing pressure release	Manual (lever provided for envelopes)	Automatic	-
	Handling paper jams	No	Auto pressure release	Reduces the number of paper jams in the fusing unit
	Fusing lamps	One fusing lamp	Two fusing lamps, one with a center element and one with two end elements	-
	Temperature monitoring	Hot roller end: thermistor Hot roller center: thermistor, thermostat	Hot roller end: thermistor, thermostat Hot roller center: thermopile, thermostat	-
Drive unit	Motor	Motor x1 <ul style="list-style-type: none"> <li>All rollers are driven by one main motor</li> </ul>	Motor x2 <ul style="list-style-type: none"> <li>Paper feed/fusing: Paper feed motor</li> <li>Development: Drum motor</li> </ul>	Reduce mileage on the development unit, achieve longer service life for drum
Paper Feed	Paper feed/separation system	Friction pad method	RF (Roller Friction) method with the pre-separation plate	Countermeasure for double-feeding
	Paper tray bottom plate lowers	-	The tray can be loaded with the bottom plate down	-

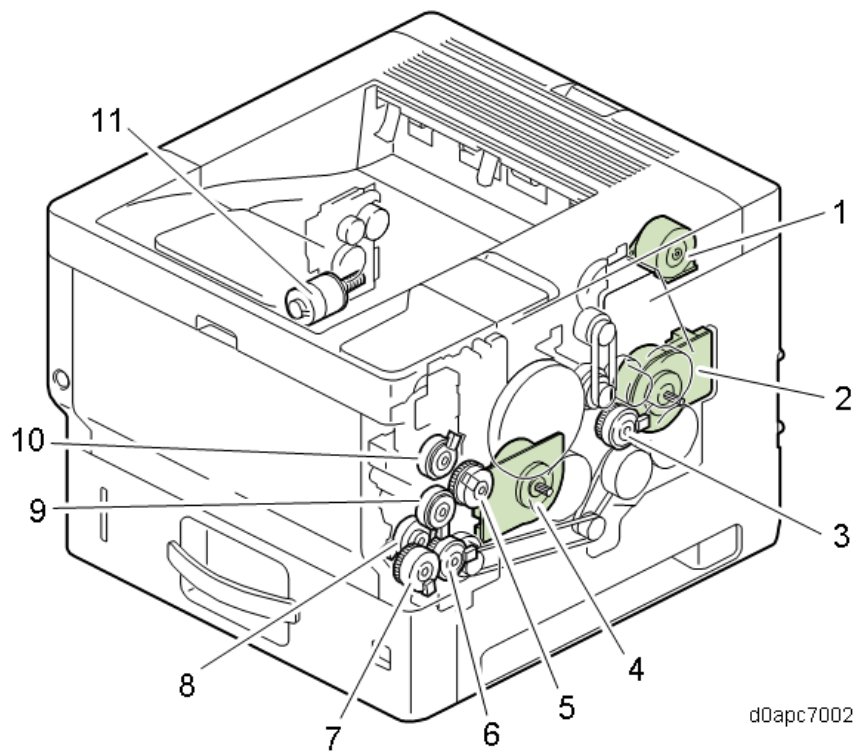
Item	MP 402SPF	IM 430Fb/430F/350F/350 (This machine)	Reason for Change	
	automatically			
	Paper near-end sensor	No	Yes	Improve detection of the amount of paper remaining in the tray
	Paper size mismatch operation	Paper jam	The paper exits tray without printing, machine issues size mismatch alert	Makes jam removal unnecessary
	Failure to feed operation	Paper jam	Paper feed retry control Allows more time before jam alert issue	Makes jam removal unnecessary
	Registration guide	Black guide plate	Transparent guide plate	Easier to see jammed paper
		-	Opening the registration guide plate releases pressure on registration roller	Makes paper jam removal easier
Electrical Components	PCB	BiCU board + controller board	SCB (engine board and controller board combined)	Fewer problems with communication between separate boards
	NFC tag module	No	Yes	-
Others	ARFU (Auto remote firmware update)	No	Yes	-

## 7.1.2 COMPONENT LAYOUT



1. PCDU
2. LED unit
3. Toner cartridge
4. Bypass feed tray
5. Paper feed tray
6. Duplex paper path
7. Fusing unit
8. Exit/reverse unit

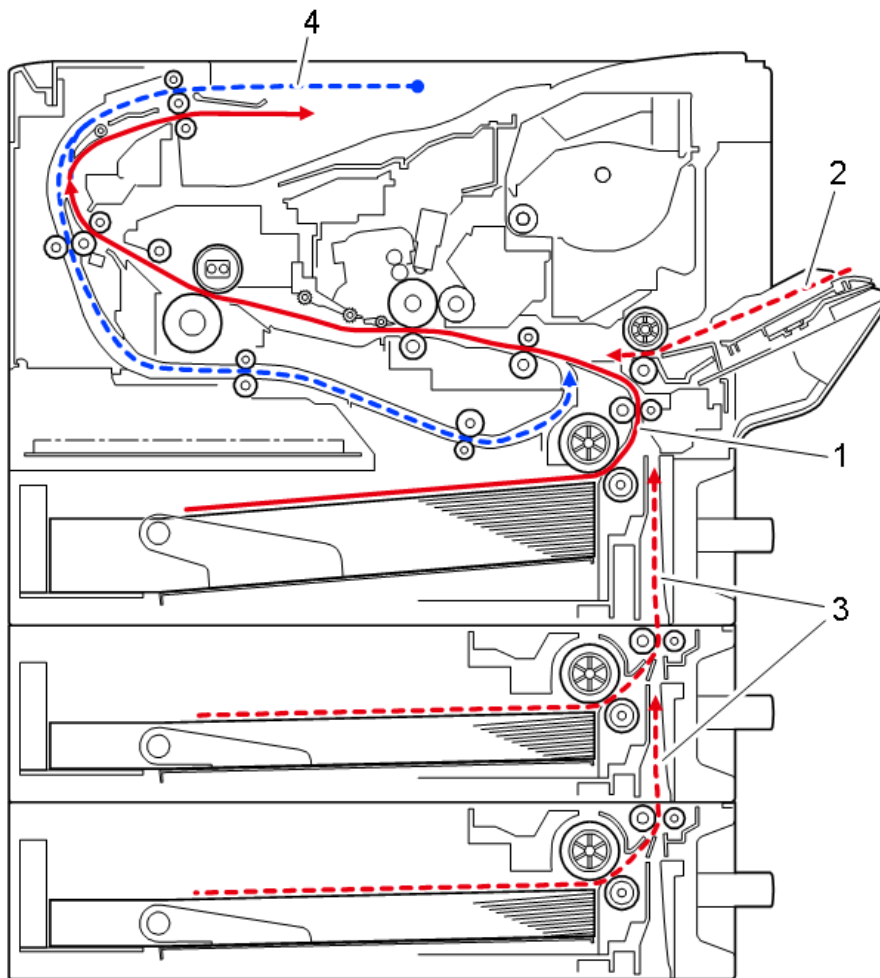
### 7.1.3 DRIVE LAYOUT



1. Exit/reverse motor (M1)
2. Feed/fusing motor (M4)
3. Duplex clutch (CL1)
4. Drum motor (M3)
5. Registration clutch (CL5)
6. Paper feed clutch (CL6)
7. Bypass lift clutch (CL3)
8. Relay clutch (CL7)
9. Bypass feed clutch (CL4)
10. Toner supply clutch (CL2)
11. Fusing pressure/release motor (M2)



## 7.1.4 PAPER PATH

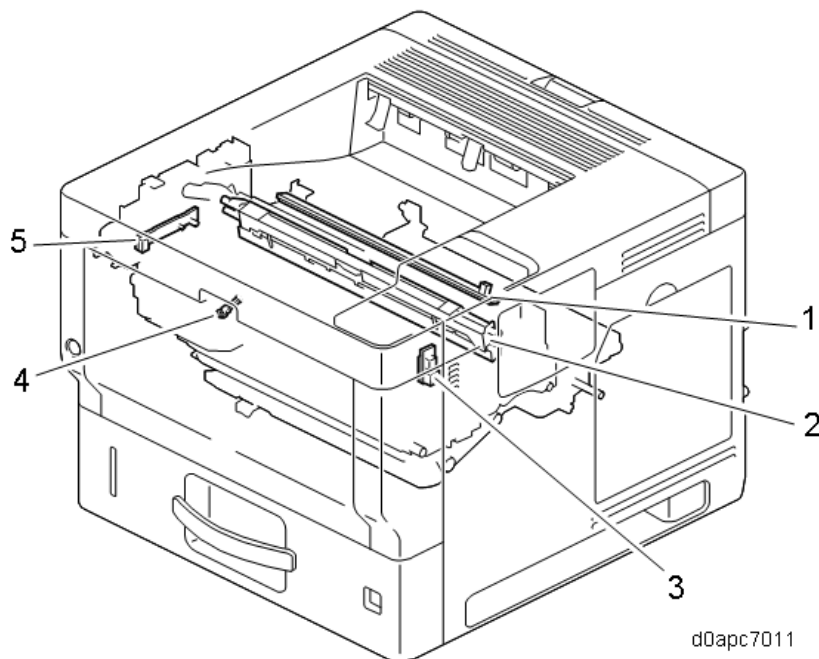


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1. Main machine paper feed path
2. Bypass paper feed path
3. Optional tray paper feed path
4. Duplex paper feed path

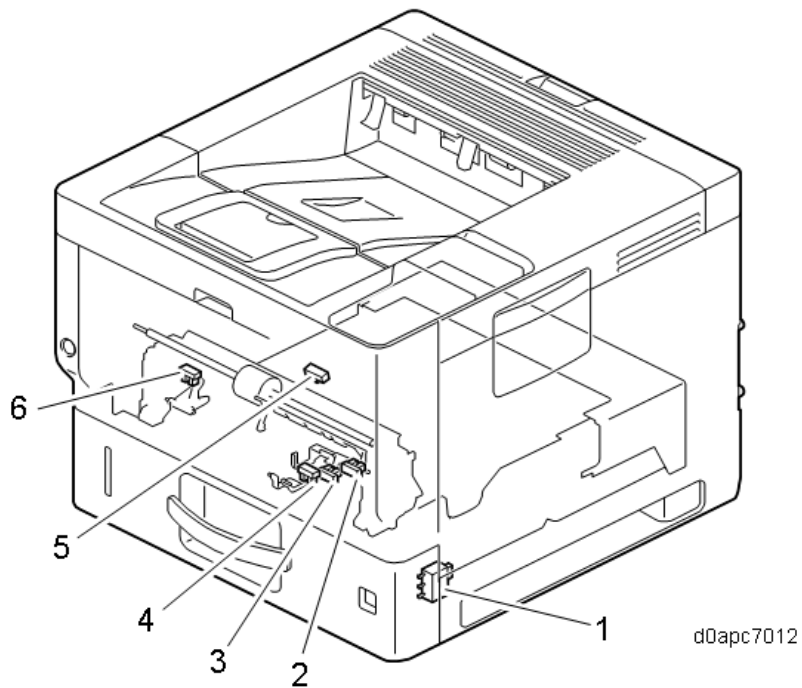
## 7.1.5 PARTS LAYOUT (PRINTER MODEL)

### *LED Optics, Other*

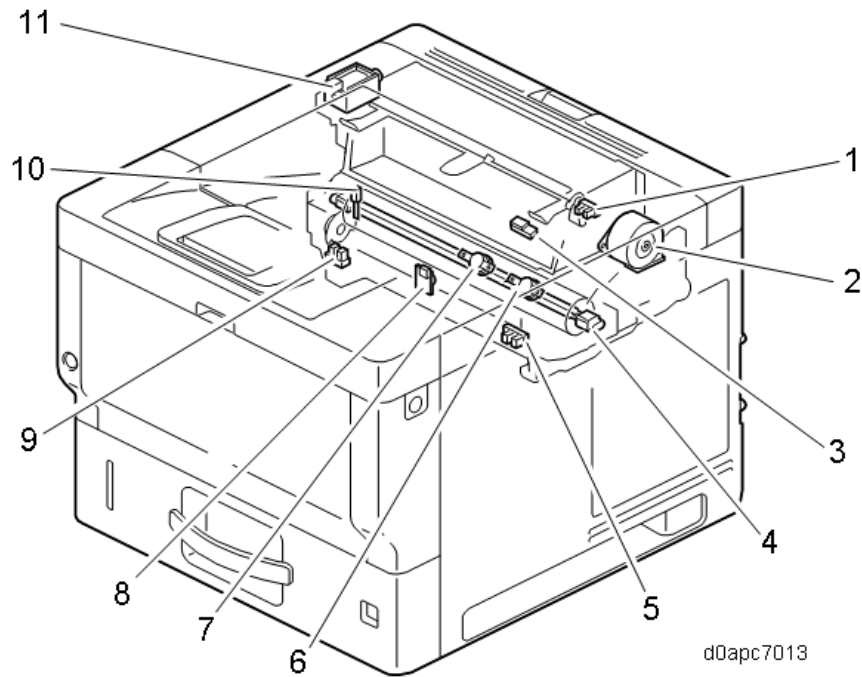


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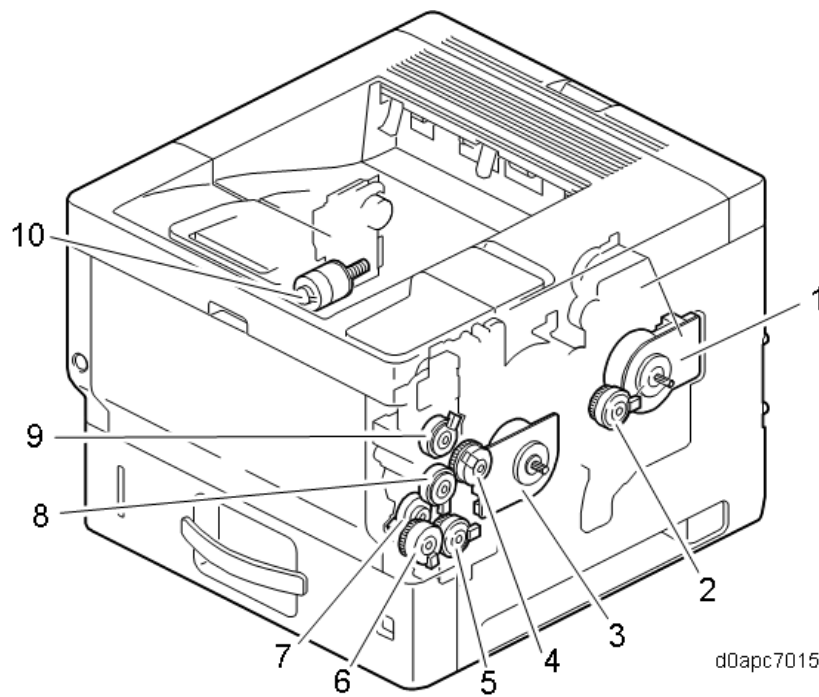
No.	Description	No.	Description
1	Quenching lamp	4	Image creation thermistor (TH5)
2	LED unit	5	Toner end sensor (S9)
3	Temperature/humidity sensor (S11)		

**Paper Feed**

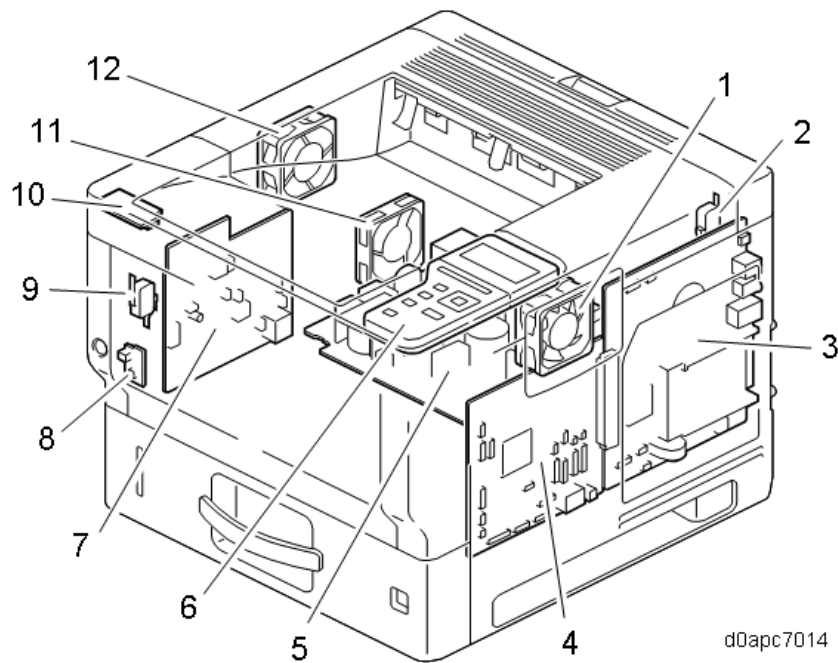
No.	Description	No.	Description
1	Paper size switch (SW4)	4	Paper end sensor (S6)
2	Bypass paper end sensor (S2)	5	Registration sensor (S5)
3	Bypass tray sensor (S3)	6	Paper near-end sensor (S4)

**Fusing, Duplex, Paper Exit**

No.	Description	No.	Description
1	Paper exit full sensor (S10)	7	Fusing thermostat (center) (TH4)
2	Exit/reverse motor (M1)	8	Fusing thermopile (TH2)
3	Paper exit/reverse sensor (S1)	9	Fusing nip pressure position sensor (S7)
4	Fusing lamp x2	10	Fusing thermistor (end) (TH1)
5	Duplex entrance sensor (S8)	11	Exit junction gate solenoid (SOL1)
6	Fusing thermostat (end) (TH3)		

**Drive**

No.	Description	No.	Description
1	Feed/fusing motor (M4)	6	Bypass lift clutch (CL3)
2	Duplex clutch (CL1)	7	Relay clutch (CL7)
3	Drum motor (M3)	8	Bypass feed clutch (CL4)
4	Registration clutch (CL5)	9	Toner supply clutch (CL2)
5	Paper feed clutch (CL6)	10	Fusing pressure/release motor (M2)

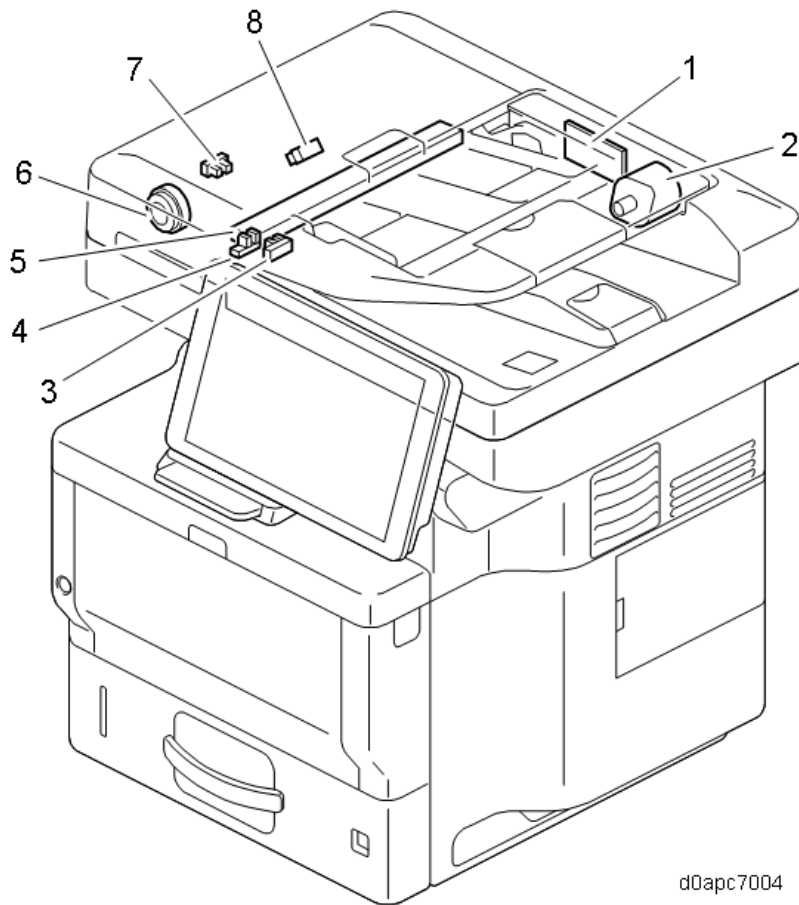
**Boards, Switches, Fans**

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No.	Description	No.	Description
1	PCDU cooling fan (right) (FAN1)	7	HVPS
2	Rear interlock switch (SW2)	8	DC switch (SW3)
3	Controller board	9	Front interlock switch (SW1)
4	BCU	10	NFC board
5	PSU	11	PSU cooling fan (FAN3)
6	Operation panel	12	PSU cooling fan (left) (FAN2)

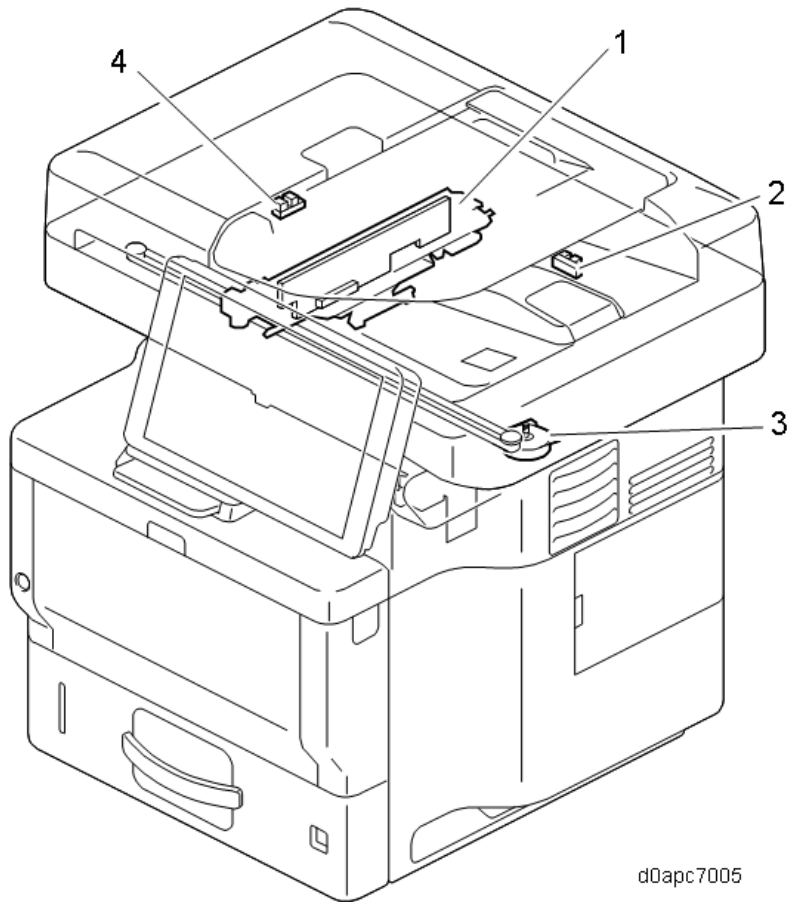
## 7.1.6 PARTS LAYOUT (MF MODEL)

### SPDF



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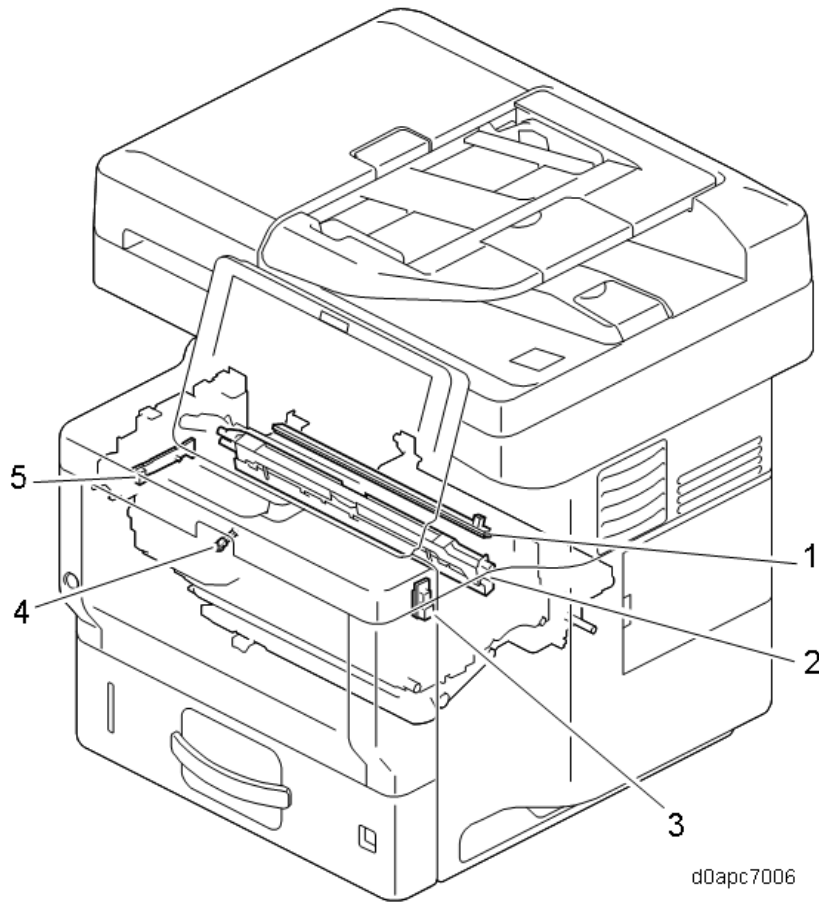
No.	Description	No.	Description
1	SPDF relay board	5	CIS unit
2	SPDF drive motor (M6)	6	SPDF feed clutch (CL8)
3	Feed cover sensor (S15)	7	SPDF feed sensor (S17)
4	Original set sensor (S14)	8	SPDF registration sensor (S16)

**Scanner**

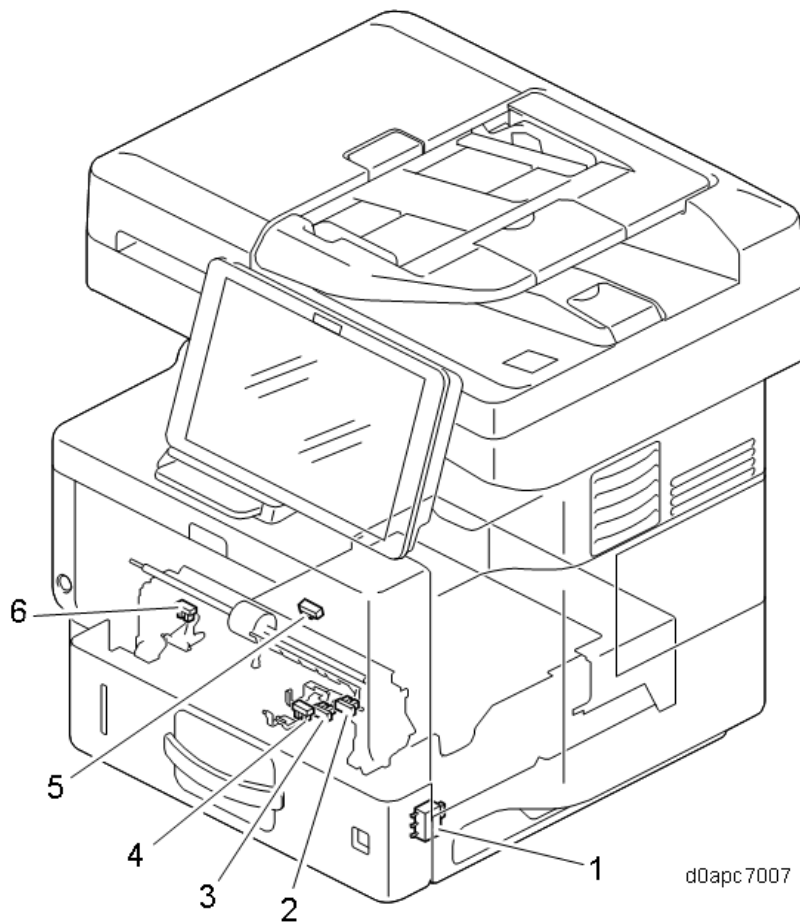
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No.	Description	No.	Description
1	Scanner carriage	3	Scanner motor (M5)
2	Platen cover sensor (S13)	4	Scanner HP sensor (S12)

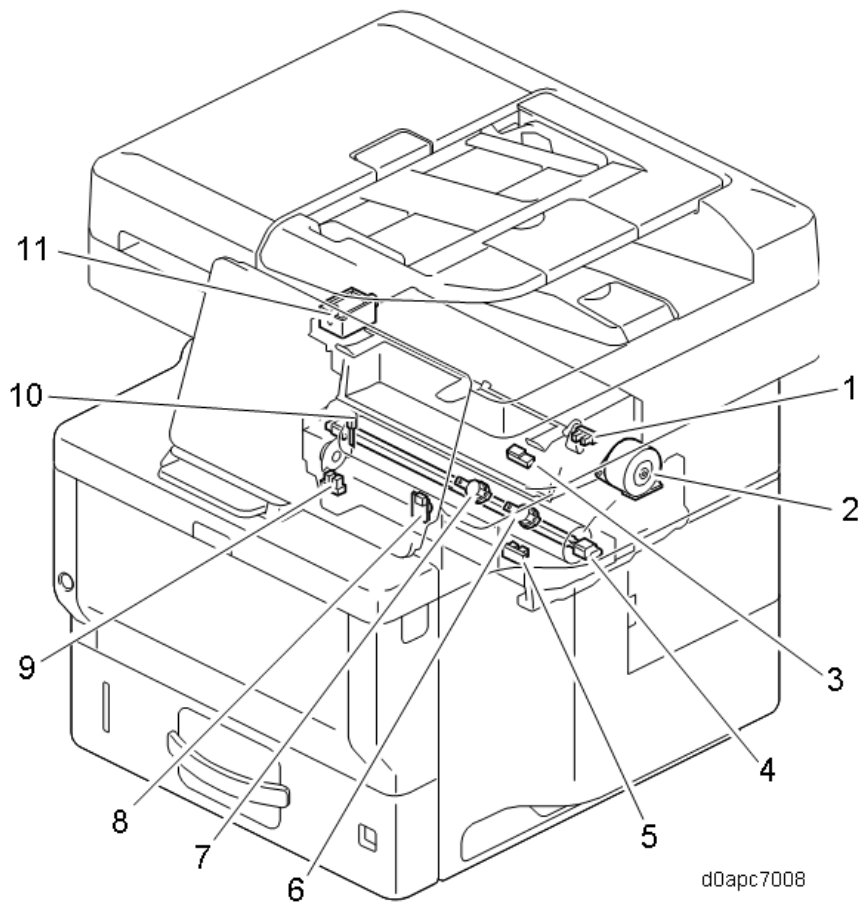


**LED Optics, Other**

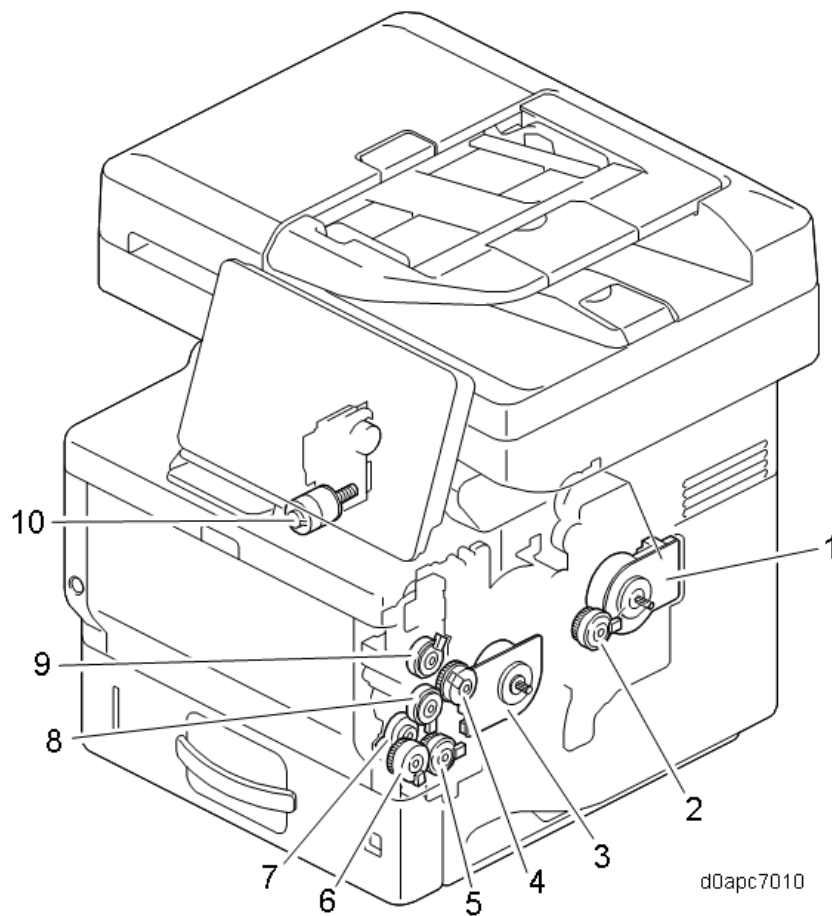
No.	Description	No.	Description
1	Quenching lamp	4	Image creation thermistor (TH5)
2	LED unit	5	Toner end sensor (S9)
3	Temperature/humidity sensor (S11)		

**Paper Feed**

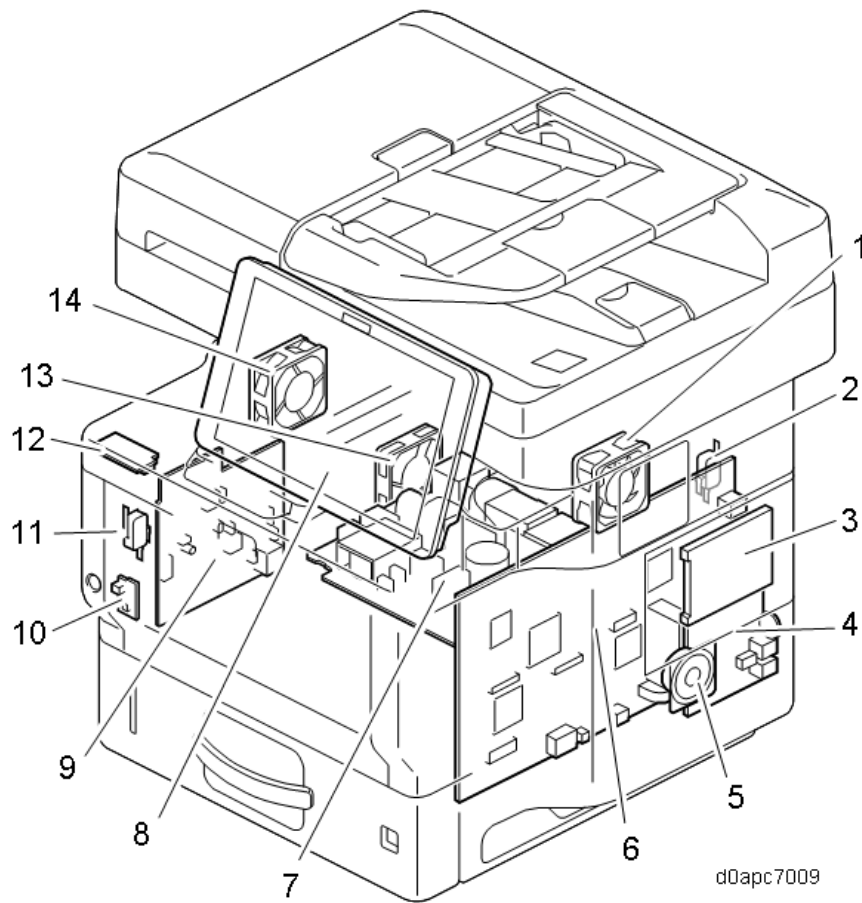
No.	Description	No.	Description
1	Paper size switch (SW4)	4	Paper end sensor (S6)
2	Bypass paper end sensor (S2)	5	Registration sensor (S5)
3	Bypass tray sensor (S3)	6	Paper near-end sensor (S4)

**Fusing, Duplex, Paper Exit**

No.	Description	No.	Description
1	Paper exit full sensor (S10)	7	Fusing thermostat (center) (TH4)
2	Exit/reverse motor (M1)	8	Fusing thermopile (TH2)
3	Paper exit/reverse sensor (S1)	9	Fusing nip pressure position sensor (S7)
4	Fusing lamp x2	10	Fusing thermistor (end) (TH1)
5	Duplex entrance sensor (S8)	11	Exit junction gate solenoid (SOL1)
6	Fusing thermostat (end) (TH3)		

**Drive**

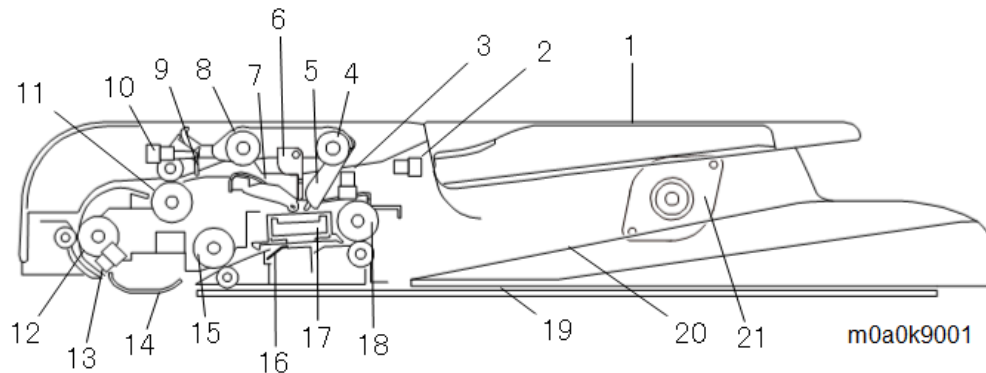
No.	Description	No.	Description
1	Feed/fusing motor (M4)	6	Bypass lift clutch (CL3)
2	Duplex clutch (CL1)	7	Relay clutch (CL7)
3	Drum motor (M3)	8	Bypass feed clutch (CL4)
4	Registration clutch (CL5)	9	Toner supply clutch (CL2)
5	Paper feed clutch (CL6)	10	Fusing pressure/release motor (M2)

**Boards, Switches, Fans**

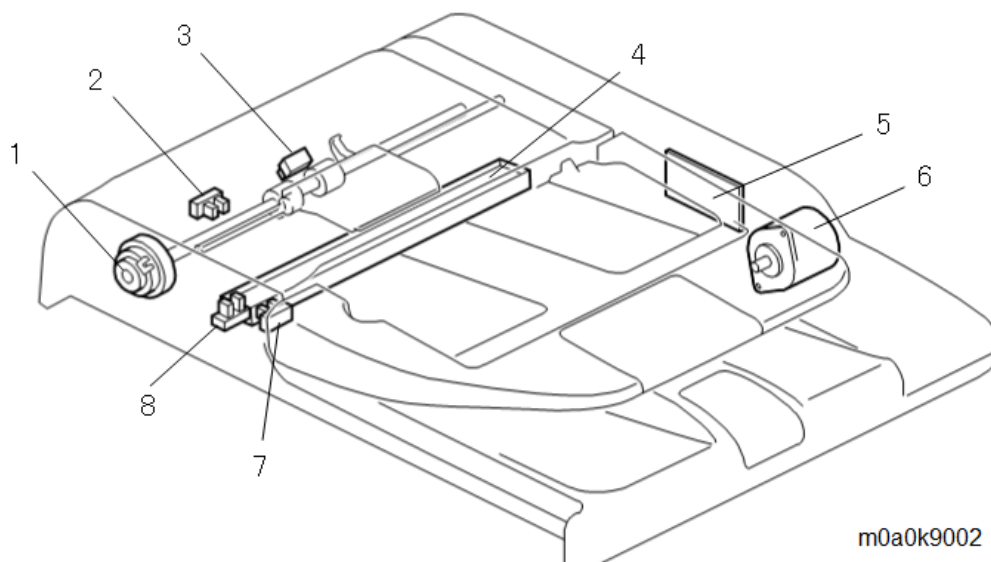
No.	Description	No.	Description
1	PCDU cooling fan (right) (FAN1)	8	Operation panel (Smart Operation Panel)
2	Rear interlock switch (SW2)	9	HVPS
3	HDD	10	DC switch (SW3)
4	FCU	11	Front interlock switch (SW1)
5	Speaker	12	NFC board
6	SCB	13	PSU cooling fan (FAN3)
7	PSU	14	PSU cooling fan (left) (FAN2)

## 7.2 SPDF

### 7.2.1 COMPONENT LAYOUT



No.	Name	No.	Name
1	Original tray	12	Pre-scanning roller (front side)
2	Feed cover sensor (S15)	13	SPDF registration sensor (S16)
3	Original set sensor (S14)	14	Scanning guide plate (front side)
4	Pick-up roller	15	Pre-scanning roller (rear side)
5	Original set sensor actuator	16	Scanning guide plate (rear side)
6	Stopper	17	CIS unit
7	Friction pad	18	Exit roller
8	Feed roller	19	Platen
9	Feed sensor actuator	20	Original exit tray
10	SPDF feed sensor (S17)	21	SPDF drive motor (M6)
11	SPDF entrance roller		



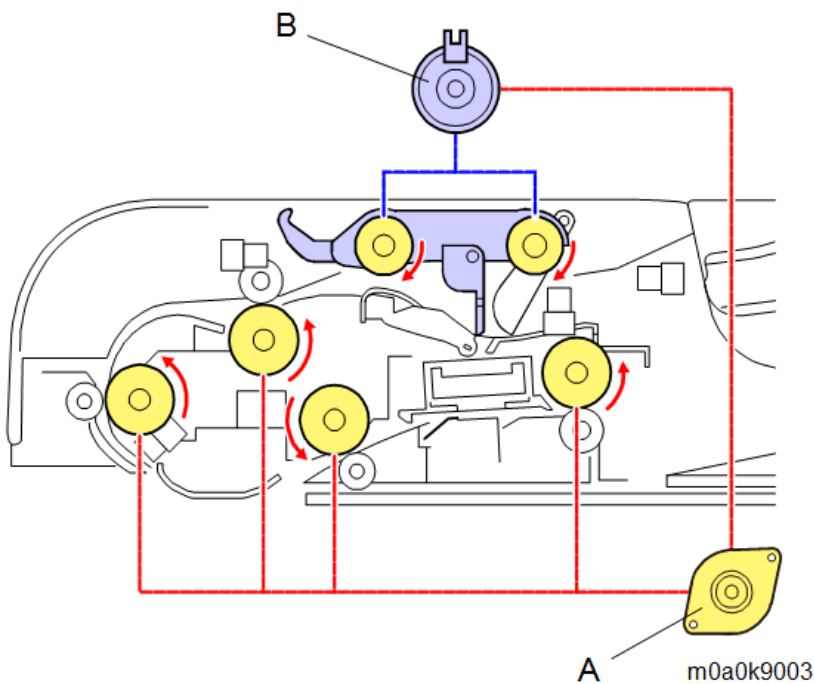
No.	Name	No.	Name
1	SPDF feed clutch (CL8)	5	SPDF relay board
2	SPDF feed sensor (S17)	6	SPDF drive motor (M6)
3	SPDF registration sensor (S16)	7	Feed cover sensor (S15)
4	CIS unit	8	Original set sensor (S14)

## 7.2.2 MECHANISM

### *SPDF Drive*

The SPDF drive motor (M6) [A] drives all SPDF rollers via gears.

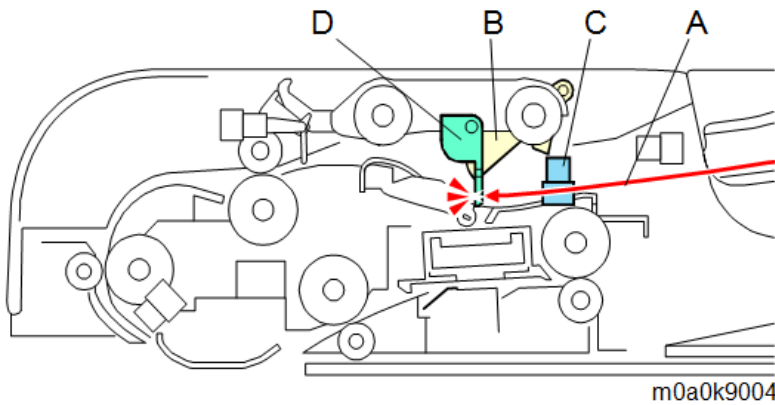
The SPDF feed clutch (CL8) [B] controls the mechanism for picking up the original.



### *Original Detection*

When an original [A] is placed on the original tray correctly, the original set sensor actuator [B] is pushed up and the original set sensor (S14) [C] turns off (not interrupted). The machine judges this state as the placement of an original.

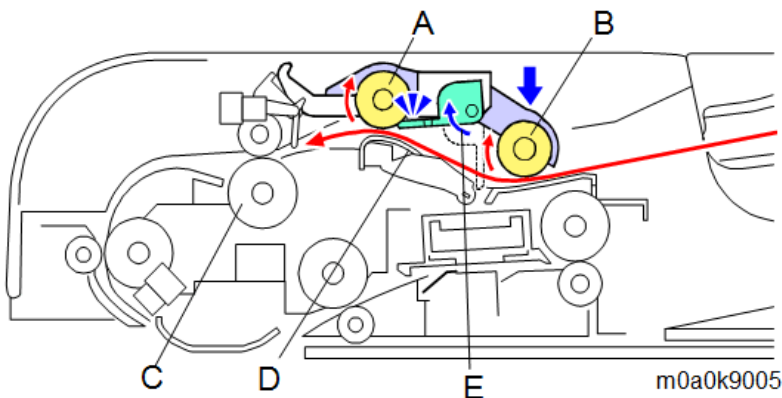
The stopper [D] prevents the user from placing originals too far into the feeder.



### **Original Transport Path**

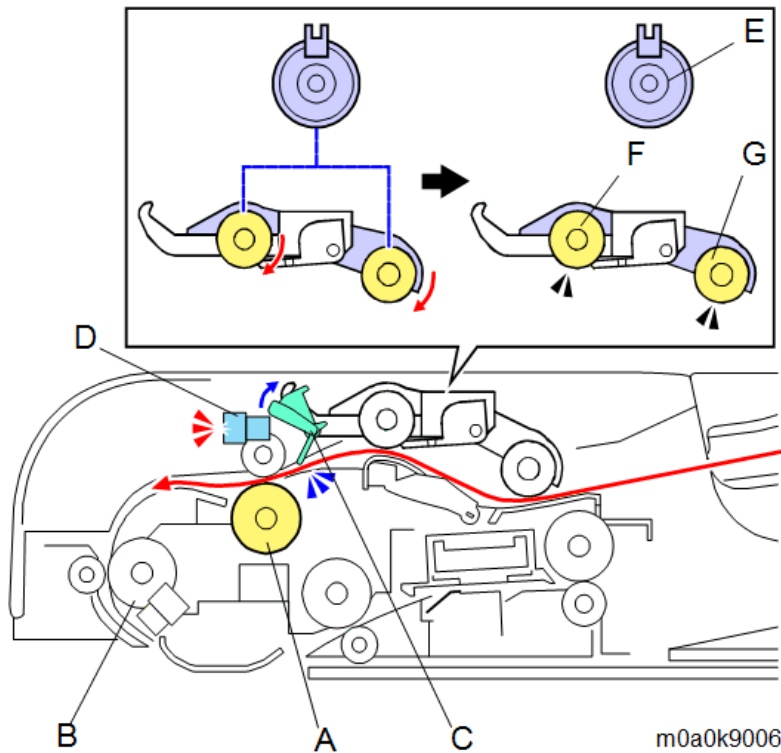
When [Start] is pressed, the SPDF feed clutch (CL8) is turned ON. Then the feed roller [A] rotates to drop the pickup roller [B] onto the top original of the stack. This moves the stopper [E] out of the way, and the original can be fed from the feed roller [A] to the SPDF entrance roller [C].

The friction pad [D] ensures that only one sheet of the original enters the feeder at a time.



When the original reaches the pre-scanning (front side) roller [B] via the SPDF entrance roller, the original moves the feed sensor actuator [C] and the SPDF feed sensor (S17) [D] is turned ON. Then the SPDF feed clutch (CL8) [E] is turned OFF to stop the feed roller [F] and the pick-up roller [G], to prevent the next original from being picked up.

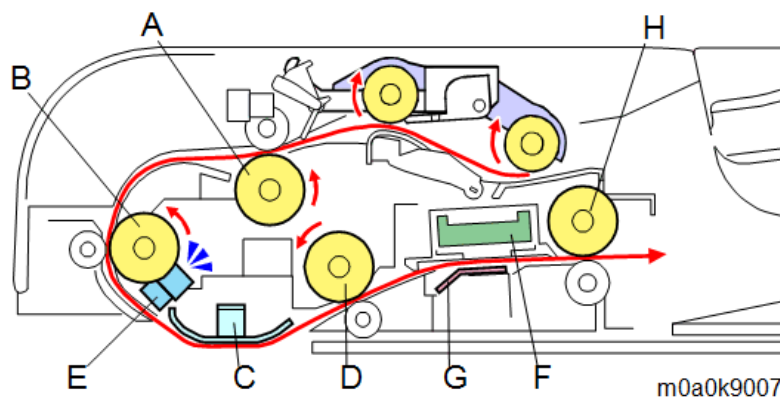




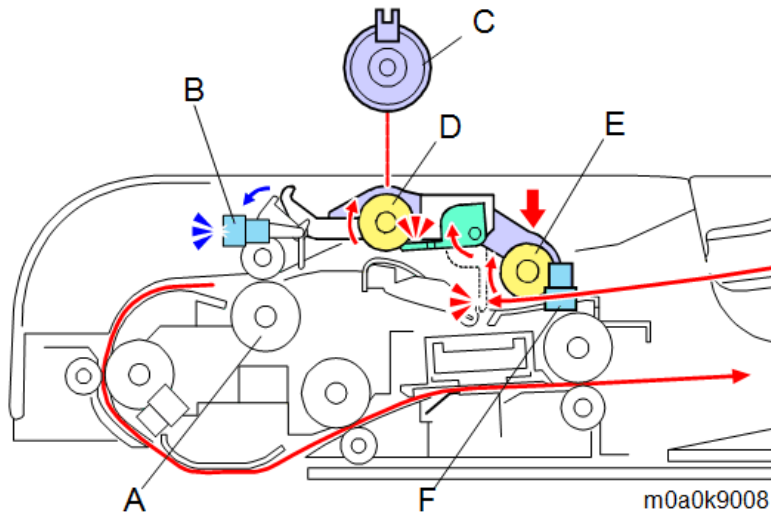
The original is fed by the SPDF entrance roller [A] and the pre-scanning (front side) roller [B], scanned on the exposure glass under the scanning guide plate (front side) [C] and then delivered by the pre-scanning (rear side) roller [D].

The feeding of the original is detected by the SPDF registration sensor (S16) [E]. If an error occurs, it is reported as a paper jam.

The original is fed by the pre-scanning (rear side) roller [D], scanned by the SPDF CIS [F] on the scanning guide plate (rear side) [G], and then fed out by the exit roller [H].

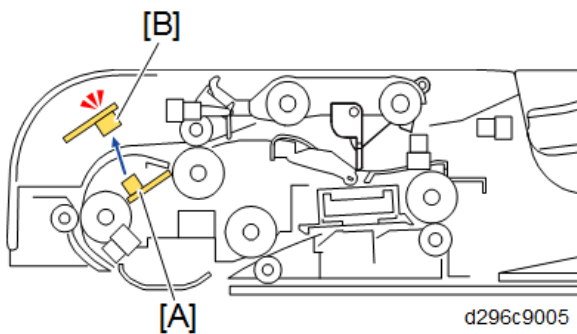


When the original passes through the SPDF entrance roller [A], the SPDF feed sensor (S17) [B] is detected OFF. If the next original is set, the original set sensor (S14) [F] detects ON and the SPDF feed clutch (CL8) [C] is turned ON. Then, the feed roller [D] and pick-up roller [E] rotate to pick up the next original.

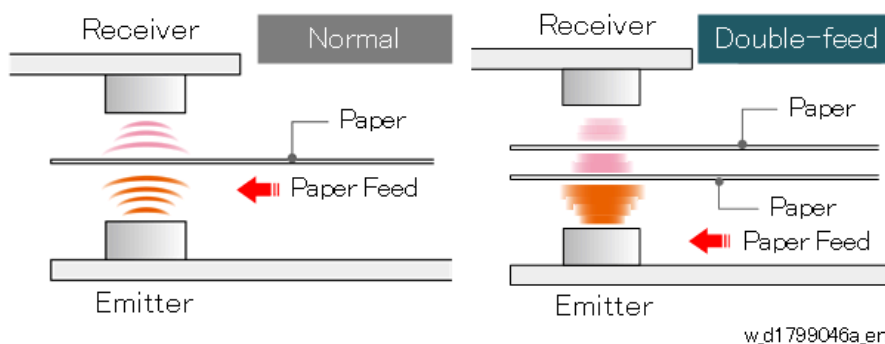


### Double Feed Detection (Option)

A pair of ultrasound sensors is mounted in the ADF, one below the original feed path (emitter [A]) and the other above the path (receiver [B]).



- When the original passes between the sensors, an ultrasound wave from the emitter-sensor below pass through the paper to the receiver above.
- The receiver converts the signal generated by the vibration of the signal against the paper to an electrical pulse and checks its level.
- If a double feed occurs, the space between the sheets will generate a lower signal. When the receiver detects this lower signal (lower than that of a single sheet) it causes the machine to issue Jam Code J099 (double-feed detected) and then original feed stops.



w\_d1799046a\_en

This double feed detection will not function with originals that have:

- Folds, wrinkles, tears
- Holes
- Imperfectly fused images
- Perforations
- Taped connections
- Taped surfaces

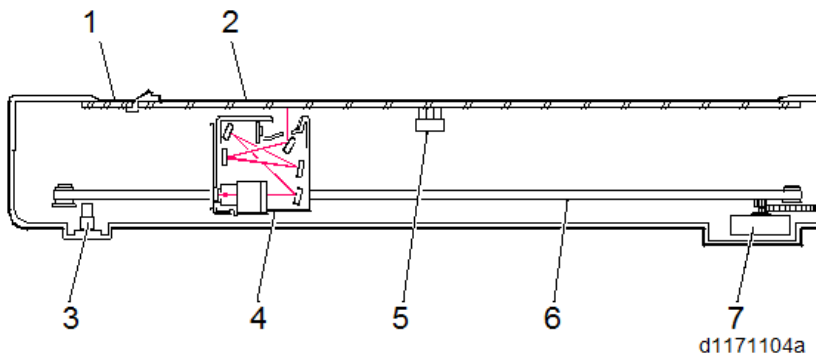
Feeding such originals could cause false detection of double-feeds.

The service technician can also switch double-feed detection off/on with SP6-040-001 (Page Keeper: Mount Select, Default 0: Off).

Do not change the settings of SP6-040-005 (Page Keeper: Clear Select).

## 7.3 SCANNER

### 7.3.1 COMPONENT LAYOUT



No.	Name	No.	Name
1	Exposure glass (for SPDF)	5	Platen cover sensor (S13)
2	Exposure glass (for platen mode)	6	Scanner carriage drive belt
3	Scanner HP sensor (S12)	7	Scanner motor (M5)
4	Scanner carriage		

#### Note

Automatic paper size detection is not available because this model has no automatic size sensor (APS) in the scanner.

### 7.3.2 MECHANISM

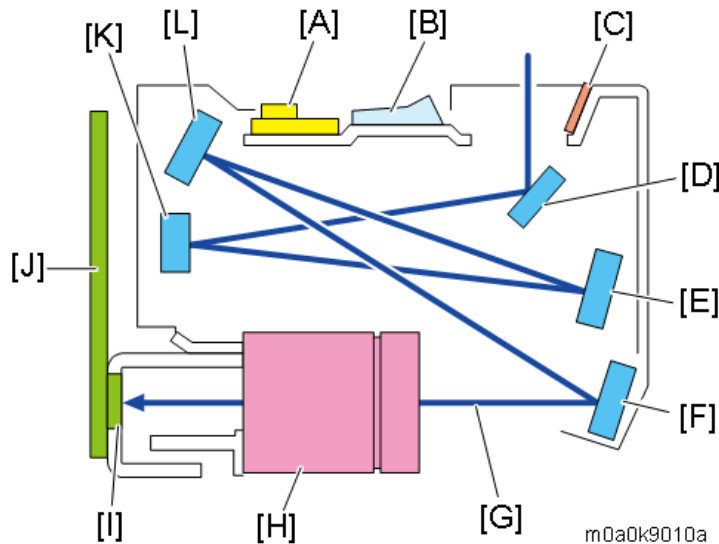
#### *Light Source and Exposure*

This model uses an LED array for the light source. Light from the LED array (LEDB) [A] goes to the original via the light guiding panel [B] and the reflector [C]. Then from the original, the light follows the light path to the CCD.

The elements in the array are more densely spaced at the ends than at the center, to make sure that enough light reaches the left and right edges of the original.

The light reflected from the original travels as follows:

LED exposure -> 1<sup>st</sup> mirror [D] -> 2<sup>nd</sup> mirror [K] -> 3<sup>rd</sup> mirror [E] -> 4<sup>th</sup> mirror [L] -> 5<sup>th</sup> mirror [F] -> Lens [H] -> CCD [I]



Name		Name	
[A]	LED array board (LEDB)	[G]	Light Path
[B]	Light guiding panel	[H]	Lens
[C]	Reflectors	[I]	CCD (soldered on the SBU)
[D]	1st mirror	[J]	SBU (Sensor board unit)
[E]	3rd mirror	[K]	2nd mirror
[F]	5th mirror	[L]	4th mirror

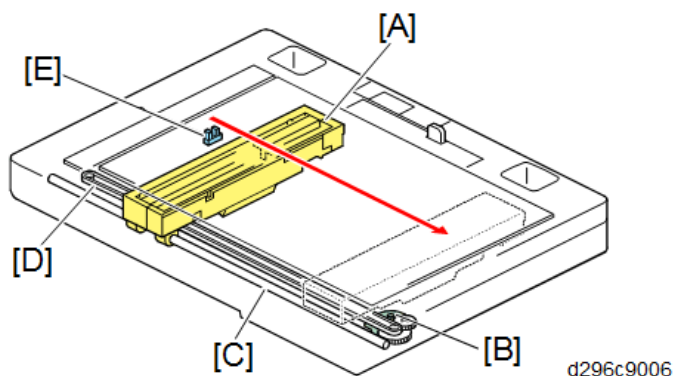
### Scanner Carriage Drive

The scanner motor (M5) [B] drives the drive belt [D] in order to move the scanner carriage [A] along the guide rod [C].

Scanning starts with the scanner carriage [A] from the scanner HP sensor (S12) [E]. After scanning, the scanner carriage returns to the scanner HP sensor (S12). The actuator for the scanner HP sensor (S12) is on the underside of the carriage.

#### Note

If you want to move the carriage, DO NOT pull it directly, instead, use the drive belt.

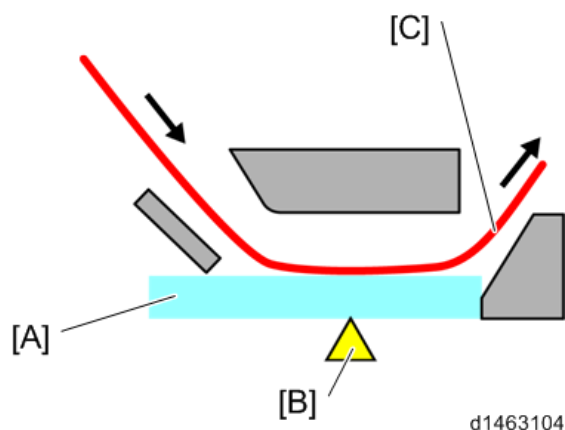


### ***Improved Tolerance to Black Lines When Paper Passes through SPDF***

This model uses a conventional mechanism in which paper comes in contact with the exposure glass during feeding. This is useful for dealing with adhesion of free dirt particles (paper scraps, etc.). (Self-cleaning mechanism using paper)

On the other hand, dirt adhering to the original can stick to the exposure glass and cause black lines in the scanned images

#### **SPDF cross-section diagram**



[A]: Exposure glass

[B]: Reading position

[C]: Original feed path

### ***Read Position Correction***

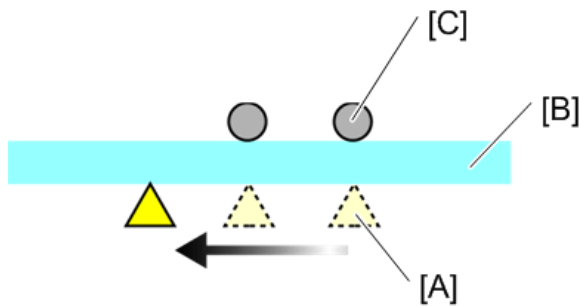
By changing SP4-020-001 (Dust Check: Dust Detect: On/Off), when dirt is detected at the reading position, the reading position may be changed to avoid the dirt.

(If it cannot be avoided, an alert is displayed on the operation panel advising the user to clean the exposure glass).

#### **Note**

The scanning position can be corrected even for originals with dirt on the reverse side by switching SP4-020-011 (Dust Check: Dust Detect Level: Rear).

## Image diagram



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[A]: Reading position

[B]: Exposure glass

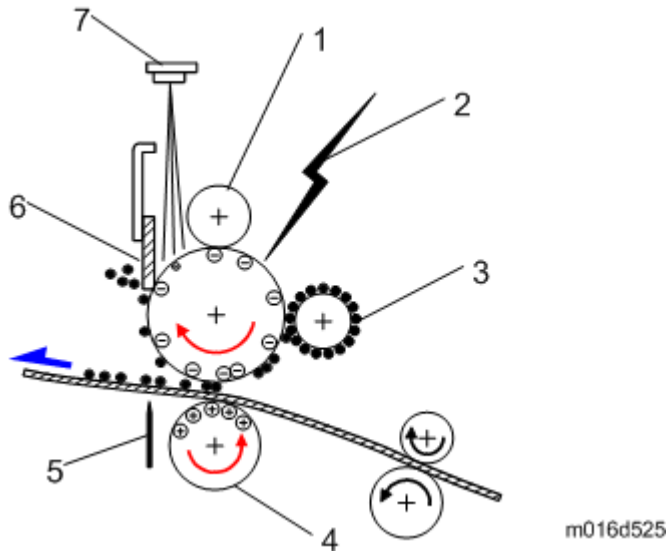
[C]: Dirt

**Note**

- Dirt is detected when a document passes through, so the alert will not disappear until the reading of the next document begins, even after exposure glass cleaning is performed.
- If dirt is detected not on the exposure glass but on the background guide plate, the alert will not disappear even if the glass is wiped clean.
- The time required for the first copy is slightly (almost imperceptibly) longer.
- The detection threshold can be changed using SP4-020-002 (Dust Check: Dust Detect:Lvl). The larger the value, the smaller the dirt particles that can be detected.
- Do not change the setting of SP4-020-003 (Dust Check: Dust Reject:Lvl).

## 7.4 PRINTING PROCESS

### 7.4.1 OVERVIEW

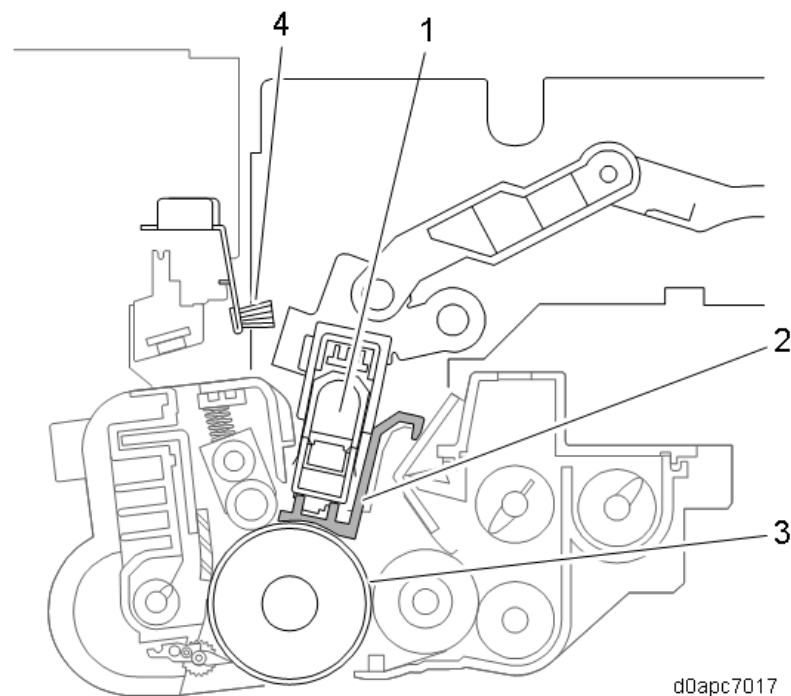


No.	Description	
1	<b>Drum Charge</b>	The charge roller gives the drum a negative charge.
2	<b>LED Optics</b>	An LED beam writes the print data on the drum.
3	<b>Toner</b>	The development roller applies toner to the latent image on the drum surface.
4	<b>Image Transfer</b>	The transfer roller moves the toner from the drum to the paper.
5	<b>Separation</b>	The separation plate helps to remove the paper from the drum.
6	<b>Cleaning</b>	The cleaning blade removes the remaining toner on the drum surface after the image is transferred to the paper.
7	<b>Quenching</b>	The light from the quenching lamp neutralizes the residual charge on the drum surface.



## 7.5 LED EXPOSURE

### 7.5.1 COMPONENT LAYOUT



No.	Name
1	LED head
2	LED spacer
3	Drum
4	Cleaning brush

### 7.5.2 MECHANISM

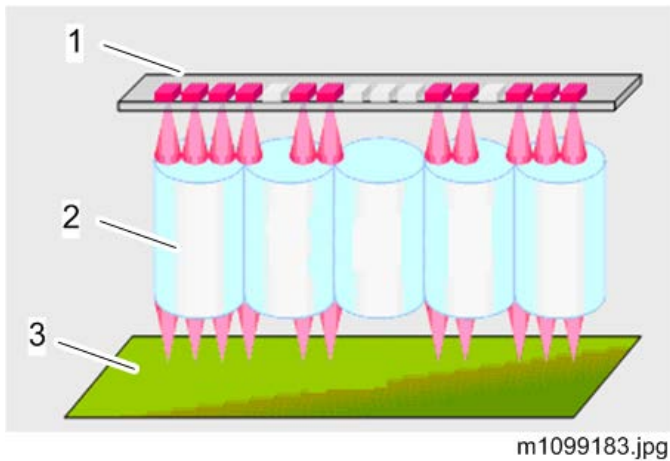
#### ***Writing Method***

LED writing is superior to LD writing in unit-downsizing, noise reduction, and energy saving. Tiny LEDs, arranged in a line, are capable of creating images at 1200 dpi. Light beams emitted by the LEDs are focused using the Self-focusing Lens Array (SLA), creating an image on the OPC drum.

Each LED head has 26 LED chips on board, and each chip has a line of LEDs 8mm in length.

#### **Note**

If a vertical line 8mm in width appears on the image parallel to the direction of paper feed, it may be caused by a broken LED chip.

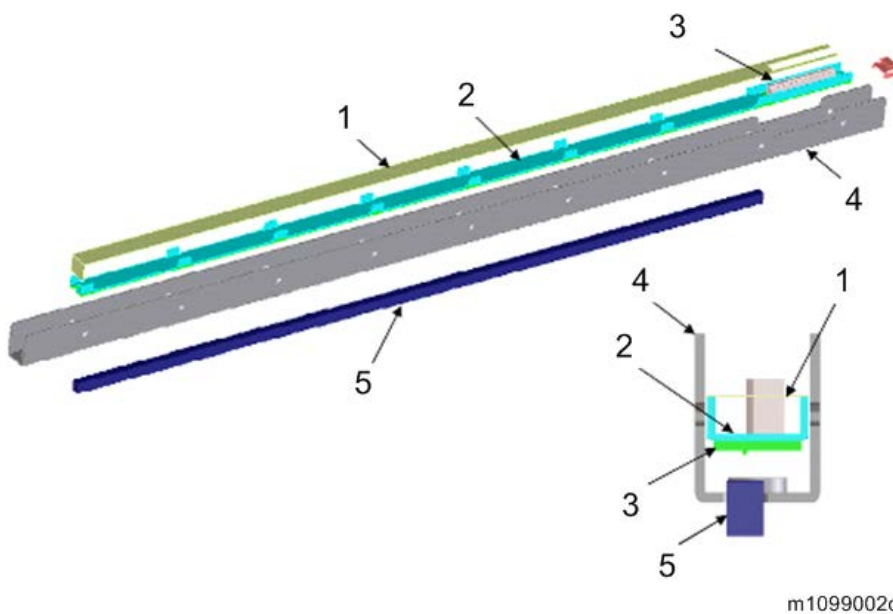


1. LED board
2. SLA (Self-focusing Lens Array)
3. Drum

### **LED Head**

#### **Components**

The LED head is composed of the following parts. No parts are replaceable, the whole LED head must be replaced.



1. Sheet
2. Base
3. LED board
4. Frame
5. SLA (Self-focusing Lens Array)

#### **LED Positioning**

The LED head contacts the LED spacer on the drum in order to hold and adjust the correct focal distance from the PCDU (slide-and-move method).

### ***Image Position Adjustment***

You can adjust the printing position from each tray with [Registration] in Menu. At this time, the following controls are done as the adjustment in the machine;

Horizontal Scan: Adjusted by moving the whole image position.

Vertical Scan: Adjusted by changing the light-emission timing.

#### **Note**

There is no mechanical adjustment, unlike laser writing.

Writing is applied across the length of the LED head in the horizontal direction. If you want to adjust to the printing position to an area that is outside the one that is within the setting range in [Registration], adjust the paper position in the feed tray. ([Side-to-side Registration Adjustment in the Machine Paper Tray](#))

### ***LED Light Volume Adjustment***

An EEPROM on the LED head contains data which controls the light intensity of each element. There is no adjustment.

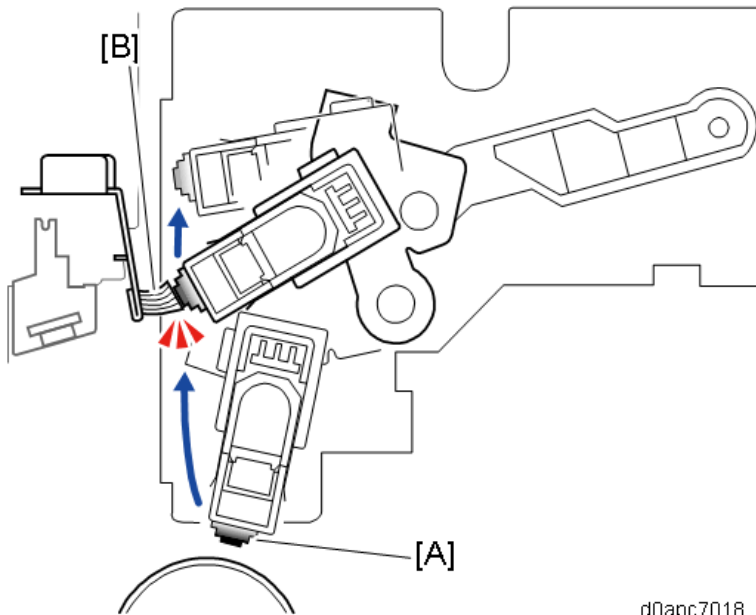
### ***Adjustment at Replacement***

Adjustment at LED head replacement is not needed because there is an EEPROM on the LED board. This ROM contains light volume adjustment data.

### ***LED Head Cleaning***

A new LED head cleaning mechanism is installed in this machine.

The LED unit is linked to the front door. Every time the front door is opened, the LED unit pulls away from where it was in contact with the drum. At this time, LED [A] is wiped by the cleaning brush [B]. This cleans the surface of the LED head automatically. Opening and closing the front door four times can clean the LED head.

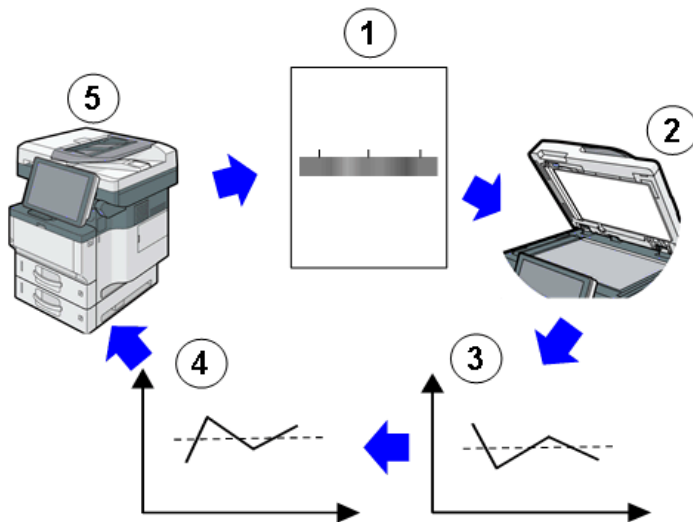


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### Scanner Feedback Control (MF Model Only)

Scanner feedback control corrects uneven image density (vertical streaks, bands) in the vertical direction.

A halftone image is printed, the machine scans this, brightness data is written from the gray image, and then based on this data a correction value is calculated. The correction data is returned to the LED heads to correct the uneven density.



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①	Halftone image output
②	Scanning
③	Brightness data write
④	Correction data created and fed back to the LED array
⑤	Image output (Corrected an uneven density)

The correction value calculated with image output becomes the correction value for the LED

head and the PCDU. Feedback correction cannot be done for the following types of images

- Uneven density, stripes, or banding in any direction other than the direction of printing
- Black stripes or black bands where there is no image
- Text characters broken by white spots

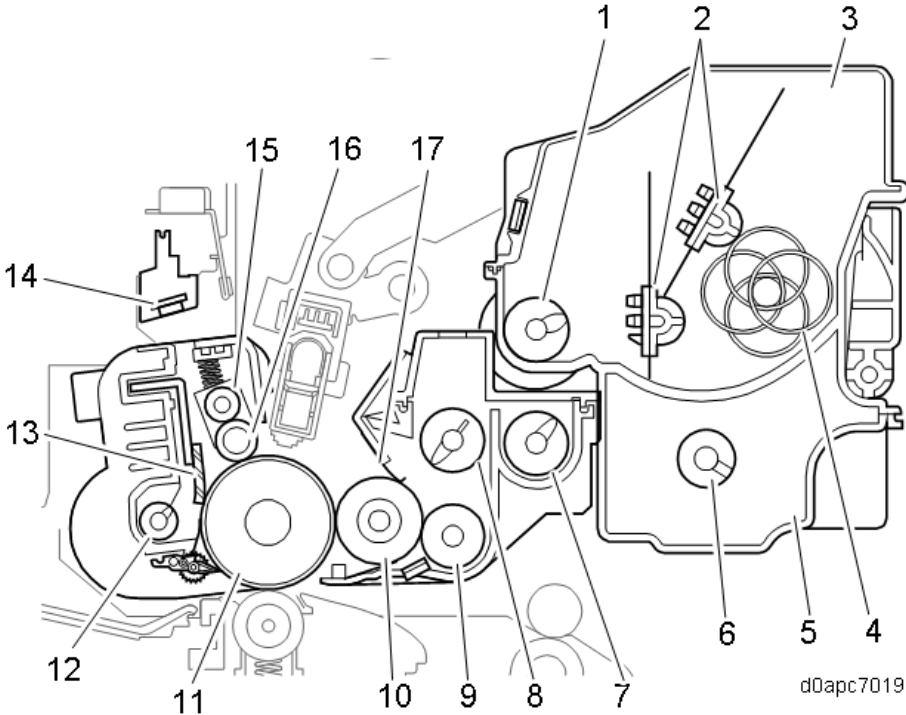
Scanner feedback control can be executed from the User Menu. For more details, refer to "[When Vertical Lines, Bands Cause Uneven Density \(MF Model Only\)](#)."

Home screen > [User Tools] icon > [Machine Features] > [Maintenance] > [Vertical Uneven Density Correction]

# 7.6 PCDU, TONER CARTRIDGE

## 7.6.1 COMPONENT LAYOUT

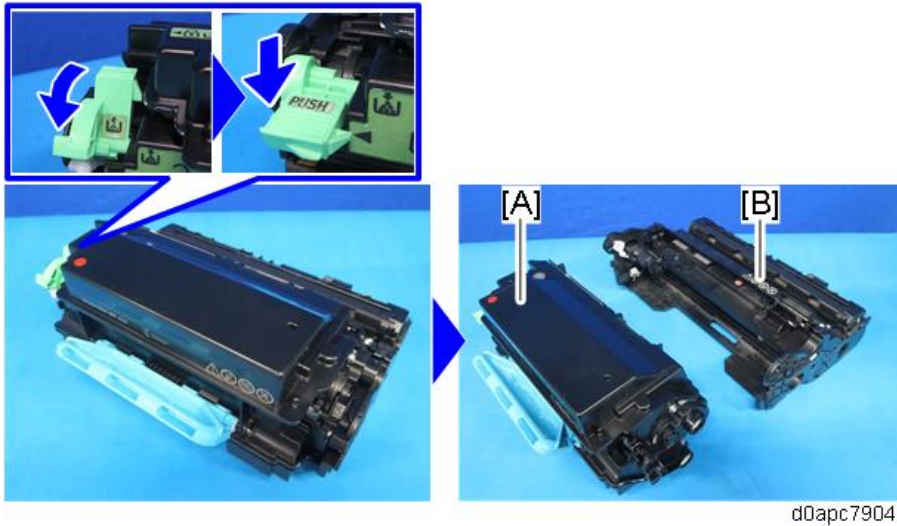
The toner cartridge is mounted on the PCDU, installed in the machine, but can be removed separately.



No.	Name	No.	Name
1	Toner supply coil	10	Development roller
2	Toner supply agitator (x2)	11	OPC drum
3	Toner hopper	12	Waste toner collection coil
4	Toner mixing coil	13	Drum cleaning blade
5	Used toner collection box	14	Quenching lamp *At main machine side
6	Used toner transport coil	15	Charge cleaning roller
7	1st mixing coil	16	Charge roller
8	2nd mixing coil	17	Doctor blade
9	Toner supply roller		

## 7.6.2 SEPARATING THE TONER CARTRIDGE AND PCDU

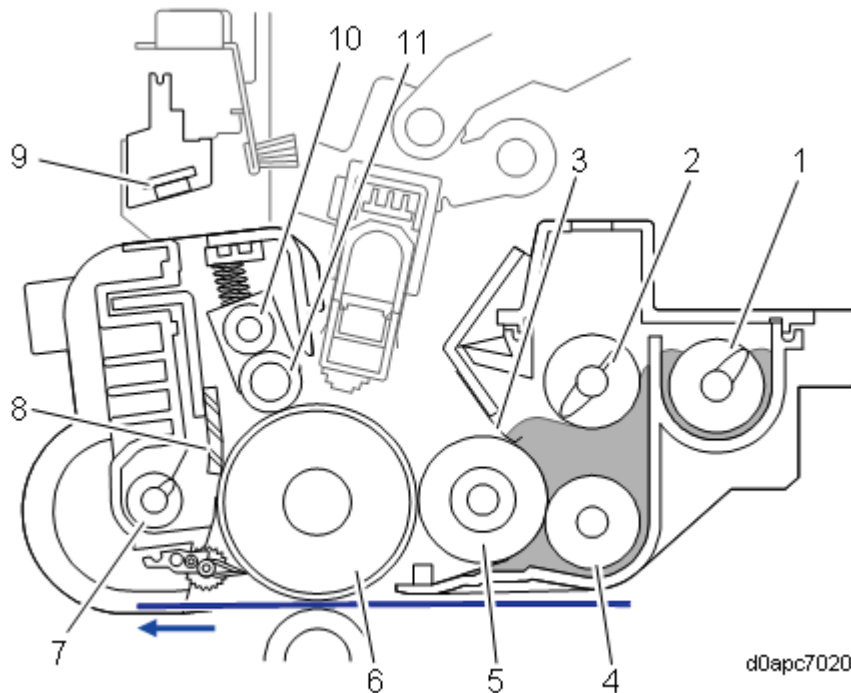
- The toner cartridge can be detached from the machine either on its own or together with the PCDU.
- After detaching the toner cartridge together with the PCDU, you can use the release lever to separate the PCDU [B] from the toner cartridge [A]. The release lever works in two steps. To release the lock, push down the release lever to the horizontal position.



## 7.6.3 PCDU (PHOTO CONDUCTOR DEVELOPMENT UNIT)

### *PCDU Component Layout*

The PCDU comprises the electrostatic charge section, OPC, the development section, and the drum cleaning mechanism. The quenching lamp, installed at the main machine side, is a new component for this machine.



No.	Name	No.	Name
1	1st mixing coil	7	Used toner collection coil
2	2nd mixing coil	8	OPC drum cleaning blade
3	Doctor blade	9	Quenching lamp * At main machine side
4	Toner supply roller	10	Charge cleaning roller
5	Development roller	11	Charge roller
6	OPC Drum		

### *PCDU Mechanism*

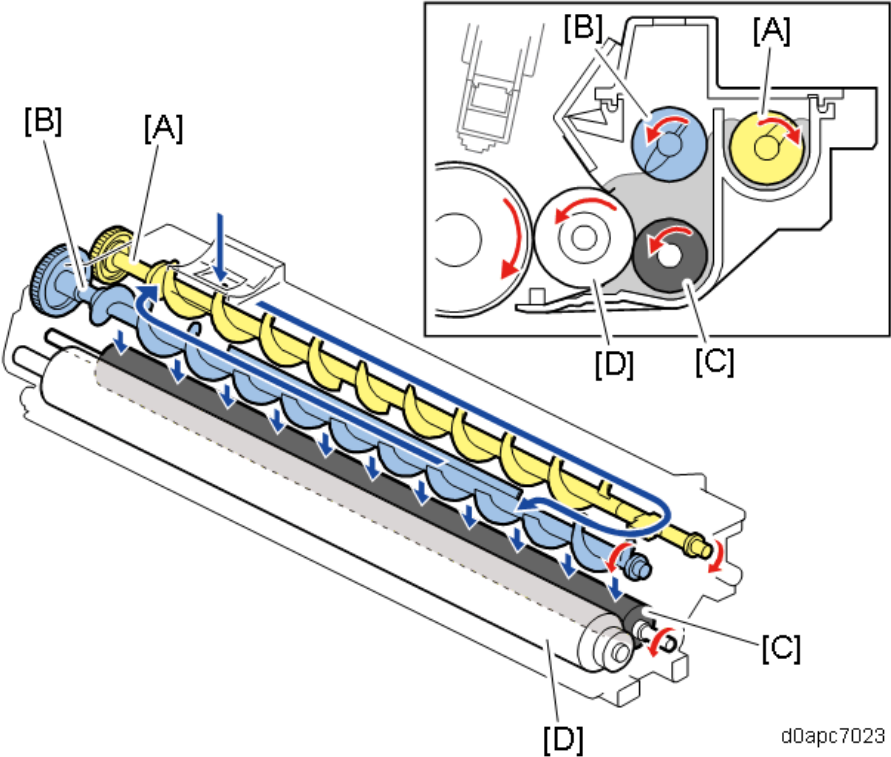
#### *Drive*

The main motor drives PCDU through a coupling.

#### *Toner Mixing*

The toner moves as shown in the following drawing. The 1st mixing coil [A] moves the toner to the right side. The 2nd mixing coil [B] moves toner to the left side. Finally, the toner supply roller [C] supplies toner to the development roller [D]. By mixing the toner, the toner is circulated and evenly spread.

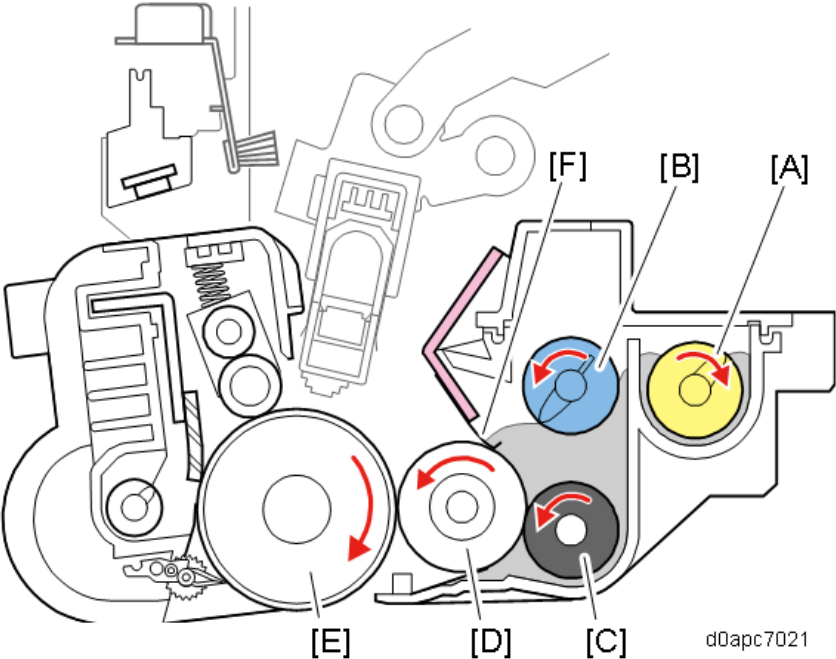




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**Development**

The 1st mixing coil [A] and 2nd mixing coil [B] transport toner and the toner supply roller [C] provide the development roller [D] with toner. The electrostatic latent image on the surface of the OPC drum [E] takes on toner and turns into a visible toner image. The doctor blade [F] ensures that the toner is applied to the development roller with even thickness.



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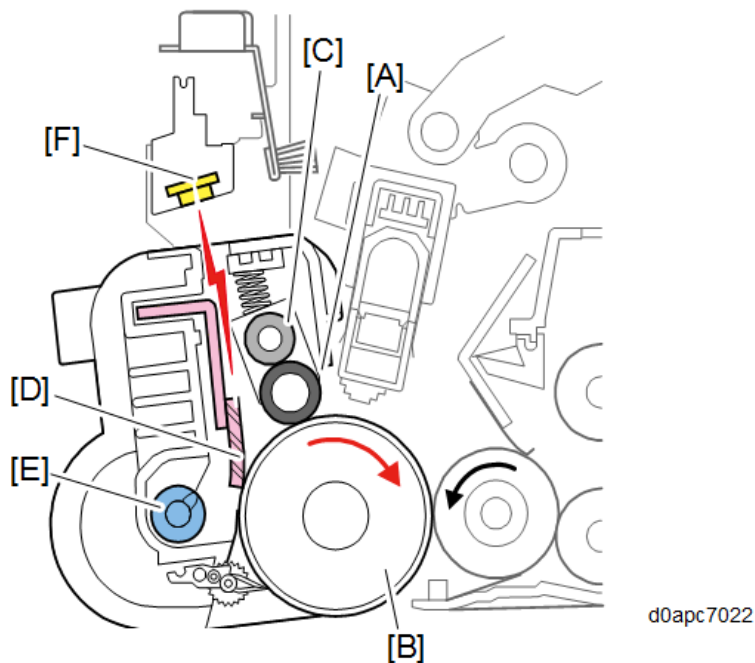
### **Charge, Charge Roller Cleaning, OPC Cleaning**

To prevent ozone from being generated, the machine has a charge roller.

The charge roller [A] rotates with the OPC drum [B] to apply an electric charge evenly to the drum surface. However, if the charge roller is dirty, the applied electric charge becomes uneven. Therefore, the charge roller is always in contact with the charge cleaning roller [C], which cleans the charge roller.

The cleaning blade [D] mounted in the PCPU collects any residual toner that remains after charging. The blade is a counter blade, mounted opposite to the direction of rotation of the drum. The blade, always in contact with the surface of the drum, scrapes away residual toner. The removed toner is collected by the toner collection coil [E].

Next, the quenching lamp [F] flashes light onto the OPC drum to remove any residual charge



### **New PCPU Detection, and Set Detection**

When a PCPU is placed in the machine, the ID chip [A] is read. Every time the PCPU is installed, the machine reads its ID chip [A] to detect whether a new PCPU has been installed. If you want to continue the present PM count, do SP7-805-001 (Counter Continue: Setting) before replacing the PCPU with a new unit.



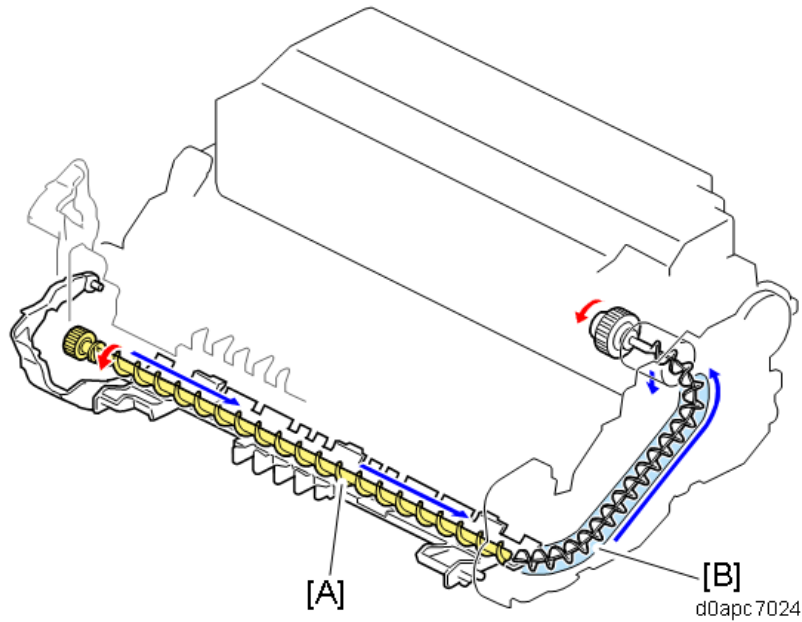
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More information about the PCDU unit can be confirmed with the SP codes listed below.

SP No.	SP name
SP7-932-001	PCDU Info.: Machine ID
SP7-932-002	PCDU Info.: Class ID
SP7-932-003	PCDU Info.: Maintenance ID
SP7-932-004	PCDU Info.: New AIO
SP7-932-005	PCDU Info.: Serial No.
SP7-932-006	PCDU Info.: Install Date
SP7-932-007	PCDU Info.: Sheets
SP7-932-008	PCDU Info.: Distance
SP7-932-010	PCDU Info.: Control Distance
SP7-932-011	PCDU Info.: PM Chg Sheets
SP7-932-012	PCDU Info.: PM Chg Distance
SP7-932-013	PCDU Info.: Cleaning1Count
SP7-932-014	PCDU Info.: Cleaning2Count

### ***Used Toner Transport***

Used toner is collected from the PCDU by the used toner collection coil [A] and transferred via the used toner transport path [B] on the side of the PCDU to the toner cartridge's used toner collection box.



### ***PCDU Near End/ End Detection***

The end state is determined when the count exceeds the threshold setting of SP7-940-002, SP7-941-002 set for either paper sheet count or distance count (distance is calculated from the operation time of the drum motor (M3)).

The near-end threshold count setting is determined for either the paper or distance count as described below.

- Near-end threshold (sheet count):  
End threshold (sheet count) - Number of days to near-end\*1 x APV  
Calculated with average print volume (APV), the average number of sheets printed every day.
- Near-end threshold (distance):  
End threshold (distance count [mm]) - Number of days to near-end\*1 x APV  
Calculated with the average print volume (APV), the equivalent distance traveled for average print volume, the average number of sheets printed every day.

\*1: Number of days to near-end SP settings

SP7-952-002 (Days Before End: PCDU)	Days before near-end
0 Early	7 days
1 Normal	5 days (default)
2 Late	3 day

**Operation Panel Messages**

Status	Machine	Service activity	Messages
Near-end	MF model	Service maintenance	-
		User maintenance	<b>System Message</b> Replacement of Drum Unit will soon be necessary. Follow replacement instructions to replace the parts.
	Printer model	Service maintenance	-
		User maintenance	Rplcmnt Rqrd Soon:Drum Unit New Drum Unit is required. Contact your local vendor.
End	MF model	Service maintenance	-
		User maintenance	<b>System Message</b> Replacement of Drum Unit is now necessary. Follow replacement instructions to replace the parts.
	Printer model	Service maintenance	-
		User maintenance	Replacmnt Requird:Drum Unit Replace Drum Unit.

## 7.6.4 TONER CARTRIDGE

### **Overview**

- The toner cartridge contains the toner hopper, toner supply mechanisms, and the used toner collection box.
- The toner supply port on the toner cartridge has a shutter that opens when the toner cartridge is installed.
- This machine conducts toner recovery control only during high-volume print jobs with a high rate of page coverage or when toner supply errors occur.

### **Toner Cartridge Mechanism**

#### **Toner Supply**

The toner supply clutch (CL2) turns ON and the coils in the toner cartridge rotate to transfer toner to the box tap and then the PCDU. The toner transferred to the PCDU is transferred to the development unit by the 1st mixing coil.

#### **Toner Recovery Control**

When the machine detects the lower limit for the amount of toner in the developer, printing stops and then the machine supplies toner as the amount is being checked as the machine idles. This sequence, (toner supply > toner amount detection > idling) comprises the toner recovery sequence. This sequence is performed to avoid insufficient toner supply and other problems. The previous machine always performed toner recovery when the amount of toner in the developer reached its lower limit, meaning toner recovery usually took place just before toner near-end when it was easy to detect the lower limit, resulting in lower productivity each time this was done.

In regard to this issue, this machine maintains the correct amount of toner (near the upper limit) in the developer by replenishing toner while the machine is printing. Furthermore, toner recovery control is performed only during high-volume print jobs with a high rate of coverage (25% or more on the sheets), or when a problem occurs in toner supply. In this way, the problem of reduced productivity in the toner recovery sequence at toner near-end with the previous machine has been solved.

#### **New Unit Detection**

The machine reads the ID chip to detect the status of the cartridge.

#### **ID Chip Information**

The toner cartridge for this machine is equipped with an ID chip [A] that records the cartridge serial number and the date the cartridge was installed.



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ID chip information can be checked in the SP mode.

SP No.	SP name	Note
SP7-931-xxx	Information for the toner cartridge currently installed	
SP7-931-001	Toner Info.: Machine ID	
SP7-931-002	Toner Info.: Version	
SP7-931-003	Toner Info.: Brand ID	
SP7-931-004	Toner Info.: Area ID	
SP7-931-005	Toner Info.: Class ID	
SP7-931-006	Toner Info.: Color ID	
SP7-931-007	Toner Info.: Maintenance ID	
SP7-931-008	Toner Info.: New AIO	
SP7-931-009	Toner Info.: Recycle Count	
SP7-931-010	Toner Info.: EDP Code	
SP7-931-011	Toner Info.: Serial No.	
SP7-931-012	Toner Info.: Remaining Toner	Default: 100%, Countdown in increments of 1%
SP7-931-013	Toner Info.: Toner End	0: Normal (Including estimated toner near end status) N: Definite toner near end E: Toner near end
SP7-931-014	Toner Info.: Refill Flag	"RF" is displayed at the time of refill detection, otherwise blank.
SP7-931-015	Toner Info.: R: Total Cnt.	Total counter (sheets) at toner cartridge installation
SP7-931-016	Toner Info.: E: Total Cnt.	Total counter (sheets) at toner end detection
SP7-931-017	Toner Info.: Unit Output Cnt.	Number of output sheets from toner cartridge installation
SP7-931-018	Toner Info.: Install Date	Date when new toner cartridge was installed
SP7-931-019	Toner Info.: Toner End	Date of toner end detection

SP No.	SP name	Note
	Date	
SP7-931-020	Toner Info.: Total Consump	(mg)
SP7-931-021	Toner Info.: PCDU Distance	(mm)
SP7-931-022	Toner Info.: Initial Amount	(g)
SP7-931-023	Toner Info.: Near-End Consump	(mg)
SP7-935-xxx	Information for the previously installed toner cartridge	
SP7-935-001 to -004	Toner cartridge information for 1 before current cartridge	
SP7-935-005 to -008	Toner cartridge information for 2 before current cartridge	
SP7-935-009 to -012	Toner cartridge information for 3 before current cartridge	
SP7-935-013 to -016	Toner cartridge information for 4 before current cartridge	
SP7-935-017 to -020	Toner cartridge information for 5 before current cartridge	

### **Used Toner**

The used toner collection coil sends used toner in the PCDU down to the used toner collection box.

The used toner collection box does not have a function to detect when it is full.

### **Toner Near End/ End Detection**

There are three toner-end states for this machine. The detected conditions and operation at the time of detection are described below.

Status	Detect Condition	What Happens (Operation panel message)
Estimated toner near-end	The amount of toner remaining is calculated from the operation time of the toner supply clutch (CL2).	<p><b>MF model:</b> "[System Message] Check you have a print cartridge replacement(s). Current toner cartridge can be used until the replacement alert."</p> <p><b>Printer model:</b> "Check you have a print cartridge replacement(s)."</p>



Status	Detect Condition	What Happens (Operation panel message)
Definite toner near-end	Toner end sensor detects the amount of toner remaining.	<p><b>MF model:</b>  <b>"[System Message]</b> Toner Cartridge is empty. Printing will be suspended soon. Replace the cartridge."  <b>Printer model:</b>            "Check you have a print cartridge replacement(s). Contact your local vendor."</p>
Toner end	Calculated from definite near-end.	<p><b>MF model:</b>            Printing halts.  <b>"[Add Toner]</b> The following toner has been depleted. Procedure for adding toner is shown on the right."  <b>Printer model:</b>            Printing halts.  <b>"[Add Toner]</b> Replace Print Cartridge. Press the Menu key to check supplies."</p>

### ***Estimated Toner Near End***

When the amount of toner remaining (%) <sup>\*1</sup> is calculated from the amount of toner supplied, or the total distance (%) <sup>\*2</sup> of operation by the toner cartridge, whichever is lower is taken as the value of the amount of toner remaining. Either can be calculated from the toner supply operation time. When the amount of toner remaining reaches the threshold of the amount of toner available for use <sup>\*3</sup>, this triggers the estimated toner near-end alert.

\*1 Toner remaining [%] = { Amt. toner supplied [g] / (Initial toner fill [g] - Toner fill tolerance and toner amt. margin [g]) } x 100

\*2 Amt. toner consumed [%] = (Toner cartridge operation time distance / Used toner end distance) x 100

\*3 The near-end and utilization threshold value can be selected with SP3-098-001: 0 Early, 1 Normal, 2 Late (default).

***Definite Toner Near End***

The toner end sensor (a photosensor) detects the amount of toner inside the development unit. It projects light to detect the amount of toner remaining in the toner supply path. The toner end sensor detects the occurrences of the toner near-end state. The estimated toner near-end state is triggered when the following condition is met:

Lower limit detections  $\geq$  Near-end detection threshold (18 counts)

In a case where definite toner end is detected before estimated toner end, the definite toner end state takes precedent.

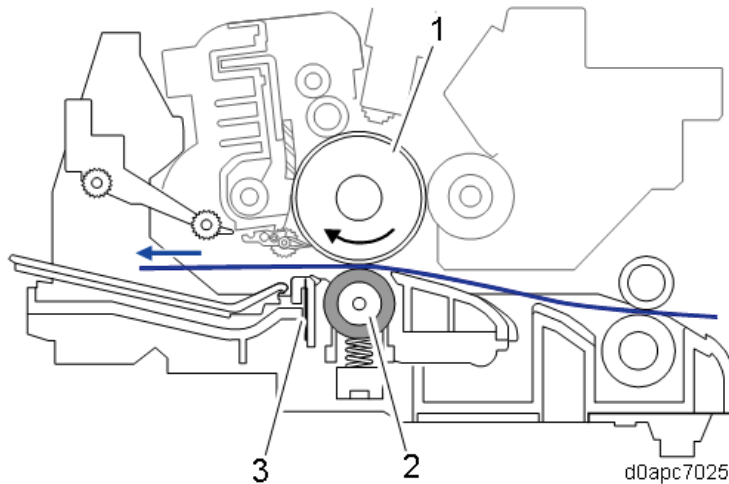
***Toner End***

When the definite toner end is determined, in order to calculate toner end the machine calculates the amount of toner consumed after definite toner end. The machine enters the toner end state and the machine halts when the following condition is met:

Amt. of toner consumed  $\geq$  End calculation threshold (5,000 mg)

## 7.7 IMAGE TRANSFER AND PAPER SEPARATION

### 7.7.1 COMPONENT LAYOUT



No.	Name
1	OPC drum
2	Transfer roller
3	Discharge plate

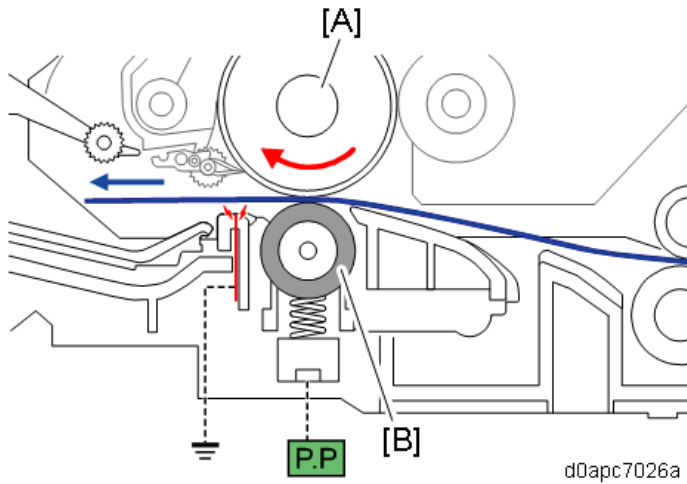
### 7.7.2 MECHANISM

#### *Image Transfer/ Paper Separation*

##### *Image Transfer*

After passing through the registration unit, the paper passes between the OPC drum [A] and the transfer roller [B]. During this time, the toner on the OPC drum surface is transferred to the paper by the positive electric charge on the transfer roller.

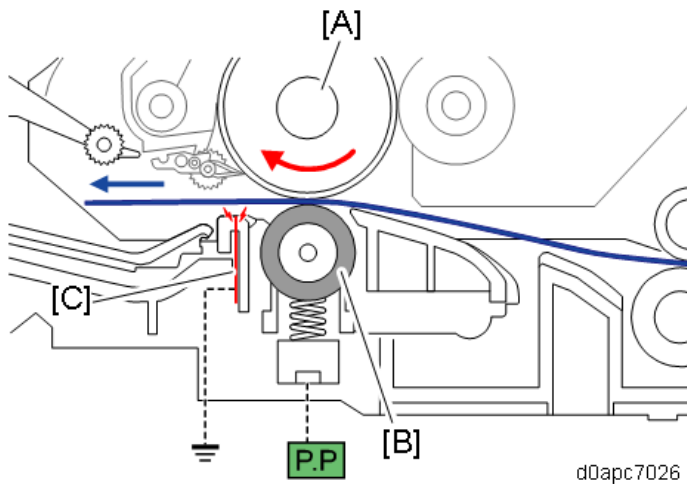
The voltage is applied to the transfer roller from the HVPS through receptacles, electrode terminals, a transfer roller spring, and bearings made of conductive resin composite.



Transfer current is adjusted for paper trays (paper feed unit, bypass tray, duplex tray) for paper size, paper type, the number of sheets, and for ambient conditions (operating environment). Further, the output voltage is checked when the transfer current is applied. If the output voltage exceeds the prescribed voltage, the current is adjusted (corrected), and then feedback control achieves the target voltage.

### ***Paper Separation***

The paper separates from the OPC drum because of the curvature of the OPC drum [A] and because of the grounded discharge plate [C] downstream of the transfer roller [B]. Irregularities in the toner image at the time of separation are prevented by an electric field.



### ***Transfer Roller Cleaning***

Toner may transfer to the roller surface following a paper jam or if the paper is smaller than the image. Periodic cleaning of the roller is required to prevent this toner from migrating back to the rear of new printouts.

The machine cleans the roller at the following times:

- After initial power on.

- After clearing of a copy jam
- At the end of a job

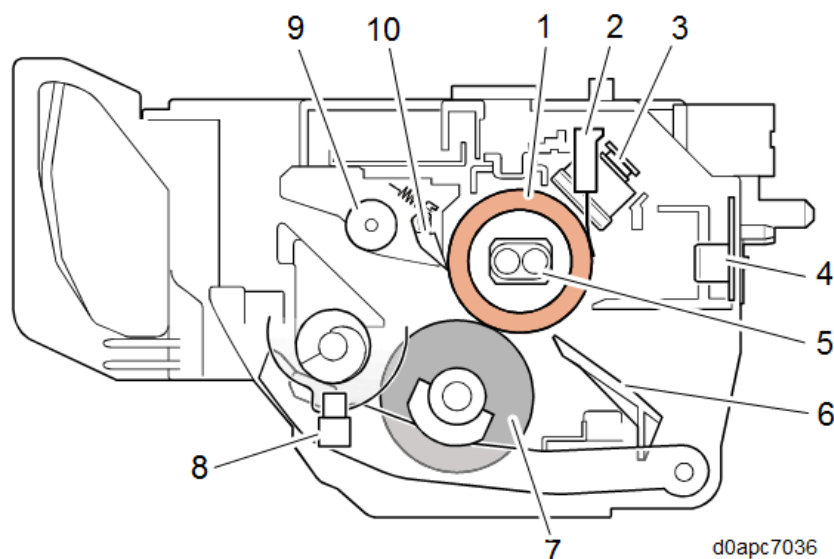
The PSU first supplies a negative cleaning current (about -4 A) to the transfer roller, causing negatively charged toner on the roller to move back to the drum. It then applies a positive cleaning current (+5 A) to the roller, causing any positively charged toner to migrate back to the drum.

### 7.7.3 RELATED SPS

- 2-301-xxx [T bias Control]:  
Use these SPSs to adjust the power output and power coefficient used to transfer the toner image from drum to paper. Four separate voltages are applied: before the leading edge, at the leading edge of the paper, across the image area, and at the trailing edge of the paper.

## 7.8 IMAGE FUSING

### 7.8.1 COMPONENT LAYOUT



No.	Name	No.	Name
1	Hot roller	6	Fusing entrance guide
2	Fusing thermistor (TH1)	7	Pressure roller
3	Fusing thermostat (center/end) (TH3, TH4)	8	Fusing nip pressure position sensor (S7) *At main machine side
4	Fusing thermopile (TH2) *At main machine side	9	Fusing exit roller
5	Heating lamp (center/end)	10	Hot roller strippers

### 7.8.2 MECHANISM

#### *Fusing Mechanism*

#### *Fusing Method*

Paper is fed from the transfer unit into the fusing unit where a prescribed amount of heat and pressure are applied to fuse the toner to the paper. There are two fusing lamps (halogen lamps), one with the center heating element and the other with a heating element at either end of the hot roller.

In this machine, a fusing thermopile (TH2) is mounted near the center of the hot roller on the interior side. This fusing thermopile (TH2) is a non-contact heat sensor that monitors temperature. A contact fusing thermistor (TH1) is mounted at the end of the hot roller to monitor temperature. These temperature readings are used to control fusing temperature by alternately turning the fusing lamps off and on. In addition, two thermostats (TH3, TH4), one at the center

and one at the end of the hot roller provide protection against overheating.

### ***Fusing Pressure, Paper Separation, and Paper Exit***

Two springs hold the pressure roller up against the hot roller to keep constant pressure on the surface of the hot roller. Paper separation pawls (strippers) strip the paper from the hot roller after fusing, and then the fusing/exit roller moves the paper out of the fusing unit.

### ***Fusing Unit Drive***

The feed/fusing motor (M4) drives the hot roller. A gear mounted on the hot roller rotates the pressure roller.

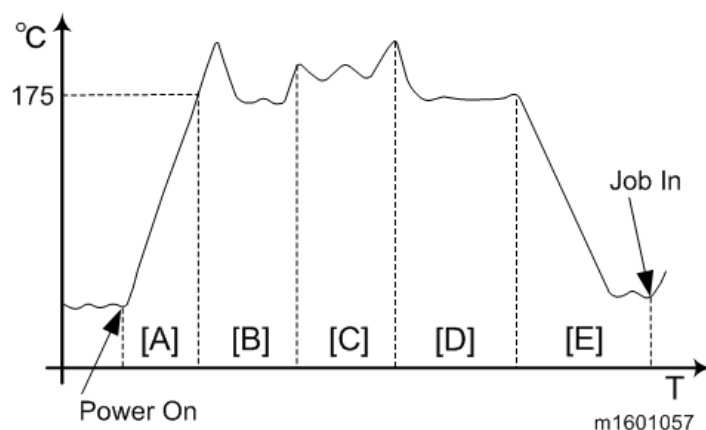
### ***Thermal Control Mechanism***

This machine employs a PID controller to modulate the fusing temperature.

When the machine is turned on, the fusing lamps turn on and remain on until the hot roller reaches pre-rotation temperature. Next, the hot roller rotates to heat its surface evenly to raise the fusing temperature to the reload temperature.

The fusing lamps remain on while the fusing thermopile (TH2) monitors the temperature of the hot roller at the center of the fusing unit, and the fusing thermistor (TH1) monitors temperature at the end of the hot roller. The fusing lamps remain on until both detect Standby Mode [B].

The fusing lamps continue to alternately switch off and on to maintain the standby temperature. At the start of printing, the temperature is increased to Print Mode [C]. After a print job, the hot roller continues to rotate (pre-rotation) to prevent overshooting after printing.



[A]: Warming Up Mode

[B]: Standby Mode

[C]: Print Mode

[D]: Standby Mode

[E]: Energy Saver Mod

Here is a list of target temperatures for each print mode in optimal ambient conditions. These

temperatures are adjusted automatically in low-temperature environments.

Status	Target temperature (Center) °C	Target temperature (End) °C
Standby Mode	163	158
Print Mode	Plain paper 1	170
	Plain paper 2	178
	Middle Thick	186
	Thick Paper 1	198
	Thick Paper 2	185
	Thick Paper 3	164
	Thin Paper	139
	Envelopes	205
	OHP	198
	Post Cards	205

The fusing temperature, except for that of the Energy Saver mode, can be adjusted in the SP mode (SP1-105).

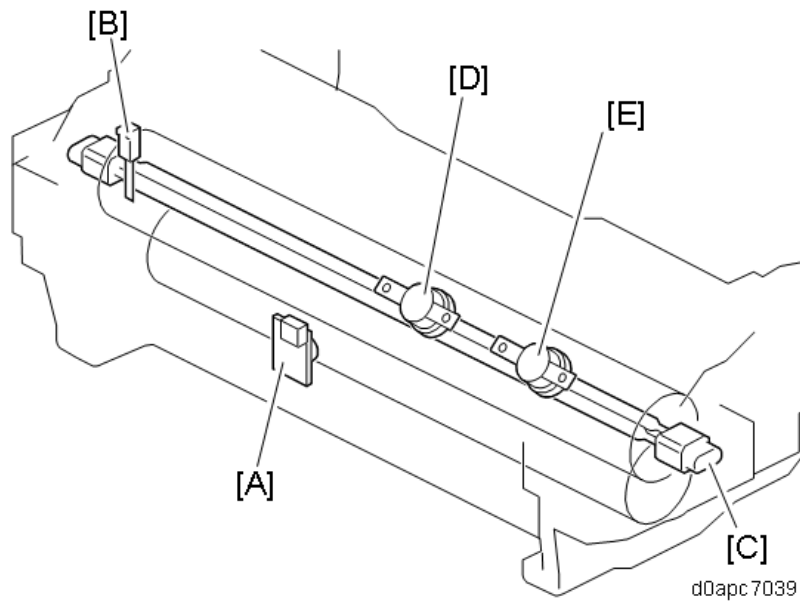
### **Overheat Protection**

The fusing thermopile (TH2) [A] monitors the surface temperature at the center of the hot roller. If the temperature exceeds 245°C (475°F), the machine cuts off the power to the fusing lamps [C].

The fusing thermistor (TH1) [B] monitors the temperature at the end of the hot roller. If the temperature exceeds 245°C (475°F), the machine cuts off the power to the fusing lamps [C]. If the machine overheats it will issue S543/SC553, and then stop. A customer engineer must release SC543/SC553 with SP5-810-001 to restore operation of the machine.

Two thermostats, thermostat (center) (TH4) [D] and thermostat (end) (TH3) [E] provide more protection from overheating in case either one or both fusing thermopile (TH2) [A] and fusing thermistor (TH1) [B] should fail. These thermostats monitor the temperature around the hot roller and will cut off the power to the fusing lamps and shut down the machine if the temperature exceeds 350°C (662°F).



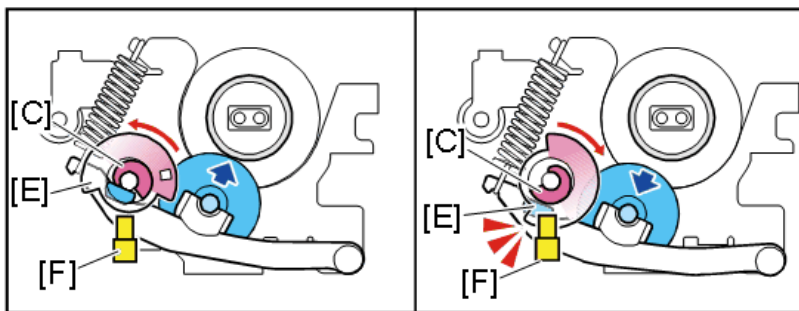
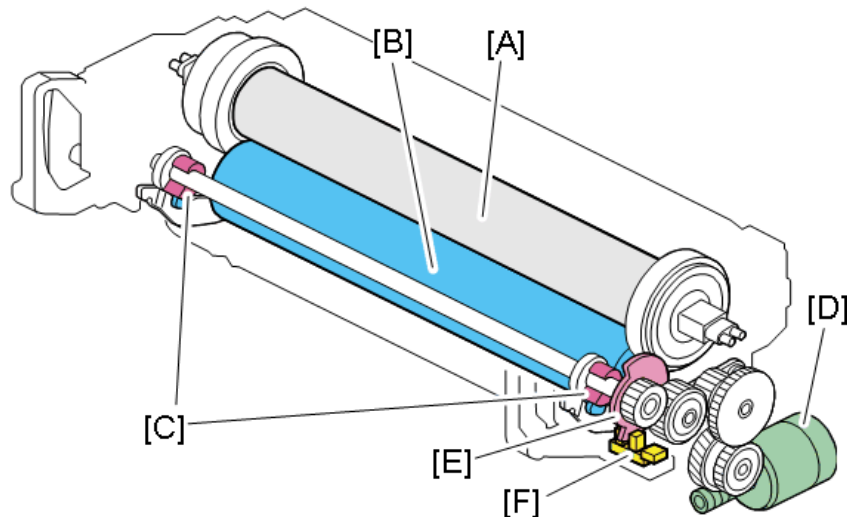


### ***Fusing Pressure Automatic Release Mechanism***

This machine is provided with a new fusing pressure/release motor (M2) which controls the opening and closing of the nip between the hot roller and pressure roller.

The hot roller [A] and pressure roller [B] are pressed together by two large springs. The lift cam [C] is provided to shift the position of the pressure lever against the springs to maintain the pressure. Fusing pressure/release motor (M2) [D] rotates a series of gears which in turn rotates the lift cam against the lift lever which raises and lowers the pressure roller.

Attached cam feeler [E] rotates, while the fusing nip pressure position sensor (S7) [F] (installed at the rear) monitors the status at the gap.



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The pressure is released if a paper jam occurs, making it easier to remove the jammed paper. Pressure is released when the machine is off, or in standby mode, to prevent warping the shape of the pressure roller.

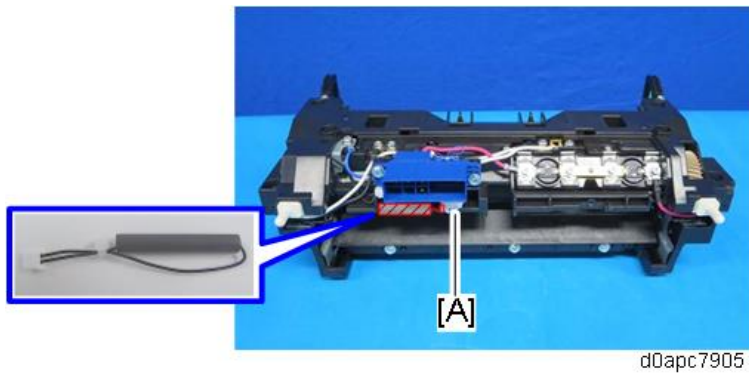
Machine status		Pressure status
Startup	Power on, warm up	Released
	Rotations after reloading temperature cycle	Applied
Printing	Print job other than envelopes	Applied
	Envelope print job	Released
Standby		Released
Abnormal halt		Released

### ***New Unit Detection***

There are two types of fusing unit: one for emergency maintenance (EM) and another for periodical replacement.

The fusing unit for the periodical replacement has a new unit detection mechanism.

When the machine is switched on after installing a new fusing unit, the engine board detects the fuse [A] under the drawer connector of the new fusing unit and then blows the fuse. This resets the counter.



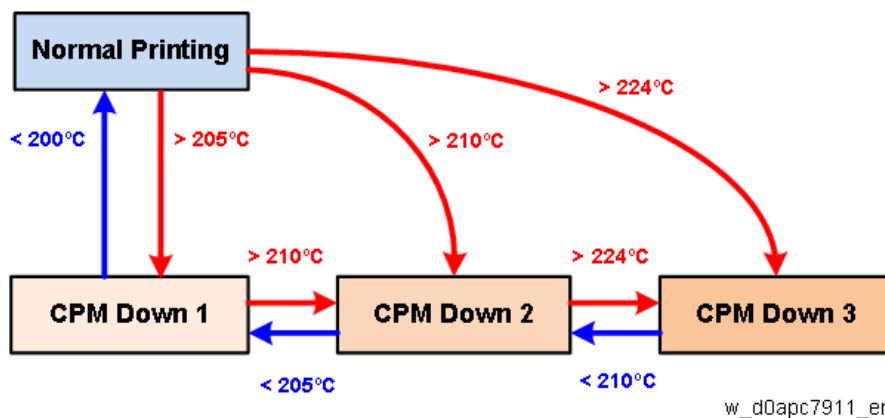
## CPM Down Control

This machine employs several CPM down modes to maintain the quality of printed images and to optimize and protect the operation of the machine

### High-Temperature CPM Down

When paper narrower than the width of the heated surface of the hot roller passes through the fusing unit, the amount of unabsorbed heat at the ends of the hot roller causes the fusing unit to become abnormally hot. As soon as the machine detects such a rise in temperature, it will lower throughput and then regulate the high temperature inside the fusing unit.

After printing continuously more than 60 seconds, the fusing thermistor (TH1) starts to check the temperature at one-second intervals. Based on these temperature readings the machine will determine the appropriate CPM down level. The CPM down levels are described below.



Level	CPM Down Rate					
	Large Size Paper (Feed Edge > 182mm)		Medium Size Paper (148 < Feed Edge < 182mm)		Small Size Paper (Feed Edge < 148mm)	
	35 ppm	43 ppm	35 ppm	43 ppm	35 ppm	43 ppm
Normal	100%		100%		100%	
CPM Down 1	100%		85%		80%	
CPM Down 2	100%		70%		60%	
CPM Down 3	23%	28%	23%	28%	23%	28%

### Low-Temperature CPM Down

If the fusing lamps cannot keep pace with the print job and are unable to maintain the target fusing temperature, throughput is slowed down to make it easier to maintain the target temperature.

The fusing thermistor (TH1) checks the temperature every 10 sec. If the temperature reading is down by the critical temperature setting for SP1-124-001 (default: -25°C), the CPM level is lowered one step, and if the temperature reading is up by the critical temperature setting for SP1-124-002 (default: -5°C), the CPM level is raised one step.

Level	CPM Down Rate
Normal	100%
CPM Down 1	80%
CPM Down 2	60%
CPM Down 3	40%

### ***CPM Down for Curl Reduction Mode***

If the Curl Reduction Mode is selected in the User Settings for a print job, at the start of throughput the following conditions apply.

Paper Type	Normal Ambient Temp.	Low Ambient Temp.
Normal 1,2	100%	100%
Medium Thick	100%	100%
Thick 1	100%	75%
Thick 2	75%	75%
Thick 3	75%	50%
Thin	75%	50%
Postcard	75%	50%
OHP	75%	50%
Envelope	100%	100%

### ***Low Power CPM Mode (200V Model Only)***

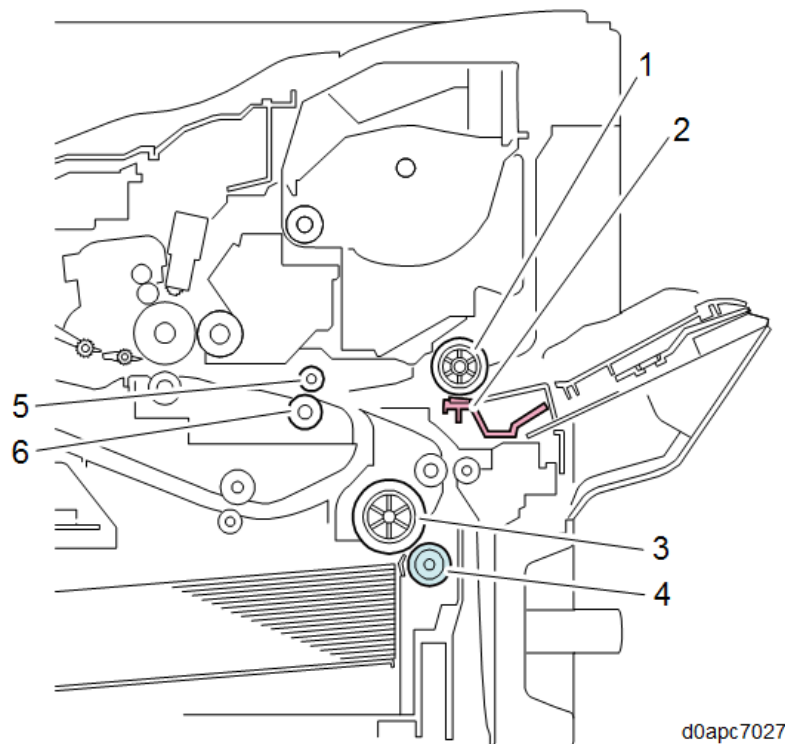
With a low voltage power supply, the CPM down rate set at 33% automatically at the start of throughput.

## **7.8.3 RELATED SPS**

- SP5-810-001 [SC Reset: Fusing SC Reset]:  
The CE uses this to cancel the fusing unit SC condition.

## 7.9 PAPER FEED

### 7.9.1 COMPONENT LAYOUT



No.	Name	No.	Name
1	Bypass feed roller	4	Separation roller (Tray 1)
2	Bypass friction pad	5	Registration roller (Driven)
3	Paper feed roller (Tray 1)	6	Registration roller (Drive)

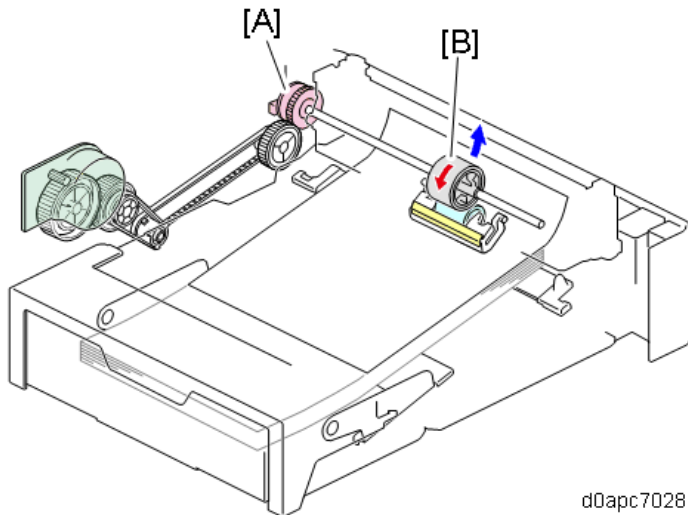
### 7.9.2 MECHANISM

#### *Paper Feed Operation*

##### *Paper Feeding*

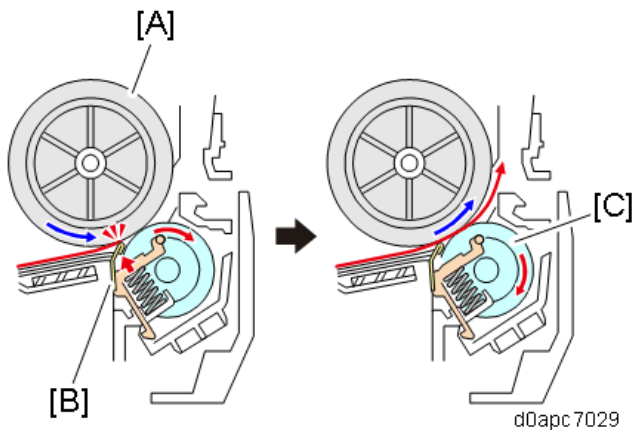
The paper feed tray of the main machine employs the RF (Roller Friction) method for paper separation. The RF mechanism comprises a separation roller with a torque limiter attached that forces paper separation (no reverse drive is used).

A paper feed signal switches on the paper feed clutch (CL6) [A] and starts rotating the feed roller [B] which feeds the paper. When the leading edge of the moving paper switches on the registration sensor (S5), this switches the feed clutch off. Image position timing starts while the registration sensor (S5) is on, and then the paper is transported to the transfer unit.



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In front of the feed roller [A] a pre-separation plate [B] is installed to block the top of the stack from entering past the feed roller. The friction roller [C] separates the first sheet from the top of the stack so only the top sheet feeds.



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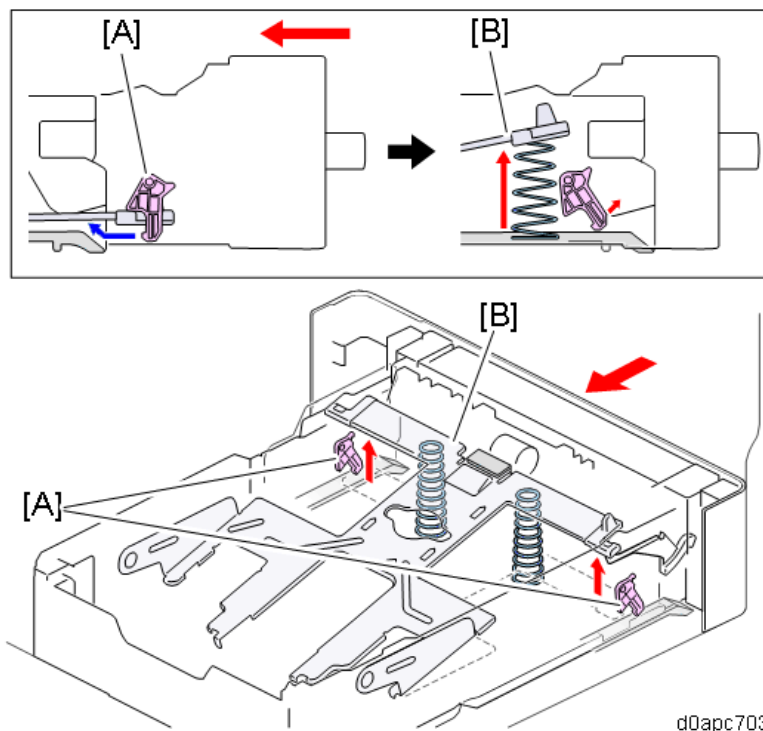
### **Paper Feed Retry Control**

In the main machine if the sheet does not feed after the paper feed signal is issued, the machine will issue another paper feed signal and try once more to feed the paper it issues a jam error. If the next attempt fails, the machine will issue a jam error. The machine is set to make one retry by default, but the number of attempts to retry paper feed can be adjusted for each paper tray with the SP codes (0, 1, or 2 retries) listed below.

SP No.	SP name
SP1-909-001	FeedRetryCount: Manual Feed Tray
SP1-909-002	FeedRetryCount: Tray1
SP1-909-003	FeedRetryCount: Tray2
SP1-909-004	FeedRetryCount: Tray3
SP1-909-005	FeedRetryCount: Tray4

### **Bottom Plate Lift Mechanism**

When a paper tray is set in the machine, a catch on the frame of the machine snags the bottom plate lock lever [A] and releases it. When the lock is released, a spring raises the bottom plate [B] and paper stack to the feed roller.



Also, the bottom plate and end fence are linked, so when the bottom tray rises, the end fence shifts forward against the trailing edge of the stack. This keeps the edge of the stack against the fence to prevent misfeeds.

### **Improved Handling of Registration Roller Jams**

Raising the registration guide (the transparent roller cover) slightly raises the registration roller mechanism. This allows easier removal of paper jams at the registration roller.

### **Output of Different Size Paper**

In this machine, if the paper size setting and length of the paper feeding are not the same, the paper will immediately eject without printing to avoid causing a paper jam. The machine displays an alert on the operation panel so the operator can cancel the print job and start again with the correct paper size and paper size setting.

## ***Tray Paper Detection***

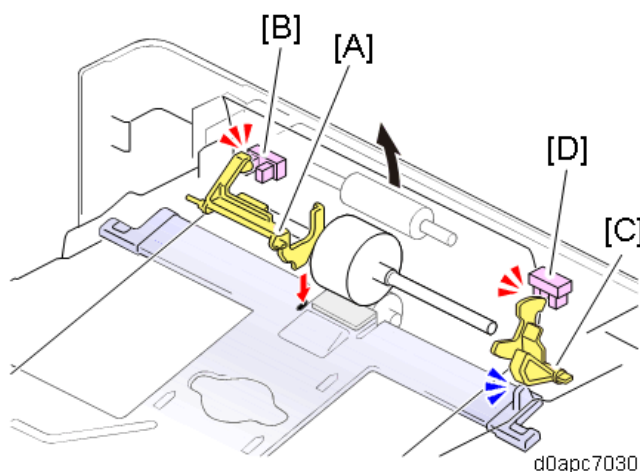
### ***Paper End/ Paper Near End Detection***

When the tray runs out of paper, one end of the paper end feeler [A] drops through the cut out on the bottom plate into the gap while the other end of the feeler pops up into the paper end sensor (S6) [B] and turns it off. When paper end is detected, the paper out message is displayed on the operation panel.

This machine is provided with a new paper near-end sensor (S4).

A paper near-end feeler [C], installed on the corner of the bottom plate, detects the bottom plate as it rises. As sheets of paper feed out, the bottom plate rises. This also raises the feeler of the paper near-end sensor (S4) [D] until it blocks the gap of the sensor and switches it off. Paper near-end is detected when there are about  $75 \pm 50$  sheets of paper (0.1 mm thick) remaining in the tray. When paper near-end is detected, the operation panel displays the paper near-end message.

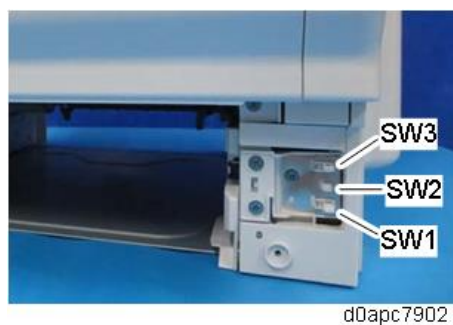
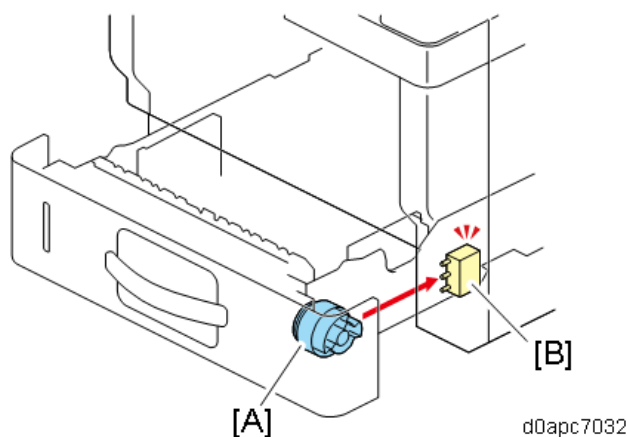
If paper end is detected before paper near-end, paper end takes precedence.



### ***Paper Size Detection***

When the paper tray is set in the machine, the paper size dial [A] installed on the right corner of the tray pushes onto the three grooves of the paper size switch (SW4) [B]. This sets the reading for the dial paper size setting. When more than one of these switches are set to "L" (ON) the machine knows the paper tray is installed.



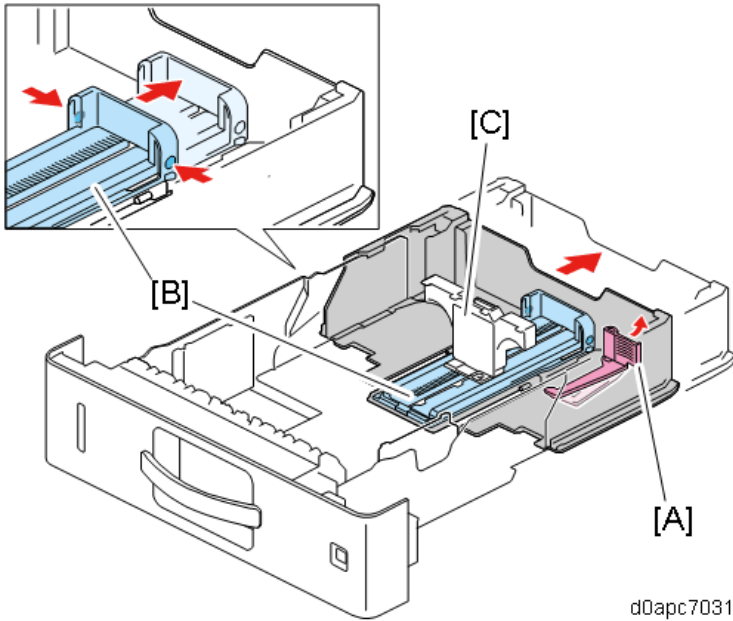


	SW 1	SW 2	SW 3	Paper size
1	L	L	L	A4 SEF
2	L	H	L	A5 SEF
3	H	L	L	A6 SEF
4	H	H	L	Legal SEF
5	L	L	H	Letter SEF
6	L	H	H	-
7	H	L	H	Half letter SEF
8	H	H	H	Paper cassette is not set.

>L: Switch is pressed

### **Adjustable Cassette**

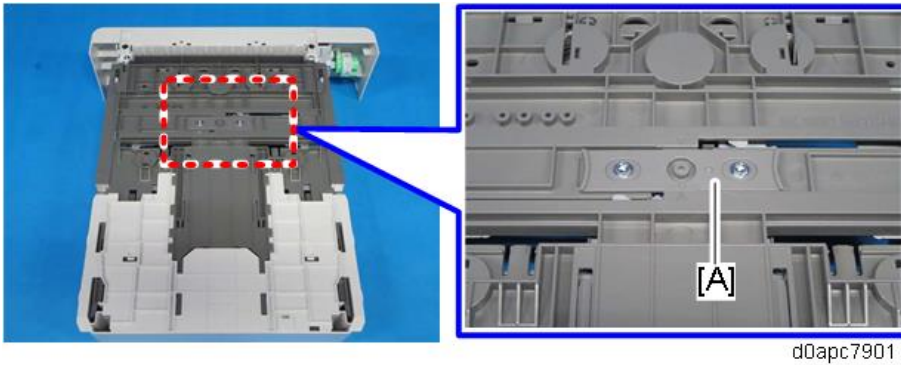
When the machine is shipped from the factory, only paper sizes up to A4 SEF can be set in the paper trays. To load longer paper sizes in the tray, press lock lever [A], and then extend the cassette. Next, release the rear edge of the side fence lock [B] to free the fence. Then load the tray and adjust the end fence [C] to the edge of the stack.



### ***Side-to-side Registration Adjustment in the Machine Paper Tray***

To adjust side-to-side registration, loosen the two screws on the underside of the tray and move the rack and pinion mechanism of the side guides from side to side.

The holder [A] can move to the right or left (up to 2mm). When at the default ( $\pm 0$ ) position, the holder position is the triangle marked area.



## ***Bypass Paper Feed Operation***

### ***Paper Feed and Bottom Plate Operation***

When the paper feed signal is issued for the bypass tray, the bypass lift clutch (CL3) [A] starts to rotate and raises the bottom plate [B].

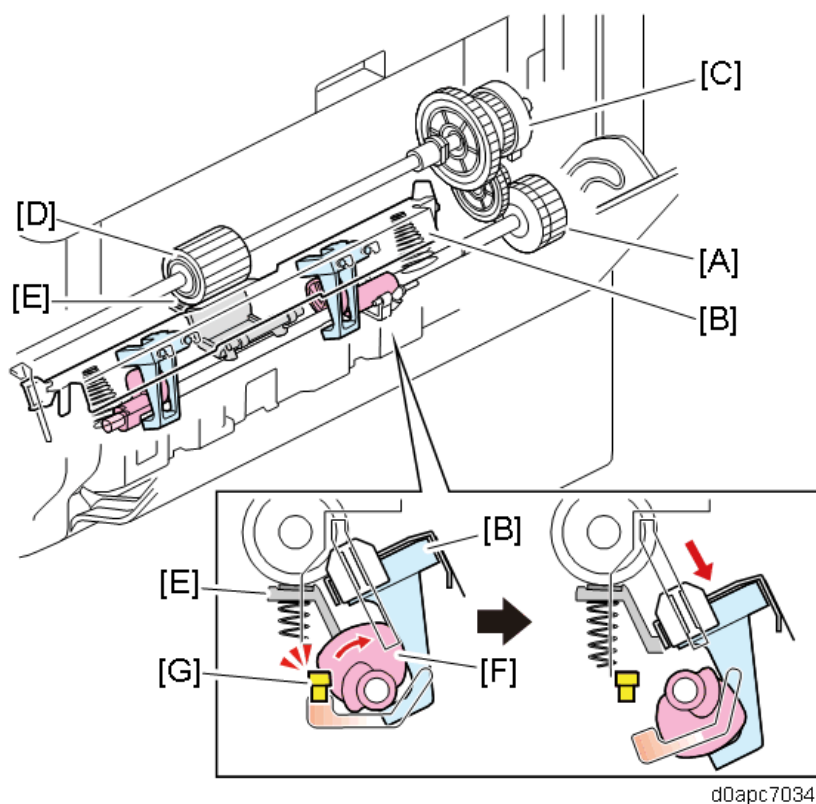
Next, the bypass feed clutch (CL4) [C] switches on and rotates the bypass feed roller [D]. At the top of the paper stack in the bypass tray, the top sheet separates at the friction pad [E] and feeds into the machine toward the registration roller.

When the leading edge of the paper turns on the registration sensor (S5), this switches the bypass feed clutch (CL4) off. Image position timing takes over and positions the paper for image transfer. The registration clutch (CL5) switches on and the paper feeds to the transfer unit.

The bypass tray bottom plate [B] is raised and lowered by the cam [F] attached to the shaft rotated by the bypass lift clutch. The friction pad [E] is linked to the bottom tray so it also rises to maintain contact with the bypass feed roller to effect paper separation at the top of the stack.

The feeler of the bypass tray sensor (S3) [G] attached to the cam switches on and off to detect the position of the tray as it moves up and down.

- ON (sensor gap open): Bottom plate down
- OFF (sensor gap blocked): Bottom plate up

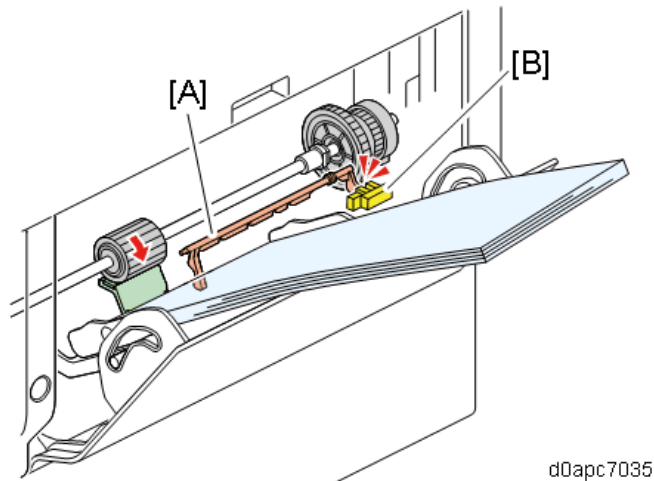


### ***Bypass Tray Paper Detection***

### ***Bypass Tray Paper End Detection***

The bypass tray is equipped with a paper detection feeler [A] and bypass paper end sensor (S2) [B] that detect the presence of paper in the tray. The bypass paper end sensor (S2) goes on (gap open) when there is a paper in the tray, and then goes off (gap blocked by the feeler) after the last sheet feeds to signal the paper end.

- ON (Sensor gap open): Paper in the tray
- OFF (Sensor gap blocked): Paper out



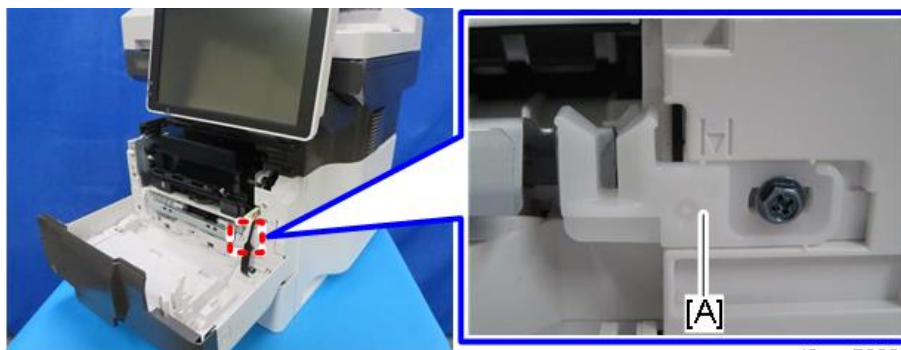
d0apc7035

### ***Bypass Tray Paper Size Detection***

The machine does not have a function to detect the size of paper loaded in the bypass tray.

### ***Side-to-side Registration Adjustment in the Bypass Tray***

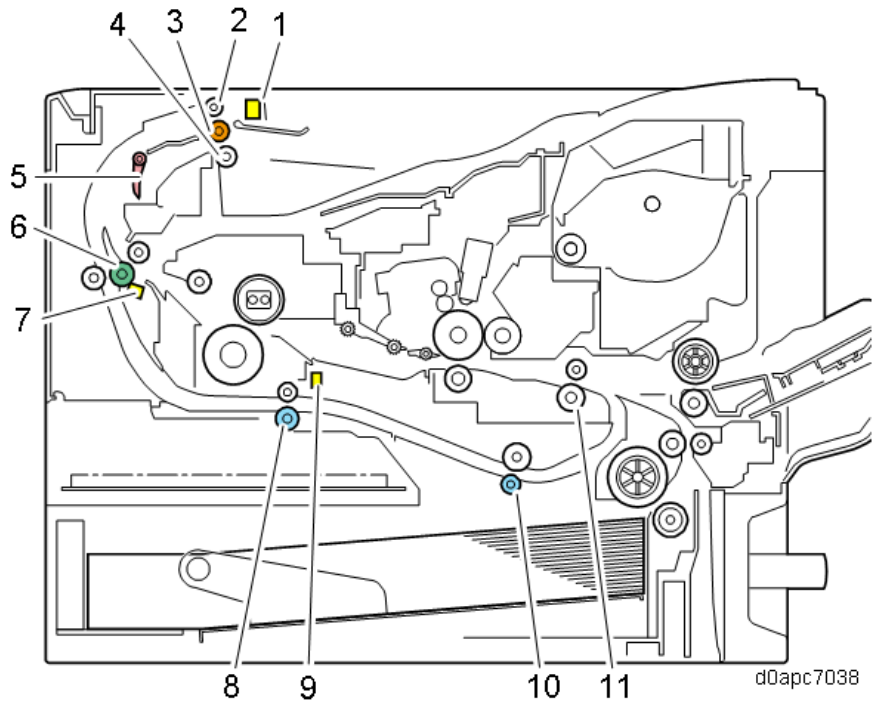
To adjust side-to-side registration, loosen the screw on the right side of the tray, and slide the guide [A] to the left or right to adjust the position.



d0apc7903

## 7.10 PAPER EXIT/ DUPLEX

### 7.10.1 COMPONENT LAYOUT



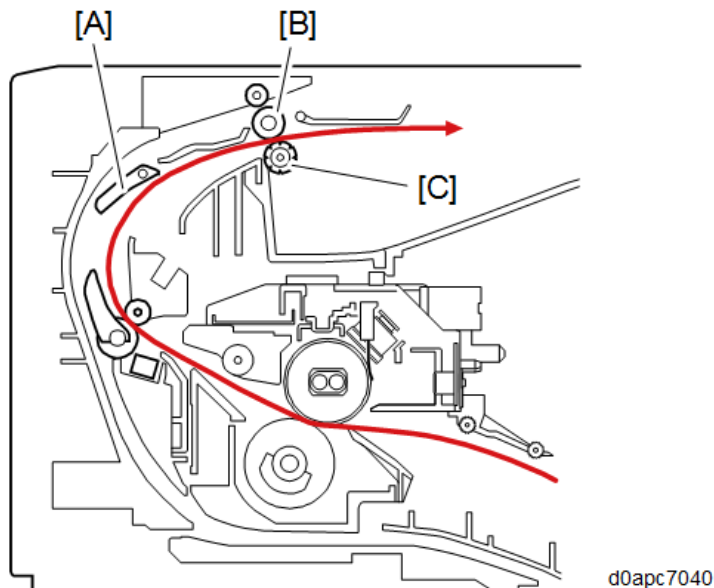
No.	Name	No.	Name
1	Paper exit full sensor (S10)	7	Paper exit/reverse sensor (S1)
2	Duplex reverse roller	8	Duplex relay roller
3	Paper exit/reverse roller	9	Duplex entrance sensor (S8)
4	Paper exit roller	10	Duplex exit roller
5	Exit junction gate	11	Registration roller
6	Fusing exit/reverse roller		

## 7.10.2 MECHANISM

### *Paper Exit/ Duplex Operation*

#### *Paper Exit*

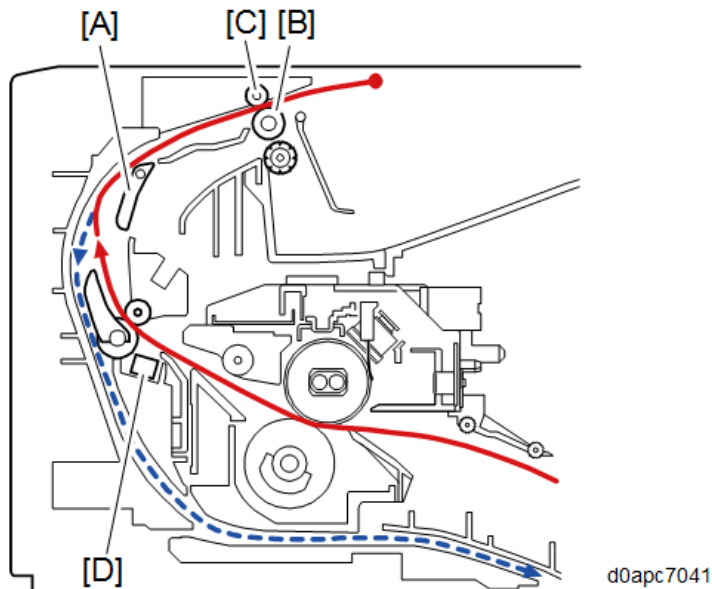
During simplex printing, each sheet of paper passes below the paper path junction gate [A] and then feeds between the exit/reverse roller [B] and paper exit roller [C].



#### *Duplex*

This machine performs duplex printing using a duplex switchback delivery system. After the 1st side of the sheet is printed it is fed partially out of the machine and then reverse fed down into the machine by the paper/exit reverse roller for printing on the 2nd side.

During duplex printing, the leading edge of each sheet already printed on one side enters the paper exit path, triggers the paper junction gate sensor. This closes the junction gate [A] while the reverse rotation of the exit/reverse roller [B] feeds the paper to the duplex reverse roller [C]. When the trailing edge of the sheet passes the paper exit/reverse sensor (S1) [D], before the paper can feed completely out the machine paper exit the junction gate opens (returns to its original position), and then the exit/reverse roller switches to forward rotation, feeding the paper down past the junction gate into the duplex paper path. Next, the paper feeds into the machine again for printing of the other side of the paper.



### ***Paper Exit Full Detection***

If the height of the paper stacked on the output tray exceeds a certain limit, the paper exit full sensor (S10) detects it based on the position of the paper overflow sensor feeler, and then the machine stops printing so the operator can remove the paper from the exit tray.

### ***Exit/ Duplex Drive***

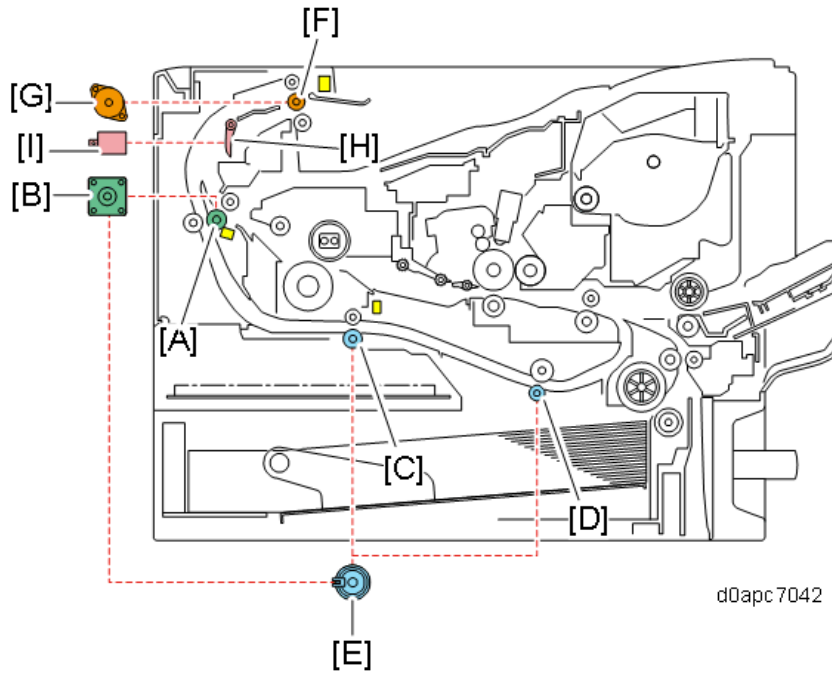
The components that drive the rollers in the exit/duplex paper path are described below.

The fusing/exit reverse roller [A] is driven by the feed/fusing motor (M4) [B].

The duplex relay roller [C] and duplex exit roller [D] are engaged by the duplex clutch (CL1) [E] and driven by the feed/fusing motor (M4) [B].

The paper exit/reverse roller [F] is controlled independently by the exit/reverse motor (M1) [G] which controls the reverse and forward rotation of the reverse/exit roller near the paper exit to change the direction of paper feed during duplexing.

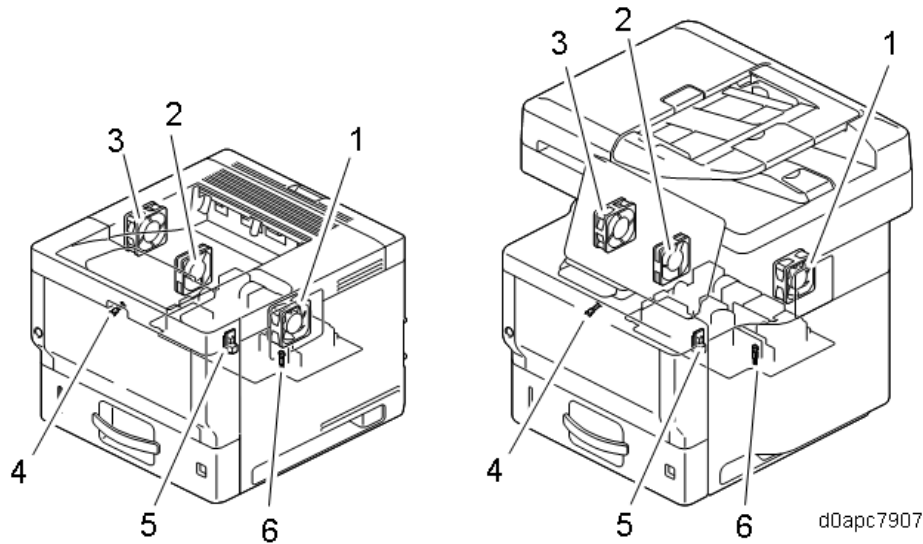
The position of the paper path junction gate [H] is controlled by the exit junction gate solenoid (SOL1) [I].





## 7.11 AIR FLOWS (FAN CONTROL)

### 7.11.1 COMPONENT LAYOUT



No.	Name	No.	Name
1	PCDU cooling fan (right) (FAN1)	4	Image creation thermistor (TH5)
2	PSU cooling fan (FAN3)	5	Temperature/humidity sensor (S11)
3	PCDU cooling fan (left) (FAN2)	6	PSU thermistor (on PSU board)

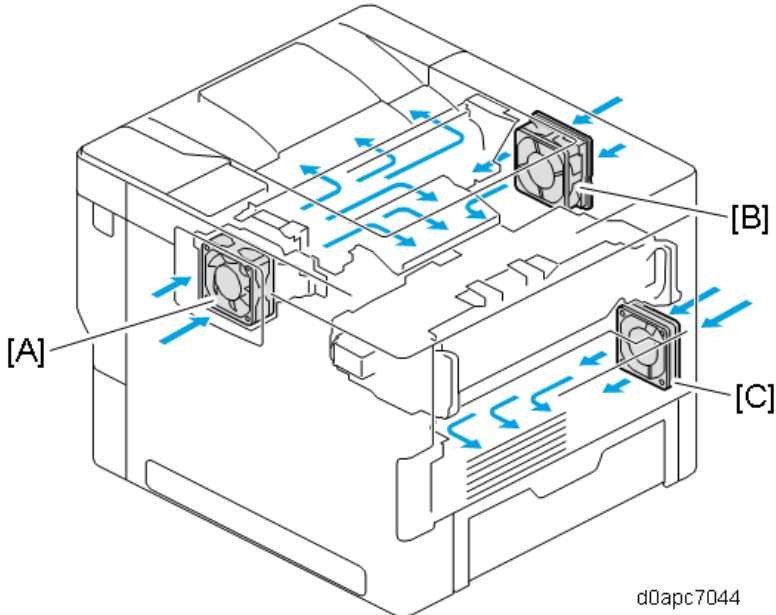
### 7.11.2 MECHANISM

#### *Fans*

This machine is equipped with three cooling fans to provide ventilation:

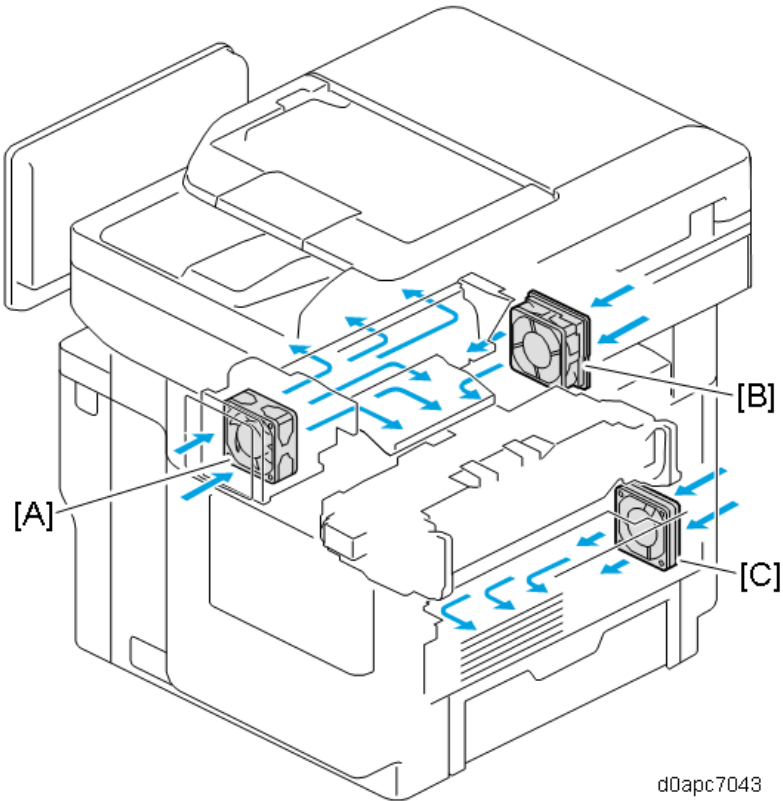
- PCDU cooling fan (right) (FAN1) [A]
- PCDU cooling fan (left) (FAN2) [B]
- PSU cooling fan (FAN3) [C].

Printer model



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MF model



d0apc7043

## Fan Operation

### Fan Operation for Each Mode

This machine is designed for low-noise operation, especially at ambient and low temperature, and when the machine is in Low Duty mode, each fan motor runs at low speed or stops, and can even print when the machine is in noise suppression mode. The noise suppression mode can be turned ON/OFF with SP1-953-001 (Fan Low Noise Mode: OFF/ON). Default: ON. Each fan operates based on the temperature readings of the temperature/humidity sensor (S11) (T) and the PSU thermistor (Tp).

Machine mode	PCDU cooling fan (right) (FAN1)		PSU cooling fan (FAN3)		PCDU cooling fan (left) (FAN2)	
During Warmup	Stop		Stop		Stop	
During Standby	$T < 30^{\circ}\text{C}$	30%	$T_p < 78^{\circ}\text{C}$	Stop	$T < 34^{\circ}\text{C}$	Stop
	$30^{\circ}\text{C} \leq T < 40^{\circ}\text{C}$	50%	$78^{\circ}\text{C} \leq T_p$	Low speed (50%)	$34^{\circ}\text{C} \leq T < 40^{\circ}\text{C}$	Low speed (50%)
	$40^{\circ}\text{C} \leq T < 42^{\circ}\text{C}$	70%				
	$42^{\circ}\text{C} \leq T < 44^{\circ}\text{C}$	90%			$40^{\circ}\text{C} \leq T$	High speed (100%)
	$44^{\circ}\text{C} \leq T$	100%				
Standby (fusing OFF)	Stop		Same as "During Standby" above.		Stop	
During PCDU cleaning and toner supply	Printing Mode		Same as "During Standby" above.		Printing Mode	
Printing	Printing Mode		Printing Mode		Printing Mode	
During PCDU cooling	100%		High speed (100%)		High speed (100%)	
Error status (door open, paper jam, SC code issued)	Stop		Same as "During Standby" above.		Stop	

### Fan Operation in Printing Mode

The PCDU cooling fans (right/left) (FAN1, FAN2) operate based on the Paper Thickness selection and the temperature readings of the development thermistor.

Image Creation Thermistor Temp. Reading	PCDU cooling fans (right/left) (FAN1, FAN2)			
	Thin	Normal 1,2	Medium Thick, Thick 1, 2	Thick 3, Envelope, OHP, Postcard
$T_s < 30^\circ\text{C}$	<b>Medium Duty</b> Right: 70% Left: Low speed (50%)	<b>Low Duty*1</b> Right: 40% Left: Stop	<b>Medium Duty</b> Right: 70% Left: Low speed (50%)	<b>High Duty</b> Right: 100% Left: High speed (100%)
$30^\circ\text{C} \leq T_s < 32^\circ\text{C}$	<b>Medium Duty</b> Right: 70% Left: Low speed (50%)			
$32^\circ\text{C} \leq T_s$	<b>High Duty</b> Right: 100% Left: High speed (100%)			

\*1: Drops to Medium Duty after printing for 7 min.

The PSU cooling fan (FAN3) operates based on printing time count (C) and the temperature readings of the PSU thermistor ( $T_p$ ). However, when the low noise mode is OFF, the fan operates at normal high speed.

PSU Thermistor Temp. Reading	PSU cooling fan (FAN3)		
	$C < 200$	$200 \leq C < 600$	$C \leq 600$
$T_p < 78^\circ\text{C}$	Stop	Low speed (50%)	High speed (100%)
$78^\circ\text{C} \leq T_p$	High speed (100%)	High speed (100%)	High speed (100%)

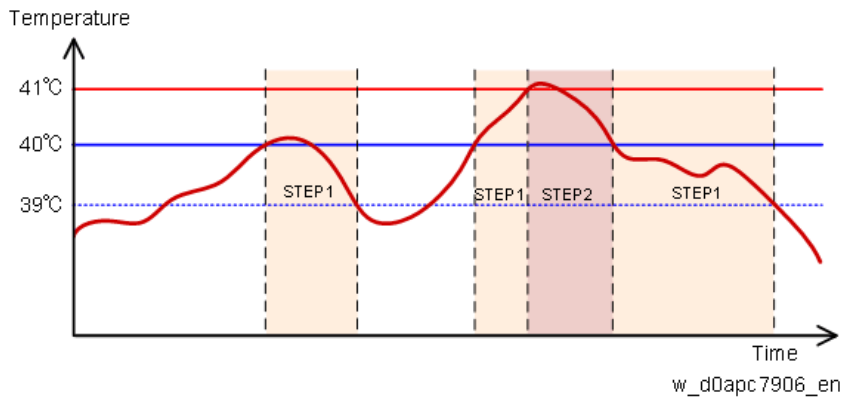
### Fan Operation Control After Printing

The image creation thermistor (TH5) continues to monitor temperature at the end of the print job, and when the temperature reading is high the PCDU fan continues to operate and then later shifts to standby mode.

Image Creation Thermistor Temp. Reading at End of Printing	CDU cooling fans (right/left) (FAN1, FAN2)	
$T_s < 10^\circ\text{C}$	No extended operation	
$10^\circ\text{C} \leq T_s < 39^\circ\text{C}$	Operation extends for 45 sec. and ends once the temperature drops below $39^\circ\text{C}$ .	Right: 40% Left: Stop
$39^\circ\text{C} \leq T_s$	Operation extends for 45 sec. or continues until temperature drops below $39^\circ\text{C}$ .	Right: 80% Left: High speed (100%)

## Print Duty Fan Control

While the image creation thermistor (TH5) installed in the machine monitors temperature, development duty control is conducted as shown below.



Status	Normal printing	STEP1	STEP2
Temperature (T)	$T < 40^{\circ}\text{C}$	$40^{\circ}\text{C} \leq T < 41^{\circ}\text{C}$	$41^{\circ}\text{C} \leq T$
Machine operation	Normal printing	Pause every 30 sec., print 14 sheets.	Printing halts.
Fans operation	Print Mode	All fans: High rotate (100%)	All fans: High rotate (100%)
>Cancellation condition	-	The machine shifts to normal operation when the thermistor detects less than $39^{\circ}\text{C}$ .	The machine shifts to STEP1 when the thermistor detects less than $40^{\circ}\text{C}$ .

### **STEP1 Image creation thermistor (TH5) detects $40^{\circ}\text{C}$ ( $104^{\circ}\text{F}$ ).**

Until the temperature of the development unit drops  $1^{\circ}\text{C}$ , the operation will pause every 30 sec., print 14 sheets, and then repeat.

While printing is halted, a message is displayed on the operation panel.

The machine shifts to normal operation after the temperature drops by  $1^{\circ}\text{C}$ .

### **STEP 2: Image creation thermistor (TH5) detects $41^{\circ}\text{C}$ ( $106^{\circ}\text{F}$ ).**

Printing halts. Operation shifts to STEP 1 above once temperature drop  $1^{\circ}\text{C}$ .

A message is displayed on the operation panel while the machine is halted.

This message remains displayed along with a counter showing how much time remains until printing resumes.

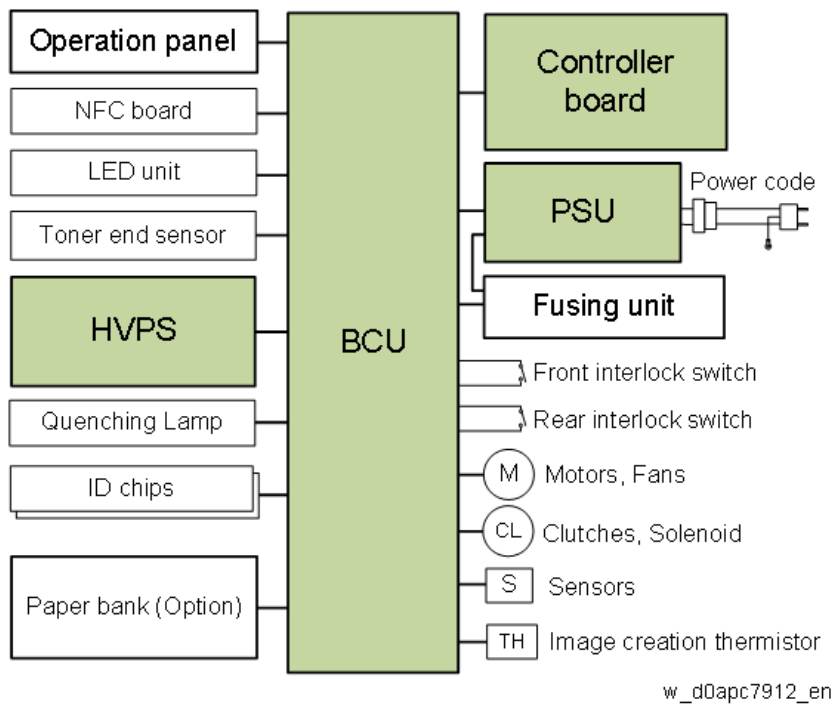
#### Note

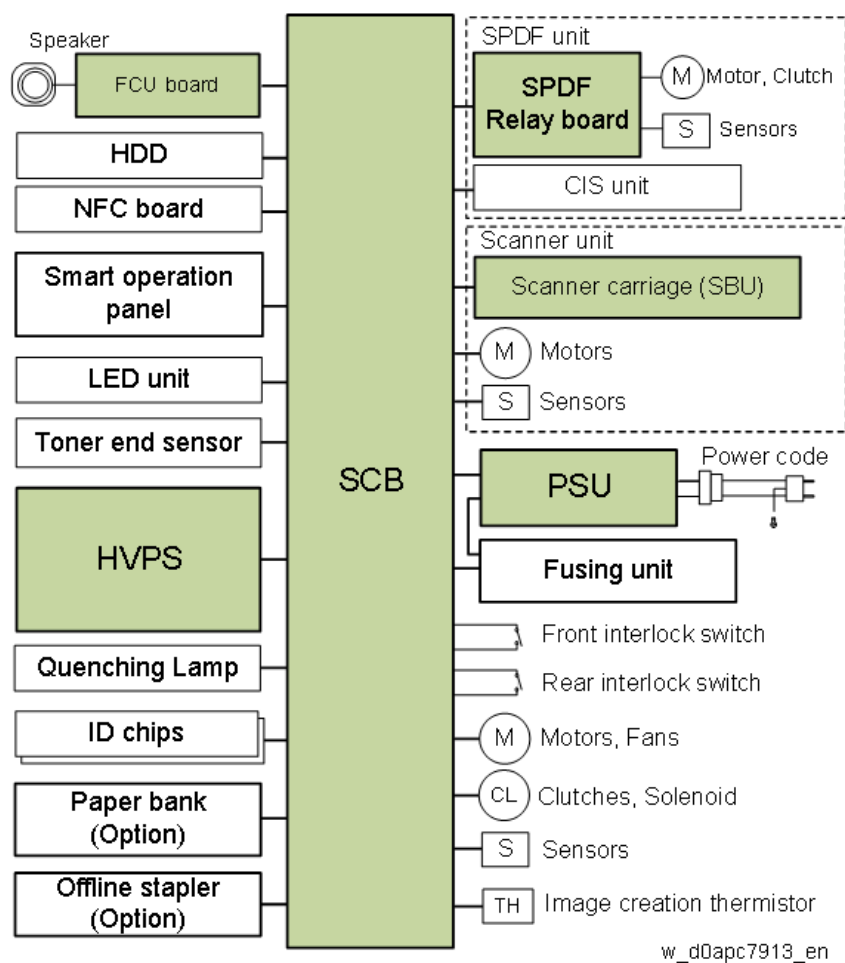
If the machine frequently shifts to STEP 2, the filters may be clogged. Check the condition of the filters.

## 7.12 BOARDS

### 7.12.1 BLOCK DIAGRAM

#### *Printer Model*



**MF Model****7.12.2 BOARD OUTLINE****BCU (Printer Model Only)**

The BCU board (engine board) controls the following functions:

- Engine sequence
- Controller interface

**Controller Board (Printer Model Only)**

The Controller board controls the following functions:

- SDRAM
- 10Base-T/100Base-Tx/Giga Ethernet
- USB2.0
- NVRAM
- Operation panel interface

***SCB (MF Model Only)***

In the MF model, the functions of the engine board and the controller board of the previous machine have been brought together and mounted on a single board, the SCB (System Controller Board). Combining these two functions on one board reduces the number of controller SC errors generated by communication problems between the two separate boards of the previous model.

The SCB board controls the following functions:

- Engine sequence
- SDRAM
- 10Base-T/100Base-Tx/Giga Ethernet
- USB2.0
- NVRAM
- Operation panel interface

***PSU (Power Supply Unit)***

Generates DC power from the wall socket AC power supply, and supplies it to each control circuit

***HVPS (High-Voltage Power Supply)***

Generates the high-voltage power required for process control.

***FCU***

Controls the fax program.

***NFC Board***

Controls the interface with the NFC module.

***DC Switch***

Controls the on/off operation of the DC power supply.

***Toner End Sensor (Toner End Detection Board)***

Detects whether the toner has run out.

***SBU (Sensor Board Unit) (MF Model Only)***

Converts the image reflected from the front side of the originals into digital image signals, then transmits them to the SCB.



## 7.13 OTHER FEATURES

### 7.13.1 SILENT MECHANISM

The following features help the machine run as silently as possible.

#### **Silent Mode**

**Printer model:** [Menu] > [System] > [Silent Mode]

**MF model:** Home > [User Tools] icon > [Machine Features] > [System Settings] > [General Features] > [Silent Mode]

Silent mode decreases the noise level by increasing the interval between sheets and scanning speed (printing is slower).

	CPM	Scanning speed	Fusing Temp. (Normal paper)	Noise level
Standard mode	43 ppm	40 ipm	Center: 178 °C Edge: 173 °C	Main machine only: 51.9 dB Full*: 55.1 dB
Silent mode	30 ppm	20 ipm	Center: 165 °C Edge: 160 °C	Main machine only: 48.2 dB Full*: 47.5 dB

\*: Main machine + Paper Bank x3 (options)

If [On] is selected in silent mode, the message "Operating in silent mode..." is displayed on the operation panel.

#### ***New Lubricant to Reduce Noise When the Main Unit Is Operating***

Grease with a high-silencing effect (G-1077) is applied to the drive components. When replacing one of these components, apply this grease as described in the replacement procedures.

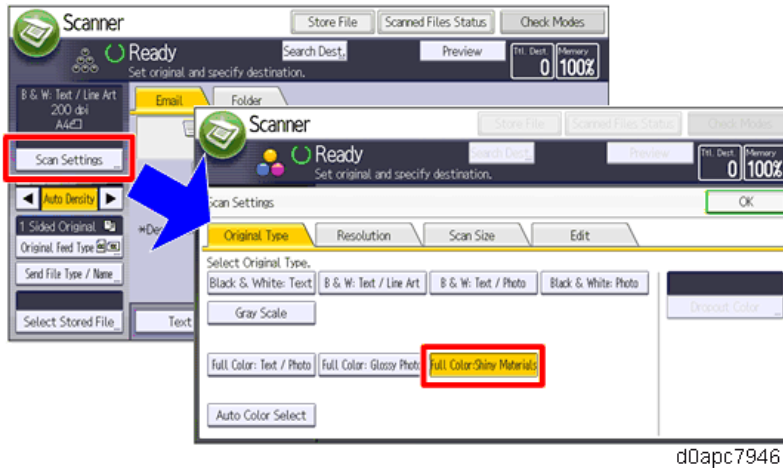
#### **Features of G-1077**

- Low coefficient of friction
- Very stable, due to low oil separation

## 7.13.2 SHINY MATERIALS SCANNING MODE

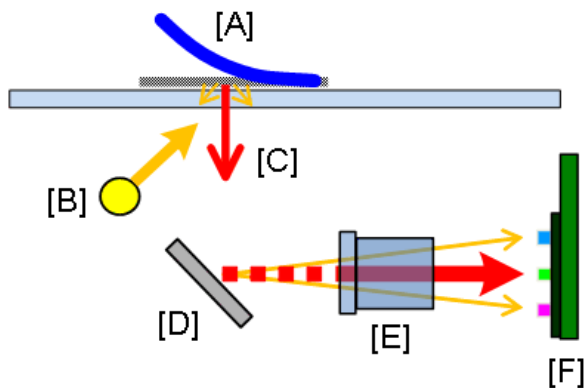
In the conventional machine, when a glossy object such as a precious metal was scanned, an abnormal image (horizontal streak) was generated. In this machine, "Shiny Materials" mode selection has been added as a scanner application reading condition as a countermeasure.

Select: Scan Settings > Original Type > Full Color: Shiny Materials



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During original scanning, light from the light source [B] is irradiated on original [A], and the specularly reflected light [C] is incident on the CCD [F] via the mirror [D] and the lens [E]. When the original [A] has shiny material on its surface, the specularly reflected light [C] becomes strong, and when an excessive light amount enters the CCD [F], lateral streaks are generated.

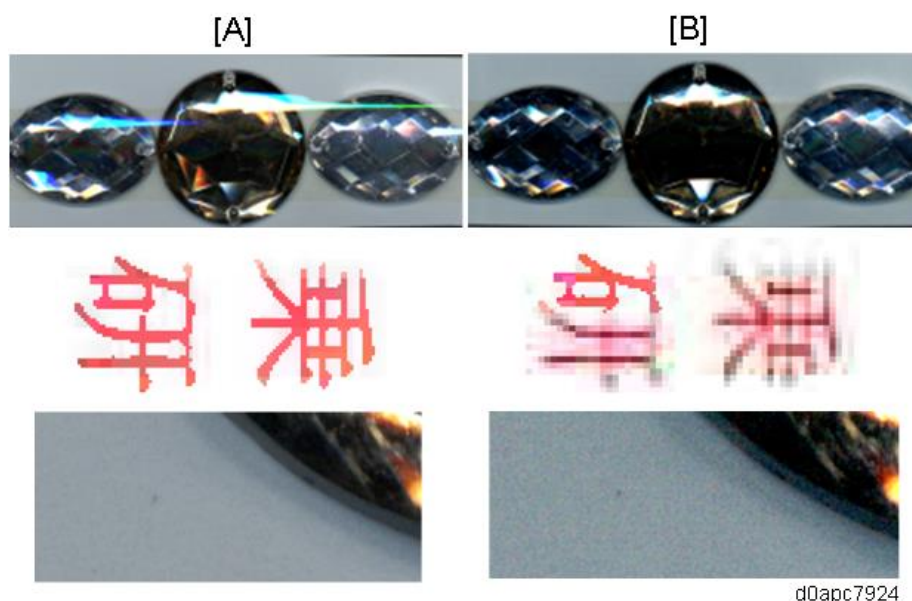


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In the Shiny Materials mode, the light amount is reduced so as not to cause lateral streaks, and scanning is performed. The amount of light in the glossy mode is 16% at the normal time and can be changed by SP4-856-001 (Shiny Materials Mode: PWM Duty).

- [A]: Light amount at 100% for normal scanning

- [B]: Light amount at 16% for Shiny Materials mode



When using this mode, the following side effects occur.

- Degradation of image area separation performance (picture/character misjudgment, streak emphasis processing)
- Graininess (feeling of the roughness of image) deteriorated

### 7.13.3 REVISED MOTOR CONFIGURATION

In the previous machine one motor drives the drum of the PCDU as well as the fusing unit, but in this machine, the drum and fusing unit are driven by separate motors.

This two-motor configuration is designed so the drum and fusing unit do not rotate together, except during printing to lengthen the service life of the PCDU and reduce toner consumption.

This machine employs several operation modes: silent mode, envelope print mode, curl prevention mode, maximum power consumption mode, and others. The table below summarizes the operation of the fusing unit and PCDU in each mode and how this affects the service life of the PCDU.

Mode	Fusing Drive	OPC Drive	Effect on PCDU Service Life	Machine Operation
Normal printing	Idles for about 3 sec. before printing	Driven only during printing	-	-
Silent mode	Idles for about 3 sec. before		No effect	Line speed down to 30 ppm

Mode		Fusing Drive	OPC Drive	Effect on PCDU Service Life	Machine Operation
		printing			
Envelope print mode		Idles for about 3 sec. before printing		No effect	<ul style="list-style-type: none"> <li>Line speed down to 30 ppm</li> <li>Fusing: Pressure release</li> </ul>
Thick-3 mode		Idles for about 10 sec. before printing		No effect on idling time; however, the interval between sheets widens when line speed goes down, the drum also goes through many rotations so this has no effect.	<ul style="list-style-type: none"> <li>Target fusing temperature down</li> <li>Pre-printing idling operation added</li> <li>Line speed goes down to 30 ppm (with the exception of printing on thin paper in normal mode, sheet interval increases, so line speed is at 50% to 70%)</li> </ul>
Low power CPM mode (200V model only)		Idles for about 10 sec. before printing			
Curl reduction mode	Thick1-3	Idles for about 10 sec. before printing			
	Misc.	Idles for about 3 sec. before printing			<ul style="list-style-type: none"> <li>Target fusing temperature down</li> <li>Line speed goes down to 30 ppm (with the exception of printing on thin paper in normal mode, sheet interval increases, so line speed is at 50% to 70%)</li> </ul>
Max. power consumption reduction mode* <sup>1</sup>		Idles for about 3 sec. before printing		No effect	To control power, startup time is extended by about 5 sec.

Mode	Fusing Drive	OPC Drive	Effect on PCDU Service Life	Machine Operation
Punch hole mode <sup>*2</sup>	Idles for about 3 sec. before printing		The distance of drum travel between each sheet increases, but it is extremely small and has no effect.	The interval between sheets increases slightly

**Note**

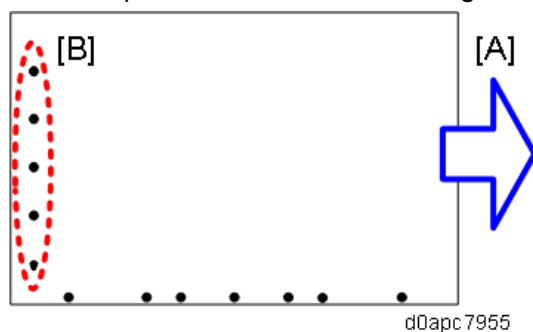
**\*1 Maximum power consumption reduction mode**

Enabling this mode can lower the maximum power consumption of the machine when the main power supply breaker is tripping due to the use of multiple printers or the power capacity of the installation site is insufficient. For more details, refer to [Suppressing Maximum Power Consumption](#).

**\*2 Punched hole mode**

Jamming can occur with paper feeding in the [A] direction with open holes [B] at the trailing edge as shown below. When the paper transport sensor in the optional bank detects the punched hole:

1. The paper transport sensor turns OFF at the punch hole. This triggers an incorrect detection of the trailing edge of the paper.
2. Next, the paper transport sensor turns ON again after the open hole passes. The machine incorrectly detects this as the leading edge of the next sheet. This interruption in the sequence of normal feed timing causes a paper jam.



To solve this problem:

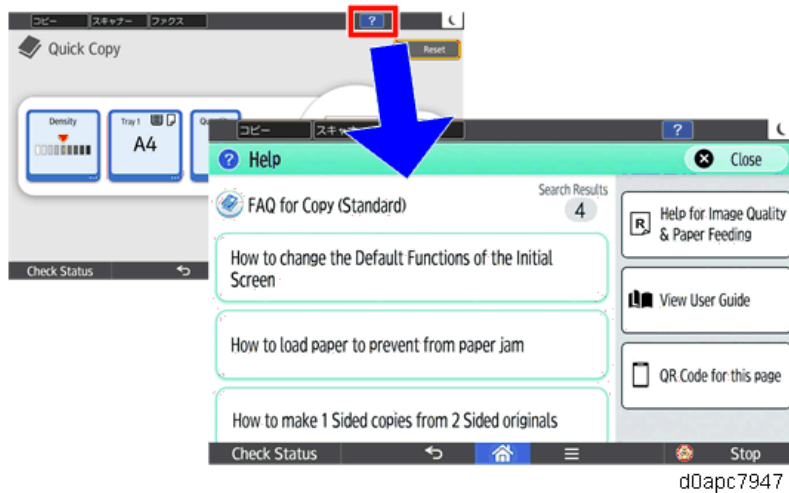
- Mask control is performed so the paper transport sensor is turned off and will not detect again until the paper has traveled 25 mm past the sensor.
- The machine goes into the punched hole mode automatically when Labels or Thick-3 are selected for the paper type because perforations are common with these paper types frequently used by customers in the healthcare industry.
- In this mode, the paper feed start timing is delayed 25 mm for each sheet, so this slows productivity down slightly to about 29 ppm.

## 7.14 NEW FUNCTIONS

### 7.14.1 HELP FUNCTION (MF MODEL ONLY)

#### Overview

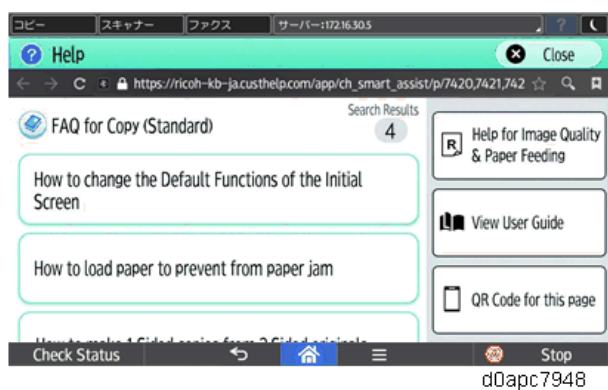
Press [**?**] on the operation panel to browse the operation manual and the operation panel related FAQ's.



The displayed manual not only be printed but also can be browsed on a smart device after scanning its QR code; so you can browse the help online while using the operation panel.

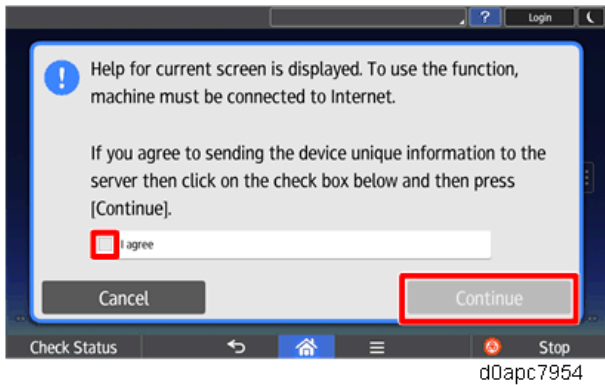
#### Online help menu:

When the machine is connected to the Internet, the following online help screen is displayed.




#### Note

The guidance screen below opens the first time Help is used in an environment where the machine is connected to the Internet. The online Help will not open until the “I agree” box has been checked.



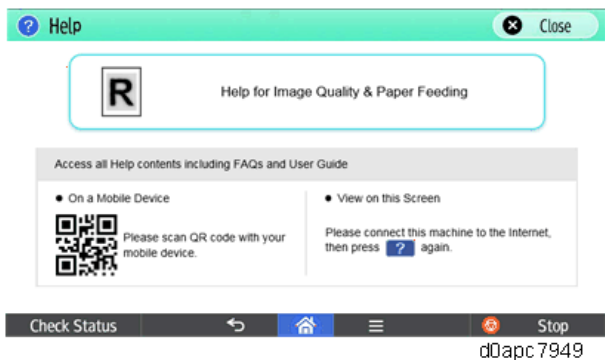
### ★ Important

If the online Help menu cannot be opened, check the following points.

- Some clients may require proxy server settings at their work sites.  
For proxy settings, refer to User's manual "Settings" > Screen Features > Wireless and Network > Proxy Settings.
- The settings of some operation panel browsers require that cookies be enabled (Default: Enable).  
Open the browser: Browser >  (Menu) key > Settings > Privacy & Security > Accept cookies, and then confirm that "Accept Cookies" is checked.

### Offline help menu:

When the machine is not connected to the Internet, the following offline help screen is displayed. When the machine is offline, only [Help for Image Quality & Paper Feeding](#) information can be browsed, and FAQ's etc. cannot be displayed.



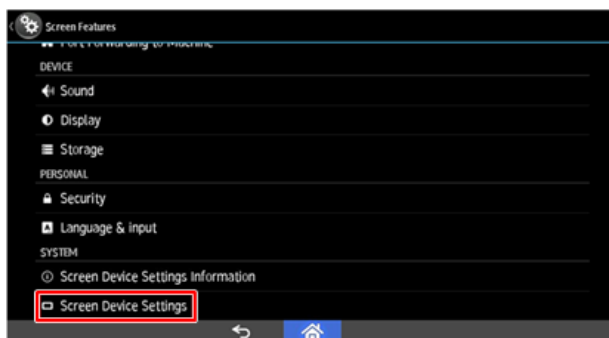
### Settings for Help Function

If a customer does not want to connect the internet, the function can be disabled via UP and SP as follows:

	Item	Value (Default)	Descriptions
UP	Help Functions	ON/OFF (ON)	Press the [?] button on the Home screen to switch the display on/off. The menu will not open if the function is switched off with the SP code.
	Display Online Help Preferentially	ON/OFF (ON)	Allows settings with the Help function switched on. Press the [?] button to select the Help preference (Online or Offline Help). The menu will not open if Online Help is switched off with the SP code.
SP	Help Functions	ON/OFF (ON)	Press the [?] button on the Home screen to switch the display on/off.
	Online Help	ON/OFF (ON)	Switches the settings for the UP "Display Online Help Preferentially" display on/off.
	Display Online Help Preferentially	ON/OFF (ON)	Press the [?] button to select the Help preference (Online or Offline Help).

### UP Setting

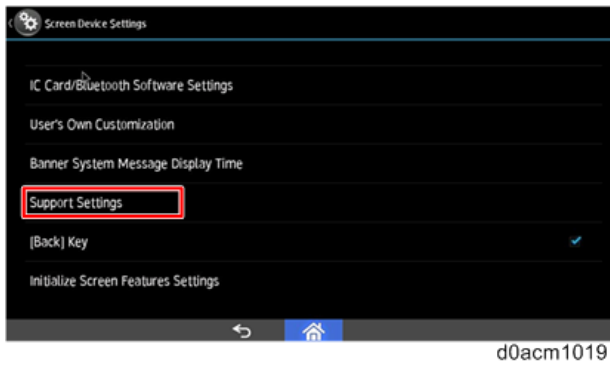
1. Log in as administrator.
2. Select the "User Tools" icon.
3. Select [Screen Features].
4. Select [Screen Device Settings].



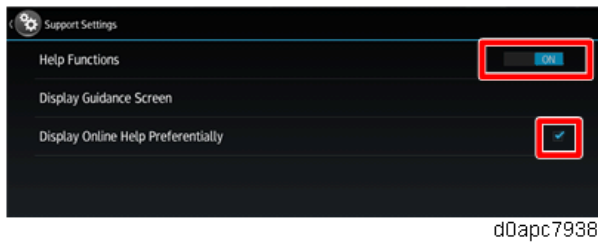
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5. Select [Support Settings].

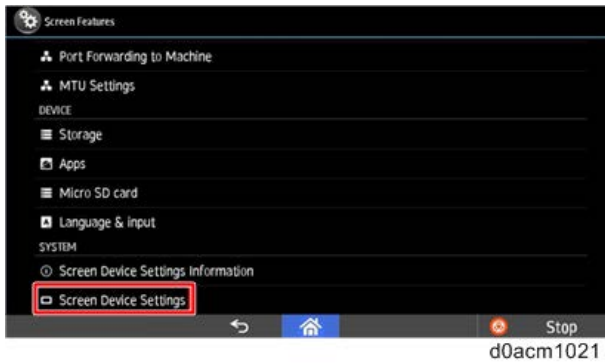


6. Enable or disable "Help Functions" and "Display Online Help Preferentially".

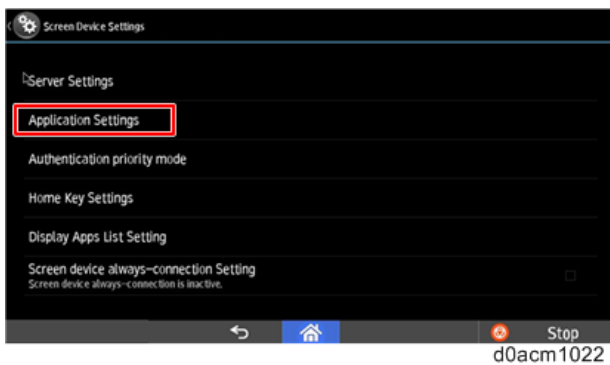


## SP Setting

1. Log in to Screen SP mode.
2. Select [Screen Device Settings].



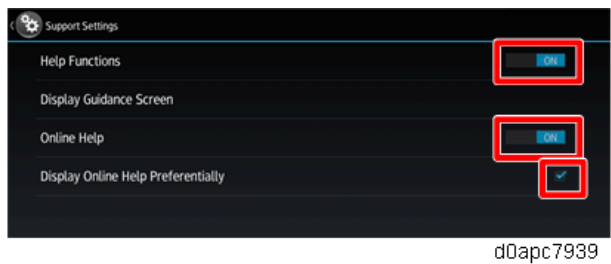
3. >Select [Application Settings].



4. Select [Settings] for "Support Settings".



5. Enable or disable "Help Functions", "Online Help", and "Display Online Help Preferentially".



## 7.14.2 HELP FOR IMAGE QUALITY & PAPER FEEDING

When a user encounters troubles when operating a machine, the solution is displayed on the operation panel and a user can attempt to resolve the problem on his or her own.

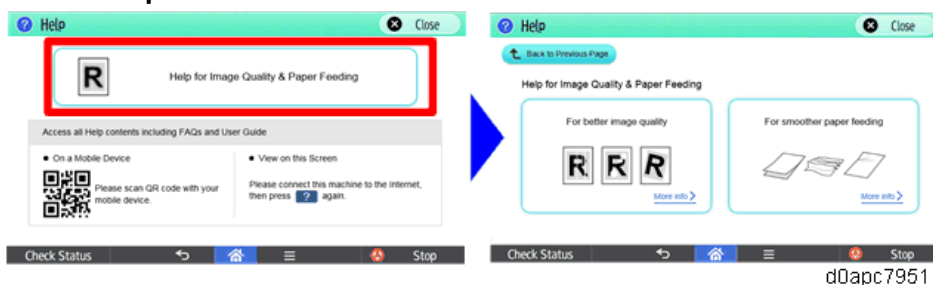
### MF Model

On the MF model, the operation panel Help functions can be browsed from [Help Function \(MF Model Only\)](#). The initial menu is different, depending on whether the machine is connected to the Internet or not, but either initial menu allows entry to Built-in Help Content.

#### Online Help when connected to the Internet

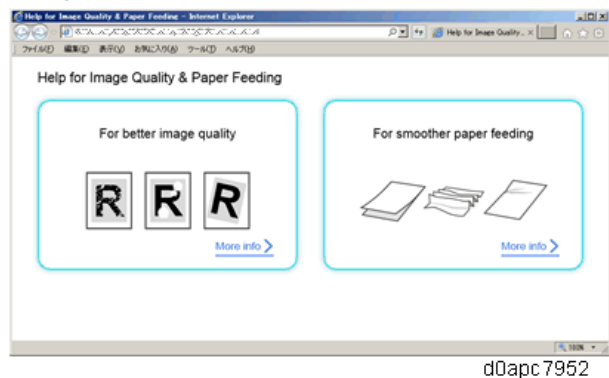


#### Offline Help when not connected to the Internet



## Printer Model

The QR code for the User's Manual printed on the machine for the printer model can be read by a smart device, and then the contents of the manual can be browsed on the smart device while using the operation panel.



## Help Menu

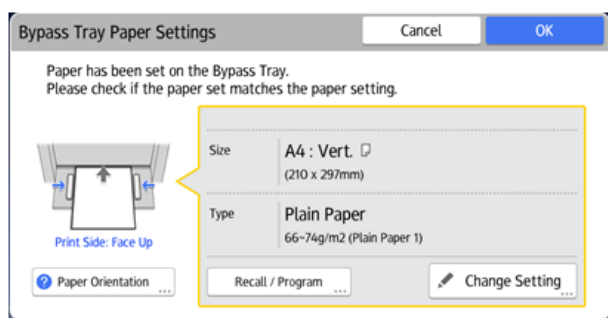
The menu item is as follows:

Trouble		Actions
For better image quality	Faint/smeared	Cleaning the inside of the machine (LED head)
	Image partially missing	<ul style="list-style-type: none"> <li>Cleaning the paper loading section</li> <li>Cleaning the paper feeding section</li> <li>Cleaning the registration roller</li> </ul>
	Image skewed/shifted	<ul style="list-style-type: none"> <li>Confirm whether the side fence is set</li> <li>Cleaning the paper feeding section</li> <li>Cleaning the registration roller</li> </ul>
	Lines visible/Dirt on the image (MF model only)	<ul style="list-style-type: none"> <li>Cleaning the inside of the machine (LED head)</li> <li>Cleaning the automatic document feeder (ADF)</li> </ul>
	Uneven density (MF model only)	Correcting the image density uniformly
For smoother paper feeding	Multiple sheets fed	<ul style="list-style-type: none"> <li>Checking the loaded paper</li> <li>Cleaning the paper feeding section</li> </ul>
	Misfeed occurs	<ul style="list-style-type: none"> <li>Checking the loaded paper</li> <li>Cleaning the paper feeding section</li> </ul>
	Paper becomes creased	Checking the loaded paper, paper type, and thickness settings
	Paper curls	Checking the loaded paper, paper type, and thickness settings
	Original double feed/misfeed	<ul style="list-style-type: none"> <li>Checking the original</li> </ul>

Trouble		Actions
	(MF model only)	<ul style="list-style-type: none"> <li>Cleaning the automatic document feeder (ADF)</li> </ul>

### 7.14.3 BYPASS TRAY ASSIST FUNCTION (MF MODEL ONLY)

A Bypass Tray setting has been added to make it easier to do the tray settings and avoid problems. When the paper is loaded in the Bypass Tray, the Bypass Tray Paper Settings screen pops-up.



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Pop-ups appear in the Bypass Tray settings assistant:

- After pressing the Bypass Tray setting button on the Copier (Classic), Easy Copy, Quick Copy, and Document Server screens.
- If the pop-up displays have been enabled to open for Copier (Classic), Easy Copy, Quick Copy, and Document Server screens when the paper is set in the bypass tray. \*1
- When the [Delete] button is pressed on the paper size mismatch screen

#### Note

\*1 : Whether the pop-ups are enabled/disabled to appear when the paper is set in the tray depends on the following setting: Home > User Tools > Machine Features > Copier/Document Server Features > General Features tab > Paper Settings Screen for Bypass (Default: Display Automtclly.)

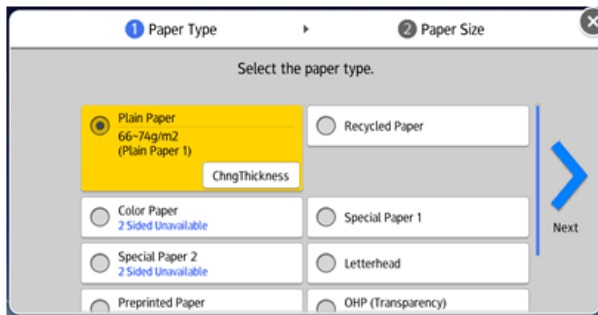
However, the pop-ups do not appear when:

- A copy job is in progress
- A system dialog screen is open
- A machine status check screen is open
- A job stop screen is open

### **Setting the paper by the Bypass Tray Assist Paper Function**

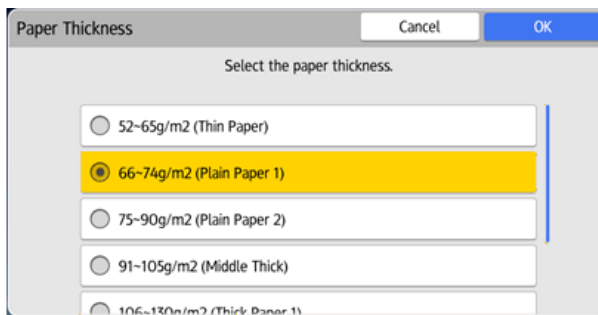
The Bypass Paper Setting screen opens when you select the paper setting for the bypass tray with the copy application, or after pressing the [Change Setting] button on the Settings screen when the paper is loaded in the Bypass Tray.

1. Select the paper type, and then press [Next].



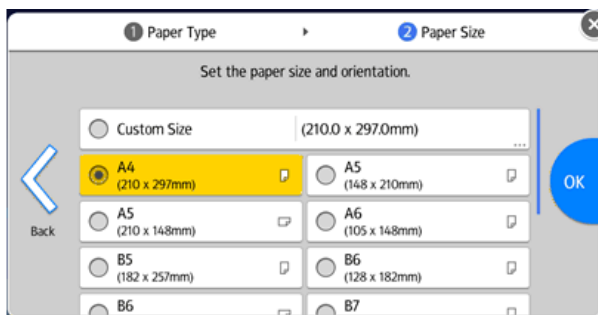
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When changing the paper thickness in Plain Paper, select the paper thickness.



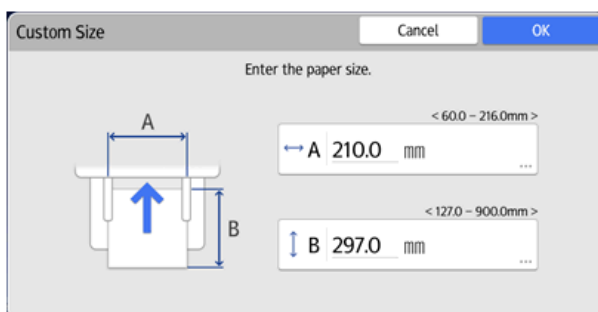
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2. Select the paper size and orientation, and then press [OK].



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When using a custom size, select the [Custom Size] and then input the paper size.

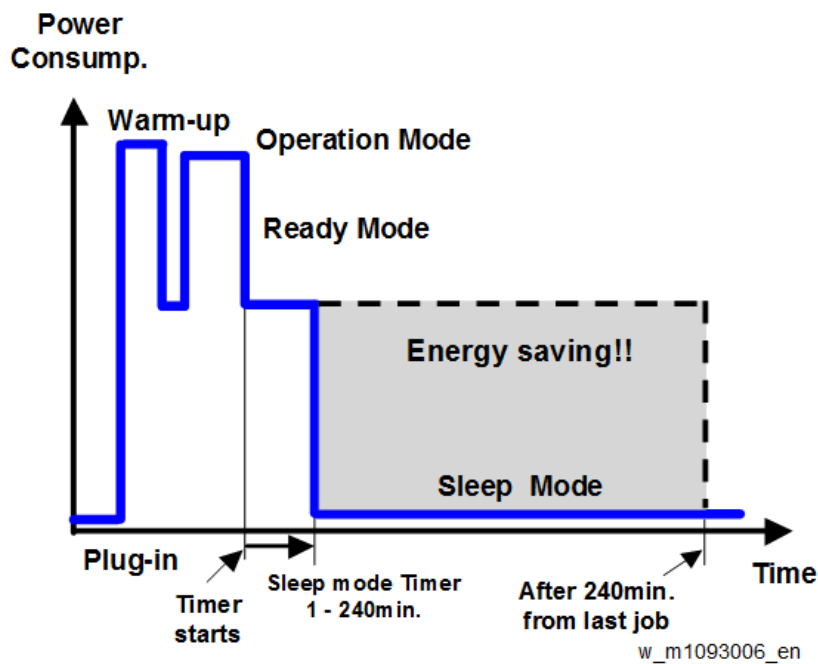


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## 7.15 ENERGY SAVE

### 7.15.1 ENERGY SAVER MODES

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



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

### 7.15.2 WEEKLY TIMER

(System settings > Timer Settings > Weekly Timer)

Specify time when the machine switches to and from Off mode or Sleep mode. This timer can be set daily or for Monday through Sunday. You can set up to six timer settings a day.

Default: **[Inactive]**

If you select **[Active (Daily)]** or **[Active (Day of the Week)]**, specify **[Weekly Timer Code]**, **[Weekly Timer Schedule]**, or **[Main Power On Timer Suspension Period]**.

- **Weekly Timer Code**

If the Weekly Timer setting is specified, you can set a password (up to eight digits) for when the machine recovers from Off mode or Sleep mode. If a password is registered, the password input screen appears when you cancel Sleep mode, or when you press the main power switch during Off mode. The machine recovers from Sleep mode or Off mode after you enter the password. If you select **[Off]**, you do not have to enter a password to recover the machine from Off mode or Sleep mode.

- Weekly Timer Schedule
  - Event
    - Enter Sleep Mode
    - Cancel Weekly Timer Code
    - Main Power Off
    - Main Power On
    - None

Default for "Event": **[None]**

If you select any event, enter the time for the event in "Event Timer".

(mainly Europe and Asia): Enter the time in [Event Timer] using the 24-hour format.

(mainly North America): Enter the time in [Event Timer] using the 12-hour format.

- Main Power On Timer Suspension Period

Set the dates for [Start Date] and [End Date] using the number keys.

If the Main Power On Timer Suspension Period timer has been set and the machine's main power switch is not turned on at the date specified for [End Date] in [Main Power On Timer Suspension Period], the Main Power On timer will not be performed although the Main Power On Timer Suspension Period term expires. To enable Main Power On Timer, you need to turn the main power switch on manually.

### 7.15.3 SETTING ITEMS THAT ARE RELATED TO ENERGY SAVING

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

#### ***Sleep Mode Timer***

User Tools (System settings > Timer setting)

After a specified period has passed, or [Energy Saver] is pressed, the machine enters Sleep mode in order to conserve energy. Specify the time to elapse before Sleep mode.

Default: [1 minute(s)]

Sleep Mode Timer may not work when error messages appear.

Depending on which Embedded Software Architecture application is installed on it, the machine might take longer than indicated to enter Sleep mode.

#### ***Fusing Unit Off Mode (Energy Saving) On/Off***

User Tools (System settings > Timer setting)

Specifies whether Fusing Unit Off mode is enabled or not.

When Fusing Unit Off mode is enabled, the display is on but the fusing unit is off to save energy. The machine requires roughly the same time as the warm-up time to recover from Fusing Unit Off mode.

Default: [Off]

If [Fusing Unit Off Mode (Energy Saving) On/Off] is set to [On], you can specify when to exit Fusing Unit Off mode and the time to elapse before entering Fusing Unit Off mode.

If [Exit Fusing Unit Off Mode] is set to [On Printing], the machine exits Fusing Unit Off mode when printing is performed.

If [Exit Fusing Unit Off Mode] is set to [On Operating Control Panel], the machine exits Fusing Unit Off mode when a key other than the copy function key is pressed on the control panel of the machine.

If printing is performed with the copy function or a key in the copy function is pressed on the control panel of the machine, the machine exits Fusing Unit Off mode regardless of this setting.

If the timer is set to [On], you can set the time from 10 seconds to 240 minutes, using the number keys.

### ***Energy Saving Recvry. for Business Applicatn.***

User Tools (System settings > General Settings)

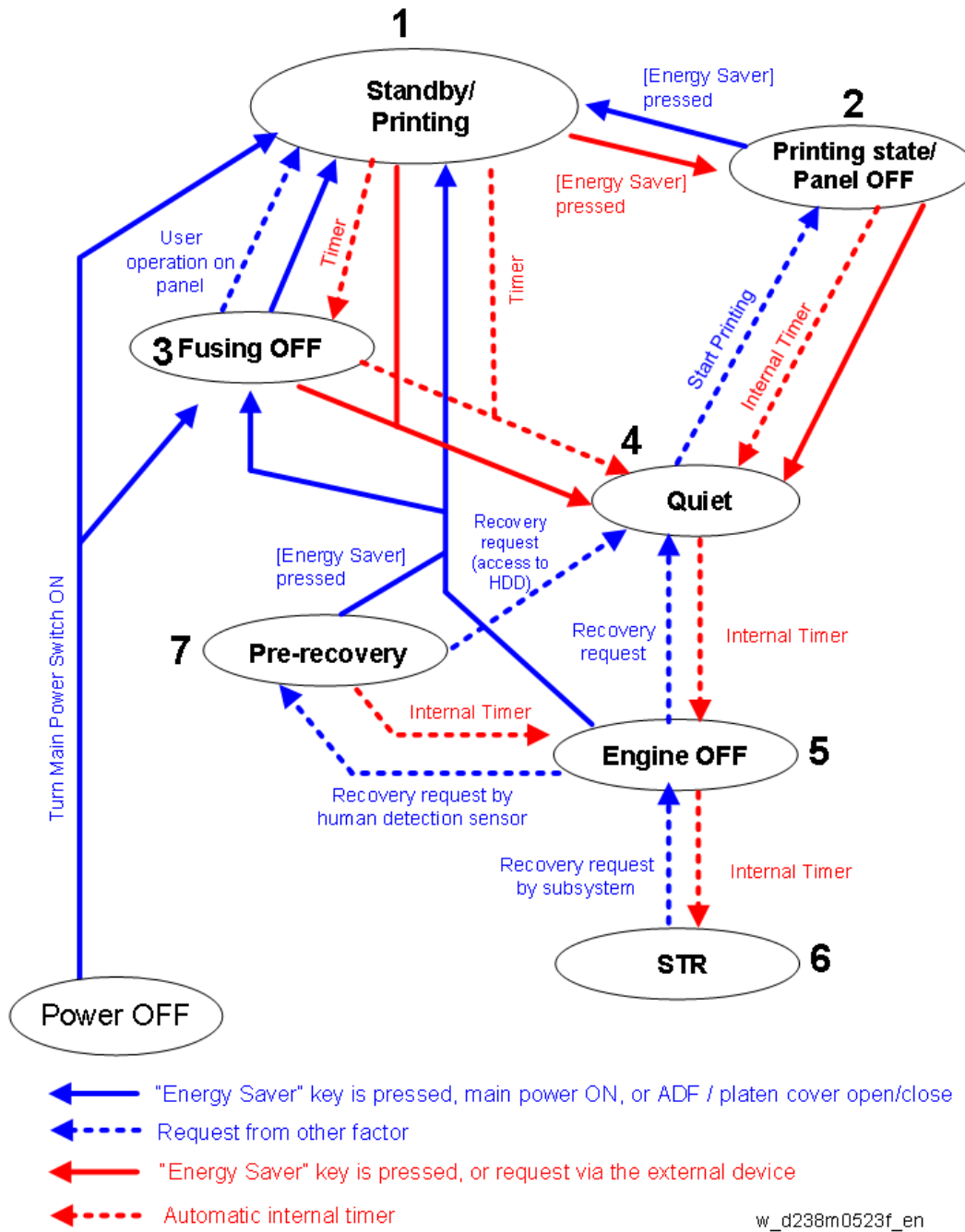
Specify whether or not to enable low-energy recovery from Sleep mode to use applications independent of the machine, such as Address Book Management or Browser.

Default: [Off]

If [On (Energy Saving)] is selected, it takes longer than usual to be ready to use the machine.



### 7.15.4 POWER STATES OF THIS MACHINE (MF MODEL ONLY)



Detailed Descriptions

	State	Description
1	Standby/Printing	<ul style="list-style-type: none"> <li>State where normal operation is possible after warm-up</li> <li>State during printing</li> </ul>
2	Printing state/Panel OFF	State when printing with the backlight of the operation panel turned off
3	Fusing OFF	State where the Standby Fusing OFF state is entered when the time set with the " <b>Fusing Unit Off Mode (Energy Saving) On/Off</b> " setting of the User Tools has elapsed. <ul style="list-style-type: none"> <li>State where the operation panel is flashing and the fusing lamp is</li> </ul>

	State	Description
		<p>OFF.</p> <ul style="list-style-type: none"> <li>The bottom plate of the paper feed tray is raised.</li> </ul>
4	<b>Quiet</b> state	<p>The <b>Quiet</b> state is entered when the Energy Saving key is pressed or the time set with the "<b>Sleep Mode Timer</b>" of the User Tools has elapsed. This is a temporary energy saving state before entering sleep mode.</p> <ul style="list-style-type: none"> <li>Basically, no homing (initialization) of peripheral devices is performed.</li> <li>The bottom plate of the paper feed tray is raised.</li> <li>The fusing lamp is turned OFF.</li> </ul>
5	Engine OFF (Sleep mode)	<p>Entered from <b>Quiet</b> state with the internal timer.</p> <ul style="list-style-type: none"> <li>The relevant power systems (24V, 12V, 5V) are turned OFF at the same time as the fusing lamp.</li> <li>When printing is performed in engine OFF state, the warm-up is started and printing is performed while the backlight of the operation panel is turned OFF.</li> </ul>
6	STR state (Sleep mode)	Supplying of power and clock to the CPU and peripheral chips on the controller board is stopped.

#### Device state for each Energy Saving state

	State	Energy Saving LED	Operation panel LCD	Engine (Printer/Scanner)	HDD	CTL
1	Standby/Printing	ON	ON	ON	ON	ON
2	Printing state/Panel OFF	ON	OFF	ON	ON	ON
3	fusing OFF	ON	ON	ON (Printer is in <b>Quiet</b> state)	ON	ON
4	<b>Quiet</b> state	ON	OFF <b>ON*1</b>	ON (Printer is in <b>Quiet</b> state)	ON	ON
5	Engine OFF	Blinking gradually <b>ON*1</b>	Sleep <b>OFF or ON*1</b>	OFF	OFF <b>ON*1</b>	ON
6	STR state	Blinking gradually	Sleep	OFF	OFF	STR

\*1 When [Energy Saving Recvry. for Business Applicatn.] is [On (Energy Saving)], ON/OFF is determined by the internal timer of the Smart Operation Panel.

### ***Transition of operation panel to Energy Saving when [Energy Saving Recvry. for Business Applicatn.] is [On (Energy Saving)]***

Normally, the Energy Saving state of the operation panel LCD changes in step with the energy saving state of the MFP/LP main unit, but to support the scenario where an application that does not use the engine (printer) is executed from the operation panel, the Energy Saving state of the operation panel is transitioned through the three states ON, OFF, and Sleep with its internal timer when [Energy Saving Recvry. for Business Applicatn.] is [On (Energy Saving)].

#### **7.15.5 RECOVERY TIME/REDUCED ELECTRICAL CONSUMPTION**

Item	IP 500SF/IM430F		P 501/P 500	
	mainly North America	mainly Europe and Asia	mainly North America	mainly Europe and Asia
Reduced electrical consumption in Sleep mode	1.0 W	1.1 W	0.7 W	0.81 W
Recovery time from Sleep mode	10 sec. or less		10 sec. or less	

#### **Note**

The time it takes to switch out from energy saving functions and electrical consumption may differ depending on the conditions and environment of the machine.

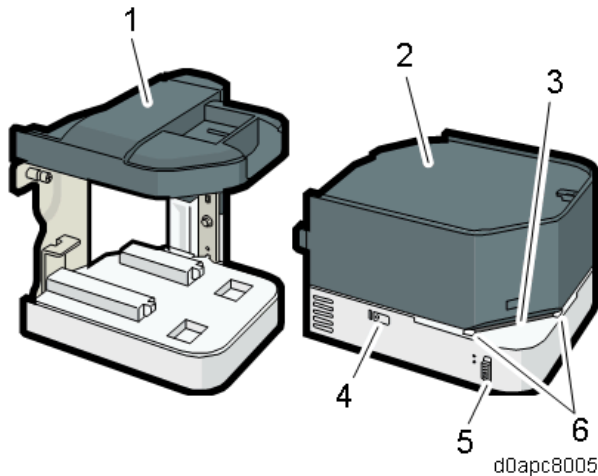
#### **7.15.6 RECOMMENDATION**

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 Sleep Mode timer is not too long. Try with a shorter setting first, such as 5 min., then go to a longer one (such as 15 min.) if the customer is not satisfied.
- If the Sleep Mode timer is all set to the maximum value, the machine will not begin saving energy until 240 minutes has expired after the last job. This means that after the customer has finished using the machine for the day, energy will be consumed that could otherwise be saved.
- If you change the settings, the energy consumed can be measured using SP8941, as explained below.

## 7.16 OPTION (OFFLINE STAPLER TYPE M34)

### 7.16.1 COMPONENT LAYOUT



No.	Name	No.	Name
1	Staple unit cradle	4	Lamp
2	Staple unit	5	Slide switch
3	Stapling slot	6	Stoppers

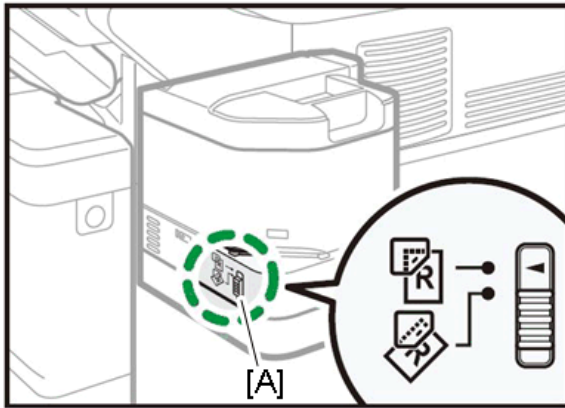
### 7.16.2 MECHANISM

A paper sensor below the stapling slot detects the presence or absence of paper.

- 100 ms after detecting paper, the staple drive motor switches on and the staple operation begins. If no paper is detected within this 100 ms, the staple operation does not begin.
- The sensor that detects the paper is a photosensor so it will not detect the paper when there is no margin on the reverse side of the paper and it is black.

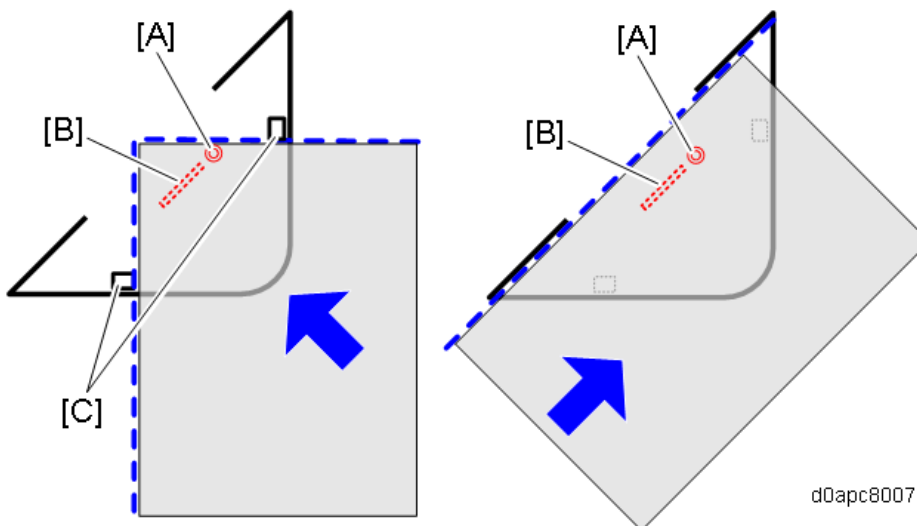
Papers can be stapled diagonal (corner staple) or parallel to the edge of the paper (margin staple), depending on how the papers are inserted into the stapler slot.

Changing the setting of the slide switch [A] on the front of the stapler unit changes the angle at which a stack can be inserted.



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- Raise the slide switch to raise the stoppers, and when the sheets are inserted along the stoppers, the stack can be stapled at the corner with the staple diagonal to the edges of the sheets.
- Lower the slide switch to lower the stoppers, and when the sheets are inserted from the front along the guide inside the stapler, the stack can be stapled in the margin with the staple parallel to the edges of the sheet.



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[A] Paper sensor exposure position

[B] Staple position

[C] Stoppers

### ***Precautions During Use***

- During repeated use, wait more than 3 sec. between stapling.
- When using the stapler never turn the main machine off or set it in the Energy Save Mode. This will cause the machine to stop, the stack may jam in the stapler and you will not be able to remove it.
- If paper becomes jammed in the stapler, remove the staple unit from its mount, set it on the machine again and turn on the machine. This will re-initialize stapler and you will be able to remove the jammed stack.
- The staple cartridge is removed by lifting, not pressing down, so if the cartridge is struck and disconnected, the staples past the point of disconnection cannot be lifted out. If this occurs the staple cartridge must be replaced.

**D0AP/D0C4/D0C5/D0C6/M0BQ/M0D1  
SERVICE MANUAL APPENDICES**





# D0AP/D0C4/D0C5/D0C6/M0BQ/M0D1

## APPENDICES

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# APPENDIX: SPECIFICATIONS

REVISION HISTORY		
Page	Date	Added/Updated/New
		None



# 1. SPECIFICATIONS

## 1.1 GENERAL SPECIFICATIONS

### 1.1.1 MAIN MACHINE

Items	Specification	
Type	Desktop	
CPU	Printer model: Intel® Atom Processor AppoloLake 1.3GHz MF model: Intel® Atom Processor BayTrail-I 1.46GHz	
Memory	2.0 GB	
HDD	Printer model: 250 GB or more (Option) MF model: 250 GB or more	
Photoconductor type	OPC Drum	
Copy system	LED array and electrophotographic printing	
Development system	Dry two-component magnetic brush development system	
Fusing system	The heating roller pressure system	
Scanning method	One-dimensional solid-state scanning system by CCD	
Warm-up time (23 °C (73.4 °F), rated voltage)	Printer model: 19 seconds or less MF model: 63 seconds or less (When [Screen Startup Mode] is set to [Quick], 24 seconds or less)	
First print time	IM 350F/350: 6.0 seconds or less (A4/LT SEF, feeding from Tray 1) P 502/501/IM 430Fb/430F: 5.0 seconds or less (A4/LT SEF, feeding from Tray 1)	
First copy time	IM 350F/350: 7.0 seconds or less (A4/LT SEF, feeding from Tray 1) IM 430Fb/430F: 6.0 seconds or less (A4/LT SEF, feeding from Tray 1)	
Continuous print speed	One-sided copy	P 502/501, IM 430Fb/430F: 43 pages per minute (A4/LT SEF) IM 350F/350: 35 pages per minute (A4/LT SEF)
	Two-sided copy	P 502/501, IM 430Fb/430F: 37 pages per minute (A4/LT SEF) IM 350F/350: 30.5 pages per minute (A4/LT SEF)
Resolution (Scan)	Exposure Glass: 600x600 dpi SPDF: 600x300 dpi (front), 300x600 dpi (back), 600x600 dpi	
Resolution (Print)	1200x1200 dpi	
Print paperweight	<ul style="list-style-type: none"> <li>Tray 1: 52 – 220 g/m<sup>2</sup> (14 lb. Band – 80 lb. Cover)</li> <li>Bypass: 52 – 256 g/m<sup>2</sup> (14 lb. Band – 140 lb. Cover)</li> <li>Duplex: 52 – 162 g/m<sup>2</sup> (14 lb. Band – 90 lb. Index)</li> </ul>	

## General Specifications

Items	Specification	
	<ul style="list-style-type: none"> <li>Optional tray: 52 – 220 g/m<sup>2</sup> (14 lb. Band – 80 lb. Cover)</li> </ul>	
Print paper size	Tray 1	<p>Select the paper size using the paper size dial on the tray:</p> <p>A4 SEF, A5 SEF, A6 SEF, 8 1/2x14 SEF, 8 1/2x11 SEF, 5 1/2x8 1/2 SEF</p> <p>Set the paper size dial on the tray to "Asterisk", and select the paper size with the control panel:</p> <p>A5 LEF, B5 SEF, B6 SEF, 8 1/2x13 SEF, 8 1/4x14 SEF, 8 1/4x13 SEF, 8x13 SEF, 8x10 1/2SEF, 8x10 SEF, 7 1/4x10 1/2 SEF, 16K SEF, 8 1/2x 13 2/5 SEF</p> <p>Custom size:</p> <ul style="list-style-type: none"> <li>Vertical: 148 – 356 mm (5.83 – 14.01 inches)</li> <li>Horizontal: 82.5 – 216 mm (3.25 – 8.50 inches)</li> </ul>
	Bypass	<p>Select the paper size:</p> <p>A4 SEF, A5 SEF/LEF, A6 SEF, B5 SEF, B6 SEF, B7 SEF, 8 1/2x14 SEF, 8 1/2x13 SEF, 8 1/2x11 SEF, 8 1/4x14 SEF, 8 1/4x13 SEF, 8x13 SEF, 8x10 1/2 SEF, 8x10 SEF, 7 1/4x10 1/2 SEF, 5 1/2x8 1/2 SEF, 16K SEF, 8 1/2x 13 2/5 SEF</p> <p>Custom size:</p> <ul style="list-style-type: none"> <li>Vertical: 127 – 900 mm (5.00 – 35.43 inches)</li> <li>Horizontal: 60 – 216 mm (2.37 – 8.50 inches)</li> </ul>
	Duplex	<p>A4 SEF, A5 SEF/LEF, A6 SEF, B5 SEF, B6 SEF, 8 1/2x14 SEF, 8 1/2x13 SEF, 8 1/2x11 SEF, 8 1/4x14 SEF, 8 1/4x13 SEF, 8x13 SEF, 8x10 1/2SEF, 8x10 SEF, 7 1/4x10 1/2 SEF, 5 1/2x8 1/2 SEF, 16K SEF, 8 1/2x 13 2/5 SEF</p> <p>Custom size:</p> <ul style="list-style-type: none"> <li>Vertical: 148 – 356 mm (5.83 – 14.01 inches)</li> <li>Horizontal: 100 – 216 mm (3.94 – 8.50 inches)</li> </ul>
	Optional tray	<p>A4 SEF, A5 SEF/LEF, A6 SEF, B5 SEF, B6 SEF, 8 1/2x14 SEF, 8 1/2x13 SEF, 8 1/2x11 SEF, 8 1/4x14 SEF, 8 1/4x13 SEF, 8x13 SEF, 8x10 1/2SEF, 8x10 SEF, 7 1/4x10 1/2 SEF, 5 1/2x8 1/2 SEF, 16K SEF, 8 1/2x 13 2/5SEF,</p> <p>Custom size:</p> <ul style="list-style-type: none"> <li>Vertical: 148 – 356 mm (5.83 – 14.01 inches)</li> <li>Horizontal: 82.5 – 216 mm (3.25 – 8.50 inches)</li> </ul>



Items	Specification	
Paper feed capacity (80g/m <sup>2</sup> , 20 lb. Band)	Tray1: 500 sheets Bypass: 100 sheets	
Paper output capacity	more than 250 sheets	
Power source	NA	120–127V/12A, 60 Hz
	EU/AP/CHN/KOR	220–240V/7A, 50/60 Hz
	TWN	110V/12A, 60Hz
Max power consumption	NA	IM 430Fb/430F: 1390W IM 350F/350: 1380W P 502: 1350W
	EU	IM 430Fb/430F: 1290W IM 350F/350: 1280W P 502/501: 1260W
Dimensions (W × D × H)	>Printer model: 375 × 412 × 311 mm (14.8 × 16.2 × 12.2 inches) MF model: 476 × 442 × 510 mm (18.7 × 17.4 × 20.0 inches)	
Weight	Printer model: Approx. 18.7 kg (41.2 lb.) MF model: Approx. 29.8 kg (65.6 lb.)	

## 1.1.2 PRINTER

Items	Specification
Printer Language	<ul style="list-style-type: none"> <li>Standard: PJL, RPCS, PCL5e/XL, MediaPrint: JPEG, MediaPrint: TIFF, IRIPS PS3, IRIPS PDFDirect</li> <li>Option: Adobe PS3, Adobe PDE Direct, IPDS, XPS</li> </ul>
Interface	<ul style="list-style-type: none"> <li>Standard: Ethernet (1000BASE-T, 100BASE-TX, 10BASE-T), USB2.0 (Type A), USB2.0 (Type B), SD card</li> <li>Option: IEEE1284 parallel interface, IEEE802.11a/b/g/n (Wireless LAN), Extended USB board (MF model only), USB device server</li> </ul>
Protocol	TCP/IP (IPv4, IPv6)
USB Interface (Standard)	<ul style="list-style-type: none"> <li>Supported operating system: Windows 7/8.1/10, Windows Server 2008/2008 R2/2012/2012 R2/2016, OS X 10.8 or later</li> <li>Transmission spec: USB 2.0 Standard</li> <li>Connectable device:</li> </ul>

## General Specifications

Items	Specification
	Devices corresponding to USB 2.0 Standard
Compatible OS	Standard: Windows 7/8.1/10, Windows Server 2008/2008 R2/2012/2012 R2/2016 Option: Mac OS X 10.10 or later
Resident Fonts	<ul style="list-style-type: none"> <li>• PCL 5e: 93 fonts</li> <li>• PDF: 93 fonts</li> <li>• PostScript 3: 93 fonts</li> </ul>

### 1.1.3 SCANNER

Items	Specification
Type	Full-color scanner
Scanning method	Exposure glass: Flatbed scanning SPDF: Single-pass double-sided sheet through
Image sensor type	Exposure glass: CCD image sensor SPDF: Contact image sensor
Original size (Max.)	Exposure glass: 216 x 356 mm (8.5 x 14.0 inches) SPDF: <ul style="list-style-type: none"> <li>• Front: 216 x 600 mm (8.5 x 23.6 inches)</li> <li>• Back: 216 x 356 mm (8.5 x 14.0 inches)</li> </ul>
Scan type	Exposure glass: Sheet, book, three-dimensional object, ID card SPDF: Sheet
Original size (Max.)	Exposure glass: 216 x 356 mm (8.5 x 14.0 inches) SPDF: <ul style="list-style-type: none"> <li>• Front: 216 x 600 mm (8.5 x 23.6 inches)</li> <li>• Back: 216 x 356 mm (8.5 x 14.0 inches)</li> </ul>
Grayscales	<ul style="list-style-type: none"> <li>• Black and White: 2 tones</li> <li>• Full color/Grayscale: 256 tones</li> </ul>
Scanning Resolution	Exposure glass: <ul style="list-style-type: none"> <li>• Basic: 200dpi</li> <li>• Scan to Email/Folder: 100dpi, 200dpi, 300dpi, 400dpi, 600dpi</li> <li>• Network TWAIN scanner: 100 - 1200dpi</li> </ul> SPDF: 100 - 600 dpi
Compression Method	<ul style="list-style-type: none"> <li>• Black and White: TIFF (MH, MR, MMR, JBIG2)</li> <li>• Full color/Grayscale: JPEG</li> </ul>
Interface	<ul style="list-style-type: none"> <li>• Standard: Ethernet (1000BASE-T, 100BASE-TX, 10BASE-T), USB2.0 (Type A: Operation Panel), SD card slot (Operation Panel)</li> <li>• Option: IEEE802.11a/b/g/n (Wireless LAN)</li> </ul>
Protocol	<ul style="list-style-type: none"> <li>• Network: TCP/IP</li> </ul>

Items	Specification
	<ul style="list-style-type: none"> <li>• Scan to Email: SMTP</li> <li>• Scan to Folder: SMB, FTP, NCP</li> <li>• WSD scanner: Web Service on Devices for Scanning</li> <li>• Network TWAIN scanner: TCP/IP</li> <li>• WIA scanner: TCP/IP</li> </ul>
Scan to Email/Folder Format	TIFF, JPEG, PDF, High Compression PDF, PDF/A



## 1.2 SUPPORTED PAPER SIZES

### 1.2.1 PAPER FEED

Paper	Size (W x L)	Standard Tray	Optional Tray	Bypass Tray	Duplex
A4 SEF	210 x 297 mm	A	A	C	D
A5 SEF	148 x 210 mm	A	A	C	D
A5 LEF	210 x 148 mm	B	B	C	D
A6 SEF	105 x 148 mm	A	A	C	D
B5 SEF	182 x 257 mm	B	B	C	D
B6 SEF	128 x 182 mm	B	B	C	D
B6 LEF	182 x 128 mm	N	N	C	N
B7 SEF	91 x 128 mm	N	N	C	N
LG SEF	8.5 x 14 inch	A	A	C	D
Foolscap SEF	8.5 x 13 inch	B	B	C	D
LT SEF	8.5 x 11 inch	A	A	C	D
GovernmentLG SEF	8.25 x 14 inch	B	B	C	D
Folio SEF	8.25 x 13 inch	B	B	C	D
F/GL SEF	8 x 13 inch	B	B	C	D
Eng Quatro SEF	8 x 10 inch	B	B	C	D
Executive SEF	7.25 x 10.5 inch	B	B	C	D
HLT SEF	5.5 x 8.5 inch	A	A	C	D
HLT LEF	8.5 x 5.5 inch	N	N	C	N
Com10 SEF	4.125 x 0.5 inch	B	N	C	N
Monarch SEF	3.875 x 7.5 inch	B	N	C	N
8 1/2 x 13 2/5 SEF	8.5 x 13.4 inch	B	B	C	D
C5 SEF	162 x 229 mm	B	N	C	N
C6 SEF	114 x 162 mm	B	N	C	N
DL Env SEF	110 x 220 mm	B	N	C	N
16K SEF	195 x 267 mm	B	B	C	D
Custom Size (Width)	mm	82.5 – 216	82.5 – 216	60 – 216	100 – 216
	inch	3.25 – 8.50	3.25 – 8.50	2.37 – 8.50	3.94 – 8.50
Custom Size (Length)	mm	148 – 356	148 – 356	127 – 900	148 – 356
	inch	5.83 – 14.01	5.83 – 14.01	5.00 –	5.83 –

Paper	Size (W x L)	Standard Tray	Optional Tray	Bypass Tray	Duplex
				35.43	14.01

**Remarks: Standard Tray, Optional Tray**

A	Supported size. Need to set the dial to the paper size.
B	Supported size. Need to set the dial to "*" and select the paper size at the operation panel.
N	Not supported.

**Remarks: Bypass Tray**

C	Supported. Need to select the Bypass Tray and the paper size at the operation panel.
---	--

**Remarks: Duplex**

D	Supported.
N	Not supported.

**1.2.2 PAPER EXIT**

Paper	Size (W x L)	Output Tray
A4 SEF	210 x 297 mm	A
A5 SEF	148 x 210 mm	A
A5 LEF	210 x 148 mm	A
A6 SEF	105 x 148 mm	A
B5 SEF	182 x 257 mm	A
B6 SEF	128 x 182 mm	A
B6 LEF	182 x 128 mm	A
B7 SEF	91 x 128 mm	A
LG SEF	8.5 x 14 inch	A
Foolscap SEF	8.5 x 13 inch	A
LT SEF	8.5 x 11 inch	A
GovernmentLG SEF	8.25 x 14 inch	A
Folio SEF	8.25 x 13 inch	A
F/GL SEF	8 x 13 inch	A
Eng Quatro SEF	8 x 10 inch	A
Executive SEF	7.25 x 10.5 inch	A
HLT SEF	5.5 x 8.5 inch	A
HLT LEF	8.5 x 5.5 inch	A
Com10 SEF	4.125 x 0.5 inch	A
Monarch SEF	3.875 x 7.5 inch	A
8 1/2 x 13 2/5 SEF	8.5 x 13.4 inch	A
C5 SEF	162 x 229 mm	A

## Supported Paper Sizes

Paper	Size (W x L)	Output Tray
C6 SEF	114 x 162 mm	A
DL Env SEF	110 x 220 mm	A
16K SEF	195 x 267 mm	A
Custom Size (Width)	mm	60.0 – 216
	inch	2.37 – 8.50
Custom Size (Length)	mm	127 – 900
	inch	5.00 – 35.4

### Remarks: Output Tray

A	Supported.
---	------------

## 1.3 SOFTWARE ACCESSORIES

The printer drivers and utility software are provided on one CD-ROM. An auto-run installer lets you select the components you want to install.

### 1.3.1 PRINTER DRIVERS

For printing, install a printer driver on your computer. The following drivers are included on the CD-ROM:

Operating System* <sup>1</sup>	Printer Drivers		
	RPCS	PostScript 3	PCL 6
Windows Vista * <sup>2</sup>	✓	✓	✓
Windows 7 * <sup>3</sup>	✓	✓	✓
Windows 8.1 * <sup>4</sup>	✓	✓	✓
Windows 10 * <sup>5</sup>	✓	✓	✓
Windows Server 2008 * <sup>6</sup>	✓	✓	✓
Windows Server 2008 R2 * <sup>7</sup>	✓	✓	✓
Windows Server 2012 * <sup>8</sup>	✓	✓	✓
Windows Server 2012 R2 * <sup>9</sup>	✓	✓	✓
Windows Server 2016 * <sup>10</sup>	✓	✓	✓
Macintosh OS * <sup>11</sup>	-	✓	-

✓: Supported

- : Not Supported

\*<sup>1</sup> Printer drivers support both 32-bit and 64-bit Windows.

\*<sup>2</sup> Windows Vista Ultimate/Enterprise/Business/Home Premium/Home Basic

\*<sup>3</sup> Windows 7 Home Premium/Professional/Ultimate/Enterprise

\*<sup>4</sup> Windows 8.1/Pro/Enterprise

\*<sup>5</sup> Windows 10 Home/Pro/Enterprise/Education

\*<sup>6</sup> Windows Server 2008 Standard/Enterprise

\*<sup>7</sup> Windows Server 2008 R2 Standard/Enterprise

\*<sup>8</sup> Windows Server 2012 Foundation/Essentials/Standard

\*<sup>9</sup> Windows Server 2012 R2 Foundation/Essentials/Standard

\*<sup>10</sup> Windows Server 2016 Standard/Essentials/Datacenter/MultiPoint Premium Server

\*<sup>11</sup> OS X 10.9 Mavericks or later

### 1.3.2 SCANNER AND LAN FAX DRIVERS

**Operating system for TWAIN driver:**

Windows Vista/7/8.1/10, Windows Server 2008/2008 R2/2012/2012 R2/2016

(TWAIN scanner runs in 32-bit compatible mode on a 64-bit operating system, so TWAIN scanner is not compatible with 64-bit applications. Use it with 32-bit applications.)

**Operating system for WIA driver:**

Windows Vista/7/8.1/10, Windows Server 2008/2008 R2/2012/2012 R2/2016

(WIA scanner can function under both 32- and 64-bit operating systems.)

**Operating system for LAN FAX driver:**

Windows Vista/7/8.1/10, Windows Server 2008/2008 R2/2012/2012 R2/2016



The LAN Fax driver lets you fax documents directly from your PC. Address Book Editor, Cover Sheet Editor, and MFP Address Book Downloader are to be installed as well.

### 1.3.3 UTILITY SOFTWARE

The following utilities are available.

Software	Description
Device Manager NX Lite	A PC Client based application program that monitors and manages up to 250 networked print devices.
Device Manager NX Accounting	
Remote Communication Gate A	A communication device that enables digital MFPs and printers to be connected to the communication server in the maintenance center.

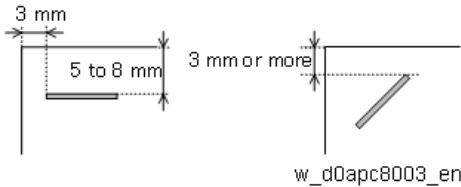
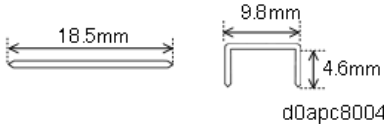


## 1.4 OPTIONAL EQUIPMENT

### 1.4.1 PAPER FEED UNIT PB1120/PB1110

Item	Paper Feed Unit PB1120	Paper Feed Unit PB1110
Paper feed system	RF (Roller Friction)	
Paper size	A4 SEF, A5 SEF/LEF, A6 SEF, B5 SEF, B6 SEF, 8 1/2×14 SEF, 8 1/2×13 SEF, 8 1/2×11 SEF, 8 1/4×14 SEF, 8 1/4×13SEF, 8×13SEF, 8×10 1/2SEF, 8×10SEF, 7 1/4×10 1/2 SEF, 5 1/2×8 1/2 SEF, 8 1/2× 13 2/5SEF, 16K, custom size	
Paperweight	52~220 g/m <sup>2</sup> (14 to 80 lb.)	
Tray capacity (80g/m <sup>2</sup> )	500 sheets	250 sheets
Dimensions (W x D x H)	370×392×125 mm (14.6 x 15.4 x 4.9 inches)	370×392×95 mm (14.6 x 15.4 x 3.7 inches)
Weight	Approx. 5.5 kg (12.1 lb.)	Approx. 4.8 kg (10.6 lb.)
Power Source	DC 24V, 5V (Power is supplied from the main machine)	
Power Consumption	17 W or less	

### 1.4.2 OFFLINE STAPLER TYPE M34

Item	Specification
Staple capacity	<ul style="list-style-type: none"> <li>Thickness: 2.2mm or less</li> <li>Number of sheets: 2 sheets (52 g/m<sup>2</sup>) to 20 sheets (90g/m<sup>2</sup>)</li> </ul>
Staple kind	Margin staple, corner staple
Staple position	 <p>w_d0apc8003_en</p>
Staple size	 <p>d0apc8004</p>
Cycle time	Less than 600 msec. (1 cycle: Between the time the motor is ON and OFF)
Dimensions (W x D x H)	140×120×149 mm

## Optional Equipment

Item	Specification
Weight	Approx. 1.5 kg (3.3 lb.)
Power source	DC 24V, 3.3V (Power is supplied from the main machine)
Noise	65 dB or less

# PREVENTIVE MAINTENANCE TABLES

REVISION HISTORY		
Page	Date	Added/Updated/New
		None



## 2. PREVENTIVE MAINTENANCE TABLES

### 2.1 MAINTENANCE TABLES

Chart: A4 (LT)/6%

Mode: 3 prints/job

Environment: Normal temperature and humidity

Yield may change depending on circumstances and print conditions.

#### 2.1.1 MAIN MACHINE (P 501/ IM 430FB)

Symbol keys: C: Clean, R: Replace

 Note

(R): Yield Parts

The parts mentioned in these tables have a target yield. However, the total copy/print volume made by the machine will not reach the target yield within the machine's targeted lifetime if the machine is used under the target usage conditions (ACV, color ratio, and P/J). So, these parts are categorized not as PM parts but as yield parts (EM parts). The parts with "(R)" in this table are yield parts.

##### Yield Parts (PCDU/Transfer/Fusing)

Item	40K	120K	EM	Remarks
PCDU	R			
Transfer roller		R		(Maintenance Kit)
Fusing unit		R		(Maintenance Kit)
Air filter			C or R	(Maintenance Kit) Clean with a vacuum cleaner or replace.

##### Paper Feed/Exit/Others

Item	EM	Remarks
Paper feed roller (Tray 1)	C	<ul style="list-style-type: none"> <li>Wipe with a damp cloth or clean with alcohol when cleaning.</li> <li>Replace when a feeding failure occurs.</li> </ul>
Separation roller (Tray 1)	C	<ul style="list-style-type: none"> <li>Wipe with a damp cloth or clean with alcohol when cleaning.</li> <li>Replace when a double feed occurs.</li> </ul>
Bypass feed roller	C	<ul style="list-style-type: none"> <li>Wipe with a damp cloth or clean with alcohol when cleaning.</li> <li>Replace when a feeding failure occurs.</li> </ul>

Item	EM	Remarks
Bypass friction pad	C	<ul style="list-style-type: none"> <li>Wipe with a damp cloth or clean with alcohol when cleaning.</li> <li>Replace when a double feed occurs.</li> </ul>
Paper transport roller	C	Wipe with a damp cloth or clean with alcohol.
Registration roller	C	Wipe with a damp cloth or clean with alcohol.
Registration sensor	C	Remove paper dust.
Duplex relay roller	C	Wipe with a damp cloth or clean with alcohol.
Paper exit/reverse roller	C	Wipe with a damp cloth or clean with alcohol.
Fusing/exit reverse sensor	C	Remove paper dust.
LED head	C	When vertical lines or bands occurs, User: Opening and closing the front door four times. CE: Pushing the links of the LED unit four times.

### SPDF/Scanner (MF Model Only)

Item	EM	Remarks
Exposure glass (for SPDF)	C	Wipe with a dry cloth when cleaning.
Exposure glass (for platen mode)	C	Wipe with a dry cloth when cleaning.
Original feed unit (pick-up roller and feed roller)	C or R	Wipe with a damp cloth when cleaning or replace.
SPDF friction pad	C or R	Wipe with a dry cloth when cleaning or replace.
Platen	C	Wipe with a dry cloth when cleaning.
Scanning guide plate (front side, rear side)	C	Wipe with a dry cloth when cleaning.
SPDF entrance roller, Pre-scanning roller (front side, rear side), Exit roller, and each driven roller	C	Wipe with a damp cloth when cleaning.

### 2.1.2 MAIN MACHINE (P 502/ IM 350F/ IM 350/ IM 430F)

Symbol keys: C: Clean, R: Replace

#### Note

(R): Yield Parts

The parts mentioned in these tables have a target yield. However, the total copy/print volume made by the machine will not reach the target yield within the machine's targeted lifetime if the machine is used under the target usage conditions (ACV, color ratio, and P/J). So, these parts

are categorized not as PM parts but as yield parts (EM parts). The parts with "(R)" in this table are yield parts.

### SPDF/Scanner (MF Model Only)

The PM count for the following items is based on the number of originals fed:

Item	30K	45K	120K	EM	Remarks
Exposure glass (for SPDF)				C	Wipe with a dry cloth when cleaning.
Exposure glass (for platen mode)				C	Wipe with a dry cloth when cleaning.
Original feed unit (pick-up roller and feed roller)		(R)		C	Wipe with a damp cloth when cleaning.
SPDF friction pad	(R)			C	Wipe with a dry cloth when cleaning.
Platen			C	C	Wipe with a dry cloth when cleaning.
Scanning guide plate (front side, rear side)			C	C	Wipe with a dry cloth when cleaning.
SPDF entrance roller, Pre-scanning roller (front side, rear side), Exit roller, and each driven roller				C	Wipe with a damp cloth when cleaning.

### PCDU/LED Optics/Transfer/Fusing

Item	70K	180K	EM	Remarks
PCDU	R			
LED head			C	When vertical lines or bands occurs, User: Opening and closing the front door four times. CE: Pushing the links of the LED unit four times.
Transfer roller		(R)		Replace referring to logging counter.
Fusing unit		(R)		Replace referring to logging counter.

### Paper Feed/ Exit

Item	70K	180K	EM	Remarks
Paper feed roller (Tray 1)			C	<ul style="list-style-type: none"> <li>Clean with alcohol.</li> <li>Replace when a feeding failure occurs.</li> </ul>
Separation roller (Tray 1)			C	<ul style="list-style-type: none"> <li>Clean with alcohol.</li> <li>Replace when a double feed occurs.</li> </ul>
Bypass feed roller			C	<ul style="list-style-type: none"> <li>Clean with alcohol.</li> <li>Replace when a feeding failure occurs.</li> </ul>
Bypass friction pad			C	<ul style="list-style-type: none"> <li>Clean with alcohol.</li> </ul>

Item	70K	180K	EM	Remarks
				<ul style="list-style-type: none"> <li>Replace when a double feed occurs.</li> </ul>
Paper transport roller			C	Clean with alcohol.
Registration roller			C	Clean with alcohol.
Registration sensor			C	Remove paper dust.
Duplex relay roller			C	Clean with alcohol.
Paper exit/reverse roller			C	Clean with alcohol.
Fusing/exit reverse sensor			C	Remove paper dust.

**Other**

Item	70K	180K	EM	Remarks
Air filter		(R)	C or R	Replace with a fusing unit. EM: Clean with a vacuum cleaner or replace.

**2.1.3 PAPER FEED UNIT PB1120/ PB1110**

Symbol keys: C: Clean, R: Replace

Item	70K	180K	EM	Remarks
Paper feed roller			C	<ul style="list-style-type: none"> <li>Wipe with a damp cloth when cleaning</li> <li>Replace when a feeding failure occurs</li> </ul>
Separation roller			C	<ul style="list-style-type: none"> <li>Wipe with a dry cloth when cleaning.</li> <li>Replace when a double feed occurs.</li> </ul>
Bottom plate pad			C	Wipe with a dry cloth when cleaning
Paper transport roller			C	Wipe with a dry cloth when cleaning
Paper transport sensor			C	Remove paper dust.



**SP MODE TABLES  
(COMMON FOR BOTH MF MODEL  
AND PRINTER MODEL)**

<b>REVISION HISTORY</b>		
<b>Page</b>	<b>Date</b>	<b>Added/Updated/New</b>
		None



## 3. SP MODE TABLES (COMMON FOR BOTH MF MODEL AND PRINTER MODEL)

### 3.1 REMARKS

The maximum number of characters on the control panel screen is limited to 30. For this reason, some of the SP modes shown on the screen have been abbreviated. The following are abbreviations used for the SP modes for which the full description is over 20 characters.

Item	Description
Paper Weight	Thin paper: 52-59 g/m <sup>2</sup> , 13.9-15.7lb. Plain Paper1: 60-74 g/m <sup>2</sup> , 16-19.7lb. Plain Paper2: 75-81 g/m <sup>2</sup> , 20-21.6lb. Middle Thick: 82-105 g/m <sup>2</sup> , 21.9-28lb. Thick Paper1: 106-157 g/m <sup>2</sup> , 28.3-41.9lb.
Paper Type	N: Normal paper MTH: Middle thick paper TH: Thick paper
Paper Feed Station	P: Paper tray B: Bypass tray
Print Mode	S: Simplex D: Duplex

#### 3.1.1 OTHERS

The settings of each SP mode are explained in the right-hand column of the SP table in the following way.

[Adjustable range / **Default setting** / Step] Alphanumeric

##### Note

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

**The following symbols are used in the SP mode tables.**

Notation	What it means
<b>ENG</b>	Engine SP
<b>CTL</b>	Controller SP
<b>DFU</b>	Design/Factory Use only: Do not touch these SP modes in the field.

## Remarks

Notation	What it means
*	<p>An asterisk (*) to the left side of ENG/CTL column means that this mode is stored in the NVRAM. If you do a RAM clear, this SP mode will be reset to the default value. "ENG" and "CTL" show which NVRAM contains the data.</p> <ul style="list-style-type: none"><li>• *ENG: NVRAM on the BCU board</li><li>• *CTL: NVRAM on the controller board</li></ul>
<b>SSP</b>	This denotes a "Special Service Program" mode setting.

## 3.2 INPUT AND OUTPUT CHECK

### 3.2.1 INPUT CHECK

SP No.	SP Name	Value		Comments
		0	1	
5-803-002	Front Interlock	Door open	Door closed	
5-803-003	Rear Interlock	Door open	Door closed	
5-803-004	Registration	Paper present	No paper	
5-803-005	Paper Size	-	-	000: A4 001: A6SEF 010: A5SEF 011: 8.5x14 100: 8.5x11 101: 5.5x8.5 110: * 111: No cassette
5-803-006	Duplex Entrance	Paper present	No paper	
5-803-007	Paper Exit Rev	Paper present	No paper	
5-803-008	Paper Exit Full	Not full	Full	
5-803-009	Paper End	Paper present	No paper	
5-803-010	Bypass:Paper End	Paper present	No paper	
5-803-011	Bypass:Tray	Bottom plate down	Bottom plate up	
5-803-012	Fusing Unit Set	Set	Not set	
5-803-013	Fusing Unit New	New unit	Old unit	
5-803-014	FusNipPress Pos	Pressure released	Pressure applied	
5-803-015	Feed Mt Lock	Rotate	At rest or lock	
5-803-016	Drum Mt Lock	Rotate	At rest or lock	
5-803-017	PCDUFan:R Lock	Rotate	At rest or lock	
5-803-018	PCDUFan:L Lock	Rotate	At rest or lock	
5-803-019	PSU Fan Lock	Rotate	At rest or lock	
5-803-020	FusingTempDetect	High temp. not detected	High temp. detected	
5-803-021	HVP:SC_T	Abnormal	Normal	
5-803-022	HVP:SC_C	Abnormal	Normal	

## Input and Output Check

SP No.	SP Name	Value		Comments
		0	1	
5-803-023	Key Counter Set2	Not set	Set	
5-803-024	Key Counter Set1	Set	Not set	
5-803-025	Key Card Set	Set	Not set	
5-803-026	Rear Cover Open	Cover open	Cover close	
5-803-027	Paper Nearend	Paper present	No paper	
5-803-083	Bank1:500/250/No	-	-	0: 500
5-803-084	Bank2:500/250/No	-	-	1: 250
5-803-085	Bank3:500/250/No	-	-	2: None
5-803-087	Bank1 Trans SN	No paper	Paper present	
5-803-088	Bank2 Trans SN	No paper	Paper present	
5-803-089	Bank3 Trans SN	No paper	Paper present	
5-803-200	Scanner HP Sensor	Out of HP	At HP	
5-803-201	Platen Cover Sensor	Closed	Open	
6-011-009	Original Detection	Original not set	Original set	
6-011-010	Feed After sensor	No paper	Paper present	
6-011-013	Registration Sensor	No paper	Paper present	
6-011-015	Feed Cover Sensor	Cover closed	Cover open	
6-011-024	Page Keeper Sensor	No double-feed	Double-feed detected	

### 3.2.2 OUTPUT CHECK

SP No.	SP name	Operation	Restriction
5-804-001	FusPressRelMt:CW	Rotates fusing pressure/release motor forward.	Cannot switch on with fusing unit set.
5-804-002	FusPressRelMt:CCW	Rotates fusing pressure/release motor in reverse.	
5-804-003	DrumMt:CW:ExHi	Rotates drum motor forward.	Cannot switch on with PCDU set.
5-804-004	DrumMt:CW:Hi		
5-804-005	DrumMt:CW:Mid		
5-804-006	DrumMt:CW:Low		
5-804-007	DrumMt:CW:ExLow		
5-804-008	DrumMt:CCW:ExHi	Rotates drum motor in reverse.	

SP No.	SP name	Operation	Restriction
5-804-009	DrumMt:CCW:Hi		
5-804-010	DrumMt:CCW:Mif		
5-804-011	DrumMt:CW:Low		
5-804-012	DrumMt:CW:ExLow		
5-804-013	FeedMt:CW:ExHi	Rotates feed/fusing motor forward.	Cannot switch on with PCDU set.
5-804-014	FeedMt:CW:Hi		
5-804-015	FeedMt:CW:Mid		
5-804-016	FeedMt:CW:Low		
5-804-017	FeedMt:CW:ExLow		
5-804-018	FeedMt:CCW:ExHi	Rotates feed/fusing motor in reverse.	
5-804-019	FeedMt:CCW:Hi		
5-804-020	FeedMt:CCW:Mid		
5-804-021	FeedMt:CCW:Low		
5-804-022	FeedMt:CCW:ExLow		
5-804-023	ExtRevMt:CW:ExHi	Rotates exit/reverse motor forward.	
5-804-024	ExtRevMt:CW:Hi		
5-804-025	ExtRevMt:CW:Mid		
5-804-026	ExtRevMt:CW:Low		
5-804-027	ExtRevMt:CW:ExLow		
5-804-028	ExtRevMt:CCW:ExHi	Rotates exit/reverse motor in reverse.	
5-804-029	ExtRevMt:CCW:Hi		
5-804-030	ExtRevMt:CCW:Mid		
5-804-031	ExtRevMt:CCW:Low		
5-804-032	ExtRevMt:CCW:ExLow		
5-804-033	PCDUFan:Left:High	Operates PCDU cooling fan (left)	
5-804-034	PCDUFan:Left:Low		
5-804-035	PSU Fan: High	Operates PSU cooling fan.	
5-804-036	PSU Fan: Low		
5-804-037	HVP:Development	Outputs each PWM.	Cannot switch on with PCDU set.
5-804-038	HVP:Charge		
5-804-040	HVP:Transfer:+		
5-804-041	HVP:Transfer:-		
5-804-042	Drum QL	Lights the quenching lamp.	
5-804-044	Exit Junc SOL	Turns exit junction gate solenoid on.	
5-804-045	PCDU Fan:Light	Operates PCDU cooling fan (right).	

## Input and Output Check

SP No.	SP name	Operation	Restriction
5-804-046	Duplex CL	Turns duplex clutch on.	
5-804-048	Toner Supply CL	Turns bypass paper feed clutch on.	
5-804-049	Registration CL	Turns registration clutch on.	
5-804-050	Feed Connect CL	Turns relay clutch on.	
5-804-051	Bypass:Tray CL	Turns bypass lift clutch on.	Cannot turn on if the feed/fusing motor is rotating ccw.
5-804-052	Paper Feed CL	Turns paper feed clutch on.	
5-804-053	Toner End Sensor	Turns LED of the toner end sensor on.	
5-804-054	Toner IDTAG Power		
5-804-162	Bank1 BLM:MAX	Rotates bank drive motor of Bank 1 (option).	
5-804-163	Bank1 BLM:High		
5-804-164	Bank1 BLM:Mid		
5-804-165	Bank1 BLM:Low		
5-804-166	Bank1 BLM:MIN		
5-804-167	Bank2 BLM:MAX	Rotates bank drive motor of Bank 2 (option).	
5-804-168	Bank2 BLM:High		
5-804-169	Bank2 BLM:Mid		
5-804-170	Bank2 BLM:Low		
5-804-171	Bank2 BLM:MIN		
5-804-172	Bank3 BLM:MAX	Rotates bank drive motor of Bank 3 (option).	
5-804-173	Bank3 BLM:High		
5-804-174	Bank3 BLM:Mid		
5-804-175	Bank3 BLM:Low		
5-804-176	Bank3 BLM:MIN		
5-804-177	Bank1 Feed CL	Turns on paper feed clutch in Bank 1 (option).	
5-804-178	Bank2 Feed CL	Turns on paper feed clutch in Bank 2 (option).	
5-804-179	Bank3 Feed CL	Turns on paper feed clutch in Bank 3 (option).	
5-804-202	Scanner Lamp	Turns scanner lamp on.	
6-012-003	Motor Forward	Rotates SPDF drive motor forward.	
6-012-004	Motor Reverse	Rotates SPDF drive motor in	



SP No.	SP name	Operation	Restriction
		reverse.	
6-012-014	Feed Clutch	Turns SPDF feed clutch on.	

## 3.3 PRINTER SP MODE

### 3.3.1 SP1-XXX (SERVICE MODE)

1001	[Bit Switch]			
1-001-001	Bit Switch 1 Settings		0	1
	bit 0	DFU	-	-
	bit 1	sysName value	<b>Model name (PnP name)</b>	Hostname
		This BitSw can switch the value of the sysName of the standard MIB.		
	bit 2	DFU	-	-
	bit 3	I/O timeout	<b>Enabled</b>	Disabled
		Enables/Disables MFP I/O Timeouts. If enabled, the MFP I/O Timeout setting will have no affect. I/O Timeouts will never occur.		
	bit 4	SD card save mode	<b>Disabled</b>	Enabled
		This BitSw enables the SD card save mode setting menu to be displayed. After enabling this BitSw, the Card Save settings will appear under: "User Tools > Machine Features > Printer Features > List/Test print"		
bit 5	Paper size error margin	<b>±5pt</b>	±10pt	
	When a PS job is printed on a custom paper size, the job might not print because of a paper size mismatch caused by a calculation error. This BitSw can set the allowable margin of error value. <b>Note:</b> This is available for PS, PDF only.			
bit 6	DFU	-	-	
bit 7	DFU	-	-	

1001	[Bit Switch]			
1-001-002	Bit Switch 2 Settings		0	1
	bit 0	DFU	-	-
	bit 1	DFU	-	-
	bit 2	DFU	-	-
	bit 3	PDL auto switching	<b>Enabled</b>	Disabled
		Enables/Disables the MFPs ability to switch the PDL processor when receiving a job which contains both PS and PCL5e/c.		
	bit 4	DFU	-	-

	bit 5	DFU	-	-
	bit 6	DFU	-	-
	bit 7	DFU	-	-

1001	[Bit Switch]			
1-001-003	Bit Switch 3 Settings		0	1
	bit 0	DFU	-	-
	bit 1	DFU	-	-
	bit 2	Legacy HP compatibility	<b>Disabled</b>	Enabled
	Uses the same left margin as older HP models such as HP4000/HP8000. This setting enables the starting position of the graphics in the job to be changed. If this BitSw is enabled, the left margin command of "<ESC>*r0A" will be conducted as "<ESC>*r1A". PCL command are below: - <Esc> *r0A ->Start Graphics at X coordinate of Zero - <Esc> *r1A ->Start Graphics at Current Cursor <b>Note:</b> This is available for PCL5e/c only.			
	bit 3	DFU	-	-
	bit 4	DFU	-	-
	bit 5	DFU	-	-
	bit 6	DFU	-	-
	bit 7	DFU	-	-

1001	[Bit Switch]			
1-001-004	Bit Switch 4 Settings		0	1
	bit 0	DFU	-	-
	bit 1	DFU	-	-
	bit 2	DFU	-	-
	bit 3	Paper path for IPDS simplex pages	<b>Simplex paper path</b>	Duplex paper path
	This setting enables you to route the IPDS simplex job through the duplex unit. <b>Note:</b> When this BitSw is set to duplex paper path, the simplex page might be printed on the reverse side.			
	bit 4	DFU	-	-
bit 5	DFU	-	-	

	bit 6	Bypass tray paper direction	LEF	<b>SEF</b>
		Changes the paper direction used with "Machine Setting(s): Any Type" in the bypass tray. This setting enables the direction of the paper in the bypass tray to specified.		
	bit 7	DFU	-	-

<b>1001</b>	<b>[Bit Switch]</b>			
1-001-005	Bit Switch 5 Settings		0	1
	bit 0	DFU	-	-
	bit 1	Number of copies with paper mismatch	<b>Print Single Copy</b>	Print All Copies
		If a paper size or type mismatch occurs during the printing of multiple copies, only a single copy is output by default. Using this BitSw, the device can be configured to print all copies even if a paper mismatch occurs.		
	bit 2	GPS filter	<b>Enabled</b>	Disabled
		If the GPS Filter is disabled, SDK applications will not be able to alter the print data standard printer applications receive. <b>Note:</b> The main purpose of this BitSw is for troubleshooting the effects of SDK applications on data.		
	bit 3	PS trigger for PDL switching	<b>Standard pattern</b>	Pattern1
		Specifying the auto detection algorithm for PS while switching the print language. If the Pattern1 is selected, "%%" is used as a printer system PS trigger.		
	bit 4	Increase Max. number of the stored jobs.	<b>Disabled (100)</b>	Enabled (750)
		Changes the maximum number of jobs that can be stored on the HDD. The default (disabled) is 100. If this is enabled, the max. will be raised to 750 or 1000 depending on the model.		
	bit 5	DFU	-	-
	bit 6	Change imposition specification	Standard specification	<b>Old model specification</b>
This setting enables the specification for imposition such as page alignment and image rotation to be changed to the specification of old models when job orientation and paper size are mixed. The old models are below: - PCL: 04A and earlier models - PS/PDF/RPCS: 05S and earlier models				

	- BMLinkS: 05A and earlier models IRIPS PS/PDF: - 09A and earlier models: Operation under current model specification is not supported (Operation with older specification is recommended) - 15S and later models: Operation under current model specification is supported.		
bit 7	Paper path for letterhead simplex job	<b>Simplex paper path</b>	Duplex paper path
	This setting enables the simplex job to be routed through the duplex unit. Only affects jobs specified as letterhead.		

<b>1001</b>	<b>[Bit Switch]</b>			
1-001-006	Bit Switch 6 Settings		0	1
	bit 0 to 7	DFU	-	-

<b>1001</b>	<b>[Bit Switch]</b>			
1-001-007	Bit Switch 7 Settings		0	1
	bit 0 to 7	DFU	-	-

<b>1001</b>	<b>[Bit Switch]</b>			
1-001-008	Bit Switch 8 Settings		0	1
	bit 0	DFU	-	-
	bit 1	DFU	-	-
	bit 2	DFU	-	-
	bit 3	DFU	-	-
	bit 4	DFU	-	-
	bit 5	DFU	-	-
	bit 6	PJL/PDL Color Command Priority ( <b>Only MF model</b> )	<b>PJL Priority</b>	PDL Priority
	This setting enables the priority of a PDL color command to be changed when a PJL color command is "@PJL RENDERMODE = GRAYSCALE" in a job. <b>Note:</b> This is available for PCL,RPCS,PS.			
	bit	DFU	-	-

	7		
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<b>1001</b>	<b>[Bit Switch]</b>			
1-001-009	Bit Switch 9 Settings		0	1
	bit 0	PDL Auto Detection timeout of jobs submitted via USB or Parallel Port (IEEE 1284).	<b>Disabled (Immediately)</b>	Enabled (10 seconds)
	To be used if PDL auto-detection fails. A failure of PDL autodetection doesn't necessarily mean that the job can't be printed. This bit switch tells the device whether to time-out immediately (default) upon failure or to wait 10 seconds.			
	bit 1	DFU	-	-
	bit 2	Job cancel after jam	<b>Not cancelled</b>	Cancelled
	This setting enables it to be specified whether jobs will be cancelled after a jam occurs. <b>Note:</b> If this BitSw is enabled, printing under the following conditions might result in problems: - Job submission via USB or Parallel Port - Spool printing (WIM > Configuration > Device Settings > System) - Printing a large number of jobs continuously (The status of the job are not acquired when jobs exceeding the number guaranteed by the job monitor are continuously printed.)			
	bit 3	DFU	-	-
	bit 4	Timing of the PjL Status ReadBack (JOB END) when printing multiple collated copies.	<b>Mode 0</b>	Mode 1
	This BitSw determines the timing of the PjL STATUS JOB END sent when multiple collated copies are being printed. Mode 0: JOB END is sent by the device to the client after the first copy has completed printing. This causes the page counter to be incremented after the first copy and then again at the end of the job. Mode 1: JOB END is sent by the device to the client after the last copy has finished printing. This causes the page counter to be incremented at the end of each job.			
bit 5	UTF-8 mode	<b>Enabled</b>	Disabled	
Enabled (=0): Text composed of UTF-8 characters can be displayed in the operation panel. Disabled (=1): UTF-8 characters cannot be displayed in the operation panel. For example, job names are sometimes stored in the MIB using UTF-8 encoded characters. When these are displayed on the operation panel, they				

		will be garbled unless this switch is enabled (=0).	
bit 6	Print option configuration (rsh, rcp, ftp)	<b>Enabled</b>	Disable
	This BitSw enables the specification of the configuration of the print option using rcp/rsh/ftp.		
bit 7	Enable/Disable print from USB/SD's Preview function ( <b>Only MF model</b> )	<b>Enabled</b>	Disabled
	<p>Determines whether the Print from USB/SD function will have the Preview function.</p> <p>Enabled (=0): Print from USB/SD will have the Preview function.</p> <p>Disabled (=1): Print from USB/SD will not have the Preview function.</p>		

1001	[Bit Switch]			
1-001-010	Bit Switch A Settings		0	1
	bit 0	DFU	-	-
	bit 1	DFU	-	-
	bit 2	DFU	-	-
	bit 3	DFU	-	-
	bit 4	DFU	-	-
	bit 5	Store and Skip Errored Job locks the queue ( <b>Only MF model</b> )	<b>Queue is not locked after SSEJ</b>	Queue locked after SSEJ
		If this is 1, then after a job is stored using Store and Skip Errored Job (SSEJ), new jobs cannot be added to the queue until the stored job has been completely printed.		
	bit 6	Allow use of Store and Skip Errored Job if connected to an external charge device ( <b>Only MF model</b> )	<b>Does not allow SSEJ with ECD</b>	Allows SSEJ with ECD
		<p>If this is 0, Store and Skip Errored Job (SSEJ) will be automatically disabled if an external charge device is connected.</p> <p><b>Note:</b> We do not officially support enabling this switch (1). Use it at your own risk.</p>		
bit 7	Job cancels remaining pages when the paid-for pages have been printed on an external charge device ( <b>Only MF model</b> )	<b>Job does not cancel</b>	Job cancels	
	When setting 1 is enabled, after printing the paid-for pages on an external charge device, the job that includes any remaining pages will be canceled. This setting will prevent the next user from printing the unnecessary pages from the previous user's print job.			

1001	[Bit Switch]			
1-001-011	Bit Switch B Settings		0	1
bit 0	DFU	-	-	
bit 1	DFU	-	-	
bit 2	Limitless paper feeding for the bypass tray	<b>Enabled</b>	Disabled	
<p>When the bypass tray is the target of the "Auto Tray Select", and "Machine Setting(s): Any Type" is configured for the "Tray Setting Priority" of the bypass tray, this BitSw can switch the behavior whether or not limitless paper feeding is applied to the bypass tray.</p> <p>Enabled (=0: Default): Limitless paper feeding is applied to the bypass tray. If a tray other than the bypass tray matches the job's paper size and type but has run out of paper, printing will occur from the bypass tray.</p> <p>Disabled (=1): Limitless paper feeding is not applied to the bypass tray. If a tray other than the bypass tray matches the job's paper size and type but has run out of paper, printing will stop and an alert will appear on the LCD screen, stating that the tray has run out of paper. This prevents unexpected use of the bypass tray.</p> <p>Limitations when this BitSw is set to "1":</p> <ul style="list-style-type: none"> <li>- Jobs that contain more than one paper size cannot be printed.</li> <li>- The "Paper Tray Priority: Printer" setting must be configured to a tray other than the bypass tray.</li> </ul>				
bit 3	DFU	-	-	
bit 4	"Apply Auto Paper Select" to override paper size or paper type of the device	<b>Disabled</b>	Enabled	
<p>If this BitSw is enabled, the "Apply Auto Paper Select" setting will decide if the paper size or paper type that is specified in the device settings should be overridden by the job's commands when "Tray Setting Priority" is set to "Driver/Command" or "Machine Setting(s): Any Type".</p> <ul style="list-style-type: none"> <li>- Apply Auto Paper Select = OFF: Overridden (priority is given to the job's commands)</li> <li>- Apply Auto Paper Select = ON: NOT overridden (priority is given to the device settings)</li> </ul>				
bit 5	DFU	-	-	



	bit 6	Tray selection when a paper mismatch occurs. This BitSw enables the inactive auto paper select tray to be unselectable when a paper size/type mismatch occurs.	<b>Disabled</b>	Enabled
	bit 7	DFU	-	-

<b>1001</b>	<b>[Bit Switch]</b>				
1-001-012	Bit Switch C Settings		0	1	
	bit 0	DFU	-	-	
	bit 1	DFU	-	-	
	bit 2	DFU	-	-	
	bit 3	DFU	-	-	
	bit 4	DFU	-	-	
	bit 5	Change the user ID type displayed on the operation panel		<b>Login User Name</b>	User ID
		If this BitSw is enabled, the user ID type on the operation panel can change to the user ID behavior exhibited in 14A and earlier models.			
	bit 6	AirPrint	<b>Enabled</b>	Disabled	
bit 7	AirPrint PDF ( <b>Only printer model</b> )	<b>Enabled</b>	Disabled		

<b>1002</b>	<b>[Bit Switch2]</b>			
1-002-001	Bit Switch (2) 1 Settings		0	1
	bit 0	Paper size mismatch display	<b>Enabled</b>	Disabled
		Display warning screen (40909) of paper size mismatch.		
bit 1 to 7	DFU	-	-	

<b>1002</b>	<b>[Bit Switch2]</b>				
1-002-002	Bit Switch (2) 2 Settings			0	1
	bit 0 to 7	DFU	-	-	

<b>1002</b>	<b>[Bit Switch2]</b>			
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1-002-003	Bit Switch (2) 3 Settings		0	1
	bit 0 to 7	DFU	-	-

<b>1002</b>	<b>[Bit Switch2]</b>			
1-002-004	Bit Switch (2) 4 Settings		0	1
	bit 0 to 7	DFU	-	-

<b>1002</b>	<b>[Bit Switch2]</b>			
1-002-005	Bit Switch (2) 5 Settings		0	1
	bit 0 to 7	DFU	-	-

<b>1002</b>	<b>[Bit Switch2]</b>			
1-002-006	Bit Switch (2) 6 Settings		0	1
	bit 0 to 7	DFU	-	-

<b>1002</b>	<b>[Bit Switch2]</b>			
1-002-007	Bit Switch (2) 7 Settings		0	1
	bit 0 to 7	DFU	-	-

<b>1002</b>	<b>[Bit Switch2]</b>			
1-002-008	Bit Switch (2) 8 Settings		0	1
	bit 0 to 7	DFU	-	-

<b>1002</b>	<b>[Bit Switch2]</b>			
1-002-009	Bit Switch (2) 9 Settings		0	1
	bit 0 to 7	DFU	-	-

<b>1002</b>	<b>[Bit Switch2]</b>			
1-002-010	Bit Switch (2) A Settings		0	1
	bit 0 to 7	DFU	-	-

<b>1002</b>	<b>[Bit Switch2]</b>			
1-002-011	Bit Switch (2) B Settings		0	1
	bit 0 to 7	DFU	-	-

<b>1002</b>	<b>[Bit Switch2]</b>			
1-002-012	Bit Switch (2) C Settings		0	1
	bit 0 to 7	DFU	-	-

<b>1003</b>	<b>[Clear Setting]</b>		
1-003-001	Initialize Printer System	CTL	[- / - / -] [Execute]
	Initializes settings in the "System" menu of the user mode.		
1-003-003	Delete Program	CTL	[- / - / -] [Execute]

<b>1004</b>	<b>[Print Summary]</b>		
	Prints the service summary sheet (a summary of all the controller settings).		
1-004-001	Print Printer Summary	CTL	[- / - / -] [Execute]
1-004-002	Print Printer Summary2	CTL	[- / - / -] [Execute]

<b>1007</b>	<b>[Supply Display]</b>		
	Sets displaying remaining supply amount information or not. 0: Displays remaining supply amount information 1: Does not display remaining supply amount information		
1-007-002	Drum	CTL*	[0 or 1 / 1 / 1/step]
1-007-006	Fusing unit	CTL*	

<b>1110</b>	<b>[Media Print Device Setting]</b>		
1-110-002	0:Disable 1:Enable	CTL*	[0 or 1 / 1 / -]

<b>1111</b>	<b>[All Job Delete Mode]</b>		
1-111-001	0:excluding New Job 1:including New Job	CTL*	[0 or 1 / 1 / -]

<b>1112</b>	<b>[Supply End]</b>		
1-112-001	0:continue 1:stop	CTL*	[0 or 1 / 0 / -]

<b>1121</b>	<b>[Introduction Setting Boot Mode]</b> <b>(Only printer model)</b>		
1-121-001	0:Off 1:On	CTL*	[0 or 1 / 0 / -]

<b>1400</b>	<b>[IPGL Setting]</b> <b>(Only MF model)</b>		
1-400-001	Set Thin Line Width	CTL*	[0 to 99 / 5 / 1/step]

Printer SP Mode

1-400-002	Correct Line Width	CTL*	[0 to 3 / <b>2</b> / 1/step]
1-400-003	Bank Of Tray Setting	CTL*	[0 to 2 / <b>0</b> / 1/step]
1-400-004	Character Density	CTL*	[15 to 30 / <b>15</b> / 1/step]
1-400-005	Photo Density	CTL*	[15 to 30 / <b>15</b> / 1/step]
1-400-006	Default Blank Space	CTL*	[0 or 1 / <b>1</b> / 1/step]
1-400-007	Job Reset	CTL*	[0 or 1 / <b>0</b> / 1/step]
1-400-008	Search Not Setted Tray	CTL*	[0 or 1 / <b>0</b> / 1/step]
1-400-009	Character Total Amount	CTL*	[99 to 400 / <b>99</b> / 1/step]
1-400-010	Photo Total Amount	CTL*	[99 to 400 / <b>99</b> / 1/step]
1-400-011	Basis Of Scale	CTL*	[0 or 1 / <b>1</b> / 1/step]
1-400-012	600dpi Calculation Round	CTL*	[0 or 1 / <b>0</b> / 1/step]

# **SP MODE TABLES (FOR PRINTER MODEL)**

<b>REVISION HISTORY</b>		
<b>Page</b>	<b>Date</b>	<b>Added/Updated/New</b>
		None



## 4. SP MODE TABLES (FOR PRINTER MODEL)

### 4.1 SP1-XXX (FEED)

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
1-001-001	User LeadEdge Reg	By-pass: Plain	ENG*	[-4 to 4 / 0 / 0.1mm]
1-001-002	User LeadEdge Reg	Tray1: Plain	ENG*	[-4 to 4 / 0 / 0.1mm]
1-001-003	User LeadEdge Reg	Tray2: Plain	ENG*	[-4 to 4 / 0 / 0.1mm]
1-001-004	User LeadEdge Reg	Tray3: Plain	ENG*	[-4 to 4 / 0 / 0.1mm]
1-001-005	User LeadEdge Reg	Tray4: Plain	ENG*	[-4 to 4 / 0 / 0.1mm]
1-001-006	User LeadEdge Reg	Duplex: Plain	ENG*	[-4 to 4 / 0 / 0.1mm]
1-002-001	User S-to-S Reg	By-pass	ENG*	[-4 to 4 / 0 / 0.1mm]
1-002-002	User S-to-S Reg	Tray 1	ENG*	[-4 to 4 / 0 / 0.1mm]
1-002-003	User S-to-S Reg	Tray 2	ENG*	[-4 to 4 / 0 / 0.1mm]
1-002-004	User S-to-S Reg	Tray 3	ENG*	[-4 to 4 / 0 / 0.1mm]
1-002-005	User S-to-S Reg	Tray 4	ENG*	[-4 to 4 / 0 / 0.1mm]
1-002-006	User S-to-S Reg	Duplex	ENG*	[-4 to 4 / 0 / 0.1mm]
1-003-011	Paper Buckle	By-pass: Plain	ENG*	[-5 to 5 / 0 / 1mm]
1-003-012	Paper Buckle	By-pass: Thick	ENG*	[-5 to 5 / 0 / 1mm]
1-003-013	Paper Buckle	By-pass: Envelope	ENG*	[-5 to 5 / 0 / 1mm]
1-003-021	Paper Buckle	Tray1: Plain	ENG*	[-5 to 5 / 0 / 1mm]
1-003-022	Paper Buckle	Tray1: Thick	ENG*	[-5 to 5 / 0 / 1mm]
1-003-023	Paper Buckle	Tray1: Envelope	ENG*	[-5 to 5 / 0 / 1mm]
1-003-031	Paper Buckle	Tray2: Plain	ENG*	[-5 to 5 / 0 / 1mm]
1-003-032	Paper Buckle	Tray2: Thick	ENG*	[-5 to 5 / 0 / 1mm]
1-003-041	Paper Buckle	Tray3: Plain	ENG*	[-5 to 5 / 0 / 1mm]
1-003-042	Paper Buckle	Tray3: Thick	ENG*	[-5 to 5 / 0 / 1mm]
1-003-051	Paper Buckle	Tray4: Plain	ENG*	[-5 to 5 / 0 / 1mm]
1-003-052	Paper Buckle	Tray4: Thick	ENG*	[-5 to 5 / 0 / 1mm]
1-003-061	Paper Buckle	Duplex: Plain	ENG*	[-5 to 5 / 0 / 1mm]
1-003-062	Paper Buckle	Duplex: Thick	ENG*	[-5 to 5 / 0 / 1mm]
1-101-001	Flicker Control	Flicker Control	ENG*	[0 to 1 / 0 / 1]
1-103-002	Fusing Idling	Reload Temp.:Center	ENG*	[90 to 180 / * / 1deg] IM 350F/350: 145 IM 430Fb/430F: 153
1-103-003	Fusing Idling	center:Thresh	ENG*	[60 to 180 / * / 1deg]

## SP1-XXX (Feed)

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
				IM 350F/350: 135 IM 430Fb/430F: 143
1-103-102	Fusing Idling	Reload Temp.:Side	ENG*	[90 to 180 / * / 1deg] IM 350F/350: 105 IM 430Fb/430F: 113
1-103-103	Fusing Idling	Side: Thresh	ENG*	[60 to 180 / * / 1deg] IM 350F/350: 85 IM 430Fb/430F: 93
1-103-152	Fusing Idling	Reload Temp.:Side_low speed	ENG*	[90 to 180 / 100 / 1deg]
1-103-153	Fusing Idling	Side: Thresh_low speed	ENG*	[60 to 180 / 80 / 1deg]
1-103-202	Fusing Idling	Reload Temp:Center_low speed	ENG*	[90 to 180 / 140 / 1deg]
1-103-203	Fusing Idling	Center:Thresh_low speed	ENG*	[60 to 180 / 130 / 1deg]
1-105-001	Fusing Temperature Adjustment	Roller Center:Plain1	ENG*	[120 to 230 / * / 1deg] IM 350F/350: 167 IM 430Fb/430F: 170
1-105-003	Fusing Temperature Adjustment	Roller Center:Plain2	ENG*	[120 to 230 / * / 1deg] IM 350F/350: 175 IM 430Fb/430F: 178
1-105-005	Fusing Temperature Adjustment	Roller Center:M-Thick	ENG*	[120 to 230 / * / 1deg] IM 350F/350: 180 IM 430Fb/430F: 186
1-105-007	Fusing Temperature Adjustment	Thick1 Paper:Roller Center	ENG*	[0 to 60 / * / 1deg] IM 350F/350: 23 IM 430Fb/430F: 28
1-105-008	Fusing Temperature Adjustment	Thick2 Paper:Roller Center	ENG*	[0 to 60 / * / 1deg] IM 350F/350: 18 IM 430Fb/430F: 15
1-105-009	Fusing Temperature Adjustment	Center Minus:Thin	ENG*	[0 to 60 / 10 / 1deg]
1-105-010	Fusing Temperature Adjustment	Thick3 Paper: RollerCenter	ENG*	[0 to 60 / * / 1deg] IM 350F/350: 23 IM 430Fb/430F: 20
1-105-011	Fusing Temperature	Low Power	ENG*	[0 to 80 / 60 / 1deg]



SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
	Adjustment			
1-105-012	Fusing Temperature Adjustment	Standby Temp: Center	ENG*	[140 to 185 / * / 1deg] IM 350F/350: 155 IM 430Fb/430F: 163
1-105-013	Fusing Temperature Adjustment	Print Ready	ENG*	[140 to 180 / * / 1deg] IM 350F/350: 165 IM 430Fb/430F: 173
1-105-014	Fusing Temperature Adjustment	Thresh:S1	ENG*	[0 to 50 / 19 / 1deg]
1-105-015	Fusing Temperature Adjustment	Thresh:delta t	ENG*	[0 to 50 / 0 / 1deg]
1-105-016	Fusing Temperature Adjustment	Low:Plain1	ENG*	[0 to 30 / 5 / 1deg]
1-105-017	Fusing Temperature Adjustment	Low:Plain2	ENG*	[0 to 30 / 5 / 1deg]
1-105-018	Fusing Temperature Adjustment	Low:M-Thick	ENG*	[0 to 30 / 5 / 1deg]
1-105-019	Fusing Temperature Adjustment	Low:Thick	ENG*	[0 to 30 / 5 / 1deg]
1-105-024	Fusing Temperature Adjustment	Paper Feed:Center Lower:Plain1	ENG*	[0 to 60 / 10 / 1deg]
1-105-026	Fusing Temperature Adjustment	Paper Feed:Center Lower:Plain2	ENG*	[0 to 60 / 10 / 1deg]
1-105-028	Fusing Temperature Adjustment	Paper Feed:Center Lower:M-Thick	ENG*	[0 to 60 / 10 / 1deg]
1-105-030	Fusing Temperature Adjustment	Paper Feed:Center Lower:Thick	ENG*	[0 to 60 / 10 / 1deg]
1-105-032	Fusing Temperature Adjustment	Paper Feed:Center Upper:Plain1	ENG*	[0 to 60 / 20 / 1deg]
1-105-034	Fusing Temperature Adjustment	Paper Feed:Center Upper:Plain2	ENG*	[0 to 60 / 20 / 1deg]
1-105-036	Fusing Temperature Adjustment	Paper Feed:Center Upper:M-Thick	ENG*	[0 to 60 / 20 / 1deg]
1-105-038	Fusing Temperature Adjustment	Paper Feed:Center Upper:Thick	ENG*	[0 to 60 / 20 / 1deg]
1-105-040	Fusing Temperature Adjustment	Envelope2:Roller Center	ENG*	[0 to 60 / * / 1deg] IM 350F/350: 38

SP1-XXX (Feed)

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
				IM 430Fb/430F: 35
1-105-042	Fusing Temperature Adjustment	Transparency:Roller Center	ENG*	[0 to 60 / 20 / 1deg]
1-105-044	Fusing Temperature Adjustment	Post Card:Roller Center	ENG*	[0 to 60 / * / 1deg] IM 350F/350: 38 IM 430Fb/430F: 35
1-105-046	Fusing Temperature Adjustment	Special Paper 1:Roller Center	ENG*	[0 to 60 / 20 / 1deg]
1-105-048	Fusing Temperature Adjustment	Special Paper 2:Roller Center	ENG*	[0 to 60 / 20 / 1deg]
1-105-051	Fusing Temperature Adjustment	Roller Center:Plain1_curl	ENG*	[0 to 255 / 146 / 1deg]
1-105-053	Fusing Temperature Adjustment	Roller Center:Plain2_curl	ENG*	[0 to 255 / 155 / 1deg]
1-105-055	Fusing Temperature Adjustment	Roller Center:M-Thick_curl	ENG*	[0 to 255 / 155 / 1deg]
1-105-057	Fusing Temperature Adjustment	Thick1 Paper:Roller Center_curl	ENG*	[0 to 60 / 11 / 1deg]
1-105-058	Fusing Temperature Adjustment	Thick2 Paper:Roller Center_curl	ENG*	[0 to 60 / 13 / 1deg]
1-105-059	Fusing Temperature Adjustment	Center Minus:Thin_curl	ENG*	[0 to 60 / 7 / 1deg]
1-105-060	Fusing Temperature Adjustment	Thick3 Paper: RollerCenter_curl	ENG*	[0 to 60 / 18 / 1deg]
1-105-067	Fusing Temperature Adjustment	Thick Paper1: Roller Side_curl	ENG*	[0 to 60 / 11 / 1deg]
1-105-068	Fusing Temperature Adjustment	Thick Paper2 :Roller Side_curl	ENG*	[0 to 60 / 13 / 1deg]
1-105-069	Fusing Temperature Adjustment	Side Minus :Thin_curl	ENG*	[0 to 60 / 7 / 1deg]
1-105-070	Fusing Temperature Adjustment	Thick Paper3 :Roller Side_curl	ENG*	[0 to 60 / 18 / 1deg]
1-105-072	Fusing Temperature Adjustment	Transparency:Roller Side_curl	ENG*	[0 to 60 / 18 / 1deg]
1-105-074	Fusing Temperature Adjustment	Post Card:Roller Side_curl	ENG*	[0 to 60 / 18 / 1deg]
1-105-076	Fusing Temperature	Special Paper 1:Roller	ENG*	[0 to 60 / 18 / 1deg]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
	Adjustment	Side_curl		
1-105-078	Fusing Temperature Adjustment	Special Paper 2:Roller Side_curl	ENG*	[0 to 60 / 18 / 1deg]
1-105-092	Fusing Temperature Adjustment	Transparency:Roller Center_curl	ENG*	[0 to 60 / 18 / 1deg]
1-105-094	Fusing Temperature Adjustment	Post Card:Roller Center_curl	ENG*	[0 to 60 / 18 / 1deg]
1-105-096	Fusing Temperature Adjustment	Special Paper 1:Roller Center_curl	ENG*	[0 to 60 / 18 / 1deg]
1-105-098	Fusing Temperature Adjustment	Special Paper 2:Roller Center_curl	ENG*	[0 to 60 / 18 / 1deg]
1-105-101	Fusing Temperature Adjustment	Roller Side:Plain1	ENG*	[120 to 230 / * / 1deg] IM 350F/350: 162 IM 430Fb/430F: 165
1-105-103	Fusing Temperature Adjustment	Roller Side:Plain2	ENG*	[120 to 230 / * / 1deg] IM 350F/350: 170 IM 430Fb/430F: 173
1-105-105	Fusing Temperature Adjustment	Roller Side:M-Thick	ENG*	[120 to 230 / * / 1deg] IM 350F/350: 175 IM 430Fb/430F: 181
1-105-107	Fusing Temperature Adjustment	Thick Paper1: Roller Side	ENG*	[0 to 60 / * / 1deg] IM 350F/350: 23 IM 430Fb/430F: 28
1-105-108	Fusing Temperature Adjustment	Thick Paper2 :Roller Side	ENG*	[0 to 60 / * / 1deg] IM 350F/350: 18 IM 430Fb/430F: 15
1-105-109	Fusing Temperature Adjustment	Side Minus :Thin	ENG*	[0 to 60 / 10 / 1deg]
1-105-110	Fusing Temperature Adjustment	Thick Paper3 :Roller Side	ENG*	[0 to 60 / * / 1deg] IM 350F/350: 23 IM 430Fb/430F: 20
1-105-111	Fusing Temperature Adjustment	Low Power	ENG*	[0 to 80 / 60 / 1deg]
1-105-112	Fusing Temperature Adjustment	Standby Temp: Side	ENG*	[140 to 158 / * / 1deg] IM 350F/350: 150 IM 430Fb/430F: 158
1-105-113	Fusing Temperature	Print Ready	ENG*	[140 to 158 / * / 1deg]

## SP1-XXX (Feed)

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
	Adjustment			IM 350F/350: 150 IM 430Fb/430F: 158
1-105-116	Fusing Temperature Adjustment	Low:Plain1	ENG*	[0 to 30 / 5 / 1deg]
1-105-117	Fusing Temperature Adjustment	Low:Plain2	ENG*	[0 to 30 / 5 / 1deg]
1-105-118	Fusing Temperature Adjustment	Low:M-Thick	ENG*	[0 to 30 / 5 / 1deg]
1-105-119	Fusing Temperature Adjustment	Low:Thick	ENG*	[0 to 30 / 5 / 1deg]
1-105-124	Fusing Temperature Adjustment	Paper Feed:Side Lower:Plain1	ENG*	[0 to 60 / 50 / 1deg]
1-105-126	Fusing Temperature Adjustment	Paper Feed:Side Lower:Plain2	ENG*	[0 to 60 / 55 / 1deg]
1-105-128	Fusing Temperature Adjustment	Paper Feed:Side Lower:M-Thick	ENG*	[0 to 60 / 40 / 1deg]
1-105-130	Fusing Temperature Adjustment	Paper Feed:Side Lower:Thick	ENG*	[0 to 60 / 40 / 1deg]
1-105-132	Fusing Temperature Adjustment	Paper Feed:Side Upper:Plain1	ENG*	[0 to 60 / 20 / 1deg]
1-105-134	Fusing Temperature Adjustment	Paper Feed:Side Upper:Plain2	ENG*	[0 to 60 / 20 / 1deg]
1-105-136	Fusing Temperature Adjustment	Paper Feed:Side Upper:M-Thick	ENG*	[0 to 60 / 20 / 1deg]
1-105-138	Fusing Temperature Adjustment	Paper Feed:Side Upper:Thick	ENG*	[0 to 60 / 20 / 1deg]
1-105-140	Fusing Temperature Adjustment	Envelope2:Roller Side	ENG*	[0 to 60 / * / 1deg] IM 350F/350: 43 IM 430Fb/430F: 40
1-105-142	Fusing Temperature Adjustment	Transparency:Roller Side	ENG*	[0 to 60 / 20 / 1deg]
1-105-144	Fusing Temperature Adjustment	Post Card:Roller Side	ENG*	[0 to 60 / * / 1deg] IM 350F/350: 38 IM 430Fb/430F: 35
1-105-146	Fusing Temperature Adjustment	Special Paper 1:Roller Side	ENG*	[0 to 60 / 20 / 1deg]
1-105-148	Fusing Temperature	Special Paper 2:Roller	ENG*	[0 to 60 / 20 / 1deg]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
	Adjustment	Side		
1-105-151	Fusing Temperature Adjustment	Roller Side:Plain1_low speed	ENG*	[120 to 230 / 160 / 1deg]
1-105-152	Fusing Temperature Adjustment	Roller Side:Plain1_curl	ENG*	[0 to 255 / 141 / 1deg]
1-105-153	Fusing Temperature Adjustment	Roller Side:Plain2_low speed	ENG*	[120 to 230 / 165 / 1deg]
1-105-154	Fusing Temperature Adjustment	Roller Side:Plain2_curl	ENG*	[0 to 255 / 150 / 1deg]
1-105-155	Fusing Temperature Adjustment	Roller Side:M-Thick_low speed	ENG*	[120 to 230 / 170 / 1deg]
1-105-156	Fusing Temperature Adjustment	Roller Side:M-Thick_curl	ENG*	[0 to 255 / 150 / 1deg]
1-105-157	Fusing Temperature Adjustment	Thick Paper1: Roller Side_low speed	ENG*	[0 to 60 / 15 / 1deg]
1-105-158	Fusing Temperature Adjustment	Thick Paper2 :Roller Side_low speed	ENG*	[0 to 60 / 20 / 1deg]
1-105-159	Fusing Temperature Adjustment	Side Minus :Thin_low speed	ENG*	[0 to 60 / 10 / 1deg]
1-105-160	Fusing Temperature Adjustment	Thick Paper3 :Roller Side_low speed	ENG*	[0 to 60 / 25 / 1deg]
1-105-162	Fusing Temperature Adjustment	Standby Temp: Side_low speed	ENG*	[140 to 185 / 145 / 1deg]
1-105-163	Fusing Temperature Adjustment	Print ready:Side_low speed	ENG*	[140 to 180 / 145 / 1deg]
1-105-174	Fusing Temperature Adjustment	Paper Feed:Center Lower:Plain1_curl	ENG*	[0 to 60 / 5 / 1deg]
1-105-176	Fusing Temperature Adjustment	Paper Feed:Center Lower:Plain2_curl	ENG*	[0 to 60 / 5 / 1deg]
1-105-178	Fusing Temperature Adjustment	Paper Feed:Center Lower:M-Thick_curl	ENG*	[0 to 60 / 5 / 1deg]
1-105-180	Fusing Temperature Adjustment	Paper Feed:Center Lower:Thick_curl	ENG*	[0 to 60 / 5 / 1deg]
1-105-190	Fusing Temperature Adjustment	Envelope:Roller Side_low speed	ENG*	[0 to 60 / 45 / 1deg]
1-105-192	Fusing Temperature Adjustment	Transparency:Roller Side_low speed	ENG*	[0 to 60 / 20 / 1deg]

## SP1-XXX (Feed)

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
1-105-194	Fusing Temperature Adjustment	Post Card:Roller Side_low speed	ENG*	[0 to 60 / 40 / 1deg]
1-105-196	Fusing Temperature Adjustment	Special Paper 1:Roller Side_low speed	ENG*	[0 to 60 / 20 / 1deg]
1-105-198	Fusing Temperature Adjustment	Special Paper 2:Roller Side_low speed	ENG*	[0 to 60 / 20 / 1deg]
1-105-201	Fusing Temperature Adjustment	Roller Center:Plain1_low speed	ENG*	[120 to 230 / 165 / 1deg]
1-105-203	Fusing Temperature Adjustment	Roller Center:Plain2_low speed	ENG*	[120 to 230 / 170 / 1deg]
1-105-205	Fusing Temperature Adjustment	Roller Center:M-Thick_low speed	ENG*	[120 to 230 / 175 / 1deg]
1-105-207	Fusing Temperature Adjustment	Thick1 Paper:Roller Center_low speed	ENG*	[0 to 60 / 15 / 1deg]
1-105-208	Fusing Temperature Adjustment	Thick2 Paper:Roller Center_low speed	ENG*	[0 to 60 / 20 / 1deg]
1-105-209	Fusing Temperature Adjustment	Center Minus:Thin_low speed	ENG*	[0 to 60 / 10 / 1deg]
1-105-210	Fusing Temperature Adjustment	Thick3 Paper: RollerCenter_low speed	ENG*	[0 to 60 / 25 / 1deg]
1-105-212	Fusing Temperature Adjustment	Standby Temp: Center_low speed	ENG*	[140 to 185 / 150 / 1deg]
1-105-213	Fusing Temperature Adjustment	Print Ready:Center_low speed	ENG*	[140 to 180 / 160 / 1deg]
1-105-224	Fusing Temperature Adjustment	Paper Feed:Side Lower:Plain1_curl	ENG*	[0 to 60 / 5 / 1deg]
1-105-226	Fusing Temperature Adjustment	Paper Feed:Side Lower:Plain2_curl	ENG*	[0 to 60 / 5 / 1deg]
1-105-228	Fusing Temperature Adjustment	Paper Feed:Side Lower:M-Thick_curl	ENG*	[0 to 60 / 5 / 1deg]
1-105-230	Fusing Temperature Adjustment	Paper Feed:Side Lower:Thick_curl	ENG*	[0 to 60 / 5 / 1deg]
1-105-240	Fusing Temperature Adjustment	Envelope:Roller Center_low speed	ENG*	[0 to 60 / 40 / 1deg]
1-105-242	Fusing Temperature Adjustment	Transparency:Roller Center_low speed	ENG*	[0 to 60 / 20 / 1deg]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
1-105-244	Fusing Temperature Adjustment	Post Card:Roller Center_low speed	ENG*	[0 to 60 / 40 / 1deg]
1-105-246	Fusing Temperature Adjustment	Special Paper 1:Roller Center_low speed	ENG*	[0 to 60 / 20 / 1deg]
1-105-248	Fusing Temperature Adjustment	Special Paper 2:Roller Center_low speed	ENG*	[0 to 60 / 20 / 1deg]
1-105-251	Fusing Temperature Adjustment	Envelope1 Temp Adjustment:Center	ENG*	[-30 to 0 / -1 / 1deg]
1-105-252	Fusing Temperature Adjustment	Envelope1 Temp Adjustment:Side	ENG*	[-30 to 0 / -1 / 1deg]
1-105-253	Fusing Temperature Adjustment	Envelope3 Temp Adjustment:Center	ENG*	[0 to 30 / 5 / 1deg]
1-105-254	Fusing Temperature Adjustment	Envelope3 Temp Adjustment:Side	ENG*	[0 to 30 / 5 / 1deg]
1-106-001	Fusing Temperature Display	Roller Center	ENG	[-20 to 250 / 0 / 1deg]
1-106-003	Fusing Temperature Display	In The Machine at Power On	ENG	[-20 to 250 / 0 / 1deg]
1-106-101	Fusing Temperature Display	Roller Center	ENG	[-20 to 250 / 0 / 1deg]
1-108-001	Control Period Setting	Warming-up	ENG*	[100 to 2000 / 600 / 100msec]
1-108-002	Control Period Setting	Print	ENG*	[100 to 2000 / 600 / 100msec]
1-108-003	Control Period Setting	Wait	ENG*	[100 to 2000 / 600 / 100msec]
1-108-004	Control Period Setting	Print Start	ENG*	[100 to 2000 / 600 / 100msec]
1-108-005	Control Period Setting	Print Start Time	ENG*	[0 to 999 / 5 / 1sec]
1-108-008	Control Period Setting	Environment Adjusted Temp	ENG*	[-20 to 60 / 23 / 0.1deg]
1-108-009	Control Period Setting	Environment Temp Adjust Amount	ENG*	[0 to 10 / 0 / 0.1deg]
1-111-001	CurlDecMode	Mode Display	ENG*	[0 to 1 / 0 / 1]
1-112-001	Image Process Temp. Correction	Temp.:Normal:Level1	ENG*	[-25 to 10 / 0 / 1deg]
1-112-002	Image Process Temp. Correction	Temp.:Normal:Level2	ENG*	[-25 to 10 / * / 1deg]

## SP1-XXX (Feed)

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
	Correction			IM 350F/350: -18 IM 430Fb/430F: -10
1-123-001	Fuser ExeSheets	Normal	ENG*	[0 to 255 / 50 / 1pages]
1-123-002	Fuser ExeSheets	ConsecutivePrint	ENG*	[0 to 500 / 500 / 1pages]
1-124-001	CPM Down Setting	Low:Down Temp	ENG*	[-50 to 0 / -25 / 1deg]
1-124-002	CPM Down Setting	Low:Up Temp	ENG*	[-50 to 0 / -5 / 1deg]
1-124-003	CPM Down Setting	Low:1st CPM	ENG*	[10 to 100 / 80 / 5%]
1-124-004	CPM Down Setting	Low:2nd CPM	ENG*	[10 to 100 / 60 / 5%]
1-124-005	CPM Down Setting	Low:3rd CPM	ENG*	[10 to 100 / 40 / 5%]
1-124-006	CPM Down Setting	High:1st CPM	ENG*	[10 to 100 / 65 / 5%]
1-124-007	CPM Down Setting	High:2nd CPM	ENG*	[10 to 100 / 50 / 5%]
1-124-008	CPM Down Setting	High:3rd CPM	ENG*	[10 to 100 / 50 / 5%]
1-124-009	CPM Down Setting	High:1st CPM Down Time.:LT	ENG*	[0 to 999 / 0 / 1sec]
1-124-010	CPM Down Setting	High:2nd CPM Down Time.:LT	ENG*	[0 to 999 / 0 / 1sec]
1-124-011	CPM Down Setting	High:3rd CPM Down Time.:LT	ENG*	[0 to 999 / 0 / 1sec]
1-124-012	CPM Down Setting	High:1st CPM Down Time.:A4	ENG*	[0 to 999 / 0 / 1sec]
1-124-013	CPM Down Setting	High:2nd CPM Down Time.:A4	ENG*	[0 to 999 / 0 / 1sec]
1-124-014	CPM Down Setting	High:3rd CPM Down Time.:A4	ENG*	[0 to 999 / 0 / 1sec]
1-124-015	CPM Down Setting	High:1st CPM Down Time.:B5	ENG*	[0 to 999 / 120 / 1sec]
1-124-016	CPM Down Setting	High:2nd CPM Down Time.:B5	ENG*	[0 to 999 / 0 / 1sec]
1-124-017	CPM Down Setting	High:3rd CPM Down Time.:B5	ENG*	[0 to 999 / 0 / 1sec]
1-124-018	CPM Down Setting	High:1st CPM Down Time.:A5	ENG*	[0 to 999 / 60 / 1sec]
1-124-019	CPM Down Setting	High:2nd CPM Down Time.:A5	ENG*	[0 to 999 / 1 / 1sec]
1-124-020	CPM Down Setting	High:3rd CPM Down	ENG*	[0 to 999 / 0 / 1sec]



SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
		Time.:A5		
1-124-021	CPM Down Setting	High:1st CPM Down Time.:A6	ENG*	[0 to 999 / 60 / 1sec]
1-124-022	CPM Down Setting	High:2nd CPM Down Time.:A6	ENG*	[0 to 999 / 1 / 1sec]
1-124-023	CPM Down Setting	High:3rd CPM Down Time.:A6	ENG*	[0 to 999 / 0 / 1sec]
1-124-024	CPM Down Setting	Judging Interval	ENG*	[1 to 999 / 10 / 1sec]
1-124-025	CPM Down Setting	Start Timing	ENG*	[1 to 999 / 10 / 1sec]
1-134-001	Voltage state	0:Low 1:Normal	ENG*	[0 to 1 / 1 / 1]
1-135-001	Inrush Control	Inrush Control	ENG*	[0 to 1 / 0 / 1]
1-136-001	Low Volt Control	Low Volt SC Count	ENG*	[0 to 999 / 0 / 1]
1-136-002	Low Volt Control	LowVoltPrintSW	ENG*	[0 to 1 / * / 1] NA/TWN: 0 EU/AA/CHN/KOR: 1 0: OFF, 1: ON
1-136-005	Low Volt Control	ON/OFF	ENG*	[0 to 1 / 1 / 1]
1-136-006	Low Volt Control	Resetting Flag	ENG*	[0 to 1 / 0 / 1]
1-136-007	Low Volt Control	Resetting Times	ENG*	[0 to 255 / 0 / 1Times]
1-151-118	Press Adjustment	Depressure Shift Time	ENG*	[0 to 255 / 10 / 1sec]
1-151-119	Press Adjustment	Depressure Standby condition's Pressing Time	ENG*	[0 to 255 / 0 / 1sec]
1-151-120	Press Adjustment	Depressure system: 0:exist 1:none	ENG*	[0 to 1 / 0 / 1]
1-151-121	Press Adjustment	Depressing& pressing Timer	ENG*	[10 to 255 / 170 / 1msec]
1-151-122	Press Adjustment	Pressure	ENG	[0 to 1 / 0 / 1]
1-151-123	Press Adjustment	Depressure	ENG	[0 to 1 / 0 / 1]
1-152-001	Fusing Nip Band Check	0:OFF、1:ON	ENG	[0 to 1 / 0 / 1]
1-159-001	Fusing Jam Detection	SC Display	ENG*	[0 to 1 / 0 / 1]
1-160-001	Allophone Control	Allophone Control	ENG*	[0 to 1 / 0 / 1]
1-801-001	MotorSpeedAdjust	DrumMot:ExtraHigh	ENG*	[-4 to 4 / 0 / 0.01%]
1-801-002	MotorSpeedAdjust	DrumMot:High	ENG*	[-4 to 4 / 0 / 0.01%]
1-801-003	MotorSpeedAdjust	DrumMot:Mid	ENG*	[-4 to 4 / 0 / 0.01%]
1-801-004	MotorSpeedAdjust	DrumMot:Low	ENG*	[-4 to 4 / 0 / 0.01%]

SP1-XXX (Feed)

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
1-801-006	MotorSpeedAdjust	FeedMot:ExtraHigh	ENG*	[-8 to 8 / 0 / 0.01%]
1-801-007	MotorSpeedAdjust	FeedMot:High	ENG*	[-8 to 8 / 0 / 0.01%]
1-801-008	MotorSpeedAdjust	FeedMot:Mid	ENG*	[-8 to 8 / 0 / 0.01%]
1-801-009	MotorSpeedAdjust	FeedMot:Low	ENG*	[-8 to 8 / 0 / 0.01%]
1-907-005	Paper Timing Adj	Reverse Stop Posi	ENG*	[-10 to 10 / 0 / 1mm]
1-907-015	Paper Timing Adj	Re-Feed Stop Posi	ENG*	[-10 to 10 / 0 / 1mm]
1-908-015	Paper Timing Adj	Junc Gate SOL:ON	ENG*	[-10 to 10 / 0 / 1mm]
1-908-017	Paper Timing Adj	Junc Gate SOL:OFF	ENG*	[-10 to 10 / 0 / 1mm]
1-908-018	Paper Timing Adj	Bypass Feed CL OFF	ENG*	[-50 to 900 / 0 / 1mm]
1-909-001	FeedRetryCount	Manual Feed Tray	ENG*	[0 to 2 / 1 / 1]
1-909-002	FeedRetryCount	Tray1	ENG*	[0 to 2 / 1 / 1]
1-909-003	FeedRetryCount	Tray2	ENG*	[0 to 2 / 1 / 1]
1-909-004	FeedRetryCount	Tray3	ENG*	[0 to 2 / 1 / 1]
1-909-005	FeedRetryCount	Tray4	ENG*	[0 to 2 / 1 / 1]
1-910-001	FeedRetryCountLog	Manual Feed Tray	ENG*	[0 to 65535 / 0 / 1]
1-910-002	FeedRetryCountLog	Tray1	ENG*	[0 to 65535 / 0 / 1]
1-910-003	FeedRetryCountlog	Tray2	ENG*	[0 to 65535 / 0 / 1]
1-910-004	FeedRetryCountlog	Tray3	ENG*	[0 to 65535 / 0 / 1]
1-910-005	FeedRetryCountlog	Tray4	ENG*	[0 to 65535 / 0 / 1]
1-911-001	FeedDelayDivLog	DivA_MF_All_Nor	ENG*	[0 to 65535 / 0 / 1count]
1-911-002	FeedDelayDivLog	DivA_MF_All_Thick	ENG*	[0 to 65535 / 0 / 1count]
1-911-003	FeedDelayDivLog	DivB_MF_All_Nor	ENG*	[0 to 1000000 / 0 / 1count]
1-911-004	FeedDelayDivLog	DivB_MF_All_Thick	ENG*	[0 to 1000000 / 0 / 1count]
1-911-005	FeedDelayDivLog	DivC_MF_All_Nor	ENG*	[0 to 65535 / 0 / 1count]
1-911-006	FeedDelayDivLog	DivC_MF_All_Thick	ENG*	[0 to 65535 / 0 / 1count]
1-911-007	FeedDelayDivLog	DivD_MF_All_Nor	ENG*	[0 to 65535 / 0 / 1count]
1-911-008	FeedDelayDivLog	DivD_MF_All_Thick	ENG*	[0 to 65535 / 0 / 1count]
1-911-009	FeedDelayDivLog	DivA_T1_1_Nor	ENG*	[0 to 65535 / 0 /

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
				1count]
1-911-010	FeedDelayDivLog	DivA_T1_1_Thick	ENG*	[0 to 65535 / 0 / 1count]
1-911-011	FeedDelayDivLog	DivA_T1_2_Nor	ENG*	[0 to 65535 / 0 / 1count]
1-911-012	FeedDelayDivLog	DivA_T1_2_Thick	ENG*	[0 to 65535 / 0 / 1count]
1-911-013	FeedDelayDivLog	DivB_T1_1_Nor	ENG*	[0 to 1000000 / 0 / 1count]
1-911-014	FeedDelayDivLog	DivB_T1_1_Thick	ENG*	[0 to 1000000 / 0 / 1count]
1-911-015	FeedDelayDivLog	DivB_T1_2_Nor	ENG*	[0 to 1000000 / 0 / 1count]
1-911-016	FeedDelayDivLog	DivB_T1_2_Thick	ENG*	[0 to 1000000 / 0 / 1count]
1-911-017	FeedDelayDivLog	DivC_T1_1_Nor	ENG*	[0 to 65535 / 0 / 1count]
1-911-018	FeedDelayDivLog	DivC_T1_1_Thick	ENG*	[0 to 65535 / 0 / 1count]
1-911-019	FeedDelayDivLog	DivC_T1_2_Nor	ENG*	[0 to 65535 / 0 / 1count]
1-911-020	FeedDelayDivLog	DivC_T1_2_Thick	ENG*	[0 to 65535 / 0 / 1count]
1-911-021	FeedDelayDivLog	DivD_T1_1_Nor	ENG*	[0 to 65535 / 0 / 1count]
1-911-022	FeedDelayDivLog	DivD_T1_1_Thick	ENG*	[0 to 65535 / 0 / 1count]
1-911-023	FeedDelayDivLog	DivD_T1_2_Nor	ENG*	[0 to 65535 / 0 / 1count]
1-911-024	FeedDelayDivLog	DivD_T1_2_Thick	ENG*	[0 to 65535 / 0 / 1count]
1-911-025	FeedDelayDivLog	DivA_T2_1_Nor	ENG*	[0 to 65535 / 0 / 1count]
1-911-026	FeedDelayDivLog	DivA_T2_1_Thick	ENG*	[0 to 65535 / 0 / 1count]
1-911-027	FeedDelayDivLog	DivA_T2_2_Nor	ENG*	[0 to 65535 / 0 / 1count]

## SP1-XXX (Feed)

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
1-911-028	FeedDelayDivLog	DivA_T2_2_Thick	ENG*	[0 to 65535 / 0 / 1count]
1-911-029	FeedDelayDivLog	DivB_T2_1_Nor	ENG*	[0 to 1000000 / 0 / 1count]
1-911-030	FeedDelayDivLog	DivB_T2_1_Thick	ENG*	[0 to 1000000 / 0 / 1count]
1-911-031	FeedDelayDivLog	DivB_T2_2_Nor	ENG*	[0 to 1000000 / 0 / 1count]
1-911-032	FeedDelayDivLog	DivB_T2_2_Thick	ENG*	[0 to 1000000 / 0 / 1count]
1-911-033	FeedDelayDivLog	DivC_T2_1_Nor	ENG*	[0 to 65535 / 0 / 1count]
1-911-034	FeedDelayDivLog	DivC_T2_1_Thick	ENG*	[0 to 65535 / 0 / 1count]
1-911-035	FeedDelayDivLog	DivC_T2_2_Nor	ENG*	[0 to 65535 / 0 / 1count]
1-911-036	FeedDelayDivLog	DivC_T2_2_Thick	ENG*	[0 to 65535 / 0 / 1count]
1-911-037	FeedDelayDivLog	DivD_T2_1_Nor	ENG*	[0 to 65535 / 0 / 1count]
1-911-038	FeedDelayDivLog	DivD_T2_1_Thick	ENG*	[0 to 65535 / 0 / 1count]
1-911-039	FeedDelayDivLog	DivD_T2_2_Nor	ENG*	[0 to 65535 / 0 / 1count]
1-911-040	FeedDelayDivLog	DivD_T2_2_Thick	ENG*	[0 to 65535 / 0 / 1count]
1-912-001	Power Limit Mode	Mode 0 OFF 1 ON	ENG*	[0 to 0 / 0 / 1]
1-979-001	Power Control	Power Control	ENG*	[0 to 1 / 0 / 1]
1-990-001	SC990 plt detail		ENG*	[0 to 4294967295 / 0 / 1]
1-991-001	Max Fusing Lamp Duty	Roller Center	ENG*	[40 to 100 / 100 / 10%]
1-991-003	Max Fusing Lamp Duty	After Warming-up - Center	ENG*	[40 to 100 / 100 / 10%]
1-996-005	Heater Forced Off	After Printing	ENG*	[0 to 50 / 10 / 1sec]
1-998-001	Reserve SP	reserve01	ENG*	[0 to 255 / 0 / 1]
1-998-002	Reserve SP	reserve02	ENG*	[0 to 255 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
1-998-003	Reserve SP	reserve03	ENG*	[0 to 255 / 0 / 1]
1-998-004	Reserve SP	reserve04	ENG*	[0 to 255 / 0 / 1]
1-998-005	Reserve SP	reserve05	ENG*	[0 to 255 / 0 / 1]
1-998-006	Reserve SP	reserve06	ENG*	[0 to 255 / 0 / 1]
1-998-007	Reserve SP	reserve07	ENG*	[0 to 255 / 0 / 1]
1-998-008	Reserve SP	reserve08	ENG*	[0 to 255 / 0 / 1]
1-998-009	Reserve SP	reserve09	ENG*	[0 to 255 / 0 / 1]
1-998-010	Reserve SP	reserve10	ENG*	[0 to 255 / 0 / 1]
1-998-011	Reserve SP	reserve11	ENG*	[0 to 65535 / 0 / 1]
1-998-012	Reserve SP	reserve12	ENG*	[0 to 65535 / 0 / 1]
1-998-013	Reserve SP	reserve13	ENG*	[0 to 65535 / 0 / 1]
1-998-014	Reserve SP	reserve14	ENG*	[0 to 65535 / 0 / 1]
1-998-015	Reserve SP	reserve15	ENG*	[0 to 65535 / 0 / 1]
1-998-016	Reserve SP	reserve16	ENG*	[0 to 65535 / 0 / 1]
1-998-017	Reserve SP	reserve17	ENG*	[0 to 65535 / 0 / 1]
1-998-018	Reserve SP	reserve18	ENG*	[0 to 65535 / 0 / 1]
1-998-019	Reserve SP	reserve19	ENG*	[0 to 65535 / 0 / 1]
1-998-020	Reserve SP	reserve20	ENG*	[0 to 65535 / 0 / 1]

## 4.2 SP2-XXX (DRUM)

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
2-102-002	Magnification Adj	Sub Normal	ENG*	[-1.8 to 1.8 / 0 / 0.1%]
2-102-004	Magnification Adj	Sub Low	ENG*	[-1.8 to 1.8 / 0 / 0.1%]
2-103-001	Erase Margin Adj	Lead Edge Width	ENG*	[0 to 9.9 / 3 / 0.1mm]
2-103-002	Erase Margin Adj	Trail Edge Width	ENG*	[0 to 9.9 / 2 / 0.1mm]
2-103-003	Erase Margin Adj	Left Edge Width	ENG*	[0 to 9.9 / 2 / 0.1mm]
2-103-004	Erase Margin Adj	Right Edge Width	ENG*	[0 to 9.9 / 2 / 0.1mm]
2-103-005	Erase Margin Adj	Duplex Lead EW	ENG*	[0 to 4 / 0 / 0.1mm]
2-103-006	Erase Margin Adj	Duplex Trail EW	ENG*	[0 to 4 / 0 / 0.1mm]
2-103-007	Erase Margin Adj	Duplex Left EW	ENG*	[0 to 4 / 0 / 0.1mm]
2-103-008	Erase Margin Adj	Duplex Right EW	ENG*	[0 to 4 / 0 / 0.1mm]
2-106-021	LEDA Emit Time	Print	ENG*	[0 to 7000 / 0 / 1ns]
2-109-001	Test Printing	Pattern Selection	ENG	[0 to 15 / 0 / 1] 0: None 1: Vert. (1dot) 2: Hori. (1dot) 3: Vert. (2dot) 4: Hori. (2dot) 5: Grid Vert. 6: Grid Hori. 7: Grid 20mm 8: Arg. Grid 9: Arg.Grid20mm 10: Indep.(1dot) 11: Indep.(2dot) 12: Indep.(4dot) 13: Full 14: Band 15: Trim Area
2-109-002	Test Printing	1 Sheet Printing	ENG	[0 to 0 / 0 / 0]
2-109-003	Test Printing	Continue Printing	ENG	[0 to 0 / 0 / 0]
2-109-004	Test Printing	Print Side Select	ENG	[0 to 1 / 0 / 1] 0: One Side 1: Both Sides
2-212-001	ExeSheets	Normal	ENG*	[1 to 500 / 500 / 1page]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
2-212-002	ExeSheets	ConsecutivePrint	ENG*	[40 to 500 / 500 / 1page]
2-221-005	LEDA Data:Display	Serial Number	ENG*	[0 to 0 / 0 / 0]
2-221-009	LEDA Data:Display	Power Error	ENG*	[0 to 1 / 0 / 1]
2-241-004	Temp: Display	Temp Display	ENG	[-20 to 99.9 / 0 / 0.1deg]
2-243-001	Temp/Humid:Disp	Temperature	ENG	[-5 to 45 / 0 / 0.1deg]
2-243-002	Temp/Humid:Disp	Relative Humidity	ENG	[0 to 100 / 0 / 1%RH]
2-243-003	Temp/Humid:Disp	Absolute Humidity	ENG	[0 to 100 / 0 / 1g/m <sup>3</sup> ]
2-412-001	Flag T&H Sensor	0:No Flag/1:Flag	ENG*	[0 to 1 / 0 / 1]
2-413-001	Flag PSU Thermistor	0:No Flag/1:Flag	ENG*	[0 to 1 / 0 / 1]
2-926-003	Recovery Supply	Recovery Count	ENG*	[0 to 10000 / 0 / 1count]
2-926-004	Recovery Supply	Self-Recovery	ENG	[0 to 1 / 0 / 1]
2-927-005	Initial Supply	Exchange Count	ENG*	[0 to 1000 / 0 / 1count]
2-932-001	NearEnd Detect	ON OFF	ENG*	[0 to 1 / 1 / 1]
2-961-001	CleaningOperation	Level 1	ENG	[0 to 1 / 0 / 1]
2-961-002	CleaningOperation	Level 2	ENG	[0 to 1 / 0 / 1]
2-970-002	Exchange Count	Count PCDU	ENG*	[0 to 1000 / 0 / 1count]
2-970-003	Exchange Count	Count Fuser	ENG*	[0 to 1000 / 0 / 1count]
2-990-002	Duty Control	Lower	ENG*	[2000 to 60000 / 8100 / 1count]
2-990-003	Duty Control	Upper	ENG*	[2000 to 60000 / 9000 / 1count]

### 4.3 SP3-XXX (PROCESS)

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
3-098-001	Days Before End	Toner	ENG*	[0 to 2 / 1 / 1]
3-920-001	Density Adjust	Notch Setting	ENG*	[-6 to 3 / 0 / 1]
3-920-002	Density Adjust	Mode select	ENG*	[0 to 1 / 0 / 1]



## 4.4 SP4-XXX (SCANNER)

There are no Group 4 SP modes for this machine.

## 4.5 SP5-XXX (MODE) - ENGINE

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
5-801-002	Memory Clear	Engine	ENG	[0 to 1 / 0 / 1]
5-803-001	INPUT Check	PCB Ver	ENG	[0 to 7 / 0 / 1]
5-803-002	INPUT Check	Front Interlock	ENG	[0 to 1 / 0 / 1]
5-803-003	INPUT Check	Rear Interlock	ENG	[0 to 1 / 0 / 1]
5-803-004	INPUT Check	Registration	ENG	[0 to 1 / 0 / 1]
5-803-005	INPUT Check	Paper Size	ENG	[0 to 7 / 0 / 1]
5-803-006	INPUT Check	Duplex Entrance	ENG	[0 to 1 / 0 / 1]
5-803-007	INPUT Check	Paper Exit Rev	ENG	[0 to 1 / 0 / 1]
5-803-008	INPUT Check	Paper Exit Full	ENG	[0 to 1 / 0 / 1]
5-803-009	INPUT Check	Paper End	ENG	[0 to 1 / 0 / 1]
5-803-010	INPUT Check	Bypass:Paper End	ENG	[0 to 1 / 0 / 1]
5-803-011	INPUT Check	Bypass:Tray	ENG	[0 to 1 / 0 / 1]
5-803-012	INPUT Check	Fusing Unit Set	ENG	[0 to 1 / 0 / 1]
5-803-013	INPUT Check	Fusing Unit New	ENG	[0 to 1 / 0 / 1]
5-803-014	INPUT Check	FusNipPress Pos	ENG	[0 to 1 / 0 / 1]
5-803-015	INPUT Check	Feed Mt Lock	ENG	[0 to 1 / 0 / 1]
5-803-016	INPUT Check	Drum Mt Lock	ENG	[0 to 1 / 0 / 1]
5-803-017	INPUT Check	PCDUFan:R Lock	ENG	[0 to 1 / 0 / 1]
5-803-018	INPUT Check	PCDUFan:L Lock	ENG	[0 to 1 / 0 / 1]
5-803-019	INPUT Check	PSU Fan Lock	ENG	[0 to 1 / 0 / 1]
5-803-020	INPUT Check	FusingTempDetect	ENG	[0 to 1 / 0 / 1]
5-803-021	INPUT Check	HVP:SC_T	ENG	[0 to 1 / 0 / 1]
5-803-022	INPUT Check	HVP:SC_C	ENG	[0 to 1 / 0 / 1]
5-803-026	INPUT Check	Rear Cover Open	ENG	[0 to 1 / 0 / 1]
5-803-027	INPUT Check	Paper Nearend	ENG	[0 to 1 / 0 / 1]
5-803-083	Input Check	Bank1:500/250/No	ENG	[0 to 2 / 2 / 1]
5-803-084	Input Check	Bank2:500/250/No	ENG	[0 to 2 / 2 / 1]
5-803-085	Input Check	Bank3:500/250/No	ENG	[0 to 2 / 2 / 1]
5-803-087	Input Check	Bank1 Trans SN	ENG	[0 to 1 / 0 / 1]
5-803-088	Input Check	Bank2 Trans SN	ENG	[0 to 1 / 0 / 1]
5-803-089	Input Check	Bank3 Trans SN	ENG	[0 to 1 / 0 / 1]
5-804-001	OUTPUT Check	FusPressReIMt:CW	ENG	[0 to 1 / 0 / 1]
5-804-002	OUTPUT Check	FusPressReIMt:CCW	ENG	[0 to 1 / 0 / 1]
5-804-003	OUTPUT Check	DrumMt:CW:ExHi	ENG	[0 to 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
5-804-004	OUTPUT Check	DrumMt: CW:Hi	ENG	[0 to 1 / 0 / 1]
5-804-005	OUTPUT Check	DrumMt: CW:Mid	ENG	[0 to 1 / 0 / 1]
5-804-006	OUTPUT Check	DrumMt: CW:Low	ENG	[0 to 1 / 0 / 1]
5-804-007	OUTPUT Check	DrumMt: CW:ExLow	ENG	[0 to 1 / 0 / 1]
5-804-008	OUTPUT Check	DrumMt: CCW:ExHi	ENG	[0 to 1 / 0 / 1]
5-804-009	OUTPUT Check	DrumMt: CCW:Hi	ENG	[0 to 1 / 0 / 1]
5-804-010	OUTPUT Check	DrumMt: CCW:Mid	ENG	[0 to 1 / 0 / 1]
5-804-011	OUTPUT Check	DrumMt: CCW:Low	ENG	[0 to 1 / 0 / 1]
5-804-012	OUTPUT Check	DrumMt: CCW:ExLow	ENG	[0 to 1 / 0 / 1]
5-804-013	OUTPUT Check	FeedMt: CW:ExHi	ENG	[0 to 1 / 0 / 1]
5-804-014	OUTPUT Check	FeedMt: CW:Hi	ENG	[0 to 1 / 0 / 1]
5-804-015	OUTPUT Check	FeedMt: CW:Mid	ENG	[0 to 1 / 0 / 1]
5-804-016	OUTPUT Check	FeedMt: CW:Low	ENG	[0 to 1 / 0 / 1]
5-804-017	OUTPUT Check	FeedMt: CW:ExLow	ENG	[0 to 1 / 0 / 1]
5-804-018	OUTPUT Check	FeedMt: CCW:ExHi	ENG	[0 to 1 / 0 / 1]
5-804-019	OUTPUT Check	FeedMt: CCW:Hi	ENG	[0 to 1 / 0 / 1]
5-804-020	OUTPUT Check	FeedMt: CCW:Mid	ENG	[0 to 1 / 0 / 1]
5-804-021	OUTPUT Check	FeedMt: CCW:Low	ENG	[0 to 1 / 0 / 1]
5-804-022	OUTPUT Check	FeedMt: CCW:ExLow	ENG	[0 to 1 / 0 / 1]
5-804-023	OUTPUT Check	ExtRevMt: CW:ExHi	ENG	[0 to 1 / 0 / 1]
5-804-024	OUTPUT Check	ExtRevMt: CW:Hi	ENG	[0 to 1 / 0 / 1]
5-804-025	OUTPUT Check	ExtRevMt: CW:Mid	ENG	[0 to 1 / 0 / 1]
5-804-026	OUTPUT Check	ExtRevMt: CW:Low	ENG	[0 to 1 / 0 / 1]
5-804-027	OUTPUT Check	ExtRevMt: CW:ExLow	ENG	[0 to 1 / 0 / 1]
5-804-028	OUTPUT Check	ExtRevMt: CCW:ExHi	ENG	[0 to 1 / 0 / 1]
5-804-029	OUTPUT Check	ExtRevMt: CCW:Hi	ENG	[0 to 1 / 0 / 1]
5-804-030	OUTPUT Check	ExtRevMt: CCW:Mid	ENG	[0 to 1 / 0 / 1]
5-804-031	OUTPUT Check	ExtRevMt: CCW:Low	ENG	[0 to 1 / 0 / 1]
5-804-032	OUTPUT Check	ExtRevMt: CCW:ExLow	ENG	[0 to 1 / 0 / 1]
5-804-033	OUTPUT Check	PCDUFan: Left:High	ENG	[0 to 1 / 0 / 1]
5-804-034	OUTPUT Check	PCDUFan: Left:Low	ENG	[0 to 1 / 0 / 1]
5-804-035	OUTPUT Check	PSU Fan: High	ENG	[0 to 1 / 0 / 1]
5-804-036	OUTPUT Check	PSU Fan: Low	ENG	[0 to 1 / 0 / 1]
5-804-037	OUTPUT Check	HVP: Development	ENG	[0 to 1 / 0 / 1]
5-804-038	OUTPUT Check	HVP: Charge	ENG	[0 to 1 / 0 / 1]
5-804-040	OUTPUT Check	HVP: Transfer:-	ENG	[0 to 1 / 0 / 1]
5-804-041	OUTPUT Check	HVP: Supply	ENG	[0 to 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
5-804-042	OUTPUT Check	Drum QL	ENG	[0 to 1 / 0 / 1]
5-804-044	OUTPUT Check	Exit Junc SOL	ENG	[0 to 1 / 0 / 1]
5-804-045	OUTPUT Check	PCDU Fan:Light	ENG	[0 to 1 / 0 / 1]
5-804-046	OUTPUT Check	Duplex CL	ENG	[0 to 1 / 0 / 1]
5-804-048	OUTPUT Check	Bypass:Feed CL	ENG	[0 to 1 / 0 / 1]
5-804-049	OUTPUT Check	Registration CL	ENG	[0 to 1 / 0 / 1]
5-804-050	OUTPUT Check	Feed Connect CL	ENG	[0 to 1 / 0 / 1]
5-804-051	OUTPUT Check	Bypass:Tray CL	ENG	[0 to 1 / 0 / 1]
5-804-052	OUTPUT Check	Paper Feed CL	ENG	[0 to 1 / 0 / 1]
5-804-053	OUTPUT Check	Toner End Sensor	ENG	[0 to 1 / 0 / 1]
5-804-054	OUTPUT Check	Toner IDTAG Power	ENG	[0 to 1 / 0 / 1]
5-804-162	Output Check	Bank1 BLM:MAX	ENG	[0 to 1 / 0 / 1]
5-804-163	Output Check	Bank1 BLM:High	ENG	[0 to 1 / 0 / 1]
5-804-164	Output Check	Bank1 BLM:Mid	ENG	[0 to 1 / 0 / 1]
5-804-165	Output Check	Bank1 BLM:Low	ENG	[0 to 1 / 0 / 1]
5-804-166	Output Check	Bank1 BLM:MIN	ENG	[0 to 1 / 0 / 1]
5-804-167	Output Check	Bank1 BLM:MAX	ENG	[0 to 1 / 0 / 1]
5-804-168	Output Check	Bank2 BLM:High	ENG	[0 to 1 / 0 / 1]
5-804-169	Output Check	Bank2 BLM:Mid	ENG	[0 to 1 / 0 / 1]
5-804-170	Output Check	Bank2 BLM:Low	ENG	[0 to 1 / 0 / 1]
5-804-171	Output Check	Bank1 BLM:MIN	ENG	[0 to 1 / 0 / 1]
5-804-172	Output Check	Bank1 BLM:MAX	ENG	[0 to 1 / 0 / 1]
5-804-173	Output Check	Bank3 BLM:High	ENG	[0 to 1 / 0 / 1]
5-804-174	Output Check	Bank3 BLM:Mid	ENG	[0 to 1 / 0 / 1]
5-804-175	Output Check	Bank3 BLM:Low	ENG	[0 to 1 / 0 / 1]
5-804-176	Output Check	Bank1 BLM:MIN	ENG	[0 to 1 / 0 / 1]
5-804-177	Output Check	Bank1 Feed CL	ENG	[0 to 1 / 0 / 1]
5-804-178	Output Check	Bank2 Feed CL	ENG	[0 to 1 / 0 / 1]
5-804-179	Output Check	Bank3 Feed CL	ENG	[0 to 1 / 0 / 1]
5-810-001	SC Reset	Fusing SC Reset	ENG	[0 to 1 / 0 / 1]
5-811-002	Machine Serial	Display	ENG*	[0 to 255 / 0 / 1]
5-811-004	Machine Serial	Set EGB	ENG	[0 to 255 / 0 / 1]
5-811-021	Machine Serial	Update Latest	ENG*	[0 to 1 / 0 / 1]
5-811-022	Machine Serial	Update Previous	ENG*	[0 to 1 / 0 / 1]
5-811-023	Machine Serial	Previous	ENG*	[0 to 255 / 0 / 1]
5-811-024	Machine Serial	Update Latest EGB	ENG*	[0 to 1 / 0 / 1]
5-811-025	Machine Serial	Update Pre EGB	ENG*	[0 to 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
5-811-026	Machine Serial	Previous EGB	ENG*	[0 to 255 / 0 / 1]
5-900-001	Engine Log Upload	Pattern	ENG*	[0 to 4 / 0 / 1]
5-900-002	Engine Log Upload	Trigger	ENG*	[0 to 3 / 0 / 1]
5-930-001	MeterClick Charge	Setting	ENG*	[0 to 1 / 0 / 1] 0:No 1:Yes
5-931-001	Life Alert Disp.	Maintenance Kit	ENG*	[0 to 1 / 1 / 1] 0:No 1:Yes
5-931-002	Life Alert Disp.	PCDU	ENG*	[0 to 1 / 1 / 1] 0:No 1:Yes
5-931-003	Life Alert Disp.	PCDU STOP	ENG*	[0 to 1 / 0 / 1] 0:No 1:Yes

## 4.6 SP5-XXX (MODE) - CONTROLLER

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
5-001-001	All Indicators On		CTL	[0 to 0 / 0 / 0]
5-024-001	mm/inch Display Selection	0:mm 1:inch	CTL*	[0 or 1 / * / 1] NA: 1 EU, AA, CHN, TWN, KOR: 0
5-051-001	TonerRefillDetectionDisplay		CTL*	[0 or 1 / 0 / 1]
5-055-001	Display IP address		CTL*	[0 or 1 / 0 / 1]
5-083-001	LED Light Switch Setting	Toner Near End	CTL*	[0 or 1 / 0 / 1]
5-144-001	Tray Lock	Bypass	CTL*	[0 or 1 / 0 / 1]
5-144-002	Tray Lock	Tray 1	CTL*	[0 or 1 / 0 / 1]
5-144-003	Tray Lock	Tray 2	CTL*	[0 or 1 / 0 / 1]
5-144-004	Tray Lock	Tray 3	CTL*	[0 or 1 / 0 / 1]
5-144-005	Tray Lock	Tray 4	CTL*	[0 or 1 / 0 / 1]
5-169-001	CE Login		CTL*	[0 or 1 / 0 / 1]
5-191-002	Mode Set	Power Low Clock Mode	CTL*	[0 or 1 / 1 / 1]
5-195-001	Limitless SW		CTL*	[0 or 1 / 0 / 1]
5-302-002	Set Time	Time Difference	CTL*	[-1440 to 1440 / * / 1] NA: -300, EU: 60, AA, CHN, TWN:480
5-305-101	Auto Off Set	Auto Off Limit Set	CTL*	[0 or 1 / 0 / 1]
5-307-001	Daylight Saving Time	Setting	CTL*	[0 or 1 / * / 1] NA, EU: 1 AA, CHN, TWN, KOR: 0
5-307-003	Daylight Saving Time	Rule Set(Start)	CTL*	[0 to 0xffffffff / * / 1] NA: 0x03200210 EU: 0x03500010 AA: 0x10500010 CHN, TWN: 0
5-307-004	Daylight Saving Time	Rule Set(End)	CTL*	[0 to 0xffffffff / 0 /

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
				1] NA: 0x11100200 EU: 0x10500100 AA: 0x03100000 CHN, TWN: 0
5-401-104	Access Control	Authentication Time	CTL *	[0 to 255 / 0 / 1sec]
5-401-162	Access Control	Extend Certification Detail	CTL *	[0 to 0xff / 0 / 1]
5-401-200	Access Control	SDK1 UniqueID	CTL *	[0 to 0xFFFFFFFF / 0 / 1]
5-401-201	Access Control	SDK1 Certification Method	CTL *	[0 to 0xFF / 0 / 1]
5-401-210	Access Control	SDK2 UniqueID	CTL *	[0 to 0xFFFFFFFF / 0 / 1]
5-401-211	Access Control	SDK2 Certification Method	CTL *	[0 to 0xFF / 0 / 1]
5-401-220	Access Control	SDK3 UniqueID	CTL *	[0 to 0xFFFFFFFF / 0 / 1]
5-401-221	Access Control	SDK3 Certification Method	CTL *	[0 to 0xFF / 0 / 1]
5-401-230	Access Control	SDK Certification Device	CTL *	[0 to 0xff / 0 / 1]
5-401-240	Access Control	Detail Option	CTL *	[0 to 0xff / 0 / 1]
5-404-001	User Code Count Clear	User Code Count Clear	CTL	[0 to 0 / 0 / 0]
5-404-101	User Code Count Clear	User Code Count Clear Permit Setting	CTL *	[0 or 1 / 0 / 1]
5-411-004	LDAP-Certification	Simplified Authentication	CTL *	[0 or 1 / 1 / 1]
5-411-005	LDAP-Certification	Password Null Not Permit	CTL *	[0 or 1 / 1 / 1]
5-411-006	LDAP-Certification	Detail Option	CTL *	[0 to 0xff / 0 / 1]
5-412-100	Krb-Certification	Encrypt Mode	CTL *	[0 to 0xFF / 0x1F / 1]
5-413-001	Lockout Setting	Lockout On/Off	CTL *	[0 or 1 / 0 / 1]
5-413-002	Lockout Setting	Lockout Threshold	CTL *	[1 to 10 / 5 / 1]
5-413-003	Lockout Setting	Cancelation On/Off	CTL *	[0 or 1 / 0 / 1]
5-413-004	Lockout Setting	Cancelation Time	CTL *	[1 to 9999 / 60 / 1min]
5-414-001	Access Mitigation	Mitigation On/Off	CTL *	[0 or 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
5-414-002	Access Mitigation	Mitigation Time	CTL *	[0 to 60 / 15 / 1min]
5-415-001	Password Attack	Permissible Number	CTL *	[0 to 100 / 30 / 1]
5-415-002	Password Attack	Detect Time	CTL *	[1 to 10 / 5 / 1]
5-416-001	Access Information	Access User Max Num	CTL *	[50 to 200 / 200 / 1]
5-416-002	Access Information	Access Password Max Num	CTL *	[50 to 200 / 200 / 1]
5-416-003	Access Information	Monitor Interval	CTL *	[1 to 10 / 3 / 1]
5-417-001	Access Attack	Access Permissible Number	CTL *	[0 to 500 / 100 / 1]
5-417-002	Access Attack	Attack Detect Time	CTL *	[10 to 30 / 10 / 1sec]
5-417-003	Access Attack	Productivity Fall Waite	CTL *	[0 to 9 / 3 / 1sec]
5-417-004	Access Attack	Attack Max Num	CTL *	[50 to 200 / 200 / 1]
5-420-041	User Authentication	Printer	CTL *	[0 or 1 / 0 / 1]
5-420-051	User Authentication	SDK1	CTL *	[0 or 1 / 0 / 1]
5-420-061	User Authentication	SDK2	CTL *	[0 or 1 / 0 / 1]
5-420-071	User Authentication	SDK3	CTL *	[0 or 1 / 0 / 1]
5-481-001	Authentication Error Code	System Log Disp	CTL *	[0 or 1 / 0 / 1]
5-501-001	PM Alarm	PM Alarm Level	CTL *	[0 to 9999 / 0 / 1]
5-504-001	Jam Alarm		CTL *	[0 to 3 / 3 / 1]
5-504-002	Jam Alarm	Threshold	CTL *	[1 to 99 / 10 / 1]
5-505-001	Error Alarm		CTL *	[0 to 255 / * / 1] 35 ppm model: 10 43 ppm model: 15
5-505-002	Error Alarm	Threshold	CTL *	[1 to 99 / 5 / 1]
5-507-001	Supply/CC Alarm	Paper Supply Alarm	CTL *	[0 or 1 / 0 / 1]
5-507-003	Supply/CC Alarm	Toner Supply Alarm	CTL *	[0 or 1 / 1 / 1]
5-507-006	Supply/CC Alarm	WasteTonerBottle Supply Alarm	CTL *	[0 or 1 / 1 / 1]
5-507-080	Supply/CC Alarm	Toner Call Timing	CTL *	[0 or 1 / 0 / 1]
5-507-081	Supply/CC Alarm	Toner Call Threshold	CTL *	[10 to 90 / 10 /



SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
				10%]
5-507-128	Supply/CC Alarm	Interval: Others	CTL*	[250 to 10000 / 1000 / 1]
5-507-133	Supply/CC Alarm	Interval: A4	CTL*	[250 to 10000 / 1000 / 1]
5-507-134	Supply/CC Alarm	Interval: A5	CTL*	[250 to 10000 / 1000 / 1]
5-507-142	Supply/CC Alarm	Interval: B5	CTL*	[250 to 10000 / 1000 / 1]
5-507-164	Supply/CC Alarm	Interval: LG	CTL*	[250 to 10000 / 1000 / 1]
5-507-166	Supply/CC Alarm	Interval: LT	CTL*	[250 to 10000 / 1000 / 1]
5-507-172	Supply/CC Alarm	Interval: HLT	CTL*	[250 to 10000 / 1000 / 1]
5-515-001	SC/Alarm Setting	SC Call	CTL*	[0 or 1 / 1 / 1]
5-515-002	SC/Alarm Setting	Service Parts Near End Call	CTL*	[0 or 1 / 0 / 1]
5-515-003	SC/Alarm Setting	Service Parts End Call	CTL*	[0 or 1 / 0 / 1]
5-515-004	SC/Alarm Setting	User Call	CTL*	[0 or 1 / 1 / 1]
5-515-006	SC/Alarm Setting	Communication Test Call	CTL*	[0 or 1 / 1 / 1]
5-515-007	SC/Alarm Setting	Machine Information Notice	CTL*	[0 or 1 / 1 / 1]
5-515-008	SC/Alarm Setting	Alarm Notice	CTL*	[0 or 1 / 0 / 1]
5-515-009	SC/Alarm Setting	Non Genuine Tonner Ararm	CTL*	[0 or 1 / 1 / 1]
5-515-010	SC/Alarm Setting	Supply Automatic Ordering Call	CTL*	[0 or 1 / 1 / 1]
5-515-011	SC/Alarm Setting	Supply Management Report Call	CTL*	[0 or 1 / 1 / 1]
5-515-012	SC/Alarm Setting	Jam/Door Open Call	CTL*	[0 or 1 / 0 / 1]
5-515-050	SC/Alarm Setting	Timeout:Manual Call	CTL*	[1 to 255 / 5 / 1min]
5-515-051	SC/Alarm Setting	Timeout:Other Call	CTL*	[1 to 255 / 10 / 1min]
5-517-031	Get Machine Information	Get SMC Info: Retry	CTL*	[0 to 255 / 10 /

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
		Interval		1min]
5-728-001	Network Setting	NAT Machine Port1	CTL *	[1 to 65535 / 49101 / 1]
5-728-002	Network Setting	NAT UI Port1	CTL *	[1 to 65535 / 55101 / 1]
5-728-003	Network Setting	NAT Machine Port2	CTL *	[1 to 65535 / 49102 / 1]
5-728-004	Network Setting	NAT UI Port2	CTL *	[1 to 65535 / 55102 / 1]
5-728-005	Network Setting	NAT Machine Port3	CTL *	[1 to 65535 / 49103 / 1]
5-728-006	Network Setting	NAT UI Port3	CTL *	[1 to 65535 / 55103 / 1]
5-728-007	Network Setting	NAT Machine Port4	CTL *	[1 to 65535 / 49104 / 1]
5-728-008	Network Setting	NAT UI Port4	CTL *	[1 to 65535 / 55104 / 1]
5-728-009	Network Setting	NAT Machine Port5	CTL *	[1 to 65535 / 49105 / 1]
5-728-010	Network Setting	NAT UI Port5	CTL *	[1 to 65535 / 55105 / 1]
5-728-011	Network Setting	NAT Machine Port6	CTL *	[1 to 65535 / 49106 / 1]
5-728-012	Network Setting	NAT UI Port6	CTL *	[1 to 65535 / 55106 / 1]
5-728-013	Network Setting	NAT Machine Port7	CTL *	[1 to 65535 / 49107 / 1]
5-728-014	Network Setting	NAT UI Port7	CTL *	[1 to 65535 / 55107 / 1]
5-728-015	Network Setting	NAT Machine Port8	CTL *	[1 to 65535 / 49108 / 1]
5-728-016	Network Setting	NAT UI Port8	CTL *	[1 to 65535 / 55108 / 1]
5-728-017	Network Setting	NAT Machine Port9	CTL *	[1 to 65535 / 49109 / 1]
5-728-018	Network Setting	NAT UI Port9	CTL *	[1 to 65535 /

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
				55109 / 1]
5-728-019	Network Setting	NAT Machine Port10	CTL*	[1 to 65535 / 49110 / 1]
5-728-020	Network Setting	NAT UI Port10	CTL*	[1 to 65535 / 55110 / 1]
5-731-001	Counter Effect	Change Mk1 Cnt(Paper->Combine)	CTL*	[0 or 1 / 0 / 1]
5-749-001	Import/Export	Export	CTL	[0 to 0 / 0 / 0]
5-749-101	Import/Export	Import	CTL	[0 to 0 / 0 / 0]
5-801-001	Memory Clear	All Clear	CTL	[0 to 0 / 0 / 0]
5-801-003	Memory Clear	SCS	CTL	[0 to 0 / 0 / 0]
5-801-004	Memory Clear	IMH Memory Clr	CTL	[0 to 0 / 0 / 0]
5-801-005	Memory Clear	MCS	CTL	[0 to 0 / 0 / 0]
5-801-008	Memory Clear	Printer Application	CTL	[0 to 0 / 0 / 0]
5-801-010	Memory Clear	Web Service	CTL	[0 to 0 / 0 / 0]
5-801-011	Memory Clear	NCS	CTL	[0 to 0 / 0 / 0]
5-801-014	Memory Clear	Clear DCS Setting	CTL	[0 to 0 / 0 / 0]
5-801-015	Memory Clear	Clear UCS Setting	CTL	[0 to 0 / 0 / 0]
5-801-016	Memory Clear	MIRS Setting	CTL	[0 to 0 / 0 / 0]
5-801-017	Memory Clear	CCS	CTL	[0 to 0 / 0 / 0]
5-801-018	Memory Clear	SRM Memory Clr	CTL	[0 to 0 / 0 / 0]
5-801-019	Memory Clear	LCS	CTL	[0 to 0 / 0 / 0]
5-801-021	Memory Clear	ECS	CTL	[0 to 0 / 0 / 0]
5-801-025	Clea Memory	websys	CTL	[0 to 0 / 0 / 0]
5-812-001	Service Tel. No. Setting	Service	CTL*	[0 to 0 / 0 / 0]
5-812-002	Service Tel. No. Setting	Facsimile	CTL*	[0 to 0 / 0 / 0]
5-816-001	Remote Service	I/F Setting	CTL*	[0 to 2 / 2 / 1]
5-816-002	Remote Service	CE Call	CTL*	[0 or 1 / 0 / 1]
5-816-003	Remote Service	Function Flag	CTL*	[0 or 1 / 0 / 1]
5-816-007	Remote Service	SSL Disable	CTL*	[0 or 1 / 0 / 1]
5-816-008	Remote Service	RCG Connect Timeout	CTL*	[1 to 90 / 30 / 1sec]
5-816-009	Remote Service	RCG Write Timeout	CTL*	[0 to 100 / 60 / 1sec]
5-816-010	Remote Service	RCG Read Timeout	CTL*	[0 to 100 / 60 /

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
				1sec]
5-816-011	Remote Service	Port 80 Enable	CTL *	[0 or 1 / 0 / 1]
5-816-013	Remote Service	RFU Timing	CTL *	[0 or 1 / 1 / 1]
5-816-014	Remote Service	RCG Error Cause	CTL	[0 to 2 / 0 / 1]
5-816-021	Remote Service	RCG-C Registered	CTL *	[0 or 1 / 0 / 1]
5-816-023	Remote Service	Connect Type(N/M)	CTL *	[0 or 1 / 0 / 1]
5-816-061	Remote Service	Cert Expire Timing	CTL *	[0 to 0 / 0 / 1]
5-816-062	Remote Service	Use Proxy	CTL *	[0 or 1 / 0 / 1]
5-816-063	Remote Service	Proxy Host	CTL *	[0 to 0 / 0 / 0]
5-816-064	Remote Service	Proxy PortNumber	CTL *	[0 to 0xffff / 0 / 1]
5-816-065	Remote Service	Proxy User Name	CTL *	[0 to 0 / 0 / 0]
5-816-066	Remote Service	Proxy Password	CTL *	[0 to 0 / 0 / 0]
5-816-067	Remote Service	CERT:Up State	CTL *	[0 to 255 / 0 / 1]
5-816-068	Remote Service	CERT:Error	CTL *	[0 to 255 / 0 / 1]
5-816-069	Remote Service	CERT:Up ID	CTL *	[0 to 0 / 0 / 0]
5-816-083	Remote Service	Firm Up Status	CTL *	[0 to 1 / 0 / 1]
5-816-085	Remote Service	Firm Up User Check	CTL *	[0 to 1 / 0 / 1]
5-816-086	Remote Service	Firmware Size	CTL *	[0 to 0xffffffff / 0 / 1]
5-816-087	Remote Service	CERT:Macro Ver.	CTL	[0 to 0 / 0 / 0]
5-816-088	Remote Service	CERT:PAC Ver.	CTL	[0 to 0 / 0 / 0]
5-816-089	Remote Service	CERT:ID2Code	CTL	[0 to 0 / 0 / 0]
5-816-090	Remote Service	CERT:Subject	CTL	[0 to 0 / 0 / 0]
5-816-091	Remote Service	CERT:SerialNo.	CTL	[0 to 0 / 0 / 0]
5-816-092	Remote Service	CERT:Issuer	CTL	[0 to 0 / 0 / 0]
5-816-093	Remote Service	CERT:Valid Start	CTL	[0 to 0 / 0 / 0]
5-816-094	Remote Service	CERT:Valid End	CTL	[0 to 0 / 0 / 0]
5-816-102	Remote Service	CERT:Encrypt Level	CTL *	[1 to 2 / 1 / 1]
5-816-103	Remote Service	Client Communication Method	CTL *	[0 to 3 / 0 / 1]
5-816-104	Remote Service	Client Communication Limit	CTL *	[1 to 7 / 7 / 1]
5-816-115	Remote Service	Network Information Waiting timer	CTL *	[5 to 255 / 5 / 1sec]
5-816-200	Remote Service	Manual Polling	CTL	[0 or 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
5-816-201	Remote Service	Regist Status	CTL	[0 to 255 / 0 / 1]
5-816-202	Remote Service	Letter Number	CTL*	[0 to 0 / 0 / 0]
5-816-203	Remote Service	Confirm Execute	CTL	[0 or 1 / 0 / 1]
5-816-204	Remote Service	Confirm Result	CTL	[0 to 255 / 0 / 1]
5-816-205	Remote Service	Confirm Place	CTL	[0 or 1 / 0 / 1]
5-816-206	Remote Service	Register Execute	CTL	[0 or 1 / 0 / 1]
5-816-207	Remote Service	Register Result	CTL	[0 to 255 / 0 / 1]
5-816-208	Remote Service	Error Code	CTL	[-2147483647 to 2147483647 / 0 / 1]
5-816-209	Remote Service	Instl Clear	CTL	[0 or 1 / 0 / 1]
5-816-240	Remote Service	CommErrorTime	CTL	[0 to 0 / 0 / 1]
5-816-241	Remote Service	CommErrorCode 1	CTL*	[0 to 0xffffffff / 0x00000000 / 1]
5-816-242	Remote Service	CommErrorCode 2	CTL*	[0 to 0xffffffff / 0x00000000 / 1]
5-816-243	Remote Service	CommErrorCode 3	CTL*	[0 to 0xffffffff / 0x00000000 / 1]
5-816-244	Remote Service	CommErrorState 1	CTL*	[0 to 0xffff / 0x0000 / 1]
5-816-245	Remote Service	CommErrorState 2	CTL*	[0 to 0xffff / 0x0000 / 1]
5-816-246	Remote Service	CommErrorState 3	CTL*	[0 to 0xffff / 0x0000 / 1]
5-816-247	Remote Service	SSL Error Count	CTL*	[0 to 255 / 0 / 1]
5-816-248	Remote Service	Other Err Count	CTL*	[0 to 255 / 0 / 1]
5-816-250	Remote Service	CommLog Print	CTL	[0 to 255 / 0 / 1]
5-821-002	Remote Service RCG Setting	RCG IPv4 Address	CTL*	[0 to 0xffffffff / 0 / 1]
5-821-003	Remote Service RCG Setting	RCG Port	CTL*	[0 to 65535 / 443 / 1]
5-821-004	Remote Service RCG Setting	RCG IPv4 URL Path	CTL*	[0 to 0 / 0 / 0]
5-821-005	Remote Service RCG Setting	RCG IPv6 Address	CTL*	[0 to 0 / 0 / 0]
5-821-006	Remote Service RCG	RCG IPv6 URL Path	CTL*	[0 to 0 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
	Setting			
5-821-007	Remote Service RCG Setting	RCG Host Name	CTL *	[0 to 0 / 0 / 0]
5-821-008	Remote Service RCG Setting	RCG Host URL Path	CTL *	[0 to 0 / 0 / 0]
5-824-001	NV-RAM Data Upload		CTL	[0 to 0 / 0 / 0]
5-825-001	NV-RAM Data Download		CTL	[0 to 0 / 0 / 0]
5-828-050	Network Setting	1284 Compatiblity (Centro)	CTL *	[0 or 1 / 1 / 1]
5-828-052	Network Setting	ECP (Centro)	CTL *	[0 or 1 / 1 / 1]
5-828-065	Network Setting	Job Spooling	CTL *	[0 or 1 / 0 / 1]
5-828-066	Network Setting	Job Spooling Clear: Start Time	CTL *	[0 or 1 / 1 / 1]
5-828-069	Network Setting	Job Spooling (Protocol)	CTL *	[0x00 to 0xff / 0x7f / 1]
5-828-087	Network Setting	Protocol usage	CTL *	[0x00000000 to 0xffffffff / 0x00000000 / 1]
5-828-090	Network Setting	TELNET(0:OFF 1:ON)	CTL *	[0 or 1 / 1 / 1]
5-828-091	Network Setting	Web(0:OFF 1:ON)	CTL *	[0 or 1 / 1 / 1]
5-828-145	Network Setting	Active IPv6 Link Local Address	CTL	[0 to 0 / 0 / 0]
5-828-147	Network Setting	Active IPv6 Stateless Address 1	CTL	[0 to 0 / 0 / 0]
5-828-149	Network Setting	Active IPv6 Stateless Address 2	CTL	[0 to 0 / 0 / 0]
5-828-151	Network Setting	Active IPv6 Stateless Address 3	CTL	[0 to 0 / 0 / 0]
5-828-153	Network Setting	Active IPv6 Stateless Address 4	CTL	[0 to 0 / 0 / 0]
5-828-155	Network Setting	Active IPv6 Stateless Address 5	CTL	[0 to 0 / 0 / 0]
5-828-156	Network Setting	IPv6 Manual Address	CTL *	[0 to 0 / 0 / 0]
5-828-158	Network Setting	IPv6 Gateway Address	CTL *	[0 to 0 / 0 / 0]
5-828-161	Network Setting	IPv6 Stateless Auto Setting	CTL *	[0 or 1 / 1 / 1]
5-828-219	Network Setting	IPsec Aggressive Mode Setting	CTL *	[0 or 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
5-828-236	Network Setting	Web Item visible	CTL*	[0x0000 to 0xffff / 0xffff / 1]
5-828-237	Network Setting	Web shopping link visible	CTL*	[0 to 1 / 1 / 1]
5-828-238	Network Setting	Web Supplies Link visible	CTL*	[0 or 1 / 1 / 1]
5-828-239	Network Setting	Web Link1 Name	CTL*	[0 to 0 / 0 / 0]
5-828-240	Network Setting	Web Link1 URL	CTL*	[0 to 0 / 0 / 0]
5-828-241	Network Setting	Web Link1 visible	CTL*	[0 or 1 / 1 / 1]
5-828-242	Network Setting	Web Link2 Name	CTL*	[0 to 0 / 0 / 0]
5-828-243	Network Setting	Web Link2 URL	CTL*	[0 to 0 / 0 / 0]
5-828-244	Network Setting	Web Link2 visible	CTL*	[0 or 1 / 1 / 1]
5-828-249	Network Setting	DHCPv6 DUID	CTL	[0 to 0 / 0 / 0]
5-832-002	HDD	HDD Formatting (IMH)	CTL	[0 to 0 / 0 / 0]
5-840-006	IEEE 802.11	Channel MAX	CTL*	[1 to 14 / 14 / 1]
5-840-007	IEEE 802.11	Channel MIN	CTL*	[1 to 14 / 1 / 1]
5-840-011	IEEE 802.11	WEP Key Select	CTL*	[0x00 to 0x11 / 0x00 / 1]
5-840-045	IEEE 802.11	WPA Debug Lvl	CTL*	[1 to 3 / 3 / 1]
5-840-046	IEEE 802.11	11w	CTL*	[0 to 2 / 0 / 1]
5-840-047	IEEE 802.11	PSK Set Type	CTL*	[0 or 1 / 0 / 1]
5-842-001	GWWS Analysis	Setting 1	CTL*	[0x00 to 0xFF / 0 / 1]
5-842-002	GWWS Analysis	Setting 2	CTL*	[0x00 to 0xFF / 0 / 1]
5-844-001	USB	Transfer Rate	CTL*	[1 to 4 / 4 / 1]
5-844-002	USB	Vendor ID	CTL*	[0x0000 to 0xffff / 0x05ca / 1]
5-844-003	USB	Product ID	CTL*	[0x0000 to 0xffff / 0x0403 / 1]
5-844-004	USB	Device Release Number	CTL*	[0 to 9999 / 100 / 1]
5-844-005	USB	Fixed USB Port	CTL*	[0 to 2 / 0 / 1]
5-844-006	USB	PnP Model Name	CTL*	[0 to 0 / 0 / 0]
5-844-007	USB	PnP Serial Number	CTL*	[0 to 0 / 0 / 0]
5-844-008	USB	Mac Supply Level	CTL*	[0 or 1 / 1 / 1]
5-844-009	USB	USB Toggle Clear Mode	CTL*	[0 or 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
5-844-100	USB	Notify Unsupport	CTL *	[0 or 1 / 1 / 1]
5-845-003	Delivery Server Setting	Retry Interval	CTL *	[60 to 900 / 300 / 1sec]
5-845-004	Delivery Server Setting	Number of Retries	CTL *	[0 to 99 / 3 / 1]
5-845-022	Delivery Server Setting	Rapid Sending Control	CTL *	[0 or 1 / 1 / 1]
5-846-010	UCS Setting	LDAP Search Timeout	CTL *	[1 to 255 / 60 / 1]
5-846-021	UCS Setting	Folder Auth Change	CTL *	[0 or 1 / 0 / 1]
5-846-043	UCS Setting	Addr Book Media	CTL *	[0 to 30 / 0 / 1]
5-846-047	UCS Setting	Initialize Local Addr Book	CTL	[0 to 0 / 0 / 0]
5-846-049	UCS Setting	Initialize LDAP Addr Book	CTL	[0 to 0 / 0 / 0]
5-846-050	UCS Setting	Initialize All Addr Book	CTL	[0 to 0 / 0 / 0]
5-846-060	UCS Setting	Search option	CTL *	[0x00 to 0xff / 0x0f / 1]
5-846-094	UCS Setting	Encryption Stat	CTL *	[0 to 255 / 0 / 1]
5-846-100	UCS Setting	Initialize Suprvisor	CTL	[0 to 0 / 0 / 0]
5-848-004	Web Service	Access Ctrl: uirectory (Lower 4bits)	CTL *	[0x00 to 0xFF / 0x00 / 1]
5-848-007	Web Service	Access Ctrl: Comm. Log Fax(Lower 4bits)	CTL *	[0x00 to 0xFF / 0x00 / 1]
5-848-009	Web Service	Access Ctrl: Job Ctrl (Lower 4bits)	CTL *	[0x00 to 0xFF / 0x00 / 1]
5-848-011	Web Service	Access Ctrl: Devicemanagement(Lower 4bits)	CTL *	[0x00 to 0xFF / 0x00 / 1]
5-848-022	Web Service	Access Ctrl: uadministration (Lower 4bits)	CTL *	[0x00 to 0xFF / 0x00 / 1]
5-848-025	Web Service	Access Ctrl: Rest WebService (Lower 4bits)	CTL *	[0x00 to 0xFF / 0x00 / 1]
5-849-001	Installation Date	Display	CTL *	[0 to 0 / 0 / 0]
5-849-002	Installation Date	Switch to Print	CTL *	[0 or 1 / 1 / 1]
5-849-003	Installation Date	Total Counter	CTL *	[0 to 99999999 / 0 / 1]
5-851-001	Bluetooth	Mode	CTL *	[0x00 to 0x01 / 0x00 / 1]
5-856-002	Remote ROM Update	Local Port	CTL	[0 or 1 / 0 / 1]



SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
5-858-001	Save Machine Info	0:OFF 1:ON	CTL *	[0 or 1 / 1 / 1]
5-858-002	Save Machine Info	Target(0:HDD 1:SD 2:Lynx)	CTL *	[0 to 2 / 0 / 1]
5-858-003	Save Machine Info	Make LogTrace Dir	CTL *	[0 or 1 / 0 / 1]
5-858-101	Save Machine Info	Start Date	CTL *	[0 to 20371212 / 0 / 1]
5-858-102	Save Machine Info	Days of Tracing	CTL *	[1 to 180 / 3 / 1day]
5-858-103	Save Machine Info	Acquire Fax Address(0:OFF 1:ON)	CTL *	[0 or 1 / 0 / 1]
5-858-111	Save Machine Info	Acquire All Info & Logs	CTL	[0 or 1 / 0 / 1]
5-858-121	Save Machine Info	Acquire Configuration Page	CTL	[0 or 1 / 0 / 1]
5-858-122	Save Machine Info	Acquire Font Page	CTL	[0 or 1 / 0 / 1]
5-858-123	Save Machine Info	Acquire Print Setting List	CTL	[0 or 1 / 0 / 1]
5-858-124	Save Machine Info	Acquire Error Log	CTL	[0 or 1 / 0 / 1]
5-858-131	Save Machine Info	Acquire Fax Info	CTL	[0 or 1 / 0 / 1]
5-858-141	Save Machine Info	Acquire All Debug Logs	CTL	[0 or 1 / 0 / 1]
5-858-142	Save Machine Info	Acquire Only Controller Debug Logs	CTL	[0 or 1 / 0 / 1]
5-858-143	Save Machine Info	Acquire Only Engine Debug Logs	CTL	[0 or 1 / 0 / 1]
5-858-144	Save Machine Info	Acquire Only Opepanel Debug Logs	CTL	[0 or 1 / 0 / 1]
5-858-145	Save Machine Info	Acquire Only FCU Debug Logs	CTL	[0 or 1 / 0 / 1]
5-860-002	SMTP/POP3/IMAP4	SMTP Server Port Number	CTL *	[1 to 65535 / 25 / 1]
5-860-003	SMTP/POP3/IMAP4	SMTP Authentication	CTL *	[0 to 1 / 0 / 1]
5-860-006	SMTP/POP3/IMAP4	SMTP Auth. Encryption	CTL *	[0 to 2 / 0 / 1]
5-860-007	SMTP/POP3/IMAP4	POP before SMTP	CTL *	[0 to 1 / 0 / 1]
5-860-008	SMTP/POP3/IMAP4	POP to SMTP Waiting Time	CTL *	[0 to 10000 / 300 / 1ms]
5-860-009	SMTP/POP3/IMAP4	Mail Receive Protocol	CTL *	[1 to 3 / 1 / 1]
5-860-013	SMTP/POP3/IMAP4	POP3/IMAP4 Auth. Encryption	CTL *	[0 to 2 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
5-860-014	SMTP/POP3/IMAP4	POP3 Server Port Number	CTL *	[1 to 65535 / 110 / 1]
5-860-015	SMTP/POP3/IMAP4	IMAP4 Server Port Number	CTL *	[1 to 65535 / 143 / 1]
5-860-016	SMTP/POP3/IMAP4	SMTP Receive Port Number	CTL *	[1 to 65535 / 25 / 1]
5-860-017	SMTP/POP3/IMAP4	Mail Receive Interval	CTL *	[2 to 1440 / 3 / 1min]
5-860-019	SMTP/POP3/IMAP4	Mail Keep Setting	CTL *	[0 to 2 / 0 / 1]
5-860-020	SMTP/POP3/IMAP4	Partial Mail Receive Timeout	CTL *	[1 to 168 / 72 / 1hour]
5-860-021	SMTP/POP3/IMAP4	MDN Response RFC2298 Compliance	CTL *	[0 or 1 / 1 / 1]
5-860-022	SMTP/POP3/IMAP4	SMTP Auth. From Field Replacement	CTL *	[0 or 1 / 0 / 1]
5-860-025	SMTP/POP3/IMAP4	SMTP Auth. Direct Setting	CTL *	[0 to 0xff / 0 / 1]
5-860-026	SMTP/POP3/IMAP4	S/MIME:MIME Header Setting	CTL *	[0 to 2 / 0 / 1]
5-866-001	E-Mail Report	Report Validity	CTL	[0 or 1 / 0 / 1]
5-866-005	E-Mail Report	Add Date Field	CTL *	[0 or 1 / 0 / 1]
5-869-001	RAM Disk Setting	Mail Function	CTL *	[0 or 1 / 0 / 1]
5-870-001	Common KeyInfo Writing	Writing	CTL	[0 or 1 / 0 / 1]
5-870-003	Common KeyInfo Writing	Initialize	CTL	[0 or 1 / 0 / 1]
5-870-004	Common Key Info Writing	Writing: 2048bit	CTL	[0 or 1 / 0 / 1]
5-875-001	SC Auto Reboot	Reboot Setting	CTL *	[0 or 1 / 0 / 1]
5-875-002	SC Auto Reboot	Reboot Type	CTL *	[0 or 1 / 0 / 1]
5-887-001	SD GetCounter		CTL	[0 to 0 / 0 / 0]
5-888-001	Personal Information Protect		CTL *	[0 or 1 / 0 / 1]
5-907-001	Plug & Play Maker/Model Name		CTL *	[0 to 255 / 0 / 1]
5-909-002	HealthCare Setting	Model Setting	CTL *	[0 or 1 / 0 / 1]
5-990-001	SP Print Mode	All (Data List)	CTL	[0 to 255 / 0 / 1]
5-990-002	SP Print Mode	SP (Mode Data List)	CTL	[0 to 255 / 0 / 1]
5-990-004	SP Print Mode	Logging Data	CTL	[0 to 255 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
5-990-005	SP Print Mode	Diagnostic Report	CTL	[0 to 255 / 0 / 1]
5-990-006	SP Print Mode	Non-Default	CTL	[0 to 255 / 0 / 1]
5-990-007	SP Print Mode	NIB Summary	CTL	[0 to 0 / 0 / 1]
5-990-026	SP Print Mode	Printer SP	CTL	[0 to 255 / 0 / 1]
5-992-001	SP Text Mode	All (Data List)	CTL	[0 to 255 / 0 / 1]
5-992-002	SP Text Mode	SP (Mode Data List)	CTL	[0 to 255 / 0 / 1]
5-992-004	SP Text Mode	Logging Data	CTL	[0 to 255 / 0 / 1]
5-992-005	SP Text Mode	Diagnostic Report	CTL	[0 to 255 / 0 / 1]
5-992-006	SP Text Mode	Non-Default	CTL	[0 to 255 / 0 / 1]
5-992-007	SP Text Mode	NIB Summary	CTL	[0 to 0 / 0 / 1]
5-992-026	SP Text Mode	Printer SP	CTL	[0 to 255 / 0 / 1]

## 4.7 SP6-XXX (PERIPHERALS)

There are no Group 6 SP modes for this machine.

## 4.8 SP7-XXX (DATA LOG) - ENGINE

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
7-625-002	Old Counter 1	Sheets PCDU	ENG*	[0 to 999999 / 0 / 1sheet]
7-625-003	Old Counter 1	Sheets Fuser	ENG*	[0 to 9999999 / 0 / 1sheet]
7-626-002	Old Counter 2	Sheets PCDU	ENG*	[0 to 999999 / 0 / 1sheet]
7-626-003	Old Counter 2	Sheets Fuser	ENG*	[0 to 9999999 / 0 / 1sheet]
7-627-002	Old Dist. 1	PCDU	ENG*	[0 to 999999999 / 0 / 1mm]
7-627-003	Old Dist. 1	Fuser	ENG*	[0 to 999999999 / 0 / 1mm]
7-628-002	Old Dist. 2	PCDU	ENG*	[0 to 999999999 / 0 / 1mm]
7-628-003	Old Dist. 2	Fuser	ENG*	[0 to 999999999 / 0 / 1mm]
7-701-001	Info T&H Sensor	Info 1	ENG*	[0 to 0 / 0 / 0]
7-701-002	Info T&H Sensor	Info 2	ENG*	[0 to 0 / 0 / 0]
7-701-003	Info T&H Sensor	Info 3	ENG*	[0 to 0 / 0 / 0]
7-701-004	Info T&H Sensor	Info 4	ENG*	[0 to 0 / 0 / 0]
7-701-005	Info T&H Sensor	Info 5	ENG*	[0 to 0 / 0 / 0]
7-801-009	ROM Info.	No.:Bank	ENG	[0 to 0 / 0 / 0]
7-801-019	ROM Info.	No.:Bank2	ENG	[0 to 0 / 0 / 0]
7-801-040	ROM Info.	No.:Bank3	ENG	[0 to 0 / 0 / 0]
7-801-109	ROM Info.	Version:Bank	ENG	[0 to 0 / 0 / 0]
7-801-119	ROM Info.	Version:Bank2	ENG	[0 to 0 / 0 / 0]
7-801-140	ROM Info.	Version:Bank3	ENG	[0 to 0 / 0 / 0]
7-802-002	PM Counter Usage	PCDU	ENG*	[0 to 255 / 0 / 1%]
7-802-003	PM Counter Usage	Fuser	ENG*	[0 to 255 / 0 / 1%]
7-802-004	PM Counter Usage	Trans.	ENG*	[0 to 255 / 0 / 1%]
7-803-002	Disp. PM Counter	Sheets PCDU	ENG*	[0 to 999999 / 0 / 1sheet]
7-803-003	Disp. PM Counter	Sheets Fuser	ENG*	[0 to 9999999 / 0 / 1sheet]
7-803-004	Disp. PM Counter	Sheets Trans.	ENG*	[0 to 9999999 / 0 / 1sheet]
7-803-005	Disp. PM Counter	Sheets Feed Tray	ENG*	[0 to 9999999 / 0 / 1sheet]
7-803-006	Disp. PM Counter	Sheets Spr. Tray	ENG*	[0 to 9999999 / 0 / 1sheet]
7-803-051	Disp. PM Counter	Sheets Feed Bank1	ENG*	[0 to 9999999 / 0 / 1sheet]
7-803-052	Disp. PM Counter	Sheets Spr. Bank1	ENG*	[0 to 9999999 / 0 / 1sheet]
7-803-053	Disp. PM Counter	Sheets Feed Bank2	ENG*	[0 to 9999999 / 0 / 1sheet]
7-803-054	Disp. PM Counter	Sheets Spr. Bank2	ENG*	[0 to 9999999 / 0 / 1sheet]
7-803-055	Disp. PM Counter	Sheets Feed Bank3	ENG*	[0 to 9999999 / 0 / 1sheet]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
7-803-056	Disp. PM Counter	Sheets Spr. Bank3	ENG*	[0 to 9999999 / 0 / 1sheet]
7-803-057	Disp. PM Counter	Sheets Feed Bypa	ENG*	[0 to 9999999 / 0 / 1sheet]
7-803-058	Disp. PM Counter	Sheets Spr Bypa	ENG*	[0 to 9999999 / 0 / 1sheet]
7-804-002	Reset PM Counter	PCDU	ENG	[0 to 0 / 0 / 0]
7-804-003	Reset PM Counter	Fuser	ENG	[0 to 0 / 0 / 0]
7-804-004	Reset PM Counter	Trans.	ENG	[0 to 0 / 0 / 0]
7-804-005	Reset PM Counter	Feed Tray	ENG	[0 to 0 / 0 / 0]
7-804-006	Reset PM Counter	Spr. Tray	ENG	[0 to 0 / 0 / 0]
7-804-010	Reset PM Counter	Maintenance Kit	ENG	[0 to 0 / 0 / 0]
7-804-011	Reset PM Counter	All	ENG	[0 to 0 / 0 / 0]
7-804-051	Reset PM Counter	Feed Bank1	ENG	[0 to 0 / 0 / 0]
7-804-052	Reset PM Counter	Spr. Bank1	ENG	[0 to 0 / 0 / 0]
7-804-053	Reset PM Counter	Feed Bank2	ENG	[0 to 0 / 0 / 0]
7-804-054	Reset PM Counter	Spr. Bank2	ENG	[0 to 0 / 0 / 0]
7-804-055	Reset PM Counter	Feed Bank3	ENG	[0 to 0 / 0 / 0]
7-804-056	Reset PM Counter	Spr. Bank3	ENG	[0 to 0 / 0 / 0]
7-804-057	Reset PM Counter	Feed Bypass	ENG	[0 to 0 / 0 / 0]
7-804-058	Reset PM Counter	Spr. Bypass	ENG	[0 to 0 / 0 / 0]
7-805-001	Counter Continue	Setting	ENG	[0 to 0 / 0 / 0]
7-805-002	Counter Continue	Distance PCDU	ENG*	[0 to 999999999 / 0 / 1mm]
7-806-002	PM Counter Dist.	PCDU	ENG*	[0 to 999999999 / 0 / 1mm]
7-806-003	PM Counter Dist.	Fuser	ENG*	[0 to 999999999 / 0 / 1mm]
7-806-004	PM Counter Dist.	Trans.	ENG*	[0 to 999999999 / 0 / 1mm]
7-931-001	Toner Info.	Machine ID	ENG*	[0 to 255 / 0 / 1]
7-931-002	Toner Info.	Version	ENG	[0 to 255 / 0 / 1]
7-931-003	Toner Info.	Brand ID	ENG*	[0 to 255 / 0 / 1]
7-931-004	Toner Info.	Area ID	ENG*	[0 to 255 / 0 / 1]
7-931-005	Toner Info.	Class ID	ENG*	[0 to 255 / 0 / 1]
7-931-006	Toner Info.	Color ID	ENG	[0 to 255 / 0 / 1]
7-931-007	Toner Info.	Maintenance ID	ENG*	[0 to 255 / 0 / 1]
7-931-008	Toner Info.	New AIO	ENG*	[0 to 255 / 0 / 1]
7-931-009	Toner Info.	Recycle Count	ENG	[0 to 255 / 0 / 1]
7-931-010	Toner Info.	EDP Code	ENG*	[0 to 0 / 0 / 0]
7-931-011	Toner Info.	Serial No.	ENG*	[0 to 0 / 0 / 0]
7-931-012	Toner Info.	Remaining Toner	ENG*	[0 to 100 / 100 / 1%]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
7-931-013	Toner Info.	Toner End	ENG*	[- / 0 / -] 0: Normal (Including estimated toner near end status) N: Definite toner near end E: Toner near end
7-931-014	Toner Info.	Refill Flag	ENG*	[0 to 0 / 0 / 0]
7-931-015	Toner Info.	R:Total Cnt.	ENG*	[0 to 99999999 / 0 / 1sheet]
7-931-016	Toner Info.	E:Total Cnt.	ENG	[0 to 99999999 / 0 / 1sheet]
7-931-017	Toner Info.	Unit Output Cnt.	ENG*	[0 to 99999999 / 0 / 1sheet]
7-931-018	Toner Info.	Install Date	ENG*	[0 to 0 / 0 / 0]
7-931-019	Toner Info.	Toner End Date	ENG	[0 to 0 / 0 / 0]
7-931-020	Toner Info.	Total Consump	ENG*	[0 to 10000000 / 0 / 0.1mg]
7-931-021	Toner Info.	PCDU Distance	ENG*	[0 to 999999999 / 0 / 1mm]
7-931-022	Toner Info.	Initial Amount	ENG*	[0 to 65535 / 0 / 1g]
7-931-023	Toner Info.	NearEnd Consump	ENG*	[0 to 999999 / 0 / 0.1mg]
7-932-001	PCDU Info.	Machine ID	ENG*	[0 to 255 / 0 / 1]
7-932-002	PCDU Info.	Class ID	ENG*	[0 to 255 / 0 / 1]
7-932-003	PCDU Info.	Maintenance ID	ENG*	[0 to 255 / 0 / 1]
7-932-004	PCDU Info.	New AIO	ENG*	[0 to 255 / 0 / 1]
7-932-005	PCDU Info.	Serial No.	ENG*	[0 to 0 / 0 / 0]
7-932-006	PCDU Info.	Install Date	ENG*	[0 to 0 / 0 / 0]
7-932-007	PCDU Info.	Sheets	ENG*	[0 to 999999 / 0 / 1sheet]
7-932-008	PCDU Info.	Distance	ENG*	[0 to 999999999 / 0 / 1mm]
7-932-009	PCDU Info.	Usage rate	ENG*	[0 to 255 / 0 / 1%]
7-932-010	PCDU Info.	Control Distance	ENG*	[0 to 999999999 / 0 / 1mm]
7-932-011	PCDU Info.	PM Chg Sheets	ENG	[0 to 999999 / 0 / 1sheet]
7-932-012	PCDU Info.	PM Chg Distance	ENG	[0 to 999999999 / 0 / 1mm]
7-932-013	PCDU Info.	Cleaning1Count	ENG*	[0 to 65535 / 0 / 1count]
7-932-014	PCDU Info.	Cleaning2Count	ENG*	[0 to 65535 / 0 / 1count]
7-935-001	Toner Info. Log	1:Serial No.	ENG*	[0 to 0 / 0 / 0]
7-935-002	Toner Info. Log	1:Install Date	ENG*	[0 to 0 / 0 / 0]
7-935-003	Toner Info. Log	1:R:Total Cnt.	ENG*	[0 to 99999999 / 0 / 1]
7-935-004	Toner Info. Log	1:Refill Flag	ENG*	[0 to 0 / 0 / 0]
7-935-005	Toner Info. Log	2:Serial No.	ENG*	[0 to 0 / 0 / 0]

SP7-XXX (Data Log) - Engine

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
7-935-006	Toner Info. Log	2:Install Date	ENG*	[0 to 0 / 0 / 0]
7-935-007	Toner Info. Log	2:R:Total Cnt.	ENG*	[0 to 99999999 / 0 / 1]
7-935-008	Toner Info. Log	2:Refill Flag	ENG*	[0 to 0 / 0 / 0]
7-935-009	Toner Info. Log	3:Serial No.	ENG*	[0 to 0 / 0 / 0]
7-935-010	Toner Info. Log	3:Install Date	ENG*	[0 to 0 / 0 / 0]
7-935-011	Toner Info. Log	3:R:Total Cnt.	ENG*	[0 to 99999999 / 0 / 1]
7-935-012	Toner Info. Log	3:Refill Flag	ENG*	[0 to 0 / 0 / 0]
7-935-013	Toner Info. Log	4:Serial No.	ENG*	[0 to 0 / 0 / 0]
7-935-014	Toner Info. Log	4:Install Date	ENG*	[0 to 0 / 0 / 0]
7-935-015	Toner Info. Log	4:R:Total Cnt.	ENG*	[0 to 99999999 / 0 / 1]
7-935-016	Toner Info. Log	4:Refill Flag	ENG*	[0 to 0 / 0 / 0]
7-935-017	Toner Info. Log	5:Serial No.	ENG*	[0 to 0 / 0 / 0]
7-935-018	Toner Info. Log	5:Install Date	ENG*	[0 to 0 / 0 / 0]
7-935-019	Toner Info. Log	5:R:Total Cnt.	ENG*	[0 to 99999999 / 0 / 1]
7-935-020	Toner Info. Log	5:Refill Flag	ENG*	[0 to 0 / 0 / 0]
7-935-021	Toner Info. Log	1:Toner End	ENG*	[0 to 0 / 0 / 0]
7-935-022	Toner Info. Log	2:Toner End	ENG*	[0 to 0 / 0 / 0]
7-935-023	Toner Info. Log	3:Toner End	ENG*	[0 to 0 / 0 / 0]
7-935-024	Toner Info. Log	4:Toner End	ENG*	[0 to 0 / 0 / 0]
7-935-025	Toner Info. Log	5:Toner End	ENG*	[0 to 0 / 0 / 0]
7-936-001	PCDU Log	1:Serial No	ENG*	[0 to 0 / 0 / 1]
7-936-002	PCDU Log	1:Install Date	ENG*	[0 to 0 / 0 / 0]
7-936-003	PCDU Log	2:Serial No	ENG*	[0 to 0 / 0 / 1]
7-936-004	PCDU Log	2:Install Date	ENG*	[0 to 0 / 0 / 0]
7-936-005	PCDU Log	3:Serial No	ENG*	[0 to 0 / 0 / 1]
7-936-006	PCDU Log	3:Install Date	ENG*	[0 to 0 / 0 / 0]
7-936-007	PCDU Log	4:Serial No	ENG*	[0 to 0 / 0 / 1]
7-936-008	PCDU Log	4:Install Date	ENG*	[0 to 0 / 0 / 0]
7-936-009	PCDU Log	5:Serial No	ENG*	[0 to 0 / 0 / 1]
7-936-010	PCDU Log	5:Install Date	ENG*	[0 to 0 / 0 / 0]
7-939-001	Reset Count	Tonner 1st	ENG*	[0 to 65535 / 0 / 1]
7-939-011	Reset Count	Tonner 2nd	ENG*	[0 to 65535 / 0 / 1]
7-939-021	Reset Count	PCDU 1st	ENG*	[0 to 65535 / 0 / 1]
7-939-031	Reset Count	PCDU 2nd	ENG*	[0 to 65535 / 0 / 1]
7-940-002	Set PM Counter	Sheets PCDU	ENG*	[0 to 999999 / 0 / 1sheet]



SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
7-940-003	Set PM Counter	Sheets Fuser	ENG*	[0 to 9999999 / 120000 / 1sheet]
7-941-002	Set PM Dist.	PCDU	ENG*	[0 to 999999999 / 0 / 1mm]
7-941-003	Set PM Dist.	Fuser	ENG*	[0 to 999999999 / 117000000 / 1mm]
7-951-002	Remain Day Count	Sheets PCDU	ENG*	[0 to 255 / 255 / 1days]
7-951-003	Remain Day Count	Sheets Fuser	ENG*	[0 to 255 / 255 / 1days]
7-952-001	Days Before End	Maintenance Kit	ENG*	[0 to 2 / 1 / 1]
7-952-002	Days Before End	PCDU	ENG*	[0 to 2 / 1 / 1]
7-953-002	Remain Day(Dist.)	PCDU	ENG*	[0 to 255 / 255 / 1days]
7-953-003	Remain Day(Dist.)	Fuser	ENG*	[0 to 255 / 255 / 1days]
7-955-002	Remain Pages	PCDU	ENG*	[0 to 9999999 / 9999999 / 1page]
7-955-003	Remain Pages	Fuser	ENG*	[0 to 9999999 / 9999999 / 1page]
7-956-002	Remain Days	PCDU	ENG*	[0 to 255 / 255 / 1days]
7-956-003	Remain Days	Fuser	ENG*	[0 to 255 / 255 / 1days]
7-957-002	Monthly Average P	PCDU	ENG*	[0 to 9999999 / 0 / 1page]
7-957-003	Monthly Average P	Fuser	ENG*	[0 to 9999999 / 0 / 1page]
7-958-002	PM Value Setting:	PCDU	ENG*	[1 to 30 / 15 / 1days]
7-958-003	PM Value Setting:	Fuser	ENG*	[1 to 30 / 15 / 1days]
7-970-001	Day Info.	Day Info. Fault	ENG*	[0 to 1 / 0 / 1]
7-979-001	CPU Reset Log	Data1	ENG*	[0x00 to 0xFF / 0x00 / 1]
7-979-002	CPU Reset Log	Data2	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-003	CPU Reset Log	Data3	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-004	CPU Reset Log	Data4	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-005	CPU Reset Log	Data5	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-006	CPU Reset Log	Data6	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-007	CPU Reset Log	Data7	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max/Init./Step]
7-979-008	CPU Reset Log	Data8	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-009	CPU Reset Log	Data9	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-010	CPU Reset Log	Data10	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-011	CPU Reset Log	Data11	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-012	CPU Reset Log	Data12	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-013	CPU Reset Log	Data13	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-014	CPU Reset Log	Data14	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-015	CPU Reset Log	Data15	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-016	CPU Reset Log	Data16	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-017	CPU Reset Log	Data17	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-018	CPU Reset Log	Data18	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-019	CPU Reset Log	Data19	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-020	CPU Reset Log	Data20	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-021	CPU Reset Log	Data21	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-993-001	Total Counter		ENG*	[0 to 99999999 / 0 / 1]

## 4.9 SP7-XXX (DATA LOG) - CONTROLLER

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
7-401-001	Total SC	SC Counter	CTL*	[0 to 65535 / 0 / 1]
7-401-002	Total SC	Total SC Counter	CTL*	[0 to 65535 / 0 / 1]
7-403-001	SC History	Latest	CTL*	[0 to 0 / 0 / 0]
7-403-002	SC History	Latest 1	CTL*	[0 to 0 / 0 / 0]
7-403-003	SC History	Latest 2	CTL*	[0 to 0 / 0 / 0]
7-403-004	SC History	Latest 3	CTL*	[0 to 0 / 0 / 0]
7-403-005	SC History	Latest 4	CTL*	[0 to 0 / 0 / 0]
7-403-006	SC History	Latest 5	CTL*	[0 to 0 / 0 / 0]
7-403-007	SC History	Latest 6	CTL*	[0 to 0 / 0 / 0]
7-403-008	SC History	Latest 7	CTL*	[0 to 0 / 0 / 0]
7-403-009	SC History	Latest 8	CTL*	[0 to 0 / 0 / 0]
7-403-010	SC History	Latest 9	CTL*	[0 to 0 / 0 / 0]
7-404-001	Software Error History	Latest	CTL*	[0 to 0 / 0 / 0]
7-404-002	Software Error History	Latest 1	CTL*	[0 to 0 / 0 / 0]
7-404-003	Software Error History	Latest 2	CTL*	[0 to 0 / 0 / 0]
7-404-004	Software Error History	Latest 3	CTL*	[0 to 0 / 0 / 0]
7-404-005	Software Error History	Latest 4	CTL*	[0 to 0 / 0 / 0]
7-404-006	Software Error History	Latest 5	CTL*	[0 to 0 / 0 / 0]
7-404-007	Software Error History	Latest 6	CTL*	[0 to 0 / 0 / 0]
7-404-008	Software Error History	Latest 7	CTL*	[0 to 0 / 0 / 0]
7-404-009	Software Error History	Latest 8	CTL*	[0 to 0 / 0 / 0]
7-404-010	Software Error History	Latest 9	CTL*	[0 to 0 / 0 / 0]
7-502-001	Total Paper Jam	Jam Counter	CTL*	[0 to 65535 / 0 / 1]
7-502-002	Total Paper Jam	Total Jam Counter	CTL*	[0 to 65535 / 0 / 1]
7-504-001	Paper Jam Location		CTL*	[0 to 65535 / 0 / 1]
7-504-003	Paper Jam Location		CTL*	[0 to 65535 / 0 / 1]
7-504-004	Paper Jam Location		CTL*	[0 to 65535 / 0 / 1]
7-504-005	Paper Jam Location		CTL*	[0 to 65535 / 0 / 1]
7-504-006	Paper Jam Location		CTL*	[0 to 65535 / 0 / 1]
7-504-008	Paper Jam Location		CTL*	[0 to 65535 / 0 / 1]
7-504-009	Paper Jam Location		CTL*	[0 to 65535 / 0 / 1]
7-504-013	Paper Jam Location		CTL*	[0 to 65535 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
7-504-017	Paper Jam Location		CTL*	[0 to 65535 / 0 / 1]
7-504-020	Paper Jam Location		CTL*	[0 to 65535 / 0 / 1]
7-504-023	Paper Jam Location		CTL*	[0 to 65535 / 0 / 1]
7-504-026	Paper Jam Location		CTL*	[0 to 65535 / 0 / 1]
7-504-053	Paper Jam Location		CTL*	[0 to 65535 / 0 / 1]
7-504-054	Paper Jam Location		CTL*	[0 to 65535 / 0 / 1]
7-504-055	Paper Jam Location		CTL*	[0 to 65535 / 0 / 1]
7-504-057	Paper Jam Location		CTL*	[0 to 65535 / 0 / 1]
7-504-060	Paper Jam Location		CTL*	[0 to 65535 / 0 / 1]
7-504-063	Paper Jam Location		CTL*	[0 to 65535 / 0 / 1]
7-504-066	Paper Jam Location		CTL*	[0 to 65535 / 0 / 1]
7-506-006	Jam Count by Paper Size	A5 LEF	CTL*	[0 to 65535 / 0 / 1]
7-506-044	Jam Count by Paper Size	HLT LEF	CTL*	[0 to 65535 / 0 / 1]
7-506-133	Jam Count by Paper Size	A4 SEF	CTL*	[0 to 65535 / 0 / 1]
7-506-134	Jam Count by Paper Size	A5 SEF	CTL*	[0 to 65535 / 0 / 1]
7-506-142	Jam Count by Paper Size	B5 SEF	CTL*	[0 to 65535 / 0 / 1]
7-506-164	Jam Count by Paper Size	LG SEF	CTL*	[0 to 65535 / 0 / 1]
7-506-166	Jam Count by Paper Size	LT SEF	CTL*	[0 to 65535 / 0 / 1]
7-506-172	Jam Count by Paper Size	HLT SEF	CTL*	[0 to 65535 / 0 / 1]
7-506-255	Jam Count by Paper Size	Others	CTL*	[0 to 65535 / 0 / 1]
7-507-001	Plotter Jam History	Latest	CTL*	[0 to 0 / 0 / 1]
7-507-002	Plotter Jam History	Latest 1	CTL*	[0 to 0 / 0 / 1]
7-507-003	Plotter Jam History	Latest 2	CTL*	[0 to 0 / 0 / 1]
7-507-004	Plotter Jam History	Latest 3	CTL*	[0 to 0 / 0 / 1]
7-507-005	Plotter Jam History	Latest 4	CTL*	[0 to 0 / 0 / 1]
7-507-006	Plotter Jam History	Latest 5	CTL*	[0 to 0 / 0 / 1]
7-507-007	Plotter Jam History	Latest 6	CTL*	[0 to 0 / 0 / 1]
7-507-008	Plotter Jam History	Latest 7	CTL*	[0 to 0 / 0 / 1]
7-507-009	Plotter Jam History	Latest 8	CTL*	[0 to 0 / 0 / 1]
7-507-010	Plotter Jam History	Latest 9	CTL*	[0 to 0 / 0 / 1]
7-514-001	Paper Jam Count by Location		CTL*	[0 to 65535 / 0 / 1]
7-514-003	Paper Jam Count by Location		CTL*	[0 to 65535 / 0 / 1]
7-514-004	Paper Jam Count by		CTL*	[0 to 65535 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
	Location			
7-514-005	Paper Jam Count by Location		CTL*	[0 to 65535 / 0 / 1]
7-514-006	Paper Jam Count by Location		CTL*	[0 to 65535 / 0 / 1]
7-514-008	Paper Jam Count by Location		CTL*	[0 to 65535 / 0 / 1]
7-514-009	Paper Jam Count by Location		CTL*	[0 to 65535 / 0 / 1]
7-514-013	Paper Jam Count by Location		CTL*	[0 to 65535 / 0 / 1]
7-514-017	Paper Jam Count by Location		CTL*	[0 to 65535 / 0 / 1]
7-514-020	Paper Jam Count by Location		CTL*	[0 to 65535 / 0 / 1]
7-514-023	Paper Jam Count by Location		CTL*	[0 to 65535 / 0 / 1]
7-514-026	Paper Jam Count by Location		CTL*	[0 to 65535 / 0 / 1]
7-514-053	Paper Jam Count by Location		CTL*	[0 to 65535 / 0 / 1]
7-514-054	Paper Jam Count by Location		CTL*	[0 to 65535 / 0 / 1]
7-514-055	Paper Jam Count by Location		CTL*	[0 to 65535 / 0 / 1]
7-514-057	Paper Jam Count by Location		CTL*	[0 to 65535 / 0 / 1]
7-514-060	Paper Jam Count by Location		CTL*	[0 to 65535 / 0 / 1]
7-514-063	Paper Jam Count by Location		CTL*	[0 to 65535 / 0 / 1]
7-514-066	Paper Jam Count by Location		CTL*	[0 to 65535 / 0 / 1]
7-516-006	Paper Size Jam Count	A5 LEF	CTL*	[0 to 65535 / 0 / 1]
7-516-044	Paper Size Jam Count	HLT LEF	CTL*	[0 to 65535 / 0 / 1]
7-516-133	Paper Size Jam Count	A4 SEF	CTL*	[0 to 65535 / 0 / 1]

SP Mode  
Tables  
Printer Only

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
7-516-134	Paper Size Jam Count	A5 SEF	CTL*	[0 to 65535 / 0 / 1]
7-516-142	Paper Size Jam Count	B5 SEF	CTL*	[0 to 65535 / 0 / 1]
7-516-164	Paper Size Jam Count	LG SEF	CTL*	[0 to 65535 / 0 / 1]
7-516-166	Paper Size Jam Count	LT SEF	CTL*	[0 to 65535 / 0 / 1]
7-516-172	Paper Size Jam Count	HLT SEF	CTL*	[0 to 65535 / 0 / 1]
7-516-255	Paper Size Jam Count	Others	CTL*	[0 to 65535 / 0 / 1]
7-520-001	Update Log	ErrorRecord1	CTL*	[0 to 255 / 0 / 1]
7-520-002	Update Log	ErrorRecord2	CTL*	[0 to 255 / 0 / 1]
7-520-003	Update Log	ErrorRecord3	CTL*	[0 to 255 / 0 / 1]
7-520-004	Update Log	ErrorRecord4	CTL*	[0 to 255 / 0 / 1]
7-520-005	Update Log	ErrorRecord5	CTL*	[0 to 255 / 0 / 1]
7-520-006	Update Log	ErrorRecord6	CTL*	[0 to 255 / 0 / 1]
7-520-007	Update Log	ErrorRecord7	CTL*	[0 to 255 / 0 / 1]
7-520-008	Update Log	ErrorRecord8	CTL*	[0 to 255 / 0 / 1]
7-520-009	Update Log	ErrorRecord9	CTL*	[0 to 255 / 0 / 1]
7-520-010	Update Log	ErrorRecord10	CTL*	[0 to 255 / 0 / 1]
7-617-001	PM Parts Counter Display	Normal	CTL*	[0 to 9999999 / 0 / 1]
7-617-002	PM Parts Counter Display	Df	CTL*	[0 to 9999999 / 0 / 1]
7-618-001	PM Parts Counter Reset	Normal	CTL	[0 to 0 / 0 / 0]
7-618-002	PM Parts Counter Reset	Df	CTL	[0 to 0 / 0 / 0]
7-801-255	ROM No./ Firmware Version		CTL	[0 to 0 / 0 / 0]
7-803-001	PM Counter Display	Paper	CTL	[0 to 9999999 / 0 / 1]
7-804-001	PM Counter Reset	Paper	CTL	[0 to 0 / 0 / 0]
7-807-001	SC/Jam Counter Reset		CTL	[0 to 0 / 0 / 0]
7-832-001	Self-Diagnose Result Display		CTL	[0 to 0 / 0 / 0]
7-836-001	Total Memory Size		CTL	[0 to 0xffffffff / 0 / 1MB]
7-901-001	Assert Info.	File Name	CTL*	[0 to 0 / 0 / 0]
7-901-002	Assert Info.	Number of Lines	CTL*	[0 to 0 / 0 / 0]
7-901-003	Assert Info.	Location	CTL*	[0 to 0 / 0 / 0]
7-910-001	ROM No	System	CTL	[0 to 0 / 0 / 0]
7-910-002	ROM No	Engine	CTL	[0 to 0 / 0 / 0]
7-910-003	ROM No	Lcdc	CTL	[0 to 0 / 0 / 0]
7-910-009	ROM No	Bank	CTL	[0 to 0 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
7-910-015	ROM No	Scanner	CTL	[0 to 0 / 0 / 0]
7-910-018	ROM No	NetworkSupport	CTL	[0 to 0 / 0 / 0]
7-910-019	ROM No	Bank2	CTL	[0 to 0 / 0 / 0]
7-910-022	ROM No	BIOS	CTL	[0 to 0 / 0 / 0]
7-910-040	ROM No	Bank3	CTL	[0 to 0 / 0 / 0]
7-910-041	ROM No	Bank4	CTL	[0 to 0 / 0 / 0]
7-910-150	ROM No	RPCS	CTL	[0 to 0 / 0 / 0]
7-910-151	ROM No	PS	CTL	[0 to 0 / 0 / 0]
7-910-158	ROM No	PCL	CTL	[0 to 0 / 0 / 0]
7-910-159	ROM No	PCLXL	CTL	[0 to 0 / 0 / 0]
7-910-162	ROM No	PDF	CTL	[0 to 0 / 0 / 0]
7-910-165	ROM No	PJL	CTL	[0 to 0 / 0 / 0]
7-910-166	ROM No	IPDS	CTL	[0 to 0 / 0 / 0]
7-910-168	ROM No	MediaPrint:TIFF	CTL	[0 to 0 / 0 / 0]
7-910-169	ROM No	XPS	CTL	[0 to 0 / 0 / 0]
7-910-180	ROM No	FONT	CTL	[0 to 0 / 0 / 0]
7-910-181	ROM No	FONT1	CTL	[0 to 0 / 0 / 0]
7-910-182	ROM No	FONT2	CTL	[0 to 0 / 0 / 0]
7-910-183	ROM No	FONT3	CTL	[0 to 0 / 0 / 0]
7-910-184	ROM No	FONT4	CTL	[0 to 0 / 0 / 0]
7-910-185	ROM No	FONT5	CTL	[0 to 0 / 0 / 0]
7-910-200	ROM No	Factory	CTL	[0 to 0 / 0 / 0]
7-910-202	ROM No	NetworkDocBox	CTL	[0 to 0 / 0 / 0]
7-910-204	ROM No	Printer	CTL	[0 to 0 / 0 / 0]
7-910-210	ROM No	MIB	CTL	[0 to 0 / 0 / 0]
7-910-211	ROM No	Websupport	CTL	[0 to 0 / 0 / 0]
7-911-001	Firmware Version	System	CTL	[0 to 0 / 0 / 0]
7-911-002	Firmware Version	Engine	CTL	[0 to 0 / 0 / 0]
7-911-003	Firmware Version	Lcdc	CTL	[0 to 0 / 0 / 0]
7-911-009	Firmware Version	Bank	CTL	[0 to 0 / 0 / 0]
7-911-015	Firmware Version	Scanner	CTL	[0 to 0 / 0 / 0]
7-911-018	Firmware Version	NetworkSupport	CTL	[0 to 0 / 0 / 0]
7-911-019	Firmware Version	Bank2	CTL	[0 to 0 / 0 / 0]
7-911-022	Firmware Version	BIOS	CTL	[0 to 0 / 0 / 0]
7-911-040	Firmware Version	Bank3	CTL	[0 to 0 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
7-911-041	Firmware Version	Bank4	CTL	[0 to 0 / 0 / 0]
7-911-150	Firmware Version	RPCS	CTL	[0 to 0 / 0 / 0]
7-911-151	Firmware Version	PS	CTL	[0 to 0 / 0 / 0]
7-911-158	Firmware Version	PCL	CTL	[0 to 0 / 0 / 0]
7-911-159	Firmware Version	PCLXL	CTL	[0 to 0 / 0 / 0]
7-911-162	Firmware Version	PDF	CTL	[0 to 0 / 0 / 0]
7-911-165	Firmware Version	PJL	CTL	[0 to 0 / 0 / 0]
7-911-166	Firmware Version	IPDS	CTL	[0 to 0 / 0 / 0]
7-911-168	Firmware Version	MediaPrint:TIFF	CTL	[0 to 0 / 0 / 0]
7-911-169	Firmware Version	XPS	CTL	[0 to 0 / 0 / 0]
7-911-180	Firmware Version	FONT	CTL	[0 to 0 / 0 / 0]
7-911-181	Firmware Version	FONT1	CTL	[0 to 0 / 0 / 0]
7-911-182	Firmware Version	FONT2	CTL	[0 to 0 / 0 / 0]
7-911-183	Firmware Version	FONT3	CTL	[0 to 0 / 0 / 0]
7-911-184	Firmware Version	FONT4	CTL	[0 to 0 / 0 / 0]
7-911-185	Firmware Version	FONT5	CTL	[0 to 0 / 0 / 0]
7-911-200	Firmware Version	Factory	CTL	[0 to 0 / 0 / 0]
7-911-202	Firmware Version	NetworkDocBox	CTL	[0 to 0 / 0 / 0]
7-911-204	Firmware Version	Printer	CTL	[0 to 0 / 0 / 0]
7-911-210	Firmware Version	MIB	CTL	[0 to 0 / 0 / 0]
7-911-211	Firmware Version	Websupport	CTL	[0 to 0 / 0 / 0]



## 4.10 SP8-XXX (DATA LOG 2) - CONTROLLER

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-071-001	T:Jobs/PGS	1 Page	CTL*	[0 to 99999999 / 0 / 1]
8-071-002	T:Jobs/PGS	2 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-071-003	T:Jobs/PGS	3 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-071-004	T:Jobs/PGS	4 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-071-005	T:Jobs/PGS	5 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-071-006	T:Jobs/PGS	6~10 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-071-007	T:Jobs/PGS	11~20 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-071-008	T:Jobs/PGS	21~50 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-071-009	T:Jobs/PGS	51~100 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-071-010	T:Jobs/PGS	101~300 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-071-011	T:Jobs/PGS	301~500 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-071-012	T:Jobs/PGS	501~700 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-071-013	T:Jobs/PGS	701~1000 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-071-014	T:Jobs/PGS	1001~ Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-001	P:Jobs/PGS	1 Page	CTL*	[0 to 99999999 / 0 / 1]
8-074-002	P:Jobs/PGS	2 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-003	P:Jobs/PGS	3 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-004	P:Jobs/PGS	4 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-005	P:Jobs/PGS	5 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-006	P:Jobs/PGS	6~10 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-007	P:Jobs/PGS	11~20 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-008	P:Jobs/PGS	21~50 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-009	P:Jobs/PGS	51~100 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-010	P:Jobs/PGS	101~300 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-011	P:Jobs/PGS	301~500 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-012	P:Jobs/PGS	501~700 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-013	P:Jobs/PGS	701~1000 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-014	P:Jobs/PGS	1001~ Pages	CTL*	[0 to 99999999 / 0 / 1]
8-077-001	O:Jobs/PGS	1 Page	CTL*	[0 to 99999999 / 0 / 1]
8-077-002	O:Jobs/PGS	2 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-077-003	O:Jobs/PGS	3 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-077-004	O:Jobs/PGS	4 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-077-005	O:Jobs/PGS	5 Pages	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-077-006	O:Jobs/PGS	6~10 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-077-007	O:Jobs/PGS	11~20 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-077-008	O:Jobs/PGS	21~50 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-077-009	O:Jobs/PGS	51~100 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-077-010	O:Jobs/PGS	101~300 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-077-011	O:Jobs/PGS	301~500 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-077-012	O:Jobs/PGS	501~700 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-077-013	O:Jobs/PGS	701~1000 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-077-014	O:Jobs/PGS	1001~ Pages	CTL*	[0 to 99999999 / 0 / 1]
8-081-001	T:Smart Device	Smart Device	CTL*	[0 to 99999999 / 0 / 1]
8-084-001	P:Smart Device	Smart Device	CTL*	[0 to 99999999 / 0 / 1]
8-381-001	T:Total PrtPGS	Field Number	CTL*	[0 to 99999999 / 0 / 1]
8-384-001	P:Total PrtPGS	Field Number	CTL*	[0 to 99999999 / 0 / 1]
8-387-001	O:Total PrtPGS	Field Number	CTL*	[0 to 99999999 / 0 / 1]
8-391-001	LSize PrtPGS	A3/DLT, Larger	CTL*	[0 to 99999999 / 0 / 1]
8-411-001	Prints/Duplex		CTL*	[0 to 99999999 / 0 / 1]
8-421-001	T:PrtPGS/Dup Comb	Simplex> Duplex	CTL*	[0 to 99999999 / 0 / 1]
8-421-004	T:PrtPGS/Dup Comb	Simplex Combine	CTL*	[0 to 99999999 / 0 / 1]
8-421-005	T:PrtPGS/Dup Comb	Duplex Combine	CTL*	[0 to 99999999 / 0 / 1]
8-421-006	T:PrtPGS/Dup Comb	2in1	CTL*	[0 to 99999999 / 0 / 1]
8-421-007	T:PrtPGS/Dup Comb	4in1	CTL*	[0 to 99999999 / 0 / 1]
8-421-008	T:PrtPGS/Dup Comb	6in1	CTL*	[0 to 99999999 / 0 / 1]
8-421-009	T:PrtPGS/Dup Comb	8in1	CTL*	[0 to 99999999 / 0 / 1]
8-421-010	T:PrtPGS/Dup Comb	9in1	CTL*	[0 to 99999999 / 0 / 1]
8-421-011	T:PrtPGS/Dup Comb	16in1	CTL*	[0 to 99999999 / 0 / 1]
8-421-012	T:PrtPGS/Dup Comb	Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-421-013	T:PrtPGS/Dup Comb	Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-421-014	T:PrtPGS/Dup Comb	2in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-421-015	T:PrtPGS/Dup Comb	4in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-421-016	T:PrtPGS/Dup Comb	6in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-421-017	T:PrtPGS/Dup Comb	8in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-421-018	T:PrtPGS/Dup Comb	9in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-421-019	T:PrtPGS/Dup Comb	2in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-421-020	T:PrtPGS/Dup Comb	4in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-421-021	T:PrtPGS/Dup Comb	6in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-421-022	T:PrtPGS/Dup Comb	8in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-421-023	T:PrtPGS/Dup Comb	9in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-421-024	T:PrtPGS/Dup Comb	16in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-424-001	P:PrtPGS/Dup Comb	Simplex> Duplex	CTL*	[0 to 99999999 / 0 / 1]
8-424-004	P:PrtPGS/Dup Comb	Simplex Combine	CTL*	[0 to 99999999 / 0 / 1]
8-424-005	P:PrtPGS/Dup Comb	Duplex Combine	CTL*	[0 to 99999999 / 0 / 1]
8-424-006	P:PrtPGS/Dup Comb	2in1	CTL*	[0 to 99999999 / 0 / 1]
8-424-007	P:PrtPGS/Dup Comb	4in1	CTL*	[0 to 99999999 / 0 / 1]
8-424-008	P:PrtPGS/Dup Comb	6in1	CTL*	[0 to 99999999 / 0 / 1]
8-424-009	P:PrtPGS/Dup Comb	8in1	CTL*	[0 to 99999999 / 0 / 1]
8-424-010	P:PrtPGS/Dup Comb	9in1	CTL*	[0 to 99999999 / 0 / 1]
8-424-011	P:PrtPGS/Dup Comb	16in1	CTL*	[0 to 99999999 / 0 / 1]
8-424-012	P:PrtPGS/Dup Comb	Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-424-013	P:PrtPGS/Dup Comb	Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-424-014	P:PrtPGS/Dup Comb	2in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-424-015	P:PrtPGS/Dup Comb	4in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-424-016	P:PrtPGS/Dup Comb	6in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-424-017	P:PrtPGS/Dup Comb	8in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-424-018	P:PrtPGS/Dup Comb	9in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-424-019	P:PrtPGS/Dup Comb	2in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-424-020	P:PrtPGS/Dup Comb	4in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-424-021	P:PrtPGS/Dup Comb	6in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-424-022	P:PrtPGS/Dup Comb	8in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-424-023	P:PrtPGS/Dup Comb	9in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-424-024	P:PrtPGS/Dup Comb	16in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-427-001	O:PrtPGS/Dup Comb	Simplex> Duplex	CTL*	[0 to 99999999 / 0 / 1]
8-427-004	O:PrtPGS/Dup Comb	Simplex Combine	CTL*	[0 to 99999999 / 0 / 1]
8-427-005	O:PrtPGS/Dup Comb	Duplex Combine	CTL*	[0 to 99999999 / 0 / 1]
8-427-006	O:PrtPGS/Dup Comb	2in1	CTL*	[0 to 99999999 / 0 / 1]
8-427-007	O:PrtPGS/Dup Comb	4in1	CTL*	[0 to 99999999 / 0 / 1]
8-427-008	O:PrtPGS/Dup Comb	6in1	CTL*	[0 to 99999999 / 0 / 1]
8-427-009	O:PrtPGS/Dup Comb	8in1	CTL*	[0 to 99999999 / 0 / 1]
8-427-010	O:PrtPGS/Dup Comb	9in1	CTL*	[0 to 99999999 / 0 / 1]
8-427-011	O:PrtPGS/Dup Comb	16in1	CTL*	[0 to 99999999 / 0 / 1]
8-427-012	O:PrtPGS/Dup Comb	Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-427-013	O:PrtPGS/Dup Comb	Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-427-014	O:PrtPGS/Dup Comb	2in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-427-015	O:PrtPGS/Dup Comb	4in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-427-016	O:PrtPGS/Dup Comb	6in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-427-017	O:PrtPGS/Dup Comb	8in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-427-018	O:PrtPGS/Dup Comb	9in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-427-019	O:PrtPGS/Dup Comb	2in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-427-020	O:PrtPGS/Dup Comb	4in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-427-021	O:PrtPGS/Dup Comb	6in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-427-022	O:PrtPGS/Dup Comb	8in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-427-023	O:PrtPGS/Dup Comb	9in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-427-024	O:PrtPGS/Dup Comb	16in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-441-001	T:PrtPGS/Ppr Size	A3	CTL*	[0 to 99999999 / 0 / 1]
8-441-002	T:PrtPGS/Ppr Size	A4	CTL*	[0 to 99999999 / 0 / 1]
8-441-003	T:PrtPGS/Ppr Size	A5	CTL*	[0 to 99999999 / 0 / 1]
8-441-004	T:PrtPGS/Ppr Size	B4	CTL*	[0 to 99999999 / 0 / 1]
8-441-005	T:PrtPGS/Ppr Size	B5	CTL*	[0 to 99999999 / 0 / 1]
8-441-006	T:PrtPGS/Ppr Size	DLT	CTL*	[0 to 99999999 / 0 / 1]
8-441-007	T:PrtPGS/Ppr Size	LG	CTL*	[0 to 99999999 / 0 / 1]
8-441-008	T:PrtPGS/Ppr Size	LT	CTL*	[0 to 99999999 / 0 / 1]
8-441-009	T:PrtPGS/Ppr Size	HLT	CTL*	[0 to 99999999 / 0 / 1]
8-441-010	T:PrtPGS/Ppr Size	Full Bleed	CTL*	[0 to 99999999 / 0 / 1]
8-441-254	T:PrtPGS/Ppr Size	Other (Standard)	CTL*	[0 to 99999999 / 0 / 1]
8-441-255	T:PrtPGS/Ppr Size	Other (Custom)	CTL*	[0 to 99999999 / 0 / 1]
8-444-001	P:PrtPGS/Ppr Size	A3	CTL*	[0 to 99999999 / 0 / 1]
8-444-002	P:PrtPGS/Ppr Size	A4	CTL*	[0 to 99999999 / 0 / 1]
8-444-003	P:PrtPGS/Ppr Size	A5	CTL*	[0 to 99999999 / 0 / 1]
8-444-004	P:PrtPGS/Ppr Size	B4	CTL*	[0 to 99999999 / 0 / 1]
8-444-005	P:PrtPGS/Ppr Size	B5	CTL*	[0 to 99999999 / 0 / 1]
8-444-006	P:PrtPGS/Ppr Size	DLT	CTL*	[0 to 99999999 / 0 / 1]
8-444-007	P:PrtPGS/Ppr Size	LG	CTL*	[0 to 99999999 / 0 / 1]
8-444-008	P:PrtPGS/Ppr Size	LT	CTL*	[0 to 99999999 / 0 / 1]
8-444-009	P:PrtPGS/Ppr Size	HLT	CTL*	[0 to 99999999 / 0 / 1]
8-444-010	P:PrtPGS/Ppr Size	Full Bleed	CTL*	[0 to 99999999 / 0 / 1]
8-444-254	P:PrtPGS/Ppr Size	Other (Standard)	CTL*	[0 to 99999999 / 0 / 1]
8-444-255	P:PrtPGS/Ppr Size	Other (Custom)	CTL*	[0 to 99999999 / 0 / 1]
8-447-001	O:PrtPGS/Ppr Size	A3	CTL*	[0 to 99999999 / 0 / 1]
8-447-002	O:PrtPGS/Ppr Size	A4	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-447-003	O:PrtPGS/Ppr Size	A5	CTL*	[0 to 99999999 / 0 / 1]
8-447-004	O:PrtPGS/Ppr Size	B4	CTL*	[0 to 99999999 / 0 / 1]
8-447-005	O:PrtPGS/Ppr Size	B5	CTL*	[0 to 99999999 / 0 / 1]
8-447-006	O:PrtPGS/Ppr Size	DLT	CTL*	[0 to 99999999 / 0 / 1]
8-447-007	O:PrtPGS/Ppr Size	LG	CTL*	[0 to 99999999 / 0 / 1]
8-447-008	O:PrtPGS/Ppr Size	LT	CTL*	[0 to 99999999 / 0 / 1]
8-447-009	O:PrtPGS/Ppr Size	HLT	CTL*	[0 to 99999999 / 0 / 1]
8-447-010	O:PrtPGS/Ppr Size	Full Bleed	CTL*	[0 to 99999999 / 0 / 1]
8-447-254	O:PrtPGS/Ppr Size	Other (Standard)	CTL*	[0 to 99999999 / 0 / 1]
8-447-255	O:PrtPGS/Ppr Size	Other (Custom)	CTL*	[0 to 99999999 / 0 / 1]
8-451-001	PrtPGS/Ppr Tray	Bypass Tray	CTL*	[0 to 99999999 / 0 / 1]
8-451-002	PrtPGS/Ppr Tray	Tray 1	CTL*	[0 to 99999999 / 0 / 1]
8-451-003	PrtPGS/Ppr Tray	Tray 2	CTL*	[0 to 99999999 / 0 / 1]
8-451-004	PrtPGS/Ppr Tray	Tray 3	CTL*	[0 to 99999999 / 0 / 1]
8-451-005	PrtPGS/Ppr Tray	Tray 4	CTL*	[0 to 99999999 / 0 / 1]
8-451-006	PrtPGS/Ppr Tray	Tray 5	CTL*	[0 to 99999999 / 0 / 1]
8-451-007	PrtPGS/Ppr Tray	Tray 6	CTL*	[0 to 99999999 / 0 / 1]
8-451-008	PrtPGS/Ppr Tray	Tray 7	CTL*	[0 to 99999999 / 0 / 1]
8-451-009	PrtPGS/Ppr Tray	Tray 8	CTL*	[0 to 99999999 / 0 / 1]
8-451-010	PrtPGS/Ppr Tray	Tray 9	CTL*	[0 to 99999999 / 0 / 1]
8-451-011	PrtPGS/Ppr Tray	Tray 10	CTL*	[0 to 99999999 / 0 / 1]
8-451-012	PrtPGS/Ppr Tray	Tray 11	CTL*	[0 to 99999999 / 0 / 1]
8-451-013	PrtPGS/Ppr Tray	Tray 12	CTL*	[0 to 99999999 / 0 / 1]
8-451-014	PrtPGS/Ppr Tray	Tray 13	CTL*	[0 to 99999999 / 0 / 1]
8-451-015	PrtPGS/Ppr Tray	Tray 14	CTL*	[0 to 99999999 / 0 / 1]
8-451-016	PrtPGS/Ppr Tray	Tray 15	CTL*	[0 to 99999999 / 0 / 1]
8-451-101	PrtPGS/Ppr Tray	LC Inserter	CTL*	[0 to 99999999 / 0 / 1]
8-451-102	PrtPGS/Ppr Tray	3rd Vendor	CTL*	[0 to 99999999 / 0 / 1]
8-461-001	T:PrtPGS/Ppr Type	Normal	CTL*	[0 to 99999999 / 0 / 1]
8-461-002	T:PrtPGS/Ppr Type	Recycled	CTL*	[0 to 99999999 / 0 / 1]
8-461-003	T:PrtPGS/Ppr Type	Special	CTL*	[0 to 99999999 / 0 / 1]
8-461-004	T:PrtPGS/Ppr Type	Thick	CTL*	[0 to 99999999 / 0 / 1]
8-461-005	T:PrtPGS/Ppr Type	Normal (Back)	CTL*	[0 to 99999999 / 0 / 1]
8-461-006	T:PrtPGS/Ppr Type	Thick (Back)	CTL*	[0 to 99999999 / 0 / 1]
8-461-007	T:PrtPGS/Ppr Type	OHP	CTL*	[0 to 99999999 / 0 / 1]
8-461-008	T:PrtPGS/Ppr Type	Other	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-464-001	P:PrtPGS/Ppr Type	Normal	CTL*	[0 to 99999999 / 0 / 1]
8-464-002	P:PrtPGS/Ppr Type	Recycled	CTL*	[0 to 99999999 / 0 / 1]
8-464-003	P:PrtPGS/Ppr Type	Special	CTL*	[0 to 99999999 / 0 / 1]
8-464-004	P:PrtPGS/Ppr Type	Thick	CTL*	[0 to 99999999 / 0 / 1]
8-464-005	P:PrtPGS/Ppr Type	Normal (Back)	CTL*	[0 to 99999999 / 0 / 1]
8-464-006	P:PrtPGS/Ppr Type	Thick (Back)	CTL*	[0 to 99999999 / 0 / 1]
8-464-007	P:PrtPGS/Ppr Type	OHP	CTL*	[0 to 99999999 / 0 / 1]
8-464-008	P:PrtPGS/Ppr Type	Other	CTL*	[0 to 99999999 / 0 / 1]
8-521-001	T:PrtPGS/FIN	Sort	CTL*	[0 to 99999999 / 0 / 1]
8-521-002	T:PrtPGS/FIN	Stack	CTL*	[0 to 99999999 / 0 / 1]
8-521-003	T:PrtPGS/FIN	Staple	CTL*	[0 to 99999999 / 0 / 1]
8-521-004	T:PrtPGS/FIN	Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-521-005	T:PrtPGS/FIN	Z-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-521-006	T:PrtPGS/FIN	Punch	CTL*	[0 to 99999999 / 0 / 1]
8-521-007	T:PrtPGS/FIN	Other	CTL*	[0 to 99999999 / 0 / 1]
8-521-008	T:PrtPGS/FIN	Inside-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-521-009	T:PrtPGS/FIN	Three-IN-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-521-010	T:PrtPGS/FIN	Three-OUT-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-521-011	T:PrtPGS/FIN	Four-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-521-012	T:PrtPGS/FIN	KANNON-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-521-013	T:PrtPGS/FIN	Perfect-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-521-014	T:PrtPGS/FIN	Ring-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-521-015	T:PrtPGS/FIN	3rd Vendor	CTL*	[0 to 99999999 / 0 / 1]
8-521-016	T:PrtPGS/FIN	TwinLoop-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-524-001	P:PrtPGS/FIN	Sort	CTL*	[0 to 99999999 / 0 / 1]
8-524-002	P:PrtPGS/FIN	Stack	CTL*	[0 to 99999999 / 0 / 1]
8-524-003	P:PrtPGS/FIN	Staple	CTL*	[0 to 99999999 / 0 / 1]
8-524-004	P:PrtPGS/FIN	Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-524-005	P:PrtPGS/FIN	Z-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-524-006	P:PrtPGS/FIN	Punch	CTL*	[0 to 99999999 / 0 / 1]
8-524-007	P:PrtPGS/FIN	Other	CTL*	[0 to 99999999 / 0 / 1]
8-524-008	P:PrtPGS/FIN	Inside-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-524-009	P:PrtPGS/FIN	Three-IN-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-524-010	P:PrtPGS/FIN	Three-OUT-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-524-011	P:PrtPGS/FIN	Four-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-524-012	P:PrtPGS/FIN	KANNON-Fold	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-524-013	P:PrtPGS/FIN	Perfect-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-524-014	P:PrtPGS/FIN	Ring-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-524-015	P:PrtPGS/FIN	3rd Vendor	CTL*	[0 to 99999999 / 0 / 1]
8-524-016	P:PrtPGS/FIN	TwinLoop-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-551-001	T:PrtBooks/FIN	Perfect-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-551-002	T:PrtBooks/FIN	Ring-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-551-003	T:PrtBooks/FIN	TwinLoop-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-554-001	P:PrtBooks/FIN	Perfect-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-554-002	P:PrtBooks/FIN	Ring-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-554-003	P:PrtBooks/FIN	TwinLoop-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-561-001	T:A Sheet Of Paper	Total: Over A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-561-002	T:A Sheet Of Paper	Total: Under A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-561-003	T:A Sheet Of Paper	Duplex: Over A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-561-004	T:A Sheet Of Paper	Duplex: Under A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-564-001	P:A Sheet Of Paper	Total: Over A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-564-002	P:A Sheet Of Paper	Total: Under A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-564-003	P:A Sheet Of Paper	Duplex: Over A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-564-004	P:A Sheet Of Paper	Duplex: Under A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-567-001	O:A Sheet Of Paper	Total: Over A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-567-002	O:A Sheet Of Paper	Total: Under A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-567-003	O:A Sheet Of Paper	Duplex: Over A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-567-004	O:A Sheet Of Paper	Duplex: Under A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-581-001	T:Counter	Total	CTL*	[0 to 99999999 / 0 / 1]
8-581-032	T:Counter	Total(A3)	CTL*	[0 to 99999999 / 0 / 1]
8-591-001	O:Counter	A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-591-002	O:Counter	Duplex	CTL*	[0 to 99999999 / 0 / 1]
8-601-001	T:Coverage Counter	B/W	CTL*	[0 to 2147483647 / 0 / 1%]
8-601-011	T:Coverage Counter	B/W Printing Pages	CTL*	[0 to 99999999 / 0 / 1]
8-604-001	P:Coverage Counter	B/W	CTL*	[0 to 2147483647 / 0 / 1%]
8-617-001	SDK Apli Counter	SDK-1	CTL*	[0 to 99999999 / 0 / 1]
8-617-002	SDK Apli Counter	SDK-2	CTL*	[0 to 99999999 / 0 / 1]
8-617-003	SDK Apli Counter	SDK-3	CTL*	[0 to 99999999 / 0 / 1]
8-617-004	SDK Apli Counter	SDK-4	CTL*	[0 to 99999999 / 0 / 1]
8-617-005	SDK Apli Counter	SDK-5	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-617-006	SDK Apli Counter	SDK-6	CTL*	[0 to 99999999 / 0 / 1]
8-617-007	SDK Apli Counter	SDK-7	CTL*	[0 to 99999999 / 0 / 1]
8-617-008	SDK Apli Counter	SDK-8	CTL*	[0 to 99999999 / 0 / 1]
8-617-009	SDK Apli Counter	SDK-9	CTL*	[0 to 99999999 / 0 / 1]
8-617-010	SDK Apli Counter	SDK-10	CTL*	[0 to 99999999 / 0 / 1]
8-617-011	SDK Apli Counter	SDK-11	CTL*	[0 to 99999999 / 0 / 1]
8-617-012	SDK Apli Counter	SDK-12	CTL*	[0 to 99999999 / 0 / 1]
8-621-001	Func Use Counter	Function-001	CTL*	[0 to 99999999 / 0 / 1]
8-621-002	Func Use Counter	Function-002	CTL*	[0 to 99999999 / 0 / 1]
8-621-003	Func Use Counter	Function-003	CTL*	[0 to 99999999 / 0 / 1]
8-621-004	Func Use Counter	Function-004	CTL*	[0 to 99999999 / 0 / 1]
8-621-005	Func Use Counter	Function-005	CTL*	[0 to 99999999 / 0 / 1]
8-621-006	Func Use Counter	Function-006	CTL*	[0 to 99999999 / 0 / 1]
8-621-007	Func Use Counter	Function-007	CTL*	[0 to 99999999 / 0 / 1]
8-621-008	Func Use Counter	Function-008	CTL*	[0 to 99999999 / 0 / 1]
8-621-009	Func Use Counter	Function-009	CTL*	[0 to 99999999 / 0 / 1]
8-621-010	Func Use Counter	Function-010	CTL*	[0 to 99999999 / 0 / 1]
8-621-011	Func Use Counter	Function-011	CTL*	[0 to 99999999 / 0 / 1]
8-621-012	Func Use Counter	Function-012	CTL*	[0 to 99999999 / 0 / 1]
8-621-013	Func Use Counter	Function-013	CTL*	[0 to 99999999 / 0 / 1]
8-621-014	Func Use Counter	Function-014	CTL*	[0 to 99999999 / 0 / 1]
8-621-015	Func Use Counter	Function-015	CTL*	[0 to 99999999 / 0 / 1]
8-621-016	Func Use Counter	Function-016	CTL*	[0 to 99999999 / 0 / 1]
8-621-017	Func Use Counter	Function-017	CTL*	[0 to 99999999 / 0 / 1]
8-621-018	Func Use Counter	Function-018	CTL*	[0 to 99999999 / 0 / 1]
8-621-019	Func Use Counter	Function-019	CTL*	[0 to 99999999 / 0 / 1]
8-621-020	Func Use Counter	Function-020	CTL*	[0 to 99999999 / 0 / 1]
8-621-021	Func Use Counter	Function-021	CTL*	[0 to 99999999 / 0 / 1]
8-621-022	Func Use Counter	Function-022	CTL*	[0 to 99999999 / 0 / 1]
8-621-023	Func Use Counter	Function-023	CTL*	[0 to 99999999 / 0 / 1]
8-621-024	Func Use Counter	Function-024	CTL*	[0 to 99999999 / 0 / 1]
8-621-025	Func Use Counter	Function-025	CTL*	[0 to 99999999 / 0 / 1]
8-621-026	Func Use Counter	Function-026	CTL*	[0 to 99999999 / 0 / 1]
8-621-027	Func Use Counter	Function-027	CTL*	[0 to 99999999 / 0 / 1]
8-621-028	Func Use Counter	Function-028	CTL*	[0 to 99999999 / 0 / 1]
8-621-029	Func Use Counter	Function-029	CTL*	[0 to 99999999 / 0 / 1]



SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-621-030	Func Use Counter	Function-030	CTL*	[0 to 99999999 / 0 / 1]
8-621-031	Func Use Counter	Function-031	CTL*	[0 to 99999999 / 0 / 1]
8-621-032	Func Use Counter	Function-032	CTL*	[0 to 99999999 / 0 / 1]
8-621-033	Func Use Counter	Function-033	CTL*	[0 to 99999999 / 0 / 1]
8-621-034	Func Use Counter	Function-034	CTL*	[0 to 99999999 / 0 / 1]
8-621-035	Func Use Counter	Function-035	CTL*	[0 to 99999999 / 0 / 1]
8-621-036	Func Use Counter	Function-036	CTL*	[0 to 99999999 / 0 / 1]
8-621-037	Func Use Counter	Function-037	CTL*	[0 to 99999999 / 0 / 1]
8-621-038	Func Use Counter	Function-038	CTL*	[0 to 99999999 / 0 / 1]
8-621-039	Func Use Counter	Function-039	CTL*	[0 to 99999999 / 0 / 1]
8-621-040	Func Use Counter	Function-040	CTL*	[0 to 99999999 / 0 / 1]
8-621-041	Func Use Counter	Function-041	CTL*	[0 to 99999999 / 0 / 1]
8-621-042	Func Use Counter	Function-042	CTL*	[0 to 99999999 / 0 / 1]
8-621-043	Func Use Counter	Function-043	CTL*	[0 to 99999999 / 0 / 1]
8-621-044	Func Use Counter	Function-044	CTL*	[0 to 99999999 / 0 / 1]
8-621-045	Func Use Counter	Function-045	CTL*	[0 to 99999999 / 0 / 1]
8-621-046	Func Use Counter	Function-046	CTL*	[0 to 99999999 / 0 / 1]
8-621-047	Func Use Counter	Function-047	CTL*	[0 to 99999999 / 0 / 1]
8-621-048	Func Use Counter	Function-048	CTL*	[0 to 99999999 / 0 / 1]
8-621-049	Func Use Counter	Function-049	CTL*	[0 to 99999999 / 0 / 1]
8-621-050	Func Use Counter	Function-050	CTL*	[0 to 99999999 / 0 / 1]
8-621-051	Func Use Counter	Function-051	CTL*	[0 to 99999999 / 0 / 1]
8-621-052	Func Use Counter	Function-052	CTL*	[0 to 99999999 / 0 / 1]
8-621-053	Func Use Counter	Function-053	CTL*	[0 to 99999999 / 0 / 1]
8-621-054	Func Use Counter	Function-054	CTL*	[0 to 99999999 / 0 / 1]
8-621-055	Func Use Counter	Function-055	CTL*	[0 to 99999999 / 0 / 1]
8-621-056	Func Use Counter	Function-056	CTL*	[0 to 99999999 / 0 / 1]
8-621-057	Func Use Counter	Function-057	CTL*	[0 to 99999999 / 0 / 1]
8-621-058	Func Use Counter	Function-058	CTL*	[0 to 99999999 / 0 / 1]
8-621-059	Func Use Counter	Function-059	CTL*	[0 to 99999999 / 0 / 1]
8-621-060	Func Use Counter	Function-060	CTL*	[0 to 99999999 / 0 / 1]
8-621-061	Func Use Counter	Function-061	CTL*	[0 to 99999999 / 0 / 1]
8-621-062	Func Use Counter	Function-062	CTL*	[0 to 99999999 / 0 / 1]
8-621-063	Func Use Counter	Function-063	CTL*	[0 to 99999999 / 0 / 1]
8-621-064	Func Use Counter	Function-064	CTL*	[0 to 99999999 / 0 / 1]
8-771-001	Dev Counter	Total	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-781-001	Toner_Botol_Info.	BK	CTL*	[0 to 99999999 / 0 / 1]
8-801-001	Toner Remain	K	CTL*	[0 to 100 / 0 / 1%]
8-811-001	Eco Counter	Eco Total	CTL*	[0 to 99999999 / 0 / 1]
8-811-004	Eco Counter	Duplex	CTL*	[0 to 99999999 / 0 / 1]
8-811-005	Eco Counter	Combine	CTL*	[0 to 99999999 / 0 / 1]
8-811-008	Eco Counter	Duplex(%)	CTL*	[0 to 100 / 0 / 1%]
8-811-009	Eco Counter	Combine(%)	CTL*	[0 to 100 / 0 / 1%]
8-811-010	Eco Counter	Paper Cut(%)	CTL*	[0 to 100 / 0 / 1%]
8-811-051	Eco Counter	Sync Eco Total	CTL*	[0 to 99999999 / 0 / 1]
8-811-054	Eco Counter	Sync Duplex	CTL*	[0 to 99999999 / 0 / 1]
8-811-055	Eco Counter	Sync Combine	CTL*	[0 to 99999999 / 0 / 1]
8-811-058	Eco Counter	Sync Duplex(%)	CTL*	[0 to 100 / 0 / 1%]
8-811-059	Eco Counter	Sync Combine(%)	CTL*	[0 to 100 / 0 / 1%]
8-811-060	Eco Counter	Sync Paper Cut(%)	CTL*	[0 to 100 / 0 / 1%]
8-811-101	Eco Counter	Eco Totalr>Last	CTL*	[0 to 99999999 / 0 / 1]
8-811-104	Eco Counter	Duplex>Last	CTL*	[0 to 99999999 / 0 / 1]
8-811-105	Eco Counter	Combine>Last	CTL*	[0 to 99999999 / 0 / 1]
8-811-108	Eco Counter	Duplex(%):Last	CTL*	[0 to 100 / 0 / 1%]
8-811-109	Eco Counter	Combine(%):Last	CTL*	[0 to 100 / 0 / 1%]
8-811-110	Eco Counter	Paper Cut(%):Last	CTL*	[0 to 100 / 0 / 1%]
8-811-151	Eco Counter	Sync Eco Totalr>Last	CTL*	[0 to 99999999 / 0 / 1]
8-811-154	Eco Counter	Sync Duplex>Last	CTL*	[0 to 99999999 / 0 / 1]
8-811-155	Eco Counter	Sync Combine>Last	CTL*	[0 to 99999999 / 0 / 1]
8-811-158	Eco Counter	Sync Duplex(%):Last	CTL*	[0 to 100 / 0 / 1%]
8-811-159	Eco Counter	Sync Combine(%):Last	CTL*	[0 to 100 / 0 / 1%]
8-811-160	Eco Counter	Sync Paper Cut(%):Last	CTL*	[0 to 100 / 0 / 1%]
8-851-011	Cvr Cnt:0-10%	0~2%:BK	CTL*	[0 to 99999999 / 0 / 1]
8-851-021	Cvr Cnt:0-10%	3~4%:BK	CTL*	[0 to 99999999 / 0 / 1]
8-851-031	Cvr Cnt:0-10%	5~7%:BK	CTL*	[0 to 99999999 / 0 / 1]
8-851-041	Cvr Cnt:0-10%	8~10%:BK	CTL*	[0 to 99999999 / 0 / 1]
8-861-001	Cvr Cnt:11-20%	BK	CTL*	[0 to 99999999 / 0 / 1]
8-871-001	Cvr Cnt:21-30%	BK	CTL*	[0 to 99999999 / 0 / 1]
8-881-001	Cvr Cnt:31%-	BK	CTL*	[0 to 99999999 / 0 / 1]
8-891-001	Page/Toner Bottle	BK	CTL*	[0 to 99999999 / 0 / 1]
8-901-001	Page/Toner_Prev1	BK	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-911-001	Page/Toner_Prev2	BK	CTL*	[0 to 99999999 / 0 / 1]
8-921-001	Cvr Cnt/Total	Coverage(%):BK	CTL*	[0 to 2147483647 / 0 / 1%]
8-921-011	Cvr Cnt/Total	Coverage/P:BK	CTL*	[0 to 99999999 / 0 / 1]
8-941-001	Machine Status	Operation Time	CTL*	[0 to 99999999 / 0 / 1]
8-941-002	Machine Status	Standby Time	CTL*	[0 to 99999999 / 0 / 1]
8-941-003	Machine Status	Energy Save Time	CTL*	[0 to 99999999 / 0 / 1]
8-941-004	Machine Status	Low Power Time	CTL*	[0 to 99999999 / 0 / 1]
8-941-005	Machine Status	Off Mode Time	CTL*	[0 to 99999999 / 0 / 1]
8-941-006	Machine Status	SC	CTL*	[0 to 99999999 / 0 / 1]
8-941-007	Machine Status	PrtJam	CTL*	[0 to 99999999 / 0 / 1]
8-941-008	Machine Status	OrgJam	CTL*	[0 to 99999999 / 0 / 1]
8-941-009	Machine Status	Supply PM Unit End	CTL*	[0 to 99999999 / 0 / 1]
8-961-001	Electricity Status	Ctrl Standby Time	CTL*	[0 to 99999999 / 0 / 1]
8-961-002	Electricity Status	STR Time	CTL*	[0 to 99999999 / 0 / 1]
8-961-003	Electricity Status	Main Power Off Time	CTL*	[0 to 99999999 / 0 / 1]
8-961-004	Electricity Status	Reading and Printing Time	CTL*	[0 to 99999999 / 0 / 1]
8-961-005	Electricity Status	Printing Time	CTL*	[0 to 99999999 / 0 / 1]
8-961-006	Electricity Status	Reading Time	CTL*	[0 to 99999999 / 0 / 1]
8-961-007	Electricity Status	Eng Waiting Time	CTL*	[0 to 99999999 / 0 / 1]
8-961-008	Electricity Status	Low Pauer State Time	CTL*	[0 to 99999999 / 0 / 1]
8-961-009	Electricity Status	Silent State Time	CTL*	[0 to 99999999 / 0 / 1]
8-961-010	Electricity Status	Heater Off State Time	CTL*	[0 to 99999999 / 0 / 1]
8-961-011	Electricity Status	LCD on Time	CTL*	[0 to 99999999 / 0 / 1]
8-961-101	Electricity Status	Silent Print	CTL*	[0 to 99999999 / 0 / 1]
8-971-001	Unit Control	Engine Off Recovery Count	CTL*	[0 to 99999999 / 0 / 1]
8-971-002	Unit Control	Power Off Count	CTL*	[0 to 99999999 / 0 / 1]
8-971-003	Unit Control	Force Power Off Count	CTL*	[0 to 99999999 / 0 / 1]
8-999-001	Admin. Counter List	Total	CTL*	[0 to 99999999 / 0 / 1]
8-999-007	Admin. Counter List	Printer: BW	CTL*	[0 to 99999999 / 0 / 1]
8-999-013	Admin. Counter List	Duplex	CTL*	[0 to 99999999 / 0 / 1]
8-999-027	Admin. Counter List	Printer: BW(%)	CTL*	[0 to 2147483647 / 0 / 1]



# SP MODE TABLES (FOR MF MODEL)

REVISION HISTORY		
Page	Date	Added/Updated/New
		None



## 5. SP MODE TABLES (FOR MF MODEL)

### 5.1 SP1-XXX (FEED)

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
1-001-001	User LeadEdge Reg	By-pass: Plain	ENG*	[-4 to 4 / 0 / 0.1mm]
1-001-002	User LeadEdge Reg	Tray1: Plain	ENG*	[-4 to 4 / 0 / 0.1mm]
1-001-003	User LeadEdge Reg	Tray2: Plain	ENG*	[-4 to 4 / 0 / 0.1mm]
1-001-004	User LeadEdge Reg	Tray3: Plain	ENG*	[-4 to 4 / 0 / 0.1mm]
1-001-005	User LeadEdge Reg	Tray4: Plain	ENG*	[-4 to 4 / 0 / 0.1mm]
1-001-006	User LeadEdge Reg	Duplex: Plain	ENG*	[-4 to 4 / 0 / 0.1mm]
1-002-001	User S-to-S Reg	By-pass	ENG*	[-4 to 4 / 0 / 0.1mm]
1-002-002	User S-to-S Reg	Tray 1	ENG*	[-4 to 4 / 0 / 0.1mm]
1-002-003	User S-to-S Reg	Tray 2	ENG*	[-4 to 4 / 0 / 0.1mm]
1-002-004	User S-to-S Reg	Tray 3	ENG*	[-4 to 4 / 0 / 0.1mm]
1-002-005	User S-to-S Reg	Tray 4	ENG*	[-4 to 4 / 0 / 0.1mm]
1-002-006	User S-to-S Reg	Duplex	ENG*	[-4 to 4 / 0 / 0.1mm]
1-003-011	Paper Buckle	By-pass: Plain	ENG*	[-5 to 5 / 0 / 1mm]
1-003-012	Paper Buckle	By-pass: Thick	ENG*	[-5 to 5 / 0 / 1mm]
1-003-013	Paper Buckle	By-pass: Envelope	ENG*	[-5 to 5 / 0 / 1mm]
1-003-021	Paper Buckle	Tray1: Plain	ENG*	[-5 to 5 / 0 / 1mm]
1-003-022	Paper Buckle	Tray1: Thick	ENG*	[-5 to 5 / 0 / 1mm]
1-003-023	Paper Buckle	Tray1: Envelope	ENG*	[-5 to 5 / 0 / 1mm]
1-003-031	Paper Buckle	Tray2: Plain	ENG*	[-5 to 5 / 0 / 1mm]
1-003-032	Paper Buckle	Tray2: Thick	ENG*	[-5 to 5 / 0 / 1mm]
1-003-041	Paper Buckle	Tray3: Plain	ENG*	[-5 to 5 / 0 / 1mm]
1-003-042	Paper Buckle	Tray3: Thick	ENG*	[-5 to 5 / 0 / 1mm]
1-003-051	Paper Buckle	Tray4: Plain	ENG*	[-5 to 5 / 0 / 1mm]
1-003-052	Paper Buckle	Tray4: Thick	ENG*	[-5 to 5 / 0 / 1mm]
1-003-061	Paper Buckle	Duplex: Plain	ENG*	[-5 to 5 / 0 / 1mm]
1-003-062	Paper Buckle	Duplex: Thick	ENG*	[-5 to 5 / 0 / 1mm]
1-101-001	Flicker Control	Flicker Control	ENG*	[0 to 1 / 0 / 1]
1-103-002	Fusing Idling	Reload Temp.:Center	ENG*	[90 to 180 / * / 1deg] IM 350F/350: 145 IM 430Fb/430F: 153

## SP1-XXX (Feed)

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
1-103-003	Fusing Idling	center:Thresh	ENG*	[60 to 180 / * / 1deg] IM 350F/350: 135 IM 430Fb/430F: 143
1-103-102	Fusing Idling	Reload Temp.:Side	ENG*	[90 to 180 / * / 1deg] IM 350F/350: 105 IM 430Fb/430F: 113
1-103-103	Fusing Idling	Side: Thresh	ENG*	[60 to 180 / * / 1deg] IM 350F/350: 85 IM 430Fb/430F: 93
1-103-152	Fusing Idling	Reload Temp.:Side_low speed	ENG*	[90 to 180 / 100 / 1deg]
1-103-153	Fusing Idling	Side: Thresh_low speed	ENG*	[60 to 180 / 80 / 1deg]
1-103-202	Fusing Idling	Reload Temp:Center_low speed	ENG*	[90 to 180 / 140 / 1deg]
1-103-203	Fusing Idling	Center:Thresh_low speed	ENG*	[60 to 180 / 130 / 1deg]
1-105-001	Fusing Temperature Adjustment	Roller Center:Plain1	ENG*	[120 to 230 / * / 1deg] IM 350F/350: 167 IM 430Fb/430F: 170
1-105-003	Fusing Temperature Adjustment	Roller Center:Plain2	ENG*	[120 to 230 / * / 1deg] IM 350F/350: 175 IM 430Fb/430F: 178
1-105-005	Fusing Temperature Adjustment	Roller Center:M-Thick	ENG*	[120 to 230 / * / 1deg] IM 350F/350: 180 IM 430Fb/430F: 186
1-105-007	Fusing Temperature Adjustment	Thick1 Paper:Roller Center	ENG*	[0 to 60 / * / 1deg] IM 350F/350: 23 IM 430Fb/430F: 28
1-105-008	Fusing Temperature Adjustment	Thick2 Paper:Roller Center	ENG*	[0 to 60 / * / 1deg] IM 350F/350: 18 IM 430Fb/430F: 15
1-105-009	Fusing Temperature Adjustment	Center Minus:Thin	ENG*	[0 to 60 / 10 / 1deg]
1-105-010	Fusing Temperature Adjustment	Thick3 Paper: RollerCenter	ENG*	[0 to 60 / * / 1deg] IM 350F/350: 23



SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
				IM 430Fb/430F: 20
1-105-011	Fusing Temperature Adjustment	Low Power	ENG*	[0 to 80 / 60 / 1deg]
1-105-012	Fusing Temperature Adjustment	Standby Temp: Center	ENG*	[140 to 185 / * / 1deg] IM 350F/350: 155 IM 430Fb/430F: 163
1-105-013	Fusing Temperature Adjustment	Print Ready	ENG*	[140 to 180 / * / 1deg] IM 350F/350: 165 IM 430Fb/430F: 173
1-105-014	Fusing Temperature Adjustment	Thresh:S1	ENG*	[0 to 50 / 19 / 1deg]
1-105-015	Fusing Temperature Adjustment	Thresh:delta t	ENG*	[0 to 50 / 0 / 1deg]
1-105-016	Fusing Temperature Adjustment	Low:Plain1	ENG*	[0 to 30 / 5 / 1deg]
1-105-017	Fusing Temperature Adjustment	Low:Plain2	ENG*	[0 to 30 / 5 / 1deg]
1-105-018	Fusing Temperature Adjustment	Low:M-Thick	ENG*	[0 to 30 / 5 / 1deg]
1-105-019	Fusing Temperature Adjustment	Low:Thick	ENG*	[0 to 30 / 5 / 1deg]
1-105-024	Fusing Temperature Adjustment	Paper Feed:Center Lower:Plain1	ENG*	[0 to 60 / 10 / 1deg]
1-105-026	Fusing Temperature Adjustment	Paper Feed:Center Lower:Plain2	ENG*	[0 to 60 / 10 / 1deg]
1-105-028	Fusing Temperature Adjustment	Paper Feed:Center Lower:M-Thick	ENG*	[0 to 60 / 10 / 1deg]
1-105-030	Fusing Temperature Adjustment	Paper Feed:Center Lower:Thick	ENG*	[0 to 60 / 10 / 1deg]
1-105-032	Fusing Temperature Adjustment	Paper Feed:Center Upper:Plain1	ENG*	[0 to 60 / 20 / 1deg]
1-105-034	Fusing Temperature Adjustment	Paper Feed:Center Upper:Plain2	ENG*	[0 to 60 / 20 / 1deg]
1-105-036	Fusing Temperature Adjustment	Paper Feed:Center Upper:M-Thick	ENG*	[0 to 60 / 20 / 1deg]
1-105-038	Fusing Temperature Adjustment	Paper Feed:Center	ENG*	[0 to 60 / 20 / 1deg]

## SP1-XXX (Feed)

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
	Adjustment	Upper:Thick		
1-105-040	Fusing Temperature Adjustment	Envelope2:Roller Center	ENG*	[0 to 60 / * / 1deg] IM 350F/350: 38 IM 430Fb/430F: 35
1-105-042	Fusing Temperature Adjustment	Transparency:Roller Center	ENG*	[0 to 60 / 20 / 1deg]
1-105-044	Fusing Temperature Adjustment	Post Card:Roller Center	ENG*	[0 to 60 / * / 1deg] IM 350F/350: 38 IM 430Fb/430F: 35
1-105-046	Fusing Temperature Adjustment	Special Paper 1:Roller Center	ENG*	[0 to 60 / 20 / 1deg]
1-105-048	Fusing Temperature Adjustment	Special Paper 2:Roller Center	ENG*	[0 to 60 / 20 / 1deg]
1-105-051	Fusing Temperature Adjustment	Roller Center:Plain1_curl	ENG*	[0 to 255 / 146 / 1deg]
1-105-053	Fusing Temperature Adjustment	Roller Center:Plain2_curl	ENG*	[0 to 255 / 155 / 1deg]
1-105-055	Fusing Temperature Adjustment	Roller Center:M-Thick_curl	ENG*	[0 to 255 / 155 / 1deg]
1-105-057	Fusing Temperature Adjustment	Thick1 Paper:Roller Center_curl	ENG*	[0 to 60 / 11 / 1deg]
1-105-058	Fusing Temperature Adjustment	Thick2 Paper:Roller Center_curl	ENG*	[0 to 60 / 13 / 1deg]
1-105-059	Fusing Temperature Adjustment	Center Minus:Thin_curl	ENG*	[0 to 60 / 7 / 1deg]
1-105-060	Fusing Temperature Adjustment	Thick3 Paper: RollerCenter_curl	ENG*	[0 to 60 / 18 / 1deg]
1-105-067	Fusing Temperature Adjustment	Thick Paper1: Roller Side_curl	ENG*	[0 to 60 / 11 / 1deg]
1-105-068	Fusing Temperature Adjustment	Thick Paper2 :Roller Side_curl	ENG*	[0 to 60 / 13 / 1deg]
1-105-069	Fusing Temperature Adjustment	Side Minus :Thin_curl	ENG*	[0 to 60 / 7 / 1deg]
1-105-070	Fusing Temperature Adjustment	Thick Paper3 :Roller Side_curl	ENG*	[0 to 60 / 18 / 1deg]
1-105-072	Fusing Temperature	Transparency:Roller	ENG*	[0 to 60 / 18 / 1deg]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
	Adjustment	Side_curl		
1-105-074	Fusing Temperature Adjustment	Post Card:Roller Side_curl	ENG*	[0 to 60 / 18 / 1deg]
1-105-076	Fusing Temperature Adjustment	Special Paper 1:Roller Side_curl	ENG*	[0 to 60 / 18 / 1deg]
1-105-078	Fusing Temperature Adjustment	Special Paper 2:Roller Side_curl	ENG*	[0 to 60 / 18 / 1deg]
1-105-092	Fusing Temperature Adjustment	Transparency:Roller Center_curl	ENG*	[0 to 60 / 18 / 1deg]
1-105-094	Fusing Temperature Adjustment	Post Card:Roller Center_curl	ENG*	[0 to 60 / 18 / 1deg]
1-105-096	Fusing Temperature Adjustment	Special Paper 1:Roller Center_curl	ENG*	[0 to 60 / 18 / 1deg]
1-105-098	Fusing Temperature Adjustment	Special Paper 2:Roller Center_curl	ENG*	[0 to 60 / 18 / 1deg]
1-105-101	Fusing Temperature Adjustment	Roller Side:Plain1	ENG*	[120 to 230 / * / 1deg] IM 350F/350: 162 IM 430Fb/430F: 165
1-105-103	Fusing Temperature Adjustment	Roller Side:Plain2	ENG*	[120 to 230 / * / 1deg] IM 350F/350: 170 IM 430Fb/430F: 173
1-105-105	Fusing Temperature Adjustment	Roller Side:M-Thick	ENG*	[120 to 230 / * / 1deg] IM 350F/350: 175 IM 430Fb/430F: 181
1-105-107	Fusing Temperature Adjustment	Thick Paper1: Roller Side	ENG*	[0 to 60 / * / 1deg] IM 350F/350: 23 IM 430Fb/430F: 28
1-105-108	Fusing Temperature Adjustment	Thick Paper2 :Roller Side	ENG*	[0 to 60 / * / 1deg] IM 350F/350: 18 IM 430Fb/430F: 15
1-105-109	Fusing Temperature Adjustment	Side Minus :Thin	ENG*	[0 to 60 / 10 / 1deg]
1-105-110	Fusing Temperature Adjustment	Thick Paper3 :Roller Side	ENG*	[0 to 60 / * / 1deg] IM 350F/350: 23 IM 430Fb/430F: 20
1-105-111	Fusing Temperature	Low Power	ENG*	[0 to 80 / 60 / 1deg]

## SP1-XXX (Feed)

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
	Adjustment			
1-105-112	Fusing Temperature Adjustment	Standby Temp: Side	ENG*	[140 to 158 / * / 1deg] IM 350F/350: 150 IM 430Fb/430F: 158
1-105-113	Fusing Temperature Adjustment	Print Ready	ENG*	[140 to 158 / * / 1deg] IM 350F/350: 150 IM 430Fb/430F: 158
1-105-116	Fusing Temperature Adjustment	Low:Plain1	ENG*	[0 to 30 / 5 / 1deg]
1-105-117	Fusing Temperature Adjustment	Low:Plain2	ENG*	[0 to 30 / 5 / 1deg]
1-105-118	Fusing Temperature Adjustment	Low:M-Thick	ENG*	[0 to 30 / 5 / 1deg]
1-105-119	Fusing Temperature Adjustment	Low:Thick	ENG*	[0 to 30 / 5 / 1deg]
1-105-124	Fusing Temperature Adjustment	Paper Feed:Side Lower:Plain1	ENG*	[0 to 60 / 50 / 1deg]
1-105-126	Fusing Temperature Adjustment	Paper Feed:Side Lower:Plain2	ENG*	[0 to 60 / 55 / 1deg]
1-105-128	Fusing Temperature Adjustment	Paper Feed:Side Lower:M-Thick	ENG*	[0 to 60 / 40 / 1deg]
1-105-130	Fusing Temperature Adjustment	Paper Feed:Side Lower:Thick	ENG*	[0 to 60 / 40 / 1deg]
1-105-132	Fusing Temperature Adjustment	Paper Feed:Side Upper:Plain1	ENG*	[0 to 60 / 20 / 1deg]
1-105-134	Fusing Temperature Adjustment	Paper Feed:Side Upper:Plain2	ENG*	[0 to 60 / 20 / 1deg]
1-105-136	Fusing Temperature Adjustment	Paper Feed:Side Upper:M-Thick	ENG*	[0 to 60 / 20 / 1deg]
1-105-138	Fusing Temperature Adjustment	Paper Feed:Side Upper:Thick	ENG*	[0 to 60 / 20 / 1deg]
1-105-140	Fusing Temperature Adjustment	Envelope2:Roller Side	ENG*	[0 to 60 / * / 1deg] IM 350F/350: 43 IM 430Fb/430F: 40
1-105-142	Fusing Temperature Adjustment	Transparency:Roller Side	ENG*	[0 to 60 / 20 / 1deg]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
1-105-144	Fusing Temperature Adjustment	Post Card:Roller Side	ENG*	[0 to 60 / * / 1deg] IM 350F/350: 38 IM 430Fb/430F: 35
1-105-146	Fusing Temperature Adjustment	Special Paper 1:Roller Side	ENG*	[0 to 60 / 20 / 1deg]
1-105-148	Fusing Temperature Adjustment	Special Paper 2:Roller Side	ENG*	[0 to 60 / 20 / 1deg]
1-105-151	Fusing Temperature Adjustment	Roller Side:Plain1_low speed	ENG*	[120 to 230 / 160 / 1deg]
1-105-152	Fusing Temperature Adjustment	Roller Side:Plain1_curl	ENG*	[0 to 255 / 141 / 1deg]
1-105-153	Fusing Temperature Adjustment	Roller Side:Plain2_low speed	ENG*	[120 to 230 / 165 / 1deg]
1-105-154	Fusing Temperature Adjustment	Roller Side:Plain2_curl	ENG*	[0 to 255 / 150 / 1deg]
1-105-155	Fusing Temperature Adjustment	Roller Side:M-Thick_low speed	ENG*	[120 to 230 / 170 / 1deg]
1-105-156	Fusing Temperature Adjustment	Roller Side:M-Thick_curl	ENG*	[0 to 255 / 150 / 1deg]
1-105-157	Fusing Temperature Adjustment	Thick Paper1: Roller Side_low speed	ENG*	[0 to 60 / 15 / 1deg]
1-105-158	Fusing Temperature Adjustment	Thick Paper2 :Roller Side_low speed	ENG*	[0 to 60 / 20 / 1deg]
1-105-159	Fusing Temperature Adjustment	Side Minus :Thin_low speed	ENG*	[0 to 60 / 10 / 1deg]
1-105-160	Fusing Temperature Adjustment	Thick Paper3 :Roller Side_low speed	ENG*	[0 to 60 / 25 / 1deg]
1-105-162	Fusing Temperature Adjustment	Standby Temp: Side_low speed	ENG*	[140 to 185 / 145 / 1deg]
1-105-163	Fusing Temperature Adjustment	Print ready:Side_low speed	ENG*	[140 to 180 / 145 / 1deg]
1-105-174	Fusing Temperature Adjustment	Paper Feed:Center Lower:Plain1_curl	ENG*	[0 to 60 / 5 / 1deg]
1-105-176	Fusing Temperature Adjustment	Paper Feed:Center Lower:Plain2_curl	ENG*	[0 to 60 / 5 / 1deg]
1-105-178	Fusing Temperature	Paper Feed:Center	ENG*	[0 to 60 / 5 / 1deg]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
	Adjustment	Lower:M-Thick_curl		
1-105-180	Fusing Temperature Adjustment	Paper Feed:Center Lower:Thick_curl	ENG*	[0 to 60 / 5 / 1deg]
1-105-190	Fusing Temperature Adjustment	Envelope:Roller Side_low speed	ENG*	[0 to 60 / 45 / 1deg]
1-105-192	Fusing Temperature Adjustment	Transparency:Roller Side_low speed	ENG*	[0 to 60 / 20 / 1deg]
1-105-194	Fusing Temperature Adjustment	Post Card:Roller Side_low speed	ENG*	[0 to 60 / 40 / 1deg]
1-105-196	Fusing Temperature Adjustment	Special Paper 1:Roller Side_low speed	ENG*	[0 to 60 / 20 / 1deg]
1-105-198	Fusing Temperature Adjustment	Special Paper 2:Roller Side_low speed	ENG*	[0 to 60 / 20 / 1deg]
1-105-201	Fusing Temperature Adjustment	Roller Center:Plain1_low speed	ENG*	[120 to 230 / 165 / 1deg]
1-105-203	Fusing Temperature Adjustment	Roller Center:Plain2_low speed	ENG*	[120 to 230 / 170 / 1deg]
1-105-205	Fusing Temperature Adjustment	Roller Center:M-Thick_low speed	ENG*	[120 to 230 / 175 / 1deg]
1-105-207	Fusing Temperature Adjustment	Thick1 Paper:Roller Center_low speed	ENG*	[0 to 60 / 15 / 1deg]
1-105-208	Fusing Temperature Adjustment	Thick2 Paper:Roller Center_low speed	ENG*	[0 to 60 / 20 / 1deg]
1-105-209	Fusing Temperature Adjustment	Center Minus:Thin_low speed	ENG*	[0 to 60 / 10 / 1deg]
1-105-210	Fusing Temperature Adjustment	Thick3 Paper: RollerCenter_low speed	ENG*	[0 to 60 / 25 / 1deg]
1-105-212	Fusing Temperature Adjustment	Standby Temp: Center_low speed	ENG*	[140 to 185 / 150 / 1deg]
1-105-213	Fusing Temperature Adjustment	Print Ready:Center_low speed	ENG*	[140 to 180 / 160 / 1deg]
1-105-224	Fusing Temperature Adjustment	Paper Feed:Side Lower:Plain1_curl	ENG*	[0 to 60 / 5 / 1deg]
1-105-226	Fusing Temperature Adjustment	Paper Feed:Side Lower:Plain2_curl	ENG*	[0 to 60 / 5 / 1deg]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
1-105-228	Fusing Temperature Adjustment	Paper Feed:Side Lower:M-Thick_curl	ENG*	[0 to 60 / 5 / 1deg]
1-105-230	Fusing Temperature Adjustment	Paper Feed:Side Lower:Thick_curl	ENG*	[0 to 60 / 5 / 1deg]
1-105-240	Fusing Temperature Adjustment	Envelope:Roller Center_low speed	ENG*	[0 to 60 / 40 / 1deg]
1-105-242	Fusing Temperature Adjustment	Transparency:Roller Center_low speed	ENG*	[0 to 60 / 20 / 1deg]
1-105-244	Fusing Temperature Adjustment	Post Card:Roller Center_low speed	ENG*	[0 to 60 / 40 / 1deg]
1-105-246	Fusing Temperature Adjustment	Special Paper 1:Roller Center_low speed	ENG*	[0 to 60 / 20 / 1deg]
1-105-248	Fusing Temperature Adjustment	Special Paper 2:Roller Center_low speed	ENG*	[0 to 60 / 20 / 1deg]
1-105-251	Fusing Temperature Adjustment	Envelope1 Temp Adjustment:Center	ENG*	[-30 to 0 / -1 / 1deg]
1-105-252	Fusing Temperature Adjustment	Envelope1 Temp Adjustment:Side	ENG*	[-30 to 0 / -1 / 1deg]
1-105-253	Fusing Temperature Adjustment	Envelope3 Temp Adjustment:Center	ENG*	[0 to 30 / 5 / 1deg]
1-105-254	Fusing Temperature Adjustment	Envelope3 Temp Adjustment:Side	ENG*	[0 to 30 / 5 / 1deg]
1-106-001	Fusing Temperature Display	Roller Center	ENG	[-20 to 250 / 0 / 1deg]
1-106-003	Fusing Temperature Display	In The Machine at Power On	ENG	[-20 to 250 / 0 / 1deg]
1-106-101	Fusing Temperature Display	Roller Center	ENG	[-20 to 250 / 0 / 1deg]
1-108-001	Control Period Setting	Warming-up	ENG*	[100 to 2000 / 600 / 100msec]
1-108-002	Control Period Setting	Print	ENG*	[100 to 2000 / 600 / 100msec]
1-108-003	Control Period Setting	Wait	ENG*	[100 to 2000 / 600 / 100msec]
1-108-004	Control Period Setting	Print Start	ENG*	[100 to 2000 / 600 / 100msec]

## SP1-XXX (Feed)

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
1-108-005	Control Period Setting	Print Start Time	ENG*	[0 to 999 / 5 / 1sec]
1-108-008	Control Period Setting	Environment Adjusted Temp	ENG*	[-20 to 60 / 23 / 0.1deg]
1-108-009	Control Period Setting	Environment Temp Adjust Amount	ENG*	[0 to 10 / 0 / 0.1deg]
1-111-001	CurlDecMode	Mode Display	ENG*	[0 to 1 / 0 / 1]
1-112-001	Image Process Temp. Correction	Temp.:Normal:Level1	ENG*	[-25 to 10 / 0 / 1deg]
1-112-002	Image Process Temp. Correction	Temp.:Normal:Level2	ENG*	[-25 to 10 / * / 1deg] IM 350F/350: -18 IM 430Fb/430F: -10
1-123-001	Fuser ExeSheets	Normal	ENG*	[0 to 255 / 50 / 1pages]
1-123-002	Fuser ExeSheets	ConsecutivePrint	ENG*	[0 to 500 / 500 / 1pages]
1-124-001	CPM Down Setting	Low:Down Temp	ENG*	[-50 to 0 / -25 / 1deg]
1-124-002	CPM Down Setting	Low:Up Temp	ENG*	[-50 to 0 / -5 / 1deg]
1-124-003	CPM Down Setting	Low:1st CPM	ENG*	[10 to 100 / 80 / 5%]
1-124-004	CPM Down Setting	Low:2nd CPM	ENG*	[10 to 100 / 60 / 5%]
1-124-005	CPM Down Setting	Low:3rd CPM	ENG*	[10 to 100 / 40 / 5%]
1-124-006	CPM Down Setting	High:1st CPM	ENG*	[10 to 100 / 65 / 5%]
1-124-007	CPM Down Setting	High:2nd CPM	ENG*	[10 to 100 / 50 / 5%]
1-124-008	CPM Down Setting	High:3rd CPM	ENG*	[10 to 100 / 50 / 5%]
1-124-009	CPM Down Setting	High:1st CPM Down Time.:LT	ENG*	[0 to 999 / 0 / 1sec]
1-124-010	CPM Down Setting	High:2nd CPM Down Time.:LT	ENG*	[0 to 999 / 0 / 1sec]
1-124-011	CPM Down Setting	High:3rd CPM Down Time.:LT	ENG*	[0 to 999 / 0 / 1sec]
1-124-012	CPM Down Setting	High:1st CPM Down Time.:A4	ENG*	[0 to 999 / 0 / 1sec]
1-124-013	CPM Down Setting	High:2nd CPM Down Time.:A4	ENG*	[0 to 999 / 0 / 1sec]
1-124-014	CPM Down Setting	High:3rd CPM Down Time.:A4	ENG*	[0 to 999 / 0 / 1sec]
1-124-015	CPM Down Setting	High:1st CPM Down	ENG*	[0 to 999 / 120 /



SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
		Time.:B5		1sec]
1-124-016	CPM Down Setting	High:2nd CPM Down Time.:B5	ENG*	[0 to 999 / 0 / 1sec]
1-124-017	CPM Down Setting	High:3rd CPM Down Time.:B5	ENG*	[0 to 999 / 0 / 1sec]
1-124-018	CPM Down Setting	High:1st CPM Down Time.:A5	ENG*	[0 to 999 / 60 / 1sec]
1-124-019	CPM Down Setting	High:2nd CPM Down Time.:A5	ENG*	[0 to 999 / 1 / 1sec]
1-124-020	CPM Down Setting	High:3rd CPM Down Time.:A5	ENG*	[0 to 999 / 0 / 1sec]
1-124-021	CPM Down Setting	High:1st CPM Down Time.:A6	ENG*	[0 to 999 / 60 / 1sec]
1-124-022	CPM Down Setting	High:2nd CPM Down Time.:A6	ENG*	[0 to 999 / 1 / 1sec]
1-124-023	CPM Down Setting	High:3rd CPM Down Time.:A6	ENG*	[0 to 999 / 0 / 1sec]
1-124-024	CPM Down Setting	Judging Interval	ENG*	[1 to 999 / 10 / 1sec]
1-124-025	CPM Down Setting	Start Timing	ENG*	[1 to 999 / 10 / 1sec]
1-134-001	Voltage state	0:Low 1:Normal	ENG*	[0 to 1 / 1 / 1]
1-135-001	Inrush Control	Inrush Control	ENG*	[0 to 1 / 0 / 1]
1-136-001	Low Volt Control	Low Volt SC Count	ENG*	[0 to 999 / 0 / 1]
1-136-002	Low Volt Control	LowVoltPrintSW	ENG*	[0 to 1 / * / 1] NA/TWN: 0 EU/AA/CHN/KOR: 1 0: OFF, 1: ON
1-136-005	Low Volt Control	ON/OFF	ENG*	[0 to 1 / 1 / 1]
1-136-006	Low Volt Control	Resetting Flag	ENG*	[0 to 1 / 0 / 1]
1-136-007	Low Volt Control	Resetting Times	ENG*	[0 to 255 / 0 / 1Times]
1-151-118	Press Adjustment	Depressure Shift Time	ENG*	[0 to 255 / 10 / 1sec]
1-151-119	Press Adjustment	Depressure Standby condition's Pressing Time	ENG*	[0 to 255 / 0 / 1sec]
1-151-120	Press Adjustment	Depressure system: 0:exist 1:none	ENG*	[0 to 1 / 0 / 1]
1-151-121	Press Adjustment	Depressing& pressing	ENG*	[10 to 255 / 170 /

SP1-XXX (Feed)

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
		Timer		1msec]
1-151-122	Press Adjustment	Pressure	ENG	[0 to 1 / 0 / 1]
1-151-123	Press Adjustment	Depressure	ENG	[0 to 1 / 0 / 1]
1-152-001	Fusing Nip Band Check	0:OFF, 1:ON	ENG	[0 to 1 / 0 / 1]
1-159-001	Fusing Jam Detection	SC Display	ENG*	[0 to 1 / 0 / 1]
1-160-001	Allophone Control	Allophone Control	ENG*	[0 to 1 / 0 / 1]
1-801-001	MotorSpeedAdjust	DrumMot:ExtraHigh	ENG*	[-4 to 4 / 0 / 0.01%]
1-801-002	MotorSpeedAdjust	DrumMot:High	ENG*	[-4 to 4 / 0 / 0.01%]
1-801-003	MotorSpeedAdjust	DrumMot:Mid	ENG*	[-4 to 4 / 0 / 0.01%]
1-801-004	MotorSpeedAdjust	DrumMot:Low	ENG*	[-4 to 4 / 0 / 0.01%]
1-801-006	MotorSpeedAdjust	FeedMot:ExtraHigh	ENG*	[-8 to 8 / 0 / 0.01%]
1-801-007	MotorSpeedAdjust	FeedMot:High	ENG*	[-8 to 8 / 0 / 0.01%]
1-801-008	MotorSpeedAdjust	FeedMot:Mid	ENG*	[-8 to 8 / 0 / 0.01%]
1-801-009	MotorSpeedAdjust	FeedMot:Low	ENG*	[-8 to 8 / 0 / 0.01%]
1-907-005	Paper Timing Adj	Reverse Stop Posi	ENG*	[-10 to 10 / 0 / 1mm]
1-907-015	Paper Timing Adj	Re-Feed Stop Posi	ENG*	[-10 to 10 / 0 / 1mm]
1-908-015	Paper Timing Adj	Junc Gate SOL:ON	ENG*	[-10 to 10 / 0 / 1mm]
1-908-017	Paper Timing Adj	Junc Gate SOL:OFF	ENG*	[-10 to 10 / 0 / 1mm]
1-908-018	Paper Timing Adj	Bypass Feed CL OFF	ENG*	[-50 to 900 / 0 / 1mm]
1-909-001	FeedRetryCount	Manual Feed Tray	ENG*	[0 to 2 / 1 / 1]
1-909-002	FeedRetryCount	Tray1	ENG*	[0 to 2 / 1 / 1]
1-909-003	FeedRetryCount	Tray2	ENG*	[0 to 2 / 1 / 1]
1-909-004	FeedRetryCount	Tray3	ENG*	[0 to 2 / 1 / 1]
1-909-005	FeedRetryCount	Tray4	ENG*	[0 to 2 / 1 / 1]
1-910-001	FeedRetryCountLog	Manual Feed Tray	ENG*	[0 to 65535 / 0 / 1]
1-910-002	FeedRetryCountLog	Tray1	ENG*	[0 to 65535 / 0 / 1]
1-910-003	FeedRetryCountlog	Tray2	ENG*	[0 to 65535 / 0 / 1]
1-910-004	FeedRetryCountlog	Tray3	ENG*	[0 to 65535 / 0 / 1]
1-910-005	FeedRetryCountlog	Tray4	ENG*	[0 to 65535 / 0 / 1]
1-911-001	FeedDelayDivLog	DivA_MF_All_Nor	ENG*	[0 to 65535 / 0 / 1count]
1-911-002	FeedDelayDivLog	DivA_MF_All_Thick	ENG*	[0 to 65535 / 0 / 1count]
1-911-003	FeedDelayDivLog	DivB_MF_All_Nor	ENG*	[0 to 1000000 / 0 / 1count]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
1-911-004	FeedDelayDivLog	DivB_MF_All_Thick	ENG*	[0 to 1000000 / 0 / 1count]
1-911-005	FeedDelayDivLog	DivC_MF_All_Nor	ENG*	[0 to 65535 / 0 / 1count]
1-911-006	FeedDelayDivLog	DivC_MF_All_Thick	ENG*	[0 to 65535 / 0 / 1count]
1-911-007	FeedDelayDivLog	DivD_MF_All_Nor	ENG*	[0 to 65535 / 0 / 1count]
1-911-008	FeedDelayDivLog	DivD_MF_All_Thick	ENG*	[0 to 65535 / 0 / 1count]
1-911-009	FeedDelayDivLog	DivA_T1_1_Nor	ENG*	[0 to 65535 / 0 / 1count]
1-911-010	FeedDelayDivLog	DivA_T1_1_Thick	ENG*	[0 to 65535 / 0 / 1count]
1-911-011	FeedDelayDivLog	DivA_T1_2_Nor	ENG*	[0 to 65535 / 0 / 1count]
1-911-012	FeedDelayDivLog	DivA_T1_2_Thick	ENG*	[0 to 65535 / 0 / 1count]
1-911-013	FeedDelayDivLog	DivB_T1_1_Nor	ENG*	[0 to 1000000 / 0 / 1count]
1-911-014	FeedDelayDivLog	DivB_T1_1_Thick	ENG*	[0 to 1000000 / 0 / 1count]
1-911-015	FeedDelayDivLog	DivB_T1_2_Nor	ENG*	[0 to 1000000 / 0 / 1count]
1-911-016	FeedDelayDivLog	DivB_T1_2_Thick	ENG*	[0 to 1000000 / 0 / 1count]
1-911-017	FeedDelayDivLog	DivC_T1_1_Nor	ENG*	[0 to 65535 / 0 / 1count]
1-911-018	FeedDelayDivLog	DivC_T1_1_Thick	ENG*	[0 to 65535 / 0 / 1count]
1-911-019	FeedDelayDivLog	DivC_T1_2_Nor	ENG*	[0 to 65535 / 0 / 1count]
1-911-020	FeedDelayDivLog	DivC_T1_2_Thick	ENG*	[0 to 65535 / 0 / 1count]
1-911-021	FeedDelayDivLog	DivD_T1_1_Nor	ENG*	[0 to 65535 / 0 / 1count]

SP1-XXX (Feed)

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
1-911-022	FeedDelayDivLog	DivD_T1_1_Thick	ENG*	[0 to 65535 / 0 / 1count]
1-911-023	FeedDelayDivLog	DivD_T1_2_Nor	ENG*	[0 to 65535 / 0 / 1count]
1-911-024	FeedDelayDivLog	DivD_T1_2_Thick	ENG*	[0 to 65535 / 0 / 1count]
1-911-025	FeedDelayDivLog	DivA_T2_1_Nor	ENG*	[0 to 65535 / 0 / 1count]
1-911-026	FeedDelayDivLog	DivA_T2_1_Thick	ENG*	[0 to 65535 / 0 / 1count]
1-911-027	FeedDelayDivLog	DivA_T2_2_Nor	ENG*	[0 to 65535 / 0 / 1count]
1-911-028	FeedDelayDivLog	DivA_T2_2_Thick	ENG*	[0 to 65535 / 0 / 1count]
1-911-029	FeedDelayDivLog	DivB_T2_1_Nor	ENG*	[0 to 1000000 / 0 / 1count]
1-911-030	FeedDelayDivLog	DivB_T2_1_Thick	ENG*	[0 to 1000000 / 0 / 1count]
1-911-031	FeedDelayDivLog	DivB_T2_2_Nor	ENG*	[0 to 1000000 / 0 / 1count]
1-911-032	FeedDelayDivLog	DivB_T2_2_Thick	ENG*	[0 to 1000000 / 0 / 1count]
1-911-033	FeedDelayDivLog	DivC_T2_1_Nor	ENG*	[0 to 65535 / 0 / 1count]
1-911-034	FeedDelayDivLog	DivC_T2_1_Thick	ENG*	[0 to 65535 / 0 / 1count]
1-911-035	FeedDelayDivLog	DivC_T2_2_Nor	ENG*	[0 to 65535 / 0 / 1count]
1-911-036	FeedDelayDivLog	DivC_T2_2_Thick	ENG*	[0 to 65535 / 0 / 1count]
1-911-037	FeedDelayDivLog	DivD_T2_1_Nor	ENG*	[0 to 65535 / 0 / 1count]
1-911-038	FeedDelayDivLog	DivD_T2_1_Thick	ENG*	[0 to 65535 / 0 / 1count]
1-911-039	FeedDelayDivLog	DivD_T2_2_Nor	ENG*	[0 to 65535 / 0 / 1count]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
1-911-040	FeedDelayDivLog	DivD_T2_2_Thick	ENG*	[0 to 65535 / 0 / 1count]
1-912-001	Power Limit Mode	Mode 0 OFF 1 ON	ENG*	[0 to 0 / 0 / 1]
1-979-001	Power Control	Power Control	ENG*	[0 to 1 / 0 / 1]
1-990-001	SC990 plt detail		ENG*	[0 to 4294967295 / 0 / 1]
1-991-001	Max Fusing Lamp Duty	Roller Center	ENG*	[40 to 100 / 100 / 10%]
1-991-003	Max Fusing Lamp Duty	After Warming-up - Center	ENG*	[40 to 100 / 100 / 10%]
1-996-005	Heater Forced Off	After Printing	ENG*	[0 to 50 / 10 / 1sec]
1-998-001	Reserve SP	reserve01	ENG*	[0 to 255 / 0 / 1]
1-998-002	Reserve SP	reserve02	ENG*	[0 to 255 / 0 / 1]
1-998-003	Reserve SP	reserve03	ENG*	[0 to 255 / 0 / 1]
1-998-004	Reserve SP	reserve04	ENG*	[0 to 255 / 0 / 1]
1-998-005	Reserve SP	reserve05	ENG*	[0 to 255 / 0 / 1]
1-998-006	Reserve SP	reserve06	ENG*	[0 to 255 / 0 / 1]
1-998-007	Reserve SP	reserve07	ENG*	[0 to 255 / 0 / 1]
1-998-008	Reserve SP	reserve08	ENG*	[0 to 255 / 0 / 1]
1-998-009	Reserve SP	reserve09	ENG*	[0 to 255 / 0 / 1]
1-998-010	Reserve SP	reserve10	ENG*	[0 to 255 / 0 / 1]
1-998-011	Reserve SP	reserve11	ENG*	[0 to 65535 / 0 / 1]
1-998-012	Reserve SP	reserve12	ENG*	[0 to 65535 / 0 / 1]
1-998-013	Reserve SP	reserve13	ENG*	[0 to 65535 / 0 / 1]
1-998-014	Reserve SP	reserve14	ENG*	[0 to 65535 / 0 / 1]
1-998-015	Reserve SP	reserve15	ENG*	[0 to 65535 / 0 / 1]
1-998-016	Reserve SP	reserve16	ENG*	[0 to 65535 / 0 / 1]
1-998-017	Reserve SP	reserve17	ENG*	[0 to 65535 / 0 / 1]
1-998-018	Reserve SP	reserve18	ENG*	[0 to 65535 / 0 / 1]
1-998-019	Reserve SP	reserve19	ENG*	[0 to 65535 / 0 / 1]
1-998-020	Reserve SP	reserve20	ENG*	[0 to 65535 / 0 / 1]

## 5.2 SP2-XXX (DRUM)

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
2-102-002	Magnification Adj	Sub Normal	ENG*	[-1.8 to 1.8 / 0 / 0.1%]
2-102-004	Magnification Adj	Sub Low	ENG*	[-1.8 to 1.8 / 0 / 0.1%]
2-103-001	Erase Margin Adj	Lead Edge Width	ENG*	[0 to 9.9 / 3 / 0.1mm]
2-103-002	Erase Margin Adj	Trail Edge Width	ENG*	[0 to 9.9 / 2 / 0.1mm]
2-103-003	Erase Margin Adj	Left Edge Width	ENG*	[0 to 9.9 / 2 / 0.1mm]
2-103-004	Erase Margin Adj	Right Edge Width	ENG*	[0 to 9.9 / 2 / 0.1mm]
2-103-005	Erase Margin Adj	Duplex Lead EW	ENG*	[0 to 4 / 0 / 0.1mm]
2-103-006	Erase Margin Adj	Duplex Trail EW	ENG*	[0 to 4 / 0 / 0.1mm]
2-103-007	Erase Margin Adj	Duplex Left EW	ENG*	[0 to 4 / 0 / 0.1mm]
2-103-008	Erase Margin Adj	Duplex Right EW	ENG*	[0 to 4 / 0 / 0.1mm]
2-106-021	LEDA Emit Time	Print	ENG*	[0 to 7000 / 0 / 1ns]
2-109-001	Test Printing	Pattern Selection	ENG	[0 to 17 / 0 / 1] 0: None 1: Vert. (1dot) 2: Hori. (1dot) 3: Vert. (2dot) 4: Hori. (2dot) 5: Grid Vert. 6: Grid Hori. 7: Grid 20mm 8: Arg. Grid 9: Arg.Grid20mm 10: Indep.(1dot) 11: Indep.(2dot) 12: Indep.(4dot) 13: Full 14: Band 15: Trim Area 16: White 17: SFBC Pattern
2-109-002	Test Printing	1 Sheet Printing	ENG	[0 to 0 / 0 / 0]
2-109-003	Test Printing	Continue Printing	ENG	[0 to 0 / 0 / 0]
2-109-004	Test Printing	Print Side Select	ENG	[0 to 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
				0: One Side 1: Both Sides
2-131-004	SFBVSC:Execution SP	Correction Clear	ENG	[0 to 1 / 0 / 1]
2-132-001	SFBVSC:Configuratio n	Paper Size (Final)	ENG*	[0 to 1 / 0 / 1]
2-132-002	SFBVSC:Configuratio n	Paper Size (Provisional)	ENG*	[0 to 1 / 0 / 1]
2-132-003	SFBVSC:Configuratio n	Sub Scan Pos. (A4)	ENG*	[0 to 260 / 168.5 / 0.1mm]
2-132-004	SFBVSC:Configuratio n	Sub Scan Pos. (LT)	ENG*	[0 to 240 / 151.5 / 0.1mm]
2-132-005	SFBVSC:Configuratio n	L.Mark Detect Sta.	ENG*	[70 to 120 / 90 / 1]
2-132-006	SFBVSC:Configuratio n	L.Mark Detect End	ENG*	[140 to 190 / 170 / 1]
2-132-007	SFBVSC:Configuratio n	C.Mark Detect Sta.	ENG*	[550 to 620 / 590 / 1]
2-132-008	SFBVSC:Configuratio n	C.Mark Detect End	ENG*	[640 to 710 / 670 / 1]
2-132-009	SFBVSC:Configuratio n	R.Mark Detect Sta.	ENG*	[1070 to 1120 / 1090 / 1]
2-132-010	SFBVSC:Configuratio n	R.Mark Detect End	ENG*	[1140 to 1190 / 1170 / 1]
2-132-011	SFBVSC:Configuratio n	L.Edge Detect Sta.	ENG*	[1 to 10 / 5 / 1]
2-132-012	SFBVSC:Configuratio n	L.Edge Detect End	ENG*	[25 to 60 / 45 / 1]
2-132-013	SFBVSC:Configuratio n	R.Edge Detect Sta.	ENG*	[1191 to 1225 / 1200 / 1]
2-132-014	SFBVSC:Configuratio n	R.Edge Detect End	ENG*	[1265 to 1272 / 1272 / 1]
2-132-015	SFBVSC:Configuratio n	Err. Jude. A Threshold	ENG*	[0 to 255 / 0 / 1]
2-132-016	SFBVSC:Configuratio n	Err. Jude. B Threshold	ENG*	[0 to 255 / 190 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
2-132-017	SFBVSC:Configuratio n	Edge Margine	ENG*	[0 to 15 / 5 / 1]
2-132-018	SFBVSC:Configuratio n	Skew Detect Area	ENG*	[0 to 15 / 3 / 1]
2-132-019	SFBVSC:Configuratio n	Number of Scan	ENG*	[0 to 255 / 0 / 1]
2-132-020	SFBVSC:Configuratio n	Number of Skew Err.	ENG*	[0 to 255 / 0 / 1]
2-132-021	SFBVSC:Configuratio n	Number of Direction Err.	ENG*	[0 to 255 / 0 / 1]
2-132-022	SFBVSC:Configuratio n	Excete Time:yy/mm/dd	ENG*	[0x00000000 to 0xFFFFFFFF / 0x00000000 / 1]
2-132-023	SFBVSC:Configuratio n	Excete Time:hh/mm/ss	ENG*	[0x00000000 to 0xFFFFFFFF / 0x00000000 / 1]
2-132-024	SFBVSC:Configuratio n	Threshold exceeding number	ENG*	[0 to 255 / 0 / 1]
2-133-001	SFBVSC:Choice	Reflect of Correction	ENG*	[0 to 1 / 0 / 1]
2-133-002	SFBVSC:Choice	Correction Choice	ENG*	[0 to 3 / 3 / 1] 0: Only moving Ave. 1: Moving Ave. & Mag. correction 2: Moving Ave. & Shift correction 3: All
2-133-003	SFBVSC:Choice	Correction Coefficient	ENG*	[0 to 1.5 / 0.7 / 0.1]
2-133-004	SFBVSC:Choice	SFBC Pattern Choice	ENG*	[0 to 1 / 0 / 1] 0: Staggered 4by4(1200dpi) 1: Staggered 2by2(1200dpi)
2-149-001	SFBVSC:Result	Left Marker Area	ENG*	[1 to 1272 / 1 / 1]
2-149-002	SFBVSC:Result	Center Marker Area	ENG*	[1 to 1272 / 1 / 1]
2-149-003	SFBVSC:Result	Right Marker Area	ENG*	[1 to 1272 / 1 / 1]
2-149-004	SFBVSC:Result	Left Edge Area	ENG*	[1 to 1272 / 1 / 1]



SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
2-149-005	SFBVSC:Result	Right Edge Area	ENG*	[1 to 1272 / 1 / 1]
2-149-006	SFBVSC:Result	Shift	ENG*	[-4 to 4 / 0 / 1dot]
2-149-007	SFBVSC:Result	Left Mag.	ENG*	[-1 to 1 / 0 / 0.1%]
2-149-008	SFBVSC:Result	Right Mag.	ENG*	[-1 to 1 / 0 / 0.1%]
2-212-001	ExeSheets	Normal	ENG*	[1 to 500 / 500 / 1page]
2-212-002	ExeSheets	ConsecutivePrint	ENG*	[40 to 500 / 500 / 1page]
2-221-005	LEDA Data:Display	Serial Number	ENG*	[0 to 0 / 0 / 0]
2-221-009	LEDA Data:Display	Power Error	ENG*	[0 to 1 / 0 / 1]
2-241-004	Temp: Display	Temp Display	ENG	[-20 to 99.9 / 0 / 0.1deg]
2-243-001	Temp/Humid:Display	Temperature	ENG	[0 to 61 / 0 / 0.1deg]
2-243-002	Temp/Humid:Display	Relative Humidity	ENG	[0 to 100 / 0 / 1%RH]
2-243-003	Temp/Humid:Display	Absolute Humidity	ENG	[0 to 100 / 0 / 1g/m3]
2-412-001	Flag T&H Sensor	0:No Flag/1:Flag	ENG*	[0 to 1 / 0 / 1]
2-413-001	Flag PSU Thermistor	0:No Flag/1:Flag	ENG*	[0 to 1 / 0 / 1]
2-926-003	Recovery Supply	Recovery Count	ENG*	[0 to 10000 / 0 / 1count]
2-926-004	Recovery Supply	Self-Recovery	ENG	[0 to 1 / 0 / 1]
2-927-005	Initial Supply	Exchange Count	ENG*	[0 to 1000 / 0 / 1count]
2-932-001	NearEnd Detect	ON OFF	ENG*	[0 to 1 / 1 / 1]
2-961-001	CleaningOperation	Level 1	ENG	[0 to 1 / 0 / 1]
2-961-002	CleaningOperation	Level 2	ENG	[0 to 1 / 0 / 1]
2-970-002	Exchange Count	Count PCDU	ENG*	[0 to 1000 / 0 / 1count]
2-970-003	Exchange Count	Count Fuser	ENG*	[0 to 1000 / 0 / 1count]
2-990-002	Duty Control	Lower	ENG*	[2000 to 60000 / 8100 / 1count]
2-990-003	Duty Control	Upper	ENG*	[2000 to 60000 / 9000 / 1count]

### 5.3 SP3-XXX (PROCESS)

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
3-098-001	Days Before End	Toner	ENG*	[0 to 2 / 1 / 1]
3-920-001	Density Adjust	Notch Setting	ENG*	[-6 to 3 / 0 / 1]
3-920-002	Density Adjust	Mode select	ENG*	[0 to 1 / 0 / 1]

## 5.4 SP4-XXX (SCANNER)

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
4-008-001	Sub Scan Magnification Adj.		ENG*	[-1 to 1 / 0 / 0.1%]
4-010-001	Sub Scan Registration Adj.		ENG*	[-1 to 1 / 0 / 0.1mm]
4-011-001	Main Scan Registration Adj.		ENG*	[-2 to 2 / 0 / 0.1mm]
4-012-001	Scanner Erase Margin: Scale	Book: Sub Scan Leading Edge (Left)	ENG*	[0 to 3 / 1 / 0.1mm]
4-012-002	Scanner Erase Margin: Scale	Book: Sub Scan Trailing Edge (Right)	ENG*	[0 to 3 / 1 / 0.1mm]
4-012-003	Scanner Erase Margin: Scale	Book: Main Scan Leading Edge (Rear)	ENG*	[0 to 3 / 1 / 0.1mm]
4-012-004	Scanner Erase Margin: Scale	Book: Main Scan Trailing Edge (Front)	ENG*	[0 to 3 / 1 / 0.1mm]
4-013-001	Scanner Free Run	Lamp OFF	ENG	[0 to 1 / 0 / 1]
4-013-002	Scanner Free Run	Lamp ON	ENG	[0 to 1 / 0 / 1]
4-014-001	Scan	HP Detection Enable	ENG	[0 to 1 / 0 / 1]
4-014-002	Scan	HP Detection Disable	ENG	[0 to 1 / 0 / 1]
4-014-003	Scan	HP Detec. On (FC 600dpi LG)	ENG	[0 to 1 / 0 / 1]
4-014-004	Scan	HP Detec. On (BW 600dpi LG)	ENG	[0 to 1 / 0 / 1]
4-016-001	DF Scan	FC 600 x 300dpi Duplex Mode	ENG	[0 to 1 / 0 / 1STEP]
4-016-002	DF Scan	Bk 600 x 300dpi Duplex Mode	ENG	[0 to 1 / 0 / 1STEP]
4-016-003	DF Scan	FC 600 x 600dpi Duplex Mode	ENG	[0 to 1 / 0 / 1STEP]
4-016-004	DF Scan	Bk 600 x 600dpi Duplex Mode	ENG	[0 to 1 / 0 / 1STEP]
4-016-005	DF Scan	Bk 600 x 200dpi Duplex Mode	ENG	[0 to 1 / 0 / 1STEP]
4-016-006	DF Scan	FC 600 x 300dpi Simplex Mode	ENG	[0 to 1 / 0 / 1STEP]

SP4-XXX (Scanner)

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
4-016-007	DF Scan	Bk 600 x 300dpi Simplex Mode	ENG	[0 to 1 / 0 / 1STEP]
4-016-008	DF Scan	FC 600 x 600dpi Simplex Mode	ENG	[0 to 1 / 0 / 1STEP]
4-016-009	DF Scan	Bk 600 x 600dpi Simplex Mode	ENG	[0 to 1 / 0 / 1STEP]
4-016-010	DF Scan	Bk 600 x 200dpi Simplex Mode	ENG	[0 to 1 / 0 / 1STEP]
4-020-001	Dust Check	Dust Detect:On/Off	ENG*	[0 to 1 / 0 / 1]
4-020-002	Dust Check	Dust Detect:Lvl	ENG*	[0 to 8 / 4 / 1]
4-020-003	Dust Check	Dust Reject:Lvl	ENG*	[0 to 4 / 0 / 1]
4-020-011	Dust Check	Dust Detect Level:Rear	ENG*	[0 to 1 / 0 / 1]
4-020-012	Dust Check	Correction Level:Rear	ENG*	[0 to 8 / 4 / 1]
4-400-001	Scanner Erase Margin	Book: Sub Scan Leading Edge (Left)	ENG*	[0 to 3 / 1 / 0.1mm]
4-400-002	Scanner Erase Margin	Book: Sub Scan Leading Edge (Right)	ENG*	[0 to 3 / 1 / 0.1mm]
4-400-003	Scanner Erase Margin	Book: Main Scan Leading Edge (Rear)	ENG*	[0 to 3 / 1 / 0.1mm]
4-400-004	Scanner Erase Margin	Book: Main Scan Trailing Edge (Front)	ENG*	[0 to 3 / 1 / 0.1mm]
4-400-005	Original Erase Margin	ADF:Sub:L-Edge	ENG*	[0 to 3 / 1.6 / 0.1mm]
4-400-007	Original Erase Margin	ADF:Main:Edge	ENG*	[0 to 3 / 1.6 / 0.1mm]
4-400-008	Original Erase Margin	ADF:Main:T-Edge	ENG*	[0 to 3 / 1.6 / 0.1mm]
4-417-001	IPU Test Pattern	Test Pattern	ENG	[0 to 8 / 0 / 1] 0: Scanned image 1: Gradation main scan A 2: Patch 16C 3: Grid pattern A 4: Slant grid pattern B 5: Slant grid pattern C 6: Slant grid pattern

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
				D 7: Scanned+Slant Grid C 8: Scanned+Slant Grid D
4-429-001	Select Copy Data Security	Copying	ENG*	[0 to 3 / 3 / 1]
4-429-002	Select Copy Data Security	Scanning	ENG*	[0 to 3 / 3 / 1]
4-429-003	Select Copy Data Security	Fax Operation	ENG	[0 to 3 / 3 / 1]
4-600-001	SCN Version Display	SCN ID	ENG	[0x00 to 0xFF / 0 / 1]
4-609-001	Gray Balance Set: R	Book Scan	ENG*	[-384 to 255 / -100 / 1digit]
4-609-002	Gray Balance Set: R	DF Scan	ENG*	[-384 to 255 / -100 / 1digit]
4-610-001	Gray Balance Set: G	Book Scan	ENG*	[-384 to 255 / -100 / 1digit]
4-610-002	Gray Balance Set: G	DF Scan	ENG*	[-384 to 255 / -100 / 1digit]
4-611-001	Gray Balance Set: B	Book Scan	ENG*	[-384 to 255 / -100 / 1digit]
4-611-002	Gray Balance Set: B	DF Scan	ENG*	[-384 to 255 / -100 / 1digit]
4-646-001	Scan Adjust Error	White level	ENG*	[0 to 65535 / 0 / 1]
4-646-002	Scan Adjust Error	Black level	ENG*	[0 to 65535 / 0 / 1]
4-646-003	Scan Adjust Error SM	White level	ENG*	[0 to 65535 / 0 / 1]
4-646-004	Scan Adjust Error SM	Black level	ENG*	[0 to 65535 / 0 / 1]
4-647-001	Scanner Hard Error	Power-ON	ENG	[0 to 65535 / 0 / 1]
4-648-001	Scanner Adjust Select	Adjust Mode	ENG*	[0 to 3 / 0 / 1]
4-649-001	Error Flag	Shiny Materials	ENG*	[0 to 255 / 0 / 1]
4-688-002	DF Density Adjustment	1-Pass	ENG*	[80 to 120 / 100 / 1%]
4-703-001	Scan Mode Selection	Copying	ENG	[0 to 1 / 0 / 1]
4-703-002	Scan Mode Selection	Scanning	ENG	[0 to 1 / 0 / 1]
4-712-001	CIS GB Adj. Value: R		ENG*	[-384 to 255 / -89 / 1digit]
4-713-001	CIS GB Adj. Value: G		ENG*	[-384 to 255 / -76 / 1digit]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
4-714-001	CIS GB Adj. Value: B		ENG*	[-384 to 255 / -85 / 1digit]
4-723-001	OUTPUT Check	Scanner Lamp: Color	ENG	[0 to 1 / 0 / 1]
4-745-001	CIS Scan Adjust Error	White level	ENG	[0 to 65535 / 0 / 1]
4-745-002	CIS Scan Adjust Error	Black level	ENG	[0 to 65535 / 0 / 1]
4-746-001	CIS GB Adj Error Flag		ENG	[0 to 7 / 0 / 1]
4-747-001	CIS Scanner Hard Error	Power-ON	ENG	[0 to 65535 / 0 / 1]
4-785-001	White Level Adjust	Color	ENG*	[0 to 1024 / 707 / 1digit]
4-796-001	Low Density Color Correction	Front Side	ENG*	[0 to 3 / 0 / 1] 0: OFF 1: WEAK 2: MEDIUM 3: STRONG
4-796-002	Low Density Color Correction	Rear Side	ENG*	[0 to 3 / 0 / 1] 0: OFF 1: WEAK 2: MEDIUM 3: STRONG
4-799-001	CIS Test Pattern Change		ENG	[0 to 255 / 0 / 1]
4-802-001	DF Shading FreeRun	Lamp OFF	ENG	[0 to 1 / 0 / 1]
4-802-002	DF Shading FreeRun	Lamp ON	ENG	[0 to 1 / 0 / 1]
4-803-001	Home Position Adjustment		ENG*	[-1.5 to 1 / 0 / 0.1mm]
4-804-001	Home Position		ENG	[0 to 1 / 0 / 1]
4-856-001	Shiny Materials Mode	PWM Duty	ENG*	[1 to 100 / 16 / 1%]
4-856-002	Shiny Materials Mode	Noise Detection Number	ENG*	[1 to 255 / 64 / 1times]
4-857-001	Shiny Materials Scanning Adj	SN	ENG*	[0 to 1023 / 0 / 0.1]
4-857-002	Shiny Materials Scanning Adj	Average	ENG*	[0 to 1023 / 0 / 0.1digit]
4-857-003	Shiny Materials Scanning Adj	Variance	ENG*	[0 to 1046529 / 0 / 1]
4-857-004	Shiny Materials Scanning Adj	Illuminance	ENG*	[0 to 104848098 / 0 / 1lx]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
4-903-001	Filter Setting	Ind Dot Erase: Text	ENG*	[0 to 7 / 0 / 1]
4-903-002	Filter Setting	Ind Dot Erase: Generation Copy	ENG*	[0 to 7 / 0 / 1]
4-905-001	Select Gradation Level		ENG*	[0 to 255 / 0 / 1]
4-918-009	Man Gamma Adj		ENG	[0 to 0 / 0 / 0]
4-938-005	ACS:Edge Mask	Scan:Sub LEdge	ENG*	[0 to 31 / 15 / 1]
4-938-006	ACS:Edge Mask	Scan:Sub TEdge	ENG*	[0 to 31 / 15 / 1]
4-938-007	ACS:Edge Mask	Scan:Main LEdge	ENG*	[0 to 31 / 15 / 1]
4-938-008	ACS:Edge Mask	Scan:Main TEdge	ENG*	[0 to 31 / 15 / 1]
4-939-001	ACS:Color Range		ENG*	[-2 to 2 / 0 / 1]
4-994-001	Adj Txt/Photo Recog Level	High Compression PDF	ENG*	[0 to 2 / 1 / 1]
4-996-001	White Paper Detection Level		ENG*	[0 to 6 / 3 / 1]

## 5.5 SP5-XXX (MODE) - ENGINE

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
5-186-001	RK4: Setting		ENG*	[0 to 1 / 0 / 1]
5-801-002	Memory Clear	Engine	ENG	[0 to 1 / 0 / 1]
5-803-001	INPUT Check	PCB Ver	ENG	[0 to 7 / 0 / 1]
5-803-002	INPUT Check	Front Interlock	ENG	[0 to 1 / 0 / 1]
5-803-003	INPUT Check	Rear Interlock	ENG	[0 to 1 / 0 / 1]
5-803-004	INPUT Check	Registration	ENG	[0 to 1 / 0 / 1]
5-803-005	INPUT Check	Paper Size	ENG	[0 to 7 / 0 / 1]
5-803-006	INPUT Check	Duplex Entrance	ENG	[0 to 1 / 0 / 1]
5-803-007	INPUT Check	Paper Exit Rev	ENG	[0 to 1 / 0 / 1]
5-803-008	INPUT Check	Paper Exit Full	ENG	[0 to 1 / 0 / 1]
5-803-009	INPUT Check	Paper End	ENG	[0 to 1 / 0 / 1]
5-803-010	INPUT Check	Bypass:Paper End	ENG	[0 to 1 / 0 / 1]
5-803-011	INPUT Check	Bypass:Tray	ENG	[0 to 1 / 0 / 1]
5-803-012	INPUT Check	Fusing Unit Set	ENG	[0 to 1 / 0 / 1]
5-803-013	INPUT Check	Fusing Unit New	ENG	[0 to 1 / 0 / 1]
5-803-014	INPUT Check	FusNipPress Pos	ENG	[0 to 1 / 0 / 1]
5-803-015	INPUT Check	Feed Mt Lock	ENG	[0 to 1 / 0 / 1]
5-803-016	INPUT Check	Drum Mt Lock	ENG	[0 to 1 / 0 / 1]
5-803-017	INPUT Check	PCDUFan:R Lock	ENG	[0 to 1 / 0 / 1]
5-803-018	INPUT Check	PCDUFan:L Lock	ENG	[0 to 1 / 0 / 1]
5-803-019	INPUT Check	PSU Fan Lock	ENG	[0 to 1 / 0 / 1]
5-803-020	INPUT Check	FusingTempDetect	ENG	[0 to 1 / 0 / 1]
5-803-021	INPUT Check	HVP:SC_T	ENG	[0 to 1 / 0 / 1]
5-803-022	INPUT Check	HVP:SC_C	ENG	[0 to 1 / 0 / 1]
5-803-023	INPUT Check	Key Counter Set2	ENG	[0 to 1 / 0 / 1]
5-803-024	INPUT Check	Key Counter Set1	ENG	[0 to 1 / 0 / 1]
5-803-025	INPUT Check	Key Card Set	ENG	[0 to 1 / 0 / 1]
5-803-026	INPUT Check	Rear Cover Open	ENG	[0 to 1 / 0 / 1]
5-803-027	INPUT Check	Paper Nearend	ENG	[0 to 1 / 0 / 1]
5-803-083	Input Check	Bank1:500/250/No	ENG	[0 to 2 / 2 / 1]
5-803-084	Input Check	Bank2:500/250/No	ENG	[0 to 2 / 2 / 1]
5-803-085	Input Check	Bank3:500/250/No	ENG	[0 to 2 / 2 / 1]
5-803-087	Input Check	Bank1 Trans SN	ENG	[0 to 1 / 0 / 1]



SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
5-803-088	Input Check	Bank2 Trans SN	ENG	[0 to 1 / 0 / 1]
5-803-089	Input Check	Bank3 Trans SN	ENG	[0 to 1 / 0 / 1]
5-803-200	INPUT Check	Scanner HP Sensor	ENG	[0 to 1 / 0 / 1]
5-803-201	INPUT Check	Platen Cover Sensor	ENG	[0 to 1 / 0 / 1]
5-804-001	OUTPUT Check	FusPressRelMt: CW	ENG	[0 to 1 / 0 / 1]
5-804-002	OUTPUT Check	FusPressRelMt: CCW	ENG	[0 to 1 / 0 / 1]
5-804-003	OUTPUT Check	DrumMt: CW: ExHi	ENG	[0 to 1 / 0 / 1]
5-804-004	OUTPUT Check	DrumMt: CW: Hi	ENG	[0 to 1 / 0 / 1]
5-804-005	OUTPUT Check	DrumMt: CW: Mid	ENG	[0 to 1 / 0 / 1]
5-804-006	OUTPUT Check	DrumMt: CW: Low	ENG	[0 to 1 / 0 / 1]
5-804-007	OUTPUT Check	DrumMt: CW: ExLow	ENG	[0 to 1 / 0 / 1]
5-804-008	OUTPUT Check	DrumMt: CCW: ExHi	ENG	[0 to 1 / 0 / 1]
5-804-009	OUTPUT Check	DrumMt: CCW: Hi	ENG	[0 to 1 / 0 / 1]
5-804-010	OUTPUT Check	DrumMt: CCW: Mid	ENG	[0 to 1 / 0 / 1]
5-804-011	OUTPUT Check	DrumMt: CCW: Low	ENG	[0 to 1 / 0 / 1]
5-804-012	OUTPUT Check	DrumMt: CCW: ExLow	ENG	[0 to 1 / 0 / 1]
5-804-013	OUTPUT Check	FeedMt: CW: ExHi	ENG	[0 to 1 / 0 / 1]
5-804-014	OUTPUT Check	FeedMt: CW: Hi	ENG	[0 to 1 / 0 / 1]
5-804-015	OUTPUT Check	FeedMt: CW: Mid	ENG	[0 to 1 / 0 / 1]
5-804-016	OUTPUT Check	FeedMt: CW: Low	ENG	[0 to 1 / 0 / 1]
5-804-017	OUTPUT Check	FeedMt: CW: ExLow	ENG	[0 to 1 / 0 / 1]
5-804-018	OUTPUT Check	FeedMt: CCW: ExHi	ENG	[0 to 1 / 0 / 1]
5-804-019	OUTPUT Check	FeedMt: CCW: Hi	ENG	[0 to 1 / 0 / 1]
5-804-020	OUTPUT Check	FeedMt: CCW: Mid	ENG	[0 to 1 / 0 / 1]
5-804-021	OUTPUT Check	FeedMt: CCW: Low	ENG	[0 to 1 / 0 / 1]
5-804-022	OUTPUT Check	FeedMt: CCW: ExLow	ENG	[0 to 1 / 0 / 1]
5-804-023	OUTPUT Check	ExtRevMt: CW: ExHi	ENG	[0 to 1 / 0 / 1]
5-804-024	OUTPUT Check	ExtRevMt: CW: Hi	ENG	[0 to 1 / 0 / 1]
5-804-025	OUTPUT Check	ExtRevMt: CW: Mid	ENG	[0 to 1 / 0 / 1]
5-804-026	OUTPUT Check	ExtRevMt: CW: Low	ENG	[0 to 1 / 0 / 1]
5-804-027	OUTPUT Check	ExtRevMt: CW: ExLow	ENG	[0 to 1 / 0 / 1]
5-804-028	OUTPUT Check	ExtRevMt: CCW: ExHi	ENG	[0 to 1 / 0 / 1]
5-804-029	OUTPUT Check	ExtRevMt: CCW: Hi	ENG	[0 to 1 / 0 / 1]
5-804-030	OUTPUT Check	ExtRevMt: CCW: Mid	ENG	[0 to 1 / 0 / 1]
5-804-031	OUTPUT Check	ExtRevMt: CCW: Low	ENG	[0 to 1 / 0 / 1]
5-804-032	OUTPUT Check	ExtRevMt: CCW: ExLow	ENG	[0 to 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
5-804-033	OUTPUT Check	PCDUFan:Left:High	ENG	[0 to 1 / 0 / 1]
5-804-034	OUTPUT Check	PCDUFan:Left:Low	ENG	[0 to 1 / 0 / 1]
5-804-035	OUTPUT Check	PSU Fan: High	ENG	[0 to 1 / 0 / 1]
5-804-036	OUTPUT Check	PSU Fan: Low	ENG	[0 to 1 / 0 / 1]
5-804-037	OUTPUT Check	HVP:Development	ENG	[0 to 1 / 0 / 1]
5-804-038	OUTPUT Check	HVP:Charge	ENG	[0 to 1 / 0 / 1]
5-804-040	OUTPUT Check	HVP:Transfer:-	ENG	[0 to 1 / 0 / 1]
5-804-041	OUTPUT Check	HVP:Supply	ENG	[0 to 1 / 0 / 1]
5-804-042	OUTPUT Check	Drum QL	ENG	[0 to 1 / 0 / 1]
5-804-044	OUTPUT Check	Exit Junc SOL	ENG	[0 to 1 / 0 / 1]
5-804-045	OUTPUT Check	PCDU Fan:Light	ENG	[0 to 1 / 0 / 1]
5-804-046	OUTPUT Check	Duplex CL	ENG	[0 to 1 / 0 / 1]
5-804-048	OUTPUT Check	Bypass:Feed CL	ENG	[0 to 1 / 0 / 1]
5-804-049	OUTPUT Check	Registration CL	ENG	[0 to 1 / 0 / 1]
5-804-050	OUTPUT Check	Feed Connect CL	ENG	[0 to 1 / 0 / 1]
5-804-051	OUTPUT Check	Bypass:Tray CL	ENG	[0 to 1 / 0 / 1]
5-804-052	OUTPUT Check	Paper Feed CL	ENG	[0 to 1 / 0 / 1]
5-804-053	OUTPUT Check	Toner End Sensor	ENG	[0 to 1 / 0 / 1]
5-804-054	OUTPUT Check	Toner IDTAG Power	ENG	[0 to 1 / 0 / 1]
5-804-162	Output Check	Bank1 BLM:MAX	ENG	[0 to 1 / 0 / 1]
5-804-163	Output Check	Bank1 BLM:High	ENG	[0 to 1 / 0 / 1]
5-804-164	Output Check	Bank1 BLM:Mid	ENG	[0 to 1 / 0 / 1]
5-804-165	Output Check	Bank1 BLM:Low	ENG	[0 to 1 / 0 / 1]
5-804-166	Output Check	Bank1 BLM:MIN	ENG	[0 to 1 / 0 / 1]
5-804-167	Output Check	Bank1 BLM:MAX	ENG	[0 to 1 / 0 / 1]
5-804-168	Output Check	Bank2 BLM:High	ENG	[0 to 1 / 0 / 1]
5-804-169	Output Check	Bank2 BLM:Mid	ENG	[0 to 1 / 0 / 1]
5-804-170	Output Check	Bank2 BLM:Low	ENG	[0 to 1 / 0 / 1]
5-804-171	Output Check	Bank1 BLM:MIN	ENG	[0 to 1 / 0 / 1]
5-804-172	Output Check	Bank1 BLM:MAX	ENG	[0 to 1 / 0 / 1]
5-804-173	Output Check	Bank3 BLM:High	ENG	[0 to 1 / 0 / 1]
5-804-174	Output Check	Bank3 BLM:Mid	ENG	[0 to 1 / 0 / 1]
5-804-175	Output Check	Bank3 BLM:Low	ENG	[0 to 1 / 0 / 1]
5-804-176	Output Check	Bank1 BLM:MIN	ENG	[0 to 1 / 0 / 1]
5-804-177	Output Check	Bank1 Feed CL	ENG	[0 to 1 / 0 / 1]
5-804-178	Output Check	Bank2 Feed CL	ENG	[0 to 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
5-804-179	Output Check	Bank3 Feed CL	ENG	[0 to 1 / 0 / 1]
5-804-202	OUTPUT Check	Scanner Lamp	ENG	[0 to 1 / 0 / 1]
5-810-001	SC Reset	Fusing SC Reset	ENG	[0 to 1 / 0 / 1]
5-811-002	Machine Serial	Display	ENG*	[0 to 255 / 0 / 1]
5-811-004	Machine Serial	Set SCB	ENG	[0 to 255 / 0 / 1]
5-811-021	Machine Serial	Update Latest	ENG*	[0 to 1 / 0 / 1]
5-811-022	Machine Serial	Update Previous	ENG*	[0 to 1 / 0 / 1]
5-811-023	Machine Serial	Previous	ENG*	[0 to 255 / 0 / 1]
5-811-024	Machine Serial	Update Latest SCB	ENG*	[0 to 1 / 0 / 1]
5-811-025	Machine Serial	Update Pre SCB	ENG*	[0 to 1 / 0 / 1]
5-811-026	Machine Serial	Previous SCB	ENG*	[0 to 255 / 0 / 1]
5-894-001	ExternalCountSet	SW Charge Mode	ENG*	[0 to 2 / 0 / 1]
5-900-001	Engine Log Upload	Pattern	ENG*	[0 to 4 / 0 / 1]
5-900-002	Engine Log Upload	Trigger	ENG*	[0 to 3 / 0 / 1]
5-930-001	MeterClick Charge	Setting	ENG*	[0 to 1 / 1 / 1] 0: No 1: Yes
5-931-001	Life Alert Disp.	Maintenance Kit	ENG*	[0 to 1 / 1 / 1] 0: No 1: Yes
5-931-002	Life Alert Disp.	PCDU	ENG*	[0 to 1 / 1 / 1] 0: No 1: Yes
5-931-003	Life Alert Disp.	PCDU STOP	ENG*	[0 to 1 / 0 / 1] 0: No 1: Yes

## 5.6 SP5-XXX (MODE) - CONTROLLER

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
5-009-201	Add display language	1-8	CTL*	[0 to 255 / 0 / 1]
5-009-202	Add display language	9-16	CTL*	[0 to 255 / 0 / 1]
5-009-203	Add display language	17-24	CTL*	[0 to 255 / 0 / 1]
5-009-204	Add display language	25-32	CTL*	[0 to 255 / 0 / 1]
5-009-205	Add display language	33-40	CTL*	[0 to 255 / 0 / 1]
5-009-206	Add display language	41-48	CTL*	[0 to 255 / 0 / 1]
5-009-207	Add display language	49-56	CTL*	[0 to 255 / 0 / 1]
5-024-001	mm/inch Display Selection	0:mm 1:inch	CTL*	[0 or 1 / * / 1] NA: 1 EU, AA, CHN, TWN, KOR: 0
5-044-001	Operation Panel Bit SW	SW1	CTL*	[0x00 to 0xFF / 0 / 1]
5-044-002	Operation Panel Bit SW	SW2	CTL*	[0x00 to 0xFF / 0 / 1]
5-045-001	Accounting counter	Counter Method	CTL*	[0 to 7 / 0 / 1]
5-051-001	TonerRefillDetection Display		CTL*	[0 to 1 / 0 / 1]
5-055-001	Display IP address		CTL*	[0 to 1 / 0 / 1]
5-061-002	Toner PreNearEnd Display Change		CTL*	[0 to 1 / 0 / 1]
5-071-001	Set Bypass Paper Size Display		CTL	[0 to 1 / 0 / 1]
5-073-003	Supply Part Replacement Operation Type	Fuser Unit	CTL*	[0 to 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
5-073-005	Supply Part Replacement Operation Type	Drum Unit	CTL*	[0 to 1 / 0 / 1]
5-074-002	Home Key Customization	Login Setting	CTL*	[0 to 255 / 0 / 1]
5-074-050	Home Key Customization	Show Home Edit Menu	CTL	[0 to 2 / 0 / 1]
5-074-091	Home Key Customization	Function Setting	CTL*	[0 to 2 / 0 / 1]
5-074-092	Home Key Customization	Product ID	CTL*	[0 to 0xffffffff / 0 / 1]
5-074-093	Home Key Customization	Application Screen ID	CTL*	[0 to 255 / 0 / 1]
5-075-003	USB Keyboard	Display setting	CTL*	[0 to 1 / 0 / 1]
5-076-001	Copy:LT/LG Mixed Sizes Setting	0:OFF 1:ON	CTL*	[0 to 1 / * / 1] NA: 1 EU, AA, CHN, TWN, KOR: 0
5-081-001	ServiceSP Entry Code Setting		CTL*	[0 to 0 / 0 / 0]
5-083-001	LED Light Switch Setting	Toner Near End	CTL*	[0 to 1 / 0 / 1]
5-083-002	LED Light Switch Setting	Waste Toner Near End	CTL*	[0 to 1 / 0 / 1]
5-101-202	Copy Auto Clear Setting	Auto Clear Timer Setting (0:ON 1:OFF)	CTL*	[0 to 1 / 0 / 1]
5-113-001	Optional Counter Type	Default Optional Counter Type	CTL*	[0 to 12 / 0 / 1]
5-113-002	Optional Counter Type	External Optional Counter Type	CTL*	[0 to 3 / 0 / 1]
5-114-001	Optional Counter I/F	MF Key Card Extension	CTL*	[0 to 1 / 0 / 1]
5-118-001	Copy mode setting	Disable Copying	CTL*	[0 to 1 / 0 / 1]
5-118-003	Copy mode setting	DocumentServer:Printed File Auto Delete	CTL*	[0 to 1 / 0 / 1]
5-118-004	Copy mode setting	Print Limit Warning Display Setting	CTL	[0 to 1 / 1 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
5-120-001	Mode Clear Opt. Counter Removal	0:Yes 1:StandBy 2:No	CTL*	[0 to 2 / 0 / 1]
5-121-001	Counter Up Timing	0:Feed 1:Exit	CTL*	[0 to 1 / 0 / 1]
5-127-001	APS OFF Mode		CTL*	[0 to 1 / 0 / 1]
5-144-001	Tray Lock	Bypass	CTL*	[0 to 1 / 0 / 1]
5-144-002	Tray Lock	Tray 1	CTL*	[0 to 1 / 0 / 1]
5-144-003	Tray Lock	Tray 2	CTL*	[0 to 1 / 0 / 1]
5-144-004	Tray Lock	Tray 3	CTL*	[0 to 1 / 0 / 1]
5-144-005	Tray Lock	Tray 4	CTL*	[0 to 1 / 0 / 1]
5-167-001	Fax Printing Mode at Optional Counter Off		CTL*	[0 to 1 / 0 / 1]
5-169-001	CE Login		CTL*	[0 to 1 / 0 / 1]
5-188-001	Copy Nv Version		CTL*	[0 to 0 / 0 / 0]
5-191-001	Mode Set	Power Str Set	CTL*	[0 to 1 / 1 / 1]
5-191-003	Mode Set	Power Reject Engine Off	CTL*	[0 to 1 / 1 / 1]
5-194-001	SC991 Operation Mode Setting	SC Switching: SC990/SC991	CTL*	[0 to 1 / 0 / 1]
5-195-001	Limitless SW		CTL*	[0 to 1 / 0 / 1]
5-212-003	Page Numbering	Duplex Printout Left/Right Position of Left/Right Facing	CTL*	[-10 to 10 / 0 / 0.01mm]
5-212-004	Page Numbering	Duplex Printout Top/Bottom Position of Left/Right Facing	CTL*	[-10 to 10 / 0 / 0.01mm]
5-212-018	Page Numbering	Duplex Printout Left/Right Position of Top/Bottom Facing	CTL*	[-10 to 10 / 0 / 0.01mm]
5-212-019	Page Numbering	Duplex Printout Top/Bottom Position of Top/Bottom Facing	CTL*	[-10 to 10 / 0 / 0.01mm]
5-227-201	Page Numbering	Allow Page No. Entry	CTL*	[2 to 9 / 9 / 1]
5-227-202	Page Numbering	Zero Surplus Setting	CTL*	[0 to 1 / 0 / 1]
5-228-001	ScanBinary Bound		CTL*	[0 to 1 / 0 / 1]
5-302-002	Set Time	Time Difference	CTL*	[-1440 to 1440 / * / 1] NA: -300, EU: 60, AA: 60, CHN: 480, TWN:

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
				480, KOR: 540
5-305-101	Auto Off Set	Auto Off Limit Set	CTL*	[0 to 1 / 0 / 1]
5-307-001	Daylight Saving Time	Setting	CTL*	[0 to 1 / 0 / 1]
5-307-003	Daylight Saving Time	Rule Set(Start)	CTL*	[0 to 0xffffffff / * / 1] NA: 0x03200210 EU: 0x03500010 AA: 0x10500010 CHN, TWN, KOR: 0
5-307-004	Daylight Saving Time	Rule Set(End)	CTL*	[0 to 0xffffffff / * / 1] NA: 0x11100200 EU: 0x10500100 AA: 0x03100000 CHN, TWN, KOR: 0
5-401-103	Access Control	Default Document ACL	CTL*	[0 to 3 / 0 / 1]
5-401-104	Access Control	Authentication Time	CTL*	[0 to 255 / 0 / 1sec]
5-401-160	Access Control	Extend Certification	CTL*	[0 to 1 / 0 / 1]
5-401-161	Access Control	Extend Certification Detail	CTL*	[0 to 0xFF / 0 / 1]
5-401-162	Access Control	Extend Certification Detail	CTL*	[0 to 0xff / 0 / 1]
5-401-163	Access Control	Extend Install State	CTL*	[0 to 0xFF / 0 / 1]
5-401-200	Access Control	SDK1 UniqueID	CTL*	[0 to 0xFFFFFFFF / 0 / 1]
5-401-201	Access Control	SDK1 Certification Method	CTL*	[0 to 0xFF / 0 / 1]
5-401-210	Access Control	SDK2 UniqueID	CTL*	[0 to 0xFFFFFFFF / 0 / 1]
5-401-211	Access Control	SDK2 Certification Method	CTL*	[0 to 0xFF / 0 / 1]
5-401-220	Access Control	SDK3 UniqueID	CTL*	[0 to 0xFFFFFFFF / 0 / 1]
5-401-221	Access Control	SDK3 Certification Method	CTL*	[0 to 0xFF / 0 / 1]
5-401-230	Access Control	SDK Certification Device	CTL*	[0 to 0xff / 0 / 1]
5-401-240	Access Control	Detail Option	CTL*	[0 to 0xff / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
5-402-101	Access Control	SDKJ1 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-102	Access Control	SDKJ2 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-103	Access Control	SDKJ3 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-104	Access Control	SDKJ4 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-105	Access Control	SDKJ5 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-106	Access Control	SDKJ6 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-107	Access Control	SDKJ7 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-108	Access Control	SDKJ8 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-109	Access Control	SDKJ9 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-110	Access Control	SDKJ10 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-111	Access Control	SDKJ11 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-112	Access Control	SDKJ12 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-113	Access Control	SDKJ13 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-114	Access Control	SDKJ14 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-115	Access Control	SDKJ15 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-116	Access Control	SDKJ16 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-117	Access Control	SDKJ17 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-118	Access Control	SDKJ18 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-119	Access Control	SDKJ19 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-120	Access Control	SDKJ20 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-121	Access Control	SDKJ21 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-122	Access Control	SDKJ22 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-123	Access Control	SDKJ23 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-124	Access Control	SDKJ24 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-125	Access Control	SDKJ25 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-126	Access Control	SDKJ26 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-127	Access Control	SDKJ27 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-128	Access Control	SDKJ28 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-129	Access Control	SDKJ29 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-130	Access Control	SDKJ30 Limit Setting	CTL*	[0 to 0xFF / 0 / 1]
5-402-141	Access Control	SDKJ1 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-142	Access Control	SDKJ2 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-143	Access Control	SDKJ3 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-144	Access Control	SDKJ4 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-145	Access Control	SDKJ5 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]



SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
5-402-146	Access Control	SDKJ6 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-147	Access Control	SDKJ7 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-148	Access Control	SDKJ8 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-149	Access Control	SDKJ9 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-150	Access Control	SDKJ10 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-151	Access Control	SDKJ11 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-152	Access Control	SDKJ12 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-153	Access Control	SDKJ13 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-154	Access Control	SDKJ14 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-155	Access Control	SDKJ15 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-156	Access Control	SDKJ16 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-157	Access Control	SDKJ17 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-158	Access Control	SDKJ18 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-159	Access Control	SDKJ19 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-160	Access Control	SDKJ20 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-161	Access Control	SDKJ21 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-162	Access Control	SDKJ22 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-163	Access Control	SDKJ23 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-164	Access Control	SDKJ24 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-165	Access Control	SDKJ25 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-166	Access Control	SDKJ26 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-167	Access Control	SDKJ27 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-168	Access Control	SDKJ28 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-169	Access Control	SDKJ29 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-402-170	Access Control	SDKJ30 ProductID	CTL*	[0 to 0xffffffff / 0 / 1]
5-404-001	User Code Count Clear	User Code Count Clear	CTL	[0 to 0 / 0 / 0]
5-404-101	User Code Count Clear	User Code Count Clear Permit Setting	CTL*	[0 to 1 / 0 / 1]
5-411-004	LDAP-Certification	Simplified Authentication	CTL*	[0 to 1 / 1 / 1]
5-411-005	LDAP-Certification	Password Null Not Permit	CTL*	[0 to 1 / 1 / 1]
5-411-006	LDAP-Certification	Detail Option	CTL*	[0 to 0xff / 1 / 1]
5-412-100	Krb-Certification	Encrypt Mode	CTL*	[0 to 0xFF / 0x1F / 1]
5-413-001	Lockout Setting	Lockout On/Off	CTL*	[0 to 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
5-413-002	Lockout Setting	Lockout Threshold	CTL*	[1 to 10 / 5 / 1]
5-413-003	Lockout Setting	Cancelation On/Off	CTL*	[0 to 1 / 0 / 1]
5-413-004	Lockout Setting	Cancelation Time	CTL*	[1 to 9999 / 60 / 1min]
5-414-001	Access Mitigation	Mitigation On/Off	CTL*	[0 to 1 / 0 / 1]
5-414-002	Access Mitigation	Mitigation Time	CTL*	[0 to 60 / 15 / 1min]
5-415-001	Password Attack	Permissible Number	CTL*	[0 to 100 / 30 / 1]
5-415-002	Password Attack	Detect Time	CTL*	[1 to 10 / 5 / 1]
5-416-001	Access Information	Access User Max Num	CTL*	[50 to 200 / 200 / 1]
5-416-002	Access Information	Access Password Max Num	CTL*	[50 to 200 / 200 / 1]
5-416-003	Access Information	Monitor Interval	CTL*	[1 to 10 / 3 / 1]
5-417-001	Access Attack	Access Permissible Number	CTL*	[0 to 500 / 100 / 1]
5-417-002	Access Attack	Attack Detect Time	CTL*	[10 to 30 / 10 / 1sec]
5-417-003	Access Attack	Productivity Fall Waite	CTL*	[0 to 9 / 3 / 1sec]
5-417-004	Access Attack	Attack Max Num	CTL*	[50 to 200 / 200 / 1]
5-420-001	User Authentication	Copy	CTL*	[0 to 1 / 0 / 1]
5-420-011	User Authentication	DocumentServer	CTL*	[0 to 1 / 0 / 1]
5-420-021	User Authentication	Fax	CTL*	[0 to 1 / 0 / 1]
5-420-031	User Authentication	Scanner	CTL*	[0 to 1 / 0 / 1]
5-420-041	User Authentication	Printer	CTL*	[0 to 1 / 0 / 1]
5-420-051	User Authentication	SDK1	CTL*	[0 to 1 / 0 / 1]
5-420-061	User Authentication	SDK2	CTL*	[0 to 1 / 0 / 1]
5-420-071	User Authentication	SDK3	CTL*	[0 to 1 / 0 / 1]
5-420-081	User Authentication	Browser	CTL*	[0 to 1 / 0 / 1]
5-430-001	Auth Dialog Message Change	Message Change On/Off	CTL*	[0 to 1 / 0 / 1]
5-430-002	Auth Dialog Message Change	Message Text Download	CTL*	[0 to 0 / 0 / 0]
5-430-003	Auth Dialog Message Change	Message Text ID	CTL	[0 to 0 / 0 / 0]
5-431-010	External Auth User Preset	Tag	CTL	[0 to 1 / 1 / 1]
5-431-011	External Auth User Preset	Entry	CTL*	[0 to 1 / 1 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
5-431-012	External Auth User Preset	Group	CTL*	[0 to 1 / 1 / 1]
5-431-020	External Auth User Preset	Mail	CTL*	[0 to 1 / 1 / 1]
5-431-030	External Auth User Preset	Fax	CTL*	[0 to 1 / 1 / 1]
5-431-031	External Auth User Preset	FaxSub	CTL*	[0 to 1 / 1 / 1]
5-431-032	External Auth User Preset	Folder	CTL*	[0 to 1 / 1 / 1]
5-431-033	External Auth User Preset	ProtectCode	CTL*	[0 to 1 / 1 / 1]
5-431-034	External Auth User Preset	SmtAuth	CTL*	[0 to 1 / 1 / 1]
5-431-035	External Auth User Preset	LdapAuth	CTL*	[0 to 1 / 1 / 1]
5-431-036	External Auth User Preset	Smb Ftp Fldr Auth	CTL*	[0 to 1 / 1 / 1]
5-431-037	External Auth User Preset	AcntAcl	CTL*	[0 to 1 / 1 / 1]
5-431-038	External Auth User Preset	DocumentAcl	CTL*	[0 to 1 / 1 / 1]
5-431-040	External Auth User Preset	CertCrypt	CTL*	[0 to 1 / 0 / 1]
5-431-050	External Auth User Preset	UserLimitCount	CTL*	[0 to 1 / 1 / 1]
5-481-001	Authentication Error Code	System Log Disp	CTL*	[0 to 1 / 0 / 1]
5-481-002	Authentication Error Code	Panel Disp	CTL*	[0 to 1 / 1 / 1]
5-490-001	MF KeyCard	Job Permit Setting	CTL*	[0 to 1 / 0 / 1]
5-491-001	Optional Counter	Detail Option	CTL*	[0 to 0xff / 0 / 1]
5-501-001	PM Alarm	PM Alarm Level	CTL*	[0 to 9999 / 0 / 1]
5-504-001	Jam Alarm		CTL*	[0 to 3 / 3 / 1]
5-504-002	Jam Alarm	Threshold	CTL*	[1 to 99 / 10 / 1]
5-505-001	Error Alarm		CTL*	[0 to 255 / * / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
				43ppm model: 12 35ppm model: 15
5-505-002	Error Alarm	Threshold	CTL*	[1 to 99 / 5 / 1]
5-507-001	Supply/CC Alarm	Paper Supply Alarm	CTL*	[0 to 1 / 0 / 1]
5-507-003	Supply/CC Alarm	Toner Supply Alarm	CTL*	[0 to 1 / 1 / 1]
5-507-005	Supply/CC Alarm	DrumLifeRemain Supply Alarm	CTL*	[0 to 1 / 1 / 1]
5-507-006	Supply/CC Alarm	WasteTonerBottle Supply Alarm	CTL*	[0 to 1 / 1 / 1]
5-507-008	Supply/CC Alarm	Fuser Supply Alarm	CTL*	[0 to 1 / 1 / 1]
5-507-080	Supply/CC Alarm	Toner Call Timing	CTL*	[0 to 1 / 0 / 1]
5-507-081	Supply/CC Alarm	Toner Call Threshold	CTL*	[10 to 90 / 10 / 10%]
5-507-128	Supply/CC Alarm	Interval: Others	CTL*	[250 to 10000 / 1000 / 1]
5-507-133	Supply/CC Alarm	Interval: A4	CTL*	[250 to 10000 / 1000 / 1]
5-507-134	Supply/CC Alarm	Interval: A5	CTL*	[250 to 10000 / 1000 / 1]
5-507-142	Supply/CC Alarm	Interval: B5	CTL*	[250 to 10000 / 1000 / 1]
5-507-164	Supply/CC Alarm	Interval: LG	CTL*	[250 to 10000 / 1000 / 1]
5-507-166	Supply/CC Alarm	Interval: LT	CTL*	[250 to 10000 / 1000 / 1]
5-507-172	Supply/CC Alarm	Interval: HLT	CTL*	[250 to 10000 / 1000 / 1]
5-508-001	CC Call	Jam Remains	CTL*	[0 to 1 / 1 / 1]
5-508-002	CC Call	Continuous Jams	CTL*	[0 to 1 / 1 / 1]
5-508-003	CC Call	Continuous Door Open	CTL*	[0 to 1 / 1 / 1]
5-508-011	CC Call	Jam Detection: Time Length	CTL*	[3 to 30 / 10 / 1]
5-508-012	CC Call	Jam Detection: Continuous Count	CTL*	[2 to 10 / 5 / 1]
5-508-013	CC Call	Door Open: Time Length	CTL*	[3 to 30 / 10 / 1]
5-513-001	PartsAlermlevelCount	Normal	CTL*	[1 to 9999 / 300 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
5-513-002	PartsAlarmlevelCount	Df	CTL*	[1 to 9999 / 300 / 1]
5-514-001	PartsAlarmlev	Normal	CTL*	[0 to 1 / 1 / 1]
5-514-002	PartsAlarmlev	Df	CTL*	[0 to 1 / 0 / 1]
5-515-001	SC/Alarm Setting	SC Call	CTL*	[0 to 1 / 1 / 1]
5-515-002	SC/Alarm Setting	Service Parts Near End Call	CTL*	[0 to 1 / 1 / 1]
5-515-003	SC/Alarm Setting	Service Parts End Call	CTL*	[0 to 1 / 1 / 1]
5-515-004	SC/Alarm Setting	User Call	CTL*	[0 to 1 / 1 / 1]
5-515-006	SC/Alarm Setting	Communication Test Call	CTL*	[0 to 1 / 1 / 1]
5-515-007	SC/Alarm Setting	Machine Information Notice	CTL*	[0 to 1 / 1 / 1]
5-515-008	SC/Alarm Setting	Alarm Notice	CTL*	[0 to 1 / 1 / 1]
5-515-009	SC/Alarm Setting	Non Genuine Toner Ararm	CTL*	[0 to 1 / 1 / 1]
5-515-010	SC/Alarm Setting	Supply Automatic Ordering Call	CTL*	[0 to 1 / 1 / 1]
5-515-011	SC/Alarm Setting	Supply Management Report Call	CTL*	[0 to 1 / 1 / 1]
5-515-012	SC/Alarm Setting	Jam/Door Open Call	CTL*	[0 to 1 / 1 / 1]
5-515-050	SC/Alarm Setting	Timeout:Manual Call	CTL*	[1 to 255 / 5 / 1min]
5-515-051	SC/Alarm Setting	Timeout:Other Call	CTL*	[1 to 255 / 10 / 1min]
5-517-061	Get Machine Information	AutoDiscovery Execution Setting	CTL	[0 to 1 / 0 / 1]
5-517-062	Get Machine Information	AutoDiscovery Execution Interval	CTL	[0 to 1 / 0 / 1]
5-517-063	Get Machine Information	AutoDiscovery Execution Weekday	CTL	[0 to 6 / 0 / 1]
5-517-064	Get Machine Information	AutoDiscovery Execution Hour	CTL	[0 to 23 / 0 / 1]
5-517-065	Get Machine Information	AutoDiscovery Execution Minute	CTL	[0 to 59 / 0 / 1]
5-517-066	Get Machine Information	AutoDiscovery SNMP Community Name	CTL	[0 to 0 / 0 / 0]
5-517-100	Get Machine Information	GetLog:NotificationSetting	CTL*	[0 to 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
5-728-001	Network Setting	NAT Machine Port1	CTL*	[1 to 65535 / 49101 / 1]
5-728-002	Network Setting	NAT UI Port1	CTL*	[1 to 65535 / 55101 / 1]
5-728-003	Network Setting	NAT Machine Port2	CTL*	[1 to 65535 / 49102 / 1]
5-728-004	Network Setting	NAT UI Port2	CTL*	[1 to 65535 / 55102 / 1]
5-728-005	Network Setting	NAT Machine Port3	CTL*	[1 to 65535 / 49103 / 1]
5-728-006	Network Setting	NAT UI Port3	CTL*	[1 to 65535 / 55103 / 1]
5-728-007	Network Setting	NAT Machine Port4	CTL*	[1 to 65535 / 49104 / 1]
5-728-008	Network Setting	NAT UI Port4	CTL*	[1 to 65535 / 55104 / 1]
5-728-009	Network Setting	NAT Machine Port5	CTL*	[1 to 65535 / 49105 / 1]
5-728-010	Network Setting	NAT UI Port5	CTL*	[1 to 65535 / 55105 / 1]
5-728-011	Network Setting	NAT Machine Port6	CTL*	[1 to 65535 / 49106 / 1]
5-728-012	Network Setting	NAT UI Port6	CTL*	[1 to 65535 / 55106 / 1]
5-728-013	Network Setting	NAT Machine Port7	CTL*	[1 to 65535 / 49107 / 1]
5-728-014	Network Setting	NAT UI Port7	CTL*	[1 to 65535 / 55107 / 1]
5-728-015	Network Setting	NAT Machine Port8	CTL*	[1 to 65535 / 49108 / 1]
5-728-016	Network Setting	NAT UI Port8	CTL*	[1 to 65535 / 55108 / 1]
5-728-017	Network Setting	NAT Machine Port9	CTL*	[1 to 65535 / 49109 / 1]
5-728-018	Network Setting	NAT UI Port9	CTL*	[1 to 65535 / 55109 / 1]
5-728-019	Network Setting	NAT Machine Port10	CTL*	[1 to 65535 / 49110 / 1]
5-728-020	Network Setting	NAT UI Port10	CTL*	[1 to 65535 / 55110 / 1]
5-728-101	Network Setting	PacketCapture	CTL	[0 or 1 / 0 / 1]
5-728-102	Network Setting	PacketCapture:mode	CTL	[0 or 1 / 0 / 1]
5-728-103	Network Setting	PacketCapture:interface	CTL	[0 to 3 / 0 / 1]
5-728-104	Network Setting	PacketCapture:length	CTL	[54 to 65535 / 128 / 1]
5-728-105	Network Setting	PacketCapture:broadcast	CTL	[0 or 1 / 0 / 1]
5-728-106	Network Setting	PacketCapture:specify port	CTL	[0 or 1 / 0 / 1]
5-728-107	Network Setting	PacketCapture:portnumb er	CTL	[0 to 65535 / 0 / 1]
5-728-108	Network Setting	PacketCapture:time	CTL	[0 to 0xffffffff / 0 / 1]
5-730-001	Extended Function Setting	JavaTM Platform setting	CTL*	[0 or 1 / 1 / 1]
5-730-010	Extended Function Setting	Expiration Prior Alarm Set	CTL*	[0 to 999 / 20 / 1days]
5-731-001	Counter Effect	Change Mk1	CTL*	[0 or 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
		Cnt(Paper->Combine)		
5-734-001	PDF Setting	PDF/A Fixed	CTL*	[0 or 1 / 0 / 1]
5-741-001	Node Authentication Timuout		CTL*	[1 to 255 / 60 / 1sec]
5-745-211	DeemedPowerCons umption	Controller Standby	CTL*	[0 to 9999 / 0 / 1]
5-745-212	DeemedPowerCons umption	STR	CTL*	[0 to 9999 / 0 / 1]
5-745-213	DeemedPowerCons umption	Main Power Off	CTL*	[0 to 9999 / 0 / 1]
5-745-214	DeemedPowerCons umption	Scanning and Printing	CTL*	[0 to 9999 / 0 / 1]
5-745-215	DeemedPowerCons umption	Printing	CTL*	[0 to 9999 / 0 / 1]
5-745-216	DeemedPowerCons umption	Scanning	CTL*	[0 to 9999 / 0 / 1]
5-745-217	DeemedPowerCons umption	Engine Standby	CTL*	[0 to 9999 / 0 / 1]
5-745-218	DeemedPowerCons umption	Low Power Consumption	CTL*	[0 to 9999 / 0 / 1]
5-745-219	DeemedPowerCons umption	Silent condition	CTL*	[0 to 9999 / 0 / 1]
5-745-220	DeemedPowerCons umption	Heater Off	CTL*	[0 to 9999 / 0 / 1]
5-748-101	OpePanel Setting	Op Type Action Setting	CTL	[0 to 255 / 0 / 1]
5-748-201	OpePanel Setting	Cheetah Panel Connect Setting	CTL	[0 to 1 / 0 / 1]
5-749-001	Import/Export	Export	CTL	[0 to 0 / 0 / 0]
5-749-101	Import/Export	Import	CTL	[0 to 0 / 0 / 0]
5-751-001	Key Event Encryption Setting	Password	CTL*	[0 to 255 / 0 / 1]
5-752-001	Copy:WebAPI Setting	Copy:FlairAPI Setting	CTL*	[0 to 255 / 0 / 1]
5-752-002	Copy:WebAPI Setting	Copy:SmartSDK Setting	CTL*	[0 to 255 / 0 / 1]
5-755-001	Display Setting	Disp Administrator	CTL	[0 to 0 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
		Password Change Scrn		
5-755-002	Display Setting	Hide Administrator Password Change Scrn	CTL	[0 to 0 / 0 / 0]
5-758-001	RemoteUI Setting	Authentication	CTL*	[0 to 1 / 0 / 1]
5-759-001	Machine Limit Count	Machine Limit Count Setting	CTL*	[0 to 1 / 0 / 1]
5-759-051	Machine Limit Count	Limit Count	CTL*	[0 to 999999999 / 0 / 1]
5-760-001	PaaS	PaaS Mode	CTL*	[0 to 1 / 0 / 1]
5-760-002	PaaS	Enter PaaS Mode	CTL	[0 to 1 / 0 / 1]
5-760-003	PaaS	Contract ID	CTL*	[0 to 0 / 0 / 0]
5-760-004	PaaS	Authentication Key	CTL*	[0 to 0 / 0 / 0]
5-760-005	PaaS	Server Name	CTL*	[0 to 0 / 0 / 0]
5-760-006	PaaS	Server URL Path	CTL*	[0 to 0 / 0 / 0]
5-760-007	PaaS	Server Port Number	CTL*	[1 to 65535 / 443 / 1]
5-760-008	PaaS	Registration Status	CTL*	[0 to 1 / 0 / 1]
5-760-009	PaaS	Registration	CTL	[0 to 1 / 0 / 1]
5-760-010	PaaS	Unregistration	CTL	[0 to 1 / 0 / 1]
5-760-011	PaaS	Overwrite Registration on Server	CTL	[0 to 1 / 0 / 1]
5-760-012	PaaS	Execution Return Code	CTL	[0 to 255 / 0 / 1]
5-760-013	PaaS	Error Code	CTL	[0 to 0xffffffff / 0 / 1]
5-760-015	PaaS	Use Proxy	CTL*	[0 to 1 / 0 / 1]
5-760-016	PaaS	Proxy Server	CTL*	[0 to 0 / 0 / 0]
5-760-017	PaaS	Proxy Port Number	CTL*	[0 to 65535 / 0 / 1]
5-760-018	PaaS	Proxy User Name	CTL*	[0 to 0 / 0 / 0]
5-760-019	PaaS	Proxy User Password	CTL*	[0 to 0 / 0 / 0]
5-760-020	PaaS	Retry Interval	CTL*	[0 to 65535 / 5 / 1sec]
5-760-021	PaaS	Retry Count	CTL*	[0 to 255 / 3 / 1]
5-760-023	PaaS	Next Update Time	CTL*	[0 to 0 / 0 / 1]
5-760-024	PaaS	Enter Normal Mode	CTL	[0 to 1 / 0 / 1]
5-761-001	SmartOperationPan el Setting	Restore the default Home screen	CTL	[0 to 255 / 0 / 1]
5-761-007	SmartOperationPan el Setting	Introduction Setting Boot Mode	CTL	[0 to 255 / 0 / 1]
5-764-001	NFC Setting	GuestNetwork	CTL*	[0 to 1 / 0 / 1]



SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
5-764-002	NFC Setting	Encrypted Communication Permission	CTL*	[0 to 1 / 0 / 1]
5-764-003	NFC Setting	Access Port1	CTL*	[0 to 65535 / 8081 / 1]
5-764-004	NFC Setting	Access Port2	CTL*	[0 to 65535 / 8080 / 1]
5-764-005	NFC Setting	Access Port3	CTL*	[0 to 65535 / 80 / 1]
5-791-001	DCS Debug Setting	Common	CTL*	[0 to 0xff / 0x09 / 1]
5-791-002	DCS Debug Setting	IFC	CTL*	[0 to 0xff / 0x0b / 1]
5-791-003	DCS Debug Setting	SMM	CTL*	[0 to 0xff / 0x03 / 1]
5-791-004	DCS Debug Setting	SJM/RJM	CTL*	[0 to 0xff / 0xe7 / 1]
5-791-005	DCS Debug Setting	DSS	CTL*	[0 to 0xff / 0x27 / 1]
5-791-006	DCS Debug Setting	MRS	CTL*	[0 to 0xff / 0x23 / 1]
5-791-007	DCS Debug Setting	NAS	CTL*	[0 to 0xff / 0x3a / 1]
5-792-001	MCS Debug SW	1	CTL	[0 to 0xFF / 0 / 0]
5-792-002	MCS Debug SW	2	CTL	[0 to 0xFF / 0 / 0]
5-792-003	MCS Debug SW	3	CTL	[0 to 0xFF / 0 / 0]
5-792-004	MCS Debug SW	4	CTL	[0 to 0xFF / 0 / 0]
5-793-001	ECS Debug SW	1	CTL	[0 to 0xFF / 0 / 1]
5-795-001	SRM Debug SW	1	CTL	[0 to 255 / 0 / 1]
5-801-001	Memory Clear	All Clear	CTL	[0 to 0 / 0 / 0]
5-801-003	Memory Clear	SCS	CTL	[0 to 0 / 0 / 0]
5-801-004	Memory Clear	IMH Memory Clr	CTL	[0 to 0 / 0 / 0]
5-801-005	Memory Clear	MCS	CTL	[0 to 0 / 0 / 0]
5-801-006	Memory Clear	Copier application	CTL	[0 to 0 / 0 / 0]
5-801-007	Memory Clear	Fax Application	CTL	[0 to 0 / 0 / 0]
5-801-008	Memory Clear	Printer Application	CTL	[0 to 0 / 0 / 0]
5-801-009	Memory Clear	Scanner Application	CTL	[0 to 0 / 0 / 0]
5-801-010	Memory Clear	Web Service	CTL	[0 to 0 / 0 / 0]
5-801-011	Memory Clear	NCS	CTL	[0 to 0 / 0 / 0]
5-801-012	Memory Clear	R-FAX	CTL	[0 to 0 / 0 / 0]
5-801-014	Memory Clear	Clear DCS Setting	CTL	[0 to 0 / 0 / 0]
5-801-015	Memory Clear	Clear UCS Setting	CTL	[0 to 0 / 0 / 0]
5-801-016	Memory Clear	MIRS Setting	CTL	[0 to 0 / 0 / 0]
5-801-017	Memory Clear	CCS	CTL	[0 to 0 / 0 / 0]
5-801-018	Memory Clear	SRM Memory Clr	CTL	[0 to 0 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
5-801-019	Memory Clear	LCS	CTL	[0 to 0 / 0 / 0]
5-801-020	Cleae Memory	Web Uapli	CTL	[0 to 0 / 0 / 0]
5-801-021	Memory Clear	ECS	CTL	[0 to 0 / 0 / 0]
5-801-023	Memory Clear	AICS	CTL	[0 to 0 / 0 / 0]
5-801-025	Cleae Memory	websys	CTL	[0 to 0 / 0 / 0]
5-801-026	Memory Clear	PLN	CTL	[0 to 0 / 0 / 0]
5-801-027	Memory Clear	SAS	CTL	[0 to 0 / 0 / 0]
5-801-028	Memory Clear	Rest Webservice	CTL	[0 to 0 / 0 / 0]
5-812-001	Service Tel. No. Setting	Service	CTL*	[0 to 0 / 0 / 0]
5-812-002	Service Tel. No. Setting	Facsimile	CTL*	[0 to 0 / 0 / 0]
5-812-003	Service Tel. No. Setting	Supply	CTL*	[0 to 0 / 0 / 0]
5-812-004	Service Tel. No. Setting	Operation	CTL*	[0 to 0 / 0 / 0]
5-812-101	Service Tel. No. Setting	Disp Inquiry	CTL*	[0 to 1 / 0 / 1]
5-816-001	Remote Service	I/F Setting	CTL*	[0 to 2 / 2 / 1]
5-816-002	Remote Service	CE Call	CTL*	[0 to 1 / 0 / 1]
5-816-003	Remote Service	Function Flag	CTL*	[0 to 1 / 0 / 1]
5-816-007	Remote Service	SSL Disable	CTL*	[0 to 1 / 0 / 1]
5-816-008	Remote Service	RCG Connect Timeout	CTL*	[1 to 90 / 30 / 1sec]
5-816-009	Remote Service	RCG Write Timeout	CTL*	[0 to 100 / 60 / 1sec]
5-816-010	Remote Service	RCG Read Timeout	CTL*	[0 to 100 / 60 / 1sec]
5-816-011	Remote Service	Port 80 Enable	CTL*	[0 to 1 / 0 / 1]
5-816-013	Remote Service	RFU Timing	CTL*	[0 to 1 / 1 / 1]
5-816-014	Remote Service	RCG Error Cause	CTL	[0 to 2 / 0 / 1]
5-816-021	Remote Service	RCG-C Registered	CTL*	[0 to 1 / 0 / 1]
5-816-023	Remote Service	Connect Type(N/M/3G)	CTL*	[0 to 2 / 0 / 1]
5-816-027	Remote Service	Connection Timeout	CTL*	[1 to 90 / 30 / 1sec]
5-816-028	Remote Service	Send Timeout	CTL*	[0 to 100 / 30 / 1sec]
5-816-029	Remote Service	Receive Timeout	CTL*	[0 to 100 / 30 / 1sec]
5-816-030	Remote Service	Retry Interval	CTL*	[0 to 0xffff / 3 / 1sec]
5-816-031	Remote Service	Retry Count	CTL*	[0 to 255 / 3 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
5-816-032	Remote Service	Connect Send Delay	CTL*	[0 to 255 / 5 / 1sec]
5-816-033	Remote Service	Max Multipart	CTL*	[0 to 255 / 10 / 1]
5-816-034	Remote Service	Firm DL Interval	CTL*	[0 to 0xffff / 3 / 1sec]
5-816-035	Remote Service	Firm DL Retry Count	CTL*	[0 to 255 / 3 / 1]
5-816-061	Remote Service	Cert Expire Timing	CTL*	[0 to 0 / 0 / 1]
5-816-062	Remote Service	Use Proxy	CTL*	[0 to 1 / 0 / 1]
5-816-063	Remote Service	Proxy Host	CTL*	[0 to 0 / 0 / 0]
5-816-064	Remote Service	Proxy PortNumber	CTL*	[0 to 0xffff / 0 / 1]
5-816-065	Remote Service	Proxy User Name	CTL*	[0 to 0 / 0 / 0]
5-816-066	Remote Service	Proxy Password	CTL*	[0 to 0 / 0 / 0]
5-816-067	Remote Service	CERT:Up State	CTL*	[0 to 255 / 0 / 1]
5-816-068	Remote Service	CERT:Error	CTL*	[0 to 255 / 0 / 1]
5-816-069	Remote Service	CERT:Up ID	CTL*	[0 to 0 / 0 / 0]
5-816-083	Remote Service	Firm Up Status	CTL*	[0 to 1 / 0 / 1]
5-816-085	Remote Service	Firm Up User Check	CTL*	[0 to 1 / 0 / 1]
5-816-086	Remote Service	Firmware Size	CTL*	[0 to 0xffffffff / 0 / 1]
5-816-087	Remote Service	CERT:Macro Ver.	CTL	[0 to 0 / 0 / 0]
5-816-088	Remote Service	CERT:PAC Ver.	CTL	[0 to 0 / 0 / 0]
5-816-089	Remote Service	CERT:ID2Code	CTL	[0 to 0 / 0 / 0]
5-816-090	Remote Service	CERT:Subject	CTL	[0 to 0 / 0 / 0]
5-816-091	Remote Service	CERT:SerialNo.	CTL	[0 to 0 / 0 / 0]
5-816-092	Remote Service	CERT:Issuer	CTL	[0 to 0 / 0 / 0]
5-816-093	Remote Service	CERT:Valid Start	CTL	[0 to 0 / 0 / 0]
5-816-094	Remote Service	CERT:Valid End	CTL	[0 to 0 / 0 / 0]
5-816-102	Remote Service	CERT:Encrypt Level	CTL*	[1 to 2 / 1 / 1]
5-816-103	Remote Service	Client Communication Method	CTL*	[0 to 3 / 0 / 1]
5-816-104	Remote Service	Client Communication Limit	CTL*	[1 to 7 / 7 / 1]
5-816-115	Remote Service	Network Information Waiting timer	CTL*	[5 to 255 / 5 / 1sec]
5-816-155	Remote Service	PPP Certification Time Out	CTL*	[1 to 65536 / 60 / 1sec]
5-816-190	Remote Service	3G DongleID	CTL*	[0 to 0 / 0 / 0]
5-816-200	Remote Service	Manual Polling	CTL	[0 to 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
5-816-201	Remote Service	Regist Status	CTL	[0 to 255 / 0 / 1]
5-816-202	Remote Service	Letter Number	CTL*	[0 to 0 / 0 / 0]
5-816-203	Remote Service	Confirm Execute	CTL	[0 to 1 / 0 / 1]
5-816-204	Remote Service	Confirm Result	CTL	[0 to 255 / 0 / 1]
5-816-205	Remote Service	Confirm Place	CTL	[0 to 1 / 0 / 1]
5-816-206	Remote Service	Register Execute	CTL	[0 to 1 / 0 / 1]
5-816-207	Remote Service	Register Result	CTL	[0 to 255 / 0 / 1]
5-816-208	Remote Service	Error Code	CTL	[-2147483647 to 2147483647 / 0 / 0]
5-816-209	Remote Service	Instl Clear	CTL	[0 to 1 / 0 / 1]
5-816-240	Remote Service	CommErrorTime	CTL	[0 to 0 / 0 / 1]
5-816-241	Remote Service	CommErrorCode 1	CTL*	[0 to 0xffffffff / 0x00000000 / 1]
5-816-242	Remote Service	CommErrorCode 2	CTL*	[0 to 0xffffffff / 0x00000000 / 1]
5-816-243	Remote Service	CommErrorCode 3	CTL*	[0 to 0xffffffff / 0x00000000 / 1]
5-816-244	Remote Service	CommErrorState 1	CTL*	[0 to 0xffff / 0x0000 / 1]
5-816-245	Remote Service	CommErrorState 2	CTL*	[0 to 0xffff / 0x0000 / 1]
5-816-246	Remote Service	CommErrorState 3	CTL*	[0 to 0xffff / 0x0000 / 1]
5-816-247	Remote Service	SSL Error Count	CTL*	[0 to 255 / 0 / 1]
5-816-248	Remote Service	Other Err Count	CTL*	[0 to 255 / 0 / 1]
5-816-250	Remote Service	CommLog Print	CTL	[0 to 255 / 0 / 0]
5-821-002	Remote Service RCG Setting	RCG IPv4 Address	CTL*	[0 to 0xffffffff / 0 / 1]
5-821-003	Remote Service RCG Setting	RCG Port	CTL*	[0 to 65535 / 443 / 1]
5-821-004	Remote Service RCG Setting	RCG IPv4 URL Path	CTL*	[0 to 0 / 0 / 0]
5-821-005	Remote Service RCG Setting	RCG IPv6 Address	CTL*	[0 to 0 / 0 / 0]
5-821-006	Remote Service RCG Setting	RCG IPv6 URL Path	CTL*	[0 to 0 / 0 / 0]
5-821-007	Remote Service RCG Setting	RCG Host Name	CTL*	[0 to 0 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
5-821-008	Remote Service RCG Setting	RCG Host URL Path	CTL*	[0 to 0 / 0 / 0]
5-824-001	NV-RAM Data Upload		CTL	[0 to 0 / 0 / 0]
5-825-001	NV-RAM Data Download		CTL	[0 to 0 / 0 / 0]
5-828-039	Network Setting	User Class	CTL*	[0 to 0 / 0 / 0]
5-828-040	Network Setting	Class Id	CTL*	[0 to 0 / 0 / 0]
5-828-050	Network Setting	1284 Compatibility (Centro)	CTL*	[0 to 1 / 1 / 1]
5-828-052	Network Setting	ECP (Centro)	CTL*	[0 to 1 / 1 / 1]
5-828-065	Network Setting	Job Spooling	CTL*	[0 to 1 / 0 / 1]
5-828-066	Network Setting	Job Spooling Clear: Start Time	CTL*	[0 to 1 / 1 / 1]
5-828-069	Network Setting	Job Spooling (Protocol)	CTL*	[0x00 to 0xff / 0x7f / 0]
5-828-087	Network Setting	Protocol usage	CTL*	[0x00000000 to 0xffffffff / 0x00000000 / 1]
5-828-090	Network Setting	TELNET(0:OFF 1:ON)	CTL*	[0 to 1 / 1 / 1]
5-828-091	Network Setting	Web(0:OFF 1:ON)	CTL*	[0 to 1 / 1 / 1]
5-828-145	Network Setting	Active IPv6 Link Local Address	CTL	[0 to 0 / 0 / 0]
5-828-147	Network Setting	Active IPv6 Stateless Address 1	CTL	[0 to 0 / 0 / 0]
5-828-149	Network Setting	Active IPv6 Stateless Address 2	CTL	[0 to 0 / 0 / 0]
5-828-151	Network Setting	Active IPv6 Stateless Address 3	CTL	[0 to 0 / 0 / 0]
5-828-153	Network Setting	Active IPv6 Stateless Address 4	CTL	[0 to 0 / 0 / 0]
5-828-155	Network Setting	Active IPv6 Stateless Address 5	CTL	[0 to 0 / 0 / 0]
5-828-156	Network Setting	IPv6 Manual Address	CTL*	[0 to 0 / 0 / 0]
5-828-158	Network Setting	IPv6 Gateway Address	CTL*	[0 to 0 / 0 / 0]
5-828-161	Network Setting	IPv6 Stateless Auto Setting	CTL*	[0 to 1 / 1 / 1]
5-828-219	Network Setting	IPsec Aggressive Mode	CTL*	[0 to 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
		Setting		
5-828-236	Network Setting	Web Item visible	CTL*	[0x0000 to 0xffff / 0xffff / 1]
5-828-237	Network Setting	Web shopping link visible	CTL*	[0 to 1 / 1 / 1]
5-828-238	Network Setting	Web Supplies Link visible	CTL*	[0 to 1 / 1 / 1]
5-828-239	Network Setting	Web Link1 Name	CTL*	[0 to 0 / 0 / 0]
5-828-240	Network Setting	Web Link1 URL	CTL*	[0 to 0 / 0 / 0]
5-828-241	Network Setting	Web Link1 visible	CTL*	[0 to 1 / 1 / 1]
5-828-242	Network Setting	Web Link2 Name	CTL*	[0 to 0 / 0 / 0]
5-828-243	Network Setting	Web Link2 URL	CTL*	[0 to 0 / 0 / 0]
5-828-244	Network Setting	Web Link2 visible	CTL*	[0 to 1 / 1 / 1]
5-828-249	Network Setting	DHCPv6 DUID	CTL	[0 to 0 / 0 / 0]
5-832-001	HDD	HDD Formatting (ALL)	CTL	[0 to 0 / 0 / 0]
5-832-002	HDD	HDD Formatting (IMH)	CTL	[0 to 0 / 0 / 0]
5-832-003	HDD	HDD Formatting (Thumbnail/OCR)	CTL	[0 to 0 / 0 / 0]
5-832-004	HDD	HDD Formatting (Job Log)	CTL	[0 to 0 / 0 / 0]
5-832-005	HDD	HDD Formatting (Printer Fonts)	CTL	[0 to 0 / 0 / 0]
5-832-006	HDD	HDD Formatting (User Info)	CTL	[0 to 0 / 0 / 0]
5-832-007	HDD	Mail RX Data	CTL	[0 to 0 / 0 / 0]
5-832-008	HDD	Mail TX Data	CTL	[0 to 0 / 0 / 0]
5-832-009	HDD	HDD Formatting (Data for a Design)	CTL	[0 to 0 / 0 / 0]
5-832-010	HDD	HDD Formatting (Log)	CTL	[0 to 0 / 0 / 0]
5-832-011	HDD	HDD Formatting (Ridoc I/F)	CTL	[0 to 0 / 0 / 0]
5-832-012	HDD	HDD Formatting (Thumbnail)	CTL	[0 to 0 / 0 / 0]
5-834-001	Operation Panel Image Exposure Function		CTL	[0 to 1 / 0 / 1]
5-836-001	Capture Setting	Capture Function (0:Off 1:On)	CTL*	[0 to 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
5-836-011	Capture Setting	Capture Setting: Copy	CTL*	[0 to 1 / 0 / 1]
5-836-012	Capture Setting	Capture Setting: Doc. Svr.	CTL*	[0 to 1 / 0 / 1]
5-836-013	Capture Setting	Capture Setting: Fax RX Printer	CTL*	[0 to 1 / 0 / 1]
5-836-014	Capture Setting	Capture Setting: Fax TX	CTL*	[0 to 1 / 0 / 1]
5-836-015	Capture Setting	Capture Setting: Printer	CTL*	[0 to 1 / 0 / 1]
5-836-016	Capture Setting	Capture Setting: Scanner	CTL*	[0 to 1 / 0 / 1]
5-836-017	Capture Setting	Capture Setting: SDK	CTL*	[0 to 1 / 0 / 1]
5-836-061	Capture Setting	Captured File Resend (0:Off 1:On)	CTL*	[0 to 1 / 1 / 1]
5-836-072	Capture Setting	Reduction for Copy B&W Text	CTL*	[0 to 6 / 0 / 1]
5-836-073	Capture Setting	Reduction for Copy B&W Other	CTL*	[0 to 6 / 0 / 1]
5-836-075	Capture Setting	Reduction for Printer B&W	CTL*	[0 to 6 / 0 / 1]
5-836-082	Capture Setting	Format for Copy B&W Text	CTL*	[0 to 3 / 1 / 1]
5-836-083	Capture Setting	Format for Copy B&W Other	CTL*	[0 to 3 / 1 / 1]
5-836-085	Capture Setting	Format for Printer B&W	CTL*	[0 to 3 / 1 / 1]
5-836-091	Capture Setting	Default for JPEG	CTL*	[5 to 95 / 50 / 1]
5-836-092	Capture Setting	High Quality for JPEG	CTL*	[5 to 95 / 60 / 1]
5-836-093	Capture Setting	Low Quality for JPEG	CTL*	[5 to 95 / 40 / 1]
5-836-094	Capture Setting	Default Format for Back Up Files	CTL*	[0 to 4 / 0 / 1]
5-836-095	Capture Setting	Default Resolution for Back Up Files	CTL*	[0 to 6 / 2 / 1]
5-836-096	Capture Setting	Default User Name for Back Up Files	CTL*	[0 to 0 / 0 / 0]
5-836-097	Capture Setting	Default Compression for Back Up Files	CTL*	[0 to 2 / 0 / 1]
5-836-101	Capture Setting	Primary srv IP address	CTL*	[0 to 0xffffffff / 0x00 / 0]
5-836-102	Capture Setting	Primary srv scheme	CTL*	[0 to 0 / 0 / 0]
5-836-103	Capture Setting	Primary srv port number	CTL*	[1 to 65535 / 80 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
5-836-104	Capture Setting	Primary srv URL path	CTL*	[0 to 0 / 0 / 0]
5-836-111	Capture Setting	Secondary srv IP address	CTL*	[0 to 0xffffffff / 0x00 / 0]
5-836-112	Capture Setting	Secondary srv scheme	CTL*	[0 to 0 / 0 / 0]
5-836-113	Capture Setting	Secondary srv port number	CTL*	[1 to 65535 / 80 / 1]
5-836-114	Capture Setting	Secondary srv URL path	CTL*	[0 to 0 / 0 / 0]
5-836-120	Capture Setting	Default Reso Rate Switch	CTL*	[0 to 1 / 0 / 1]
5-836-122	Capture Setting	Reso: Copy(Mono)	CTL*	[0 to 255 / 3 / 1]
5-836-124	Capture Setting	Reso: Print(Mono)	CTL*	[0 to 255 / 3 / 1]
5-836-125	Capture Setting	Reso: Fax(Color)	CTL*	[0 to 255 / 4 / 1]
5-836-126	Capture Setting	Reso: Fax(Mono)	CTL*	[0 to 255 / 3 / 1]
5-836-127	Capture Setting	Reso: Scan(Color)	CTL*	[0 to 255 / 4 / 1]
5-836-128	Capture Setting	Reso: Scan(Mono)	CTL*	[0 to 255 / 3 / 1]
5-836-129	Capture Setting	Reso: SDK(Color)	CTL*	[0 to 255 / 4 / 1]
5-836-130	Capture Setting	Reso: SDK(Mono)	CTL*	[0 to 255 / 3 / 1]
5-836-141	Capture Setting	All Addr Info Switch	CTL*	[0 to 1 / 1 / 1]
5-836-142	Capture Setting	Stand-by Doc Max Number	CTL*	[10 to 10000 / 2000 / 1]
5-836-143	Capture Setting	ClearLightPDF Switch	CTL*	[0 to 1 / 0 / 1]
5-840-006	IEEE 802.11	Channel MAX	CTL*	[1 to 14 / 14 / 1]
5-840-007	IEEE 802.11	Channel MIN	CTL*	[1 to 14 / 1 / 1]
5-840-011	IEEE 802.11	WEP Key Select	CTL*	[0x00 to 0x11 / 0x00 / 0]
5-840-045	IEEE 802.11	WPA Debug Lvl	CTL*	[1 to 3 / 3 / 1]
5-840-046	IEEE 802.11	11w	CTL*	[0 to 2 / 0 / 1]
5-840-047	IEEE 802.11	PSK Set Type	CTL*	[0 to 1 / 0 / 1]
5-841-001	Supply Name Setting	Toner Name Setting: Black	CTL*	[0 to 0 / 0 / 0]
5-842-001	GWWS Analysis	Setting 1	CTL*	[0x00 to 0xFF / 0 / 1]
5-842-002	GWWS Analysis	Setting 2	CTL*	[0x00 to 0xFF / 0 / 1]
5-844-001	USB	Transfer Rate	CTL*	[1 to 4 / 4 / 0]
5-844-002	USB	Vendor ID	CTL*	[0x0000 to 0xffff / 0x05ca / 0]
5-844-003	USB	Product ID	CTL*	[0x0000 to 0xffff /



SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
				0x0403 / 0]
5-844-004	USB	Device Release Number	CTL*	[0 to 9999 / 100 / 1]
5-844-005	USB	Fixed USB Port	CTL*	[0 to 2 / 0 / 1]
5-844-006	USB	PnP Model Name	CTL*	[0 to 0 / 0 / 0]
5-844-007	USB	PnP Serial Number	CTL*	[0 to 0 / 0 / 0]
5-844-008	USB	Mac Supply Level	CTL*	[0 to 1 / 1 / 1]
5-844-009	USB	USB Toggle Clear Mode	CTL*	[0 to 1 / 0 / 1]
5-844-100	USB	Notify Unsupport	CTL*	[0 to 1 / 1 / 1]
5-845-001	Delivery Server Setting	FTP Port No.	CTL*	[1 to 65535 / 3670 / 1]
5-845-002	Delivery Server Setting	IP Address (Primary)	CTL*	[0 to 0xffffffff / 0x00 / 1]
5-845-006	Delivery Server Setting	Delivery Error Display Time	CTL*	[0 to 999 / 300 / 1sec]
5-845-008	Delivery Server Setting	IP Address (Secondary)	CTL*	[0 to 0xffffffff / 0x00 / 1]
5-845-009	Delivery Server Setting	Delivery Server Model	CTL*	[0 to 4 / 0 / 1]
5-845-010	Delivery Server Setting	Delivery Svr. Capability	CTL*	[0 to 255 / 0 / 1]
5-845-011	Delivery Server Setting	Delivery Svr. Capability (Ext)	CTL*	[0 to 255 / 0 / 1]
5-845-013	Delivery Server Setting	Server Scheme(Primary)	CTL*	[0 to 0 / 0 / 0]
5-845-014	Delivery Server Setting	Server Port Number(Primary)	CTL*	[1 to 65535 / 80 / 1]
5-845-015	Delivery Server Setting	Server URL Path(Primary)	CTL*	[0 to 0 / 0 / 0]
5-845-016	Delivery Server Setting	Server Scheme(Secondary)	CTL*	[0 to 0 / 0 / 0]
5-845-017	Delivery Server Setting	Server Port Number(Secondary)	CTL*	[1 to 65535 / 80 / 1]
5-845-018	Delivery Server Setting	Server URL Path(Secondary)	CTL*	[0 to 0 / 0 / 0]
5-845-022	Delivery Server Setting	Rapid Sending Control	CTL*	[0 to 1 / 1 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
5-846-001	UCS Setting	Machine ID (for Delivery Server)	CTL*	[0 to 0 / 0 / 0]
5-846-002	UCS Setting	Machine ID Clear (for Delivery Server)	CTL*	[0 to 0 / 0 / 0]
5-846-003	UCS Setting	Maximum Entries	CTL*	[2000 to 20000 / 2000 / 1]
5-846-006	UCS Setting	Delivery Server Retry Timer	CTL*	[0 to 255 / 0 / 1]
5-846-007	UCS Setting	Delivery Server Retry Times	CTL*	[0 to 255 / 0 / 1]
5-846-008	UCS Setting	Delivery Server Maximum Entries	CTL*	[2000 to 20000 / 2000 / 1]
5-846-010	UCS Setting	LDAP Search Timeout	CTL*	[1 to 255 / 60 / 1]
5-846-020	UCS Setting	WSD Maximum Entries	CTL*	[50 to 250 / 250 / 1]
5-846-021	UCS Setting	Folder Auth Change	CTL*	[0 to 1 / 0 / 1]
5-846-040	UCS Setting	Addr Book Migration(USB->HDD)	CTL	[0 to 0 / 0 / 0]
5-846-041	UCS Setting	Fill Addr Acl Info	CTL	[0 to 0 / 0 / 0]
5-846-043	UCS Setting	Addr Book Media	CTL*	[0 to 30 / 0 / 1]
5-846-047	UCS Setting	Initialize Local Addr Book	CTL	[0 to 0 / 0 / 0]
5-846-048	UCS Setting	Initialize Delivery Addr Book	CTL	[0 to 0 / 0 / 0]
5-846-049	UCS Setting	Initialize LDAP Addr Book	CTL	[0 to 0 / 0 / 0]
5-846-050	UCS Setting	Initialize All Addr Book	CTL	[0 to 0 / 0 / 0]
5-846-051	UCS Setting	Backup All Addr Book	CTL	[0 to 0 / 0 / 0]
5-846-052	UCS Setting	Restore All Addr Book	CTL	[0 to 0 / 0 / 0]
5-846-053	UCS Setting	Clear Backup Info	CTL	[0 to 0 / 0 / 0]
5-846-060	UCS Setting	Search option	CTL*	[0x00 to 0xff / 0x0f / 1]
5-846-062	UCS Setting	Complexity option 1	CTL*	[0 to 32 / 0 / 1]
5-846-063	UCS Setting	Complexity option 2	CTL*	[0 to 32 / 0 / 1]
5-846-064	UCS Setting	Complexity option 3	CTL*	[0 to 32 / 0 / 1]
5-846-065	UCS Setting	Complexity option 4	CTL*	[0 to 32 / 0 / 1]
5-846-091	UCS Setting	FTP Auth Port Setting	CTL*	[0 to 65535 / 3671 / 1]
5-846-094	UCS Setting	Encryption Stat	CTL*	[0 to 255 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
5-846-098	UCS Setting	Bit SW2	CTL*	[0x00 to 0xff / 0x04 / 1]
5-846-099	UCS Setting	Bit SW	CTL*	[0x00 to 0xff / 0x0f / 1]
5-846-100	UCS Setting	Initialize Suprvisor	CTL	[0 to 0 / 0 / 0]
5-847-002	Rep Resolution Reduction	Rate for Copy B&W Text	CTL*	[0 to 6 / 0 / 1]
5-847-003	Rep Resolution Reduction	Rate for Copy B&W Other	CTL*	[0 to 6 / 0 / 1]
5-847-005	Rep Resolution Reduction	Rate for Printer B&W	CTL*	[0 to 6 / 0 / 1]
5-847-007	Rep Resolution Reduction	Rate for Printer B&W 1200dpi	CTL*	[0 to 6 / 1 / 1]
5-847-021	Rep Resolution Reduction	Network Quality Default for JPEG	CTL*	[5 to 95 / 50 / 1]
5-848-002	Web Service	Access Ctrl: Repository(onlyLower4bits)	CTL*	[0x00 to 0xFF / 0x02 / 0]
5-848-003	Web Service	Access Ctrl: Doc.Svr.Print (Lower 4bits)	CTL*	[0x00 to 0xFF / 0x00 / 0]
5-848-004	Web Service	Access Ctrl: uirectory (Lower 4bits)	CTL*	[0x00 to 0xFF / 0x00 / 0]
5-848-007	Web Service	Access Ctrl: Comm. Log Fax(Lower 4bits)	CTL*	[0x00 to 0xFF / 0x00 / 0]
5-848-009	Web Service	Access Ctrl: Job Ctrl (Lower 4bits)	CTL*	[0x00 to 0xFF / 0x00 / 0]
5-848-011	Web Service	Access Ctrl: Devicemanagement(Lower 4bits)	CTL*	[0x00 to 0xFF / 0x00 / 0]
5-848-021	Web Service	Access Ctrl: Delivery (Lower 4bits)	CTL*	[0x00 to 0xFF / 0x00 / 0]
5-848-022	Web Service	Access Ctrl: uadministration (Lower 4bits)	CTL*	[0x00 to 0xFF / 0x00 / 0]
5-848-024	Web Service	Access Ctrl: Log Service (Lower 4bits)	CTL*	[0x00 to 0xFF / 0x00 / 0]
5-848-025	Web Service	Access Ctrl: Rest	CTL*	[0x00 to 0xFF / 0x00 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
		WebService (Lower 4bits)		0]
5-848-042	Web Service	Plaintext Permission	CTL*	[0 to 1 / 0 / 1]
5-848-043	Web Service	The number of transaction generation	CTL*	[0 to 100 / 10 / 1]
5-848-044	Web Service	Request Max Size	CTL*	[0 to 1000 / 50 / 1]
5-848-045	Web Service	Reverse Proxy Server Setting(ESA Port)	CTL*	[0x00 to 0xFF / 0 / 1]
5-848-046	Web Service	8080/51443 Port Open Time	CTL*	[0 to 300 / 60 / 1]
5-848-099	Web Service	Repository: Download Image Setting	CTL*	[0x00 to 0xFF / 0x00 / 1]
5-848-100	Web Service	Repository: Download Image Max. Size	CTL*	[1 to 2048 / 2048 / 1]
5-848-150	Web Service	Log Operation Mode	CTL*	[0 to 9 / 0 / 1]
5-848-217	LogTrans	Setting: Timing	CTL*	[0 to 2 / 0 / 1]
5-849-001	Installation Date	Display	CTL	[0 to 0 / 0 / 0]
5-849-002	Installation Date	Switch to Print	CTL*	[0 or 1 / 1 / 1]
5-849-003	Installation Date	Total Counter	CTL*	[0 to 99999999 / 0 / 1]
5-851-001	Bluetooth	Mode	CTL*	[0x00 to 0x01 / 0x00 / 1]
5-853-001	Stamp Data Download		CTL	[0 to 0 / 0 / 0]
5-856-002	Remote ROM Update	Local Port	CTL	[0 to 1 / 0 / 1]
5-857-110	Save Debug Log	Debug Logging Forwarding Address	CTL*	[0x00000000 to 0xffffffff / 0x00000000 / 1]
5-857-111	Save Debug Log	Debug Logging Forwarding User Name	CTL*	[0 to 0 / 0 / 0]
5-857-112	Save Debug Log	Debug Logging Forwarding Password	CTL*	[0 to 0 / 0 / 0]
5-857-113	Save Debug Log	Debug Logging Forwarding Time	CTL*	[0 to 1440 / 0 / 1]
5-857-130	Save Debug Log	Acquire Condition Data Only	CTL*	[0 to 1 / 0 / 0]
5-858-001	Collect Machine Info	0:OFF 1:ON	CTL*	[0 to 1 / 1 / 1]
5-858-002	Collect Machine Info	Save To (0:HDD 1:SD)	CTL*	[0 to 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
5-858-003	Collect Machine Info	Make Log Trace Dir	CTL*	[0 to 1 / 0 / 0]
5-858-101	Collect Machine Info	Failure Occuring Date	CTL*	[0 to 20371212 / 0 / 1]
5-858-102	Collect Machine Info	Tracing Days	CTL*	[1 to 180 / 2 / 1day]
5-858-103	Collect Machine Info	Acquire Fax Address(0:OFF 1:ON)	CTL*	[0 to 1 / 0 / 1]
5-858-111	Collect Machine Info	Acquire All Info & Logs	CTL	[0 to 1 / 0 / 0]
5-858-121	Collect Machine Info	Acquire Configuration Page	CTL	[0 to 1 / 0 / 0]
5-858-122	Collect Machine Info	Acquire Font Page	CTL	[0 to 1 / 0 / 0]
5-858-123	Collect Machine Info	Acquire Print Setting List	CTL	[0 to 1 / 0 / 0]
5-858-124	Collect Machine Info	Acquire Error Log	CTL	[0 to 1 / 0 / 0]
5-858-131	Collect Machine Info	Acquire Fax Info	CTL	[0 to 1 / 0 / 0]
5-858-141	Collect Machine Info	Acquire All Debug Logs	CTL	[0 to 1 / 0 / 0]
5-858-142	Collect Machine Info	Acquire Controller Debug Logs Only	CTL	[0 to 1 / 0 / 0]
5-858-143	Collect Machine Info	Acquire Engine Debug Logs Only	CTL	[0 to 1 / 0 / 0]
5-858-144	Collect Machine Info	Acquire Opepanel Debug Logs Only	CTL	[0 to 1 / 0 / 0]
5-858-145	Collect Machine Info	Acquire FCU Debug Logs Only	CTL	[0 to 1 / 0 / 0]
5-858-146	Collect Machine Info	Acquire Only Network Packets	CTL	[0 to 1 / 0 / 0]
5-860-020	SMTP/POP3/IMAP4	Partial Mail Receive Timeout	CTL*	[1 to 168 / 72 / 1hour]
5-860-021	SMTP/POP3/IMAP4	MDN Response RFC2298 Compliance	CTL*	[0 to 1 / 1 / 1]
5-860-022	SMTP/POP3/IMAP4	SMTP Auth. From Field Replacement	CTL*	[0 to 1 / 0 / 1]
5-860-025	SMTP/POP3/IMAP4	SMTP Auth. Direct Setting	CTL*	[0 to 0xff / 0x0 / 1]
5-860-026	SMTP/POP3/IMAP4	S/MIME:MIME Header Setting	CTL*	[0 to 2 / 0 / 1]
5-860-028	SMTP/POP3/IMAP4	S/MIME: Authentication Check	CTL*	[0 to 1 / 0 / 1]
5-860-029	SMTP/POP3/IMAP4	SMTP Server 3G Line IP	CTL*	[0 to 0xffffffff / 0x00 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
		Address		
5-861-201	Account Setting	Send Domain1	CTL	[0 to 0 / 0 / 0]
5-861-202	Account Setting	Send Domain2	CTL	[0 to 0 / 0 / 0]
5-861-203	Account Setting	Send Domain3	CTL	[0 to 0 / 0 / 0]
5-866-001	E-Mail Report	Report Validity	CTL	[0 to 1 / 0 / 1]
5-866-005	E-Mail Report	Add Date Field	CTL*	[0 to 1 / 0 / 1]
5-866-100	E-Mail Report	Log Format	CTL*	[0 to 255 / 0 / 1]
5-866-109	E-Mail Report	CounterE-Mail:3G Line Validity	CTL*	[0 to 1 / 0 / 1]
5-866-110	E-Mail Report	CounterE-Mail:Validity	CTL*	[0 to 1 / 0 / 1]
5-866-111	E-Mail Report	CounterE-Mail:Destinatio n Registration	CTL*	[0 to 0 / 0 / 0]
5-866-112	E-Mail Report	CounterE-Mail:Send Test	CTL*	[0 to 0 / 0 / 0]
5-866-113	E-Mail Report	CounterE-Mail:Next Send Date	CTL*	[0 to 0 / 0 / 0]
5-866-114	E-Mail Report	CounterE-Mail:Send Date Setting	CTL*	[0 to 31 / 0 / 1]
5-866-115	E-Mail Report	CounterE-Mail:Send Time Setting	CTL*	[0 to 2359 / 0 / 1]
5-866-121	E-Mail Report	CounterE-Mail:Destinatio n1	CTL*	[0 to 0 / 0 / 0]
5-866-122	E-Mail Report	CounterE-Mail:Destinatio n2	CTL*	[0 to 0 / 0 / 0]
5-866-123	E-Mail Report	CounterE-Mail:Destinatio n3	CTL*	[0 to 0 / 0 / 0]
5-870-001	Common KeyInfo Writing	Writing	CTL	[0 to 1 / 0 / 1]
5-870-003	Common KeyInfo Writing	Initialize	CTL	[0 to 1 / 0 / 1]
5-870-004	Common Key Info Writing	Writing: 2048bit	CTL	[0 to 1 / 0 / 1]
5-873-001	SDCardAppliMove	MoveExec	CTL	[0 to 0 / 0 / 1]
5-873-002	SDCardAppliMove	UndoExec	CTL	[0 to 0 / 0 / 1]
5-875-001	SC Auto Reboot	Reboot Setting	CTL*	[0 to 1 / 0 / 1]
5-875-002	SC Auto Reboot	Reboot Type	CTL*	[0 to 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
5-878-001	Option Setup	Data Overwrite Security	CTL	[0 to 0 / 0 / 0]
5-878-004	Option Setup	OCR Dictionary	CTL	[0 to 0 / 0 / 0]
5-881-001	Fixed Phrase Block Erasing		CTL	[0 to 0 / 0 / 0]
5-885-020	Set WIM Function	DocSvr Acc Ctrl	CTL*	[0x00 to 0xFF / 0x00 / 0]
5-885-050	Set WIM Function	DocSvr Format	CTL*	[0 to 2 / 0 / 1]
5-885-051	Set WIM Function	DocSvr Trans	CTL*	[5 to 20 / 10 / 1]
5-885-100	Set WIM Function	Set Signature	CTL*	[0 to 2 / 0 / 1]
5-885-101	Set WIM Function	Set Encrypsion	CTL*	[0 to 1 / 0 / 1]
5-885-200	Set WIM Function	Detect Mem Leak	CTL*	[0x00 to 0xFF / 0x00 / 0]
5-885-205	Set WIM Function	MonitorDisable	CTL*	[0 to 1 / 0 / 1]
5-886-100	Farm Update Setting	Skip Version Check	CTL	[0 to 1 / 0 / 1]
5-886-101	Farm Update Setting	Skip LR Check	CTL	[0 to 1 / 0 / 1]
5-886-111	Farm Update Setting	Auto Update Setting	CTL*	[0 to 1 / 0 / 1]
5-886-112	Farm Update Setting	Auto Update Prohibit Term Setting	CTL*	[0 to 1 / 1 / 1]
5-886-113	Farm Update Setting	Auto Update Prohibit Start hour	CTL*	[0 to 23 / 9 / 1hour]
5-886-114	Farm Update Setting	Auto Update Prohibit End hour	CTL*	[0 to 23 / 17 / 1hour]
5-886-115	Farm Update Setting	SFU Auto Download Setting	CTL*	[0 to 1 / 0 / 1]
5-886-116	Farm Update Setting	Auto Update Next Date	CTL*	[0 to 0 / 0 / 0]
5-886-117	Farm Update Setting	Auto Update Retry Interval Hour	CTL*	[1 to 24 / 1 / 1hour]
5-886-119	Farm Update Setting	Auto Update @Remote Using Setting	CTL*	[0 to 1 / 0 / 1]
5-886-120	Farm Update Setting	Auto Update Prohibit Day of Week Setting	CTL*	[0 to 255 / 0 / 1]
5-886-201	Farm Update Setting	Restore Date	CTL*	[0 to 0 / 0 / 0]
5-886-202	Farm Update Setting	Save Old Version List	CTL	[0 to 0 / 0 / 0]
5-887-001	SD GetCounter		CTL	[0 to 0 / 0 / 0]
5-888-001	Personal Information Protect		CTL*	[0 to 1 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
5-892-001	Engine Data Check		CTL*	[0 to 0 / 0 / 0]
5-893-001	SDK Application Counter	SDK-1	CTL	[0 to 0 / 0 / 0]
5-893-002	SDK Application Counter	SDK-2	CTL	[0 to 0 / 0 / 0]
5-893-003	SDK Application Counter	SDK-3	CTL	[0 to 0 / 0 / 0]
5-893-004	SDK Application Counter	SDK-4	CTL	[0 to 0 / 0 / 0]
5-893-005	SDK Application Counter	SDK-5	CTL	[0 to 0 / 0 / 0]
5-893-006	SDK Application Counter	SDK-6	CTL	[0 to 0 / 0 / 0]
5-893-007	SDK Application Counter	SDK-7	CTL	[0 to 0 / 0 / 0]
5-893-008	SDK Application Counter	SDK-8	CTL	[0 to 0 / 0 / 0]
5-893-009	SDK Application Counter	SDK-9	CTL	[0 to 0 / 0 / 0]
5-893-010	SDK Application Counter	SDK-10	CTL	[0 to 0 / 0 / 0]
5-893-011	SDK Application Counter	SDK-11	CTL	[0 to 0 / 0 / 0]
5-893-012	SDK Application Counter	SDK-12	CTL	[0 to 0 / 0 / 0]
5-895-001	Application invalidation	Printer	CTL	[0 to 1 / 0 / 0]
5-895-002	Application invalidation	Scanner	CTL	[0 to 1 / 0 / 0]
5-907-001	Plug & Play Maker/Model Name		CTL*	[0 to 255 / 0 / 1]
5-909-002	HealthCare Setting	Model Setting	CTL*	[0 to 1 / 0 / 1]
5-913-002	Switchover Permission Time	Print Application Timer	CTL*	[0 to 30 / 3 / 1]
5-967-001	Copy Server : Set	(0:ON 1:OFF)	CTL*	[0 to 1 / 0 / 1]



SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
	Function			
5-970-001	Debug Serial Output	(00000000:OFF 10000000:ON)	CTL*	[0x00 to 0xFF / 0x00 / 0]
5-973-101	User Stamp Registration	Frame deletion setting	CTL*	[0 to 3 / 0 / 1]
5-985-001	Device Setting	On Board NIC	CTL*	[0 to 2 / 0 / 1]
5-985-002	Device Setting	On Board USB	CTL*	[0 to 1 / 0 / 1]
5-990-001	SP Print Mode	All (Data List)	CTL	[0 to 255 / 0 / 0]
5-990-002	SP Print Mode	SP (Mode Data List)	CTL	[0 to 255 / 0 / 0]
5-990-003	SP Print Mode	User Program	CTL	[0 to 255 / 0 / 0]
5-990-004	SP Print Mode	Logging Data	CTL	[0 to 255 / 0 / 0]
5-990-005	SP Print Mode	Diagnostic Report	CTL	[0 to 255 / 0 / 0]
5-990-006	SP Print Mode	Non-Default	CTL	[0 to 255 / 0 / 0]
5-990-007	SP Print Mode	NIB Summary	CTL	[0 to 0 / 0 / 0]
5-990-008	SP Print Mode	Capture Log	CTL	[0 to 255 / 0 / 1]
5-990-021	SMC Print	Copier User Program	CTL	[0 to 0 / 0 / 0]
5-990-022	SP Print Mode	Scanner SP	CTL	[0 to 255 / 0 / 0]
5-990-023	SP Print Mode	Scanner User Program	CTL	[0 to 255 / 0 / 0]
5-990-024	SP Print Mode	SDK/J Summary	CTL	[0 to 0 / 0 / 0]
5-990-025	SP Print Mode	SDK/J Application Info	CTL	[0 to 0 / 0 / 0]
5-990-026	SP Print Mode	Printer SP	CTL	[0 to 255 / 0 / 0]
5-990-027	SP Print Mode	SmartOperationPanel SP	CTL	[0 to 255 / 0 / 0]
5-990-028	SP Print Mode	SmartOperationPanel UP	CTL	[0 to 255 / 0 / 0]
5-992-001	SP Text Mode	All (Data List)	CTL	[0 to 255 / 0 / 0]
5-992-002	SP Text Mode	SP (Mode Data List)	CTL	[0 to 255 / 0 / 0]
5-992-003	SP Text Mode	User Program	CTL	[0 to 255 / 0 / 0]
5-992-004	SP Text Mode	Logging Data	CTL	[0 to 255 / 0 / 0]
5-992-005	SP Text Mode	Diagnostic Report	CTL	[0 to 255 / 0 / 0]
5-992-006	SP Text Mode	Non-Default	CTL	[0 to 255 / 0 / 0]
5-992-007	SP Text Mode	NIB Summary	CTL	[0 to 0 / 0 / 0]
5-992-008	SP Text Mode	Capture Log	CTL	[0 to 255 / 0 / 1]
5-992-021	SP Text Mode	Copier User Program	CTL	[0 to 0 / 0 / 0]
5-992-022	SP Text Mode	Scanner SP	CTL	[0 to 255 / 0 / 0]
5-992-023	SP Text Mode	Scanner User Program	CTL	[0 to 255 / 0 / 0]
5-992-024	SP Text Mode	SDK/J Summary	CTL	[0 to 0 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
5-992-025	SP Text Mode	SDK/J Application Info	CTL	[0 to 0 / 0 / 0]
5-992-026	SP Text Mode	Printer SP	CTL	[0 to 255 / 0 / 0]
5-992-027	SP Text Mode	SmartOperationPanel SP	CTL	[0 to 255 / 0 / 0]
5-992-028	SP Text Mode	SmartOperationPanel UP	CTL	[0 to 255 / 0 / 0]
5-993-001	SP Text Mode(Privacy)	All (Data List)	CTL	[0 to 255 / 0 / 0]
5-993-002	SP Text Mode(Privacy)	SP (Mode Data List)	CTL	[0 to 255 / 0 / 0]
5-993-003	SP Text Mode(Privacy)	User Program	CTL	[0 to 255 / 0 / 0]
5-993-004	SP Text Mode(Privacy)	Logging Data	CTL	[0 to 255 / 0 / 0]
5-993-005	SP Text Mode(Privacy)	Diagnostic Report	CTL	[0 to 255 / 0 / 0]
5-993-006	SP Text Mode(Privacy)	Non-Default	CTL	[0 to 255 / 0 / 0]
5-993-007	SP Text Mode(Privacy)	NIB Summary	CTL	[0 to 0 / 0 / 0]
5-993-008	SP Text Mode(Privacy)	Capture Log	CTL	[0 to 255 / 0 / 1]
5-993-021	SP Text Mode	Copier User Program	CTL	[0 to 0 / 0 / 0]
5-993-022	SP Text Mode(Privacy)	Scanner SP	CTL	[0 to 255 / 0 / 0]
5-993-023	SP Text Mode(Privacy)	Scanner User Program	CTL	[0 to 255 / 0 / 0]
5-993-024	SP Text Mode(Privacy)	SDK/J Summary	CTL	[0 to 0 / 0 / 0]
5-993-025	SP Text Mode(Privacy)	SDK/J Application Info	CTL	[0 to 0 / 0 / 0]
5-993-026	SP Text Mode(Privacy)	Printer SP	CTL	[0 to 255 / 0 / 0]
5-993-027	SP Text Mode(Privacy)	SmartOperationPanel SP	CTL	[0 to 255 / 0 / 0]
5-993-028	SP Text Mode(Privacy)	SmartOperationPanel UP	CTL	[0 to 255 / 0 / 0]

## 5.7 SP6-XXX (PERIPHERALS)

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
6-006-001	ADF Adjustment	Side-to-Side Regist:Face	ENG*	[-3 to 3 / 0 / 0.1mm]
6-006-002	ADF Adjustment	Side-to-Side Regist:Back	ENG*	[-2 to 2 / 0 / 0.1mm]
6-006-010	ADF Adjustment	L-Edge Regist (1-Pass):Face	ENG*	[-5 to 5 / 0 / 0.1mm]
6-006-011	ADF Adjustment	L-Edge Regist (1-Pass):Back	ENG*	[-5 to 5 / 0 / 0.1mm]
6-006-014	ADF Adjustment	T-Edge Erase (1-Pass):Face	ENG*	[-5 to 5 / -1.6 / 0.1mm]
6-006-015	ADF Adjustment	T-Edge Erase (1-Pass):Back	ENG*	[-5 to 5 / -1.6 / 0.1mm]
6-009-001	ADF Free Run	Simplex Mode	ENG	[0 to 1 / 0 / 1STEP]
6-009-002	ADF Free Run	Duplex Mode	ENG	[0 to 1 / 0 / 1STEP]
6-011-009	1-Pass ADF INPUT Check	Original Detection	ENG	[0 to 1 / 0 / 1STEP]
6-011-010	1-Pass ADF INPUT Check	Feed After sensor	ENG	[0 to 1 / 0 / 1STEP]
6-011-013	1-Pass ADF INPUT Check	Registration Sensor	ENG	[0 to 1 / 0 / 1STEP]
6-011-015	1-Pass ADF INPUT Check	Feed Cover Sensor	ENG	[0 to 1 / 0 / 1STEP]
6-011-024	1-Pass ADF INPUT Check	Page Keeper Sensor	ENG	[0 to 1 / 0 / 1]
6-012-003	1-Pass ADF OUTPUT Check	Motor Forward	ENG	[0 to 1 / 0 / 1STEP]
6-012-004	1-Pass ADF OUTPUT Check	Motor Reverse	ENG	[0 to 1 / 0 / 1STEP]
6-012-014	1-Pass ADF OUTPUT Check	Feed Clutch	ENG	[0 to 1 / 0 / 1STEP]
6-017-001	ADF Adjustment Magnification		ENG*	[-5 to 5 / 0 / 0.1%]
6-018-001	1-Pass ADF OUTPUT Check	Back shading	ENG	[0 to 1 / 0 / 1STEP]
6-030-001	DF Hinge	Hinge Open Counter	ENG*	[0 to 999999 / 0 / 1]

SP6-XXX (Peripherals)

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
6-030-002	DF Hinge	Hinge Open Counter State	ENG*	[0 to 1 / 0 / 1]
6-030-003	DF Hinge	Hinge Open Counter Clear	ENG	[0 to 0 / 0 / 0]
6-040-001	Page Keeper	Mount Select	ENG*	[0 to 1 / 0 / 1]
6-040-005	Page Keeper	Clear Select	ENG*	[0 to 1 / 1 / 1]

## 5.8 SP7-XXX (DATA LOG) - ENGINE

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
7-625-002	Old Counter 1	Sheets PCDU	ENG*	[0 to 999999 / 0 / 1sheet]
7-625-003	Old Counter 1	Sheets Fuser	ENG*	[0 to 9999999 / 0 / 1sheet]
7-626-002	Old Counter 2	Sheets PCDU	ENG*	[0 to 999999 / 0 / 1sheet]
7-626-003	Old Counter 2	Sheets Fuser	ENG*	[0 to 9999999 / 0 / 1sheet]
7-627-002	Old Dist. 1	PCDU	ENG*	[0 to 999999999 / 0 / 1mm]
7-627-003	Old Dist. 1	Fuser	ENG*	[0 to 999999999 / 0 / 1mm]
7-628-002	Old Dist. 2	PCDU	ENG*	[0 to 999999999 / 0 / 1mm]
7-628-003	Old Dist. 2	Fuser	ENG*	[0 to 999999999 / 0 / 1mm]
7-701-001	Info T&H Sensor	Info 1	ENG*	[0 to 0 / 0 / 0]
7-701-002	Info T&H Sensor	Info 2	ENG*	[0 to 0 / 0 / 0]
7-701-003	Info T&H Sensor	Info 3	ENG*	[0 to 0 / 0 / 0]
7-701-004	Info T&H Sensor	Info 4	ENG*	[0 to 0 / 0 / 0]
7-701-005	Info T&H Sensor	Info 5	ENG*	[0 to 0 / 0 / 0]
7-801-002	ROM Info.	No.:Engine	ENG	[0 to 0 / 0 / 0]
7-801-009	ROM Info.	No.:Bank	ENG	[0 to 0 / 0 / 0]
7-801-019	ROM Info.	No.:Bank2	ENG	[0 to 0 / 0 / 0]
7-801-040	ROM Info.	No.:Bank3	ENG	[0 to 0 / 0 / 0]
7-801-102	ROM Info.	Version:Engine	ENG	[0 to 0 / 0 / 0]
7-801-109	ROM Info.	Version:Bank	ENG	[0 to 0 / 0 / 0]
7-801-119	ROM Info.	Version:Bank2	ENG	[0 to 0 / 0 / 0]
7-801-140	ROM Info.	Version:Bank3	ENG	[0 to 0 / 0 / 0]
7-802-002	PM Counter Usage	PCDU	ENG*	[0 to 255 / 0 / 1%]
7-802-003	PM Counter Usage	Fuser	ENG*	[0 to 255 / 0 / 1%]
7-802-004	PM Counter Usage	Trans.	ENG*	[0 to 255 / 0 / 1%]
7-803-002	Disp. PM Counter	Sheets PCDU	ENG*	[0 to 999999 / 0 / 1sheet]
7-803-003	Disp. PM Counter	Sheets Fuser	ENG*	[0 to 9999999 / 0 / 1sheet]
7-803-004	Disp. PM Counter	Sheets Trans.	ENG*	[0 to 9999999 / 0 / 1sheet]
7-803-005	Disp. PM Counter	Sheets Feed Tray	ENG*	[0 to 9999999 / 0 / 1sheet]
7-803-006	Disp. PM Counter	Sheets Spr. Tray	ENG*	[0 to 9999999 / 0 / 1sheet]
7-803-007	Disp. PM Counter	Sheets ADF Pad	ENG*	[0 to 9999999 / 0 / 1sheet]
7-803-008	Disp. PM Counter	Sheets ADF Pickup	ENG*	[0 to 9999999 / 0 / 1sheet]

SP7-XXX (Data Log) - Engine

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
7-803-009	Disp. PM Counter	Sheets ADF Feed	ENG*	[0 to 9999999 / 0 / 1sheet]
7-803-027	Disp. PM Counter	Usage ADF Pad	ENG*	[0 to 255 / 0 / 1%]
7-803-028	Disp. PM Counter	Usage ADF Pickup	ENG*	[0 to 255 / 0 / 1%]
7-803-029	Disp. PM Counter	Usage ADF Feed	ENG*	[0 to 255 / 0 / 1%]
7-803-051	Disp. PM Counter	Sheets Feed Bank1	ENG*	[0 to 9999999 / 0 / 1sheet]
7-803-052	Disp. PM Counter	Sheets Spr. Bank1	ENG*	[0 to 9999999 / 0 / 1sheet]
7-803-053	Disp. PM Counter	Sheets Feed Bank2	ENG*	[0 to 9999999 / 0 / 1sheet]
7-803-054	Disp. PM Counter	Sheets Spr. Bank2	ENG*	[0 to 9999999 / 0 / 1sheet]
7-803-055	Disp. PM Counter	Sheets Feed Bank3	ENG*	[0 to 9999999 / 0 / 1sheet]
7-803-056	Disp. PM Counter	Sheets Spr. Bank3	ENG*	[0 to 9999999 / 0 / 1sheet]
7-803-057	Disp. PM Counter	Sheets Feed Bypa	ENG*	[0 to 9999999 / 0 / 1sheet]
7-803-058	Disp. PM Counter	Sheets Spr Bypa	ENG*	[0 to 9999999 / 0 / 1sheet]
7-804-002	Reset PM Counter	PCDU	ENG	[0 to 0 / 0 / 0]
7-804-003	Reset PM Counter	Fuser	ENG	[0 to 0 / 0 / 0]
7-804-004	Reset PM Counter	Trans.	ENG	[0 to 0 / 0 / 0]
7-804-005	Reset PM Counter	Feed Tray	ENG	[0 to 0 / 0 / 0]
7-804-006	Reset PM Counter	Spr. Tray	ENG	[0 to 0 / 0 / 0]
7-804-007	Reset PM Counter	ADF Pad	ENG	[0 to 0 / 0 / 0]
7-804-008	Reset PM Counter	ADF Pickup	ENG	[0 to 0 / 0 / 0]
7-804-009	Reset PM Counter	ADF Feed	ENG	[0 to 0 / 0 / 0]
7-804-010	Reset PM Counter	Maintenance Kit	ENG	[0 to 0 / 0 / 0]
7-804-011	Reset PM Counter	All	ENG	[0 to 0 / 0 / 0]
7-804-051	Reset PM Counter	Feed Bank1	ENG	[0 to 0 / 0 / 0]
7-804-052	Reset PM Counter	Spr. Bank1	ENG	[0 to 0 / 0 / 0]
7-804-053	Reset PM Counter	Feed Bank2	ENG	[0 to 0 / 0 / 0]
7-804-054	Reset PM Counter	Spr. Bank2	ENG	[0 to 0 / 0 / 0]
7-804-055	Reset PM Counter	Feed Bank3	ENG	[0 to 0 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
7-804-056	Reset PM Counter	Spr. Bank3	ENG	[0 to 0 / 0 / 0]
7-804-057	Reset PM Counter	Feed Bypass	ENG	[0 to 0 / 0 / 0]
7-804-058	Reset PM Counter	Spr. Bypass	ENG	[0 to 0 / 0 / 0]
7-805-001	Counter Continue	Setting	ENG	[0 to 0 / 0 / 0]
7-805-002	Counter Continue	Distance PCDU	ENG*	[0 to 999999999 / 0 / 1mm]
7-806-002	PM Counter Dist.	PCDU	ENG*	[0 to 999999999 / 0 / 1mm]
7-806-003	PM Counter Dist.	Fuser	ENG*	[0 to 999999999 / 0 / 1mm]
7-806-004	PM Counter Dist.	Trans.	ENG*	[0 to 999999999 / 0 / 1mm]
7-852-001	DF Glass Dust Check	Dust Detection Counter	ENG*	[0 to 65535 / 0 / 1]
7-852-002	DF Glass Dust Check	Dust Detection Clear Counter	ENG*	[0 to 65535 / 0 / 1]
7-852-003	DF Glass Dust Check	Dust Detection Counter: Back	ENG*	[0 to 65535 / 0 / 1]
7-931-001	Toner Info.	Machine ID	ENG*	[0 to 255 / 0 / 1]
7-931-002	Toner Info.	Version	ENG	[0 to 255 / 0 / 1]
7-931-003	Toner Info.	Brand ID	ENG*	[0 to 255 / 0 / 1]
7-931-004	Toner Info.	Area ID	ENG*	[0 to 255 / 0 / 1]
7-931-005	Toner Info.	Class ID	ENG*	[0 to 255 / 0 / 1]
7-931-006	Toner Info.	Color ID	ENG	[0 to 255 / 0 / 1]
7-931-007	Toner Info.	Maintenance ID	ENG*	[0 to 255 / 0 / 1]
7-931-008	Toner Info.	New AIO	ENG*	[0 to 255 / 0 / 1]
7-931-009	Toner Info.	Recycle Count	ENG	[0 to 255 / 0 / 1]
7-931-010	Toner Info.	EDP Code	ENG*	[0 to 0 / 0 / 0]
7-931-011	Toner Info.	Serial No.	ENG*	[0 to 0 / 0 / 0]
7-931-012	Toner Info.	Remaining Toner	ENG*	[0 to 100 / 100 / 1%] Countdown in increments of 1%
7-931-013	Toner Info.	Toner End	ENG*	[- / 0 / -] 0: Normal (Including estimated toner near end status) N: Definite toner near end E: Toner near end
7-931-014	Toner Info.	Refill Flag	ENG*	[0 to 0 / 0 / 0]
7-931-015	Toner Info.	R:Total Cnt.	ENG*	[0 to 999999999 / 0 / 1sheet]
7-931-016	Toner Info.	E:Total Cnt.	ENG	[0 to 999999999 / 0 / 1sheet]



SP7-XXX (Data Log) - Engine

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
7-931-017	Toner Info.	Unit Output Cnt.	ENG*	[0 to 99999999 / 0 / 1sheet]
7-931-018	Toner Info.	Install Date	ENG*	[0 to 0 / 0 / 0]
7-931-019	Toner Info.	Toner End Date	ENG	[0 to 0 / 0 / 0]
7-931-020	Toner Info.	Total Consump	ENG*	[0 to 10000000 / 0 / 0.1mg]
7-931-021	Toner Info.	PCDU Distance	ENG*	[0 to 999999999 / 0 / 1mm]
7-931-022	Toner Info.	Initial Amount	ENG*	[0 to 65535 / 0 / 1g]
7-931-023	Toner Info.	NearEnd Consump	ENG*	[0 to 999999 / 0 / 0.1mg]
7-932-001	PCDU Info.	Machine ID	ENG*	[0 to 255 / 0 / 1]
7-932-002	PCDU Info.	Class ID	ENG*	[0 to 255 / 0 / 1]
7-932-003	PCDU Info.	Maintenance ID	ENG*	[0 to 255 / 0 / 1]
7-932-004	PCDU Info.	New AIO	ENG*	[0 to 255 / 0 / 1]
7-932-005	PCDU Info.	Serial No.	ENG*	[0 to 0 / 0 / 0]
7-932-006	PCDU Info.	Install Date	ENG*	[0 to 0 / 0 / 0]
7-932-007	PCDU Info.	Sheets	ENG*	[0 to 999999 / 0 / 1sheet]
7-932-008	PCDU Info.	Distance	ENG*	[0 to 999999999 / 0 / 1mm]
7-932-009	PCDU Info.	Usage rate	ENG*	[0 to 255 / 0 / 1%]
7-932-010	PCDU Info.	Control Distance	ENG*	[0 to 999999999 / 0 / 1mm]
7-932-011	PCDU Info.	PM Chg Sheets	ENG	[0 to 999999 / 0 / 1sheet]
7-932-012	PCDU Info.	PM Chg Distance	ENG	[0 to 999999999 / 0 / 1mm]
7-932-013	PCDU Info.	Cleaning1Count	ENG*	[0 to 65535 / 0 / 1count]
7-932-014	PCDU Info.	Cleaning2Count	ENG*	[0 to 65535 / 0 / 1count]
7-935-001	Toner Info. Log	1:Serial No.	ENG*	[0 to 0 / 0 / 0]
7-935-002	Toner Info. Log	1:Install Date	ENG*	[0 to 0 / 0 / 0]
7-935-003	Toner Info. Log	1:R:Total Cnt.	ENG*	[0 to 99999999 / 0 / 1]
7-935-004	Toner Info. Log	1:Refill Flag	ENG*	[0 to 0 / 0 / 0]
7-935-005	Toner Info. Log	2:Serial No.	ENG*	[0 to 0 / 0 / 0]
7-935-006	Toner Info. Log	2:Install Date	ENG*	[0 to 0 / 0 / 0]
7-935-007	Toner Info. Log	2:R:Total Cnt.	ENG*	[0 to 99999999 / 0 / 1]
7-935-008	Toner Info. Log	2:Refill Flag	ENG*	[0 to 0 / 0 / 0]
7-935-009	Toner Info. Log	3:Serial No.	ENG*	[0 to 0 / 0 / 0]
7-935-010	Toner Info. Log	3:Install Date	ENG*	[0 to 0 / 0 / 0]
7-935-011	Toner Info. Log	3:R:Total Cnt.	ENG*	[0 to 99999999 / 0 / 1]
7-935-012	Toner Info. Log	3:Refill Flag	ENG*	[0 to 0 / 0 / 0]
7-935-013	Toner Info. Log	4:Serial No.	ENG*	[0 to 0 / 0 / 0]



SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
7-935-014	Toner Info. Log	4:Install Date	ENG*	[0 to 0 / 0 / 0]
7-935-015	Toner Info. Log	4:R:Total Cnt.	ENG*	[0 to 99999999 / 0 / 1]
7-935-016	Toner Info. Log	4:Refill Flag	ENG*	[0 to 0 / 0 / 0]
7-935-017	Toner Info. Log	5:Serial No.	ENG*	[0 to 0 / 0 / 0]
7-935-018	Toner Info. Log	5:Install Date	ENG*	[0 to 0 / 0 / 0]
7-935-019	Toner Info. Log	5:R:Total Cnt.	ENG*	[0 to 99999999 / 0 / 1]
7-935-020	Toner Info. Log	5:Refill Flag	ENG*	[0 to 0 / 0 / 0]
7-935-021	Toner Info. Log	1:Toner End	ENG*	[0 to 0 / 0 / 0]
7-935-022	Toner Info. Log	2:Toner End	ENG*	[0 to 0 / 0 / 0]
7-935-023	Toner Info. Log	3:Toner End	ENG*	[0 to 0 / 0 / 0]
7-935-024	Toner Info. Log	4:Toner End	ENG*	[0 to 0 / 0 / 0]
7-935-025	Toner Info. Log	5:Toner End	ENG*	[0 to 0 / 0 / 0]
7-936-001	PCDU Log	1:Serial No	ENG*	[0 to 0 / 0 / 1]
7-936-002	PCDU Log	1:Install Date	ENG*	[0 to 0 / 0 / 0]
7-936-003	PCDU Log	2:Serial No	ENG*	[0 to 0 / 0 / 1]
7-936-004	PCDU Log	2:Install Date	ENG*	[0 to 0 / 0 / 0]
7-936-005	PCDU Log	3:Serial No	ENG*	[0 to 0 / 0 / 1]
7-936-006	PCDU Log	3:Install Date	ENG*	[0 to 0 / 0 / 0]
7-936-007	PCDU Log	4:Serial No	ENG*	[0 to 0 / 0 / 1]
7-936-008	PCDU Log	4:Install Date	ENG*	[0 to 0 / 0 / 0]
7-936-009	PCDU Log	5:Serial No	ENG*	[0 to 0 / 0 / 1]
7-936-010	PCDU Log	5:Install Date	ENG*	[0 to 0 / 0 / 0]
7-939-001	Reset Count	Tonner 1st	ENG*	[0 to 65535 / 0 / 1]
7-939-011	Reset Count	Tonner 2nd	ENG*	[0 to 65535 / 0 / 1]
7-939-021	Reset Count	PCDU 1st	ENG*	[0 to 65535 / 0 / 1]
7-939-031	Reset Count	PCDU 2nd	ENG*	[0 to 65535 / 0 / 1]
7-940-002	Set PM Counter	Sheets PCDU	ENG*	[0 to 999999 / 0 / 1sheet]
7-940-003	Set PM Counter	Sheets Fuser	ENG*	[0 to 9999999 / 120000 / 1sheet]
7-941-002	Set PM Dist.	PCDU	ENG*	[0 to 999999999 / 0 / 1mm]
7-941-003	Set PM Dist.	Fuser	ENG*	[0 to 999999999 / 117000000 / 1mm]
7-951-002	Remain Day Count	Sheets PCDU	ENG*	[0 to 255 / 255 / 1days]
7-951-003	Remain Day Count	Sheets Fuser	ENG*	[0 to 255 / 255 / 1days]
7-952-001	Days Before End	Maintenance Kit	ENG*	[0 to 2 / 1 / 1]
7-952-002	Days Before End	PCDU	ENG*	[0 to 2 / 1 / 1]

SP Mode  
Tables  
MFP Only

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
7-953-002	Remain Day(Dist.)	PCDU	ENG*	[0 to 255 / 255 / 1days]
7-953-003	Remain Day(Dist.)	Fuser	ENG*	[0 to 255 / 255 / 1days]
7-955-002	Remain Pages	PCDU	ENG*	[0 to 9999999 / 9999999 / 1page]
7-955-003	Remain Pages	Fuser	ENG*	[0 to 9999999 / 9999999 / 1page]
7-956-002	Remain Days	PCDU	ENG*	[0 to 255 / 255 / 1days]
7-956-003	Remain Days	Fuser	ENG*	[0 to 255 / 255 / 1days]
7-957-002	Monthly Average P	PCDU	ENG*	[0 to 9999999 / 0 / 1page]
7-957-003	Monthly Average P	Fuser	ENG*	[0 to 9999999 / 0 / 1page]
7-958-002	PM Value Setting:	PCDU	ENG*	[1 to 30 / 15 / 1days]
7-958-003	PM Value Setting:	Fuser	ENG*	[1 to 30 / 15 / 1days]
7-970-001	Day Info.	Day Info. Fault	ENG*	[0 to 1 / 0 / 1]
7-978-001	SC670-01 Log	First Occurred	ENG*	[0 to 1 / 0 / 1]
7-978-002	SC670-01 Log	First Data1	ENG*	[0x00000000 to 0xFFFFFFFF / 0x00000000 / 1]
7-978-003	SC670-01 Log	First Data2	ENG*	[0x00000000 to 0xFFFFFFFF / 0x00000000 / 1]
7-978-004	SC670-01 Log	First Data3	ENG*	[0x00000000 to 0xFFFFFFFF / 0x00000000 / 1]
7-978-005	SC670-01 Log	First Data4	ENG*	[0x00000000 to 0xFFFFFFFF / 0x00000000 / 1]
7-978-006	SC670-01 Log	First Data5	ENG*	[0x00000000 to 0xFFFFFFFF / 0x00000000 / 1]
7-978-011	SC670-01 Log	Latest Occurred	ENG*	[0 to 1 / 0 / 1]
7-978-012	SC670-01 Log	Latest Data1	ENG*	[0x00000000 to 0xFFFFFFFF / 0x00000000 / 1]
7-978-013	SC670-01 Log	Latest Data2	ENG*	[0x00000000 to 0xFFFFFFFF / 0x00000000 / 1]
7-978-014	SC670-01 Log	Latest Data3	ENG*	[0x00000000 to 0xFFFFFFFF / 0x00000000 / 1]
7-978-015	SC670-01 Log	Latest Data4	ENG*	[0x00000000 to 0xFFFFFFFF / 0x00000000 / 1]
7-978-016	SC670-01 Log	Latest Data5	ENG*	[0x00000000 to 0xFFFFFFFF / 0x00000000 / 1]
7-979-001	CPU Reset Log	Data1	ENG*	[0x00 to 0xFF / 0x00 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
7-979-002	CPU Reset Log	Data2	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-003	CPU Reset Log	Data3	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-004	CPU Reset Log	Data4	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-005	CPU Reset Log	Data5	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-006	CPU Reset Log	Data6	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-007	CPU Reset Log	Data7	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-008	CPU Reset Log	Data8	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-009	CPU Reset Log	Data9	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-010	CPU Reset Log	Data10	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-011	CPU Reset Log	Data11	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-012	CPU Reset Log	Data12	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-013	CPU Reset Log	Data13	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-014	CPU Reset Log	Data14	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-015	CPU Reset Log	Data15	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-016	CPU Reset Log	Data16	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-017	CPU Reset Log	Data17	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-018	CPU Reset Log	Data18	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-019	CPU Reset Log	Data19	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-020	CPU Reset Log	Data20	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-979-021	CPU Reset Log	Data21	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1]
7-993-001	Total Counter		ENG*	[0 to 99999999 / 0 / 1]

## 5.9 SP7-XXX (DATA LOG) - CONTROLLER

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
7-401-001	Total SC	SC Counter	CTL*	[0 to 65535 / 0 / 0]
7-401-002	Total SC	Total SC Counter	CTL*	[0 to 65535 / 0 / 0]
7-403-001	SC History	Latest	CTL*	[0 to 0 / 0 / 0]
7-403-002	SC History	Latest 1	CTL*	[0 to 0 / 0 / 0]
7-403-003	SC History	Latest 2	CTL*	[0 to 0 / 0 / 0]
7-403-004	SC History	Latest 3	CTL*	[0 to 0 / 0 / 0]
7-403-005	SC History	Latest 4	CTL*	[0 to 0 / 0 / 0]
7-403-006	SC History	Latest 5	CTL*	[0 to 0 / 0 / 0]
7-403-007	SC History	Latest 6	CTL*	[0 to 0 / 0 / 0]
7-403-008	SC History	Latest 7	CTL*	[0 to 0 / 0 / 0]
7-403-009	SC History	Latest 8	CTL*	[0 to 0 / 0 / 0]
7-403-010	SC History	Latest 9	CTL*	[0 to 0 / 0 / 0]
7-404-001	Software Error History	Latest	CTL*	[0 to 0 / 0 / 0]
7-404-002	Software Error History	Latest 1	CTL*	[0 to 0 / 0 / 0]
7-404-003	Software Error History	Latest 2	CTL*	[0 to 0 / 0 / 0]
7-404-004	Software Error History	Latest 3	CTL*	[0 to 0 / 0 / 0]
7-404-005	Software Error History	Latest 4	CTL*	[0 to 0 / 0 / 0]
7-404-006	Software Error History	Latest 5	CTL*	[0 to 0 / 0 / 0]
7-404-007	Software Error History	Latest 6	CTL*	[0 to 0 / 0 / 0]
7-404-008	Software Error History	Latest 7	CTL*	[0 to 0 / 0 / 0]
7-404-009	Software Error History	Latest 8	CTL*	[0 to 0 / 0 / 0]
7-404-010	Software Error History	Latest 9	CTL*	[0 to 0 / 0 / 0]
7-502-001	Total Paper Jam	Jam Counter	CTL*	[0 to 65535 / 0 / 0]
7-502-002	Total Paper Jam	Total Jam Counter	CTL*	[0 to 65535 / 0 / 0]
7-503-001	Total Original Jam	Original Jam Counter	CTL*	[0 to 65535 / 0 / 0]
7-503-002	Total Original Jam	Total Original Jam Counter	CTL*	[0 to 65535 / 0 / 0]
7-504-001	Paper Jam Location	Initial Jam	CTL*	[0 to 65535 / 0 / 0]
7-504-003	Paper Jam Location	Tray1: No Feed	CTL*	[0 to 65535 / 0 / 0]
7-504-004	Paper Jam Location	Tray2: No Feed	CTL*	[0 to 65535 / 0 / 0]
7-504-005	Paper Jam Location	Tray3: No Feed	CTL*	[0 to 65535 / 0 / 0]
7-504-006	Paper Jam Location	Tray4: No Feed	CTL*	[0 to 65535 / 0 / 0]
7-504-008	Paper Jam Location	Bypass: No Feed	CTL*	[0 to 65535 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
7-504-009	Paper Jam Location	Duplex: No Feed	CTL*	[0 to 65535 / 0 / 0]
7-504-013	Paper Jam Location	Tray2 Vertical Trans Sensor Late Jam	CTL*	[0 to 65535 / 0 / 0]
7-504-014	Paper Jam Location	Tray3 Vertical Trans Sensor Late Jam	CTL*	[0 to 65535 / 0 / 0]
7-504-017	Paper Jam Location	Registration Sensor Late Jam	CTL*	[0 to 65535 / 0 / 0]
7-504-020	Paper Jam Location	Inverter Exit Sensor Late Jam	CTL*	[0 to 65535 / 0 / 0]
7-504-026	Paper Jam Location	Duplex Entrance Sensor Late Jam	CTL*	[0 to 65535 / 0 / 0]
7-504-033	Paper Jam Location	Tray1:No Feed Continuous	CTL*	[0 to 65535 / 0 / 0]
7-504-034	Paper Jam Location	Tray2: No Feed Continuous	CTL*	[0 to 65535 / 0 / 0]
7-504-035	Paper Jam Location	Tray3:No Feed Continuous	CTL*	[0 to 65535 / 0 / 0]
7-504-036	Paper Jam Location	Tray4:No Feed Continuous	CTL*	[0 to 65535 / 0 / 0]
7-504-038	Paper Jam Location	Duplex:No Feed Continuous	CTL*	[0 to 65535 / 0 / 0]
7-504-053	Paper Jam Location	Tray2 Vertical Trans Sensor Lag Jam	CTL*	[0 to 65535 / 0 / 0]
7-504-054	Paper Jam Location	Tray3 Vertical Trans Sensor Lag Jam	CTL*	[0 to 65535 / 0 / 0]
7-504-055	Paper Jam Location	Tray4 Vertical Trans Sensor Lag Jam	CTL*	[0 to 65535 / 0 / 0]
7-504-057	Paper Jam Location	Registration Sensor Lag Jam	CTL*	[0 to 65535 / 0 / 0]
7-504-060	Paper Jam Location	Inverter Exit Sensor Lag Jam	CTL*	[0 to 65535 / 0 / 0]
7-504-066	Paper Jam Location	Duplex Entrance Sensor Lag Jam	CTL*	[0 to 65535 / 0 / 0]
7-505-001	Original Jam Detection	Initial Jam	CTL*	[0 to 65535 / 0 / 0]
7-505-004	Original Jam Detection	Registration Sensor Late Jam	CTL*	[0 to 65535 / 0 / 0]
7-505-013	Original Jam Detection	Sensor Late Jam After Feed	CTL*	[0 to 65535 / 0 / 0]
7-505-054	Original Jam Detection	Registration Sensor Lag Jam	CTL*	[0 to 65535 / 0 / 0]
7-505-063	Original Jam Detection	Sensor Lag Jam After Feed	CTL*	[0 to 65535 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
7-505-081	Original Jam Detection	Bypass Set Sensor Jam	CTL*	[0 to 65535 / 0 / 0]
7-505-097	Original Jam Detection	Timing Error Jam	CTL*	[0 to 65535 / 0 / 0]
7-505-098	Original Jam Detection	Paper Interval Shortage Jam	CTL*	[0 to 65535 / 0 / 0]
7-505-099	Original Jam Detection	Double Feed Jam	CTL*	[0 to 65535 / 0 / 0]
7-505-100	Original Jam Detection	Motor Error	CTL*	[0 to 65535 / 0 / 0]
7-506-006	Jam Count by Paper Size	A5 LEF	CTL*	[0 to 65535 / 0 / 0]
7-506-044	Jam Count by Paper Size	HLT LEF	CTL*	[0 to 65535 / 0 / 0]
7-506-133	Jam Count by Paper Size	A4 SEF	CTL*	[0 to 65535 / 0 / 0]
7-506-134	Jam Count by Paper Size	A5 SEF	CTL*	[0 to 65535 / 0 / 0]
7-506-142	Jam Count by Paper Size	B5 SEF	CTL*	[0 to 65535 / 0 / 0]
7-506-164	Jam Count by Paper Size	LG SEF	CTL*	[0 to 65535 / 0 / 0]
7-506-166	Jam Count by Paper Size	LT SEF	CTL*	[0 to 65535 / 0 / 0]
7-506-172	Jam Count by Paper Size	HLT SEF	CTL*	[0 to 65535 / 0 / 0]
7-506-255	Jam Count by Paper Size	Others	CTL*	[0 to 65535 / 0 / 0]
7-507-001	Plotter Jam History	Latest	CTL*	[0 to 0 / 0 / 0]
7-507-002	Plotter Jam History	Latest 1	CTL*	[0 to 0 / 0 / 0]
7-507-003	Plotter Jam History	Latest 2	CTL*	[0 to 0 / 0 / 0]
7-507-004	Plotter Jam History	Latest 3	CTL*	[0 to 0 / 0 / 0]
7-507-005	Plotter Jam History	Latest 4	CTL*	[0 to 0 / 0 / 0]
7-507-006	Plotter Jam History	Latest 5	CTL*	[0 to 0 / 0 / 0]
7-507-007	Plotter Jam History	Latest 6	CTL*	[0 to 0 / 0 / 0]
7-507-008	Plotter Jam History	Latest 7	CTL*	[0 to 0 / 0 / 0]
7-507-009	Plotter Jam History	Latest 8	CTL*	[0 to 0 / 0 / 0]
7-507-010	Plotter Jam History	Latest 9	CTL*	[0 to 0 / 0 / 0]
7-508-001	Original Jam History	Latest	CTL*	[0 to 0 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
7-508-002	Original Jam History	Latest 1	CTL*	[0 to 0 / 0 / 0]
7-508-003	Original Jam History	Latest 2	CTL*	[0 to 0 / 0 / 0]
7-508-004	Original Jam History	Latest 3	CTL*	[0 to 0 / 0 / 0]
7-508-005	Original Jam History	Latest 4	CTL*	[0 to 0 / 0 / 0]
7-508-006	Original Jam History	Latest 5	CTL*	[0 to 0 / 0 / 0]
7-508-007	Original Jam History	Latest 6	CTL*	[0 to 0 / 0 / 0]
7-508-008	Original Jam History	Latest 7	CTL*	[0 to 0 / 0 / 0]
7-508-009	Original Jam History	Latest 8	CTL*	[0 to 0 / 0 / 0]
7-508-010	Original Jam History	Latest 9	CTL*	[0 to 0 / 0 / 0]
7-514-001	Paper Jam Count by Location	Initial Jam	CTL*	[0 to 65535 / 0 / 0]
7-514-003	Paper Jam Count by Location	Tray1: No Feed	CTL*	[0 to 65535 / 0 / 0]
7-514-004	Paper Jam Count by Location	Tray2: No Feed	CTL*	[0 to 65535 / 0 / 0]
7-514-005	Paper Jam Count by Location	Tray3: No Feed	CTL*	[0 to 65535 / 0 / 0]
7-514-006	Paper Jam Count by Location	Tray4: No Feed	CTL*	[0 to 65535 / 0 / 0]
7-514-008	Paper Jam Count by Location	Bypass: No Feed	CTL*	[0 to 65535 / 0 / 0]
7-514-009	Paper Jam Count by Location	Duplex: No Feed	CTL*	[0 to 65535 / 0 / 0]
7-514-013	Paper Jam Count by Location	Tray2 Vertical Trans Sensor Late Jam	CTL*	[0 to 65535 / 0 / 0]
7-514-014	Paper Jam Count by Location	Tray3 Vertical Trans Sensor Late Jam	CTL*	[0 to 65535 / 0 / 0]
7-514-017	Paper Jam Count by Location	Registration Sensor Late Jam	CTL*	[0 to 65535 / 0 / 0]
7-514-020	Paper Jam Count by Location	Inverter Exit Sensor Late Jam	CTL*	[0 to 65535 / 0 / 0]
7-514-026	Paper Jam Count by Location	Duplex Entrance Sensor Late Jam	CTL*	[0 to 65535 / 0 / 0]
7-514-033	Paper Jam Count by Location	Tray1:No Feed Continuous	CTL*	[0 to 65535 / 0 / 0]
7-514-034	Paper Jam Count by	Tray2: No Feed Continuous	CTL*	[0 to 65535 / 0 / 0]

SP7-XXX (Data Log) - Controller

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
	Location			
7-514-035	Paper Jam Count by Location	Tray3:No Feed Continuous	CTL*	[0 to 65535 / 0 / 0]
7-514-036	Paper Jam Count by Location	Tray4:No Feed Continuous	CTL*	[0 to 65535 / 0 / 0]
7-514-038	Paper Jam Count by Location	Duplex:No Feed Continuous	CTL*	[0 to 65535 / 0 / 0]
7-514-053	Paper Jam Count by Location	Tray2 Vertical Trans Sensor Lag Jam	CTL*	[0 to 65535 / 0 / 0]
7-514-054	Paper Jam Count by Location	Tray3 Vertical Trans Sensor Lag Jam	CTL*	[0 to 65535 / 0 / 0]
7-514-055	Paper Jam Count by Location	Tray4 Vertical Trans Sensor Lag Jam	CTL*	[0 to 65535 / 0 / 0]
7-514-057	Paper Jam Count by Location	Registration Sensor Lag Jam	CTL*	[0 to 65535 / 0 / 0]
7-514-060	Paper Jam Count by Location	Inverter Exit Sensor Lag Jam	CTL*	[0 to 65535 / 0 / 0]
7-514-066	Paper Jam Count by Location	Duplex Entrance Sensor Lag Jam	CTL*	[0 to 65535 / 0 / 0]
7-515-001	Original Jam Count by Detection	Initial Jam	CTL*	[0 to 65535 / 0 / 0]
7-515-004	Original Jam Count by Detection	Registration Sensor Late Jam	CTL*	[0 to 65535 / 0 / 0]
7-515-013	Original Jam Count by Detection	Sensor Late Jam After Feed	CTL*	[0 to 65535 / 0 / 0]
7-515-054	Original Jam Count by Detection	Registration Sensor Lag Jam	CTL*	[0 to 65535 / 0 / 0]
7-515-063	Original Jam Count by Detection	Sensor Lag Jam After Feed	CTL*	[0 to 65535 / 0 / 0]
7-515-081	Original Jam Count by Detection	Bypass Set Sensor Jam	CTL*	[0 to 65535 / 0 / 0]
7-515-097	Original Jam Count by Detection	Timing Error Jam	CTL*	[0 to 65535 / 0 / 0]
7-515-098	Original Jam Count by Detection	Paper Interval Shortage Jam	CTL*	[0 to 65535 / 0 / 0]
7-515-099	Original Jam Count by	Double Feed Jam	CTL*	[0 to 65535 / 0 / 0]



SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
	Detection			
7-515-100	Original Jam Count by Detection	Motor Error	CTL*	[0 to 65535 / 0 / 0]
7-516-006	Paper Size Jam Count	A5 LEF	CTL*	[0 to 65535 / 0 / 0]
7-516-044	Paper Size Jam Count	HLT LEF	CTL*	[0 to 65535 / 0 / 0]
7-516-133	Paper Size Jam Count	A4 SEF	CTL*	[0 to 65535 / 0 / 0]
7-516-134	Paper Size Jam Count	A5 SEF	CTL*	[0 to 65535 / 0 / 0]
7-516-142	Paper Size Jam Count	B5 SEF	CTL*	[0 to 65535 / 0 / 0]
7-516-164	Paper Size Jam Count	LG SEF	CTL*	[0 to 65535 / 0 / 0]
7-516-166	Paper Size Jam Count	LT SEF	CTL*	[0 to 65535 / 0 / 0]
7-516-172	Paper Size Jam Count	HLT SEF	CTL*	[0 to 65535 / 0 / 0]
7-516-255	Paper Size Jam Count	Others	CTL*	[0 to 65535 / 0 / 0]
7-520-001	Update Log	ErrorRecord1	CTL*	[0 to 255 / 0 / 1]
7-520-002	Update Log	ErrorRecord2	CTL*	[0 to 255 / 0 / 1]
7-520-003	Update Log	ErrorRecord3	CTL*	[0 to 255 / 0 / 1]
7-520-004	Update Log	ErrorRecord4	CTL*	[0 to 255 / 0 / 1]
7-520-005	Update Log	ErrorRecord5	CTL*	[0 to 255 / 0 / 1]
7-520-006	Update Log	ErrorRecord6	CTL*	[0 to 255 / 0 / 1]
7-520-007	Update Log	ErrorRecord7	CTL*	[0 to 255 / 0 / 1]
7-520-008	Update Log	ErrorRecord8	CTL*	[0 to 255 / 0 / 1]
7-520-009	Update Log	ErrorRecord9	CTL*	[0 to 255 / 0 / 1]
7-520-010	Update Log	ErrorRecord10	CTL*	[0 to 255 / 0 / 1]
7-520-011	Update Log	Auto:StartDate1	CTL*	[0 to 0 / 0 / 0]
7-520-012	Update Log	Auto:StartDate2	CTL*	[0 to 0 / 0 / 0]
7-520-013	Update Log	Auto:StartDate3	CTL*	[0 to 0 / 0 / 0]
7-520-014	Update Log	Auto:StartDate4	CTL*	[0 to 0 / 0 / 0]
7-520-015	Update Log	Auto:StartDate5	CTL*	[0 to 0 / 0 / 0]
7-520-021	Update Log	Auto:EndDate1	CTL*	[0 to 0 / 0 / 0]
7-520-022	Update Log	Auto:EndDate2	CTL*	[0 to 0 / 0 / 0]
7-520-023	Update Log	Auto:EndDate3	CTL*	[0 to 0 / 0 / 0]
7-520-024	Update Log	Auto:EndDate4	CTL*	[0 to 0 / 0 / 0]
7-520-025	Update Log	Auto:EndDate5	CTL*	[0 to 0 / 0 / 0]
7-520-031	Update Log	Auto:Piecemark1	CTL*	[0 to 0 / 0 / 0]
7-520-032	Update Log	Auto:Piecemark2	CTL*	[0 to 0 / 0 / 0]
7-520-033	Update Log	Auto:Piecemark3	CTL*	[0 to 0 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
7-520-034	Update Log	Auto:Piecemark4	CTL*	[0 to 0 / 0 / 0]
7-520-035	Update Log	Auto:Piecemark5	CTL*	[0 to 0 / 0 / 0]
7-520-041	Update Log	Auto:Version1	CTL*	[0 to 0 / 0 / 0]
7-520-042	Update Log	Auto:Version2	CTL*	[0 to 0 / 0 / 0]
7-520-043	Update Log	Auto:Version3	CTL*	[0 to 0 / 0 / 0]
7-520-044	Update Log	Auto:Version4	CTL*	[0 to 0 / 0 / 0]
7-520-045	Update Log	Auto:Version5	CTL*	[0 to 0 / 0 / 0]
7-520-051	Update Log	Auto:Result1	CTL*	[0 to 255 / 0 / 1]
7-520-052	Update Log	Auto:Result2	CTL*	[0 to 255 / 0 / 1]
7-520-053	Update Log	Auto:Result3	CTL*	[0 to 255 / 0 / 1]
7-520-054	Update Log	Auto:Result4	CTL*	[0 to 255 / 0 / 1]
7-520-055	Update Log	Auto:Result5	CTL*	[0 to 255 / 0 / 1]
7-520-056	Update Log	Auto:Result6	CTL*	[0 to 255 / 0 / 1]
7-520-057	Update Log	Auto:Result7	CTL*	[0 to 255 / 0 / 1]
7-520-058	Update Log	Auto:Result8	CTL*	[0 to 255 / 0 / 1]
7-520-059	Update Log	Auto:Result9	CTL*	[0 to 255 / 0 / 1]
7-520-060	Update Log	Auto:Result10	CTL*	[0 to 255 / 0 / 1]
7-617-001	PM Parts Counter Display	Normal	CTL*	[0 to 9999999 / 0 / 0]
7-617-002	PM Parts Counter Display	Df	CTL*	[0 to 9999999 / 0 / 0]
7-618-001	PM Parts Counter Reset	Normal	CTL	[0 to 0 / 0 / 0]
7-618-002	PM Parts Counter Reset	Df	CTL	[0 to 0 / 0 / 0]
7-624-002	Part Replacement Operation ON/OFF	PCDU	CTL*	[0 to 1 / 1 / 1]
7-624-003	Part Replacement Operation ON/OFF	Fusing Unit	CTL*	[0 to 1 / 1 / 1]
7-801-255	ROM No./ Firmware Version		CTL	[0 to 0 / 0 / 0]
7-803-001	PM Counter Display	Paper	CTL*	[0 to 9999999 / 0 / 0]
7-804-001	PM Counter Reset	Paper	CTL	[0 to 0 / 0 / 0]
7-807-001	SC/Jam Counter		CTL	[0 to 0 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
	Reset			
7-826-001	MF Error Counter	Error Total	CTL*	[0 to 9999999 / 0 / 0]
7-826-002	MF Error Counter	Error Staple	CTL*	[0 to 9999999 / 0 / 0]
7-827-001	MF Error Counter Clear		CTL	[0 to 0 / 0 / 0]
7-832-001	Self-Diagnose Result Display		CTL	[0 to 0 / 0 / 0]
7-836-001	Total Memory Size		CTL	[0 to 0xffffffff / 0 / 0MB]
7-840-001	ServiceSP Entry Code Chg Hist	Change Time :Latest	CTL*	[0 to 0 / 0 / 0]
7-840-002	ServiceSP Entry Code Chg Hist	Change Time :Last1	CTL*	[0 to 0 / 0 / 0]
7-840-101	ServiceSP Entry Code Chg Hist	Initialize Time :Latest	CTL*	[0 to 0 / 0 / 0]
7-840-102	ServiceSP Entry Code Chg Hist	Initialize Time :Last1	CTL*	[0 to 0 / 0 / 0]
7-901-001	Assert Info.	File Name	CTL*	[0 to 0 / 0 / 0]
7-901-002	Assert Info.	Number of Lines	CTL*	[0 to 0 / 0 / 0]
7-901-003	Assert Info.	Location	CTL*	[0 to 0 / 0 / 0]
7-910-001	ROM No	System/Copy	CTL	[0 to 0 / 0 / 0]
7-910-002	ROM No	Engine	CTL	[0 to 0 / 0 / 0]
7-910-003	ROM No	Lcdc	CTL	[0 to 0 / 0 / 0]
7-910-009	ROM No	Bank	CTL	[0 to 0 / 0 / 0]
7-910-012	ROM No	FCU	CTL	[0 to 0 / 0 / 0]
7-910-018	ROM No	NetworkSupport	CTL	[0 to 0 / 0 / 0]
7-910-019	ROM No	Bank2	CTL	[0 to 0 / 0 / 0]
7-910-022	ROM No	BIOS	CTL	[0 to 0 / 0 / 0]
7-910-023	ROM No	HDD Format Option	CTL	[0 to 0 / 0 / 0]
7-910-040	ROM No	Bank3	CTL	[0 to 0 / 0 / 0]
7-910-150	ROM No	RPCS	CTL	[0 to 0 / 0 / 0]
7-910-151	ROM No	PS	CTL	[0 to 0 / 0 / 0]
7-910-152	ROM No	RPDL	CTL	[0 to 0 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
7-910-153	ROM No	R98	CTL	[0 to 0 / 0 / 0]
7-910-154	ROM No	R16	CTL	[0 to 0 / 0 / 0]
7-910-156	ROM No	R55	CTL	[0 to 0 / 0 / 0]
7-910-157	ROM No	RTIFF	CTL	[0 to 0 / 0 / 0]
7-910-158	ROM No	PCL	CTL	[0 to 0 / 0 / 0]
7-910-159	ROM No	PCLXL	CTL	[0 to 0 / 0 / 0]
7-910-160	ROM No	MSIS	CTL	[0 to 0 / 0 / 0]
7-910-162	ROM No	PDF	CTL	[0 to 0 / 0 / 0]
7-910-165	ROM No	PJL	CTL	[0 to 0 / 0 / 0]
7-910-166	ROM No	IPDS	CTL	[0 to 0 / 0 / 0]
7-910-167	ROM No	MediaPrint:JPEG	CTL	[0 to 0 / 0 / 0]
7-910-168	ROM No	MediaPrint:TIFF	CTL	[0 to 0 / 0 / 0]
7-910-169	ROM No	XPS	CTL	[0 to 0 / 0 / 0]
7-910-180	ROM No	FONT	CTL	[0 to 0 / 0 / 0]
7-910-181	ROM No	FONT1	CTL	[0 to 0 / 0 / 0]
7-910-182	ROM No	FONT2	CTL	[0 to 0 / 0 / 0]
7-910-183	ROM No	FONT3	CTL	[0 to 0 / 0 / 0]
7-910-184	ROM No	FONT4	CTL	[0 to 0 / 0 / 0]
7-910-185	ROM No	FONT5	CTL	[0 to 0 / 0 / 0]
7-910-186	ROM No	FONT6	CTL	[0 to 0 / 0 / 0]
7-910-187	ROM No	FONT7	CTL	[0 to 0 / 0 / 0]
7-910-200	ROM No	Factory	CTL	[0 to 0 / 0 / 0]
7-910-201	ROM No	Copy	CTL	[0 to 0 / 0 / 0]
7-910-202	ROM No	NetworkDocBox	CTL	[0 to 0 / 0 / 0]
7-910-203	ROM No	Fax	CTL	[0 to 0 / 0 / 0]
7-910-204	ROM No	Printer	CTL	[0 to 0 / 0 / 0]
7-910-205	ROM No	Scanner	CTL	[0 to 0 / 0 / 0]
7-910-206	ROM No	RFax	CTL	[0 to 0 / 0 / 0]
7-910-210	ROM No	MIB	CTL	[0 to 0 / 0 / 0]
7-910-211	ROM No	Websupport	CTL	[0 to 0 / 0 / 0]
7-910-212	ROM No	WebUapl	CTL	[0 to 0 / 0 / 0]
7-910-213	ROM No	SDK1	CTL	[0 to 0 / 0 / 0]
7-910-214	ROM No	SDK2	CTL	[0 to 0 / 0 / 0]
7-910-215	ROM No	SDK3	CTL	[0 to 0 / 0 / 0]
7-910-250	ROM No	Package	CTL	[0 to 0 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
7-911-001	Firmware Version	System/Copy	CTL	[0 to 0 / 0 / 0]
7-911-002	Firmware Version	Engine	CTL	[0 to 0 / 0 / 0]
7-911-003	Firmware Version	Lcdc	CTL	[0 to 0 / 0 / 0]
7-911-009	Firmware Version	Bank	CTL	[0 to 0 / 0 / 0]
7-911-012	Firmware Version	FCU	CTL	[0 to 0 / 0 / 0]
7-911-018	Firmware Version	NetworkSupport	CTL	[0 to 0 / 0 / 0]
7-911-019	Firmware Version	Bank2	CTL	[0 to 0 / 0 / 0]
7-911-022	Firmware Version	BIOS	CTL	[0 to 0 / 0 / 0]
7-911-023	Firmware Version	HDD Format Option	CTL	[0 to 0 / 0 / 0]
7-911-040	Firmware Version	Bank3	CTL	[0 to 0 / 0 / 0]
7-911-150	Firmware Version	RPCS	CTL	[0 to 0 / 0 / 0]
7-911-151	Firmware Version	PS	CTL	[0 to 0 / 0 / 0]
7-911-152	Firmware Version	RPDL	CTL	[0 to 0 / 0 / 0]
7-911-153	Firmware Version	R98	CTL	[0 to 0 / 0 / 0]
7-911-154	Firmware Version	R16	CTL	[0 to 0 / 0 / 0]
7-911-156	Firmware Version	R55	CTL	[0 to 0 / 0 / 0]
7-911-157	Firmware Version	RTIFF	CTL	[0 to 0 / 0 / 0]
7-911-158	Firmware Version	PCL	CTL	[0 to 0 / 0 / 0]
7-911-159	Firmware Version	PCLXL	CTL	[0 to 0 / 0 / 0]
7-911-160	Firmware Version	MSIS	CTL	[0 to 0 / 0 / 0]
7-911-162	Firmware Version	PDF	CTL	[0 to 0 / 0 / 0]
7-911-165	Firmware Version	PJL	CTL	[0 to 0 / 0 / 0]
7-911-166	Firmware Version	IPDS	CTL	[0 to 0 / 0 / 0]
7-911-167	Firmware Version	MediaPrint:JPEG	CTL	[0 to 0 / 0 / 0]
7-911-168	Firmware Version	MediaPrint:TIFF	CTL	[0 to 0 / 0 / 0]
7-911-169	Firmware Version	XPS	CTL	[0 to 0 / 0 / 0]
7-911-180	Firmware Version	FONT	CTL	[0 to 0 / 0 / 0]
7-911-181	Firmware Version	FONT1	CTL	[0 to 0 / 0 / 0]
7-911-182	Firmware Version	FONT2	CTL	[0 to 0 / 0 / 0]
7-911-183	Firmware Version	FONT3	CTL	[0 to 0 / 0 / 0]
7-911-184	Firmware Version	FONT4	CTL	[0 to 0 / 0 / 0]
7-911-185	Firmware Version	FONT5	CTL	[0 to 0 / 0 / 0]
7-911-186	Firmware Version	FONT6	CTL	[0 to 0 / 0 / 0]
7-911-187	Firmware Version	FONT7	CTL	[0 to 0 / 0 / 0]
7-911-200	Firmware Version	Factory	CTL	[0 to 0 / 0 / 0]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
7-911-201	Firmware Version	Copy	CTL	[0 to 0 / 0 / 0]
7-911-202	Firmware Version	NetworkDocBox	CTL	[0 to 0 / 0 / 0]
7-911-203	Firmware Version	Fax	CTL	[0 to 0 / 0 / 0]
7-911-204	Firmware Version	Printer	CTL	[0 to 0 / 0 / 0]
7-911-205	Firmware Version	Scanner	CTL	[0 to 0 / 0 / 0]
7-911-206	Firmware Version	RFax	CTL	[0 to 0 / 0 / 0]
7-911-210	Firmware Version	MIB	CTL	[0 to 0 / 0 / 0]
7-911-211	Firmware Version	Websupport	CTL	[0 to 0 / 0 / 0]
7-911-212	Firmware Version	WebUapl	CTL	[0 to 0 / 0 / 0]
7-911-213	Firmware Version	SDK1	CTL	[0 to 0 / 0 / 0]
7-911-214	Firmware Version	SDK2	CTL	[0 to 0 / 0 / 0]
7-911-215	Firmware Version	SDK3	CTL	[0 to 0 / 0 / 0]
7-911-250	Firmware Version	Package	CTL	[0 to 0 / 0 / 0]

## 5.10 SP8-XXX (DATA LOG 2) - CONTROLLER

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-001-001	T:Total Jobs		CTL*	[0 to 999999999 / 0 / 1]
8-002-001	C:Total Jobs		CTL*	[0 to 999999999 / 0 / 1]
8-003-001	F:Total Jobs		CTL*	[0 to 999999999 / 0 / 1]
8-004-001	P:Total Jobs		CTL*	[0 to 999999999 / 0 / 1]
8-005-001	S:Total Jobs		CTL*	[0 to 999999999 / 0 / 1]
8-006-001	L:Total Jobs		CTL*	[0 to 999999999 / 0 / 1]
8-011-001	T:Jobs/LS		CTL*	[0 to 999999999 / 0 / 1]
8-012-001	C:Jobs/LS		CTL*	[0 to 999999999 / 0 / 1]
8-013-001	F:Jobs/LS		CTL*	[0 to 999999999 / 0 / 1]
8-014-001	P:Jobs/LS		CTL*	[0 to 999999999 / 0 / 1]
8-015-001	S:Jobs/LS		CTL*	[0 to 999999999 / 0 / 1]
8-016-001	L:Jobs/LS		CTL*	[0 to 999999999 / 0 / 1]
8-017-001	O:Jobs/LS		CTL*	[0 to 999999999 / 0 / 1]
8-021-001	T:Pjob/LS		CTL*	[0 to 999999999 / 0 / 1]
8-022-001	C:Pjob/LS		CTL*	[0 to 999999999 / 0 / 1]
8-023-001	F:Pjob/LS		CTL*	[0 to 999999999 / 0 / 1]
8-024-001	P:Pjob/LS		CTL*	[0 to 999999999 / 0 / 1]
8-025-001	S:Pjob/LS		CTL*	[0 to 999999999 / 0 / 1]
8-026-001	L:Pjob/LS		CTL*	[0 to 999999999 / 0 / 1]
8-027-001	O:Pjob/LS		CTL*	[0 to 999999999 / 0 / 1]
8-031-001	T:Pjob/DesApl		CTL*	[0 to 999999999 / 0 / 1]
8-032-001	C:Pjob/DesApl		CTL*	[0 to 999999999 / 0 / 1]
8-033-001	F:Pjob/DesApl		CTL*	[0 to 999999999 / 0 / 1]
8-034-001	P:Pjob/DesApl		CTL*	[0 to 999999999 / 0 / 1]
8-035-001	S:Pjob/DesApl		CTL*	[0 to 999999999 / 0 / 1]
8-036-001	L:Pjob/DesApl		CTL*	[0 to 999999999 / 0 / 1]
8-037-001	O:Pjob/DesApl		CTL*	[0 to 999999999 / 0 / 1]
8-041-001	T:TX Jobs/LS		CTL*	[0 to 999999999 / 0 / 1]
8-042-001	C:TX Jobs/LS		CTL*	[0 to 999999999 / 0 / 1]
8-043-001	F:TX Jobs/LS		CTL*	[0 to 999999999 / 0 / 1]
8-044-001	P:TX Jobs/LS		CTL*	[0 to 999999999 / 0 / 1]
8-045-001	S:TX Jobs/LS		CTL*	[0 to 999999999 / 0 / 1]
8-046-001	L:TX Jobs/LS		CTL*	[0 to 999999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-047-001	O:TX Jobs/LS		CTL*	[0 to 99999999 / 0 / 1]
8-051-001	T:TX Jobs/DesApl		CTL*	[0 to 99999999 / 0 / 1]
8-052-001	C:TX Jobs/DesApl		CTL*	[0 to 99999999 / 0 / 1]
8-053-001	F:TX Jobs/DesApl		CTL*	[0 to 99999999 / 0 / 1]
8-054-001	P:TX Jobs/DesApl		CTL*	[0 to 99999999 / 0 / 1]
8-055-001	S:TX Jobs/DesApl		CTL*	[0 to 99999999 / 0 / 1]
8-056-001	L:TX Jobs/DesApl		CTL*	[0 to 99999999 / 0 / 1]
8-057-001	O:TX Jobs/DesApl		CTL*	[0 to 99999999 / 0 / 1]
8-061-001	T:FIN Jobs	Sort	CTL*	[0 to 99999999 / 0 / 1]
8-061-002	T:FIN Jobs	Stack	CTL*	[0 to 99999999 / 0 / 1]
8-061-003	T:FIN Jobs	Staple	CTL*	[0 to 99999999 / 0 / 1]
8-061-004	T:FIN Jobs	Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-061-005	T:FIN Jobs	Z-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-061-006	T:FIN Jobs	Punch	CTL*	[0 to 99999999 / 0 / 1]
8-061-007	T:FIN Jobs	Other	CTL*	[0 to 99999999 / 0 / 1]
8-061-008	T:FIN Jobs	Inside-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-061-009	T:FIN Jobs	Three-IN-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-061-010	T:FIN Jobs	Three-OUT-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-061-011	T:FIN Jobs	Four-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-061-012	T:FIN Jobs	KANNON-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-061-013	T:FIN Jobs	Perfect-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-061-014	T:FIN Jobs	Ring-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-061-015	T:FIN Jobs	3rd Vendor	CTL*	[0 to 99999999 / 0 / 1]
8-061-016	T:FIN Jobs	TwinLoop-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-062-001	C:FIN Jobs	Sort	CTL*	[0 to 99999999 / 0 / 1]
8-062-002	C:FIN Jobs	Stack	CTL*	[0 to 99999999 / 0 / 1]
8-062-003	C:FIN Jobs	Staple	CTL*	[0 to 99999999 / 0 / 1]
8-062-004	C:FIN Jobs	Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-062-005	C:FIN Jobs	Z-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-062-006	C:FIN Jobs	Punch	CTL*	[0 to 99999999 / 0 / 1]
8-062-007	C:FIN Jobs	Other	CTL*	[0 to 99999999 / 0 / 1]
8-062-008	C:FIN Jobs	Inside-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-062-009	C:FIN Jobs	Three-IN-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-062-010	C:FIN Jobs	Three-OUT-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-062-011	C:FIN Jobs	Four-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-062-012	C:FIN Jobs	KANNON-Fold	CTL*	[0 to 99999999 / 0 / 1]



SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-062-013	C:FIN Jobs	Perfect-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-062-014	C:FIN Jobs	Ring-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-062-015	C:FIN Jobs	3rd Vendor	CTL*	[0 to 99999999 / 0 / 1]
8-062-016	C:FIN Jobs	TwinLoop-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-063-001	F:FIN Jobs	Sort	CTL*	[0 to 99999999 / 0 / 1]
8-063-002	F:FIN Jobs	Stack	CTL*	[0 to 99999999 / 0 / 1]
8-063-003	F:FIN Jobs	Staple	CTL*	[0 to 99999999 / 0 / 1]
8-063-004	F:FIN Jobs	Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-063-005	F:FIN Jobs	Z-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-063-006	F:FIN Jobs	Punch	CTL*	[0 to 99999999 / 0 / 1]
8-063-007	F:FIN Jobs	Other	CTL*	[0 to 99999999 / 0 / 1]
8-063-008	F:FIN Jobs	Inside-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-063-009	F:FIN Jobs	Three-IN-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-063-010	F:FIN Jobs	Three-OUT-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-063-011	F:FIN Jobs	Four-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-063-012	F:FIN Jobs	KANNON-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-063-013	F:FIN Jobs	Perfect-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-063-014	F:FIN Jobs	Ring-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-063-015	F:FIN Jobs	3rd Vendor	CTL*	[0 to 99999999 / 0 / 1]
8-063-016	F:FIN Jobs	TwinLoop-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-064-001	P:FIN Jobs	Sort	CTL*	[0 to 99999999 / 0 / 1]
8-064-002	P:FIN Jobs	Stack	CTL*	[0 to 99999999 / 0 / 1]
8-064-003	P:FIN Jobs	Staple	CTL*	[0 to 99999999 / 0 / 1]
8-064-004	P:FIN Jobs	Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-064-005	P:FIN Jobs	Z-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-064-006	P:FIN Jobs	Punch	CTL*	[0 to 99999999 / 0 / 1]
8-064-007	P:FIN Jobs	Other	CTL*	[0 to 99999999 / 0 / 1]
8-064-008	P:FIN Jobs	Inside-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-064-009	P:FIN Jobs	Three-IN-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-064-010	P:FIN Jobs	Three-OUT-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-064-011	P:FIN Jobs	Four-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-064-012	P:FIN Jobs	KANNON-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-064-013	P:FIN Jobs	Perfect-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-064-014	P:FIN Jobs	Ring-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-064-015	P:FIN Jobs	3rd Vendor	CTL*	[0 to 99999999 / 0 / 1]
8-064-016	P:FIN Jobs	TwinLoop-Bind	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-065-001	S:FIN Jobs	Sort	CTL*	[0 to 99999999 / 0 / 1]
8-065-002	S:FIN Jobs	Stack	CTL*	[0 to 99999999 / 0 / 1]
8-065-003	S:FIN Jobs	Staple	CTL*	[0 to 99999999 / 0 / 1]
8-065-004	S:FIN Jobs	Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-065-005	S:FIN Jobs	Z-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-065-006	S:FIN Jobs	Punch	CTL*	[0 to 99999999 / 0 / 1]
8-065-007	S:FIN Jobs	Other	CTL*	[0 to 99999999 / 0 / 1]
8-065-008	S:FIN Jobs	Inside-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-065-009	S:FIN Jobs	Three-IN-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-065-010	S:FIN Jobs	Three-OUT-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-065-011	S:FIN Jobs	Four-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-065-012	S:FIN Jobs	KANNON-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-065-013	S:FIN Jobs	Perfect-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-065-014	S:FIN Jobs	Ring-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-065-015	S:FIN Jobs	3rd Vendor	CTL*	[0 to 99999999 / 0 / 1]
8-065-016	S:FIN Jobs	TwinLoop-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-066-001	L:FIN Jobs	Sort	CTL*	[0 to 99999999 / 0 / 1]
8-066-002	L:FIN Jobs	Stack	CTL*	[0 to 99999999 / 0 / 1]
8-066-003	L:FIN Jobs	Staple	CTL*	[0 to 99999999 / 0 / 1]
8-066-004	L:FIN Jobs	Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-066-005	L:FIN Jobs	Z-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-066-006	L:FIN Jobs	Punch	CTL*	[0 to 99999999 / 0 / 1]
8-066-007	L:FIN Jobs	Other	CTL*	[0 to 99999999 / 0 / 1]
8-066-008	L:FIN Jobs	Inside-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-066-009	L:FIN Jobs	Three-IN-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-066-010	L:FIN Jobs	Three-OUT-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-066-011	L:FIN Jobs	Four-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-066-012	L:FIN Jobs	KANNON-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-066-013	L:FIN Jobs	Perfect-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-066-014	L:FIN Jobs	Ring-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-066-015	L:FIN Jobs	3rd Vendor	CTL*	[0 to 99999999 / 0 / 1]
8-066-016	L:FIN Jobs	TwinLoop-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-067-001	O:FIN Jobs	Sort	CTL*	[0 to 99999999 / 0 / 1]
8-067-002	O:FIN Jobs	Stack	CTL*	[0 to 99999999 / 0 / 1]
8-067-003	O:FIN Jobs	Staple	CTL*	[0 to 99999999 / 0 / 1]
8-067-004	O:FIN Jobs	Booklet	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-067-005	O:FIN Jobs	Z-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-067-006	O:FIN Jobs	Punch	CTL*	[0 to 99999999 / 0 / 1]
8-067-007	O:FIN Jobs	Other	CTL*	[0 to 99999999 / 0 / 1]
8-067-008	O:FIN Jobs	Inside-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-067-009	O:FIN Jobs	Three-IN-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-067-010	O:FIN Jobs	Three-OUT-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-067-011	O:FIN Jobs	Four-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-067-012	O:FIN Jobs	KANNON-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-067-013	O:FIN Jobs	Perfect-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-067-014	O:FIN Jobs	Ring-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-067-015	O:FIN Jobs	3rd Vendor	CTL*	[0 to 99999999 / 0 / 1]
8-067-016	O:FIN Jobs	TwinLoop-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-071-001	T:Jobs/PGS	1 Page	CTL*	[0 to 99999999 / 0 / 1]
8-071-002	T:Jobs/PGS	2 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-071-003	T:Jobs/PGS	3 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-071-004	T:Jobs/PGS	4 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-071-005	T:Jobs/PGS	5 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-071-006	T:Jobs/PGS	6~10 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-071-007	T:Jobs/PGS	11~20 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-071-008	T:Jobs/PGS	21~50 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-071-009	T:Jobs/PGS	51~100 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-071-010	T:Jobs/PGS	101~300 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-071-011	T:Jobs/PGS	301~500 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-071-012	T:Jobs/PGS	501~700 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-071-013	T:Jobs/PGS	701~1000 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-071-014	T:Jobs/PGS	1001~ Pages	CTL*	[0 to 99999999 / 0 / 1]
8-072-001	C:Jobs/PGS	1 Page	CTL*	[0 to 99999999 / 0 / 1]
8-072-002	C:Jobs/PGS	2 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-072-003	C:Jobs/PGS	3 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-072-004	C:Jobs/PGS	4 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-072-005	C:Jobs/PGS	5 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-072-006	C:Jobs/PGS	6~10 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-072-007	C:Jobs/PGS	11~20 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-072-008	C:Jobs/PGS	21~50 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-072-009	C:Jobs/PGS	51~100 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-072-010	C:Jobs/PGS	101~300 Pages	CTL*	[0 to 99999999 / 0 / 1]

SP Mode  
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SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-072-011	C:Jobs/PGS	301~500 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-072-012	C:Jobs/PGS	501~700 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-072-013	C:Jobs/PGS	701~1000 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-072-014	C:Jobs/PGS	1001~ Pages	CTL*	[0 to 99999999 / 0 / 1]
8-073-001	F:Jobs/PGS	1 Page	CTL*	[0 to 99999999 / 0 / 1]
8-073-002	F:Jobs/PGS	2 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-073-003	F:Jobs/PGS	3 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-073-004	F:Jobs/PGS	4 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-073-005	F:Jobs/PGS	5 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-073-006	F:Jobs/PGS	6~10 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-073-007	F:Jobs/PGS	11~20 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-073-008	F:Jobs/PGS	21~50 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-073-009	F:Jobs/PGS	51~100 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-073-010	F:Jobs/PGS	101~300 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-073-011	F:Jobs/PGS	301~500 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-073-012	F:Jobs/PGS	501~700 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-073-013	F:Jobs/PGS	701~1000 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-073-014	F:Jobs/PGS	1001~ Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-001	P:Jobs/PGS	1 Page	CTL*	[0 to 99999999 / 0 / 1]
8-074-002	P:Jobs/PGS	2 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-003	P:Jobs/PGS	3 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-004	P:Jobs/PGS	4 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-005	P:Jobs/PGS	5 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-006	P:Jobs/PGS	6~10 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-007	P:Jobs/PGS	11~20 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-008	P:Jobs/PGS	21~50 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-009	P:Jobs/PGS	51~100 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-010	P:Jobs/PGS	101~300 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-011	P:Jobs/PGS	301~500 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-012	P:Jobs/PGS	501~700 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-013	P:Jobs/PGS	701~1000 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-074-014	P:Jobs/PGS	1001~ Pages	CTL*	[0 to 99999999 / 0 / 1]
8-075-001	S:Jobs/PGS	1 Page	CTL*	[0 to 99999999 / 0 / 1]
8-075-002	S:Jobs/PGS	2 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-075-003	S:Jobs/PGS	3 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-075-004	S:Jobs/PGS	4 Pages	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-075-005	S:Jobs/PGS	5 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-075-006	S:Jobs/PGS	6~10 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-075-007	S:Jobs/PGS	11~20 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-075-008	S:Jobs/PGS	21~50 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-075-009	S:Jobs/PGS	51~100 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-075-010	S:Jobs/PGS	101~300 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-075-011	S:Jobs/PGS	301~500 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-075-012	S:Jobs/PGS	501~700 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-075-013	S:Jobs/PGS	701~1000 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-075-014	S:Jobs/PGS	1001~ Pages	CTL*	[0 to 99999999 / 0 / 1]
8-076-001	L:Jobs/PGS	1 Page	CTL*	[0 to 99999999 / 0 / 1]
8-076-002	L:Jobs/PGS	2 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-076-003	L:Jobs/PGS	3 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-076-004	L:Jobs/PGS	4 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-076-005	L:Jobs/PGS	5 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-076-006	L:Jobs/PGS	6~10 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-076-007	L:Jobs/PGS	11~20 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-076-008	L:Jobs/PGS	21~50 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-076-009	L:Jobs/PGS	51~100 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-076-010	L:Jobs/PGS	101~300 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-076-011	L:Jobs/PGS	301~500 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-076-012	L:Jobs/PGS	501~700 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-076-013	L:Jobs/PGS	701~1000 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-076-014	L:Jobs/PGS	1001~ Pages	CTL*	[0 to 99999999 / 0 / 1]
8-077-001	O:Jobs/PGS	1 Page	CTL*	[0 to 99999999 / 0 / 1]
8-077-002	O:Jobs/PGS	2 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-077-003	O:Jobs/PGS	3 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-077-004	O:Jobs/PGS	4 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-077-005	O:Jobs/PGS	5 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-077-006	O:Jobs/PGS	6~10 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-077-007	O:Jobs/PGS	11~20 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-077-008	O:Jobs/PGS	21~50 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-077-009	O:Jobs/PGS	51~100 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-077-010	O:Jobs/PGS	101~300 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-077-011	O:Jobs/PGS	301~500 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-077-012	O:Jobs/PGS	501~700 Pages	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-077-013	O:Jobs/PGS	701~1000 Pages	CTL*	[0 to 99999999 / 0 / 1]
8-077-014	O:Jobs/PGS	1001~ Pages	CTL*	[0 to 99999999 / 0 / 1]
8-081-001	T:Smart Device	Smart Device	CTL*	[0 to 99999999 / 0 / 1]
8-082-001	C:Smart Device	Smart Device	CTL*	[0 to 99999999 / 0 / 1]
8-083-001	F:Smart Device	Smart Device	CTL*	[0 to 99999999 / 0 / 1]
8-084-001	P:Smart Device	Smart Device	CTL*	[0 to 99999999 / 0 / 1]
8-085-001	S:Smart Device	Smart Device	CTL*	[0 to 99999999 / 0 / 1]
8-111-001	T:FAX TX Jobs	B/W(Tel)	CTL*	[0 to 99999999 / 0 / 1]
8-111-101	T:FAX TX Jobs	B/W(Cloud)	CTL*	[0 to 99999999 / 0 / 1]
8-113-001	F:FAX TX Jobs	B/W(Tel)	CTL*	[0 to 99999999 / 0 / 1]
8-113-101	F:FAX TX Jobs	B/W(Cloud)	CTL*	[0 to 99999999 / 0 / 1]
8-121-001	T:IFAX TX Jobs	B/W	CTL*	[0 to 99999999 / 0 / 1]
8-123-001	F:IFAX TX Jobs	B/W	CTL*	[0 to 99999999 / 0 / 1]
8-131-001	T:S-to-Email Jobs	B/W	CTL*	[0 to 99999999 / 0 / 1]
8-131-002	T:S-to-Email Jobs	Color	CTL*	[0 to 99999999 / 0 / 1]
8-131-003	T:S-to-Email Jobs	ACS	CTL*	[0 to 99999999 / 0 / 1]
8-135-001	S:S-to-Email Jobs	B/W	CTL*	[0 to 99999999 / 0 / 1]
8-135-002	S:S-to-Email Jobs	Color	CTL*	[0 to 99999999 / 0 / 1]
8-135-003	S:S-to-Email Jobs	ACS	CTL*	[0 to 99999999 / 0 / 1]
8-141-001	T:Deliv Jobs/Svr	B/W	CTL*	[0 to 99999999 / 0 / 1]
8-141-002	T:Deliv Jobs/Svr	Color	CTL*	[0 to 99999999 / 0 / 1]
8-141-003	T:Deliv Jobs/Svr	ACS	CTL*	[0 to 99999999 / 0 / 1]
8-145-001	S:Deliv Jobs/Svr	B/W	CTL*	[0 to 99999999 / 0 / 1]
8-145-002	S:Deliv Jobs/Svr	Color	CTL*	[0 to 99999999 / 0 / 1]
8-145-003	S:Deliv Jobs/Svr	ACS	CTL*	[0 to 99999999 / 0 / 1]
8-151-001	T:Deliv Jobs/PC	B/W	CTL*	[0 to 99999999 / 0 / 1]
8-151-002	T:Deliv Jobs/PC	Color	CTL*	[0 to 99999999 / 0 / 1]
8-151-003	T:Deliv Jobs/PC	ACS	CTL*	[0 to 99999999 / 0 / 1]
8-155-001	S:Deliv Jobs/PC	B/W	CTL*	[0 to 99999999 / 0 / 1]
8-155-002	S:Deliv Jobs/PC	Color	CTL*	[0 to 99999999 / 0 / 1]
8-155-003	S:Deliv Jobs/PC	ACS	CTL*	[0 to 99999999 / 0 / 1]
8-161-001	T:PCFAX TX Jobs		CTL*	[0 to 99999999 / 0 / 1]
8-163-001	F:PCFAX TX Jobs		CTL*	[0 to 99999999 / 0 / 1]
8-171-001	T:Deliv Jobs/WSD/DSM	B/W	CTL*	[0 to 99999999 / 0 / 1]
8-171-002	T:Deliv	Color	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
	Jobs/WSD/DSM			
8-171-003	T:Deliv Jobs/WSD/DSM	ACS	CTL*	[0 to 99999999 / 0 / 1]
8-175-001	S:Deliv Jobs/WSD/DSM	B/W	CTL*	[0 to 99999999 / 0 / 1]
8-175-002	S:Deliv Jobs/WSD/DSM	Color	CTL*	[0 to 99999999 / 0 / 1]
8-175-003	S:Deliv Jobs/WSD/DSM	ACS	CTL*	[0 to 99999999 / 0 / 1]
8-181-001	T:Scan to Media Jobs	B/W	CTL*	[0 to 99999999 / 0 / 1]
8-181-002	T:Scan to Media Jobs	Color	CTL*	[0 to 99999999 / 0 / 1]
8-181-003	T:Scan to Media Jobs	ACS	CTL*	[0 to 99999999 / 0 / 1]
8-185-001	S:Scan to Media Jobs	B/W	CTL*	[0 to 99999999 / 0 / 1]
8-185-002	S:Scan to Media Jobs	Color	CTL*	[0 to 99999999 / 0 / 1]
8-185-003	S:Scan to Media Jobs	ACS	CTL*	[0 to 99999999 / 0 / 1]
8-191-001	T:Total Scan PGS		CTL*	[0 to 99999999 / 0 / 1]
8-192-001	C:Total Scan PGS		CTL*	[0 to 99999999 / 0 / 1]
8-193-001	F:Total Scan PGS		CTL*	[0 to 99999999 / 0 / 1]
8-195-001	S:Total Scan PGS		CTL*	[0 to 99999999 / 0 / 1]
8-196-001	L:Total Scan PGS		CTL*	[0 to 99999999 / 0 / 1]
8-201-001	T:LSize Scan PGS	A3/DLT, Larger	CTL*	[0 to 99999999 / 0 / 1]
8-203-001	F:LSize Scan PGS	A3/DLT, Larger	CTL*	[0 to 99999999 / 0 / 1]
8-205-001	S:LSize Scan PGS	A3/DLT, Larger	CTL*	[0 to 99999999 / 0 / 1]
8-211-001	T:Scan PGS/LS		CTL*	[0 to 99999999 / 0 / 1]
8-212-001	C:Scan PGS/LS		CTL*	[0 to 99999999 / 0 / 1]
8-213-001	F:Scan PGS/LS		CTL*	[0 to 99999999 / 0 / 1]
8-215-001	S:Scan PGS/LS		CTL*	[0 to 99999999 / 0 / 1]
8-216-001	L:Scan PGS/LS		CTL*	[0 to 99999999 / 0 / 1]
8-221-001	ADF Org Feeds	Front	CTL*	[0 to 99999999 / 0 / 1]
8-221-002	ADF Org Feeds	Back	CTL*	[0 to 99999999 / 0 / 1]
8-231-001	Scan PGS/Mode	Large Volume	CTL*	[0 to 99999999 / 0 / 1]
8-231-002	Scan PGS/Mode	SADF	CTL*	[0 to 99999999 / 0 / 1]
8-231-003	Scan PGS/Mode	Mixed Size	CTL*	[0 to 99999999 / 0 / 1]
8-231-004	Scan PGS/Mode	Custom Size	CTL*	[0 to 99999999 / 0 / 1]
8-231-005	Scan PGS/Mode	Platen	CTL*	[0 to 99999999 / 0 / 1]
8-231-006	Scan PGS/Mode	Mixed 1side/2side	CTL*	[0 to 99999999 / 0 / 1]

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SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-231-007	Scan PGS/Mode	ID card Feeder	CTL*	[0 to 999999999 / 0 / 1]
8-241-001	T:Scan PGS/Org	Text	CTL*	[0 to 999999999 / 0 / 1]
8-241-002	T:Scan PGS/Org	Text/Photo	CTL*	[0 to 999999999 / 0 / 1]
8-241-003	T:Scan PGS/Org	Photo	CTL*	[0 to 999999999 / 0 / 1]
8-241-004	T:Scan PGS/Org	GenCopy, Pale	CTL*	[0 to 999999999 / 0 / 1]
8-241-005	T:Scan PGS/Org	Map	CTL*	[0 to 999999999 / 0 / 1]
8-241-006	T:Scan PGS/Org	Normal/Detail	CTL*	[0 to 999999999 / 0 / 1]
8-241-007	T:Scan PGS/Org	Fine/Super Fine	CTL*	[0 to 999999999 / 0 / 1]
8-241-008	T:Scan PGS/Org	Binary	CTL*	[0 to 999999999 / 0 / 1]
8-241-009	T:Scan PGS/Org	Grayscale	CTL*	[0 to 999999999 / 0 / 1]
8-241-010	T:Scan PGS/Org	Color	CTL*	[0 to 999999999 / 0 / 1]
8-241-011	T:Scan PGS/Org	Other	CTL*	[0 to 999999999 / 0 / 1]
8-242-001	C:Scan PGS/Org	Text	CTL*	[0 to 999999999 / 0 / 1]
8-242-002	C:Scan PGS/Org	Text/Photo	CTL*	[0 to 999999999 / 0 / 1]
8-242-003	C:Scan PGS/Org	Photo	CTL*	[0 to 999999999 / 0 / 1]
8-242-004	C:Scan PGS/Org	GenCopy, Pale	CTL*	[0 to 999999999 / 0 / 1]
8-242-005	C:Scan PGS/Org	Map	CTL*	[0 to 999999999 / 0 / 1]
8-242-011	C:Scan PGS/Org	Other	CTL*	[0 to 999999999 / 0 / 1]
8-243-001	F:Scan PGS/Org	Text	CTL*	[0 to 999999999 / 0 / 1]
8-243-002	F:Scan PGS/Org	Text/Photo	CTL*	[0 to 999999999 / 0 / 1]
8-243-003	F:Scan PGS/Org	Photo	CTL*	[0 to 999999999 / 0 / 1]
8-243-006	F:Scan PGS/Org	Normal/Detail	CTL*	[0 to 999999999 / 0 / 1]
8-243-007	F:Scan PGS/Org	Fine/Super Fine	CTL*	[0 to 999999999 / 0 / 1]
8-243-011	F:Scan PGS/Org	Other	CTL*	[0 to 999999999 / 0 / 1]
8-245-001	S:Scan PGS/Org	Text	CTL*	[0 to 999999999 / 0 / 1]
8-245-002	S:Scan PGS/Org	Text/Photo	CTL*	[0 to 999999999 / 0 / 1]
8-245-003	S:Scan PGS/Org	Photo	CTL*	[0 to 999999999 / 0 / 1]
8-245-004	S:Scan PGS/Org	GenCopy, Pale	CTL*	[0 to 999999999 / 0 / 1]
8-245-008	S:Scan PGS/Org	Binary	CTL*	[0 to 999999999 / 0 / 1]
8-245-009	S:Scan PGS/Org	Grayscale	CTL*	[0 to 999999999 / 0 / 1]
8-245-010	S:Scan PGS/Org	Color	CTL*	[0 to 999999999 / 0 / 1]
8-245-011	S:Scan PGS/Org	Other	CTL*	[0 to 999999999 / 0 / 1]
8-246-001	L:Scan PGS/Org	Text	CTL*	[0 to 999999999 / 0 / 1]
8-246-002	L:Scan PGS/Org	Text/Photo	CTL*	[0 to 999999999 / 0 / 1]
8-246-003	L:Scan PGS/Org	Photo	CTL*	[0 to 999999999 / 0 / 1]
8-246-004	L:Scan PGS/Org	GenCopy, Pale	CTL*	[0 to 999999999 / 0 / 1]



SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-246-005	L:Scan PGS/Org	Map	CTL*	[0 to 99999999 / 0 / 1]
8-246-011	L:Scan PGS/Org	Other	CTL*	[0 to 99999999 / 0 / 1]
8-251-001	T:Scan PGS/ImgEdt		CTL*	[0 to 99999999 / 0 / 1]
8-252-001	C:Scan PGS/ImgEdt		CTL*	[0 to 99999999 / 0 / 1]
8-255-001	S:Scan PGS/ImgEdt		CTL*	[0 to 99999999 / 0 / 1]
8-256-001	L:Scan PGS/ImgEdt		CTL*	[0 to 99999999 / 0 / 1]
8-257-001	O:Scan PGS/ImgEdt		CTL*	[0 to 99999999 / 0 / 1]
8-281-001	T:Scan PGS/TWAIN		CTL*	[0 to 99999999 / 0 / 1]
8-285-001	S:Scan PGS/TWAIN		CTL*	[0 to 99999999 / 0 / 1]
8-291-001	T:Scan PGS/Stamp		CTL*	[0 to 99999999 / 0 / 1]
8-293-001	F:Scan PGS/Stamp		CTL*	[0 to 99999999 / 0 / 1]
8-295-001	S:Scan PGS/Stamp		CTL*	[0 to 99999999 / 0 / 1]
8-301-001	T:Scan PGS/Size	A3	CTL*	[0 to 99999999 / 0 / 1]
8-301-002	T:Scan PGS/Size	A4	CTL*	[0 to 99999999 / 0 / 1]
8-301-003	T:Scan PGS/Size	A5	CTL*	[0 to 99999999 / 0 / 1]
8-301-004	T:Scan PGS/Size	B4	CTL*	[0 to 99999999 / 0 / 1]
8-301-005	T:Scan PGS/Size	B5	CTL*	[0 to 99999999 / 0 / 1]
8-301-006	T:Scan PGS/Size	DLT	CTL*	[0 to 99999999 / 0 / 1]
8-301-007	T:Scan PGS/Size	LG	CTL*	[0 to 99999999 / 0 / 1]
8-301-008	T:Scan PGS/Size	LT	CTL*	[0 to 99999999 / 0 / 1]
8-301-009	T:Scan PGS/Size	HLT	CTL*	[0 to 99999999 / 0 / 1]
8-301-010	T:Scan PGS/Size	Full Bleed	CTL*	[0 to 99999999 / 0 / 1]
8-301-254	T:Scan PGS/Size	Other (Standard)	CTL*	[0 to 99999999 / 0 / 1]
8-301-255	T:Scan PGS/Size	Other (Custom)	CTL*	[0 to 99999999 / 0 / 1]
8-302-001	C:Scan PGS/Size	A3	CTL*	[0 to 99999999 / 0 / 1]
8-302-002	C:Scan PGS/Size	A4	CTL*	[0 to 99999999 / 0 / 1]
8-302-003	C:Scan PGS/Size	A5	CTL*	[0 to 99999999 / 0 / 1]
8-302-004	C:Scan PGS/Size	B4	CTL*	[0 to 99999999 / 0 / 1]
8-302-005	C:Scan PGS/Size	B5	CTL*	[0 to 99999999 / 0 / 1]
8-302-006	C:Scan PGS/Size	DLT	CTL*	[0 to 99999999 / 0 / 1]
8-302-007	C:Scan PGS/Size	LG	CTL*	[0 to 99999999 / 0 / 1]
8-302-008	C:Scan PGS/Size	LT	CTL*	[0 to 99999999 / 0 / 1]
8-302-009	C:Scan PGS/Size	HLT	CTL*	[0 to 99999999 / 0 / 1]
8-302-010	C:Scan PGS/Size	Full Bleed	CTL*	[0 to 99999999 / 0 / 1]
8-302-254	C:Scan PGS/Size	Other (Standard)	CTL*	[0 to 99999999 / 0 / 1]
8-302-255	C:Scan PGS/Size	Other (Custom)	CTL*	[0 to 99999999 / 0 / 1]

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SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-303-001	F:Scan PGS/Size	A3	CTL*	[0 to 999999999 / 0 / 1]
8-303-002	F:Scan PGS/Size	A4	CTL*	[0 to 999999999 / 0 / 1]
8-303-003	F:Scan PGS/Size	A5	CTL*	[0 to 999999999 / 0 / 1]
8-303-004	F:Scan PGS/Size	B4	CTL*	[0 to 999999999 / 0 / 1]
8-303-005	F:Scan PGS/Size	B5	CTL*	[0 to 999999999 / 0 / 1]
8-303-006	F:Scan PGS/Size	DLT	CTL*	[0 to 999999999 / 0 / 1]
8-303-007	F:Scan PGS/Size	LG	CTL*	[0 to 999999999 / 0 / 1]
8-303-008	F:Scan PGS/Size	LT	CTL*	[0 to 999999999 / 0 / 1]
8-303-009	F:Scan PGS/Size	HLT	CTL*	[0 to 999999999 / 0 / 1]
8-303-010	F:Scan PGS/Size	Full Bleed	CTL*	[0 to 999999999 / 0 / 1]
8-303-254	F:Scan PGS/Size	Other (Standard)	CTL*	[0 to 999999999 / 0 / 1]
8-303-255	F:Scan PGS/Size	Other (Custom)	CTL*	[0 to 999999999 / 0 / 1]
8-305-001	S:Scan PGS/Size	A3	CTL*	[0 to 999999999 / 0 / 1]
8-305-002	S:Scan PGS/Size	A4	CTL*	[0 to 999999999 / 0 / 1]
8-305-003	S:Scan PGS/Size	A5	CTL*	[0 to 999999999 / 0 / 1]
8-305-004	S:Scan PGS/Size	B4	CTL*	[0 to 999999999 / 0 / 1]
8-305-005	S:Scan PGS/Size	B5	CTL*	[0 to 999999999 / 0 / 1]
8-305-006	S:Scan PGS/Size	DLT	CTL*	[0 to 999999999 / 0 / 1]
8-305-007	S:Scan PGS/Size	LG	CTL*	[0 to 999999999 / 0 / 1]
8-305-008	S:Scan PGS/Size	LT	CTL*	[0 to 999999999 / 0 / 1]
8-305-009	S:Scan PGS/Size	HLT	CTL*	[0 to 999999999 / 0 / 1]
8-305-010	S:Scan PGS/Size	Full Bleed	CTL*	[0 to 999999999 / 0 / 1]
8-305-254	S:Scan PGS/Size	Other (Standard)	CTL*	[0 to 999999999 / 0 / 1]
8-305-255	S:Scan PGS/Size	Other (Custom)	CTL*	[0 to 999999999 / 0 / 1]
8-306-001	L:Scan PGS/Size	A3	CTL*	[0 to 999999999 / 0 / 1]
8-306-002	L:Scan PGS/Size	A4	CTL*	[0 to 999999999 / 0 / 1]
8-306-003	L:Scan PGS/Size	A5	CTL*	[0 to 999999999 / 0 / 1]
8-306-004	L:Scan PGS/Size	B4	CTL*	[0 to 999999999 / 0 / 1]
8-306-005	L:Scan PGS/Size	B5	CTL*	[0 to 999999999 / 0 / 1]
8-306-006	L:Scan PGS/Size	DLT	CTL*	[0 to 999999999 / 0 / 1]
8-306-007	L:Scan PGS/Size	LG	CTL*	[0 to 999999999 / 0 / 1]
8-306-008	L:Scan PGS/Size	LT	CTL*	[0 to 999999999 / 0 / 1]
8-306-009	L:Scan PGS/Size	HLT	CTL*	[0 to 999999999 / 0 / 1]
8-306-010	L:Scan PGS/Size	Full Bleed	CTL*	[0 to 999999999 / 0 / 1]
8-306-254	L:Scan PGS/Size	Other (Standard)	CTL*	[0 to 999999999 / 0 / 1]
8-306-255	L:Scan PGS/Size	Other (Custom)	CTL*	[0 to 999999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-311-001	T:Scan PGS/Rez	1200dpi ~	CTL*	[0 to 99999999 / 0 / 1]
8-311-002	T:Scan PGS/Rez	600dpi~1199dpi	CTL*	[0 to 99999999 / 0 / 1]
8-311-003	T:Scan PGS/Rez	400dpi~599dpi	CTL*	[0 to 99999999 / 0 / 1]
8-311-004	T:Scan PGS/Rez	200dpi~399dpi	CTL*	[0 to 99999999 / 0 / 1]
8-311-005	T:Scan PGS/Rez	~199dpi	CTL*	[0 to 99999999 / 0 / 1]
8-315-001	S:Scan PGS/Rez	1200dpi ~	CTL*	[0 to 99999999 / 0 / 1]
8-315-002	S:Scan PGS/Rez	600dpi~1199dpi	CTL*	[0 to 99999999 / 0 / 1]
8-315-003	S:Scan PGS/Rez	400dpi~599dpi	CTL*	[0 to 99999999 / 0 / 1]
8-315-004	S:Scan PGS/Rez	200dpi~399dpi	CTL*	[0 to 99999999 / 0 / 1]
8-315-005	S:Scan PGS/Rez	~199dpi	CTL*	[0 to 99999999 / 0 / 1]
8-321-001	T:Sacn Poster	2 Sheet	CTL*	[0 to 99999999 / 0 / 1]
8-321-002	T:Sacn Poster	4 Sheet	CTL*	[0 to 99999999 / 0 / 1]
8-321-003	T:Sacn Poster	9 Sheet	CTL*	[0 to 99999999 / 0 / 1]
8-322-001	C:Sacn Poster	2 Sheet	CTL*	[0 to 99999999 / 0 / 1]
8-322-002	C:Sacn Poster	4 Sheet	CTL*	[0 to 99999999 / 0 / 1]
8-322-003	C:Sacn Poster	9 Sheet	CTL*	[0 to 99999999 / 0 / 1]
8-326-001	L:Sacn Poster	2 Sheet	CTL*	[0 to 99999999 / 0 / 1]
8-326-002	L:Sacn Poster	4 Sheet	CTL*	[0 to 99999999 / 0 / 1]
8-326-003	L:Sacn Poster	9 Sheet	CTL*	[0 to 99999999 / 0 / 1]
8-381-001	T:Total PrtPGS	Field Number	CTL*	[0 to 99999999 / 0 / 1]
8-382-001	C:Total PrtPGS	Field Number	CTL*	[0 to 99999999 / 0 / 1]
8-383-001	F:Total PrtPGS	Field Number	CTL*	[0 to 99999999 / 0 / 1]
8-384-001	P:Total PrtPGS	Field Number	CTL*	[0 to 99999999 / 0 / 1]
8-385-001	S:Total PrtPGS	Field Number	CTL*	[0 to 99999999 / 0 / 1]
8-386-001	L:Total PrtPGS	Field Number	CTL*	[0 to 99999999 / 0 / 1]
8-387-001	O:Total PrtPGS	Field Number	CTL*	[0 to 99999999 / 0 / 1]
8-391-001	LSize PrtPGS	A3/DLT, Larger	CTL*	[0 to 99999999 / 0 / 1]
8-401-001	T:PrtPGS/LS		CTL*	[0 to 99999999 / 0 / 1]
8-402-001	C:PrtPGS/LS		CTL*	[0 to 99999999 / 0 / 1]
8-403-001	F:PrtPGS/LS		CTL*	[0 to 99999999 / 0 / 1]
8-404-001	P:PrtPGS/LS		CTL*	[0 to 99999999 / 0 / 1]
8-405-001	S:PrtPGS/LS		CTL*	[0 to 99999999 / 0 / 1]
8-406-001	L:PrtPGS/LS		CTL*	[0 to 99999999 / 0 / 1]
8-411-001	Prints/Duplex		CTL*	[0 to 99999999 / 0 / 1]
8-421-001	T:PrtPGS/Dup Comb	Simplex> Duplex	CTL*	[0 to 99999999 / 0 / 1]
8-421-002	T:PrtPGS/Dup Comb	Duplex> Duplex	CTL*	[0 to 99999999 / 0 / 1]

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SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-421-003	T:PrtPGS/Dup Comb	Book> Duplex	CTL*	[0 to 99999999 / 0 / 1]
8-421-004	T:PrtPGS/Dup Comb	Simplex Combine	CTL*	[0 to 99999999 / 0 / 1]
8-421-005	T:PrtPGS/Dup Comb	Duplex Combine	CTL*	[0 to 99999999 / 0 / 1]
8-421-006	T:PrtPGS/Dup Comb	2in1	CTL*	[0 to 99999999 / 0 / 1]
8-421-007	T:PrtPGS/Dup Comb	4in1	CTL*	[0 to 99999999 / 0 / 1]
8-421-008	T:PrtPGS/Dup Comb	6in1	CTL*	[0 to 99999999 / 0 / 1]
8-421-009	T:PrtPGS/Dup Comb	8in1	CTL*	[0 to 99999999 / 0 / 1]
8-421-010	T:PrtPGS/Dup Comb	9in1	CTL*	[0 to 99999999 / 0 / 1]
8-421-011	T:PrtPGS/Dup Comb	16in1	CTL*	[0 to 99999999 / 0 / 1]
8-421-012	T:PrtPGS/Dup Comb	Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-421-013	T:PrtPGS/Dup Comb	Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-421-014	T:PrtPGS/Dup Comb	2in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-421-015	T:PrtPGS/Dup Comb	4in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-421-016	T:PrtPGS/Dup Comb	6in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-421-017	T:PrtPGS/Dup Comb	8in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-421-018	T:PrtPGS/Dup Comb	9in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-421-019	T:PrtPGS/Dup Comb	2in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-421-020	T:PrtPGS/Dup Comb	4in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-421-021	T:PrtPGS/Dup Comb	6in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-421-022	T:PrtPGS/Dup Comb	8in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-421-023	T:PrtPGS/Dup Comb	9in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-421-024	T:PrtPGS/Dup Comb	16in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-422-001	C:PrtPGS/Dup Comb	Simplex> Duplex	CTL*	[0 to 99999999 / 0 / 1]
8-422-002	C:PrtPGS/Dup Comb	Duplex> Duplex	CTL*	[0 to 99999999 / 0 / 1]
8-422-003	C:PrtPGS/Dup Comb	Book> Duplex	CTL*	[0 to 99999999 / 0 / 1]
8-422-004	C:PrtPGS/Dup Comb	Simplex Combine	CTL*	[0 to 99999999 / 0 / 1]
8-422-005	C:PrtPGS/Dup Comb	Duplex Combine	CTL*	[0 to 99999999 / 0 / 1]
8-422-006	C:PrtPGS/Dup Comb	2in1	CTL*	[0 to 99999999 / 0 / 1]
8-422-007	C:PrtPGS/Dup Comb	4in1	CTL*	[0 to 99999999 / 0 / 1]
8-422-009	C:PrtPGS/Dup Comb	8in1	CTL*	[0 to 99999999 / 0 / 1]
8-422-012	C:PrtPGS/Dup Comb	Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-422-013	C:PrtPGS/Dup Comb	Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-422-014	C:PrtPGS/Dup Comb	2in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-422-015	C:PrtPGS/Dup Comb	4in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-422-017	C:PrtPGS/Dup Comb	8in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-422-019	C:PrtPGS/Dup Comb	2in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-422-020	C:PrtPGS/Dup Comb	4in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-422-022	C:PrtPGS/Dup Comb	8in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-423-001	F:PrtPGS/Dup Comb	Simplex> Duplex	CTL*	[0 to 99999999 / 0 / 1]
8-423-004	F:PrtPGS/Dup Comb	Simplex Combine	CTL*	[0 to 99999999 / 0 / 1]
8-423-005	F:PrtPGS/Dup Comb	Duplex Combine	CTL*	[0 to 99999999 / 0 / 1]
8-423-006	F:PrtPGS/Dup Comb	2in1	CTL*	[0 to 99999999 / 0 / 1]
8-423-007	F:PrtPGS/Dup Comb	4in1	CTL*	[0 to 99999999 / 0 / 1]
8-423-009	F:PrtPGS/Dup Comb	8in1	CTL*	[0 to 99999999 / 0 / 1]
8-423-011	F:PrtPGS/Dup Comb	16in1	CTL*	[0 to 99999999 / 0 / 1]
8-423-012	F:PrtPGS/Dup Comb	Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-423-013	F:PrtPGS/Dup Comb	Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-423-014	F:PrtPGS/Dup Comb	2in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-423-015	F:PrtPGS/Dup Comb	4in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-423-017	F:PrtPGS/Dup Comb	8in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-423-019	F:PrtPGS/Dup Comb	2in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-423-020	F:PrtPGS/Dup Comb	4in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-423-022	F:PrtPGS/Dup Comb	8in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-423-024	F:PrtPGS/Dup Comb	16in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-424-001	P:PrtPGS/Dup Comb	Simplex> Duplex	CTL*	[0 to 99999999 / 0 / 1]
8-424-004	P:PrtPGS/Dup Comb	Simplex Combine	CTL*	[0 to 99999999 / 0 / 1]
8-424-005	P:PrtPGS/Dup Comb	Duplex Combine	CTL*	[0 to 99999999 / 0 / 1]
8-424-006	P:PrtPGS/Dup Comb	2in1	CTL*	[0 to 99999999 / 0 / 1]
8-424-007	P:PrtPGS/Dup Comb	4in1	CTL*	[0 to 99999999 / 0 / 1]
8-424-008	P:PrtPGS/Dup Comb	6in1	CTL*	[0 to 99999999 / 0 / 1]
8-424-009	P:PrtPGS/Dup Comb	8in1	CTL*	[0 to 99999999 / 0 / 1]
8-424-010	P:PrtPGS/Dup Comb	9in1	CTL*	[0 to 99999999 / 0 / 1]
8-424-011	P:PrtPGS/Dup Comb	16in1	CTL*	[0 to 99999999 / 0 / 1]
8-424-012	P:PrtPGS/Dup Comb	Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-424-013	P:PrtPGS/Dup Comb	Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-424-014	P:PrtPGS/Dup Comb	2in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-424-015	P:PrtPGS/Dup Comb	4in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-424-016	P:PrtPGS/Dup Comb	6in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-424-017	P:PrtPGS/Dup Comb	8in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-424-018	P:PrtPGS/Dup Comb	9in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-424-019	P:PrtPGS/Dup Comb	2in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-424-020	P:PrtPGS/Dup Comb	4in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-424-021	P:PrtPGS/Dup Comb	6in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-424-022	P:PrtPGS/Dup Comb	8in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-424-023	P:PrtPGS/Dup Comb	9in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-424-024	P:PrtPGS/Dup Comb	16in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-425-001	S:PrtPGS/Dup Comb	Simplex> Duplex	CTL*	[0 to 99999999 / 0 / 1]
8-425-004	S:PrtPGS/Dup Comb	Simplex Combine	CTL*	[0 to 99999999 / 0 / 1]
8-425-005	S:PrtPGS/Dup Comb	Duplex Combine	CTL*	[0 to 99999999 / 0 / 1]
8-425-006	S:PrtPGS/Dup Comb	2in1	CTL*	[0 to 99999999 / 0 / 1]
8-425-007	S:PrtPGS/Dup Comb	4in1	CTL*	[0 to 99999999 / 0 / 1]
8-425-009	S:PrtPGS/Dup Comb	8in1	CTL*	[0 to 99999999 / 0 / 1]
8-425-010	S:PrtPGS/Dup Comb	9in1	CTL*	[0 to 99999999 / 0 / 1]
8-425-011	S:PrtPGS/Dup Comb	16in1	CTL*	[0 to 99999999 / 0 / 1]
8-425-012	S:PrtPGS/Dup Comb	Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-425-013	S:PrtPGS/Dup Comb	Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-425-014	S:PrtPGS/Dup Comb	2in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-425-015	S:PrtPGS/Dup Comb	4in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-425-017	S:PrtPGS/Dup Comb	8in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-425-018	S:PrtPGS/Dup Comb	9in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-425-019	S:PrtPGS/Dup Comb	2in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-425-020	S:PrtPGS/Dup Comb	4in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-425-022	S:PrtPGS/Dup Comb	8in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-425-023	S:PrtPGS/Dup Comb	9in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-425-024	S:PrtPGS/Dup Comb	16in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-426-001	L:PrtPGS/Dup Comb	Simplex> Duplex	CTL*	[0 to 99999999 / 0 / 1]
8-426-004	L:PrtPGS/Dup Comb	Simplex Combine	CTL*	[0 to 99999999 / 0 / 1]
8-426-005	L:PrtPGS/Dup Comb	Duplex Combine	CTL*	[0 to 99999999 / 0 / 1]
8-426-006	L:PrtPGS/Dup Comb	2in1	CTL*	[0 to 99999999 / 0 / 1]
8-426-007	L:PrtPGS/Dup Comb	4in1	CTL*	[0 to 99999999 / 0 / 1]
8-426-009	L:PrtPGS/Dup Comb	8in1	CTL*	[0 to 99999999 / 0 / 1]
8-426-011	L:PrtPGS/Dup Comb	16in1	CTL*	[0 to 99999999 / 0 / 1]
8-426-012	L:PrtPGS/Dup Comb	Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-426-013	L:PrtPGS/Dup Comb	Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-426-014	L:PrtPGS/Dup Comb	2in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-426-015	L:PrtPGS/Dup Comb	4in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-426-017	L:PrtPGS/Dup Comb	8in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-426-019	L:PrtPGS/Dup Comb	2in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-426-020	L:PrtPGS/Dup Comb	4in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-426-022	L:PrtPGS/Dup Comb	8in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-426-024	L:PrtPGS/Dup Comb	16in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-427-001	O:PrtPGS/Dup Comb	Simplex> Duplex	CTL*	[0 to 99999999 / 0 / 1]
8-427-002	O:PrtPGS/Dup Comb	Duplex> Duplex	CTL*	[0 to 99999999 / 0 / 1]
8-427-003	O:PrtPGS/Dup Comb	Book> Duplex	CTL*	[0 to 99999999 / 0 / 1]
8-427-004	O:PrtPGS/Dup Comb	Simplex Combine	CTL*	[0 to 99999999 / 0 / 1]
8-427-005	O:PrtPGS/Dup Comb	Duplex Combine	CTL*	[0 to 99999999 / 0 / 1]
8-427-006	O:PrtPGS/Dup Comb	2in1	CTL*	[0 to 99999999 / 0 / 1]
8-427-007	O:PrtPGS/Dup Comb	4in1	CTL*	[0 to 99999999 / 0 / 1]
8-427-008	O:PrtPGS/Dup Comb	6in1	CTL*	[0 to 99999999 / 0 / 1]
8-427-009	O:PrtPGS/Dup Comb	8in1	CTL*	[0 to 99999999 / 0 / 1]
8-427-010	O:PrtPGS/Dup Comb	9in1	CTL*	[0 to 99999999 / 0 / 1]
8-427-011	O:PrtPGS/Dup Comb	16in1	CTL*	[0 to 99999999 / 0 / 1]
8-427-012	O:PrtPGS/Dup Comb	Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-427-013	O:PrtPGS/Dup Comb	Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-427-014	O:PrtPGS/Dup Comb	2in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-427-015	O:PrtPGS/Dup Comb	4in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-427-016	O:PrtPGS/Dup Comb	6in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-427-017	O:PrtPGS/Dup Comb	8in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-427-018	O:PrtPGS/Dup Comb	9in1 + Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-427-019	O:PrtPGS/Dup Comb	2in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-427-020	O:PrtPGS/Dup Comb	4in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-427-021	O:PrtPGS/Dup Comb	6in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-427-022	O:PrtPGS/Dup Comb	8in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-427-023	O:PrtPGS/Dup Comb	9in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-427-024	O:PrtPGS/Dup Comb	16in1 + Magazine	CTL*	[0 to 99999999 / 0 / 1]
8-431-001	T:PrtPGS/ImgEdt	Cover/Slip Sheet	CTL*	[0 to 99999999 / 0 / 1]
8-431-002	T:PrtPGS/ImgEdt	Series/Book	CTL*	[0 to 99999999 / 0 / 1]
8-431-003	T:PrtPGS/ImgEdt	User Stamp	CTL*	[0 to 99999999 / 0 / 1]
8-432-001	C:PrtPGS/ImgEdt	Cover/Slip Sheet	CTL*	[0 to 99999999 / 0 / 1]
8-432-002	C:PrtPGS/ImgEdt	Series/Book	CTL*	[0 to 99999999 / 0 / 1]
8-432-003	C:PrtPGS/ImgEdt	User Stamp	CTL*	[0 to 99999999 / 0 / 1]
8-434-001	P:PrtPGS/ImgEdt	Cover/Slip Sheet	CTL*	[0 to 99999999 / 0 / 1]
8-434-002	P:PrtPGS/ImgEdt	Series/Book	CTL*	[0 to 99999999 / 0 / 1]
8-434-003	P:PrtPGS/ImgEdt	User Stamp	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-436-001	L:PrtPGS/ImgEdt	Cover/Slip Sheet	CTL*	[0 to 99999999 / 0 / 1]
8-436-002	L:PrtPGS/ImgEdt	Series/Book	CTL*	[0 to 99999999 / 0 / 1]
8-436-003	L:PrtPGS/ImgEdt	User Stamp	CTL*	[0 to 99999999 / 0 / 1]
8-437-001	O:PrtPGS/ImgEdt	Cover/Slip Sheet	CTL*	[0 to 99999999 / 0 / 1]
8-437-002	O:PrtPGS/ImgEdt	Series/Book	CTL*	[0 to 99999999 / 0 / 1]
8-437-003	O:PrtPGS/ImgEdt	User Stamp	CTL*	[0 to 99999999 / 0 / 1]
8-441-001	T:PrtPGS/Ppr Size	A3	CTL*	[0 to 99999999 / 0 / 1]
8-441-002	T:PrtPGS/Ppr Size	A4	CTL*	[0 to 99999999 / 0 / 1]
8-441-003	T:PrtPGS/Ppr Size	A5	CTL*	[0 to 99999999 / 0 / 1]
8-441-004	T:PrtPGS/Ppr Size	B4	CTL*	[0 to 99999999 / 0 / 1]
8-441-005	T:PrtPGS/Ppr Size	B5	CTL*	[0 to 99999999 / 0 / 1]
8-441-006	T:PrtPGS/Ppr Size	DLT	CTL*	[0 to 99999999 / 0 / 1]
8-441-007	T:PrtPGS/Ppr Size	LG	CTL*	[0 to 99999999 / 0 / 1]
8-441-008	T:PrtPGS/Ppr Size	LT	CTL*	[0 to 99999999 / 0 / 1]
8-441-009	T:PrtPGS/Ppr Size	HLT	CTL*	[0 to 99999999 / 0 / 1]
8-441-010	T:PrtPGS/Ppr Size	Full Bleed	CTL*	[0 to 99999999 / 0 / 1]
8-441-254	T:PrtPGS/Ppr Size	Other (Standard)	CTL*	[0 to 99999999 / 0 / 1]
8-441-255	T:PrtPGS/Ppr Size	Other (Custom)	CTL*	[0 to 99999999 / 0 / 1]
8-442-001	C:PrtPGS/Ppr Size	A3	CTL*	[0 to 99999999 / 0 / 1]
8-442-002	C:PrtPGS/Ppr Size	A4	CTL*	[0 to 99999999 / 0 / 1]
8-442-003	C:PrtPGS/Ppr Size	A5	CTL*	[0 to 99999999 / 0 / 1]
8-442-004	C:PrtPGS/Ppr Size	B4	CTL*	[0 to 99999999 / 0 / 1]
8-442-005	C:PrtPGS/Ppr Size	B5	CTL*	[0 to 99999999 / 0 / 1]
8-442-006	C:PrtPGS/Ppr Size	DLT	CTL*	[0 to 99999999 / 0 / 1]
8-442-007	C:PrtPGS/Ppr Size	LG	CTL*	[0 to 99999999 / 0 / 1]
8-442-008	C:PrtPGS/Ppr Size	LT	CTL*	[0 to 99999999 / 0 / 1]
8-442-009	C:PrtPGS/Ppr Size	HLT	CTL*	[0 to 99999999 / 0 / 1]
8-442-010	C:PrtPGS/Ppr Size	Full Bleed	CTL*	[0 to 99999999 / 0 / 1]
8-442-254	C:PrtPGS/Ppr Size	Other (Standard)	CTL*	[0 to 99999999 / 0 / 1]
8-442-255	C:PrtPGS/Ppr Size	Other (Custom)	CTL*	[0 to 99999999 / 0 / 1]
8-443-001	F:PrtPGS/Ppr Size	A3	CTL*	[0 to 99999999 / 0 / 1]
8-443-002	F:PrtPGS/Ppr Size	A4	CTL*	[0 to 99999999 / 0 / 1]
8-443-003	F:PrtPGS/Ppr Size	A5	CTL*	[0 to 99999999 / 0 / 1]
8-443-004	F:PrtPGS/Ppr Size	B4	CTL*	[0 to 99999999 / 0 / 1]
8-443-005	F:PrtPGS/Ppr Size	B5	CTL*	[0 to 99999999 / 0 / 1]
8-443-006	F:PrtPGS/Ppr Size	DLT	CTL*	[0 to 99999999 / 0 / 1]



SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-443-007	F:PrtPGS/Ppr Size	LG	CTL*	[0 to 999999999 / 0 / 1]
8-443-008	F:PrtPGS/Ppr Size	LT	CTL*	[0 to 999999999 / 0 / 1]
8-443-009	F:PrtPGS/Ppr Size	HLT	CTL*	[0 to 999999999 / 0 / 1]
8-443-010	F:PrtPGS/Ppr Size	Full Bleed	CTL*	[0 to 999999999 / 0 / 1]
8-443-254	F:PrtPGS/Ppr Size	Other (Standard)	CTL*	[0 to 999999999 / 0 / 1]
8-443-255	F:PrtPGS/Ppr Size	Other (Custom)	CTL*	[0 to 999999999 / 0 / 1]
8-444-001	P:PrtPGS/Ppr Size	A3	CTL*	[0 to 999999999 / 0 / 1]
8-444-002	P:PrtPGS/Ppr Size	A4	CTL*	[0 to 999999999 / 0 / 1]
8-444-003	P:PrtPGS/Ppr Size	A5	CTL*	[0 to 999999999 / 0 / 1]
8-444-004	P:PrtPGS/Ppr Size	B4	CTL*	[0 to 999999999 / 0 / 1]
8-444-005	P:PrtPGS/Ppr Size	B5	CTL*	[0 to 999999999 / 0 / 1]
8-444-006	P:PrtPGS/Ppr Size	DLT	CTL*	[0 to 999999999 / 0 / 1]
8-444-007	P:PrtPGS/Ppr Size	LG	CTL*	[0 to 999999999 / 0 / 1]
8-444-008	P:PrtPGS/Ppr Size	LT	CTL*	[0 to 999999999 / 0 / 1]
8-444-009	P:PrtPGS/Ppr Size	HLT	CTL*	[0 to 999999999 / 0 / 1]
8-444-010	P:PrtPGS/Ppr Size	Full Bleed	CTL*	[0 to 999999999 / 0 / 1]
8-444-254	P:PrtPGS/Ppr Size	Other (Standard)	CTL*	[0 to 999999999 / 0 / 1]
8-444-255	P:PrtPGS/Ppr Size	Other (Custom)	CTL*	[0 to 999999999 / 0 / 1]
8-445-001	S:PrtPGS/Ppr Size	A3	CTL*	[0 to 999999999 / 0 / 1]
8-445-002	S:PrtPGS/Ppr Size	A4	CTL*	[0 to 999999999 / 0 / 1]
8-445-003	S:PrtPGS/Ppr Size	A5	CTL*	[0 to 999999999 / 0 / 1]
8-445-004	S:PrtPGS/Ppr Size	B4	CTL*	[0 to 999999999 / 0 / 1]
8-445-005	S:PrtPGS/Ppr Size	B5	CTL*	[0 to 999999999 / 0 / 1]
8-445-006	S:PrtPGS/Ppr Size	DLT	CTL*	[0 to 999999999 / 0 / 1]
8-445-007	S:PrtPGS/Ppr Size	LG	CTL*	[0 to 999999999 / 0 / 1]
8-445-008	S:PrtPGS/Ppr Size	LT	CTL*	[0 to 999999999 / 0 / 1]
8-445-009	S:PrtPGS/Ppr Size	HLT	CTL*	[0 to 999999999 / 0 / 1]
8-445-010	S:PrtPGS/Ppr Size	Full Bleed	CTL*	[0 to 999999999 / 0 / 1]
8-445-254	S:PrtPGS/Ppr Size	Other (Standard)	CTL*	[0 to 999999999 / 0 / 1]
8-445-255	S:PrtPGS/Ppr Size	Other (Custom)	CTL*	[0 to 999999999 / 0 / 1]
8-446-001	L:PrtPGS/Ppr Size	A3	CTL*	[0 to 999999999 / 0 / 1]
8-446-002	L:PrtPGS/Ppr Size	A4	CTL*	[0 to 999999999 / 0 / 1]
8-446-003	L:PrtPGS/Ppr Size	A5	CTL*	[0 to 999999999 / 0 / 1]
8-446-004	L:PrtPGS/Ppr Size	B4	CTL*	[0 to 999999999 / 0 / 1]
8-446-005	L:PrtPGS/Ppr Size	B5	CTL*	[0 to 999999999 / 0 / 1]
8-446-006	L:PrtPGS/Ppr Size	DLT	CTL*	[0 to 999999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-446-007	L:PrtPGS/Ppr Size	LG	CTL*	[0 to 999999999 / 0 / 1]
8-446-008	L:PrtPGS/Ppr Size	LT	CTL*	[0 to 999999999 / 0 / 1]
8-446-009	L:PrtPGS/Ppr Size	HLT	CTL*	[0 to 999999999 / 0 / 1]
8-446-010	L:PrtPGS/Ppr Size	Full Bleed	CTL*	[0 to 999999999 / 0 / 1]
8-446-254	L:PrtPGS/Ppr Size	Other (Standard)	CTL*	[0 to 999999999 / 0 / 1]
8-446-255	L:PrtPGS/Ppr Size	Other (Custom)	CTL*	[0 to 999999999 / 0 / 1]
8-447-001	O:PrtPGS/Ppr Size	A3	CTL*	[0 to 999999999 / 0 / 1]
8-447-002	O:PrtPGS/Ppr Size	A4	CTL*	[0 to 999999999 / 0 / 1]
8-447-003	O:PrtPGS/Ppr Size	A5	CTL*	[0 to 999999999 / 0 / 1]
8-447-004	O:PrtPGS/Ppr Size	B4	CTL*	[0 to 999999999 / 0 / 1]
8-447-005	O:PrtPGS/Ppr Size	B5	CTL*	[0 to 999999999 / 0 / 1]
8-447-006	O:PrtPGS/Ppr Size	DLT	CTL*	[0 to 999999999 / 0 / 1]
8-447-007	O:PrtPGS/Ppr Size	LG	CTL*	[0 to 999999999 / 0 / 1]
8-447-008	O:PrtPGS/Ppr Size	LT	CTL*	[0 to 999999999 / 0 / 1]
8-447-009	O:PrtPGS/Ppr Size	HLT	CTL*	[0 to 999999999 / 0 / 1]
8-447-010	O:PrtPGS/Ppr Size	Full Bleed	CTL*	[0 to 999999999 / 0 / 1]
8-447-254	O:PrtPGS/Ppr Size	Other (Standard)	CTL*	[0 to 999999999 / 0 / 1]
8-447-255	O:PrtPGS/Ppr Size	Other (Custom)	CTL*	[0 to 999999999 / 0 / 1]
8-451-001	PrtPGS/Ppr Tray	Bypass Tray	CTL*	[0 to 999999999 / 0 / 1]
8-451-002	PrtPGS/Ppr Tray	Tray 1	CTL*	[0 to 999999999 / 0 / 1]
8-451-003	PrtPGS/Ppr Tray	Tray 2	CTL*	[0 to 999999999 / 0 / 1]
8-451-004	PrtPGS/Ppr Tray	Tray 3	CTL*	[0 to 999999999 / 0 / 1]
8-451-005	PrtPGS/Ppr Tray	Tray 4	CTL*	[0 to 999999999 / 0 / 1]
8-451-006	PrtPGS/Ppr Tray	Tray 5	CTL*	[0 to 999999999 / 0 / 1]
8-451-007	PrtPGS/Ppr Tray	Tray 6	CTL*	[0 to 999999999 / 0 / 1]
8-451-008	PrtPGS/Ppr Tray	Tray 7	CTL*	[0 to 999999999 / 0 / 1]
8-451-009	PrtPGS/Ppr Tray	Tray 8	CTL*	[0 to 999999999 / 0 / 1]
8-451-010	PrtPGS/Ppr Tray	Tray 9	CTL*	[0 to 999999999 / 0 / 1]
8-451-011	PrtPGS/Ppr Tray	Tray 10	CTL*	[0 to 999999999 / 0 / 1]
8-451-012	PrtPGS/Ppr Tray	Tray 11	CTL*	[0 to 999999999 / 0 / 1]
8-451-013	PrtPGS/Ppr Tray	Tray 12	CTL*	[0 to 999999999 / 0 / 1]
8-451-014	PrtPGS/Ppr Tray	Tray 13	CTL*	[0 to 999999999 / 0 / 1]
8-451-015	PrtPGS/Ppr Tray	Tray 14	CTL*	[0 to 999999999 / 0 / 1]
8-451-016	PrtPGS/Ppr Tray	Tray 15	CTL*	[0 to 999999999 / 0 / 1]
8-451-101	PrtPGS/Ppr Tray	LC Inserter	CTL*	[0 to 999999999 / 0 / 1]
8-451-102	PrtPGS/Ppr Tray	3rd Vendor	CTL*	[0 to 999999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-461-001	T:PrtPGS/Ppr Type	Normal	CTL*	[0 to 99999999 / 0 / 1]
8-461-002	T:PrtPGS/Ppr Type	Recycled	CTL*	[0 to 99999999 / 0 / 1]
8-461-003	T:PrtPGS/Ppr Type	Special	CTL*	[0 to 99999999 / 0 / 1]
8-461-004	T:PrtPGS/Ppr Type	Thick	CTL*	[0 to 99999999 / 0 / 1]
8-461-005	T:PrtPGS/Ppr Type	Normal (Back)	CTL*	[0 to 99999999 / 0 / 1]
8-461-006	T:PrtPGS/Ppr Type	Thick (Back)	CTL*	[0 to 99999999 / 0 / 1]
8-461-007	T:PrtPGS/Ppr Type	OHP	CTL*	[0 to 99999999 / 0 / 1]
8-461-008	T:PrtPGS/Ppr Type	Other	CTL*	[0 to 99999999 / 0 / 1]
8-462-001	C:PrtPGS/Ppr Type	Normal	CTL*	[0 to 99999999 / 0 / 1]
8-462-002	C:PrtPGS/Ppr Type	Recycled	CTL*	[0 to 99999999 / 0 / 1]
8-462-003	C:PrtPGS/Ppr Type	Special	CTL*	[0 to 99999999 / 0 / 1]
8-462-004	C:PrtPGS/Ppr Type	Thick	CTL*	[0 to 99999999 / 0 / 1]
8-462-005	C:PrtPGS/Ppr Type	Normal (Back)	CTL*	[0 to 99999999 / 0 / 1]
8-462-006	C:PrtPGS/Ppr Type	Thick (Back)	CTL*	[0 to 99999999 / 0 / 1]
8-462-007	C:PrtPGS/Ppr Type	OHP	CTL*	[0 to 99999999 / 0 / 1]
8-462-008	C:PrtPGS/Ppr Type	Other	CTL*	[0 to 99999999 / 0 / 1]
8-463-001	F:PrtPGS/Ppr Type	Normal	CTL*	[0 to 99999999 / 0 / 1]
8-463-002	F:PrtPGS/Ppr Type	Recycled	CTL*	[0 to 99999999 / 0 / 1]
8-463-003	F:PrtPGS/Ppr Type	Special	CTL*	[0 to 99999999 / 0 / 1]
8-463-004	F:PrtPGS/Ppr Type	Thick	CTL*	[0 to 99999999 / 0 / 1]
8-463-005	F:PrtPGS/Ppr Type	Normal (Back)	CTL*	[0 to 99999999 / 0 / 1]
8-463-006	F:PrtPGS/Ppr Type	Thick (Back)	CTL*	[0 to 99999999 / 0 / 1]
8-463-007	F:PrtPGS/Ppr Type	OHP	CTL*	[0 to 99999999 / 0 / 1]
8-463-008	F:PrtPGS/Ppr Type	Other	CTL*	[0 to 99999999 / 0 / 1]
8-464-001	P:PrtPGS/Ppr Type	Normal	CTL*	[0 to 99999999 / 0 / 1]
8-464-002	P:PrtPGS/Ppr Type	Recycled	CTL*	[0 to 99999999 / 0 / 1]
8-464-003	P:PrtPGS/Ppr Type	Special	CTL*	[0 to 99999999 / 0 / 1]
8-464-004	P:PrtPGS/Ppr Type	Thick	CTL*	[0 to 99999999 / 0 / 1]
8-464-005	P:PrtPGS/Ppr Type	Normal (Back)	CTL*	[0 to 99999999 / 0 / 1]
8-464-006	P:PrtPGS/Ppr Type	Thick (Back)	CTL*	[0 to 99999999 / 0 / 1]
8-464-007	P:PrtPGS/Ppr Type	OHP	CTL*	[0 to 99999999 / 0 / 1]
8-464-008	P:PrtPGS/Ppr Type	Other	CTL*	[0 to 99999999 / 0 / 1]
8-466-001	L:PrtPGS/Ppr Type	Normal	CTL*	[0 to 99999999 / 0 / 1]
8-466-002	L:PrtPGS/Ppr Type	Recycled	CTL*	[0 to 99999999 / 0 / 1]
8-466-003	L:PrtPGS/Ppr Type	Special	CTL*	[0 to 99999999 / 0 / 1]
8-466-004	L:PrtPGS/Ppr Type	Thick	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-466-005	L:PrtPGS/Ppr Type	Normal (Back)	CTL*	[0 to 99999999 / 0 / 1]
8-466-006	L:PrtPGS/Ppr Type	Thick (Back)	CTL*	[0 to 99999999 / 0 / 1]
8-466-007	L:PrtPGS/Ppr Type	OHP	CTL*	[0 to 99999999 / 0 / 1]
8-466-008	L:PrtPGS/Ppr Type	Other	CTL*	[0 to 99999999 / 0 / 1]
8-471-001	PrtPGS/Mag	~49%	CTL*	[0 to 99999999 / 0 / 1]
8-471-002	PrtPGS/Mag	50%~99%	CTL*	[0 to 99999999 / 0 / 1]
8-471-003	PrtPGS/Mag	100%	CTL*	[0 to 99999999 / 0 / 1]
8-471-004	PrtPGS/Mag	101%~200%	CTL*	[0 to 99999999 / 0 / 1]
8-471-005	PrtPGS/Mag	201% ~	CTL*	[0 to 99999999 / 0 / 1]
8-481-001	T:PrtPGS/TonSave		CTL*	[0 to 99999999 / 0 / 1]
8-484-001	P:PrtPGS/TonSave		CTL*	[0 to 99999999 / 0 / 1]
8-511-001	T:PrtPGS/Emul	RPCS	CTL*	[0 to 99999999 / 0 / 1]
8-511-002	T:PrtPGS/Emul	RPDL	CTL*	[0 to 99999999 / 0 / 1]
8-511-003	T:PrtPGS/Emul	PS3	CTL*	[0 to 99999999 / 0 / 1]
8-511-004	T:PrtPGS/Emul	R98	CTL*	[0 to 99999999 / 0 / 1]
8-511-005	T:PrtPGS/Emul	R16	CTL*	[0 to 99999999 / 0 / 1]
8-511-006	T:PrtPGS/Emul	GL/GL2	CTL*	[0 to 99999999 / 0 / 1]
8-511-007	T:PrtPGS/Emul	R55	CTL*	[0 to 99999999 / 0 / 1]
8-511-008	T:PrtPGS/Emul	RTIFF	CTL*	[0 to 99999999 / 0 / 1]
8-511-009	T:PrtPGS/Emul	PDF	CTL*	[0 to 99999999 / 0 / 1]
8-511-010	T:PrtPGS/Emul	PCL5e/5c	CTL*	[0 to 99999999 / 0 / 1]
8-511-011	T:PrtPGS/Emul	PCL XL	CTL*	[0 to 99999999 / 0 / 1]
8-511-012	T:PrtPGS/Emul	IPDL-C	CTL*	[0 to 99999999 / 0 / 1]
8-511-013	T:PrtPGS/Emul	BM-Links	CTL*	[0 to 99999999 / 0 / 1]
8-511-014	T:PrtPGS/Emul	Other	CTL*	[0 to 99999999 / 0 / 1]
8-511-015	T:PrtPGS/Emul	IPDS	CTL*	[0 to 99999999 / 0 / 1]
8-511-016	T:PrtPGS/Emul	XPS	CTL*	[0 to 99999999 / 0 / 1]
8-511-017	T:PrtPGS/Emul	IRIPS PS	CTL*	[0 to 99999999 / 0 / 1]
8-511-018	T:PrtPGS/Emul	IRIPS PDF	CTL*	[0 to 99999999 / 0 / 1]
8-511-019	T:PrtPGS/Emul	PictBridge	CTL*	[0 to 99999999 / 0 / 1]
8-511-020	T:PrtPGS/Emul	MediaPrintTIFF	CTL*	[0 to 99999999 / 0 / 1]
8-511-021	T:PrtPGS/Emul	MediaPrintJPEG	CTL*	[0 to 99999999 / 0 / 1]
8-514-001	P:PrtPGS/Emul	RPCS	CTL*	[0 to 99999999 / 0 / 1]
8-514-002	P:PrtPGS/Emul	RPDL	CTL*	[0 to 99999999 / 0 / 1]
8-514-003	P:PrtPGS/Emul	PS3	CTL*	[0 to 99999999 / 0 / 1]
8-514-004	P:PrtPGS/Emul	R98	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-514-005	P:PrtPGS/Emul	R16	CTL*	[0 to 99999999 / 0 / 1]
8-514-006	P:PrtPGS/Emul	GL/GL2	CTL*	[0 to 99999999 / 0 / 1]
8-514-007	P:PrtPGS/Emul	R55	CTL*	[0 to 99999999 / 0 / 1]
8-514-008	P:PrtPGS/Emul	RTIFF	CTL*	[0 to 99999999 / 0 / 1]
8-514-009	P:PrtPGS/Emul	PDF	CTL*	[0 to 99999999 / 0 / 1]
8-514-010	P:PrtPGS/Emul	PCL5e/5c	CTL*	[0 to 99999999 / 0 / 1]
8-514-011	P:PrtPGS/Emul	PCL XL	CTL*	[0 to 99999999 / 0 / 1]
8-514-012	P:PrtPGS/Emul	IPDL-C	CTL*	[0 to 99999999 / 0 / 1]
8-514-013	P:PrtPGS/Emul	BM-Links	CTL*	[0 to 99999999 / 0 / 1]
8-514-014	P:PrtPGS/Emul	Other	CTL*	[0 to 99999999 / 0 / 1]
8-514-015	P:PrtPGS/Emul	IPDS	CTL*	[0 to 99999999 / 0 / 1]
8-514-016	P:PrtPGS/Emul	XPS	CTL*	[0 to 99999999 / 0 / 1]
8-514-017	P:PrtPGS/Emul	IRIPS PS	CTL*	[0 to 99999999 / 0 / 1]
8-514-018	P:PrtPGS/Emul	IRIPS PDF	CTL*	[0 to 99999999 / 0 / 1]
8-514-019	P:PrtPGS/Emul	PictBridge	CTL*	[0 to 99999999 / 0 / 1]
8-514-020	P:PrtPGS/Emul	MediaPrintTIFF	CTL*	[0 to 99999999 / 0 / 1]
8-514-021	P:PrtPGS/Emul	MediaPrintJPEG	CTL*	[0 to 99999999 / 0 / 1]
8-521-001	T:PrtPGS/FIN	Sort	CTL*	[0 to 99999999 / 0 / 1]
8-521-002	T:PrtPGS/FIN	Stack	CTL*	[0 to 99999999 / 0 / 1]
8-521-003	T:PrtPGS/FIN	Staple	CTL*	[0 to 99999999 / 0 / 1]
8-521-004	T:PrtPGS/FIN	Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-521-005	T:PrtPGS/FIN	Z-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-521-006	T:PrtPGS/FIN	Punch	CTL*	[0 to 99999999 / 0 / 1]
8-521-007	T:PrtPGS/FIN	Other	CTL*	[0 to 99999999 / 0 / 1]
8-521-008	T:PrtPGS/FIN	Inside-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-521-009	T:PrtPGS/FIN	Three-IN-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-521-010	T:PrtPGS/FIN	Three-OUT-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-521-011	T:PrtPGS/FIN	Four-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-521-012	T:PrtPGS/FIN	KANNON-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-521-013	T:PrtPGS/FIN	Perfect-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-521-014	T:PrtPGS/FIN	Ring-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-521-015	T:PrtPGS/FIN	3rd Vendor	CTL*	[0 to 99999999 / 0 / 1]
8-521-016	T:PrtPGS/FIN	TwinLoop-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-522-001	C:PrtPGS/FIN	Sort	CTL*	[0 to 99999999 / 0 / 1]
8-522-002	C:PrtPGS/FIN	Stack	CTL*	[0 to 99999999 / 0 / 1]
8-522-003	C:PrtPGS/FIN	Staple	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-522-004	C:PrtPGS/FIN	Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-522-005	C:PrtPGS/FIN	Z-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-522-006	C:PrtPGS/FIN	Punch	CTL*	[0 to 99999999 / 0 / 1]
8-522-007	C:PrtPGS/FIN	Other	CTL*	[0 to 99999999 / 0 / 1]
8-522-008	C:PrtPGS/FIN	Inside-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-522-009	C:PrtPGS/FIN	Three-IN-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-522-010	C:PrtPGS/FIN	Three-OUT-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-522-011	C:PrtPGS/FIN	Four-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-522-012	C:PrtPGS/FIN	KANNON-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-522-013	C:PrtPGS/FIN	Perfect-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-522-014	C:PrtPGS/FIN	Ring-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-522-015	C:PrtPGS/FIN	3rd Vendor	CTL*	[0 to 99999999 / 0 / 1]
8-522-016	C:PrtPGS/FIN	TwinLoop-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-523-001	F:PrtPGS/FIN	Sort	CTL*	[0 to 99999999 / 0 / 1]
8-523-002	F:PrtPGS/FIN	Stack	CTL*	[0 to 99999999 / 0 / 1]
8-523-003	F:PrtPGS/FIN	Staple	CTL*	[0 to 99999999 / 0 / 1]
8-523-004	F:PrtPGS/FIN	Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-523-005	F:PrtPGS/FIN	Z-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-523-006	F:PrtPGS/FIN	Punch	CTL*	[0 to 99999999 / 0 / 1]
8-523-007	F:PrtPGS/FIN	Other	CTL*	[0 to 99999999 / 0 / 1]
8-523-008	F:PrtPGS/FIN	Inside-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-523-009	F:PrtPGS/FIN	Three-IN-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-523-010	F:PrtPGS/FIN	Three-OUT-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-523-011	F:PrtPGS/FIN	Four-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-523-012	F:PrtPGS/FIN	KANNON-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-523-013	F:PrtPGS/FIN	Perfect-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-523-014	F:PrtPGS/FIN	Ring-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-523-015	F:PrtPGS/FIN	3rd Vendor	CTL*	[0 to 99999999 / 0 / 1]
8-523-016	F:PrtPGS/FIN	TwinLoop-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-524-001	P:PrtPGS/FIN	Sort	CTL*	[0 to 99999999 / 0 / 1]
8-524-002	P:PrtPGS/FIN	Stack	CTL*	[0 to 99999999 / 0 / 1]
8-524-003	P:PrtPGS/FIN	Staple	CTL*	[0 to 99999999 / 0 / 1]
8-524-004	P:PrtPGS/FIN	Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-524-005	P:PrtPGS/FIN	Z-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-524-006	P:PrtPGS/FIN	Punch	CTL*	[0 to 99999999 / 0 / 1]
8-524-007	P:PrtPGS/FIN	Other	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-524-008	P:PrtPGS/FIN	Inside-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-524-009	P:PrtPGS/FIN	Three-IN-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-524-010	P:PrtPGS/FIN	Three-OUT-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-524-011	P:PrtPGS/FIN	Four-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-524-012	P:PrtPGS/FIN	KANNON-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-524-013	P:PrtPGS/FIN	Perfect-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-524-014	P:PrtPGS/FIN	Ring-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-524-015	P:PrtPGS/FIN	3rd Vendor	CTL*	[0 to 99999999 / 0 / 1]
8-524-016	P:PrtPGS/FIN	TwinLoop-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-525-001	S:PrtPGS/FIN	Sort	CTL*	[0 to 99999999 / 0 / 1]
8-525-002	S:PrtPGS/FIN	Stack	CTL*	[0 to 99999999 / 0 / 1]
8-525-003	S:PrtPGS/FIN	Staple	CTL*	[0 to 99999999 / 0 / 1]
8-525-004	S:PrtPGS/FIN	Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-525-005	S:PrtPGS/FIN	Z-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-525-006	S:PrtPGS/FIN	Punch	CTL*	[0 to 99999999 / 0 / 1]
8-525-007	S:PrtPGS/FIN	Other	CTL*	[0 to 99999999 / 0 / 1]
8-525-008	S:PrtPGS/FIN	Inside-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-525-009	S:PrtPGS/FIN	Three-IN-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-525-010	S:PrtPGS/FIN	Three-OUT-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-525-011	S:PrtPGS/FIN	Four-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-525-012	S:PrtPGS/FIN	KANNON-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-525-013	S:PrtPGS/FIN	Perfect-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-525-014	S:PrtPGS/FIN	Ring-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-525-015	S:PrtPGS/FIN	3rd Vendor	CTL*	[0 to 99999999 / 0 / 1]
8-525-016	S:PrtPGS/FIN	TwinLoop-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-526-001	L:PrtPGS/FIN	Sort	CTL*	[0 to 99999999 / 0 / 1]
8-526-002	L:PrtPGS/FIN	Stack	CTL*	[0 to 99999999 / 0 / 1]
8-526-003	L:PrtPGS/FIN	Staple	CTL*	[0 to 99999999 / 0 / 1]
8-526-004	L:PrtPGS/FIN	Booklet	CTL*	[0 to 99999999 / 0 / 1]
8-526-005	L:PrtPGS/FIN	Z-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-526-006	L:PrtPGS/FIN	Punch	CTL*	[0 to 99999999 / 0 / 1]
8-526-007	L:PrtPGS/FIN	Other	CTL*	[0 to 99999999 / 0 / 1]
8-526-008	L:PrtPGS/FIN	Inside-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-526-009	L:PrtPGS/FIN	Three-IN-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-526-010	L:PrtPGS/FIN	Three-OUT-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-526-011	L:PrtPGS/FIN	Four-Fold	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-526-012	L:PrtPGS/FIN	KANNON-Fold	CTL*	[0 to 99999999 / 0 / 1]
8-526-013	L:PrtPGS/FIN	Perfect-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-526-014	L:PrtPGS/FIN	Ring-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-526-015	L:PrtPGS/FIN	3rd Vendor	CTL*	[0 to 99999999 / 0 / 1]
8-526-016	L:PrtPGS/FIN	TwinLoop-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-531-001	Staple	Staples	CTL*	[0 to 99999999 / 0 / 1]
8-531-002	Staple	Stapless	CTL*	[0 to 99999999 / 0 / 1]
8-551-001	T:PrtBooks/FIN	Perfect-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-551-002	T:PrtBooks/FIN	Ring-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-551-003	T:PrtBooks/FIN	TwinLoop-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-552-001	C:PrtBooks/FIN	Perfect-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-552-002	C:PrtBooks/FIN	Ring-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-552-003	C:PrtBooks/FIN	TwinLoop-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-554-001	P:PrtBooks/FIN	Perfect-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-554-002	P:PrtBooks/FIN	Ring-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-554-003	P:PrtBooks/FIN	TwinLoop-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-556-001	L:PrtBooks/FIN	Perfect-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-556-002	L:PrtBooks/FIN	Ring-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-556-003	L:PrtBooks/FIN	TwinLoop-Bind	CTL*	[0 to 99999999 / 0 / 1]
8-561-001	T:A Sheet Of Paper	Total: Over A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-561-002	T:A Sheet Of Paper	Total: Under A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-561-003	T:A Sheet Of Paper	Duplex: Over A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-561-004	T:A Sheet Of Paper	Duplex: Under A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-562-001	C:A Sheet Of Paper	Total: Over A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-562-002	C:A Sheet Of Paper	Total: Under A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-562-003	C:A Sheet Of Paper	Duplex: Over A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-562-004	C:A Sheet Of Paper	Duplex: Under A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-563-001	F:A Sheet Of Paper	Total: Over A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-563-002	F:A Sheet Of Paper	Total: Under A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-563-003	F:A Sheet Of Paper	Duplex: Over A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-563-004	F:A Sheet Of Paper	Duplex: Under A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-564-001	P:A Sheet Of Paper	Total: Over A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-564-002	P:A Sheet Of Paper	Total: Under A3/DLT	CTL*	[0 to 99999999 / 0 / 1]



SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-564-003	P:A Sheet Of Paper	Duplex: Over A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-564-004	P:A Sheet Of Paper	Duplex: Under A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-566-001	L:A Sheet Of Paper	Total: Over A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-566-002	L:A Sheet Of Paper	Total: Under A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-566-003	L:A Sheet Of Paper	Duplex: Over A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-566-004	L:A Sheet Of Paper	Duplex: Under A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-567-001	O:A Sheet Of Paper	Total: Over A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-567-002	O:A Sheet Of Paper	Total: Under A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-567-003	O:A Sheet Of Paper	Duplex: Over A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-567-004	O:A Sheet Of Paper	Duplex: Under A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-581-001	T:Counter	Total	CTL*	[0 to 99999999 / 0 / 1]
8-581-032	T:Counter	Total(A3)	CTL*	[0 to 99999999 / 0 / 1]
8-591-001	O:Counter	A3/DLT	CTL*	[0 to 99999999 / 0 / 1]
8-591-002	O:Counter	Duplex	CTL*	[0 to 99999999 / 0 / 1]
8-601-001	T:Coverage Counter	B/W	CTL*	[0 to 2147483647 / 0 / 1%]
8-601-011	T:Coverage Counter	B/W Printing Pages	CTL*	[0 to 99999999 / 0 / 1]
8-602-001	C:Coverage Counter	B/W	CTL*	[0 to 2147483647 / 0 / 1%]
8-603-001	F:Coverage Counter	B/W	CTL*	[0 to 2147483647 / 0 / 1%]
8-604-001	P:Coverage Counter	B/W	CTL*	[0 to 2147483647 / 0 / 1%]
8-606-001	L:Coverage Counter	B/W	CTL*	[0 to 2147483647 / 0 / 1%]
8-617-001	SDK Apli Counter	SDK-1	CTL*	[0 to 99999999 / 0 / 1]
8-617-002	SDK Apli Counter	SDK-2	CTL*	[0 to 99999999 / 0 / 1]
8-617-003	SDK Apli Counter	SDK-3	CTL*	[0 to 99999999 / 0 / 1]
8-617-004	SDK Apli Counter	SDK-4	CTL*	[0 to 99999999 / 0 / 1]
8-617-005	SDK Apli Counter	SDK-5	CTL*	[0 to 99999999 / 0 / 1]
8-617-006	SDK Apli Counter	SDK-6	CTL*	[0 to 99999999 / 0 / 1]
8-617-007	SDK Apli Counter	SDK-7	CTL*	[0 to 99999999 / 0 / 1]
8-617-008	SDK Apli Counter	SDK-8	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-617-009	SDK Apli Counter	SDK-9	CTL*	[0 to 99999999 / 0 / 1]
8-617-010	SDK Apli Counter	SDK-10	CTL*	[0 to 99999999 / 0 / 1]
8-617-011	SDK Apli Counter	SDK-11	CTL*	[0 to 99999999 / 0 / 1]
8-617-012	SDK Apli Counter	SDK-12	CTL*	[0 to 99999999 / 0 / 1]
8-621-001	Func Use Counter	Function-001	CTL*	[0 to 99999999 / 0 / 1]
8-621-002	Func Use Counter	Function-002	CTL*	[0 to 99999999 / 0 / 1]
8-621-003	Func Use Counter	Function-003	CTL*	[0 to 99999999 / 0 / 1]
8-621-004	Func Use Counter	Function-004	CTL*	[0 to 99999999 / 0 / 1]
8-621-005	Func Use Counter	Function-005	CTL*	[0 to 99999999 / 0 / 1]
8-621-006	Func Use Counter	Function-006	CTL*	[0 to 99999999 / 0 / 1]
8-621-007	Func Use Counter	Function-007	CTL*	[0 to 99999999 / 0 / 1]
8-621-008	Func Use Counter	Function-008	CTL*	[0 to 99999999 / 0 / 1]
8-621-009	Func Use Counter	Function-009	CTL*	[0 to 99999999 / 0 / 1]
8-621-010	Func Use Counter	Function-010	CTL*	[0 to 99999999 / 0 / 1]
8-621-011	Func Use Counter	Function-011	CTL*	[0 to 99999999 / 0 / 1]
8-621-012	Func Use Counter	Function-012	CTL*	[0 to 99999999 / 0 / 1]
8-621-013	Func Use Counter	Function-013	CTL*	[0 to 99999999 / 0 / 1]
8-621-014	Func Use Counter	Function-014	CTL*	[0 to 99999999 / 0 / 1]
8-621-015	Func Use Counter	Function-015	CTL*	[0 to 99999999 / 0 / 1]
8-621-016	Func Use Counter	Function-016	CTL*	[0 to 99999999 / 0 / 1]
8-621-017	Func Use Counter	Function-017	CTL*	[0 to 99999999 / 0 / 1]
8-621-018	Func Use Counter	Function-018	CTL*	[0 to 99999999 / 0 / 1]
8-621-019	Func Use Counter	Function-019	CTL*	[0 to 99999999 / 0 / 1]
8-621-020	Func Use Counter	Function-020	CTL*	[0 to 99999999 / 0 / 1]
8-621-021	Func Use Counter	Function-021	CTL*	[0 to 99999999 / 0 / 1]
8-621-022	Func Use Counter	Function-022	CTL*	[0 to 99999999 / 0 / 1]
8-621-023	Func Use Counter	Function-023	CTL*	[0 to 99999999 / 0 / 1]
8-621-024	Func Use Counter	Function-024	CTL*	[0 to 99999999 / 0 / 1]
8-621-025	Func Use Counter	Function-025	CTL*	[0 to 99999999 / 0 / 1]
8-621-026	Func Use Counter	Function-026	CTL*	[0 to 99999999 / 0 / 1]
8-621-027	Func Use Counter	Function-027	CTL*	[0 to 99999999 / 0 / 1]
8-621-028	Func Use Counter	Function-028	CTL*	[0 to 99999999 / 0 / 1]
8-621-029	Func Use Counter	Function-029	CTL*	[0 to 99999999 / 0 / 1]
8-621-030	Func Use Counter	Function-030	CTL*	[0 to 99999999 / 0 / 1]
8-621-031	Func Use Counter	Function-031	CTL*	[0 to 99999999 / 0 / 1]
8-621-032	Func Use Counter	Function-032	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-621-033	Func Use Counter	Function-033	CTL*	[0 to 99999999 / 0 / 1]
8-621-034	Func Use Counter	Function-034	CTL*	[0 to 99999999 / 0 / 1]
8-621-035	Func Use Counter	Function-035	CTL*	[0 to 99999999 / 0 / 1]
8-621-036	Func Use Counter	Function-036	CTL*	[0 to 99999999 / 0 / 1]
8-621-037	Func Use Counter	Function-037	CTL*	[0 to 99999999 / 0 / 1]
8-621-038	Func Use Counter	Function-038	CTL*	[0 to 99999999 / 0 / 1]
8-621-039	Func Use Counter	Function-039	CTL*	[0 to 99999999 / 0 / 1]
8-621-040	Func Use Counter	Function-040	CTL*	[0 to 99999999 / 0 / 1]
8-621-041	Func Use Counter	Function-041	CTL*	[0 to 99999999 / 0 / 1]
8-621-042	Func Use Counter	Function-042	CTL*	[0 to 99999999 / 0 / 1]
8-621-043	Func Use Counter	Function-043	CTL*	[0 to 99999999 / 0 / 1]
8-621-044	Func Use Counter	Function-044	CTL*	[0 to 99999999 / 0 / 1]
8-621-045	Func Use Counter	Function-045	CTL*	[0 to 99999999 / 0 / 1]
8-621-046	Func Use Counter	Function-046	CTL*	[0 to 99999999 / 0 / 1]
8-621-047	Func Use Counter	Function-047	CTL*	[0 to 99999999 / 0 / 1]
8-621-048	Func Use Counter	Function-048	CTL*	[0 to 99999999 / 0 / 1]
8-621-049	Func Use Counter	Function-049	CTL*	[0 to 99999999 / 0 / 1]
8-621-050	Func Use Counter	Function-050	CTL*	[0 to 99999999 / 0 / 1]
8-621-051	Func Use Counter	Function-051	CTL*	[0 to 99999999 / 0 / 1]
8-621-052	Func Use Counter	Function-052	CTL*	[0 to 99999999 / 0 / 1]
8-621-053	Func Use Counter	Function-053	CTL*	[0 to 99999999 / 0 / 1]
8-621-054	Func Use Counter	Function-054	CTL*	[0 to 99999999 / 0 / 1]
8-621-055	Func Use Counter	Function-055	CTL*	[0 to 99999999 / 0 / 1]
8-621-056	Func Use Counter	Function-056	CTL*	[0 to 99999999 / 0 / 1]
8-621-057	Func Use Counter	Function-057	CTL*	[0 to 99999999 / 0 / 1]
8-621-058	Func Use Counter	Function-058	CTL*	[0 to 99999999 / 0 / 1]
8-621-059	Func Use Counter	Function-059	CTL*	[0 to 99999999 / 0 / 1]
8-621-060	Func Use Counter	Function-060	CTL*	[0 to 99999999 / 0 / 1]
8-621-061	Func Use Counter	Function-061	CTL*	[0 to 99999999 / 0 / 1]
8-621-062	Func Use Counter	Function-062	CTL*	[0 to 99999999 / 0 / 1]
8-621-063	Func Use Counter	Function-063	CTL*	[0 to 99999999 / 0 / 1]
8-621-064	Func Use Counter	Function-064	CTL*	[0 to 99999999 / 0 / 1]
8-631-001	T:FAX TX PGS	B/W(Tel)	CTL*	[0 to 99999999 / 0 / 1]
8-631-101	T:FAX TX PGS	B/W(Cloud)	CTL*	[0 to 99999999 / 0 / 1]
8-633-001	F:FAX TX PGS	B/W(Tel)	CTL*	[0 to 99999999 / 0 / 1]
8-633-101	F:FAX TX PGS	B/W(Cloud)	CTL*	[0 to 99999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-641-001	T:IFAX TX PGS	B/W	CTL*	[0 to 999999999 / 0 / 1]
8-643-001	F:IFAX TX PGS	B/W	CTL*	[0 to 999999999 / 0 / 1]
8-651-001	T:S-to-Email PGS	B/W	CTL*	[0 to 999999999 / 0 / 1]
8-651-002	T:S-to-Email PGS	Color	CTL*	[0 to 999999999 / 0 / 1]
8-655-001	S:S-to-Email PGS	B/W	CTL*	[0 to 999999999 / 0 / 1]
8-655-002	S:S-to-Email PGS	Color	CTL*	[0 to 999999999 / 0 / 1]
8-661-001	T:Deliv PGS/Svr	B/W	CTL*	[0 to 999999999 / 0 / 1]
8-661-002	T:Deliv PGS/Svr	Color	CTL*	[0 to 999999999 / 0 / 1]
8-665-001	S:Deliv PGS/Svr	B/W	CTL*	[0 to 999999999 / 0 / 1]
8-665-002	S:Deliv PGS/Svr	Color	CTL*	[0 to 999999999 / 0 / 1]
8-671-001	T:Deliv PGS/PC	B/W	CTL*	[0 to 999999999 / 0 / 1]
8-671-002	T:Deliv PGS/PC	Color	CTL*	[0 to 999999999 / 0 / 1]
8-675-001	S:Deliv PGS/PC	B/W	CTL*	[0 to 999999999 / 0 / 1]
8-675-002	S:Deliv PGS/PC	Color	CTL*	[0 to 999999999 / 0 / 1]
8-681-001	T:PCFAX TXPGS		CTL*	[0 to 999999999 / 0 / 1]
8-683-001	F:PCFAX TXPGS		CTL*	[0 to 999999999 / 0 / 1]
8-691-001	T:TX PGS/LS		CTL*	[0 to 999999999 / 0 / 1]
8-692-001	C:TX PGS/LS		CTL*	[0 to 999999999 / 0 / 1]
8-693-001	F:TX PGS/LS		CTL*	[0 to 999999999 / 0 / 1]
8-694-001	P:TX PGS/LS		CTL*	[0 to 999999999 / 0 / 1]
8-695-001	S:TX PGS/LS		CTL*	[0 to 999999999 / 0 / 1]
8-696-001	L:TX PGS/LS		CTL*	[0 to 999999999 / 0 / 1]
8-701-001	TX PGS/Port	PSTN-1	CTL*	[0 to 999999999 / 0 / 1]
8-701-002	TX PGS/Port	PSTN-2	CTL*	[0 to 999999999 / 0 / 1]
8-701-003	TX PGS/Port	PSTN-3	CTL*	[0 to 999999999 / 0 / 1]
8-701-004	TX PGS/Port	ISDN(G3,G4)	CTL*	[0 to 999999999 / 0 / 1]
8-701-005	TX PGS/Port	Network	CTL*	[0 to 999999999 / 0 / 1]
8-711-001	T:Scan PGS/Comp	JPEG/JPEG2000	CTL*	[0 to 999999999 / 0 / 1]
8-711-002	T:Scan PGS/Comp	TIFF(Multi/Single)	CTL*	[0 to 999999999 / 0 / 1]
8-711-003	T:Scan PGS/Comp	PDF	CTL*	[0 to 999999999 / 0 / 1]
8-711-004	T:Scan PGS/Comp	Other	CTL*	[0 to 999999999 / 0 / 1]
8-711-005	T:Scan PGS/Comp	PDF/Comp	CTL*	[0 to 999999999 / 0 / 1]
8-711-006	T:Scan PGS/Comp	PDF/A	CTL*	[0 to 999999999 / 0 / 1]
8-711-007	T:Scan PGS/Comp	PDF(OCR)	CTL*	[0 to 999999999 / 0 / 1]
8-711-008	T:Scan PGS/Comp	PDF/Comp(OCR)	CTL*	[0 to 999999999 / 0 / 1]
8-711-009	T:Scan PGS/Comp	PDF/A(OCR)	CTL*	[0 to 999999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-715-001	S:Scan PGS/Comp	JPEG/JPEG2000	CTL*	[0 to 999999999 / 0 / 1]
8-715-002	S:Scan PGS/Comp	TIFF(Multi/Single)	CTL*	[0 to 999999999 / 0 / 1]
8-715-003	S:Scan PGS/Comp	PDF	CTL*	[0 to 999999999 / 0 / 1]
8-715-004	S:Scan PGS/Comp	Other	CTL*	[0 to 999999999 / 0 / 1]
8-715-005	S:Scan PGS/Comp	PDF/Comp	CTL*	[0 to 999999999 / 0 / 1]
8-715-006	S:Scan PGS/Comp	PDF/A	CTL*	[0 to 999999999 / 0 / 1]
8-715-007	S:Scan PGS/Comp	PDF(OCR)	CTL*	[0 to 999999999 / 0 / 1]
8-715-008	S:Scan PGS/Comp	PDF/Comp(OCR)	CTL*	[0 to 999999999 / 0 / 1]
8-715-009	S:Scan PGS/Comp	PDF/A(OCR)	CTL*	[0 to 999999999 / 0 / 1]
8-721-001	T:Deliv PGS/WSD/DSM	B/W	CTL*	[0 to 999999999 / 0 / 1]
8-721-002	T:Deliv PGS/WSD/DSM	Color	CTL*	[0 to 999999999 / 0 / 1]
8-725-001	S:Deliv PGS/WSD/DSM	B/W	CTL*	[0 to 999999999 / 0 / 1]
8-725-002	S:Deliv PGS/WSD/DSM	Color	CTL*	[0 to 999999999 / 0 / 1]
8-731-001	T:Scan PGS/Media	B/W	CTL*	[0 to 999999999 / 0 / 1]
8-731-002	T:Scan PGS/Media	Color	CTL*	[0 to 999999999 / 0 / 1]
8-735-001	S:Scan PGS/Media	B/W	CTL*	[0 to 999999999 / 0 / 1]
8-735-002	S:Scan PGS/Media	Color	CTL*	[0 to 999999999 / 0 / 1]
8-741-001	RX PGS/Port	PSTN-1	CTL*	[0 to 999999999 / 0 / 1]
8-741-002	RX PGS/Port	PSTN-2	CTL*	[0 to 999999999 / 0 / 1]
8-741-003	RX PGS/Port	PSTN-3	CTL*	[0 to 999999999 / 0 / 1]
8-741-004	RX PGS/Port	ISDN(G3,G4)	CTL*	[0 to 999999999 / 0 / 1]
8-741-005	RX PGS/Port	Network	CTL*	[0 to 999999999 / 0 / 1]
8-771-001	Dev Counter	Total	CTL*	[0 to 999999999 / 0 / 1]
8-781-001	Toner_BotoI_Info.	BK	CTL*	[0 to 999999999 / 0 / 1]
8-791-001	LS Memory Remain		CTL*	[0 to 100 / 0 / 1%]
8-801-001	Toner Remain	K	CTL*	[0 to 100 / 0 / 1%]
8-811-001	Eco Counter	Eco Total	CTL*	[0 to 999999999 / 0 / 1]
8-811-004	Eco Counter	Duplex	CTL*	[0 to 999999999 / 0 / 1]
8-811-005	Eco Counter	Combine	CTL*	[0 to 999999999 / 0 / 1]
8-811-008	Eco Counter	Duplex(%)	CTL*	[0 to 100 / 0 / 1%]
8-811-009	Eco Counter	Combine(%)	CTL*	[0 to 100 / 0 / 1%]
8-811-010	Eco Counter	Paper Cut(%)	CTL*	[0 to 100 / 0 / 1%]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-811-051	Eco Counter	Sync Eco Total	CTL*	[0 to 999999999 / 0 / 1]
8-811-054	Eco Counter	Sync Duplex	CTL*	[0 to 999999999 / 0 / 1]
8-811-055	Eco Counter	Sync Combine	CTL*	[0 to 999999999 / 0 / 1]
8-811-058	Eco Counter	Sync Duplex(%)	CTL*	[0 to 100 / 0 / 1%]
8-811-059	Eco Counter	Sync Combine(%)	CTL*	[0 to 100 / 0 / 1%]
8-811-060	Eco Counter	Sync Paper Cut(%)	CTL*	[0 to 100 / 0 / 1%]
8-811-101	Eco Counter	Eco Totalr>Last	CTL*	[0 to 999999999 / 0 / 1]
8-811-104	Eco Counter	Duplexr>Last	CTL*	[0 to 999999999 / 0 / 1]
8-811-105	Eco Counter	Combiner>Last	CTL*	[0 to 999999999 / 0 / 1]
8-811-108	Eco Counter	Duplex(%):Last	CTL*	[0 to 100 / 0 / 1%]
8-811-109	Eco Counter	Combine(%):Last	CTL*	[0 to 100 / 0 / 1%]
8-811-110	Eco Counter	Paper Cut(%):Last	CTL*	[0 to 100 / 0 / 1%]
8-811-151	Eco Counter	Sync Eco Totalr>Last	CTL*	[0 to 999999999 / 0 / 1]
8-811-154	Eco Counter	Sync Duplexr>Last	CTL*	[0 to 999999999 / 0 / 1]
8-811-155	Eco Counter	Sync Combiner>Last	CTL*	[0 to 999999999 / 0 / 1]
8-811-158	Eco Counter	Sync Duplex(%):Last	CTL*	[0 to 100 / 0 / 1%]
8-811-159	Eco Counter	Sync Combine(%):Last	CTL*	[0 to 100 / 0 / 1%]
8-811-160	Eco Counter	Sync Paper Cut(%):Last	CTL*	[0 to 100 / 0 / 1%]
8-851-011	Cvr Cnt:0-10%	0~2%:BK	CTL*	[0 to 999999999 / 0 / 1]
8-851-021	Cvr Cnt:0-10%	3~4%:BK	CTL*	[0 to 999999999 / 0 / 1]
8-851-031	Cvr Cnt:0-10%	5~7%:BK	CTL*	[0 to 999999999 / 0 / 1]
8-851-041	Cvr Cnt:0-10%	8~10%:BK	CTL*	[0 to 999999999 / 0 / 1]
8-861-001	Cvr Cnt:11-20%	BK	CTL*	[0 to 999999999 / 0 / 1]
8-871-001	Cvr Cnt:21-30%	BK	CTL*	[0 to 999999999 / 0 / 1]
8-881-001	Cvr Cnt:31%-	BK	CTL*	[0 to 999999999 / 0 / 1]
8-891-001	Page/Toner Bottle	BK	CTL*	[0 to 999999999 / 0 / 1]
8-901-001	Page/Toner_Prev1	BK	CTL*	[0 to 999999999 / 0 / 1]
8-911-001	Page/Toner_Prev2	BK	CTL*	[0 to 999999999 / 0 / 1]
8-921-001	Cvr Cnt/Total	Coverage(%):BK	CTL*	[0 to 2147483647 / 0 / 1%]
8-921-011	Cvr Cnt/Total	Coverage/P:BK	CTL*	[0 to 999999999 / 0 / 1]
8-941-001	Machine Status	Operation Time	CTL*	[0 to 999999999 / 0 / 1]
8-941-002	Machine Status	Standby Time	CTL*	[0 to 999999999 / 0 / 1]
8-941-003	Machine Status	Energy Save Time	CTL*	[0 to 999999999 / 0 / 1]

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-941-004	Machine Status	Low Power Time	CTL*	[0 to 999999999 / 0 / 1]
8-941-005	Machine Status	Off Mode Time	CTL*	[0 to 999999999 / 0 / 1]
8-941-006	Machine Status	SC	CTL*	[0 to 999999999 / 0 / 1]
8-941-007	Machine Status	PrtJam	CTL*	[0 to 999999999 / 0 / 1]
8-941-008	Machine Status	OrgJam	CTL*	[0 to 999999999 / 0 / 1]
8-941-009	Machine Status	Supply PM Unit End	CTL*	[0 to 999999999 / 0 / 1]
8-951-001	AddBook Register	User Code /User ID	CTL*	[0 to 99999 / 0 / 1]
8-951-002	AddBook Register	Mail Address	CTL*	[0 to 99999 / 0 / 1]
8-951-003	AddBook Register	Fax Destination	CTL*	[0 to 99999 / 0 / 1]
8-951-004	AddBook Register	Group	CTL*	[0 to 99999 / 0 / 1]
8-951-005	AddBook Register	Transfer Request	CTL*	[0 to 99999 / 0 / 1]
8-951-006	AddBook Register	F-Code	CTL*	[0 to 99999 / 0 / 1]
8-951-007	AddBook Register	Copy Program	CTL*	[0 to 255 / 0 / 1]
8-951-008	AddBook Register	Fax Program	CTL*	[0 to 255 / 0 / 1]
8-951-009	AddBook Register	Printer Program	CTL*	[0 to 255 / 0 / 1]
8-951-010	AddBook Register	Scanner Program	CTL*	[0 to 255 / 0 / 1]
8-961-001	Electricity Status	Ctrl Standby Time	CTL*	[0 to 999999999 / 0 / 1]
8-961-002	Electricity Status	STR Time	CTL*	[0 to 999999999 / 0 / 1]
8-961-003	Electricity Status	Main Power Off Time	CTL*	[0 to 999999999 / 0 / 1]
8-961-004	Electricity Status	Reading and Printing Time	CTL*	[0 to 999999999 / 0 / 1]
8-961-005	Electricity Status	Printing Time	CTL*	[0 to 999999999 / 0 / 1]
8-961-006	Electricity Status	Reading Time	CTL*	[0 to 999999999 / 0 / 1]
8-961-007	Electricity Status	Eng Waiting Time	CTL*	[0 to 999999999 / 0 / 1]
8-961-008	Electricity Status	Low Power State Time	CTL*	[0 to 999999999 / 0 / 1]
8-961-009	Electricity Status	Silent State Time	CTL*	[0 to 999999999 / 0 / 1]
8-961-010	Electricity Status	Heater Off State Time	CTL*	[0 to 999999999 / 0 / 1]
8-961-011	Electricity Status	LCD on Time	CTL*	[0 to 999999999 / 0 / 1]
8-961-101	Electricity Status	Silent Print	CTL*	[0 to 999999999 / 0 / 1]
8-971-001	Unit Control	Engine Off Recovery Count	CTL*	[0 to 999999999 / 0 / 1]
8-971-002	Unit Control	Power Off Count	CTL*	[0 to 999999999 / 0 / 1]
8-971-003	Unit Control	Force Power Off Count	CTL*	[0 to 999999999 / 0 / 1]
8-999-001	Admin. Counter List	Total	CTL*	[0 to 999999999 / 0 / 1]

SP8-XXX (Data Log 2) - Controller

SP No.	Large Category	Small Category	ENG or CTL	[Min to Max / Init. / Step]
8-999-003	Admin. Counter List	Copy: BW	CTL*	[0 to 999999999 / 0 / 1]
8-999-007	Admin. Counter List	Printer: BW	CTL*	[0 to 999999999 / 0 / 1]
8-999-010	Admin. Counter List	Fax Print: BW	CTL*	[0 to 999999999 / 0 / 1]
8-999-013	Admin. Counter List	Duplex	CTL*	[0 to 999999999 / 0 / 1]
8-999-023	Admin. Counter List	Copy: BW(%)	CTL*	[0 to 2147483647 / 0 / 1]
8-999-027	Admin. Counter List	Printer: BW(%)	CTL*	[0 to 2147483647 / 0 / 1]
8-999-030	Admin. Counter List	Fax Print: BW(%)	CTL*	[0 to 2147483647 / 0 / 1]
8-999-101	Admin. Counter List	Transmission Total: Color	CTL*	[0 to 999999999 / 0 / 1]
8-999-102	Admin. Counter List	Transmission Total: BW	CTL*	[0 to 999999999 / 0 / 1]
8-999-103	Admin. Counter List	FAX Transmission	CTL*	[0 to 999999999 / 0 / 1]
8-999-104	Admin. Counter List	Scanner Transmission: Color	CTL*	[0 to 999999999 / 0 / 1]
8-999-105	Admin. Counter List	Scanner Transmission: BW	CTL*	[0 to 999999999 / 0 / 1]



## 5.11 SCANNER SP MODE

### 5.11.1 SP1-XXX (SYSTEM AND OTHERS)

1001	<b>[Scan Nv Version]</b>		
	<p>Operates automatic initialization to ensure that scanner NV is initialized if necessary. To do this SP, specify the version of scanner NV within 9 characters. "Function name"_"Machine code"_"Serial number" - Function name: Enter "3". - Machine code: Enter the machine code with three characters. - Serial number: Enter the number (default: 001).</p>		
1-001-005	-	CTL*	-
1005	<b>[Erase margin]</b>		
	<p>Creates an erase margin for all edges of the scanned image. If the machine has scanned the edge of the original, create a margin. This SP is activated only when the machine uses TWAIN scanning.</p>		
1-005-001	Range from 0 to 5 mm	CTL*	[0 to 5 / 0 / 1 mm]
1009	<b>[Remote scan disable]</b>		
	Enable or disable remote scan.		
1-009-001	0:Enable 1:Disable	CTL*	[0 or 1 / 0 / - ] 0: enable, 1: disable
1010	<b>[Non Display Clear Light PDF]</b>		
	Enable or disable remote scan.		
1-010-001	0:Enable 1:Disable	CTL*	[0 or 1 / 0 / - ] 0: Display, 1: No display
1011	<b>[Org count Disp]</b>		
	<p>Selects the original counter display. 0: Displays remaining memory for the original scanning.. 1: Displays original counter.</p>		
1-011-001	0:ON 1:OFF	CTL*	[0 or 1 / 0 / - ]
1012	<b>[UserInfo release]</b>		
	<p>Clear the following settings: Address, Sender, Text / Subject, Filename</p>		

1-012-001	0:NO 1:YES	CTL*	[0 or 1 / 1 / - ] 0: No, 1: Yes
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<b>1013</b>	<b>[Scan to Media Device Setting]</b> On or off multimedia function		
1-013-001	0:OFF 1:ON	CTL*	[0 or 1 / 1 / - ] 0: OFF, 1: ON

<b>1014</b>	<b>[Scan to Folder Pass Input Set]</b>		
1-014-001	0:OFF 1:ON	CTL*	[0 or 1 / 0 / - ] 0: OFF, 1: ON

<b>1016</b>	<b>[Scan To Email Sender Address]</b>		
1-016-001	0:OFF 1:ON	CTL*	[0 or 1 / 0 / - ] 0: OFF, 1: ON

<b>1040</b>	<b>[Scan:LT/LG Mixed Size Setting]</b>		
1-040-001	0:OFF 1:ON	CTL*	[0 or 1 / * / - ] NA: 1, Other: 0 0: OFF, 1: ON

<b>1041</b>	<b>[Scan:FlairAPI Setting]</b>		
1-041-001	0x00 – 0xff	CTL*	[ - / <b>00000000</b> / - ]

<b>1042</b>	<b>[Email Date Setting]</b>		
1-042-001	Setting Range: 0-3	CTL*	[0 to 3 / 0 / - ] 0: Follow language setting 1: MM/DD/YYYY 2: DD/MM/YYYY 3: YYYY/MM/DD

<b>1043</b>	<b>[Result Screen Doc Name Display]</b>		
1-043-001	0:Nondisplay 1:Display	CTL*	[0 or 1 / 0 / - ] 0: No Display, 1: display

### 5.11.2 SP2-XXX, SP3-XXX (SCANNING-IMAGE QUALITY)

<b>2021</b>	<b>[Compression Level (Grayscale)]</b> Selects the compression ratio for grayscale processing mode (JPEG) for the three		
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	settings that can be selected at the operation panel.		
2-021-001	Comp 1: 5-95	CTL*	[5 to 95 / <b>20</b> / 1 /step ]
2-021-002	Comp 2: 5-95		[5 to 95 / <b>40</b> / 1 /step ]
2-021-003	Comp 3: 5-95		[5 to 95 / <b>65</b> / 1 /step ]
2-021-004	Comp 4: 5-95		[5 to 95 / <b>80</b> / 1 /step ]
2-021-005	Comp 5: 5-95		[5 to 95 / <b>95</b> / 1 /step ]

<b>2023</b>	<b>[ClearLightPDF:ACS Setting]</b>		
2-023-001	0:OFF 1:ON	CTL*	[0 or 1 / <b>1</b> / 1]

<b>2024</b>	<b>[Compression ratio of ClearLight PDF]</b> Selects the compression ratio for clearlight PDF for the two settings that can be selected at the operation panel.		
2-024-001	Compression Ratio (Normal)	CTL*	[5 to 95 / <b>25</b> / 1 /step ]
2-024-002	Compression Ratio (High)		[5 to 95 / <b>15</b> / 1 /step ]

<b>2025</b>	<b>[Compression ratio of ClearLight PDF JPEG2000]</b> Selects the compression ratio for clearlight PDF for the two settings that can be selected at the operation panel.		
2-025-001	Compression Ratio (Normal) JPEG2000	CTL*	[5 to 95 / <b>25</b> / 1 /step ]
2-025-002	Compression Ratio (High) JPEG2000		[5 to 95 / <b>15</b> / 1 /step ]

<b>2030</b>	<b>[OCR PDF DetectSens]</b>		
2-030-001	White Lumi Value: 0 - 255	CTL*	[0 to 255 / <b>250</b> / -]
2-030-002	White Pix Ratio: 0 - 100		[0 to 100 / <b>80</b> / -]
2-030-003	White Tile Ratio: 0 - 100		[0 to 100 / <b>80</b> / -]

<b>2030</b>	<b>[Vertical Judgment Setting]</b>		
2-031-001	Function Setting: 0 - 1	CTL*	[0 or 1 / <b>0</b> / 1]
2-031-002	Algorithm Setting: 0 - 2		[0 or 2 / <b>0</b> / 1]

<b>3036</b>	<b>[HighCompressPDF PrioritySetng]</b>		
3-036-001	0:Generate PDF 1:Handling Speed	CTL*	[0 or 1 / <b>1</b> / 1]

<b>3037</b>	<b>[flate Compression Setting]</b>		
3-037-001	0:Disable 1:Enable	CTL*	[0 or 1 / <b>1</b> / 1]



# SOFTWARE CONFIGURATION

REVISION HISTORY		
Page	Date	Added/Updated/New
		None



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## 6. SOFTWARE CONFIGURATION

### 6.1 PRINTING FEATURES

#### 6.1.1 BEHAVIOR OF USB PRINTER DETECTION

An MFP/LP connected via USB sends its product name and unique serial number. With the data, the machine determines whether requires a printer driver for the USB device to be installed.

SP5-844-005 allows you to change how to determine the MFP/LP requires a printer driver installation:

- **OFF**  
If SP5-844-005 is set to OFF, the unique serial number of the device is sent to the computer. As a result, if the device is swapped out for a device of the same product, pop-up messages will appear, because the serial numbers between the two are different.
- **Level 1**  
If SP5-844-005 is set to Level 1, a common serial number for the product such as "MP 305+" series is sent to the computer. As a result, if the device is swapped out for a device of the same product, pop-up messages will not appear because the devices are recognized as having the same serial number.
- **Level 2**  
If SP5-844-005 is set to Level 2, a common serial number for all GW/GW+ models is sent to the computer. As a result, if a GW/GW+ device is swapped out for a different GW/GW+ device, pop-up messages will not appear because the devices are both recognized as being based on GW/GW+.

#### 6.1.2 AUTO PDL DETECTION FUNCTION

##### **Overview**

The Auto PDL Detection function gives the MFP the ability to determine the PDL of a job or of specific parts of a job. This can be especially useful in cases where the PDL is not specified or if the job contains multiple PDLs.

##### **Conditions for detection of the PDL**

The MFP will only attempt to detect a job's PDL if all of the following conditions are met.

- No @PJL ENTER LANGUAGE command is contained in the job
- No submission protocol options (lpr, ftp, rcp, or rsh options) have been used to specify the PDL
- User Tools > Printer > System > Printer Language = Auto

### ***PDL detection by the printer system, PCL interpreter and PS interpreter***

There are 3 components in the printer which can perform Auto PDL Detection:

1. **Printer system:**

Uses a set of triggers unique to PCL5, PS or PDF. Up to 2KB from the start of the job can be searched for triggers.

2. **PCL interpreter:**

It can detect PS triggers in PCL data. If a PS trigger is detected, the PCL interpreter will abort processing and return the unprocessed part of the job back to the printer system. Up to 256 bytes from the start of each page can be searched for triggers.

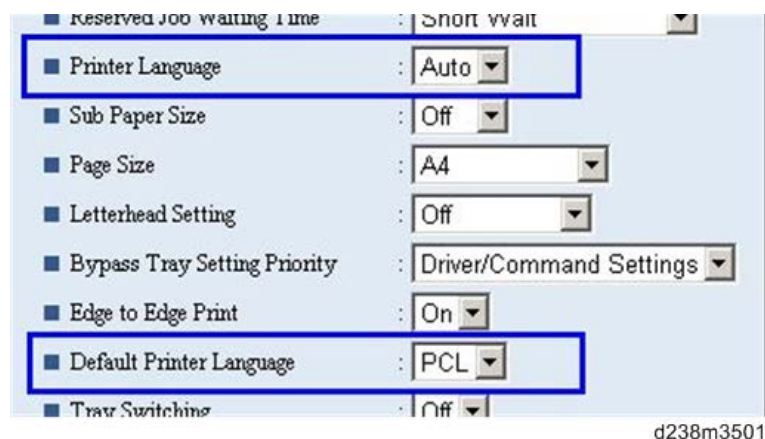
3. **PS interpreter:**

It can detect PCL5 triggers in PS data. If a PCL trigger is detected, the PS interpreter will abort processing and return the unprocessed part of the job back to the printer system. The entire page (regardless of the number of bytes) is searched for triggers.

**Note**

- 2. and 3. can be disabled using Printer Bit Switch 2-3=1.
- If the "Printer Language" is configured to anything other than Auto, all detection will be disabled.
- An interpreter submits a job page by page to the rasterizer. Therefore, when an interpreter detects a trigger mid-job, the previous pages will have already been submitted and will be output using the previously detected PDL.
- If the PDL cannot be detected by the printer system, then the PDL defaults to the one configured in "Configuration > Printer Basic Settings > Default Printer Language".

### **The Printer Language setting and Default Printer Language setting in WIM:**

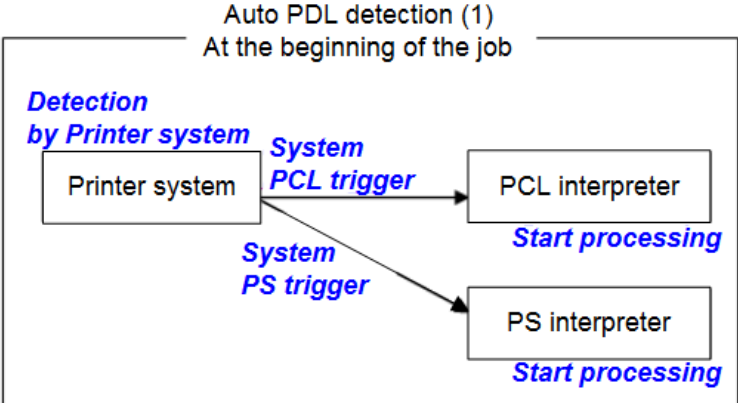


### ***PDL selection and switching***

3 types of PDL selection/switching are performed:

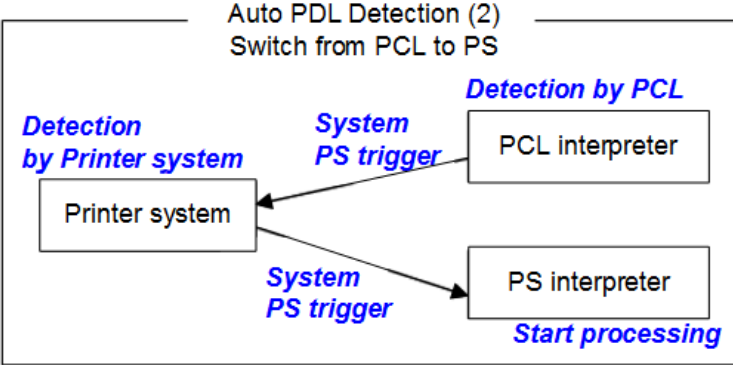


1. PDL selection (PCL5 or PS (including PDF)) at the beginning of the job: performed by the printer system



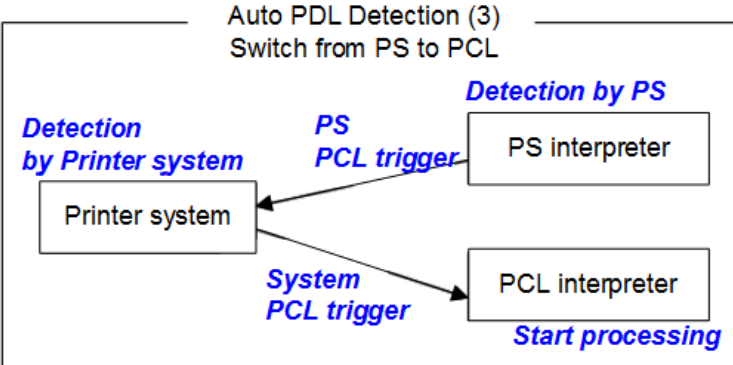
w\_d238m3502\_en

2. PDL switching from PCL5 to PS: performed by the PCL interpreter and the printer system



w\_d238m3503\_en

3. PDL switching from PS to PCL5: performed by the PS interpreter and the printer system



w\_d238m3504\_en

**Triggers**

**Printer system**

PCL5 triggers	[ESC]E [FF]
PS triggers	%!PS-Adobe-3.1 %! dict begin bind def findfont showpage /statusdict 0 startjob [EOT] 0x04 "}" + space character + "def" userdict 0x14

PDF triggers	%PDF- %!PS-Adobe-M.nPDF- (*M, n=numeric)
--------------	---

\* "userdict" is excluded by configuring Printer Bit Switch 5-3=1.

**Note**

- Up to 2KB from the start of the job can be searched for triggers.
- By configuring Printer Bit Switch 5-3=1:
  - "%%" can be added to the PS triggers
  - "userdict" is excluded
- If a job is identified as PDF, it will be sent to the PS interpreter to be processed as a regular PS job.

**PS interpreter**

PCL5 trigger	[ESC]E and 2 or more continuous PCL commands
--------------	--

**Note**

- Up to 256 bytes from the start of each page can be searched for triggers.

**Some possible problems**

**Garbled output:**

If a string of characters (or binary data) is mistaken as a trigger and an incorrect PDL is applied, the output will be garbled.

**Incorrect printer settings:**

Printer settings, for example the paper size, is incorrectly applied. This can happen when the printer settings at the beginning of the job are initialized before a PDL switch occurred and no settings were configured for the rest of the job.

**Printer Bit Switch description**

**Bit Switch 2-3**

This controls Auto PDL Detection by the PCL interpreter and PS interpreter.

BitSW 2-3=0 (default):

If PDL switching is applied to the job, all of the printer system, PCL interpreter and PS interpreter will search for switching criteria (triggers).

BitSW 2-3=1:

Only the printer system will search for switching criteria (triggers). PCL/PS interpreters will not.

**Bit Switch 5-3**

This affects the PDL switching criteria (triggers) used by the printer system.

BitSW 5-3=0 (default):

"%" is not used as a printer system PS trigger. "%" will not call the PS interpreter.

BitSW 5-3=1:

"%%" is used as a printer system PS trigger.

The reason that "%%" is not included as a trigger by default, is that a string of text in the body of the job such as the below, could result in a false positive. This would trigger a switch and result garbled output.

%%%%%%%%%

However some customers prefer that "%%" be included as a switching criteria. BitSW5-3=1 should be used in such a case.

**Note**

- A side effect of BitSW5-3=1 is that "userdict" will no longer be used as a PS trigger.

### Bit Switch 9-0

These determine whether Auto PDL Detection for print jobs transmitted via USB/parallel will wait 10 seconds to make sure the first 2KB of the job has been sent.

The Printer system portion of the Auto PDL Detection function is only performed on the first 2KB of a job and can wait up to 10 seconds for that first 2KB to arrive. As the printer is unable to detect the end of jobs submitted over a USB/Parallel connection, it might be preferable to not wait 10 seconds if jobs of less than 2KB are going to be printed. Enabling/disabling this waiting time is the purpose of BitSw 9-0.

BitSw 9-0=0 (default):

The printer system will not wait 10 seconds for the first 2KB of data to arrive.

BitSw 9-0=1:

The printer system will wait up to 10 seconds for the first 2KB of data to arrive.

## 6.1.3 PRINT IMAGES ROTATION

### *Printer Bit Switch description*

#### Bit Switch 5-6

This change the way an MFP/LP rotates PCL, PS, PDF, or RPCS print images.

BitSW 5-6=0 (default):

A uniform binding edge (short or long edge) will be applied to every page of every job. Pages will always be rotated as if they were to be bound on that edge.

BitSW 5-6=1:

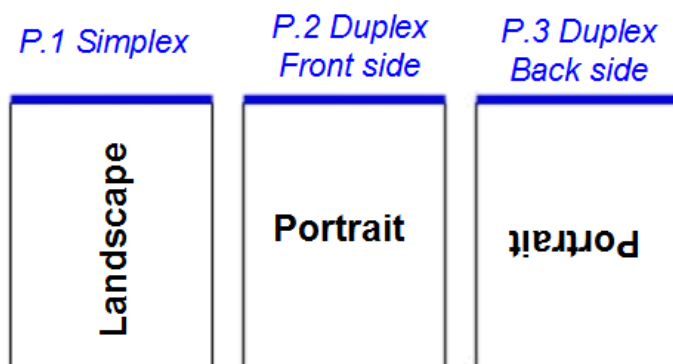
A uniform binding edge (short or long edge) will only be applied if the job is stapled, punched, or Z-folded. Otherwise, the bound edge might differ from page to page.

Example:

A 3-page job. Page 1 has the PCL simplex command. Page 2 and 3 have the PCL duplex long-edge bind commands.

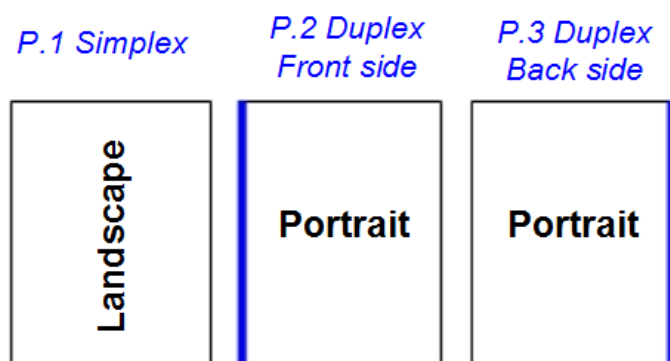
No finishing options (staple, punch, z-fold) are used.

**Bit Switch #5-6=0:**



w\_d238m3505\_en

**Bit Switch #5-6=1:**



W\_d238m3506\_en

**Note**

- Used in conjunction with Bit Switch #5-6, Orientation Auto Detect for PS/PDF jobs might cause unexpected results.

## 6.1.4 PJL USTATUS

### *Printer Bit Switch description*

#### **Bit Switch 9-4**

These control the way PJL USTATUS returns page count totals in cases where multiple copies of a job are being printed.

BitSw 9-4=0 (default):

This change the way an MFP/LP rotates PCL, PS, PDF, or RPCS print images.

1. The page count for a single copy is returned after the first copy is printed.
2. The page count for the rest of the copies, excluding the first copy, is returned after all copies have been printed.
3. This emulates an older HP PCL firmware spec. It is only needed for compatibility with legacy software.

BitSw 9-4=1:

The page count for all copies is output after all copies have been printed.

This emulates more recent HP PCL firmware specs.

For example, consider 3 copies of a 3 page job:

**9-4 = 0**

@PJL USTATUS JOB

START

NAME="TEST\_page1-3"

@PJL USTATUS PAGE

1

@PJL USTATUS PAGE

2

@PJL USTATUS PAGE

3

@PJL USTATUS JOB

END

NAME="TEST\_page1-3"

PAGES=3

<comment> The page count of the first copy is returned.</comment>

@PJL USTATUS PAGE

1

@PJL USTATUS PAGE

2

@PJL USTATUS PAGE

3

@PJL USTATUS PAGE

4

@PJL USTATUS PAGE

5

@PJL USTATUS PAGE

6

<comment> The page count of the remaining two copies is returned.</comment>

**9-4 = 1**

@PJL USTATUS JOB

START

NAME="Microsoft Word - TEST\_page1-3"

@PJL USTATUS PAGE

1

@PJL USTATUS PAGE

2

@PJL USTATUS PAGE

## Printing Features

```
3
@PJL USTATUS PAGE
4
@PJL USTATUS PAGE
5
@PJL USTATUS PAGE
6@PJL USTATUS PAGE
7
@PJL USTATUS PAGE
8
@PJL USTATUS PAGE
9
@PJL USTATUS JOB
END
NAME="Microsoft Word - TEST_page1-3"
PAGES=9
<comment> The page count of all three copies is returned.</comment>
```

### 6.1.5 ADJUSTMENT

#### *User Code Authentication to Restrict Color Printing*

##### **The Effect of Bit Switch 8-3 on Host Printing with User Code Authentication**

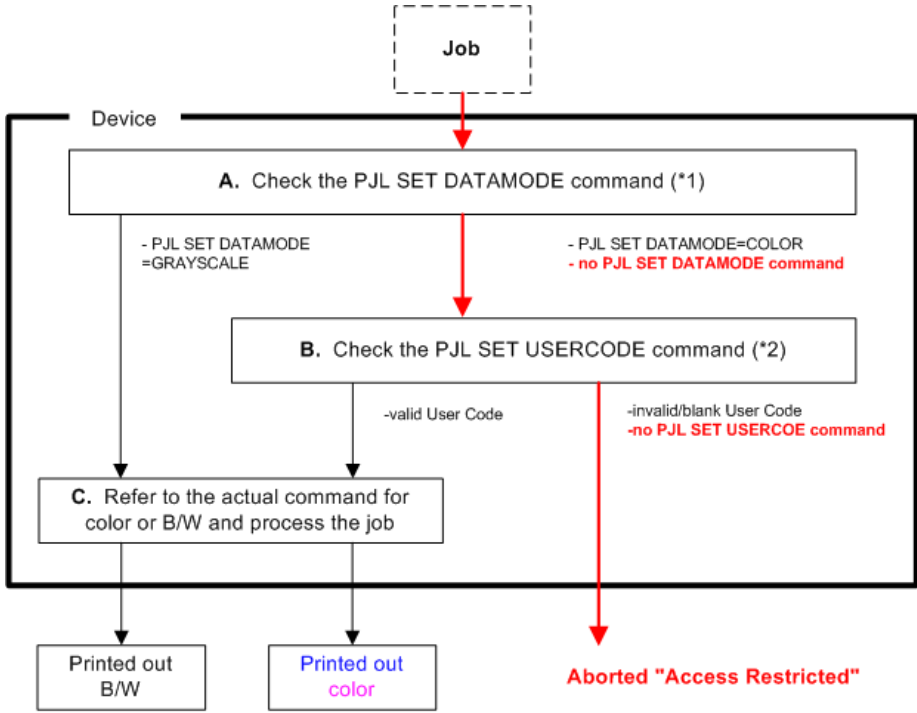
This page explains the difference between the default configuration of the device and the effect of enabling Bit Switch 8-3.

If a GW device is running User Code Authentication to restrict color printing and the host system does not add the necessary commands to the print job, the default configuration is for a job that does not include the PJL SET DATAMODE command to be aborted. However, if Bit Switch 8-3 is enabled, a job that does not include the PJL SET DATAMODE command is forced to print in black and white instead.

Flow charts illustrating the process of the Bit Switch 8-3 settings in more detail are included in the sections below.

##### **Default Configuration: Bit Switch 8-3 not enabled (Set to 0)**

In the following flow chart, the lines and comments in **Red** represent the processing path of a host system's print job in a default case:



w\_m0b0m2001\_en

(\*1) In a PS job, the command is RCsetdevicecolor, and divided by its value, (gray) or (cmyk).

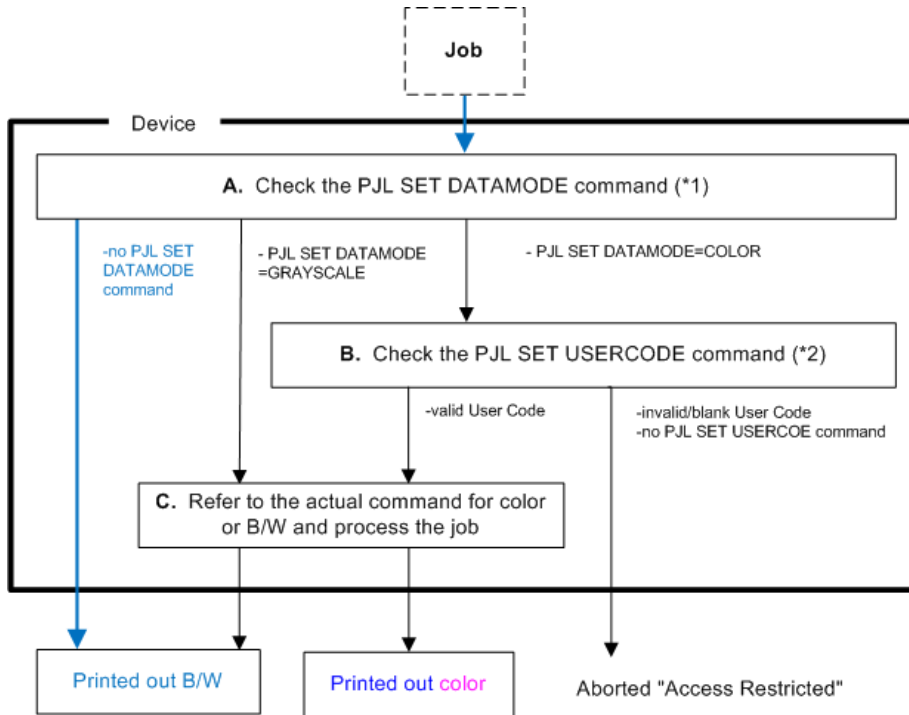
(\*2) In a PS job, the command is {setuserinfo}.

**Bit Switch 8-3 Enabled (Set to 1)**

Bit Switch 8-3 changes the way a GW device handles the PJJ SET DATAMODE (or RCsetdevicecolor) command. With Bit Switch 8-3 enabled, **any job which does not include such a command is forced to print out in B/W.**

In the following flow chart, the lines and comments in **Blue** represent the processing path of a host system job:

## Printing Features



w\_m0b0m2002\_en

(\*1) In a PS job, the command is RCsetdevicecolor, and divided by its value, (gray) or (cmk).

(\*2) In a PS job, the command is {setuserinfo}.



## 6.2 SCANNER FEATURES

### 6.2.1 DISPLAY SETTINGS OF RECENTLY USED SCAN DESTINATION

Configuring the scanner interface so that the most recently used scan destination is cleared. Whether the MFP clears the most recently used scan destination, can be configured using Scanner SP 1-012-001.

By default, this is cleared to avoid subsequent users scanning to it by mistake.

Scanner SP 1-012-001

1 (default): Clear

0: Do not clear

This will cause all of the following to be cleared after the scanning is complete:

- Destination
- Sender
- Email subject
- Email message
- File name

The information in the list above will be cleared after scanning is finished.

#### Exceptions:

- User Auth.:  
If SP 1-012-001 = 0 and if User Auth. (excluding User Code authentication) is enabled, the most recently used scan destination will only be retained until the user logs out.
- Scanner Auto Reset timer:  
Even if SP 1-012-001 = 0 the most recently used scan destination can still be cleared by the Scanner Auto Reset timer. If the Scanner Auto Reset timer is shorter than the System Auto Reset timer, then the most recently used scan destination will be cleared when the Scanner Auto Reset timer elapses.

### 6.2.2 THE SETTING OF SMTP AUTHENTICATION IN SCAN TO EMAIL

Scan to Email fails with the error message "Transmission has failed ". The SMTP username and password are correct. How can I make Scan to Email pass?

Change SP 5-860-022 "SMTP Auth. From Field Replacement" to On. By doing this, Scan to Email will pass the SMTP authentication.

#### Note

- Using this option to solve the above problem, the device email address will appear in the email's "From" field. The email address of the user who sent the email will appear in the "Reply-to" field.

### **Explanation**

This is an SMTP authentication issue that aborts transmission of an already started Scan to Email. Currently this has only been reproduced using MS-Exchange server.

MS-Exchange requires that all of the following match:

1. The sender's address in the "MAIL FROM" field. This is also known as the "envelope sender" or "MIME sender". It is an SMTP command sent at the beginning of the email transmission process.
2. The sender's address in the mail header "From:" field. This appears as "From" in email clients. It is a part of the email itself.
3. The email address corresponding to the SMTP username used to login into the SMTP server.

When the MFP logs into the SMTP server, the email address of the username 3) will be compared to 1) and 2). If these comparisons fail, authentication will also fail. Exchange server will stop the transmission procedure, and the "Transmission has failed" message will be returned to the sender.

### **Typical example**

#### **NG case:**

SP5-860-022 is Off:

1. The "MAIL FROM" field = device
2. The mail header "From:" field = use
3. The SMTP username = device

When the SMTP server compares 2) and 3) the Exchange Server will stop the transmission procedure.

#### **OK case:**

SP5-860 can be used to make the values in the above example, match.

In this example, if SP5-860-022 is On, the user's email address in the mail header '2)' will be replaced by the Administrator's email address.

To solve the problem, the Administrator's address must be the same as the device's address.

If this is done:

1. The "Mail From: field = device
2. The mail header "From:" field = administrator
3. The SMTP username = device

1,2 and 3 must match and the authentication should be successful.

#### **Note**

- The user's email address will still be inserted into the reply-to field.

The device SMTP user name, password, and email address are configurable in [User Tools] > [Machine Features] > [System Settings] > [File Transfer] > [SMTP Authentication].

User email addresses are configurable in the user configuration of the Address Book.

The administrator email address is configurable in [User Tools] > [Machine Features] > [System Settings] > [File Transfer] > [Administrator's Email Address].

### 6.2.3 THE QUALIFICATION SWITCHING OF SCAN TO FOLDER

Determining which account Scan to Folder uses to access a scan destination and the effects of System SP 5-846-021.

This method depends on how the destination is accessed, whether authentication is being used, and SP 5-846-021.

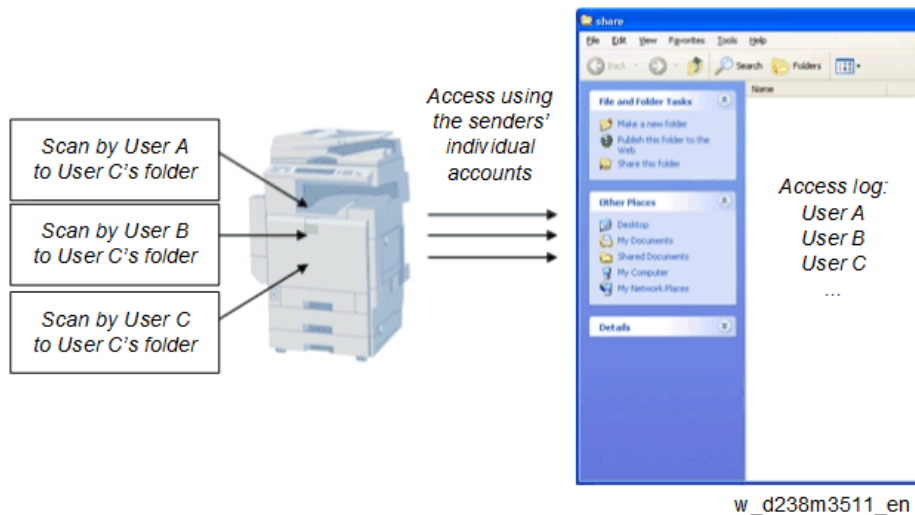
**Cases:**

Case	Destination selection	User auth.	Account used to access the folder
A	Manual entry	Either enabled or disabled	The user's account *
B	Destination list	disabled	The recipient's account (as configured in the Address Book's Folder Authentication setting)
C		enabled	If SP 5-846-021 = 0 (default): The authenticated user's account 1: The recipient's account (as configured in the Address Book's Folder Authentication setting)

\* The "user's account" will be either the one entered during scanning (see the Manual Entry screen capture) or if User Auth. is enabled, the account configured in the user's Folder Authentication setting will be used.

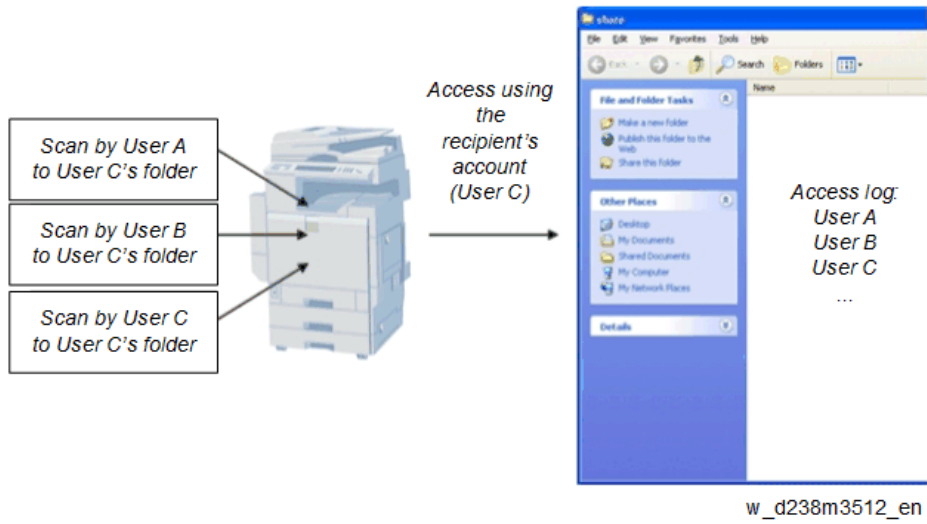
**The destination's access logs:**

Case A or Case C with SP=0: The access logs can be used to determine which user sent the scan.



Case B or Case C with SP=1: All access will be logged as the same user.

## Scanner Features



## 6.3 MANAGEMENT FEATURES

### 6.3.1 HOW TO DISABLE THE DOCUMENT SERVER FUNCTION

1. Enter 'Copy' SP mode.
2. Change SP5-967-001 to 1. (0:ON 1:OFF)
3. Reboot the machine.

**Note**

- When the above SP mode (SP5-967-001) is OFF (=1), both the Document Server and Locked Print functions will be disabled.

#### How to Use Locked Print When the Document Server Is Disabled

1. Enter 'Printer' SP mode.
2. Set SP1-006-001 to 1.  
0: Link with Doc. Srv (default)  
Locked print will only be enabled if the document server is enabled.  
1: Enable  
Enable Locked  
Print will be enabled no matter the status of the document server.
3. Turn OFF then ON the main power.

## 6.4 SECURITY FEATURES

### 6.4.1 HOW TO RESTRICT ACCESS TO THE WIM JOB MENU

1. Enter 'Printer' SP mode.
2. Set SP5-888-001  
0: (default): "Job" menu is enabled.  
1: "Job" menu is disabled.

**Note**

- This setting takes effect only if user authentication (other than User Code auth.) is disabled.



### 6.4.2 HOW TO RESTRICT WEB IMAGE MONITOR ACCESS TO THE DOCUMENT SERVER

System (Copier) SP 5-885-020 bit 0, 1 and 7 restrict Web Image Monitor access to the DS. It disables the following WIM settings:

- The entire Document Server menu (shown in blue in fig1)
- Job > Document Server (shown in red in fig1)

See the following for details:

**Bit 0:**

Bit 0 = 0 (default): Allows anyone (guests, users, admins) access to the DS via WIM.

Bit 0 = 1: Prevents everyone from accessing the DS via WIM.

**Bit 1:**

Bit 1 = 0 (default): Allows anyone (guests, users, admins) access to the DS via WIM.

Bit 1 = 1: Only administrators can access the DS via WIM.

**Note**

- Without admin privileges, even authenticated users will be unable to access the DS via WIM.

**Bit 7:**

Bit 7 = 0 (default): Allows anyone (guests, users, admins) access to the DS via WIM.

Bit 7 = 1: Only administrators and authenticated users can access the DS via WIM.

The most restrictive result of combining these three configurations will take priority. So for example:

Bit 0 = 0

Bit 1 = 1

Bit 7 = 1

As Bit 1 = 1 is the most restrictive of the three, it will take precedence over the other two and only administrators will be able to access the DS via WIM.



#### Note

- In order for SP5-885-020 to have any effect, the Document Server must be enabled (SP5-967-001=0). For information about SP5-967-001, refer to Disabling the Document Server using System SP5-967-001 and Printer SP1-006-001.
- Access to the entire "Job" menu can be restricted using SP 5-888-001. For details, refer to Use of SP 5-888-001 to restrict access to the "Job" menu on WIM.

### 6.4.3 USER AUTHENTICATION FOR SPECIFIC MFP APPLICATIONS

The SP5-420 settings enable/disable User Authentication for specific MFP applications.

SP 5-420 User Authentication Value (Default: 0)

SP 5-420	User Authentication	Value (Default: 0)	
SP5-420-001	Copy	0 (ON)	1 (OFF)
SP5-420-011	Document Server		
SP5-420-021	Fax		
SP5-420-031	Scanner		
SP5-420-041	Printer		

1. Enable User Authentication for the device as a whole:  
User Tools > System Settings > Administrator Tools > User Authentication Management
2. Use the SP5-420 settings to specify the applications to which User authentication is to apply.

**D0C5/D0C6/D0C4/D0AP**  
**FAX UNIT**

<b>REVISION HISTORY</b>		
<b>Page</b>	<b>Date</b>	<b>Added/Updated/New</b>
		None





# (D0C5/D0C6/D0C4/D0AP)

## FAX UNIT

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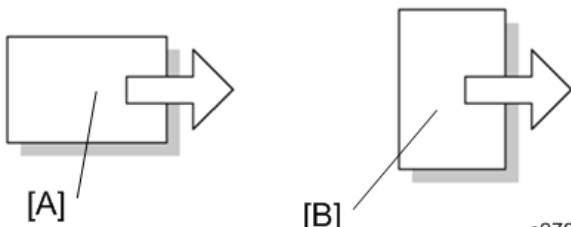
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# SYMBOLS AND ABBREVIATIONS

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

Symbol	What it means
	Clip ring
	Screw
	Connector
	Clamp
	E-ring
	Flat Flexible Cable
	Timing Belt
SEF	Short Edge Feed
LEF	Long Edge Feed
K	Black
C	Cyan
M	Magenta
Y	Yellow
B/W, BW	Black and White
FC	Full color



c2790086

[A] Short Edge Feed (SEF)

[B] Long Edge Feed (LEF)



# 1. INSTALLATION

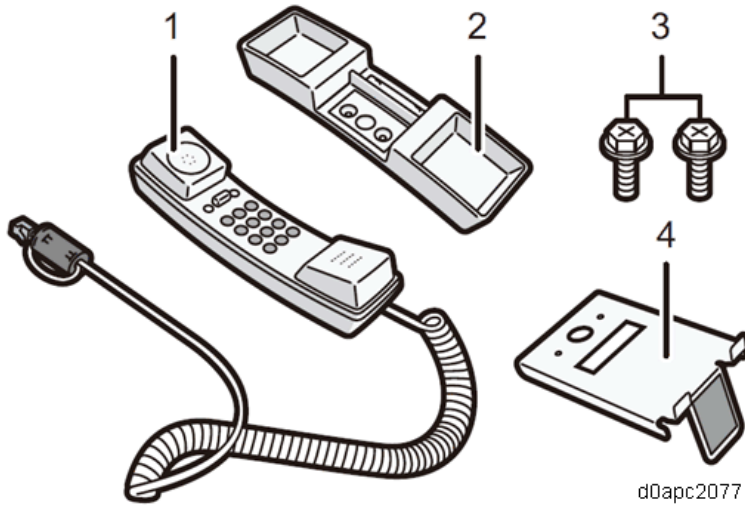
## 1.1 FAX UNIT OPTIONS

### 1.1.1 HANDSET HS1010 (M444-38) (ONLY FOR NA)

#### Accessories

Installation of this unit requires the following components. Other components included in this kit are not used for installation on this machine.

No.	Description	Q'ty	Remarks
1	Handset with ferrite core	1	
2	Cradle	1	
3	Tapping screw	2	
4	Bracket	1	
-	Cable clamp	2	Not Used

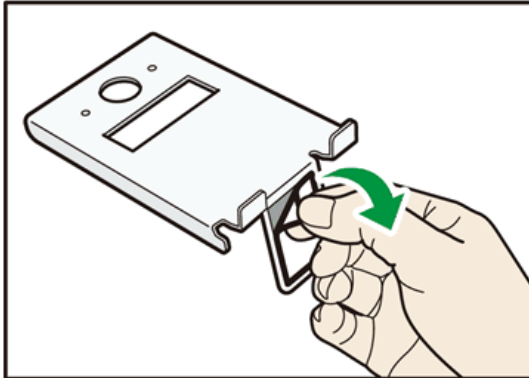


d0apc2077



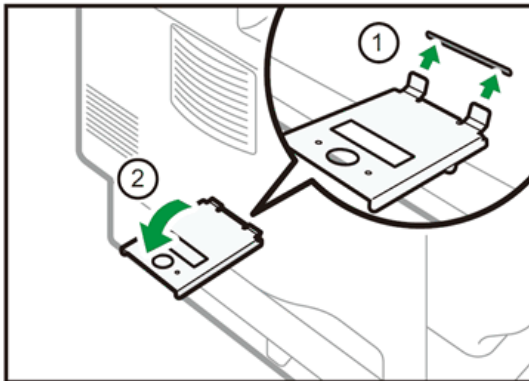
## Installation Procedure

1. Remove the protective tape from the handset bracket.



d0apc2078

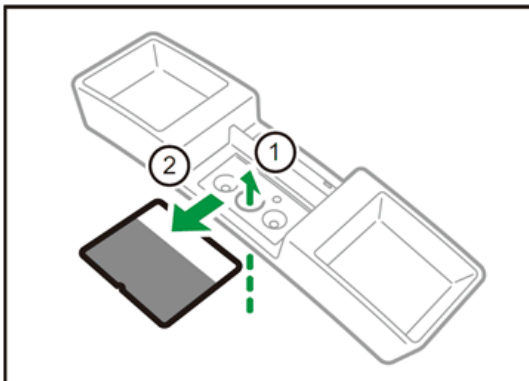
2. Attach the bracket to the left side of the machine, as shown below.



d0apc2079

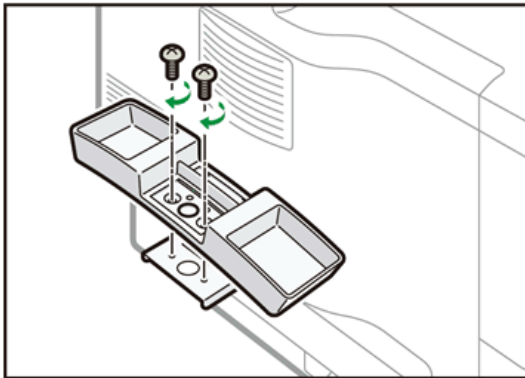
3. Remove the inquiry card from the handset cradle.

The card can be easily removed by pushing it from the back of the handset.



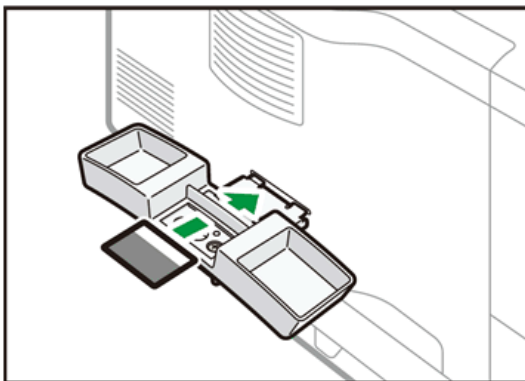
d0apc2080

- 4.** Fix the handset cradle to the handset bracket by turning the screws with a coin.



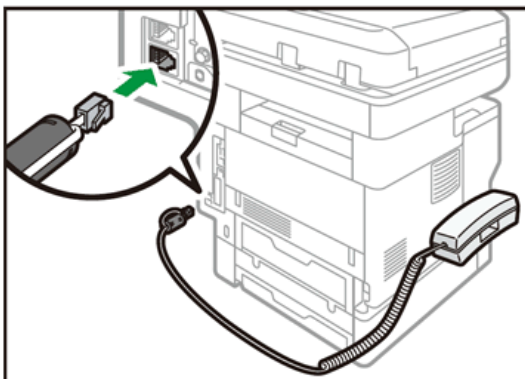
d0apc2081

- 5.** Place the inquiry card back in the handset cradle.



d0apc2082

- 6.** Place the handset on the handset cradle, and connect the handset cord to the external telephone connector.



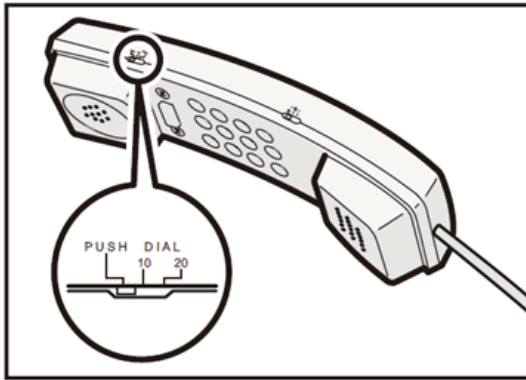
d0apc2083

### ***Configuring the Handset***

Selecting a telephone line type for the handset.

With a thin, pointed object, set the switch on the handset to the line type you are using.

- Push button phone: Push
- Dial phone: 10/20

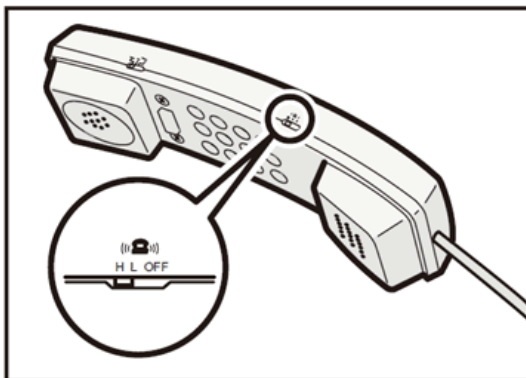


d0apc2084

### Adjusting the handset bell volume

With a thin, pointed object, adjust the bell volume using the volume switch.

- High : H
- Low : L
- No sound : OFF



d0apc2085

## 1.1.2 FAX CONNECTION UNIT TYPE M34 (D3EM-03)

### ***Overview of Fax Connection Unit***

This unit allows a machine without the fax unit installed (“Client-side Machine”) to send and receive faxes via a machine with the fax unit installed (“Remote Machine”).

#### **Requirements:**

- Up to six machines can be registered as the Client-side Machines.
- Machines that have the fax unit installed cannot be used as the Client-side Machine.
- Only one machine can be registered as the Remote Machine.
- Firmware for this unit: “aics” (software number: D3A7759)
- Remote Fax transmissions are possible on a G3 line.
- The remote fax function does not support User Code Authentication. Disable the User Code Authentication on the Remote machine.
- Use this function to check the contents of a file that is stored in memory and not yet sent. Also, use this function to cancel a transmission from the Client-side Machine.

**Order of Fax Connection Unit installation procedure:**

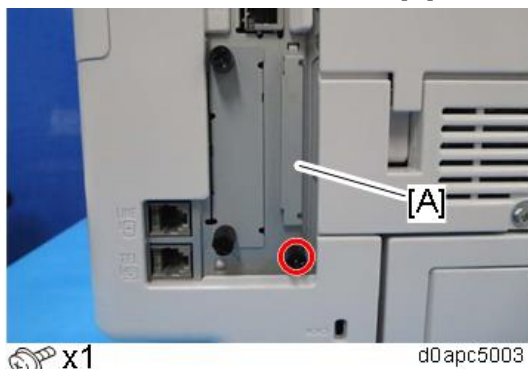
1. Install the Fax Connection Unit in the Remote Machine (fax unit installed).
2. Install the Fax Connection Unit in the Client-side Machine (no fax unit installed).
3. Register the Client-side Machine in the Remote Machine.

**★ Important**

- Do not register the Remote Machine before the Client-side Machine is registered in the Remote Machine. Otherwise, registering the Remote Machine fails.
4. Register the Remote Machine in the Client-side Machine.

**Installing the Fax Connection Unit in the Client-side and Remote Machines**

1. Remove the SD card slot cover [A] from the SD card slots.



2. Insert the SD card (Fax Connection Unit Type M34) in SD slot 1 (upper) with its label face towards the front of the machine if SD slot 1 is vacant. If slot 1 is not vacant, follow “Moving a Fax Communication application into an SD card in SD slot 1” described below.
3. Plug in, and then turn ON the main power.
4. Press [Firmware Version] in the [Administrator Tools].  
[User Tools] > [Machine Features] > [System Settings] > [Administrator Tools]
5. Check whether the aics version is displayed.

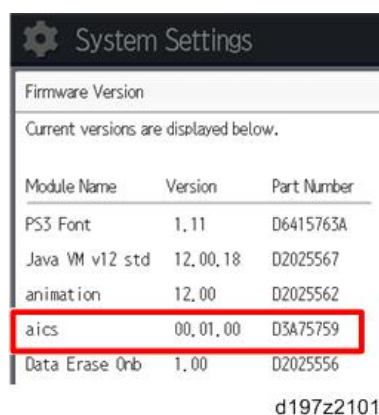
System Settings		
Firmware Version		
Current versions are displayed below.		
Module Name	Version	Part Number
PS3 Font	1.11	D6415763A
Java VM v12 std	12.00.18	D2025567
animation	12.00	D2025562
aics	00.01.00	D5A75759
Data Erase Onb	1.00	D2025556

d197z2101

**Moving a Fax Communication application into an SD card in SD slot 1**

1. Insert the SD card (Fax Connection Unit Type M34) SD slot 2 (lower) with its label face towards the front of the machine. Then push it slowly into SD slot 2 (lower) until you hear a click.

2. Plug in, and then turn ON the main power.
3. Move the Fax Connection Unit application from the SD card in SD slot 2 (lower) to the SD card in SD slot 1 (upper) with SP5-873-001.
4. Turn OFF the main power.
5. Remove the SD card from SD slot 2 (lower), and then keep it in a safe place (see “SD Card Appli Move” in the field service manual for the mainframe).
6. Attach the SD card slot cover, and then turn on the machine (🔌 x 1).
7. Turn ON the main power.
8. Press [Firmware Version] in the [Administrator Tools].  
[User Tools] > [Machine Features] > [System Settings] > [Administrator Tools]
9. Check whether the aics version is displayed.



System Settings		
Firmware Version		
Current versions are displayed below.		
Module Name	Version	Part Number
PS3 Font	1.11	D6415763A
Java VM v12 std	12.00.18	D2025567
animation	12.00	D2025562
aics	00.01.00	D5A75759
Data Erase Onb	1.00	D2025556

d197z2101

## Registering the Client Machine(s)

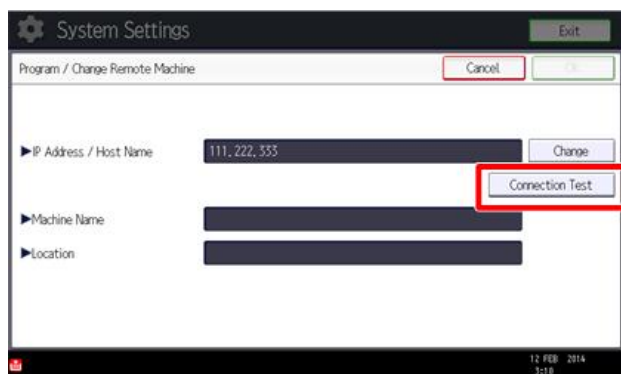
### ★ Important

- Do not register the Remote Machine in the Client-side machine before the Client-side Machine is registered in the Remote Machine. Otherwise, registering the Remote Machine fails.

### On the Remote Machine:

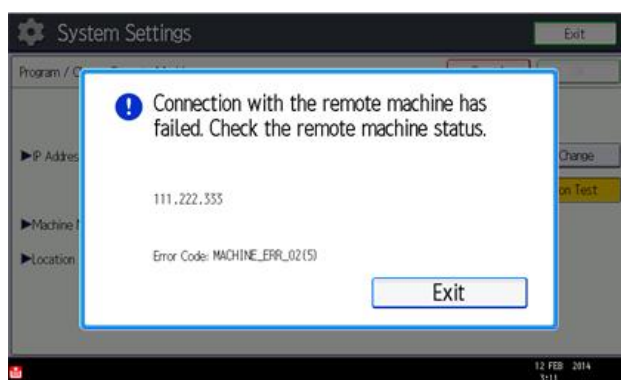
1. Press [User Tools] > [Machine Features] > [System Setting] > [Administrator Tools].
2. Press [Program/Change/Delete Remote Machine].
3. Press one of the machine registration lines, and then enter the IP address or hostname of one of the Client-side Machines.

4. Press [Connection Test] to check the connection with the client-side machine.



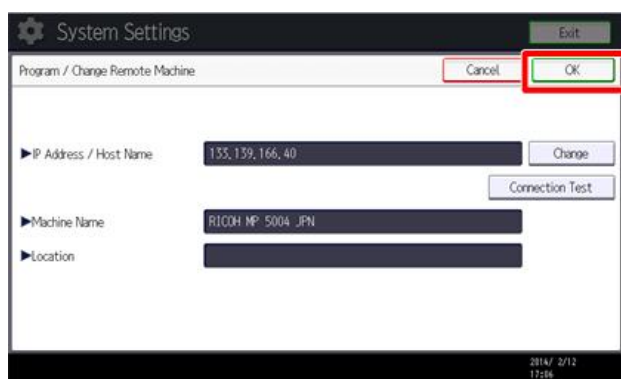
d197z2104

If an error message is displayed, check the network connection with the client-side machine and make sure that the IP address of the client-side machine is correct.



d197z2105

5. Press [OK] after "Connection Test" has been successfully done.



d197z2106

6. Press [Exit] to terminate the System Settings.

## Registering the Remote Machine

### ★ Important

- First, register the Client-side Machine in the Remote Machine before doing this procedure. Otherwise, registering the Remote Machine fails.

### ↓ Note

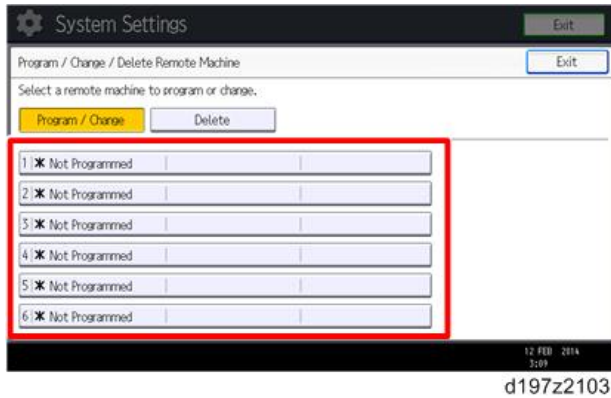
- Only one machine can be registered as the Remote Machine.

**On the Client-side Machine(s):**

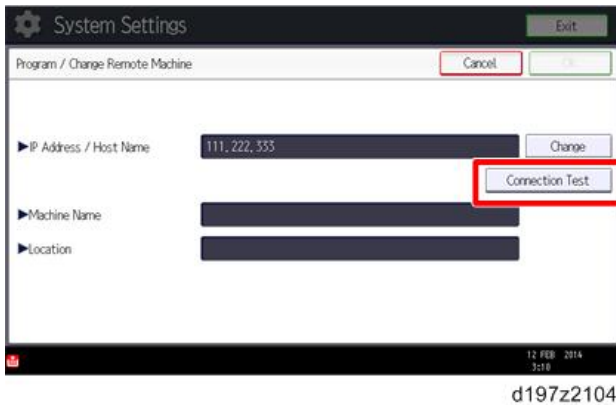
1. Press [User Tools] > [Machine Features] > [System Setting] > [Administrator Tools].
2. Press [Program/Change/Delete Remote Machine].
3. Enter the IP address or hostname of the Remote Machine.
4. Press one of the machine registration lines, and then enter the IP address or hostname of the Remote Machine.

**Note**

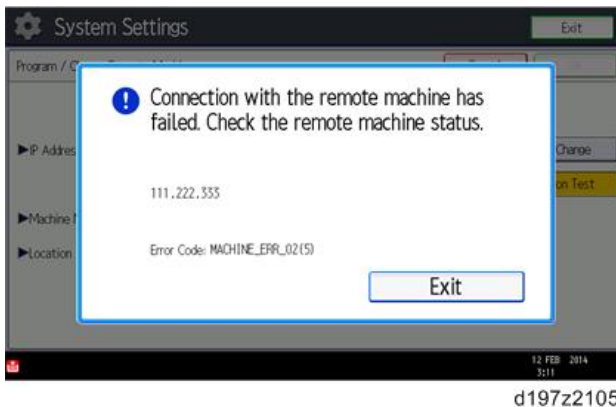
- Only one machine can be registered as the Remote Machine.



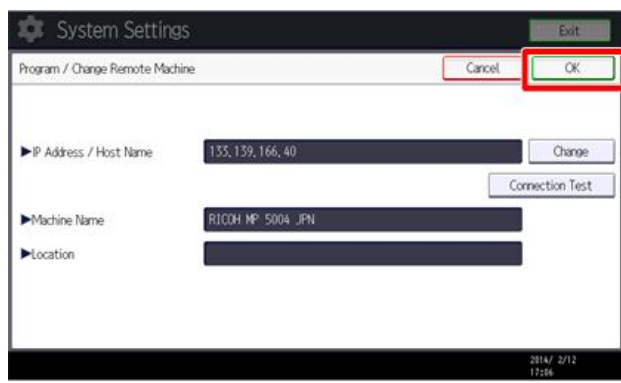
5. Press [Connection Test] to check the connection with the remote machine.



If an error message is displayed, check the network connection with the remote machine and make sure that the IP address of the remote machine is correct.



6. Press [OK] after "Connection Test" has been successfully done.



7. Press [Exit] to terminate the System Settings.

### **Configuring the Remote Reception Settings**

Do the following procedure to enable the Client-side Machine(s) to receive faxes via the Remote Machine. You can forward or route received documents per line or special sender.

#### **Note**

- By performing procedures described above (Installing the application in the Remote Machine and Client-side Machine, Registering the Client-side Machine(s), Registering the Remote Machine), the Client-side Machines can **send** faxes via the Remote Machine. The procedures shown below are necessary to enable the Client-side Machines to **receive** faxes.

#### **On the Remote Machine:**

##### **1) If you use "Remote Reception Setting per Line"**

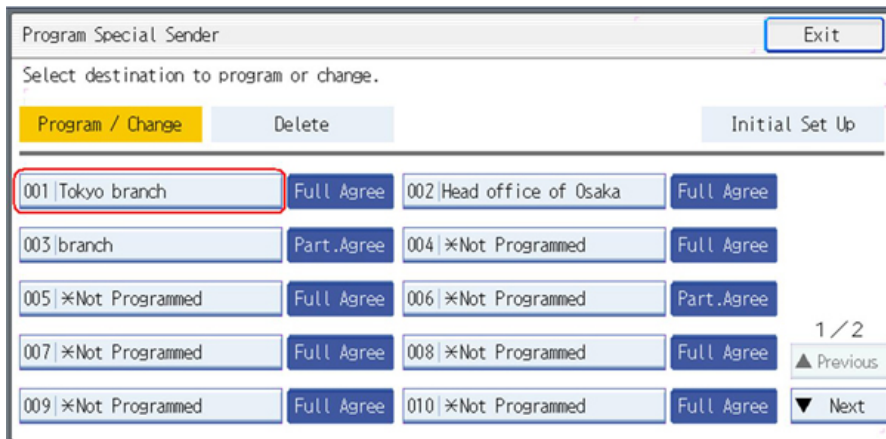
1. Press [Facsimile Features].
2. Press [Remote Reception Setting per Line] in [Reception Settings].
3. Enter an IP address or a hostname of the client-side machine to connect.
4. Press [Set], and [Exit] to exit from the setting.

##### **2) If you use "Remote Reception per Sender"**

1. Press [Facsimile Features].
2. Press [Program Special Sender] in [Reception Settings].

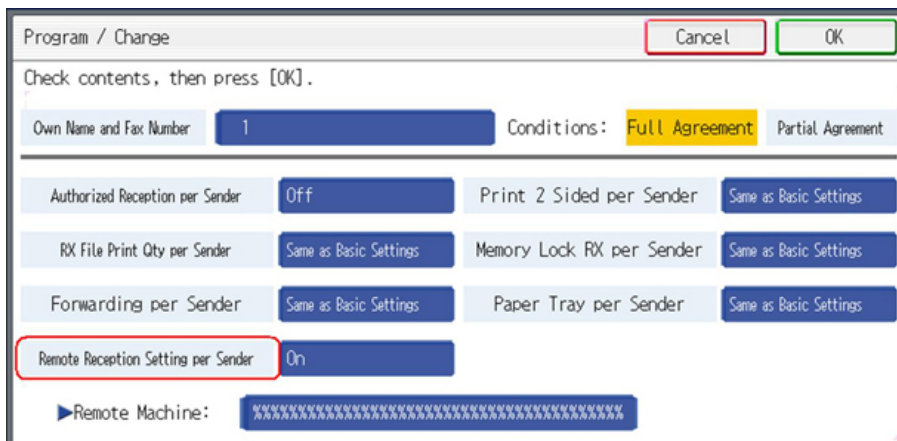


**3.** Select the Special Sender.



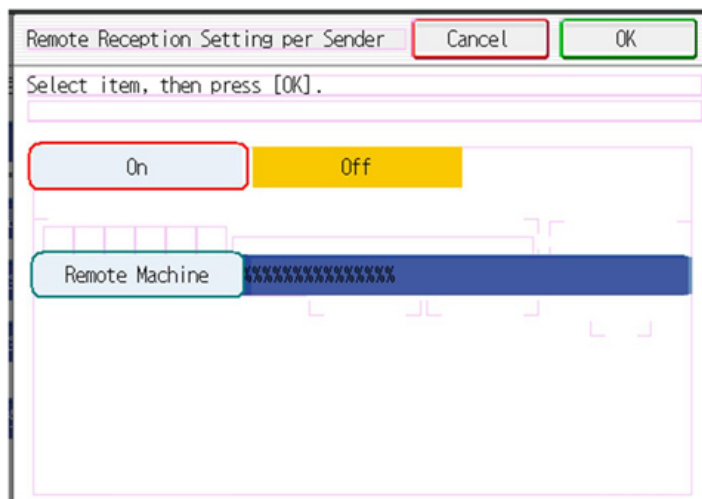
d1661001

**4.** Press [Remote Reception Setting per Sender].



d1661002

**5.** Press [On] and [Remote Machine].



d1661003

**6.** Enter an IP address or a hostname of the client-side machine to connect.

**7.** Press [OK] to exit from the setting.

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## 2. REPLACEMENT AND ADJUSTMENT

### 2.1 FCU BOARD

The FCU board of the service part contains the following items included in the package.

- FCU board
- FFC
- Jumper
- Bracket

When you replace the FCU board, transfer the SRAM data from the old FCU board to the new FCU board.

#### Note

The following data can be transferred:

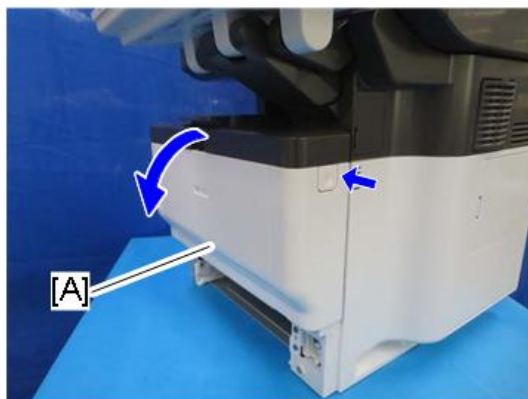
- TTI
- RTI
- CSI
- Fax bit switch settings
- RAM address settings
- NCU parameter settings.

#### 2.1.1 REPLACEMENT PROCEDURE

##### **⚠ CAUTION**

Unplug the power cord before starting the following procedure.

- 1.** Remove the paper cassette.
- 2.** Open the front cover [A] by pressing the front cover button.



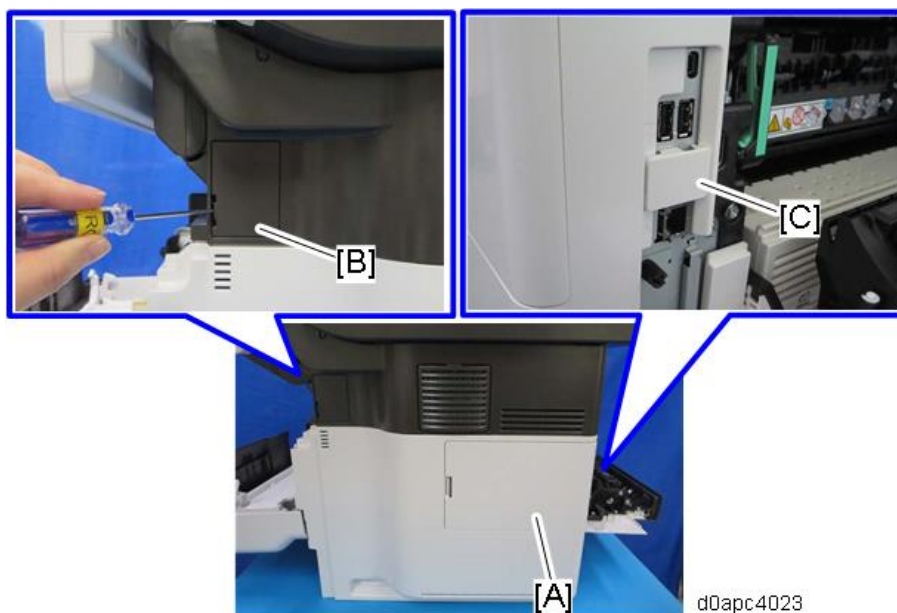
d0apc4021

- 3.** Open the rear cover [A].



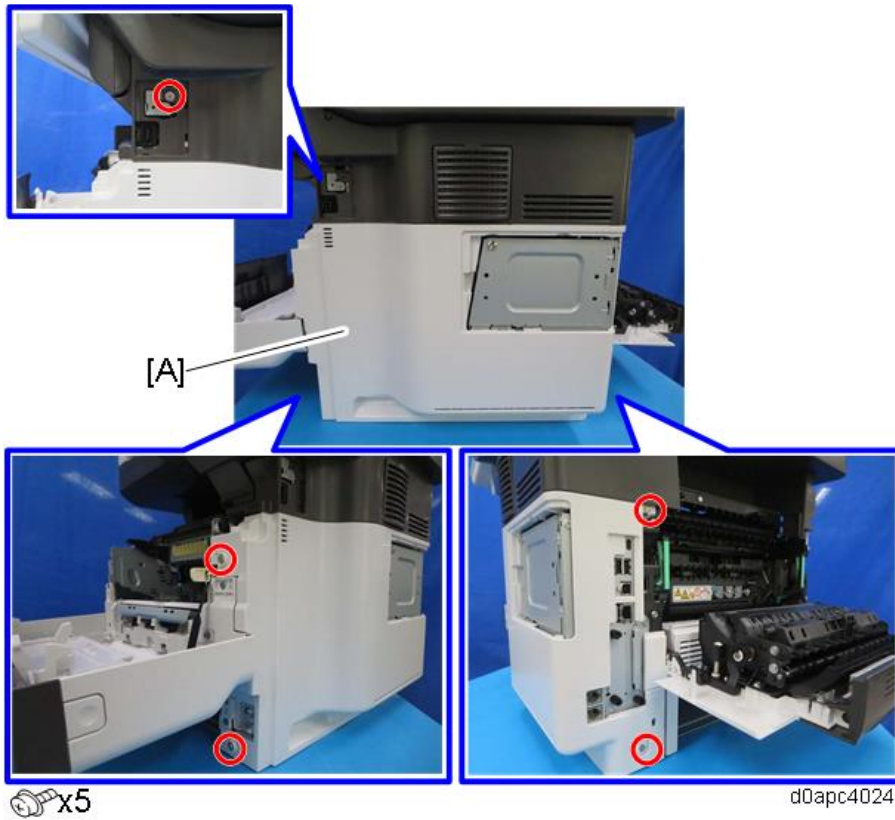
d0apc4022

- 4.** Remove the HDD cover [A] and the connector cover [B] and [C].  
Use a flathead screwdriver to remove the connector cover [B].

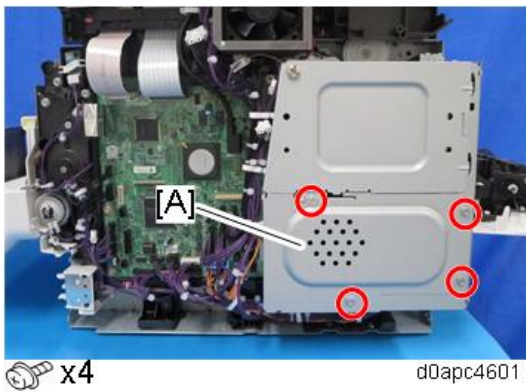


d0apc4023

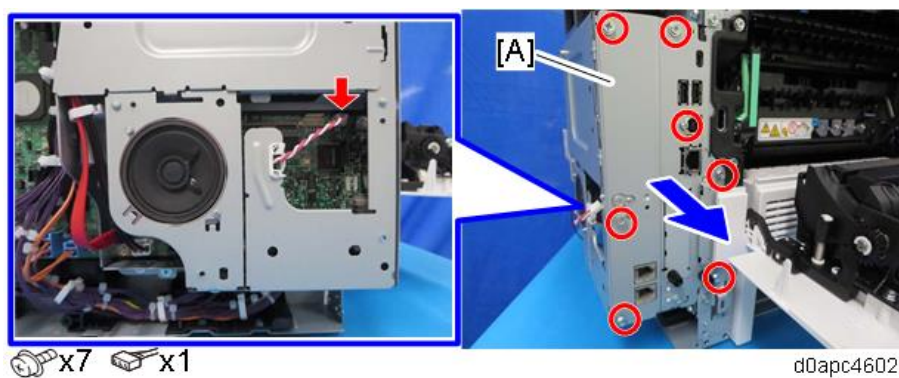
5. Remove the right cover [A].



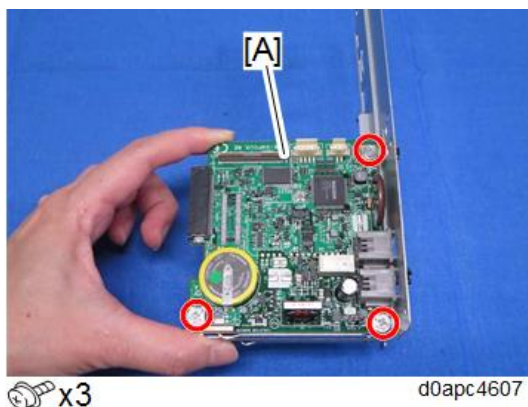
6. Remove the controller box lower cover [A].



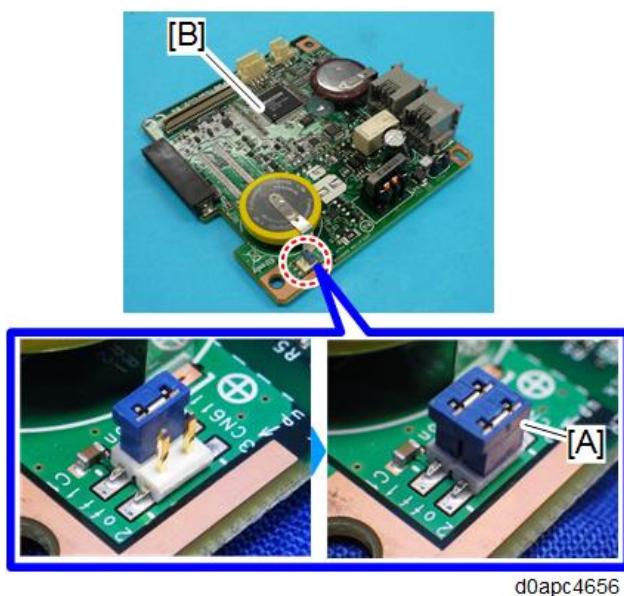
7. Disconnect the harness, and then pull out the interface cover [A] to remove it.



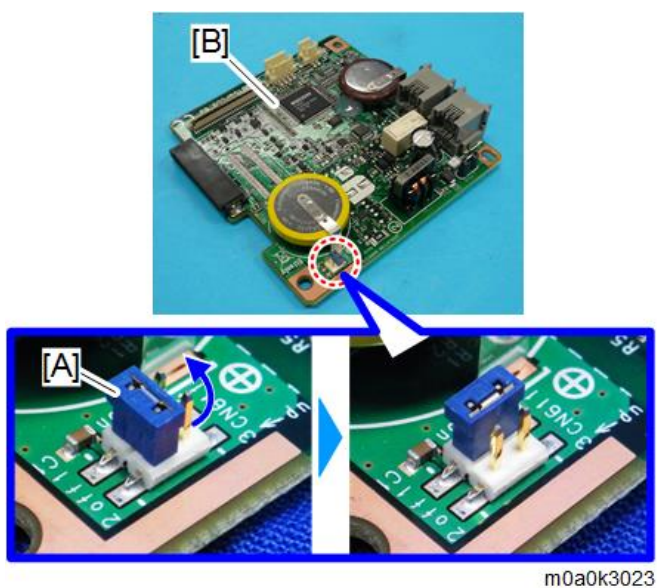
- 8.** Remove the FCU [A].



- 9.** Attach the jumper [A] on the removed FCU board [B]. The jumper comes with the new FCU board.

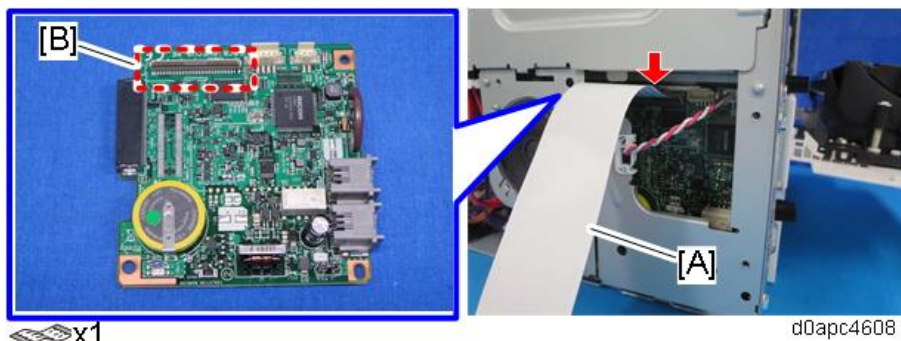


- 10.** Change the position of the battery jumper [A] on the new FCU board [B]. If the battery jumper is not in the correct position, SC820 will occur.



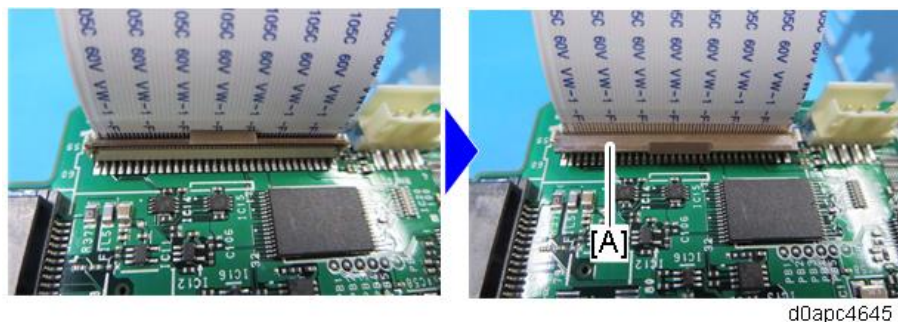
- 11.** Attach the new FCU board to the interface cover.
- 12.** Attach the interface cover to the machine, and then connect the harness.
- 13.** Connect one end of the supplied FFC [A] into the CN603 connector [B] on the new FCU board.

Make sure that the blue tape of the flat cable faces outward.

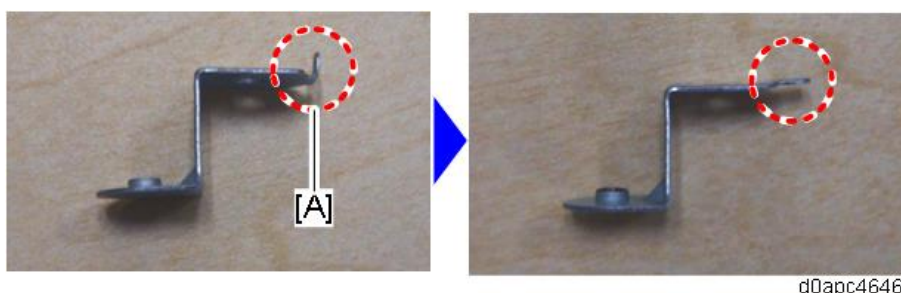


**Note**

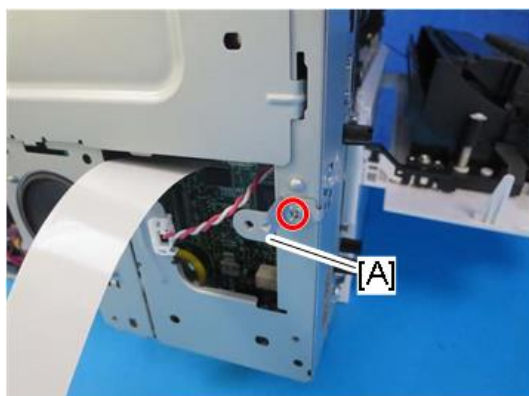
The FFC connector has a lock lever [A]. Tilt the lever to lock the FFC.



- 14.** Use a pair of radio pliers to flatten the tab [A] against the bracket provided with the new FCU board.



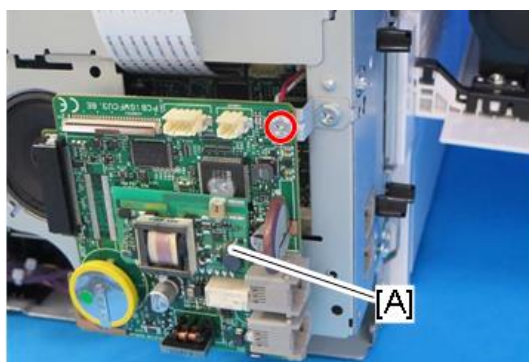
- 15.** Attach the bracket [A] above to the controller box.



 x1

d0apc4609

- 16.** Attach the old FCU board [A] to the bracket temporarily.



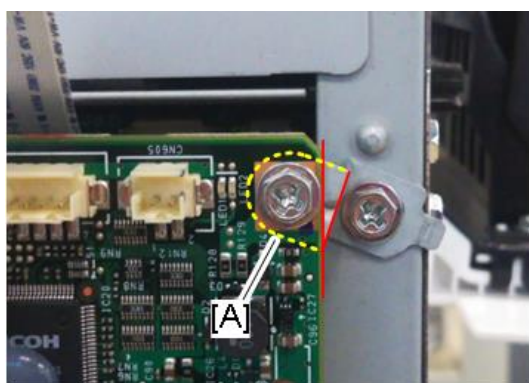
 x1

d0apc4610

**Note**

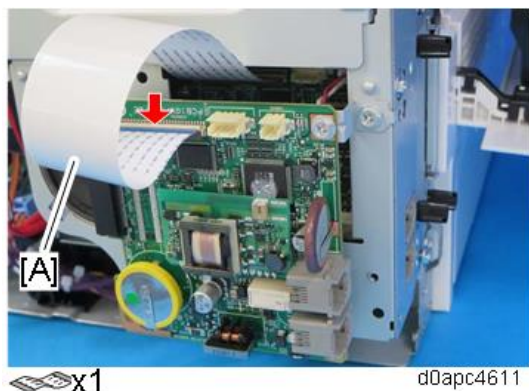
Mount the PCB and bracket so both are horizontal.

If the contact surface of bracket [A] cuts into the base plate as shown below, this could cause a short circuit between the element and the bracket and damage the PCB.



d0apc4647

- 17.** Connect the other end of the FFC [A] into the CN603 connector on the old FCU board. Make sure that the blue tape of the flat cable faces outward.



↓ Note

The FFC connector has the lock lever [A], so tilt the lever to lock the FFC.

**18.** Turn the main power ON.

**19.** The SRAM data transfer begins. Transfer is complete when a beep sounds.

↓ Note

- The volume of the beeping is set to the same level as the speaker volume.
  - If the speaker volume is set to off, the volume of the beeping is set to its initial factory-set level.
  - If the machine does not beep, turn the main power OFF and then ON, and attempt data transfer again. Try several times if necessary.
  - Be sure to check the transfer result after executing data transfer. If the transfer has failed, you need to specify settings manually in the SP mode.
- 20.** When "Ready" is displayed on the control panel, turn the power OFF, and remove the AC power plug from the receptacle.
- 21.** Disconnect the FFC from both FCU boards, and then remove the old FCU board with the bracket.
- 22.** Reattach the covers.
- 23.** Turn the main power ON.
- 24.** Enter the SP mode.
- 25.** Print the system parameter list from SP6-101 in the Fax SP menu, and then check the list to see whether the SRAM data has been transferred correctly.
- 26.** Set the correct date and time from the [User Tools].

User Tools > Machine Features > System Settings > Timer Setting > Set Date/Time

↓ Note

If any of the SRAM data was not transferred, input those settings manually.



## 3. TROUBLESHOOTING

### 3.1 ERROR CODES

If an error code occurs, retry the communication. If the same problem occurs, try to fix the problem as suggested below. Note that some error codes appear only in the error code display and on the service report.

Code	Meaning	Suggested Cause/Action
0-00	DIS/NSF not detected within 40 s of Start being pressed	<ul style="list-style-type: none"> <li>• Check the line connection.</li> <li>• The machine at the other end may be incompatible.</li> <li>• Replace the FCU.</li> <li>• Check for DIS/NSF with an oscilloscope.</li> <li>• If the rx signal is weak, there may be a bad line.</li> </ul>
0-01	DCN received unexpectedly	<ul style="list-style-type: none"> <li>• The other party is out of paper or has a jammed printer.</li> <li>• The other party pressed Stop during communication.</li> </ul>
0-03	Incompatible modem at the other end	The other terminal is incompatible.
0-04	CFR or FTT not received after modem training	<ul style="list-style-type: none"> <li>• Check the line connection.</li> <li>• Try changing the tx level and/or cable equalizer settings.</li> <li>• Replace the FCU.</li> <li>• The other terminal may be faulty; try sending to another machine.</li> <li>• If the rx signal is weak or defective, there may be a bad line.</li> </ul> <p><b>Cross-reference</b></p> <ul style="list-style-type: none"> <li>• Tx level - NCU Parameter 01 (PSTN)</li> <li>• Cable equalizer - G3 Switch 07 (PSTN)</li> <li>• Dedicated Tx parameters in Service Program Mode</li> </ul>
0-05	Modem training fails even G3 shifts down to 2400 bps.	<ul style="list-style-type: none"> <li>• Check the line connection.</li> <li>• Try adjusting the tx level and/or cable equalizer.</li> <li>• Replace the FCU.</li> </ul>

Code	Meaning	Suggested Cause/Action
		<ul style="list-style-type: none"> <li>Check for line problems.</li> </ul> <p><b>Cross-reference</b></p> <ul style="list-style-type: none"> <li>See error code 0-04.</li> </ul>
0-06	The other terminal did not reply to DCS	<ul style="list-style-type: none"> <li>Check the line connection.</li> <li>Try adjusting the tx level and/or cable equalizer settings.</li> <li>Replace the FCU.</li> <li>The other end may be defective or incompatible; try sending to another machine.</li> <li>Check for line problems.</li> </ul> <p><b>Cross-reference</b></p> <ul style="list-style-type: none"> <li>See error code 0-04.</li> </ul>
0-07	No post-message response from the other end after a page was sent	<ul style="list-style-type: none"> <li>Check the line connection.</li> <li>Replace the FCU.</li> <li>The other end may have jammed or run out of paper.</li> <li>The other end user may have disconnected the call.</li> <li>Check for a bad line.</li> <li>The other end may be defective; try sending to another machine.</li> </ul>
0-08	The other end sent RTN or PIN after receiving a page because there were too many errors	<ul style="list-style-type: none"> <li>Check the line connection.</li> <li>Replace the FCU.</li> <li>The other end may have jammed, or run out of paper or memory space.</li> <li>Try adjusting the tx level and/or cable equalizer settings.</li> <li>The other end may have a defective modem/FCU; try sending to another machine.</li> <li>Check for line problems and noise.</li> </ul> <p><b>Cross-reference</b></p> <ul style="list-style-type: none"> <li>Tx level - NCU Parameter 01 (PSTN)</li> <li>Cable equalizer - G3 Switch 07 (PSTN)</li> <li>Dedicated Tx parameters in Service Program Mode</li> </ul>
0-14	Non-standard post message response code received	<ul style="list-style-type: none"> <li>Incompatible or defective remote terminal; try sending to another machine.</li> <li>Noisy line: resend.</li> </ul>

Code	Meaning	Suggested Cause/Action
		<ul style="list-style-type: none"> <li>• Try adjusting the tx level and/or cable equalizer settings.</li> <li>• Replace the FCU.</li> </ul> <p><b>Cross-reference</b></p> <ul style="list-style-type: none"> <li>• See error code 0-08.</li> </ul>
0-15	The other terminal is not capable of specific functions.	<p>The other terminal is not capable of accepting the following functions, or the other terminal's memory is full.</p> <ul style="list-style-type: none"> <li>• Confidential rx</li> <li>• Transfer function</li> <li>• SEP/SUB/PWD/SID</li> </ul>
0-16	CFR or FTT not detected after modem training in confidential or transfer mode	<ul style="list-style-type: none"> <li>• Check the line connection.</li> <li>• Replace the FCU.</li> <li>• Try adjusting the tx level and/or cable equalizer settings.</li> <li>• The other end may have disconnected, or it may be defective; try calling another machine.</li> <li>• If the rx signal level is too low, there may be a line problem.</li> </ul> <p><b>Cross-reference</b></p> <ul style="list-style-type: none"> <li>• See error code 0-08.</li> </ul>
0-17	Communication was interrupted by pressing the stop key	<ul style="list-style-type: none"> <li>• If the Stop key was not pressed and this error keeps occurring, replace the operation panel or the operation panel drive board.</li> </ul>
0-20	Facsimile data not received within 6 s of retraining	<ul style="list-style-type: none"> <li>• Check the line connection.</li> <li>• Replace the FCU.</li> <li>• Check for line problems.</li> <li>• Try calling another fax machine.</li> <li>• Try adjusting the reconstruction time for the first line and/or rx cable equalizer setting.</li> </ul> <p><b>Cross-reference</b></p> <ul style="list-style-type: none"> <li>• Reconstruction time - G3 Switch 0A, bit 6</li> <li>• Rx cable equalizer - G3 Switch 07 (PSTN)</li> </ul>
0-21	EOL signal (end-of-line) from the other end not received within 5 s of the previous EOL signal	<ul style="list-style-type: none"> <li>• Check the connections between the FCU and the line.</li> <li>• Check for line noise or other line problems.</li> <li>• Replace the FCU.</li> </ul>

Code	Meaning	Suggested Cause/Action
		<ul style="list-style-type: none"> <li>The remote machine may be defective or may have disconnected.</li> </ul> <p><b>Cross-reference</b></p> <ul style="list-style-type: none"> <li>Maximum interval between EOLs and between ECM frames - G3 Bit Switch 0A, bit 4</li> </ul>
0-22	The signal from the other end was interrupted for more than the acceptable modem carrier drop time (default: 200 ms)	<ul style="list-style-type: none"> <li>Check the line connection.</li> <li>Replace the FCU.</li> <li>Defective remote terminal.</li> <li>Check for line noise or other line problems.</li> <li>Try adjusting the acceptable modem carrier drop time.</li> </ul> <p><b>Cross-reference</b></p> <ul style="list-style-type: none"> <li>Acceptable modem carrier drop time - G3 Switch 0A, bits 0 and 1</li> </ul>
0-23	Too many errors during reception	<ul style="list-style-type: none"> <li>Check the line connection.</li> <li>Replace the FCU.</li> <li>Defective remote terminal</li> <li>Check for line noise or other line problems.</li> <li>Try asking the other end to adjust their tx level.</li> <li>Try adjusting the rx cable equalizer setting and/or rx error criteria.</li> </ul> <p><b>Cross-reference</b></p> <ul style="list-style-type: none"> <li>Rx cable equalizer - G3 Switch 07 (PSTN)</li> <li>Rx error criteria - Communication Switch 02, bits 0 and 1</li> </ul>
0-29	Data block format failure in ECM reception	<ul style="list-style-type: none"> <li>Check for line noise or other line problems.</li> <li>Check the FCU - NCU connectors.</li> <li>Replace the NCU or FCU.</li> </ul>
0-30	The other terminal did not reply to NSS(A) in AI short protocol mode	<ul style="list-style-type: none"> <li>Check the line connection.</li> <li>Try adjusting the tx level and/or cable equalizer settings.</li> <li>The other terminal may not be compatible.</li> </ul> <p><b>Cross-reference</b></p> <ul style="list-style-type: none"> <li>Dedicated tx parameters - Section 4</li> </ul>
0-32	The other terminal sent a DCS, which contained functions that the	<ul style="list-style-type: none"> <li>Check the protocol dump list.</li> <li>Ask the other party to contact the</li> </ul>

Code	Meaning	Suggested Cause/Action
	receiving machine cannot handle.	manufacturer.
0-33	The data reception (not ECM) is not completed within 10 minutes.	<ul style="list-style-type: none"> <li>Check the line connection.</li> <li>The other terminal may have a defective modem/FCU.</li> </ul>
0-52	Polarity changed during communication	<ul style="list-style-type: none"> <li>Check the line connection.</li> <li>Retry communication.</li> </ul>
0-55	FCU does not detect the SG3.	<ul style="list-style-type: none"> <li>FCU firmware or board defective.</li> <li>SG3 firmware or board defective.</li> </ul>
0-56	The stored message data exceeds the capacity of the mailbox in the SG3.	<ul style="list-style-type: none"> <li>SG3 firmware or board defective.</li> </ul>
0-70	The communication mode specified in CM/JM was not available (V.8 calling and called terminal)	<ul style="list-style-type: none"> <li>The other terminal did not have a compatible communication mode (e.g., the other terminal was a V.34 data modem and not a fax modem.)</li> <li>A polling tx file was not ready at the other terminal when polling rx was initiated from the calling terminal.</li> </ul>
0-74	The calling terminal fell back to T.30 mode because it could not detect ANSam after sending CI.	<ul style="list-style-type: none"> <li>The calling terminal could not detect ANSam due to noise, etc.</li> <li>ANSam was too short to detect.</li> <li>Check the line connection and condition.</li> <li>Try making a call to another V.8/V.34 fax.</li> </ul>
0-75	The called terminal fell back to T.30 mode, because it could not detect a CM in response to ANSam (ANSam timeout).	<ul style="list-style-type: none"> <li>The terminal could not detect ANSam.</li> <li>Check the line connection and condition.</li> <li>Try receiving a call from another V.8/V.34 fax.</li> </ul>
0-76	The calling terminal fell back to T.30 mode, because it could not detect a JM in response to CM (CM timeout).	<ul style="list-style-type: none"> <li>The called terminal could not detect a CM due to noise, etc.</li> <li>Check the line connection and condition.</li> <li>Try making a call to another V.8/V.34 fax.</li> </ul>
0-77	The called terminal fell back to T.30 mode, because it could not detect a CJ in response to JM (JM timeout).	<ul style="list-style-type: none"> <li>The calling terminal could not detect a JM due to noise, etc.</li> <li>A network that has narrow bandwidth cannot pass JM to the other end.</li> <li>Check the line connection and condition.</li> <li>Try receiving a call from another V.8/V.34 fax.</li> </ul>
0-79	The called terminal detected CI while	<ul style="list-style-type: none"> <li>Check for line noise or other line problems.</li> </ul>

Code	Meaning	Suggested Cause/Action
	waiting for a V.21 signal.	<ul style="list-style-type: none"> <li>If this error occurs, the called terminal falls back to T.30 mode.</li> </ul>
0-80	The line was disconnected due to a timeout in V.34 phase 2 – line probing.	<ul style="list-style-type: none"> <li>The guard timer expired while starting these phases. Serious noise, narrow bandwidth, or low signal level can cause these errors.</li> </ul>
0-81	The line was disconnected due to a timeout in V.34 phase 3 – equalizer training.	<p>If these errors happen at the transmitting terminal:</p> <ul style="list-style-type: none"> <li>Try making a call at a later time.</li> <li>Try using V.17 or a slower modem using dedicated tx parameters.</li> <li>Try increasing the tx level.</li> <li>Try adjusting the tx cable equalizer setting.</li> </ul>
0-82	The line was disconnected due to a timeout in the V.34 phase 4 – control channel start-up.	<p>If these errors happen at the receiving terminal:</p> <ul style="list-style-type: none"> <li>Try adjusting the rx cable equalizer setting.</li> <li>Try increasing the tx level.</li> <li>Try using V.17 or a slower modem if the same error is frequent when receiving from multiple senders.</li> </ul>
0-83	The line was disconnected due to a timeout in the V.34 control channel restart sequence.	
0-84	The line was disconnected due to abnormal signaling in V.34 phase 4 – control channel start-up.	<ul style="list-style-type: none"> <li>The signal did not stop within 10 s.</li> <li>Turn off the machine, then turn it back on.</li> <li>If the same error is frequent, replace the FCU.</li> </ul>
0-85	The line was disconnected due to abnormal signaling in V.34 control channel restart.	<ul style="list-style-type: none"> <li>The signal did not stop within 10 s.</li> <li>Turn off the machine, then turn it back on.</li> <li>If the same error is frequent, replace the FCU.</li> </ul>
0-86	The line was disconnected because the other terminal requested a data rate using MPh that was not available in the currently selected symbol rate.	<ul style="list-style-type: none"> <li>The other terminal was incompatible.</li> <li>Ask the other party to contact the manufacturer.</li> </ul>
0-87	The control channel started after an unsuccessful primary channel.	<ul style="list-style-type: none"> <li>The receiving terminal restarted the control channel because data reception in the primary channel was not successful.</li> <li>This does not result in an error communication.</li> </ul>
0-88	The line was disconnected because PPR was transmitted/received 9 (default) times within the same ECM	<ul style="list-style-type: none"> <li>Try using a lower data rate at the start.</li> <li>Try adjusting the cable equalizer setting.</li> </ul>

Code	Meaning	Suggested Cause/Action
	frame.	
2-11	Only one V.21 connection flag was received	<ul style="list-style-type: none"> <li>Replace the FCU.</li> </ul>
2-12	Modem clock irregularity	<ul style="list-style-type: none"> <li>Replace the FCU.</li> </ul>
2-13	Modem initialization error	<ul style="list-style-type: none"> <li>Turn off the machine, then turn it back on.</li> <li>Update the modem ROM.</li> <li>Replace the FCU.</li> </ul>
2-22	Counter overflow error of JBIG chip	<ul style="list-style-type: none"> <li>If this error occurs frequently, change the settings for resolution, paper size and compression type.</li> </ul>
2-23	JBIG compression or reconstruction error	<ul style="list-style-type: none"> <li>Turn off the machine, then turn it back on.</li> </ul>
2-24	JBIG ASIC error	<ul style="list-style-type: none"> <li>Turn off the machine, then turn it back on.</li> </ul>
2-25	JBIG data reconstruction error (BIH error)	<ul style="list-style-type: none"> <li>JBIG data error</li> <li>Check the sender's JBIG function.</li> </ul>
2-26	JBIG data reconstruction error (Float marker error)	<ul style="list-style-type: none"> <li>Update the MBU ROM.</li> </ul>
2-27	JBIG data reconstruction error (End marker error)	
2-28	JBIG data reconstruction error (Timeout)	
2-29	JBIG trailing edge maker error	<ul style="list-style-type: none"> <li>FCU defective</li> <li>Check the destination device.</li> </ul>
2-50	The machine resets itself for a fatal FCU system error	<ul style="list-style-type: none"> <li>If this is frequent, update the ROM, or replace the FCU.</li> </ul>
2-51	The machine resets itself because of a fatal communication error	<ul style="list-style-type: none"> <li>If this is frequent, update the ROM, or replace the FCU.</li> </ul>
2-53	Snd msg() in the manual task is an error because the mailbox for the operation task is full.	<ul style="list-style-type: none"> <li>The user did the same operation many times, and this gave too much load to the machine.</li> </ul>
4-01	Line current was cut	<ul style="list-style-type: none"> <li>Check the line connector.</li> <li>Check for line problems.</li> <li>Replace the FCU.</li> </ul>
4-10	Communication failed because of an ID Code mismatch (Closed Network) or Tel. No./CSI mismatch (Protection against Wrong Connections)	<ul style="list-style-type: none"> <li>Get the ID Codes the same and/or the CSIs programmed correctly, then resend.</li> <li>The machine at the other end may be defective.</li> </ul>
5-00	Data reconstruction not possible	<ul style="list-style-type: none"> <li>Replace the FCU</li> </ul>

Code	Meaning	Suggested Cause/Action
5-10	DCR timer expired	<ul style="list-style-type: none"> <li>Replace the FCU.</li> </ul>
5-20	Storage impossible because of a lack of memory	<ul style="list-style-type: none"> <li>Temporary memory shortage.</li> <li>Test the SAF memory.</li> </ul>
5-21	Memory overflow	
5-23	Print data error when printing a substitute rx or confidential rx message	<ul style="list-style-type: none"> <li>Test the SAF memory.</li> <li>Ask the other end to resend the message.</li> </ul>
5-25	SAF file access error	<ul style="list-style-type: none"> <li>Replace an SD card or HDD.</li> <li>Replace the FCU.</li> </ul>
6-00	G3 ECM - T1 time out during reception of facsimile data	<ul style="list-style-type: none"> <li>Try adjusting the rx cable equalizer.</li> <li>Replace the FCU.</li> </ul>
6-01	G3 ECM - no V.21 signal was received	
6-02	G3 ECM - EOR was received	
6-04	G3 ECM - RTC not detected	<ul style="list-style-type: none"> <li>Check the line connection.</li> <li>Check for a bad line or defective remote terminal.</li> <li>Replace the FCU.</li> </ul>
6-05	G3 ECM - facsimile data frame not received within 18 s of CFR, but there was no line fail	<ul style="list-style-type: none"> <li>Check the line connection.</li> <li>Check for a bad line or defective remote terminal.</li> <li>Replace the FCU.</li> <li>Try adjusting the rx cable equalizer</li> </ul> <p><b>Cross reference</b></p> <ul style="list-style-type: none"> <li>Rx cable equalizer - G3 Switch 07 (PSTN)</li> </ul>
6-06	G3 ECM - coding/decoding error	<ul style="list-style-type: none"> <li>Defective FCU.</li> <li>The other terminal may be defective.</li> </ul>
6-08	G3 ECM - PIP/PIN received in reply to PPS.NULL	<ul style="list-style-type: none"> <li>The other end pressed Stop during communication.</li> <li>The other terminal may be defective.</li> </ul>
6-09	G3 ECM - ERR received	<ul style="list-style-type: none"> <li>Check for a noisy line.</li> <li>Adjust the tx levels of the communicating machines.</li> <li>See code 6-05.</li> </ul>
6-10	G3 ECM - error frames still received at the other end after all communication attempts at 2400 bps	<ul style="list-style-type: none"> <li>Check for line noise.</li> <li>Adjust the tx level (use NCU parameter 01 or the dedicated tx parameter for that address).</li> <li>Check the line connection.</li> </ul>



Code	Meaning	Suggested Cause/Action
		<ul style="list-style-type: none"> <li>Defective remote terminal.</li> </ul>
6-21	V.21 flag detected during high speed modem communication	<ul style="list-style-type: none"> <li>The other terminal may be defective or incompatible.</li> </ul>
6-22	The machine resets the sequence because of an abnormal handshake in the V.34 control channel	<ul style="list-style-type: none"> <li>Check for line noise.</li> <li>If the same error occurs frequently, replace the FCU.</li> <li>Defective remote terminal.</li> </ul>
6-99	V.21 signal not stopped within 6 s	<ul style="list-style-type: none"> <li>Replace the FCU.</li> </ul>
9-30	HDD write error	<ul style="list-style-type: none"> <li>Check the connection of the HDD.</li> <li>If the problem persists, replace the HDD and/or harness.</li> </ul>
9-31	HDD control error	
9-32	HDD read error	
9-33	HDD fatal error	
13-17	SIP user name registration error	<ul style="list-style-type: none"> <li>Double registration of the SIP user name.</li> <li>Capacity for user-name registration in the SIP server is not sufficient.</li> </ul>
13-18	SIP server access error	<ul style="list-style-type: none"> <li>Incorrect initial setting for the SIP server.</li> <li>Defective SIP server.</li> </ul>
13-24	SIP authentication error	<ul style="list-style-type: none"> <li>Registered password in the device does not match the password in the SIP server.</li> </ul>
13-25	Network I/F setting error	<ul style="list-style-type: none"> <li>IPV4 is not active in the active protocol setting.</li> <li>IP address of the device is not registered.</li> </ul>
13-26	Network I/F setting error at power on	<ul style="list-style-type: none"> <li>Active protocol setting does not match the I/F setting for SIP server.</li> <li>IP address of the device is not registered.</li> </ul>
13-27	IP address setting error	<ul style="list-style-type: none"> <li>IP address of the device is not registered.</li> </ul>
14-00	SMTP Send Error	<ul style="list-style-type: none"> <li>Error occurred during sending to the SMTP server. Occurs for any error other than 14-01 to 16. For example, the mail address of the system administrator is not registered.</li> </ul>
14-01	SMTP Connection Failed	<ul style="list-style-type: none"> <li>Failed to connect to the SMTP server (timeout) because the server could not be found.</li> <li>The PC is not ready to transfer files.</li> <li>SMTP server not functioning correctly.</li> <li>The DNS IP address is not registered.</li> <li>Network not operating correctly.</li> <li>Destination folder selection not correct.</li> </ul>

Code	Meaning	Suggested Cause/Action
14-02	No Service by SMTP Service (421)	<ul style="list-style-type: none"> <li>• SMTP server operating incorrectly, or the destination for direct SMTP sending is not correct.</li> <li>• Contact the system administrator and check that the SMTP server has the correct settings and operates correctly.</li> <li>• Contact the system administrator for direct SMTP sending and check the sending destination.</li> </ul>
14-03	Access to SMTP Server Denied (450)	<ul style="list-style-type: none"> <li>• Failed to access the SMTP server because the access is denied.</li> <li>• SMTP server operating incorrectly. Contact the system administrator to determine if there is a problem with the SMTP server and to check that the SMTP server settings are correct.</li> <li>• Folder send destination is incorrect. Contact the system administrator to determine that the SMTP server settings and path to the server are correct.</li> <li>• Device settings incorrect. Confirm that the user name and password settings are correct.</li> <li>• Direct SMTP destination incorrect. Contact the system administrator to determine if there is a problem at the destination at that the settings at the destination are correct.</li> </ul>
14-04	Access to SMTP Server Denied (550)	<ul style="list-style-type: none"> <li>• SMTP server operating incorrectly</li> <li>• Direct SMTP sending not operating correctly</li> </ul>
14-05	SMTP Server HDD Full (452)	<ul style="list-style-type: none"> <li>• Failed to access the SMTP server because the HDD on the server is full.</li> <li>• Insufficient free space on the HDD of the SMTP server. Contact the system administrator and check the amount of space remaining on the SMTP server HDD.</li> <li>• Insufficient free space on the HDD where the destination folder is located. Contact the system administrator and check the amount</li> </ul>

Code	Meaning	Suggested Cause/Action
		<p>of space remaining on the HDD where the target folder is located.</p> <ul style="list-style-type: none"> <li>Insufficient free space on the HDD at the target destination for SMTP direct sending. Contact the system administrator and check the amount of space remaining on the target HDD.</li> </ul>
14-06	User Not Found on SMTP Server (551)	<ul style="list-style-type: none"> <li>The designated user does not exist.</li> <li>The designated user does not exist on the SMTP server.</li> <li>The designated address is not for use with direct SMTP sending.</li> </ul>
14-07	Data Send to SMTP Server Failed (4XX)	<ul style="list-style-type: none"> <li>Failed to access the SMTP server because the transmission failed.</li> <li>PC not operating correctly.</li> <li>SMTP server operating incorrectly</li> <li>Network not operating correctly.</li> <li>Destination folder setting incorrect.</li> <li>Direct SMTP sending not operating correctly.</li> </ul>
14-08	Data Send to SMTP Server Failed (5XX)	<ul style="list-style-type: none"> <li>Failed to access the SMTP server because the transmission failed.</li> <li>SMTP server operating incorrectly</li> <li>Destination folder setting incorrect.</li> <li>Direct SMTP sending not operating correctly.</li> <li>Software application error.</li> </ul>
14-09	Authorization Failed for Sending to SMTP Server	<ul style="list-style-type: none"> <li>POP-Before-SMTP or SMTP authorization failed.</li> <li>Incorrect setting for file transfer</li> </ul>
14-10	Addresses Exceeded	<ul style="list-style-type: none"> <li>Number of broadcast addresses exceeded the limit for the SMTP server.</li> </ul>
14-11	Buffer Full	<ul style="list-style-type: none"> <li>The send buffer is full so the transmission could not be completed. Buffer is full due to using Scan-to-Email while the buffer is being used send mail at the same time.</li> </ul>
14-12	Data Size Too Large	<ul style="list-style-type: none"> <li>Transmission was cancelled because the detected size of the file was too large.</li> </ul>
14-13	Send Cancelled	<ul style="list-style-type: none"> <li>Processing is interrupted because the user pressed Stop.</li> </ul>

Code	Meaning	Suggested Cause/Action
14-14	Security Locked File Error	<ul style="list-style-type: none"> <li>Update the software because of the defective software.</li> </ul>
14-15	Mail Data Error	<ul style="list-style-type: none"> <li>The transmitting a mail is interrupted via DCS due to the incorrect data.</li> <li>Update the software because of the defective software.</li> </ul>
14-16	Maximum Division Number Error	<ul style="list-style-type: none"> <li>When a mail is divided for the mail transmission and the division number of a mail are more than the specified number, the mail transmission is interrupted.</li> <li>Update the software because of the defective software.</li> </ul>
14-17	Incorrect Ticket	<ul style="list-style-type: none"> <li>Update the software because of the defective software.</li> </ul>
14-18	Access to MCS File Error	<ul style="list-style-type: none"> <li>The access to MCS file is denied due to the no permission of access.</li> <li>Update the software because of the defective software.</li> </ul>
14-20	SMTP Authentication Error	<ul style="list-style-type: none"> <li>Make sure that the administrator's e-mail address is the same as the SMTP authentication address or POP before SMTP address.</li> </ul>
14-21	Transmission error of S/MIME	<ul style="list-style-type: none"> <li>Register the correct user certificate and device certificate.</li> </ul>
14-30	MCS File Creation Failed	<p>Failed to create the MCS file because:</p> <ul style="list-style-type: none"> <li>The number of files created with other applications on the Document Server has exceeded the limit.</li> <li>HDD is full or not operating correctly.</li> <li>Software error.</li> </ul>
14-31	UFS File Creation Failed	<p>UFS file could not be created:</p> <ul style="list-style-type: none"> <li>Not enough space in UFS area to handle both Scan-to-Email and IFAX transmission.</li> <li>HDD full or not operating correctly.</li> <li>Software error.</li> </ul>
14-32	Cancelled the Mail Due to Error Detected by NFA	<ul style="list-style-type: none"> <li>Error detected with NFA and send was cancelled due to a software error.</li> </ul>
14-33	No Mail Address For the Machine	<ul style="list-style-type: none"> <li>Neither the mail address of the machine nor</li> </ul>

Code	Meaning	Suggested Cause/Action
		the mail address of the network administrator is registered.
14-34	Address designated in the domain for SMTP sending does not exist	<ul style="list-style-type: none"> <li>Operational error in normal mail sending or direct SMTP sending.</li> <li>Check the address selected in the address book for SMTP sending.</li> <li>Check the domain selection.</li> </ul>
14-50	Mail Job Task Error	<p>Due to an FCU mail job task error, the send was cancelled:</p> <ul style="list-style-type: none"> <li>Address book was being edited during creation of the notification mail.</li> <li>Software error.</li> </ul>
14-51	UCS Destination Download Error	<p>Not even one return notification can be downloaded:</p> <ul style="list-style-type: none"> <li>The address book was being edited.</li> <li>The number for the specified destination does not exist (it was deleted or edited after the job was created).</li> </ul>
14-60	Send Cancel Failed	<ul style="list-style-type: none"> <li>The cancel operation by the user failed to cancel the send operation.</li> </ul>
14-61	Notification Mail Send Failed for All Destinations	<ul style="list-style-type: none"> <li>All addresses for return notification mail failed.</li> </ul>
14-62	Transmission Error due to the existence of zero line page	<ul style="list-style-type: none"> <li>When the 0 line page exists in received pages with G3 communication, the transmission is interrupted.</li> </ul>
14-63	Fax Communication Unit: Transmission Error	<p>Check the followings.</p> <ul style="list-style-type: none"> <li>Name of SMTP server</li> <li>Port number of SMTP</li> <li>DNS setting</li> <li>Server name (FTP)</li> <li>Path name (computer name and shared folder name at SMTP/ NCP)</li> <li>Active protocol setting (Netware/ NCP)</li> <li>NW flame type (NCP)</li> <li>Log-on mode (NDS tree/ bindery)</li> </ul> <p>Check the SMTP server.</p> <ul style="list-style-type: none"> <li>Check if the SMTP server works normally and is connected to the network.</li> </ul>

Code	Meaning	Suggested Cause/Action
		<ul style="list-style-type: none"> <li>Check if the settings of the SMTP are correct.</li> </ul>
		<p>Check the DNS server.</p> <ul style="list-style-type: none"> <li>Check if the DNS server works normally and is connected to the network.</li> <li>Check if the settings of the DNS server are correct.</li> </ul>
		<p>Check the network.</p> <ul style="list-style-type: none"> <li>Check if the LAN works normally.</li> <li>Check if the no firewall exists.</li> </ul>
		<p>Check the destination folder for the data transfer.</p> <ul style="list-style-type: none"> <li>Check if the destination folder works normally.</li> <li>Check if the settings of the destination folder are correct.</li> </ul>
		<p>Ask an administrator of the direct SMTP server in which the data is supposed to be transferred.</p> <ul style="list-style-type: none"> <li>Check if the destination SMTP server works normally.</li> <li>Check if the settings of the destination SMTP server are correct.</li> </ul>
15-01	POP3/IMAP4 Server Not Registered	<ul style="list-style-type: none"> <li>At startup, the system detected that the IP address of the POP3/IMAP4 server has not been registered in the machine.</li> </ul>
15-02	POP3/IMAP4 Mail Account Information Not Registered	<ul style="list-style-type: none"> <li>The POP3/IMAP4 mail account has not been registered.</li> </ul>
15-03	Mail Address Not Registered	<ul style="list-style-type: none"> <li>The mail address has not been registered.</li> </ul>
15-10	DCS Mail Receive Error	<ul style="list-style-type: none"> <li>Error other than 15-11 to 15-18.</li> </ul>
15-11	Connection Error	<p>The DNS or POP3/IMAP4 server could not be found:</p> <ul style="list-style-type: none"> <li>The IP address for DNS or POP3/IMAP4 server is not stored in the machine.</li> <li>The DNS IP address is not registered.</li> <li>Network not operating correctly.</li> </ul>
15-12	Authorization Error	<p>POP3/IMAP4 send authorization failed:</p> <ul style="list-style-type: none"> <li>Incorrect IFAX user name or password.</li> <li>Access was attempted by another device, such as the PC.</li> <li>POP3/IMAP4 settings incorrect.</li> </ul>

<b>Code</b>	<b>Meaning</b>	<b>Suggested Cause/Action</b>
15-13	Receive Buffer Full	<ul style="list-style-type: none"> <li>Occurs only during manual reception. Transmission cannot be received due to insufficient buffer space. The buffer is being used for mail send or Scan-to-Email.</li> </ul>
15-14	Mail Header Format Error	<ul style="list-style-type: none"> <li>The mail header is not standard format. For example, the Date line description is incorrect.</li> </ul>
15-15	Mail Divide Error	<ul style="list-style-type: none"> <li>The e-mail is not in standard format. There is no boundary between parts of the e-mail, including the header.</li> </ul>
15-16	Mail Size Receive Error	<ul style="list-style-type: none"> <li>The mail cannot be received because it is too large.</li> </ul>
15-17	Receive Timeout	<ul style="list-style-type: none"> <li>May occur during manual receiving only because the network is not operating correctly.</li> </ul>
15-18	Incomplete Mail Received	<ul style="list-style-type: none"> <li>Only one portion of the mail was received.</li> </ul>
15-31	Final Destination for Transfer Request Reception Format Error	<ul style="list-style-type: none"> <li>The format of the final destination for the transfer request was incorrect.</li> </ul>
15-39	Send/Delivery Destination Error	<p>The transmission cannot be delivered to the final destination:</p> <ul style="list-style-type: none"> <li>Destination file format is incorrect.</li> <li>Could not create the destination for the file transmission.</li> </ul>
15-41	SMTP Receive Error	<ul style="list-style-type: none"> <li>Reception rejected because the transaction exceeded the limit for the "Auth. E-mail RX" setting.</li> </ul>
15-42	Off Ramp Gateway Error	<ul style="list-style-type: none"> <li>The delivery destination address was specified with Off Ramp Gateway OFF.</li> </ul>
15-43	Address Format Error	<ul style="list-style-type: none"> <li>Format error in the address of the Off Ramp Gateway.</li> </ul>
15-44	Addresses Over	<ul style="list-style-type: none"> <li>The number of addresses for the Off Ramp Gateway exceeded the limit of 30.</li> </ul>
15-61	Attachment File Format Error	<ul style="list-style-type: none"> <li>The attached file is not TIFF format.</li> </ul>
15-62	TIFF File Compatibility Error	<p>Could not receive transmission due to:</p> <ul style="list-style-type: none"> <li>Resolution error</li> <li>Image of resolution greater than 200 dpi without extended memory.</li> <li>Resolution is not supported.</li> </ul>

Code	Meaning	Suggested Cause/Action
		<ul style="list-style-type: none"> <li>Page size error</li> <li>The page size was larger than A3.</li> <li>Compression error</li> <li>File was compressed with other than MH, MR, or MMR.</li> </ul>
15-63	TIFF Parameter Error	<p>The TIFF file sent as the attachment could not be received because the TIFF header is incorrect:</p> <ul style="list-style-type: none"> <li>The TIFF file attachment is a type not supported.</li> <li>The TIFF file attachment is corrupted.</li> <li>Software error.</li> </ul>
15-64	TIFF Decompression Error	<p>The file received as an attachment caused the TIFF decompression error:</p> <ul style="list-style-type: none"> <li>The TIFF format of the attachment is corrupted.</li> <li>Software error.</li> </ul>
15-71	Not Binary Image Data	<ul style="list-style-type: none"> <li>The file could not be received because the attachment was not binary image data.</li> </ul>
15-73	MDN Status Error	<ul style="list-style-type: none"> <li>Could not find the Disposition line in the header of the Return Receipt, or there is a problem with the firmware.</li> </ul>
15-74	MDN Message ID Error	<ul style="list-style-type: none"> <li>Could not find the Original Message ID line in the header of the Return Receipt, or there is a problem with the firmware.</li> </ul>
15-80	Mail Job Task Read Error	<ul style="list-style-type: none"> <li>Could not receive the transmission because the destination buffer is full and the destination could not be created (this error may occur when receiving a transfer request or a request for notification of reception).</li> </ul>
15-81	Repeated Destination Registration Error	<ul style="list-style-type: none"> <li>Could not repeat receive the transmission because the destination buffer is full and the destination could not be created (this error may occur when receiving a transfer request or a request for notification of reception).</li> </ul>
15-91	Send Registration Error	<p>Could not receive the file for transfer to the final destination:</p> <ul style="list-style-type: none"> <li>The format of the final destination or the transfer destination is incorrect.</li> </ul>



Code	Meaning	Suggested Cause/Action
		<ul style="list-style-type: none"> <li>Destinations are full so the final and transfer destinations could not be created.</li> </ul>
15-92	Memory Overflow	<ul style="list-style-type: none"> <li>Transmission could not be received because memory overflowed during the transaction.</li> </ul>
15-93	Memory Access Error	<ul style="list-style-type: none"> <li>Transaction could not complete due to a malfunction of SAF memory.</li> </ul>
15-94	Incorrect ID Code	<ul style="list-style-type: none"> <li>The machine rejected an incoming e-mail for transfer request, because the ID code in the incoming e-mail did not match the ID code registered in the machine.</li> </ul>
15-95	Transfer Station Function	<ul style="list-style-type: none"> <li>The machine rejected an incoming e-mail for transfer because the transfer function was unavailable.</li> </ul>
16-00	No IP address registered	<ul style="list-style-type: none"> <li>The machine does not get an IP address because the DNS server has not been registered for the remote machine or IP address of the remote machine has not been registered.</li> <li>Register the DNS server for the remote machine or configure an IP address of the remote machine.</li> </ul>
22-00	Original length exceeded the maximum scan length	<ul style="list-style-type: none"> <li>Divide the original into more than one page.</li> <li>Check the resolution used for scanning. Lower the scan resolution if possible.</li> <li>Add optional page memory.</li> </ul>
22-01	Memory overflow while receiving	<ul style="list-style-type: none"> <li>Wait for the files in the queue to be sent.</li> <li>Delete unnecessary files from memory.</li> <li>Transfer the substitute reception files to an another fax machine, if the machine's printer is busy or out of order.</li> <li>Add an optional SAF memory card or hard disk.</li> </ul>
22-02	Tx or rx job stalled due to line disconnection at the other end	<ul style="list-style-type: none"> <li>The job started normally but did not finish normally; data may or may not have been received fully.</li> <li>Restart the machine.</li> </ul>
22-04	The machine cannot store received data in the SAF	<ul style="list-style-type: none"> <li>Update the ROM</li> <li>Replace the FCU.</li> </ul>

Code	Meaning	Suggested Cause/Action
22-05	No G3 parameter confirmation answer	<ul style="list-style-type: none"> <li>Defective FCU board or firmware.</li> </ul>
22-06	The fax number / e-mail address entered or selected by the user does not match that of the destination. (This may occur because of a bug.)	<ul style="list-style-type: none"> <li>Software error. Install latest FCU firmware.</li> <li>FCU board defective Replace the FCU.</li> </ul>
22-07	File to send missing during IP-Fax / Internet Fax / Scan to Email / Scan to Folder transmission.	
22-08	File missing when printing the configuration page.	
22-09	File missing when receiving fax.	
22-10	File missing is when storing a received fax file.	
23-00	Data read timeout during construction	
25-00	The machine software resets itself after a fatal transmission error occurred	<ul style="list-style-type: none"> <li>Update the ROM</li> <li>Replace the FCU.</li> </ul>
F0-xx	V.34 modem error	<ul style="list-style-type: none"> <li>Replace the FCU.</li> </ul>
F6-xx	SG3 modem error	<ul style="list-style-type: none"> <li>Update the SG3 modem ROM.</li> <li>Replace the SG3 board.</li> <li>Check for line noise or other line problems.</li> <li>Try communicating another V.8/V.34 fax.</li> </ul>

## 3.2 FAX CONNECTION UNIT ERROR CODES

### 3.2.1 ERROR CODE - 01

Error Code	Suggested Cause	Action
01(1)	IPv4/IPv6 not enabled	Enable IPv4 and IPv6
01(3)	"Cancel" is pressed by user.	-
01(4)	A false connection ID is being used.	Check that the network is established.
01(5)	Network disconnected because of no response within a specified time.	
01(14)	<ul style="list-style-type: none"> <li>The machine either of destination or of local is entering SP or Initial setting.</li> <li>An established connection exists.</li> </ul>	<ul style="list-style-type: none"> <li>Exit SP or initial setting.</li> <li>Wait until the connection has finished.</li> </ul>

### 3.2.2 ERROR CODE - 02

Error Code	Suggested Cause	Action
02(5)	<ul style="list-style-type: none"> <li>Wrong IP address/hostname is used</li> <li>The machine at destination power off</li> <li>LAN cable is disconnected</li> <li>Network is rebooting.</li> </ul>	<ul style="list-style-type: none"> <li>Enter the correct IP address/hostname</li> <li>Turn on the main power.</li> <li>Connect the LAN cable</li> <li>Wait until the rebooting has finished.</li> </ul>

### 3.2.3 ERROR CODE - 03

Error Code	Suggested Cause	Action	
03	<ul style="list-style-type: none"> <li>No user authentication applies for fax application (i.e. Basic/Windows/LDAP/Custom Auth.)</li> <li>Settings other than user authentication are applied to the fax application.</li> </ul>	Configure the user authentication setting for client-side and Remote Machine as the following table.	
		Client-side Machine	Remote Machine
		OFF	OFF
		ON	OFF
		ON	ON

**3.2.4 ERROR CODE - 04**

Error Code	Suggested Cause	Action
04	Although the same user registered to the Remote Machine and Client-side Machine, the user name and password for login are unmatched between the two locations.	<ul style="list-style-type: none"> <li>Register the same user to both the Remote Machine and Client-side Machine.</li> <li>Be sure to match the username and password for login between the two locations.</li> </ul>

**3.2.5 ERROR CODE - 05**

Error Code	Suggested Cause	Action
05	An unauthorized user connects to the fax connection.	Authorize the user to use fax connection.

**3.2.6 ERROR CODE - 06**

Error Code	Suggested Cause	Action
06	Timeout error on the node authentication	Adjust the value of SP5-741-001 to prolong the timeout for node authentication.

**3.2.7 ERROR CODE - 07**

Error Code	Suggested Cause	Action
07	Multiple destinations are set in the Client-side Machine.	In the Client-side Machine, execute SP5-801-021 to clear AICS memory

## Error Code - 08

Error Code	Suggested Cause	Action
08(1)	<ul style="list-style-type: none"> <li>A Client-side Machine connects to other Client-side Machine.</li> <li>The Client-side Machine not registered in the Remote Machine as destinations.</li> </ul>	<ul style="list-style-type: none"> <li>Connect to the Remote Machine.</li> <li>Register the Client-side Machine to the Remote Machine as a destination.</li> </ul>
08(2)	<ul style="list-style-type: none"> <li>A Remote Machine connects to other Remote Machine.</li> <li>Wrong Remote Machine registered in the Client-side Machine.</li> </ul>	<ul style="list-style-type: none"> <li>Connect to the Client-side Machine.</li> <li>Check what Remote Machine registered in the Client-side Machine.</li> </ul>

**3.2.8 ERROR CODE - 09**

Error Code	Suggested Cause	Action
09	Capacity of the HDD of the Remote Machine is full.	Increase the remaining capacity of the HDD of the Remote Machine.

### 3.3 IFAX TROUBLESHOOTING

Use the following procedures to determine whether the machine or another part of the network is causing the problem.

Communication Route	Item	Action [Remarks]
General LAN	1. Connection with the LAN	<ul style="list-style-type: none"> <li>Check that the LAN cable is connected to the machine.</li> <li>Check that the LEDs on the hub are lit.</li> </ul>
	2. LAN activity	Check that other device connected to the LAN can communicate through the LAN.
Between IFAX and PC	1. Network settings on the PC	<ul style="list-style-type: none"> <li>Check the network settings on the PC. [Is the IP address registered in the TCP/IP properties in the network setup correct? Check the IP address with the administrator of the network.]</li> </ul>
	2. Check that PC can connect with the machine	<ul style="list-style-type: none"> <li>Use the "ping" command on the PC to contact the machine. [At the MS-DOS prompt, type ping then the IP address of the machine, then press Enter.]</li> </ul>
	3. LAN settings in the machine	<ul style="list-style-type: none"> <li>Check the LAN parameters</li> <li>Check if there is an IP address conflict with other PCs. [Use the "Network" function in the User Tools. If there is an IP address conflict, inform the administrator.]</li> </ul>
Between machine and e-mail server	1. LAN settings in the machine	<ul style="list-style-type: none"> <li>Check the LAN parameters</li> <li>Check if there is an IP address conflict with other PCs. [Use the "Network" function in the User Tools. If there is an IP address conflict, inform the administrator.]</li> </ul>
	2. E-mail account on the server	<ul style="list-style-type: none"> <li>Make sure that the machine can log into the e-mail server.</li> <li>Check that the account and password stored in the server are the same as in the machine. [Ask the administrator to check.]</li> </ul>

Communication Route	Item	Action [Remarks]
	3. E-mail server	<ul style="list-style-type: none"> <li>Make sure that the client devices which have an account in the server can send/receive e-mail.</li> </ul> <p>[Ask the administrator to check. Send a test e-mail with the machine's own number as the destination. The machine receives the returned e-mail if the communication is performed successfully.]</p>
Between e-mail server and internet	1. E-mail account on the Server	<ul style="list-style-type: none"> <li>Make sure that the PC can log into the e-mail server.</li> <li>Check that the account and password stored in the server are the same as in the machine.</li> </ul> <p>[Ask the administrator to check.]</p>
	2. E-mail server	<ul style="list-style-type: none"> <li>Make sure that the client devices which have an account in the server can send/receive e-mail.</li> </ul> <p>[Ask the administrator to check. Send a test e-mail with the machine's own number as the destination. The machine receives the returned e-mail if the communication is performed successfully.]</p>
	3. Destination e-mail address	<ul style="list-style-type: none"> <li>Make sure that the e-mail address is actually used.</li> <li>Check that the e-mail address contains no incorrect characters such as spaces.</li> </ul>
	4. Router settings	<ul style="list-style-type: none"> <li>Use the "ping" command to contact the router.</li> <li>Check that other device connected to the router can send data over the router.</li> </ul> <p>[Ask the administrator of the server to check.]</p>
	5. Error message by e-mail from the network of the destination.	<ul style="list-style-type: none"> <li>Check whether e-mail can be sent to another address on the same network, using the application e-mail software.</li> <li>Check the error e-mail message.</li> </ul> <p>[Inform the administrator of the LAN.]</p>

## 3.4 IP-FAX TROUBLESHOOTING

### 3.4.1 IP-FAX TRANSMISSION

#### *Cannot send by IP Address/Host Name*

Check Point		Action
1	LAN cable connected?	Check the LAN cable connection.
2	Specified IP address/hostname correct?	Check the IP address/hostname.
3	Firewall/NAT is installed?	Cannot breach the firewall. Send by using another method (Fax, Internet Fax)
4	Did transmission send manually?	Manual sending not supported.
5	IP address of local machine registered?	Register the IP address.
6	Remote terminal port number setting other than 1720 (When using H.323) or 5060 (when using SIP)?	Send by specifying the port number.
7	Specified port number correct?	Confirm the port number of the remote fax.
8	DNS server registered when hostname specified?	Contact the network administrator.
9	Remote fax a T.38 terminal?	Check whether the remote fax is a T38 terminal.
10	Remote fax switched off or busy?	Check that the remote fax is switched on.
11	Network bandwidth too narrow?	Request the network administrator to increase the bandwidth.
		Raise the delay level. IPFAX SW 01 Bit 0 to 3
		IP-Fax bandwidth is the same as the DCS speed. Set IP-Fax SW00 Bit 6 to 1.
12	Remote fax canceled transmission?	Check whether the remote fax canceled the transmission.

#### *Cannot Send via VoIP Gateway.*

Check Point		Action
1	LAN cable connected?	Check the LAN cable connection.
2	VoIP Gateway T.38 standard?	Contact the network administrator.
3	VoIP Gateway installed correctly?	Contact the network administrator.
4	VoIP Gateway power switched on?	Contact the network administrator.



5	Is the IP address/hostname of the specified Gateway correct?	Check the IP address/hostname.
6	Does the number of the specified fax correct?	Check the remote fax number.
7	Firewall/NAT is installed?	Cannot breach the firewall. Send by using another method (Fax, Internet Fax)
8	Did transmission send manually?	Manual sending not supported.
9	What is the IP address of local fax registered?	Register the IP address.
10	DNS registered when hostname specified?	Contact the network administrator.
11	Is the remote fax a G3 fax?	Check that the remote fax is a G3 fax.
12	G3 fax is connected to VoIP gateway?	Check that G3 fax is connected.
13	Remote G3 fax turned on?	Check that G3 fax is switched on.
14	Network bandwidth too narrow?	Request the network administrator to increase the bandwidth.
		Raise the network delay level. IPFAX SW 01 Bit 0 to 3
		IP-Fax bandwidth is the same as the DCS speed. Set IP-Fax SW00 Bit 6 to 1.

### ***Cannot Send by Alias Fax Number.***

Check Point		Action
1	LAN cable connected?	Check the LAN cable connection.
2	Number of specified Alias fax correct?	Confirm the Alias of the remote fax. Error Code: 13-14
3	Firewall/NAT installed?	Cannot breach the firewall. Send by using another method (Fax, Internet Fax)
4	Transmission sent manually?	Manual sending not supported.
5	Gatekeeper/SIP server installed correctly?	Contact the network administrator.
6	Gatekeeper/SIP server power switched on?	Contact the network administrator.
7	IP address/host name of Gatekeeper/SIP server correct?	Check the IP address/host name.
8	DNS server registered when Gatekeeper/SIP host name specified?	Contact the network administrator.
9	Enable H.323 SW is set to on?	Check the settings. See User Parameter SW 34 Bit 0/SW 34 Bit 1
10	IP address of local fax registered?	Register the IP address of the local fax.

11	Alias number of local fax registered?	Register the Alias number of the local fax.
12	Remote fax registered in Gatekeeper?	Contact the network administrator.
13	Remote fax a T.38 terminal?	Check whether the remote fax is a T38 terminal.
14	Remote fax switched off or busy?	Contact the network administrator.
15	Network bandwidth too narrow?	Request the system administrator to increase the bandwidth.
		Raise the delay level. IPFAX SW 01 Bit 0 to 3
		Lower the modem transmission baud rate. IPFAX SW 05
16	Remote fax cancelled transmission?	Check whether the remote fax cancelled the transmission.

### 3.4.2 IP-FAX RECEPTION




#### ***Cannot Receive via IP Address/Host Name.***




Check Point		Action
1	LAN cable connected?	Check the LAN cable connection.
2	Firewall/NAT is installed?	Cannot breach the firewall. Send by using another method (Fax, Internet Fax)
3	IP address of local fax registered?	Register the IP address.
4	Port number specified at remote sender fax (if required)?	Request the sender to specify the port number.
5	Specified port number correct (if required)?	Request the sender to check the port number.
6	DNS server registered when hostname specified on sender side?	Contact the network administrator. <b>Note</b> <ul style="list-style-type: none"> <li>The sender machine displays this error code if the sender fax is a Ricoh model.</li> </ul>
7	Network bandwidth too narrow?	Request the system administrator to increase the bandwidth.
		Lower the start modem reception baud rate on the receiving side. IPFAX SW06
8	Remote fax canceled transmission?	Check whether the remote fax canceled the transmission.

**Cannot Receive by VoIP Gateway.**

Check Point		Action
1	LAN cable connected?	Check the LAN cable connection.
2	Firewall/NAT is installed?	Cannot breach the firewall. Request the remote fax to send by using another method (Fax, Internet Fax)
3	VoIP Gateway installed correctly?	Contact the network administrator.
4	VoIP Gateway power switched on?	Contact the network administrator.
5	The IP address/hostname of specified VoIP Gateway correct on sender's side?	Request the remote fax to check the IP address/hostname.
6	DNS server registered when hostname specified on sender side?	Contact the network administrator.
7	Network bandwidth too narrow?	Request the network administrator to increase the bandwidth.
8	G3 fax connected?	Check that G3 fax is connected.
9	G3 fax power switched on?	Check that G3 fax is switched on.

**Cannot Receive by Alias Fax Number.**

Check Point		Action
1	LAN cable connected?	Check the LAN cable connection.
2	Firewall/NAT is installed?	Cannot the breach firewall. Request the remote fax to send by using another method (Fax, Internet Fax)
3	Did gatekeeper install correctly?	Contact the network administrator.  <b>Note</b> <ul style="list-style-type: none"> <li>The sender machine displays this error code when the sender fax is a Ricoh model.</li> </ul>
4	Power to Gatekeeper switched on?	Contact the network administrator.  <b>Note</b> <ul style="list-style-type: none"> <li>The sender machine displays this error code when the sender fax is a Ricoh model.</li> </ul>
5	IP address/hostname of Gatekeeper correct on the sender's side?	Request the sender to check the IP address/hostname.  <b>Note</b> <ul style="list-style-type: none"> <li>The sender machine displays this error code when the sender fax is a Ricoh</li> </ul>

		model.
6	DNS server registered when Gatekeeper hostname specified on sender's side?	Contact the network administrator.  <b>Note</b> <ul style="list-style-type: none"> <li>The sender machine displays this error code when the sender fax is a Ricoh model.</li> </ul>
7	Enable H.323 SW is set to on?	Request the sender to check the settings. User Parameter SW 34 Bit 0/SW 34 bit 1  <b>Note</b> <ul style="list-style-type: none"> <li>Only if the remote sender fax is a Ricoh fax.</li> </ul>
8	Local fax IP address registered?	Register the IP address.
9	Local fax Alias number registered?	Register the Alias number.
10	Network bandwidth too narrow?	Request the system administrator to increase the bandwidth. Lower the start modem reception baud rate on the receiving side. IPFAX SW06
11	Remote fax canceled transmission?	Check whether the remote fax canceled the transmission.
12	Local fax registered in Gatekeeper/SIP server?	Contact the network administrator.  <b>Note</b> <ul style="list-style-type: none"> <li>The sender machine displays this error code when the sender fax is a Ricoh model.</li> </ul>

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## 4. SERVICE TABLES

### 4.1 BEFOREHAND

#### CAUTION

- Never turn off the main power switch when the power LED is lit or flashing. To avoid damaging the hard disk or memory, press the operation power switch to switch the power off, wait for the power LED to go off, and then switch the main power switch off.

#### Note

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

## 4.2 SERVICE TABLES

### 4.2.1 SP1-XXX (BIT SWITCHES)

#### Bit Switches

1	Mode No.		Function
101	System Switch		
	001 – 032	00 – 1F	Change the bit switches for system settings for the fax option See "Bit Switches - 1"
102	Ifax Switch		
	001 – 016	00 – 0F	Change the bit switches for internet fax settings for the fax option See "Bit Switches - 2"
103	Printer Switch		
	001 – 016	00 – 0F	Change the bit switches for printer settings for the fax option See "Bit Switches - 2"
104	Communication Switch		
	001 – 032	00 – 1F	Change the bit switches for communication settings for the fax option See "Bit Switches - 3"
105	G3-1 Switch		
	001 – 016	00 – 0F	Change the bit switches for the protocol settings of the standard G3 board See "Bit Switches - 4"
111	IP fax Switch		
	001 – 016	00 – 0F	Change the bit switches for optional IP fax parameters See "Bit Switches - 5"

### 4.2.2 SP2-XXX (RAM)

2	Mode No.		Function
101	RAM Read/Write		
	001		Change RAM data for the fax board directly. See "Service RAM Addresses"
102	Memory Dump		
	001	G3-1 Memory Dump	Print out RAM data for the fax board. See "Service RAM Addresses"
103	G3-1 NCU Parameters		
	001 – 023	CC, 01 – 22	NCU parameter settings for the standard G3 board. See "NCU Parameters"

### 4.2.3 SP3-XXX (MACHINE SET)

3	Mode No.		Function
101	Service Station		
	001	Fax Number	Enter the fax number of the service station.
102	Serial Number		
	000		Enter the fax unit's serial number.
103	PSTN-1 Port Settings		
	001	Select Line	Select the line type setting for the G3-1 line. If the machine is installed on a PABX line, select "PABX", "PABX(GND)" or "PABX(FLASH)".
	002	PSTN Access Number	Enter the PSTN access number for the G3-1 line.
	003	Memory Lock Disabled	Not used
107	IPFAX Port Settings		
	001	H323 Port	Sets the H323 port number.
	002	SIP Port	Sets the SIP port number.
	003	RAS Port	Sets the RAS port number.
	004	Gatekeeper port	Sets the Gatekeeper port number.
	005	T.38 Port	Sets the T.38 port number.
	006	SIP Server Port	Sets the SIP port number.
	007	IPFAX Protocol Priority	Select "H323" or "SIP".
201	FAX SW		
	001 – 032	00 – 1F	
301	Fax:FlairAPI Setting		
	101	-	

### 4.2.4 SP4-XXX (ROM VERSION)

4	Mode No.		Function
101	001	FCU ROM Version	Displays the FCU ROM version.
102	001	Error Codes	Displays the latest 64 fax error codes.
103	001	G3-1 ROM Version	Displays the G3-1 modem version.

### 4.2.5 SP5-XXX (RAM CLEAR)

5	Mode No.	Function
101	Initialize SRAM (except Secure)	
	000	Initializes the bit switches and user parameters, user data in the SRAM, files in the SAF memory, and clock.
102	Erase All Files	
	000	Erases all files stored in the SAF memory.
103	Reset Bit Switches (except Secure)	
	000	Resets the bit switches and user parameters.
104	Factory setting	
	000	Resets the bit switches and user parameters, user data in the SRAM and files in the SAF memory.
105	Reset All Bit Switches	
	000	Initializes all the current bit switch settings.
106	Reset Secure Bit Switches	
	000	Initializes only the security bit switches. If you select automatic output/display for the user parameter switches, the security settings are initialized.

### 4.2.6 SP6-XXX (REPORT)

6	Mode No.	Function
101	System Parameter List	
	000	- Touch the "ON" button to print the system parameter list.
102	Service Monitor Report	
	000	- Touch the "ON" button to print the service monitor report.
103	G3 Protocol Dump List	
	002	G3-1 (All Communications) Prints the protocol dump list of all communications for the G3-1 line.
	003	G3-1 (1 Communication) Prints the protocol dump list of the last communication for the G3-1 line.
105	All Files Print out	
	000	- Prints out all the user files in the SAF memory, including confidential messages.  <div style="border: 1px solid #0070C0; border-radius: 10px; padding: 2px; display: inline-block;"> <span style="color: #0070C0;">↓</span> Note         </div> <ul style="list-style-type: none"> <li>Do not use this function, unless the customer is having trouble printing confidential messages or recovering files stored using the memory lock</li> </ul>



			feature.
106	Journal Print out		
	001	All Journals	The machine prints all the communication records on the report.
	002	Specified Date	The machine prints all communication records after the specified date.
107	Log List Print out		
	001	All log files	These log print out functions are for designer use only.
	002	Printer	
	003	SC/TRAP Stored	
	004	Decompression	
	005	Scanner	
	006	JOB/SAF	
	007	Reconstruction	
	008	JBIG	
	009	Fax Driver	
	010	G3CCU	
	011	Fax Job	
	012	CCU	
	013	Scanner Condition	
108	IP Protocol Dump List		
	001	All Communications	Prints the protocol dump list of all communications for the IP fax line.
	002	1 Communication	Prints the protocol dump list of the last communication for the IP fax line.

### 4.2.7 SP7-XXX (TESTS)

These are the test modes for PTT approval.

7	Function
101	G3-1 Modem Tests
102	G3-1 DTMF Tests
103	Ringer Test
104	G3-1 V34 (S2400baud)
105	G3-1 V34 (S2800baud)
106	G3-1 V34 (S3000baud)
107	G3-1 V34 (S3200baud)
108	G3-1 V34 (S3429baud)
109	Recorded Message Test

## 4.3 BIT SWITCHES - 1

### Note

- Do not adjust a bit switch or use a setting that is described as "Not used", as this may cause the machine to malfunction or to operate in a manner that is not accepted by local regulations. Such bits are for use only in other areas, such as Japan.

Default settings for bit switches are not listed in this manual. Refer to the System Parameter List printed by the machine.

### 4.3.1 SYSTEM SWITCHES

System Switch 00 (SP No. 1-101-001)		
No	Function	Comments
0	Dedicated transmission parameter programming 0: Disabled 1: Enabled	Set this bit to 1 before changing any dedicated transmission parameters.  This setting is automatically reset to "0" after turning off and on.
1	Not used	Do not change this setting.
2	Technical data printout on the Journal 0: Disabled 1: Enabled	1: Instead of the personal name, the following data are listed on the Journal for each G3 communication.
	Example:  <b>0000 32V34 288/264 L0100 03 04</b> (1) (2)(3) (4) (5) (6) (7) (8)	(1): EQM value (Line quality data). A larger number means more errors. (2): Symbol rate (V.34 only) (3): Final modem type used (4): Starting data rate (for example, 288 means 28.8 kbps) (5): Final data rate (6): Rx level (see below for how to read the rx level) (7): Total number of error lines that occurred during non-ECM reception. (8): Total number of burst error lines that occurred during non-ECM reception.
		<h3>Note</h3> <ul style="list-style-type: none"> <li>EQM and rx level are fixed at "FFFF" in tx mode.</li> <li>The seventh and eighth numbers are fixed at "00" for transmission records and ECM reception records.</li> </ul>
	Rx level calculation Example:	

	<p><b>0000 32V34 288/264 L0100 03 04</b>  (1) (2)(3) (4) (5) (6) (7) (8)</p> <p>The four-digit hexadecimal value (N) after "L" indicates the rx level.  The <b>high</b> byte is given first, followed by the <b>low</b> byte. Divide the decimal value of N by -16 to get the rx level.  In the above example, the decimal value of N (= 0100 [H]) is 256.  So, the actual rx level is 256/-16 = -16 dB</p>	
3	Not used	Do not change this setting.
4	Line error mark print 0: OFF, 1: ON (print)	When "1" is selected, a line error mark is printed on the printout if a line error occurs during reception. This shows error locations when ECM is turned off.
5	G3 communication parameter display 0: Disabled 1: Enabled	This is a fault-finding aid. The LCD shows the key parameters (see "G3 Communication Parameters" below this table). This is normally disabled because it cancels the CSI display for the user. Be sure to reset this bit to "0" after testing.
6	Protocol dump list output after each communication 0: Off 1: On	This is only used for communication troubleshooting. It shows the content of the transmitted facsimile protocol signals. Always reset this bit to 0 after finishing testing. If system switch 09 bit 6 is at "1", the list is only printed if there was an error during the communication.
7	Not used	Do not change the setting.

### G3 Communication Parameters

Modem rate	336: 33600 bps 168: 16800 bps 312: 31200 bps 144: 14400 bps 288: 28800 bps 120: 12000 bps 264: 26400 bps 96: 9600 bps 240: 24000 bps 72: 7200 bps 216: 21600 bps 48: 4800 bps 192: 19200 bps 24: 2400 bps
Resolution	S: Standard (8 x 3.85 dots/mm) D: Detail (8 x 7.7 dots/mm) F: Fine (8 x 15.4 dots/mm) SF: Superfine (16 x 15.4 dots/mm) 21: Standard (200 x 100 dpi) 22: Detail (200 x 200 dpi) 44: Superfine (400 x 400 dpi)
Compression mode	MMR: MMR compression MR: MR compression

	MH: MH compression JBO: JBIG compression (Optional mode) JBB: JBIG compression (Basic mode)
Communication mode	ECM: With ECM NML: With no ECM
Width and reduction	A4: A4 (8.3"), no reduction B4: B4 (10.1"), no reduction A3: A3 (11.7"), no reduction
I/O rate	0: 0 ms/line 5: 5 ms/line 10: 10 ms/line 20: 20 ms/line 25: 2.5 ms/line 40: 40 ms/line  <div style="border: 1px solid blue; border-radius: 10px; padding: 2px; display: inline-block;"> <b>Note</b> </div> <ul style="list-style-type: none"> <li>"40" is displayed while receiving a fax message using AI short protocol.</li> </ul>

**System Switch 01** - Not used (Do not change the factory settings.)

**System Switch 02 (SP No. 1-101-003)**

No	Function	Comments
0-1	Not used	Do not change these settings.
2	Forced reset after transmission stalls 0: Off 1: On	With this setting on, the machine resets itself automatically if a transmission stalls and fails to complete the job.
3	Not used	Do not change these settings.
4	File retention time 0: Depends on User Parameter 24 [18(H)] 1: No limit	1: A file that had a communication error will not be erased unless the communication is successful.
5-7	Not used	Do not change this setting

**System Switch 03** - Not used (Do not change the factory settings.)

**System Switch 04 (SP No. 1-101-005)**

No	Function	Comments
0-2	Not used	Do not change these settings.

3	Printing dedicated tx parameters on Quick/Speed Dial Lists 0: Disabled 1: Enabled	1: Each Quick/Speed dial number on the list is printed with the dedicated tx parameters (10 bytes each). The first 10 bytes of data are the programmed dedicated tx parameters; 34 bytes of data are printed (the other 24 bytes have no use for service technicians).
4-7	Not used	Do not change these settings.

**System Switch 05** - Not used (Do not change the factory settings.)

**System Switch 06** - Not used (Do not change the factory settings.)

**System Switch 07** - Not used (Do not change the factory settings.)

**System Switch 08** - Not used (Do not change the factory settings.)

**System Switch 09 (SP No. 1-101-010)**

No	Function	Comments
0	Addition of image data from confidential transmissions on the transmission result report 0: Disabled 1: Enabled	If this feature is enabled, the top half of the first page of confidential messages will be printed on transmission result reports.
1	Print timing of communication reports on the Journal when no image data was exchanged. 0: After DCS/NSS communication (default), 1: After polling	0: The Journal is printed only when image data is sent. 1: The Journal is printed when any data is sent.
2	Automatic error report printout 0: Disabled 1: Enabled	0: Error reports will not be printed. 1: Error reports will be printed automatically after failed communications.
3	Printing of the error code on the error report 0: No 1: Yes	1: Error codes are printed on the error reports. This can be used for detecting an error which occurs rarely.
4	Not used	Do not change this setting.
5	Power failure report 0: Disabled 1: Enabled (default)	1: A power failure report will be automatically printed after the power is switched on if a fax message disappeared from the memory when the power was turned off last. <b>NOTE:</b> If "0" is selected, no reports are printed and no one may recognize that fax data is gone due to a power failure.
6	Conditions for printing the protocol	This switch becomes effective only when system

	dump list 0: Print for all communications 1: Print only when there is a communication error	switch 00 bit 6 is set to 1. 1: Set this bit to 1 when you wish to print a protocol dump list only for communications with errors. <b>NOTE:</b> The memory size is limited. Use this bit switch only when some log reports are necessary.
7	Not used	Do not change this setting.

**System Switch 0A (SP No. 1-101-011)**

No	Function	Comments
0-3	Not used	Do not change these settings.
4	Dialing on the ten-key pad when the external telephone is off-hook 0: Disabled 1: Enabled	0: Prevents dialing from the ten-key pad while the external telephone is off-hook. Use this setting when the external telephone is not by the machine, or if a wireless telephone is connected as an external telephone. 1: The user can dial on the machine's ten-key pad when the handset is off-hook.
5	On hook dial 0: Disabled 1: Enabled	0: On hook dial is disabled.
6-7	Not used	Do not change these settings

**System Switch 0B** - Not used (Do not change the factory settings.)**System Switch 0C** - Not used (Do not change the factory settings.)**System Switch 0D** - Not used (Do not change the factory settings.)**System Switch 0E (SP No. 1-101-015)**

No	Function	Comments
0-1	Not used	Do not change the settings.
2	Enable/disable for direct sending selection 0: Direct sending off 1: Direct sending on	Direct sending cannot operate when the capture function is on during sending. Setting this switch to "1" enables direct sending without capture. Setting this switch to "0" masks the direct sending function on the operation panel so direct sending with ScanRouter cannot be selected.
3	Action when the external handset goes off-hook 0: Manual tx and rx operation 1: Memory tx and rx operation (the display	0: Manual tx is possible while the external handset is off-hook. However, manual tx during handset off-hook may not be sent to a correct direction. Manual tx is not possible. 1: The display stays in standby mode even when the external handset is used so that other people can use the machine for memory tx operation. Note that manual tx and rx are not

	remains the same)	possible with this setting.
4-7	Not used	Do not change these settings.

<b>System Switch 0F (SP No. 1-101-016)</b>		
<b>No</b>	<b>Function</b>	<b>Comments</b>
0 to 7	Country/area code for functional settings (Hex)	This country/area code determines the factory settings of bit switches and RAM addresses. However, it has no effect on the NCU parameter settings and communication parameter RAM addresses. Cross-reference NCU country code: SP No. 2-103-001 for G3-1 SP No. 2-104-001 for G3-2 SP No. 2-105-001 for G3-3
	00: France    12: Asia	
	01: Germany    13: Japan	
	02: UK    14: Hong Kong	
	03: Italy    15: South Africa	
	04: Austria    16: Australia	
	05: Belgium    17: New Zealand	
	06: Denmark    18: Singapore	
	07: Finland    19: Malaysia	
	08: Ireland    1A: China	
	09: Norway    1B: Taiwan	
	0A: Sweden    1C: Korea	
	0B: Switz.    1D: Brazil	
	0C: Portugal    20: Turkey	
	0D: Holland    21: Greece	
	0E: Spain    22: Hungary	
	0F: Israel    23: Czech	
	10: ---    24: Poland	
	11: USA	

<b>System Switch 10 (SP No. 1-101-017)</b>		
<b>No</b>	<b>Function</b>	<b>Comments</b>
0-7	Threshold memory level for parallel memory transmission	Threshold = N x 128 KB + 256 KB N can be between 00 - FF(H)

	Default setting: 02(H) = 512 KB
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<b>System Switch 11 (SP No. 1-101-018)</b>		
<b>No</b>	<b>Function</b>	<b>Comments</b>
0	TTI printing position 0: Superimposed on the page data 1: Printed before the data leading edge	Change this bit to 1 if the TTI overprints information that the customer considers to be important (G3 transmissions). <b>NOTE:</b> If "1" is selected, it is possible that sent data is printed on two sheets of paper.
1-2	Not used	Do not change these settings.
3	TTI used for broadcasting 0: The TTIs selected for each Quick/Speed dial are used 1: The same TTI is used for all destinations	1: The TTI (TTI_1 or TTI_2) which is selected for all destinations during broadcasting.
4-7	Not used	Do not change these settings.

<b>System Switch 12 (SP No. 1-101-019)</b>		
<b>No</b>	<b>Function</b>	<b>Comments</b>
0-7	TTI printing position in the main scan direction	TTI: 08 to 92 (BCD) mm Input even numbers only. This setting determines the print start position for the TTI from the left edge of the paper. If the TTI is moved too far to the right, it may overwrite the file number which is on the top right of the page. On an A4 page, if the TTI is moved over by more than 50 mm, it may overwrite the page number.

**System Switch 13** - Not used (do not change these settings)

**System Switch 14** - Not used (do not change these settings)

<b>System Switch 15 (SP No. 1-101-022)</b>		
<b>No</b>	<b>Function</b>	<b>Comments</b>
0	Not used	Do not change the settings.
1	Going into the Energy Saver mode automatically 0: Enabled 1: Disabled	1: The machine will restart from the Energy Saver mode quickly because the +5V power supply is active even in the Energy Saver mode. The LED of the operation switch is flashing instead of entering Energy Saver mode. Use this setting if an external telephone has to be



		used when the machine is in the Energy Saver mode.	
2-3	Not used	Do not change these settings.	
4-5	Interval for preventing the machine from entering Energy Saver mode if there is a pending transmission file.		
	Bit 5	Bit 4	Setting
	0	0	1 min
	0	1	30 min
	1	0	1 hour
	1	1	24 hours
		If there is a file waiting for transmission, the machine does not go to Energy Saver mode during the selected period. After transmitting the file, if there is no file waiting for transmission, the machine goes to the Energy Saver mode.	
6-7	Not used	Do not change the settings.	

**System Switch 16 (SP No. 1-101-023)**

No	Function	Comments
0	Parallel Broadcasting 0: Disabled 1: Enabled	1: The machine sends messages simultaneously using all available ports during broadcasting. <b>NOTE:</b> If a customer wants to keep a line available for fax reception or other reasons, select "0" (Disable).
1-7	Not used	Do not change these settings.

**System Switch 17** - Not used (do not change these settings)

**System Switch 18** - Not used (do not change these settings)

**System Switch 19 (SP No. 1-101-026)**

No	Function	Comments
0-5	Not used	Do not change the settings.
6	Extended scanner page memory after memory option is installed 0: Disabled 1: Enabled	0: After installing the memory expansion option, the scanner page memory is extended to 4 MB from 2 MB. 1: If this bit is set to 1 after installing the memory expansion option, the scanner page memory is extended to 12 MB. But the SAF memory decreases to 18 MB.
7*	Special Original mode 0: Disabled 1: Enabled	1: If the customer frequently wishes to transmit a form or letterhead which has a colored or printed background, change this bit to "1". "Original 1" and "Original 2" can be selected in addition to the "Text", "Text/Photo" and "Photo" modes.

\* This setting can be used for the client machine which has no FCU.

**System Switch 1A (SP No. 1-101-027)**

No	Function	Comments
0 to 7	LS RX memory capacity threshold setting 00-FF (0-1020 Kbyte: Hex)	Sets the value to x4KB. When the amount of available memory drops below this setting, RX documents are printed to conserve memory.  Initial setting 0x80 (512 KB)  <b>NOTE:</b> If a customer wants available memory size to be larger, decrease this threshold


**System Switch 1B** - Not used (do not change these settings)


**System Switch 1C** - Not used (do not change these settings)

#### System Switch 1D (SP No. 1-101-030)

No	Function	Comments
0	RTI/CSI/CPS code display 0: Enable 1: Disable	0: RTI, CSI, CPS codes are displayed on the top line of the LCD panel during communication. 1: Codes are switched off (no display)
1-7	Not used	Do not change these settings.

#### System Switch 1E (SP No. 1-101-031)

No	Function	Comments
0	Communication after the Journal data storage area has become full 0: Impossible 1: Possible	0: When this switch is on and the journal history becomes full the next report prints. If the journal history is not deleted, the next transmission cannot be received. This prevents overwriting communication records before the machine can print them.  1: If the buffer memory of the communication records for the Journal is full, fax communications are still possible. But the machine will overwrite the oldest communication records.   <b>Note</b> <ul style="list-style-type: none"> <li>This setting is effective only when Automatic Journal printout is enabled but the machine cannot print the report (e.g., no paper).</li> </ul>
1*	Action when the SAF memory has become full during scanning 0: The current page is erased. 1: The entire file is erased.	0: If the SAF memory becomes full during scanning for a memory transmission, the successfully scanned pages are transmitted. 1: If the SAF memory becomes full during scanning for a memory transmission, the file is erased and no pages are

		transmitted.  <b>Note</b> <ul style="list-style-type: none"> <li>This setting is effective only when Automatic Journal printout is enabled but the machine cannot print the report (e.g., no paper).</li> </ul>
2	RTI/CSI display priority 0: RTI 1: CSI	This bit determines which identifier, RTI or CSI, is displayed on the LCD while the machine is communicating in G3 non-standard mode.
3	File No. printing 0: Enabled 1: Disabled	1: File numbers are not printed on any reports. <b>NOTE:</b> The file numbers may not be printed in the sequential order. If a customer does not like this numbering, select "0".
4	Action when authorized reception is enabled but authorized RTIs/CSIs are not yet programmed 0: All fax reception is disabled 1: Faxes can be received if the sender has an RTI or CSI	0: If the user has stored no acceptable sender RTIs or CSIs, the user can select "ON" in the authorized reception setting but the setting becomes invalid ("OFF"). The machine will not be able to receive any fax messages. If the customer wishes to receive messages from any sender that includes an RTI or CSI and to block messages from senders that do not include an RTI or CSI, change this bit to "0", then enable Authorized Reception. Otherwise, keep this bit at "1 (default setting)".
5-7	Not used	Do not change the settings

\* This setting can be used for the client machine which has no FCU.

<b>System Switch 1F (SP No. 1-101-032)</b>		
<b>No</b>	<b>Function</b>	<b>Comments</b>
0	Not used	Do not change the settings.
1	Report printout after an original jam during SAF storage or if the SAF memory fills up 0: Enabled 1: Disabled	0: When an original jams, or the SAF memory overflows during scanning, a report will be printed. Change this bit to "1" if the customer does not want to have a report in these cases. Memory tx – Memory storage report Parallel memory tx – Transmission result report
2	Not used	Do not change the settings.
3	Received fax print start timing (G3 reception) 0: After receiving each page 1: After receiving all pages	0: The machine prints each page immediately after the machine receives it. 1: The machine prints the complete message after the machine receives all the pages in the memory.
4-6	Not used	Do not change the factory settings.
7	Action when a fax SC has occurred	0: When the fax unit detects a fax SC code other

	<p>0: Automatic reset 1: Fax unit stops</p>	<p>than SC1201 and SC1207, the fax unit automatically resets itself. 1: When the fax unit detects any fax SC code, the fax unit stops. <b>Cross-Reference</b> Fax SC codes - See "Troubleshooting"</p>
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## 4.4 BIT SWITCHES - 2

### Note

- Do not adjust a bit switch or use a setting that is described as "Not used", as this may cause the machine to malfunction or to operate in a manner that is not accepted by local regulations. Such bits are for use only in other areas, such as Japan.

Default settings for bit switches are not listed in this manual. Refer to the System Parameter List printed by the machine.

### 4.4.1 I-FAX SWITCHES

I-fax Switch 00 (SP No. 1-102-001)		
No	Function	Comments
Original Width of TX Attachment File		This setting sets the maximum size of the original that the destination can receive. (Bits 3 to 6 are reserved for future use or not used.)
0	A4	-
1	B4	
2	A3	
3-6	Reserved	
7	Not used	

I-fax Switch 01 (SP No. 1-102-002)		
No	Function	Comments
Original Line Resolution of TX Attachment File		These settings set the maximum resolution of the original that the destination can receive.
0	200x100 Standard	0: Not selected
1	200x200 Detail	1: Selected
2	200x400 Fine	If more than one of these three bits is set to "1", the higher resolution has priority. For example, if both Bit 0 and Bit 2 are set to "1" Then
3	300 x 300 Reserve	



4	400 x 400 Super Fine	The Resolution is set for "Bit 2 200 x 400.
5	600 x 600 Reserve	
6	Reserve	
7	mm/inch	
	<p>This setting selects mm/inch conversion for mail transmission.                      0: Off (No conversion), 1: On (Conversion)</p> <p>When on (set to "1"), the machine converts millimeters to inches for sending mail. There is no switch for converting inches to millimeters.</p> <p>Unlike G3 fax transmissions which can negotiate between sender and receiver to determine the setting, mail cannot negotiate between terminals; the mm/inch selection is determined by the sender fax.</p> <p>When this switch is Off (0):</p> <ul style="list-style-type: none"> <li>• Images scanned in inches are sent in inches.</li> <li>• Images scanned in mm are sent in mm.</li> <li>• Images received in inches are transmitted in inches.</li> <li>• Images received in mm are transmitted in mm.</li> </ul> <p>When this switch is On (1):</p> <ul style="list-style-type: none"> <li>• Images scanned in inches are sent in inches.</li> <li>• Images scanned in mm are converted to inches.</li> <li>• Images received in inches are transmitted in inches.</li> <li>• Images received in mm are converted to inches.</li> </ul>	

<b>I-fax Switch 02 (SP No. 1-102-003)</b>		
<b>No</b>	<b>Function</b>	<b>Comments</b>
0	RX Text Mail Header Processing	<p>This setting determines whether the header information is printed with text e-mails when they are received.</p> <p>0: Prints only text mail.                      1: Prints mail header information attached to text mail.</p> <p>When a text mail is received with this switch On (1), the "From" address and "Subject" address are printed as header information.</p> <p>When a mail with only binary data is received (a TIFF-F file, for example), this setting is ignored and no header is printed.</p>
1	Output from Attached Document at E-mail TX Error	<p>This setting determines whether only the first page or all pages of an e-mail attachment are printed at the sending station when a transmission error occurs. This allows the customer to see which documents have not reached their intended destinations if sent to the wrong e-mail addresses, for example.</p>

	<p>0: Prints 1st page only. 1: Prints all pages.</p>
2-3	<p>Text String for Return Receipt</p> <p>This setting determines the text string output for the Return Receipt that confirms the transmission was received normally at the destination.</p>
	<p>00: "Dispatched" Sends from PC mail a request for a Return Receipt. Receives the Return Receipt with "dispatched" in the 2nd part: Disposition: Automatic-action/MDN-send automatically; dispatched The "dispatched" string is included in the Subject string.</p> <p>01: "Displayed" Sends from PC mail a request for a Return Receipt. Receives the Return Receipt with "displayed" in the 2nd part: Disposition: Automatic-action/MDN-send automatically; displayed The "displayed" string is included in the Subject string.</p> <p>10: Reserved 11: Reserved</p> <p>A mail requesting a Return Receipt sent from an IFAX with this switch set to "00" (for "dispatched") received by Microsoft Outlook 2000 may cause an error. If any setting other than "displayed" (01) causes a problem, change the setting to "01" to enable normal sending of the Return Receipt.</p>
4	<p>Media accept feature</p> <p>This setting adds or does not add the media accept feature to the answer mail to confirm a reception.</p> <p>0: Does not add the media accept feature to the answer mail 1: Adds the media accept feature to the answer mail.</p> <p>Use this bit switch if a problem occurs when the machine receives an answer mail, which contains the media accept feature field.</p>
5-6	Not Used (do not change these settings)
7	<p>Image Resolution of RX Text Mail</p> <p>This setting determines the image resolution of the received mail.</p> <p>0: 200 x 200 1: 400 x 400</p> <p>The "1" setting requires installation of the Memory Unit in order to have enough SAF (Store and Forward) memory to receive images at 400 x 400 resolution.</p>

**I-fax Switch 03** - Not used (do not change these settings)

**I-fax Switch 04 (SP No. 1-102-005)**

No	Function	Comments
0	Subject for Delivery TX/Memory Transfer	<p>This setting determines whether the RTI/CSI registered on this machine or the RTI/CSI of the originator is used in the subject lines of transferred documents.</p> <p>0: Puts the RTI/CSI of the originator in the Subject line. If this is used, either the RTI or CSI is used. Only one of these can be received for use in the subject line.</p> <p>1: Puts the RTI/CSI registered on this machine in the Subject line.</p> <p>When this switch is used to transfer and deliver mail to a PC, the information in the Subject line that indicates where the transmission originated can be used to determine automatically the destination folder for each e-mail.</p>
1	Subject corresponding to mail post database	<p>0: Standard subject</p> <p>1: Mail post database subject</p> <p>The standard subject is replaced by the mail post database subject in the following three cases:</p> <ol style="list-style-type: none"> <li>1) When the service technician sets the service (software) switch.</li> <li>2) When memory sending or delivery specified by F code is applied by the SMTP server</li> <li>3) With relay broadcasting (1st stage without the Schmidt 4 function).</li> </ol> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>This switch does not apply for condition 3) when the RX system is set up for memory sending, delivery by F-code, sending with SMTP RX and when operators are using FOL (to prevent problems when receiving transmissions).</li> </ul>
2-7	Not Used (do not change these settings)	

I-fax Switch 05 (SP No. 1-102-006)		
No	Function	Comments
0	Mail Addresses of SMTP Broadcast Recipients	<p>Determines whether the e-mail addresses of the destinations that receive transmissions broadcasted using SMTP protocol are recorded in the Journal.</p> <p>For example:</p> <p>"1st destination + Total number of destinations: 9" in the Journal indicates a broadcast to 9 destinations.</p> <p>0: Not recorded</p> <p>1: Recorded</p>
1	IFAXTX Retries	<p>Determines whether the machine retries sending IFAX when connection and transmission fails due to errors.</p> <p>0: Disabled</p> <p>1: Enabled</p>



2	When sending Tiff files to the mail/folder destinations, selects the resizing function in the main scan direction.
	Controls ON/OFF of the function, that fit the Tiff files sent from the fax application, within the standard size. 0: Disabled (not resizing) 1: Enabled (resizing)
3-7	Not Used (do not change these settings)

**I-fax Switch 06** - Not used (do not change the settings)

**I-fax Switch 07** - Not used (do not change the settings)

**I-fax Switch 08 (SP No. 1-102-009)**

No	Function	Comments
0-7	Memory Threshold for POP Mail Reception	
		This setting determines the amount of SAF (Store and Forward) memory. (SAF stores fax messages to send later for transmission to more than one location, and also holds incoming messages if they cannot be printed.) When the amount of SAF memory available falls below this setting, mail can no longer be received; received mail is then stored on the mail server. 00-FF (0 to 1024 KB: HEX) The hexadecimal number you enter is multiplied by 4 KB to determine the amount of memory.

**I-fax Switch 09 (SP No. 1-102-010)**

No	Function	Comments
0-3	Not used	Do not change the settings
4-7	Restrict TX Retries	This setting determines the number of retries when connection and transmission fails due to errors. 01-F (1-15 Hex)

**I-fax Switch 0A** - Not used (do not change the settings)

**I-fax Switch 0B** - Not used (do not change the settings)

**I-fax Switch 0C** - Not used (do not change the settings)

**I-fax Switch 0D (SP No. 1-102-014)**

No	Function	Comments
0-1	Not used	Do not change the settings
2-3	Select the signature when sending mail notification of the send results	In response to IEEE2600.1.

	Bit 2	Bit 3	Setting	
	0	0	No sign	
	0	1	No setting	
	1	0	Individual setting	
	1	1	Always sign	
4-5	Select the signature when sending mail.			In response to IEEE2600.1.
	Bit 5	Bit 4	Setting	
	0	0	No sign	
	0	1	No setting	
	1	0	Individual setting	
	1	1	Always sign	
6-7	Not used			Do not change the settings.

**I-fax Switch 0E** - Not used (do not change the settings)

#### **I-fax Switch 0F (SP No. 1-102-016)**

No	Function	Comments
0	Delivery Method for SMTP RX Files	
	This setting determines whether files received with SMTP protocol are delivered or output immediately.	
	0: Off. Files received via SMTP are output immediately without delivery.	
	1: On. Files received via SMTP are delivered immediately to their destinations.	
1	Set to select the signature when receiving SMTP mail.	
	0: No sign	
	1: Always sign	
2	Set to encrypt the data when receiving SMTP mail.	
	0: No encryption	
	1: Encryption	
3-7	Not used	

## **4.4.2 PRINTER SWITCHES**

#### **Printer Switch 00 (SP No. 1-103-001)**

No	Function	Comments
0	Select page separation marks	
	0: Off	0: If a 2 page RX transmission is split, [*] is printed in the bottom right corner of the 1st page and only a [2] is printed in the upper right corner of the 2nd page.
	1: On	1: If a 2 page RX transmission is split into two pages, for

		<p>example, [*] [2] is printed in the bottom right corner of the 1st page and only a [2] is printed in the upper right corner of the 2nd page.</p> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>This helps the user to identify pages that have been split because the size of the paper is smaller than the size of the document received. (When A5 is used to print an A4 size document, for example.)</li> </ul>
1	<p>Repetition of data when the received page is longer than the printer paper</p> <p>0: Off 1: On</p>	<p>1: Default. 10 mm of the trailing edge of the previous page are repeated at the top of the next page.</p> <p>0: The next page continues from where the previous page stopped without any repeated text.</p>
2	<p>Prints the date and time on received fax messages</p> <p>0: Disabled 1: Enabled</p>	<p>This switch is only effective when user parameter 02 - bit 2 (printing the received date and time on received fax messages) is enabled.</p> <p>1: The machine prints the received and printed date and time at the bottom of each received page.</p>
3-7	Not used	Do not change the settings.

**Printer Switch 01 (SP No. 1-103-002) - Not used (do not change the settings)**

**Printer Switch 02 (SP No. 1-103-003)**

No	Function	Comments
0*	<p>1st paper feed station usage for fax printing</p> <p>0: Enabled 1: Disabled</p>	<p>0: The paper feed station can be used to print fax messages and reports.</p> <p>1: The specified paper feed station will not be used for printing fax messages and reports.</p> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>Do not disable usage for a paper feed station which has been specified by User Parameter Switch 0F (15), or which is used for the Specified Cassette Selection feature.</li> </ul>
1*	<p>2nd paper feed station usage for fax printing</p> <p>0: Enabled 1: Disabled</p>	
2*	<p>3rd paper feed station usage for fax printing</p> <p>0: Enabled</p>	

	1: Disabled	
3*	4th paper feed station usage for fax printing 0: Enabled 1: Disabled	
4*	LCT usage for fax printing 0: Enabled 1: Disabled	
5-7	Not used	Do not change the settings.

\* This setting can be used for the client-side machine which has no FCU.

Printer Switch 03 (SP No. 1-103-004)		
No	Function	Comments
0*	Length reduction of received data 0: Disabled 1: Enabled	0: Incoming pages are printed without length reduction. (Page separation threshold: Printer Switch 03, bits 4 to 7) 1: Incoming page length is reduced when printing. (Maximum reducible length: Printer Switches 04, bits 0 to 4)
1-3	Not used	Do not change the settings
4 to 7	Page separation setting when sub scan compression is forbidden 00-0F (0-15 mm: Hex) Default: 6 mm	Page separation threshold (with reduction disabled with switch 03-0 above). For example, if this setting is set to "10", and A4 is the selected paper size: If the received document is 10 mm or less longer than A4, then the 10 mm are cut and only 1 page prints. If the received document is 10 mm longer than A4, then the document is split into 2 pages.

\* This setting can be used for the client-side machine which has no FCU.

Printer Switch 04 (SP No. 1-103-005)						
No	Function				Comments	
0 to 4	Maximum reducible length when length reduction is enabled with switch 03-0 above. [Maximum reducible length] = [Paper length] + (N x 5mm) "N" is the decimal value of the binary setting of bits 0 to 4.					
	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0	Setting
	0	0	0	0	0	0 mm
	0	0	0	0	1	5 mm

	0	0	1	0	0	20 mm
	1	1	1	1	1	155 mm
For A5 sideways and B5 sideways paper [Maximum reducible length] = [Paper length] + 0.75 x (N x 5mm)						
5	Length of the duplicated image on the next page, when page separation has taken place.					
6	Bit 6		Bit 5		Setting	
	0		0		4 mm	
	0		1		10 mm	
	1		0		15 mm	
	1		1		Not used	
7	Not used.			Do not change the setting.		

**Printer Switch 05** - Not used (do not change the settings)

**Printer Switch 06 (SP No. 1-103-007)**

No	Function	Comments
0*	Printing while a paper cassette is pulled out, when the Just Size Printing feature is enabled. 0: Printing will not start 1: Printing will start if another cassette has a suitable size of paper, based on the paper size selection priority tables.	Cross reference Just size printing on/off – User switch 05, bit 5
1-7	Not used.	Do not change the settings.

\* This setting can be used for the client-side machine which has no FCU.

**Printer Switch 07 (SP No. 1-103-008)**

No	Function	Comments
0	Not used.	Do not change the settings.
1	Selects the 95% reduced printing function for letter size.	0 : OFF Not reduced printing 1 : ON Only when printing letter size, performs 95% reduced printing of the entire image (in both of main and sub directions) Report printing and printing from the bypass tray are excluded.
2-3	Not used.	Do not change the settings.
4	Receiver name printed on the transmission result report	Selects the printing target on the transmission result report. 0: All receivers 1: Printing only receivers which have received fax transmission.
5-7	Not used.	Do not change the settings.

**Printer Switch 08** - Not used (do not change the settings)

<b>Printer Switch 09</b> - Not used (do not change the settings)
<b>Printer Switch 0A</b> - Not used (do not change the settings)
<b>Printer Switch 0B</b> - Not used (do not change the settings)
<b>Printer Switch 0C</b> - Not used (do not change the settings)

<b>Printer Switch 0E (SP No. 1-103-015)</b>				
No	Function		Comments	
0*	Paper size selection priority 0: Width 1: Length		0: A paper size that has the same width as the received data is selected first. 1: A paper size which has enough length to print all the received lines without reduction is selected first.	
1*	Paper size selected for printing A4 width fax data 0: 8.5" x 11" size 1: A4 size		This switch determines which paper size is selected for printing A4 width fax data, when the machine has both A4 and 8.5" x 11" size paper.	
2	Page separation 0: Enabled 1: Disabled		1: If all paper sizes in the machine require page separation to print a received fax message, the machine does not print the message (Substitute Reception is used). After a larger size of paper is set in a cassette, the machine automatically prints the fax message.	
3-4	Printing the sample image on reports		"Same size" means the sample image is printed at 100%, even if page separation occurs. User Parameter Switch 19 (13H) bit 4 must be set to "0" to enable this switch. Refer to Detailed Section Descriptions for more on this feature.	
	Bit 4	Bit 3		Setting
	0	0		The upper half only
	0	1		50% reduction (sub-scan only)
	1	0		Same size
	1	1		Not used
5-6	Not used		Do not change the settings.	
7	Equalizing the reduction ratio among separated pages (Page Separation) 0: Enabled 1: Disabled		0: When page separation has taken place, all the pages are reduced with the same reduction ratio. 1: Only the last page is reduced to fit the selected paper size when page separation has taken place. Other pages are printed without reduction.	

\* This setting can be used for the client-side machine which has no FCU.

<b>Printer Switch 0F (SP No. 1-103-016)</b>			
No	Function		Comments

0-1*	Smoothing feature			(0, 0) (0, 1): Disable smoothing if the machine receives halftone images from other manufacturers fax machines frequently.
	Bit 1	Bit 0	Setting	
	0	0	Disabled	
	0	1	Disabled	
	1	0	Enabled	
	1	1	Not used	
2*	Duplex printing 0: Disabled 1: Enabled			1: The machine always prints received fax messages in duplex printing mode:
3	Binding direction for Duplex printing 0: Left binding 1: Top binding			0: Sets the binding for the left edge of the stack. 1: Sets the binding for the top of the stack.
4-7	Not used			Do not change the settings.

\* This setting can be used for the client-side machine which has no FCU.

## 4.5 BIT SWITCHES - 3

### Note

- Do not adjust a bit switch or use a setting that is described as "Not used", as this may cause the machine to malfunction or to operate in a manner that is not accepted by local regulations. Such bits are for use only in other areas, such as Japan.

Default settings for bit switches are not listed in this manual. Refer to the System Parameter List printed by the machine.

### 4.5.1 COMMUNICATION SWITCHES

Communication Switch 00 (SP No. 1-104-001)				
No	Function			Comments
0-1	Compression modes available in receive mode			These bits determine the compression capabilities to be declared in phase B (handshaking) of the T.30 protocol.
	Bit 1	Bit 0	Modes	
	0	0	MH only	
	0	1	MH/MR	
	1	0	MH/MR/MMR	
	1	1	MH/MR/MMR/JBIG	
2-3	Compression modes available in transmit mode			These bits determine the compression capabilities to be used in the transmission and to be declared in phase B (handshaking) of the T.30 protocol.
	Bit 3	Bit 2	Modes	
	0	0	MH only	
	0	1	MH/MR	
	1	0	MH/MR/MMR	
	1	1	MH/MR/MMR/JBIG	
4	Not used			Do not change the settings.
5	JBIG compression method: Reception 0: Only basic supported 1: Basic and optional both supported			Change the setting when communication problems occur using JBIG compression.
6	JBIG compression method: Transmission 0: Basic mode priority 1: Optional mode priority			Change the setting when communication problems occur using JBIG compression.



7	Closed network (reception) 0: Disabled 1: Enabled	1: Reception will not go ahead if the polling ID code of the remote terminal does not match the polling ID code of the local terminal. This function is only available in NSF/NSS mode.
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Communication Switch 01 (SP No. 1-104-002)				
No	Function		Comments	
0	ECM 0: Off 1: On		If this bit is set to 0, ECM is switched off for all communications. In addition, V.8 protocol and JBIG compression is switched off automatically.	
1	Not used		Do not change the setting.	
2-3	Wrong connection prevention method		(0,1): The machine will disconnect the line without sending a fax message if the last 8 digits of the received CSI do not match the last 8 digits of the dialed telephone number. This does not work when manually dialed.  (1,0): The same as above, except that only the last 4 digits are compared.  (1,1): The machine will disconnect the line without sending a fax message if the other end does not identify itself with an RTI or CSI.  (0,0): Nothing is checked; transmission will always go ahead.  <b>Note</b>  • This function does not work when dialing is done from the external telephone.	
	Bit 3	Bit 2		Setting
	0	0		None
	0	1		8 digit CSI
	1	0		4 digit CSI
	1	1		CSI/RTI
4-5	Not used		Do not change the setting.	
6-7	Maximum printable page length available		The setting determined by these bits is informed to the transmitting terminal in the pre-message protocol exchange (in the DIS/NSF frames).	
	Bit 7	Bit 6		Setting
	0	0		No limit
	0	1		B4 (364 mm)
	1	0		A4 (297 mm)
	1	1		Not used

Communication Switch 02 (SP No. 1-104-003)		
No	Function	Comments
0	G3 Burst error threshold	If there are more consecutive error lines in the received



	0: Low 1: High	page than the threshold, the machine will send a negative response. The Low and High threshold values depend on the sub-scan resolution and are as follows.	
		100 dpi	6(L) →12(H)
		200 dpi	12(L) →24(H)
		300 dpi	18(L) →36(H)
400 dpi	24(L) →48(H)		
1	Acceptable total error line ratio 0: 5% 1: 10%	If the error line ratio for a page exceeds the acceptable ratio, RTN will be sent to the other end.	
2	Treatment of pages received with errors during G3 reception 0: Deleted from memory without printing 1: Printed	0: Pages received with errors are not printed.	
3	Hang-up decision when a negative code (RTN or PIN) is received during G3 immediate transmission 0: No hang-up, 1: Hang-up	0: The next page will be sent even if RTN or PIN is received. 1: The machine will send DCN and hang up if it receives RTN or PIN. This bit is ignored for memory transmissions or if ECM is being used.	
4-7	Not used	Do not change these settings.	

**Communication Switch 03 (SP No. 1-104-004)**

No	Function	Comments
0-7	Maximum number of page retransmissions in a G3 memory transmission	00 - FF (Hex) times. This setting is not used if ECM is switched on. Default setting - 03(H)

**Communication Switch 04 (SP No. 1-104-005)**

No	Function	Comments
0	Remote mode switch (TEL mode) 0: Disable 1: Enable (Active)	Set this bit to ON when you wish to switch TEL mode to FAX mode remotely.
1	Remote mode switch (FAX mode) 0: Disable 1: Enable (Active)	Set this bit to ON when you wish to turn on the remote mode switch after automatic reception with FAX mode.

2	Remote mode switch (AUTO mode) 0: Disable 1: Enable (Active)	Set this bit to ON when you wish to turn on the remote mode switch after automatic reception with AUTO mode.
3-7	Not used	Do not change the settings.

**Communication Switch 05 (SP No. 1-104-006)**

No	Function	Comments
0-3	Remote mode switch number 00-09 (0-9:HEX)	Enter the number to switch between TEL/FAX modes using the external phone.
4-7	Not used	Do not change the settings.

**Communication Switch 06** - Not used (do not change the settings)

**Communication Switch 07** - Not used (do not change the settings)

**Communication Switch 08** - Not used (do not change the settings)

**Communication Switch 09 (SP No. 1-104-009)**

No	Function	Comments
0-7	Minimum interval between automatic dialing attempts	This value is the minimum time that the machine waits before it dials the next destination.

**Communication Switch 0A (SP No. 1-104-011)**

No	Function	Comments
0	Point of resumption of memory transmission upon redialing 0: From the error page 1: From page 1	0: The transmission begins from the page where transmission failed the previous time. 1: Transmission begins from the first page, using normal memory transmission.
1-7	Not used	Do not change these settings.

**Communication Switch 0B (SP No. 1-104-012)**

No	Function	Comments
0-3	Not used	Do not change these settings.
4	Printout of the message when acting as a Transfer Station 0: Disabled, 1: Enabled	When the machine is acting as a Transfer Station, this bit determines whether the machine prints the fax message coming in from the Requesting Terminal.
5-7	Not used	Do not change the settings.

**Communication Switch 0C** - Not used (do not change the settings)

**Communication Switch 0D (SP No. 1-104-014)**

No	Function	Comments
0-7	The available memory threshold, below which ringing detection (and therefore reception into memory) is disabled	00 to FF (Hex), unit = 4 kbytes (e.g., 06(H) = 24 kbytes) One page is about 24 kbytes. The machine refers to this setting before each fax reception. If the amount of remaining memory is below this threshold, the machine cannot receive any fax messages. If this setting is kept at 0, the machine will detect ringing signals and go into receive mode even if there is no memory available. This will result in communication failure.

**Communication Switch 0E (SP No. 1-104-015)**

No	Function	Comments
0-7	Minimum interval between automatic dialing attempts	06 to FF (Hex), unit = 2 s (e.g., 06(H) = 12 s) This value is the minimum time that the machine waits before it dials the next destination.

**Communication Switch 0F** – Not used (do not change the settings.)

**Communication Switch 10 (SP No. 1-104-017)**

No	Function	Comments
0-7	Memory transmission: Maximum number of dialing attempts to the same destination	01 – FE (Hex) times

**Communication Switch 11** – Not used (do not change the settings.)

**Communication Switch 12 (SP No. 1-104-019)**

No	Function	Comments
0-7	Memory transmission: Interval between dialing attempts to the same destination	01 – FF (Hex) minutes

**Communication Switch 13** – Not used (do not change the settings.)

<b>Communication Switch 14 (SP No. 1-104-021)</b>				
<b>No</b>	<b>Function</b>		<b>Comments</b>	
0	Inch-to-mm conversion during transmission 0: Disabled, 1: Enabled		0: In immediate transmission, data scanned in inch format are transmitted without conversion. In memory transmission, data stored in the SAF memory in mm format are transmitted without conversion. Note: When storing the scanned data into SAF memory, the fax unit always converts the data into mm format. 1: The machine converts the scanned data or stored data in the SAF memory to the format which was specified in the set-up protocol (DIS/NSF) before transmission.	
1-5	Not used		Do not change the factory settings.	
6-7	Available unit of resolution in which fax messages are received		For the best performance, do not change the factory settings. The setting determined by these bits is informed to the transmitting terminal in the pre-message protocol exchange (in the DIS/NSF frames).	
	Bit 7	Bit 6		Unit
	0	0		mm
	0	1		inch
	1	0		mm and inch
	1	1	Not used	

**Communication Switch 15** – Not used (do not change the settings)

**Communication Switch 16** – Not used (do not change the settings)

<b>Communication Switch 17 (SP No. 1-104-024)</b>			
<b>No</b>	<b>Function</b>		<b>Comments</b>
0	SEP reception 0: Disabled 1: Enabled		0: Polling transmission to another maker's machine using the SEP (Selective Polling) signal is disabled.
1	SUB reception 0: Disabled 1: Enabled		0: Confidential reception to another maker's machine using the SUB (Sub-address) signal is disabled.
2	PWD reception 0: Disabled 1: Enabled		0: Disables features that require PWD (Password) signal reception.
3-4	Not used		Do not change the settings.
5	PSTN dial-in routing setting 0: OFF 1: ON		1: The machine sets multiple PSTN dial-in numbers in the PSTN dial-in line and transfers received data from each PSTN dial-in number to each address.

6	Not used	Do not change the settings.
7	Action when there is no box with an F-code that matches the received SUB code 0: Disconnect the line 1: Receive the message (using normal reception mode)	Change this setting when the customer requires.

**Communication Switch 18 (SP No. 1-104-025)**

No	Function	Comments
0-4	Not used	Do not change the settings.
5	IP-Fax dial-in routing selection 0: Off 1: On	1: Transfers received data to each IP-Fax dial-in number. IP-Fax dial-in number is a 4-digit number.
6-7	Not used	Do not change the settings.

**Communication Switch 19** - Not used (do not change the settings)**Communication Switch 1A** - Not used (do not change the settings)**Communication Switch 1B (SP No. 1-104-028)**

No	Function	Comments
0-7	Extension access code (0 to 7) to turn V.8 protocol On/Off 0: On 1: Off	If the PABX does not support V.8/V.34 protocol procedure, set this bit to "1" to disable V.8. Example: If "0" is the PSTN access code, set bit 0 to 1. When the machine detects "0" as the first dialed number, it automatically disables V.8 protocol. (Alternatively, if "3" is the PSTN access code, set bit 3 to 1.)

**Communication Switch 1C (SP No. 1-104-029)**

No	Function	Comments
0-1	Extension access code (8 and 9) to turn V.8 protocol On/Off 0: On 1: Off	Refer to communication switch 1B. Example: If "8" is the PSTN access code, set bit 0 to 1. When the machine detects "8" as the first dialed number, it automatically disables V.8 protocol. (If "9" is the PSTN access code, use bit 1.)
2-7	Not used	Do not change the settings.

**Communication Switch 1D** - Not used (do not change the settings)**Communication Switch 1E** - Not used (do not change the settings)

**Communication Switch 1F** - Not used (do not change the settings)

## 4.6 BIT SWITCHES - 4

### Note

- Do not adjust a bit switch or use a setting that is described as "Not used", as this may cause the machine to malfunction or to operate in a manner that is not accepted by local regulations. Such bits are for use only in other areas, such as Japan.

Default settings for bit switches are not listed in this manual. Refer to the System Parameter List printed by the machine.

### 4.6.1 G3 SWITCHES

G3 Switch 00 (SP No. 1-105-001)				
No	Function			Comments
0 1	Monitor speaker during communication (tx and rx)			(0, 0): The monitor speaker is disabled all through the communication.
	Bit 1	Bit 0	Setting	(0, 1): The monitor speaker is on up to phase B in the T.30 protocol.
	0	0	Disabled	(1, 0): Used for testing. The monitor speaker is on all through the communication. Make sure that you reset these bits after testing.
	0	1	Up to Phase B	
	1	0	All the time	
	1	1	Not used	
2	Monitor speaker during memory transmission 0: Disabled 1: Enabled			1: The monitor speaker is enabled during memory transmission.
3-5	Not used			Do not change the settings.
6	Dedicated G3 line mode selection 0: Off 1: On (Dedicated)			Set this bit to 1 when you wish to dedicate a line for G3.
7	Not used			Do not change this setting.

G3 Switch 01 (SP No. 1-105-002)		
No	Function	Comments
0-3	Not used	Do not change the settings.
4	DIS frame length 0: 10 bytes 1: 4 bytes	1: The bytes in the DIS frame after the 4th byte will not be transmitted (set to 1 if there are communication problems with PC-based faxes which cannot receive the extended DIS frames).
5	Not used	Do not change the setting.
6	Forbid CED/ANSam	Do not change this setting (Default: 0: Off), unless a communication problem is caused by a CED or ANSam transmission.



	output 0: Off 1: On (Forbid output)	
7	Not used	Do not change this setting.

**G3 Switch 02 (SP No. 1-105-003)**

No	Function	Comments
0	G3 protocol mode used 0: Standard and non-standard 1: Standard only	Change this bit to 1 only when the other end can only communicate with machines that send T.30-standard frames only. 1: Disables NSF/NSS signals (these are used in non-standard mode communication)
1-6	Not used	Do not change the settings.
7	Short preamble 0: Disabled 1: Enabled	Refer to Appendix B in the Group 3 Facsimile Manual for details about Short Preamble.

**G3 Switch 03 (SP No. 1-105-004)**

No	Function	Comments
0	DIS detection number (Echo countermeasure) 0: 1 1: 2	0: The machine will hang up if it receives the same DIS frame twice. 1: Before sending DCS, the machine will wait for the second DIS which is caused by echo on the line.
1-2	Not Used	Do not change the settings.
3	ECM frame size 0: 256 bytes 1: 64 bytes	Keep this bit at "0" in most cases.
4	CTC transmission conditions 0: After one PPR signal received 1: After four PPR signals received (ITU-T standard)	0: When using ECM in non-standard (NSF/NSS) mode, the machine sends a CTC to drop back the modem rate after receiving a PPR, if the following condition is met in communications at 14.4, 12.0, 9.6, and 7.2 kbps. $\sqrt{N_{\text{Transmit}}} \leq N_{\text{Resend}}$ N <sub>Transmit</sub> - Number of transmitted frames N <sub>Resend</sub> - Number of frames to be retransmitted 1: When using ECM, the machine sends a CTC to drop back the modem rate after receiving four PPRs. PPR, CTC: These are ECM protocol signals.

		This bit is not effective in V.34 communications.
5	Modem rate used for the next page after receiving a negative code (RTN or PIN) 0: No change 1: Fallback	1: The machine's tx modem rate will fall back before sending the next page if a negative code is received. This bit is ignored if ECM is being used.
6	Not used	Do not change the settings
7	Select detection of reverse polarity in ringing 0: Off 1: On	This switch is used to prevent reverse polarity in ringing on the phone line (applied to PSTN-G3 ringing). Do not change this setting 0: No detection 1: Detection (Japan and Korea only)

**G3 Switch 04 (SP No. 1-105-005)**

No	Function	Comments
0-3	Training error detection threshold	0 - F (Hex); 0 - 15 bits If the number of error bits in the received TCF is below this threshold, the machine informs the sender that training has succeeded.
4-7	Not used	Do not change the settings.

**G3 Switch 05 (SP No. 1-105-006)**

No	Function	Comments				
0-3	Initial Tx modem rate (kbps)	These bits set the initial starting modem rate for transmission. Use the dedicated transmission parameters if you need to change this for specific receivers. If a modem rate 14.4 kbps or slower is selected, V.8 protocol should be disabled manually. Cross reference V.8 protocol on/off - G3 switch 03, bit 2				
	Bit 3		Bit 2	Bit 1	Bit 0	kbps
	0		0	0	1	2.4
	0		0	1	0	4.8
	0		0	1	1	7.2
	0		1	0	0	9.6
	0		1	0	1	12.0
	0		1	1	0	14.4
	0		1	1	1	16.8
	1		0	0	0	19.2
	1		0	0	1	21.6
	1		0	1	0	24.0
	1		0	1	1	26.4
	1		1	0	0	28.8
1	1	0	1	31.2		

	1	1	1	0	33.6	
	Other settings - Not used					
4-5	Initial modem type for 9.6 k or 7.2 kbps.					These bits set the initial modem type for 9.6 and 7.2 kbps if the initial modem rate is set at these speeds.
	Bit 5	Bit 4	Setting			
	0	0	V.29			
	0	1	V.17			
	1	0	V.34			
	1	1	Not used			
6-7	Not used					Do not change the settings.

<b>G3 Switch 06 (SP No. 1-105-007)</b>						
No	Function					Comments
0-3	Initial Rx modem rate(kbps)					These bits set the initial starting modem rate for the reception. Use a lower setting if high speeds pose problems during the reception. If a modem rate 14.4 kbps or slower is selected, V.8 protocol should be disabled manually. Cross-reference V.8 protocol on/off - G3 switch 03, bit2
	Bit 3	Bit 2	Bit 1	Bit 0	kbps	
	0	0	0	1	2.4	
	0	0	1	0	4.8	
	0	0	1	1	7.2	
	0	1	0	0	9.6	
	0	1	0	1	12.0	
	0	1	1	0	14.4	
	0	1	1	1	16.8	
	1	0	0	0	19.2	
	1	0	0	1	21.6	
	1	0	1	0	24.0	
	1	0	1	1	26.4	
	1	1	0	0	28.8	
	1	1	0	1	31.2	
	1	1	1	0	33.6	
	Other settings - Not used					
4-7	Modem types available for reception The setting of these bits is used to inform the transmitting terminal of the available modem type for the machine in receive mode. If V.34 is not selected, V.8 protocol must be disabled manually. Cross-reference V.8 protocol on/off - G3 switch 03, bit 2					

Bit 7	Bit 6	Bit 5	Bit 4	Types
0	0	0	1	V.27ter
0	0	1	0	V.27ter, V.29
0	0	1	1	V.27ter, V.29, V.33
0	1	0	0	V.27ter, V.29, V.17
0	1	0	1	V.27ter, V.29, V.17, V.34
Other settings - Not used				

G3 Switch 07 (SP No. 1-105-008)				
No	Function		Comments	
0-1	PSTN cable equalizer (tx mode: Internal)		Use a higher setting if there is a signal loss at higher frequencies because of the length of wire between the modem and the telephone exchange.	
	Bit 1	Bit 0	Setting	
	0	0	None	Use the dedicated transmission parameters for specific receivers. Also, try using the cable equalizer if one or more of the following symptoms occur.
	0	1	Low	Communication error
	1	0	Medium	Modem rate fallback occurs frequently.
	1	1	High	
				<p><b>Note</b></p> <ul style="list-style-type: none"> <li>This setting is not effective in V.34 communications.</li> </ul>
2-3	PSTN cable equalizer (rx mode: Internal)		Use a higher setting if there is a signal loss at higher frequencies because of the length of wire between the modem and the telephone exchange.	
	Bit 3	Bit 2	Setting	
	0	0	None	Also, try using the cable equalizer if one or more of the following symptoms occur.
	0	1	Low	Communication error with error codes such as 0-20, 0-23, etc.
	1	0	Medium	Modem rate fallback occurs frequently.
	1	1	High	
				<p><b>Note</b></p> <ul style="list-style-type: none"> <li>This setting is not effective in V.34 communications.</li> </ul>
4	PSTN cable equalizer (V.8/V.17 rx mode: External) 0: Disabled 1: Enabled		Keep this bit at "1".	
5	Not used		Do not change the settings.	
6	Parameter selection for dial tone detection		0: This uses the fixed table in the ROM for dial tone detection. 1: This uses the specific parameter adjusted with SRAM (69ECBEH - 69ECDEH). Select this if the dial tone cannot be	

	0: Normal parameter 1: Specific parameter	detected when the "Normal parameter: 0" is selected.
7	Not used	Do not change the settings.

**G3 Switch 08** - Not used (do not change the settings)

**G3 Switch 09** - Not used (do not change the settings)

**G3 Switch 0A (SP No. 1-105-011)**

No	Function	Comments		
0-1	Maximum allowable carrier drop during image data reception	These bits set the acceptable modem carrier drop time. Try a longer setting if error code 0-22 is frequent.		
	Bit 1		Bit 0	Value (ms)
	0		0	200
	0		1	400
	1		0	800
1	1	Not used		
2	Select cancellation of high-speed RX if carrier signal lost while receiving 0: Off 1: On	This switch setting determines if high-speed receiving ends if the carrier signal is lost when receiving during non-ECM mode		
3	Not used	Do not change the settings		
4	Maximum allowable frame interval during image data reception. 0: 5 s 1: 13 s	This bit set the maximum interval between EOL (end-of-line) signals and the maximum interval between ECM frames from the other end. Try using a longer setting if error code 0-21 is frequent.		
5	Not used	Do not change the settings.		
6	Reconstruction time for the first line in receive mode 0: 6 s 1: 12 s	When the sending terminal is controlled by a computer, there may be a delay in receiving page data after the local machine accepts set-up data and sends CFR. This is outside the T.30 recommendation. But, if this delay occurs, set this bit to 1 to give the sending machine more time to send data. Refer to error code 0-20. ITU-T T.30 recommendation: The first line should come within 5 s of CFR.		
7	Not used	Do not change the settings.		

**G3 Switch 0B** - Not used (do not change the settings).

**G3 Switch 0C (SP No. 1-105-013)**

No	Function	Comments
0-1	Not used	Do not change these settings.
4-5	Select detection of DTMF/DP detection when using remote switch. 00: DTMF+PSTN (Simultaneous detection) 01: DTMF 10: DP (10 PPPS) 11: DP (20 PPS)	This setting determines how to detect the signals from the handset when remote switch is active.
6-7	Not used	Do not change these settings.

**G3 Switch 0D** - Not used (do not change the settings).

**G3 Switch 0E (SP No. 1-105-015)**

No	Function	Comments
0-7	Set CNG send time interval Some machines on the receiving side may not be able to automatically switch the 3-second CNG interval.	
	High order bit	3000-2250ms: 3000-50xNms 3000 – 50 x Nms 0F (3000 ms) <= N <= FF (2250 ms)
	Low order bit	00-0E(3000-3700ms: 3000+50xNms 3000 – 50 x Nms 0F (3000 ms) <= N <= 0F (3700 ms)

**G3 Switch 0F (SP No. 1-105-016)**

No	Function	Comments
0	Alarm when an error occurred in Phase C or later 0: Disabled 1: Enabled	If the customer wants to hear an alarm after each error communication, change this bit to "1".
1	Alarm when the handset is off-hook at the end of the communication 0: Disabled 1: Enabled	If the customer wants to hear an alarm if the handset is off-hook at the end of fax communication, change this bit to "1".
2-3	Not used	Do not change these settings.

4	Sidaa manual calibration setting 0: Off 1: On	1: manually calibrates for communication with a line whose current change occurs such as an optical fiber line.
5-7	Not used	Do not change the settings.

## 4.7 BIT SWITCHES - 5

### Note

- Do not adjust a bit switch or use a setting that is described as "Not used", as this may cause the machine to malfunction or to operate in a manner that is not accepted by local regulations. Such bits are for use only in other areas, such as Japan.

Default settings for bit switches are not listed in this manual. Refer to the System Parameter List printed by the machine.

### 4.7.1 IP FAX SWITCHES

IP Fax Switch 00 (SP No. 1-111-001)		
No.	Function	Comments
0	Not used	Do not change this setting.
1	IP Fax Transport 0: TCP, 1: UDP	Selects TCP or UDP protocol for IP-Fax
2	IP Fax single port selection 0: OFF, 1: ON (enable)	Selects a single data port.
3	IP Fax double ports (single data port) selection 0: OFF, 1: ON (enable)	Selects whether IP-Fax uses a double port.
4	IP Fax Gatekeeper 0: OFF, 1: ON (enable)	Enables/disables the gatekeeper for IP-Fax.
5	IP Fax T30 bit signal reverse 0: LSB first, 1: MSB first	Reverses the T30 bit signal.
6	IP Fax max bitrate setting 0: Not affected, 1: Affected	When "0" is selected, the max bitrate does not affect the value of the DIS/DCS. When "1" is selected, the max bitrate affects the value of the DIS/DCS.
7	IP Fax received telephone number confirmation	When "0" is selected, fax data is received without checking the telephone number. When "1" is selected, fax data is received only when confirming that



	0: No confirmation, 1: Confirmation	the telephone number from the sender matches the registered telephone number in this machine. If this confirmation fails, the line is disconnected.
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IP Fax Switch 01 (SP No. 1-111-002)					
No.	Function				Comments
0-3	IP Fax delay level setting Selects the acceptable delay level. Level 0 is the highest quality Default is "0000" (level 0).				
	Bit 3	Bit 2	Bit 1	Bit 0	
	0	0	0	0	Level 0
	0	0	0	1	Level 1
	0	0	1	0	Level 2
	0	0	1	1	Level 3
4-7	IP Fax preamble wait time setting				<p>Selects the preamble wait time. [00 to 0f] There are 16 values in this 4-bit binary switch combination. Waiting time: set value level x 100 ms Max: 0f (1500 ms) Min: 00 (No wait time) The default is "0000" (00H).</p>

IP Fax Switch 02 (SP No. 1-111-003)		
No.	Function	Comments
0	IP Fax bit signal reverse setting 0: Maker code setting 1: Internal bit switch setting	<p>When "0" is selected, the bit signal reverse method is decided by the maker code. When "1" is selected, the bit signal reverse method is decided by the internal bit switch. When communicating between IP Fax devices, LSB first is selected.)</p>
1	IP Fax transmission speed setting 0: Modem speed 1: No limitation	Selects the transmit speed for IP Fax communication.
2	SIP transport setting 0: TCP 1: UDP	<p>This bit switch sets the transport that has priority for receiving IP Fax data. This function is activated only when the sender has both TCP and UDP.</p>

3	CCM connection 0: No CCM connection 1: CCM connection	When "1" is selected, only the connection call message with H.323 or no tunneled H.245 is transmitted via CCM.
4	Message reception selection from a non-registered SIP server 0: Answer 1: Not answer	0: This answers the INVITE message from the SIP server not registered for the machine. 1: This does not receive the INVITE message from the SIP server not registered for the machine and send a refusal message.
5	ECM communication setting 0: No limit for image compression 1: Limit for image compression	0: This does not limit the type of image compression with ECM communication. 1: When the other end machine is Cisco, this permits the image compression other than JBIG or MMR with ECM communication.
6-7	Not used	Do not change these settings.

<b>IP Fax Switch 03 (SP No. 1-111-004)</b>		
<b>No.</b>	<b>Function</b>	<b>Comments</b>
0	Effective field limitation for G3 standard function information 0: OFF, 1: 4byte (DIS)	Limits the effective field for standard G3 function information.
1	Switching between G3 standard and G3 nonstandard 0: Enable switching 1: G3 standard only	Enables/disables switching between G3 standard and G3 non-standard.
2	Not used	Do not change this setting.
3	ECM frame size selection at transmitting 0: 256byte, 1: 64byte	Selects the ECM frame size for sending.
4	DIS detection times for echo prevention 0: 1 time, 1: 2 times	Sets the number of times for DIS to detect echoes.
5	CTC transmission selection 0: PPRx1 1: PPRx4	When "0" is selected, the transmission condition is decided by error frame numbers. When "1" is selected, the transmission condition is based on the ITU-T method.
6	Shift down setting at receiving negative code 0: OFF, 1: ON	Selects whether to shift down when negative codes are received.
7	Not used	Do not change this setting.

IP Fax Switch 04 (SP No. 1-111-005)		
No.	Function	Comments
0-3	TCF error threshold	Sets the TCF error threshold level. [00 to 0f] The default is "1111" (0fH).
4-7	Not used	Do not change these settings.

IP Fax Switch 05 (SP No. 1-111-006)						
No.	Function					Comments
0-3	Modem bit rate setting for transmission (kbps)					Sets the modem bit rate for transmission. The default is "0110" (14.4K bps).
	Bit 3	Bit 2	Bit 1	Bit 0	kbps	
	0	0	0	1	2.4	
	0	0	1	1	4.8	
	0	0	1	1	7.2	
	0	1	0	0	9.6	
	0	1	0	1	12.0	
	0	1	1	0	14.4	
4-5	Modem setting for transmission					Sets the modem type for transmission. The default is "00" (V29).
	Bit 5	Bit 4		Types		
	0	0		V29		
	0	1		V17		
	1	0		Not used		
1	1		Not used			
6-7	Not used					Do not change these settings.

IP Fax Switch 06 (SP No. 1-111-007)						
No.	Function				Comments	
0-3	Modem bit rate setting for reception				Sets the modem bit rate for reception. The default is "0110" (14.4K bps).	
4-7	Modem setting for reception					Sets the modem type for reception. The default is "0100" (V27ter, V29, V17).
	Bit 7	Bit 6	Bit 5	Bit 4	Types	
	0	0	0	1	V.27ter	
	0	0	1	0	V.27ter, V.29	
	0	0	1	1	V.27ter, V.29, V.33	
0	1	0	0	V.27ter, V.29, V.17/V.33		

	Other settings - Not used
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IP Fax Switch 07 (SP No. 1-111-008)		
No.	Function	Comments
0	TSI information 0: Not added, 1: Added	Adds or does not add TSI information to NSS(S).
1	DCN transmission setting at T1 timeout 0: Not transmitted 1: Transmitted	Transmits or does not transmit DCN at T1 timeout.
2	Not used	Do not change this setting.
3	Hang up setting at DIS reception disabled 0: No hang up 1: Hang up after transmitting DCN	Sets whether the machine disconnects after DIS reception.
4	Number of times for training 0: 1 time, 1: 2 times	Selects the number of times training is done at the same bit rate.
5	Space CSI transmission setting at no CSI registration 0: Not transmitted 1: Transmitted	When "0" is selected, frame data is enabled. When "1" is selected, the transmitted data is all spaces.
6-7	Not used	Do not change these settings.

IP Fax Switch 08 (SP No. 1-111-009)				
No.	Function			Comments
0-1	T1 timer adjustment			Adjusts the T1 timer. The default is "00" (35 seconds).
	Bit 1	Bit 0		
	0	0	35 s	
	0	1	40 s	
	1	0	50 s	
	1	1	60 s	
2-3	T4 timer adjustment			Adjust the T4 timer. The default is "00" (3 seconds).
	Bit 3	Bit 2		
	0	0	3 s	
	0	1	3.5 s	
	1	0	4 s	
	1	1	5 s	
4-5	T0 timer adjustment			Adjusts the failsafe timer. This timer sets the interval between "setup"

	Bit 5	Bit 4		data transmission and T.38 phase decision. If your destination return is late on the network or G3 fax return is late, adjust the longer interval timer. The default is "00" (75 seconds).
	0	0	75 s	
	0	1	120 s	
	1	0	180 s	
	1	1	240 s	
6-7	Not used		Do not change these settings.	

<b>IP Fax Switch 09 (SP No. 1-111-010)</b>																			
No.	Function			Comments															
0	Network I/F setting for SIP connection 0: IPv4 1: IPv6.			Selects the connection type (IPV4 or IPV6) to connect to the SIP server.															
1	Network I/F setting for Fax communication 0: Same setting as SIP server connection 1: Automatic setting			0: The I/F setting for fax communication follows the setting for SIP server connection. 1: The negotiation between the SIP server and the device decides whether IPv4 or IPv6 is used for the I/F setting for fax communication.															
2	Record-route setting 0: Disable 1: Enable			0: Disables the record-route function of the SIP server. 1: Enables the record-route function of the SIP server.															
3-4	re-INVITE transmission delay timer setting <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Bit 4</td> <td>Bit 3</td> <td></td> </tr> <tr> <td>0</td> <td>0</td> <td>No delay</td> </tr> <tr> <td>0</td> <td>1</td> <td>1 sec</td> </tr> <tr> <td>1</td> <td>0</td> <td>2 sec</td> </tr> <tr> <td>1</td> <td>1</td> <td>3 sec</td> </tr> </table>			Bit 4	Bit 3		0	0	No delay	0	1	1 sec	1	0	2 sec	1	1	3 sec	This changes the interval for transmitting re-INVITE after receiving the ACK message transmitted by T.38 device.
Bit 4	Bit 3																		
0	0	No delay																	
0	1	1 sec																	
1	0	2 sec																	
1	1	3 sec																	
5	SIP-IPFAX: Adding vender information selection 0: Declare T38VendorInfo=RICOH 1: Not declare T38VendorInfo=RICOH																		
6-7	Not used.			Do not change these settings.															

<b>IP Fax Switch 0A</b> - Not used (do not change the settings)
<b>IP Fax Switch 0B</b> - Not used (do not change the settings)
<b>IP Fax Switch 0C</b> - Not used (do not change the settings)
<b>IP Fax Switch 0D</b> - Not used (do not change the settings)

<b>IP Fax Switch 0E (SP No. 1-111-013)</b>		
<b>No.</b>	<b>Function</b>	<b>Comments</b>
0-1	SIP: IP-FAX port mode (UDP) 00: 3 port mode 01: 2 port mode 10: 1 port mode	Switch the port mode for IP-FAX (T38 transport: UDP) at SIP call control.
2-3	SIP: IP-FAX port mode (TCP) 00: 3 port mode 01: 2 port mode 10: 1 port mode	Switch the port mode for IP-FAX (T38 transport: TCP) at SIP call control.
4-7	Not used.	Do not change these settings.

## 4.8 NCU PARAMETERS

The following tables give the RAM addresses and the parameter calculation units that the machine uses for ringing signal detection and automatic dialing. The factory settings for each country are also given. Most of these must be changed by RAM read/write (SP2-102), but some can be changed using NCU Parameter programming (SP2-103, 104 and 105); if SP2-103, 104 and 105 can be used, this will be indicated in the Remarks column. The RAM is programmed in hex code unless (BCD) is included in the Unit column.

### Note

- The following addresses describe settings for the standard NCU.

#	RAM Addr.	Function	Remarks
CC	680500	Country/Area code for NCU parameters	Use the Hex value to program the country/area code directly into this address, or use the decimal value to program it using SP2-103-001

### Country Code List

Country/Area	Decimal	Hex	Country/Area	Decimal	Hex
France	00	00	Asia	18	12
Germany	01	01	Japan	19	13
UK	02	02	Hong Kong	20	14
Italy	03	03	South Africa	21	15
Austria	04	04	Australia	22	16
Belgium	05	05	New Zealand	26	17
Denmark	06	06	Singapore	24	18
Finland	07	07	Malaysia	25	19
Ireland	08	08	China	26	1A
Norway	09	09	Taiwan	27	1B
Sweden	10	0A	Korea	28	1C
Switzerland	11	0B	Brazil	29	1D

#	RAM Addr.	Function	Unit	Remarks
01	6805B4	PSTN: Tx level from the modem	-N – 3 dBm	SP2-103-002
02	680572	Acceptable ringing signal frequency: range 1, upper limit	1000/ N (Hz).	SP2-103-003
03	680573	Acceptable ringing signal		SP2-103-004

		frequency: range 1, lower limit		
04	680574	Acceptable ringing signal frequency: range 2, upper limit		SP2-103-005
05	680575	Acceptable ringing signal frequency: range 2, lower limit		SP2-103-006
06	680576	Number of rings until a call is detected	1	SP2-103-007 The setting must not be zero.
07	680577	Minimum required length of the first ring	20 ms	See Note B. SP2-103-008
08	680578	Minimum required length of the second and subsequent rings	20 ms	SP2-103-009
09	680579	Ringing signal detection reset time (LOW)	20 ms	SP2-103-010
10	68057A	Ringing signal detection reset time (HIGH)		SP2-103-011
11	68054A	Time between opening or closing the DO relay and opening the OHDI relay	1 ms	See Notes A, D and E. SP2-103-012
12	68054B	Break time for pulse dialing	1 ms	See Note A. SP2-103-013
13	68054C	Make time for pulse dialing	1 ms	See Note A. SP2-103-014
14	68054D	Time between final OHDI relay closure and DO relay opening or closing	1 ms	EU only. SP2-103-015 See Notes A, D and E.
15	68054E	Minimum pause between dialed digits (pulse dial mode)	20 ms	See Note A and E. SP2-103-016
16	68054F	Time waited when a pause is entered at the operation panel		SP2-103-017 See Note A.
17	680550	DTMF tone on time	1 ms	SP2-103-018
18	680551	DTMF tone off time		SP2-103-019
19	680552	Tone attenuation level of DTMF signals while dialing	-N x 0.5 -3.5 dBm	SP2-103-020 See Note C.
20	680553	Tone attenuation value difference between high-frequency tone and low-frequency tone in DTMF signals	-dBm x 0.5	SP2-103-021 The setting must be less than -5dBm, and should not exceed the setting at 680552h above. See Note C.



21	680554	PSTN: DTMF tone attenuation level after dialling	-N x 0.5 -3.5 dBm	SP2-103-022 See Note C.
22	680555	ISDN: DTMF tone attenuation level after dialling	-dBm x 0.5	SP2-103-023 See Note C.

 Note

- A: Pulse dial parameters (addresses 68054A to 68054F) are the values for 10 pps. If 20 pps is used, the machine automatically compensates.
- B: The first ring may not be detected until 1 to 2.5 wavelengths after the time specified by this parameter.
- C: The calculated level must be between 0 and 10.  
The attenuation levels calculated from RAM data are:  
High frequency tone:  
– 0.5 x N680552/680554–3.5 dBm  
– 0.5 x N680555 dBm  
Low frequency tone:  
– 0.5 x (N680552/680554 + N680553) –3.5 dBm  
– 0.5 x (N680555 + N680553) dBm  
\*Note: N680552, for example, means the value stored in address 680552(H)
- D: 68054A: Europe - Between Ds opening and Di opening, France - Between Ds closing and Di opening  
68054D: Europe - Between Ds closing and Di closing, France - Between Ds opening and Di closing
- E: 68054A, 68054D, 68054E: The actual inter-digit pause (pulse dial mode) is the sum of the period specified by the RAM addresses 68054A, 68054D, and 68054E.

## 4.9 RAM ADDRESSES

### ★ Important

- Do not change the settings that are marked as “Not used” or “Read-only.”

#### **680001 to 680004(H) - ROM version (Read only)**

680001(H) - Revision number (BCD)

680002(H) - Year (BCD)

680003(H) - Month (BCD)

680004(H) - Day (BCD)

#### **680006 to 680015(H) - Machine's serial number (16 digits - ASCII)**

#### **680016(H) - Language code**

0: Japanese, 1: UK English, 2: US English, 3: French, 4: German, 5: Spanish, 6: Italian, 7: Dutch, 8: Swedish, 9: Norwegian, 10: Danish, 11: Finnish, 12: Czech, 13: Hungarian, 14: Polish, 15: Portuguese, 16: Russian, 17: Traditional Chinese, 18: Simplified Chinese, 19: Korean

#### **680018(H) - Total program checksum (low)**

#### **680019(H) - Total program checksum (high)**

#### **680020 to 68003F(H) - System bit switches**

#### **680050 to 68005F(H) - Printer bit switches**

#### **680060 to 68007F(H) - Communication bit switches**

#### **680080 to 68008F(H) - G3 bit switches**

#### **680090 to 68009F(H) - G3-2 bit switches: Not used**

#### **6800A0 to 6800AF(H) - G3-3 bit switches: Not used**

#### **6800D0(H) - User parameter switch 00 (SWUER\_00): Not used**

#### **6800D1(H) - User parameter switch 01 (SWUSR\_01): Not used**

#### **6800D2(H) - User parameter switch 02 (SWUSR\_02)**

Bit 0: Forwarding mark printing on forwarded messages 0: Disabled, 1: Enabled

Bit 1: Center mark printing on received copies

(This switch is not printed on the user parameter list.)

0: Disabled, 1: Enabled

Bit 2: Reception time printing

(This switch is not printed on the user parameter list.)

0: Disabled, 1: Enabled

Bit 3: TSI print on received messages 0: Disabled, 1: Enabled

Bit 4: Checkered mark printing

(This switch is not printed on the user parameter list.)

0: Disabled, 1: Enabled

Bit 5: Not used

Bit 6: Not used

Bit 7: Not used

**6800D3(H) - User parameter switch 03 (SWUSR\_03: Automatic report printout)**

Bit 0: Transmission result report (memory transmissions) 0: Off, 1: On

Bit 1: Not used

Bit 2: Memory storage report 0: Off, 1: On

Bit 3: Polling reserve report (polling reception) 0: Off, 1: On

Bit 4: Polling result report (polling reception) 0: Off, 1: On

Bit 5: Transmission result report (immediate transmissions) 0: Off, 1: On

Bit 6: Not used

Bit 7: Journal 0: Off, 1: On

**6800D4(H) - User parameter switch 04 (SWUSR\_04: Automatic report printout)**

Bit 0: Not used

Bit 1: Automatic communication failure report and transfer result report output 0: Off, 1: On

Bits 2 to 3: Not used

Bit 4: Indicates the parties 0: Not indicated, 1: Indicated

Bit 5: Include sender's name on reports 0: Off, 1: On

Bit 6: Not used

Bit 7: Inclusion of a sample image on reports 0: Off, 1: On

**6800D5(H) - User parameter switch 05 (SWUSR\_05)**

Bit 0: Substitute reception when the base copier is in an SC condition

0: Enabled, 1: Disabled

Bits 1 and 2: Condition for substitute RX when the machine cannot print messages (Paper end, toner end, jam, and during night mode)

Bit 2: 0, Bit 1: 0 = The machine receives all the fax messages.

Bit 2: 0, Bit 1: 1 = The machine receives the fax messages with RTI or CSI.

Bit 2: 1, Bit 1: 0 = The machine receives the fax messages with the same ID code.

Bit 2: 1, Bit 1: 1 = The machine does not receive anything.

Bit 3: Not used

Bit 4: Not used

Bit 5: Just size printing 0: Off, 1: On

Bit 6: Not used

Bit 7: Add paper display when a cassette is empty 0: Off, 1: On

**6800D6(H) - User parameter switch 06 (SWUSR\_06)**

Bit 0:

Bit 1: V8 protocol (G3-1: Super G3) 0: Off, 1: On

Bit 2: V8 protocol (G3-2: Super G3) 0: Off, 1: On

Bit 3: V8 protocol (G3-3: Super G3) 0: Off, 1: On

**6800D7(H) - User parameter switch 07 (SWUSR\_07)**

Bit 0 Ringing 0: Off, 1: On

Bit 1: Automatic answering message 0: Off, 1: On

Bit 2: Parallel memory transmission 0: Off, 1: On

Bits 3 and 4: Not used

Bit 5: Remote control 0: Off, 1: On

Bits 6 and 7: Not used

**6800D8(H) - User parameter switch 08 (SWUSR\_08)**

Bits 0 and 1: Not used.

Bit 2: Authorized reception

0: Only faxes from senders whose RTIs/CSIs are specified for this feature are accepted.

1: Only faxes from senders whose RTIs/CSIs are not specified for this feature are accepted.

Bits 3 to 7: Not used.

**6800D9(H) - User parameter switch 09 (SWUSR\_09):** Not used

**6800DA(H) - User parameter switch 10 (SWUSR\_0A)**

Bits 0 to 2: Not used

Bit 3: Page reduction 0: Off, 1: On

Bits 4 and 5: Not used

Bit 6: Use both e-mail notification and printed reports to confirm the transmission results 0: Off, 1: On

Bit 7: Not used

**6800DB(H) - User parameter switch 11 (SWUSR\_0B)**

Bits 0 and 1: Not used

Bit 2: White original detection 0: Off, 1: On (alarm and an alert message on the LCD)

Bit 3: Receive rejection for 1300 Hz transmission 0: Off (receive), 1: On (not receive)

Bit 5: Not used

Bit 6: Printout of messages received while acting as a forwarding station 0: Off, 1: On

Bit 7: Not used

**6800DC(H) - User parameter switch 12 (SWUSR\_0C):** Not used

**6800DD(H) - User parameter switch 13 (SWUSR\_0D):** Not used

**6800DE(H) - User parameter switch 14 (SWUSR\_0E)**

Bit 0: Message printout while the machine is in Night Printing mode 0: On, 1: Off

Bit 1: Maximum document length detection 0: Double letter, 1: Longer than double-letter (well log) – up to 1,200 mm

Bit 2: Not used

Bit 3: Fax mode settings, such as resolution, before a mode key (Copy/Fax/Printer/Scanner), is pressed 0: Not cleared, 1: Cleared

Bits 4 to 6: Not used

Bit 7: Not used

**6800DF(H) - User parameter switch 15 (SWUSR\_0F)**

(This switch is not printed on the user parameter list.)

Bits 0, 1 and 2: Cassette for fax printout

Bit 2: 0, Bit 1: 0, Bit 0: 1 = 1st paper feed station

Bit 2: 0, Bit 1: 1, Bit 0: 0 = 2nd paper feed station

Bit 2: 0, Bit 1: 1, Bit 0: 1 = 3rd paper feed station

Bit 2: 1, Bit 1: 0, Bit 0: 0 = 4th paper feed station

Bit 2: 1, Bit 1: 0, Bit 0: 1 = LCT

Other settings Not used

Bits 3 and 4: Not used

Bit 5: Using the cassette specified by bits 0, 1 and 2 above only 0: On, 1: Off

Bits 6 and 7: Not used

#### **6800E0(H) – User parameter switch 16 (SWUSR\_10)**

(This switch is not printed on the user parameter list.)

Bits 0 and 1: Not used

Bit 2: Paper size selection priority for an A4 size fax message when A4/LT size paper is not available. 0: A3 has priority, 1: B4 has priority

Bits 3 to 7: Not used

#### **6800E1(H) – User parameter switch 17 (SWUSR\_11)**

Bit 0: Not used

Bit 1: Not used

Bit 2: Inclusion of the “Add” button when a sequence of Quick/Speed dials is selected for broadcasting 0: Not needed, 1: Needed

Bits 3 to 6: Not used

Bit 7: Press “Start” key without an original when using the on hook dial or the external telephone,

0: displays “Cannot detect original size”. 1: Receives fax messages.

#### **6800E2(H) - User parameter switch 18 (SWUSR\_12)**

Bit 0: TTI date 0: Off, 1: On

Bit 1: TTI sender 0: Off, 1: On

Bit 2: TTI file number 0: Off, 1: On

Bit 3: TTI page number 0: Off, 1: On

Bits 4 to 6: Not used

Bit 7: Japan only

#### **6800E3(H) - User parameter switch 19 (SWUSR\_13)**

Bit 0: Not used

Bit 1: Journal format

0: The Journal is separated into transmissions and receptions

1: The Journal is separated into G3-1, G3-2, and G3-3 communications

Bit 2: Not used

Bit 3: 90° image rotation during B5 portrait TX (This switch is not printed on the user parameter list.) 0: Off, 1: On

Bit 4: Reduction of sample images on reports to 50% in the main scan and sub-scan directions. (This switch is not printed on the user parameter list.) 0: Technician adjustment (printer switch 0E bits 3 and 4), 1: 50% reduction

Bit 5: Use of A5 size paper for reports (This switch is not printed on the user parameter list.) 0: Off, 1: On

Bits 6 and 7: Not used

#### 6800E4(H) - User parameter switch 20 (SWUSR\_14)

Bit 0: Automatic printing of the LAN fax result report 0: Off, 1: On

Bit 1: Not used.

Bits 2 to 5: Store documents in memory, which could not be printed from PC fax (LAN fax) driver

Bit 5	Bit 4	Bit 3	Bit 2	Setting
0	0	0	0	0 min.
0	0	0	1	1 min.
↓	↓	↓	↓	↓
1	1	1	0	14 min.
1	1	1	1	15 min.

Bits 6 and 7: Not used.

#### 6800E5(H) - User parameter switch 21 (SWUSR\_15)

Bit 0: Print results of sending reception notice request message 0: Disabled (print only when an error occurs), 1: Enabled

Bit 1: Respond to e-mail reception acknowledgment request 0: Disabled, 1: Enabled

Bit 2: Not used

Bit 3: File format for forwarded folders 0: TIFF, 1: PDF

Bit 4: Transmit Journal by E-mail 0: Disabled, 1: Enabled

Bit 5: Not used

Bit 6: Network error display 0: Displayed, 1: Not displayed

Bit 7: Transmit error mail notification 0: Enabled, 1: Disabled

#### 6800E6(H) - User parameter switch 22 (SWUSR\_16)

(This switch is not printed on the user parameter list.)

Bit 0: Dial tone detection (PSTN 1) 0: Disabled, 1: Enabled

Bits 1 to 7: Not used

6800E7(H) – User parameter switch 23 (SWUSR\_17): Not used

6800E8(H) - User parameter switch 24 (SWUSR\_18): Not used

#### 6800E9(H) - User parameter switch 25 (SWUSR\_19)

Bit 0: Not used

Bit 1: Reception mode switch timer 0: Off, 1: On (switching Fax or Fax/Tel)

Bit 2: Mode priority switch 0: Fax first, 1: Tel first

Bit 3: Dial in function (Japan Only)

Bit 4: **Do not Change this Bit.**

Bits 5 to 7: Not used

**6800EA(H) and 6800EB(H) - User parameter switches 26 and 27 (SWUSR\_1A and 1B):** Not used

**6800EC(H) - User parameter switch 28(SWUSR\_1C):** Not used

**6800ED(H) - User parameter switch 29(SWUSR\_1D):** Not used

**6800EE(H) and 6800EF(H) - User parameter switches 30 and 31 (SWUSR\_1E and 1F):** Not used

**6800F0(H) - User parameter switch 32 (SWUSR\_20)**

Bit 0: Quotation priority for a destination when there is no destination of the specified type

0: Paper output priority = Priority order: 1. IP-fax destination, 2. Fax Number, 3. E-mail address, 4. Folder

1: Electric putout order = Priority order: 1. E-mail address, 2. Folder, 3. IP-fax destination, 4. Fax number

Bits 1 to 7: Not used

**6800F1(H) - User parameter switch 33 (SWUSR\_21):** Not used

**6800F2(H) - User parameter switch 34 (SWUSR\_22)**

Bit 0: Gatekeeper server used with IP-Fax 0: Disabled, 1: Enabled

Bit 1: SIP server used with IP-Fax 0: Disabled, 1: Enabled

Bits 2 to 7: Not used

**6800F3(H) - User parameter switch 35 (SWUSR\_23)**

Redial interval when sending a backup file

**6800F4(H) - User parameter switch 36 (SWUSR\_24)**

Maximum number of redials when sending a backup file

**6800F5(H) - User parameter switch 37 (SWUSR\_25)**

Bit 0: Whether to stop sending a backup file if the destination folder becomes full while the machine is sending or waiting to send a fax or the backup file. 0: No, • 1: Yes

Bit 2 and 3: Backup file is printed along with the TX communication failure report when a backup file transmission failure occurs. 00: Do not print, 01: Print first page only, 10: Print whole file

Bit 4: Display the sender's information in the file name of documents that are forwarded to folder destinations. 0: Disabled, 1: Enabled

Bit 5: Limit the file names of documents that are forwarded to folder destinations to plain characters only. 0: Disabled, 1: Enabled

Bit 6: When using the remote fax function, the sub-machine beeps to let you know when it has printed a received document (If you specify "On", the machine will beep according to the setting of [Panel Key Sound] under [System Settings].) 0: On, 1: Off

Bit 7: Not used

**6800F6(H) - User parameter switch 38 (SWUSR\_26)**

Maximum number of transmissions the machine attempts before determining that a fax cannot be forwarded from a sender (including special senders) to a folder destination

**6800F7(H) - User parameter switch 39 (SWUSR\_27)**

Interval (in minutes) between resend attempts after failing to forward a fax from a sender (including special senders) to a folder destination

**6800F8(H) - User parameter switch 40 (SWUSR\_28)**

Bit 0: When memory space is insufficient, the machine prints and then deletes the oldest faxes, creating memory space for storage of new faxes. 0: Disabled, 1: Enabled

Bit 1 to 7: Not used

**6800FD(H) - User parameter switch 45 (SWUSR\_2D)**

Bit 0 and 1:

Bit 2: File format for files transmitted to e-mail addresses and folders registered as forwarding, destinations of backup file transmission, receivers for Personal Box, or end receivers for Transfer Box. 0: PDF 1: PDF/A

Bit 3:

Bit 4 to 7: Not used

**680100 to 68010F(H)** - G4 Parameter Switches – Not used

**680110 to 68012F(H)** - G4 Internal Switches – Not used

**680130 to 68016F(H)** - Service Switches

**680170 to 68017F(H)** - IFAX Switches

**680180 to 68018F(H)** - IP-FAX Switches

**680190 to 6801A3(H)** - PSTN-1 RTI (Max. 20 characters - ASCII) - See the following note.

**6801A4 to 6801B7(H)** - PSTN-2 RTI (Max. 20 characters - ASCII)

**6801B8 to 6801CB(H)** - PSTN-3 RTI (Max. 20 characters - ASCII)

**6801CF to 68020E(H)** - TTI 1 (Max. 64 characters - ASCII) - See the following note.

**68020F to 68024E(H)** - TTI 2

**68024F to 68028E(H)** - TTI 3

**68028F to 6802CE(H)** - TTI 4

**6802CF to 68030E(H)** - TTI 5

**68030F to 68034E(H)** - TTI 6

**68034F to 68038E(H)** - TTI 7

**68038F to 6803CE(H)** - TTI 8

**6803CF to 68040E(H)** - TTI 9

**68040F to 68044E(H)** - TTI 10

 Note

- If the number of characters is less than the maximum (20 for RTI, 32 for TTI), add a stop code (00[H]) after the last character.

**68044F(H)**

Printing format for TTI 1

0: DOM (Japan), 1:EXP (Export)

**680450(H)**



Printing format for TTI 2

0: DOM, 1: EXP

**680451(H)**

Printing format for TTI 3

0: DOM, 1:EXP

**680452(H)**

Printing format for TTI 4

0: DOM, 1:EXP

**680453(H)**

Printing format for TTI 5

0: DOM, 1:EXP

**680454(H)**

Printing format for TTI 6

0: DOM, 1:EXP

**680455(H)**

Printing format for TTI 7

0: DOM, 1:EXP

**680456(H)**

Printing format for TTI 8

0: DOM, 1:EXP

**680457(H)**

Printing format for TTI 9

0: DOM, 1:EXP

**680458(H)**

Printing format for TTI 10

0: DOM, 1: EXP

**680459 to 68046C(H)** - PSTN-1 CSI (Max. 20 characters - ASCII)

**68046D to 680480(H)** - PSTN-2 CSI (Max.20 characters - ASCII)

**680481 to 680494(H)** - PSTN-3 CSI (Max.20 characters - ASCII)

**680495(H)** - Number of PSTN-1 CSI characters (Hex)

**680496(H)** - Number of PSTN-2 CSI characters (Hex)

**680497(H)** - Number of PSTN-3 CSI characters (Hex)

**6804C6(H)** - Memory Lock ID (BCD)

**6804D2 to 6804D9(H)** - Last power off time (Read only)

6804D2(H) - 01(H) - 24-hour clock, 00(H) - 12-hour clock (AM), 02(H) - 12-hour clock (PM)

6804D3(H) - Year (BCD)

6804D4(H) - Month (BCD)

6804D5(H) - Day (BCD)

6804D6 (H) – Hour

6804D7 (H) – Minute

6804D8(H) – Second

6804D8 (H) - 00: Monday, 01: Tuesday, 02: Wednesday, ///, 06: Sunday

**6804E6(H)** - Optional equipment (Read only – Do not change the settings)

Bit 0: Page Memory 0: Not installed, 1: Installed

Bit 1: SAF Memory (4M) 0: Not installed, 1: Installed

Bit 2: SAF Memory 0: Not installed, 1: Installed

Bits 3 to 7; Not used

**6804E7(H)** - Optional equipment (Read only – Do not change the settings)

Bits 0 to 3: Not used

Bit 4: G3-2 0: Not installed, 1: Installed

Bit 5: G3-3 0: Not installed, 1: Installed

Bit 6 and 7: Not used

**6804EE(H)** - Machine code (Check ram 3)

**680500(H)** - Start address of G3 table for G3-1

**680600(H)** - Start address of G3 table for G3-2

**680700(H)** - Start address of G3 table for G3-3

**680800 to 68081F(H)** - Service station's fax number (SP3-101)

**680820 to 680829(H)** - Own fax PABX extension number – Not used

**68082A to 680833(H)** - Own fax number (PSTN) – Not used

**680834 to 680847(H)** - Own fax number (ISDN G4) – Not used

**680848 to 680853(H)** - The first subscriber number (ISDN G3) – Not used

**680854 to 68085F(H)** - The second subscriber number (ISDN G3) – Not used

**680860 to 68086B(H)** - The first subscriber number (ISDN G4) – Not used

**68086C to 680877(H)** - The second subscriber number (ISDN G4) – Not used

**6808A0 to 6808B7(H)** - G4TID registered information (Max.24 characters - ASCII)

**6808B8 to 6808CB(H)** - ISDN CSI (Max.20 characters - ASCII)

**6808CC(H)** - Number of ISDN CSI characters (Hex)

**6808D1 to 6808D4(H)** - ISDN G3 sub address registered information

**6808D5 to 6808D8(H)** - G4 sub address registered information

**6808DE to 6808E2** – Option G3 board (G3-2) ROM information (Read only)

6808DE(H) - Suffix (BCD)

6808DF(H) - Version (BCD)

6808E0(H) - Year (BCD)

6808E1(H) - Month (BCD)

6808E2(H) - Day (BCD)

**6808E3 to 6808E7** – Option G3 board (G3-3) ROM information (Read only)

6808E3(H) - Suffix (BCD)

6808E4(H) - Version (BCD)

6808E5(H) - Year (BCD)  
 6808E6(H) - Month (BCD)  
 6808E7(H) - Day (BCD)  
**6808E8(H)** - G3-1 Modem ROM version (Read only)  
**6808EA(H)** - G3-2 Modem ROM version (Read only)  
**6808EC(H)** - G3-3 Modem ROM version (Read only)  
**6808F8(H)** - Number of multiple sets print (Read only)  
**68094E(H)** - Time for economy transmission (Not used)  
**68094F(H)** - Time for economy transmission (Not used)  
**68096A(H)** - Transmission monitor volume 00 - 07(H)  
**68096B(H)** - Reception monitor volume 00 - 07(H)  
**68096C(H)** - On-hook monitor volume 00 - 07(H)  
**68096D(H)** - Dialing monitor volume 00 - 07(H)  
**68096E(H)** - Buzzer volume 00 - 07(H)  
**68096F(H)** - Beeper volume 00 - 07(H)  
**680980(H)** - Machine code (Check ram 4)  
**680982(H)** - Machine serial number (ASCII)  
**687178 to 68717B(H)** - Transmission counter (Max.24 characters - ASCII)  
**68717C to 68717F(H)** - Reception counter (Max.24 characters - ASCII)  
**6871E8 to 6871EB(H)** - Mail transmission counter (Max.24 characters - ASCII)  
**6871EC to 6871EF(H)** - Mail reception counter (Max.24 characters - ASCII)  
**6A6DEE(H) to 6A70ED(H)** - SIP server address (Read only)  
 6A6DEE(H) - Proxy server - Main (Max. 128 characters - ASCII)  
 6A6E6E(H) - Proxy server - Sub (Max. 128 characters - ASCII)  
 6A6EEE(H) - Redirect server - Main (Max. 128 characters - ASCII)  
 6A6F6E(H) - Redirect server - Sub (Max. 128 characters - ASCII)  
 6A6FEE(H) - Registrar server - Main (Max. 128 characters - ASCII)  
 6A706E(H) - Registrar server - Sub (Max. 128 characters - ASCII)  
**6A70EE(H)** - Gatekeeper server address - Main (Max. 128 characters - ASCII)  
**6A716E(H)** - Gatekeeper server address - Sub (Max. 128 characters - ASCII)  
**6A71EE(H)** - Alias Number (Max. 128 characters - ASCII)  
**6A726E(H)** - SIP user name (Max. 128 characters - ASCII)  
**6A72EE(H)** - **SIP digest authentication password** (Max. 128 characters - ASCII)  
**6A736E(H)** - Gateway address information (Max. 7100 characters - ASCII)  
**6A8F2A(H)** - NGN initial setting method 0: Simple, 1: Manual  
**6A8F2B(H)** - SIP digest authentication user name (Max. 128 characters - ASCII)  
**6A8FAB(H)** - NGN-SIP domain name (Max. 64 characters - ASCII)  
**6A8FEB(H)** - NGN-home gateway address (Max. 128 characters - ASCII)  
**6A906C(H)** - Stand-by port number for H.323 connection

**6A906E(H)** - Stand-by port number for SIP connection

**6A9070(H)** - RAS port number

**6A9072(H)** - Gatekeeper port number

**6A9074(H)** - Port number of data waiting for T.38

**6A9076(H)** - Port number of SIP server

**6A9078(H)** - Priority for SIP and H.323 0: H.323, 1: SIP

**6A9079(H)** - SIP function 0: Disabled, 1: Enabled

**6A907A(H)** - H.323 function 0: Disabled, 1: Enabled

**6A907B(H)** - **SIP digest authentication function** 0: Disabled, 1: Enabled

**6B3AE4(H) - 6B3B04 (H) - Dial tone detection parameter** (Max. 11 x 3 lines)

This initializes following order. [0x04, 0x40, 0x03, 0x60, 0x64, 0xf4, 0x01,0x64, 0x04, 0xc8, 0x00]

**6B3AE4(H)** – Dial tone detection frequency – Upper limit (High)

Defaults: NA: 06, EU: 06, ASIA: 06

**6B3AE5(H)** – Dial tone detection frequency – Upper Limit (Low)

Defaults: NA: 50, EU: 50, ASIA: 50

**6B3AE6(H)** – Dial tone detection frequency – Lower Limit (High)

Defaults: NA: 03, EU: 02, ASIA: 02

**6B3AE7(H)** – Dial tone detection frequency – Lower Limit (Low)

Defaults: NA: 60, EU: 90, ASIA: 90

**6B3AE8(H)** –Dial tone detection waiting time (20 ms)

Defaults: NA: 64, EU 64, ASIA: 64

**6B3AE9 to 6B3AEA** – Dial tone detection monitoring time (20 ms)

Defaults

Area	6B35A9	6B35AA
NA	F4	01
EU	F4	01
ASIA	F4	01

**6B3AEB(H)** – Dial tone detect judge time (20 ms)

Defaults: NA: 64, EU: 1B, ASIA: 32

**6B3AEC(H)** – Dial tone disconnect permission time (20 ms)

Defaults: NA: 11, EU: 0F, ASIA: 11

## 4.10 DEDICATED TRANSMISSION PARAMETERS

There are two sets of transmission parameters: Fax and E-mail

Each Quick Dial Key and Speed Dial Code has eight bytes of programmable parameters allocated to it. If transmissions to a particular machine often experience problems, store that terminal's fax number as a Quick Dial or Speed Dial, and adjust the parameters allocated to that number.

The programming procedure will be explained first. Then, the eight bytes will be described.

### 4.10.1 PROGRAMMING PROCEDURE

- 1.** Set the bit 0 of System Bit Switch 00 to 1.
- 2.** Enter Address Book Management mode ([User Tools] > [Machine Features] > [System Settings] > [Key Operator] > [Address Book Management]).
- 3.** Select the address book that you want to program.
- 4.** For the fax parameter, select "Fax Dest.", for the E-mail parameter, select "E-mail", then press "Start". Make sure that the LED of the Start button lights green.
- 5.** The settings for the switch 00 are now displayed. Press the bit number that you wish to change.
- 6.** To scroll through the parameter switches, either:
- 7.** Select the next switch: press "Next" or Select the previous switch: "Prev." until the correct switch is displayed. Then go back to step 6.
- 8.** After the setting is changed, press "OK".
- 9.** After finishing, reset bit 0 of System Bit Switch 00 to 0.

### 4.10.2 PARAMETERS

#### *Fax Parameters*

The initial settings of the following fax parameters are all FF(H) - all the parameters are disabled.

Switch 00
FUNCTION AND COMMENTS
<p>ITU-T T1 time (for PSTN G3 mode)</p> <p>If the connection time to a particular terminal is longer than the NCU parameter setting, adjust this byte. The T1 time is the value stored in this byte (in hex code), multiplied by 1 second.</p> <p><b>Range:</b></p> <p>0 to 120 s (00h to 78h)</p> <p>FFh - The local NCU parameter factory setting is used.</p> <p>Do not program a value between 79h and FEh.</p>

Switch 01							
No	FUNCTION					COMMENTS	
0-4	Tx level					<p>If communication with a particular remote terminal often contains errors, the signal level may be inappropriate. Adjust the Tx level for communications with that terminal until the results are better.</p> <p>If the setting is "Disabled", the NCU parameter 01 setting is used.</p> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>Do not use settings other than listed on the left.</li> </ul>	
	Bit4	Bit3	Bit2	Bit1	Bit0		
	0	0	0	0	0		0
	0	0	0	0	1		-1
	0	0	0	1	0		-2
	0	0	0	1	1		-3
	0	0	1	0	0		-4
	↓	↓	↓	↓	↓		↓
	0	1	1	1	1		-15
	1	1	1	1	1		Disabled
5-7	<p>Cable equalizer</p> <p>Bit 7: 0, Bit 6: 0, Bit 5: 0 = None</p> <p>Bit 7: 0, Bit 6: 0, Bit 5: 1 = Low</p> <p>Bit 7: 0, Bit 6: 1, Bit 5: 0 = Medium</p> <p>Bit 7: 0, Bit 6: 1, Bit 5: 1 = High</p> <p>Bit 7: 1, Bit 6: 1, Bit 5: 1 = Disabled</p>					<p>Use a higher setting if there is a signal loss at higher frequencies because of the length of wire between the modem and the telephone exchange when calling the number stored in this Quick/Speed Dial.</p> <p>Also, try using the cable equalizer if one or more of the following symptoms occur.</p> <p>Communication error with error codes such as 0-20, 0-23, etc.</p> <p>Modem rate fallback occurs frequently.</p> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>Do not use settings other than listed on the left.</li> </ul> <p>If the setting is "Disabled", the bit switch setting is used.</p>	

Switch 02						
No	FUNCTION					COMMENTS
0-3	Initial Tx modem rate					If training with a particular remote terminal always takes too long, the initial modem rate may be too high. Reduce the initial Tx modem rate using these bits. For the settings 14.4 or kbps slower, Switch 04 bit 4 must be changed to 0. <b>Note</b> <ul style="list-style-type: none"> <li>Do not use settings other than listed on the left. If the setting is "Disabled", the bit switch setting is used.</li> </ul>
	Bit3	Bit2	Bit1	Bit0	bps	
	0	0	0	0	Not used	
	0	0	0	1	2400	
	0	0	1	0	4800	
	0	0	1	1	7200	
	0	1	0	0	9600	
	0	1	0	1	12000	
	0	1	1	0	14400	
	0	1	1	1	16800	
	1	0	0	0	19200	
	1	0	0	1	21600	
	1	0	1	0	24000	
	1	0	1	1	26400	
	1	1	0	0	28800	
	1	1	0	1	31200	
	1	1	1	0	33600	
1	1	1	1	Disabled		
4-7	Not used					Do not change the settings.

Switch 03		
No	FUNCTION	COMMENTS
0-1	Inch-mm conversion before tx Bit 1: 0, Bit 0: 0 = Inch-mm conversion available Bit 1: 0, Bit 0: 1 = Inch only Bit 1: 1, Bit 0: 0 = Not used Bit 1: 1, Bit 0: 1 = Disabled	If "inch only" is selected on the machine uses inch-based resolutions for scanning, the printed copy may be slightly distorted at the other end if that machine uses mm-based resolutions. If the setting is "Inch-mm conversion available ", Inch-mm conversion becomes effective to the special senders. If the setting is "Disabled", the bit switch setting is used.
2-3	DIS/NSF detection method Bit 3: 0, Bit 2: 0 = First DIS or NSF Bit 3: 0, Bit 2: 1 = Second DIS or NSF Bit 3: 1, Bit 2: 0 = Not used Bit 3: 1, Bit 2: 1 = Disabled	(0, 1): Use this setting if echoes on the line are interfering with the set-up protocol at the start of transmission. The machine will then wait for the second DIS or NSF before sending DCS or NSS. If the setting is "Disabled", the bit switch setting is used.
4	V.8 protocol 0: Off 1: Disabled	If transmissions to a specific destination always end at a lower modem rate (14,400 bps or lower), disable the V.8 protocol so as not to use V.34 protocol. 0: V.34 communication will not be possible. If the setting is "Disabled", the bit switch setting is used.
5	Compression modes available in transmit mode 0: MH only 1: Disabled	This bit determines the capabilities that are informed to the other terminal during transmission. If the setting is "Disabled", the bit switch setting is used.
6-7	ECM during transmission Bit 7: 0, Bit 6: 0 = Off Bit 7: 0, Bit 6: 1 = On Bit 7: 1, Bit 6: 0 = Not	For example, if ECM is switched on but is not wanted when sending to a particular terminal, use the (0, 0) setting. <b>Note</b> <ul style="list-style-type: none"> <li>V.8/V.34 protocols and JBIG compression are automatically disabled if ECM is disabled.</li> </ul>



used Bit 7: 1, Bit 6: 1 = Disabled	<ul style="list-style-type: none"> <li>If the setting is "Disabled", the bit switch setting is used.</li> </ul>
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<b>Switch 04 - Not used</b> (do not change the settings)
<b>Switch 05 - Not used</b> (do not change the settings)
<b>Switch 06 - Not used</b> (do not change the settings)
<b>Switch 07 - Not used</b> (do not change the settings)
<b>Switch 08 - Not used</b> (do not change the settings)
<b>Switch 09 - Not used</b> (do not change the settings)

***E-mail Parameters***

The initial settings of the following e-mail parameters are all "0" (all parameters disabled).

<b>Switch 00</b>		
<b>No</b>	<b>FUNCTION</b>	<b>COMMENTS</b>
0	MH Compression mode for e-mail attachments <b>0:</b> Off <b>1:</b> On	Switches MH compression on and off for files attached to e-mails for sending.
1	MR Compression mode for e-mail attachments <b>0:</b> Off <b>1:</b> On	Switches MR compression on and off for files attached to e-mails for sending.
2	MMR Compression mode for e-mail attachments <b>0:</b> Off <b>1:</b> On	Switches MMR compression on and off for files attached to e-mails for sending.
3-6	<b>Not used</b>	Do not change these settings.
7	Designates the bits to reference for compression method of e-mail attachments <b>0:</b> Registered (Bit 0 to 6) <b>1:</b> No registration.	The "0" selection (default) references the settings for Bits 00, 01, 02 above. The "1" selection ignores the selections of Bits 00, 01, 02.

<b>Switch 01</b>		
<b>No</b>	<b>FUNCTION</b>	<b>COMMENTS</b>
0	Original width of e-mail attachment: A4 <b>0</b> : Off 1: On	Sets the original width of the e-mail attachment as A4.
1	Original width of e-mail attachment: B4 <b>0</b> : Off 1: On	Sets the original width of the e-mail attachment as B4.
2	Original width of e-mail attachment: A3 <b>0</b> : Off 1: On	Sets the original width of the e-mail attachment as A3.
3-6	<b>Not used</b>	Do not change these settings.
7	Designates the bits to reference for original size of e-mail attachments <b>0</b> : Registered (Bit 0 to 6) 1: No registration.	The "0" selection (default) references the settings for Bits 00, 01, 02 above. The "1" selection ignores the selections of Bits 00, 01, 02.

<b>Switch 02</b>		
<b>No</b>	<b>FUNCTION</b>	<b>COMMENTS</b>
0	Line resolution of e-mail attachment: 200 x 100 <b>0</b> : Off 1: On	Sets the line resolution of the e-mail attachment as 200 x100.
1	Line resolution of e-mail attachment: 200 x 200 <b>0</b> : Off 1: On	Sets the line resolution of the e-mail attachment as 200 x 200.
2	Line resolution of e-mail attachment: 200 x 400 <b>0</b> : Off 1: On	Sets the line resolution of the e-mail attachment as 200 x 400.
3	Not used	Do not change these settings.
4	Line resolution of e-mail attachment: 400 x 400	Sets the line resolution of the e-mail attachment as 400 x 400.

	<b>0:</b> Off <b>1:</b> On	
5-6	<b>Not used</b>	Do not change these settings.
7	Designates the bits to reference for original size of e-mail attachments  <b>0:</b> Registered (Bit 0 to 6) <b>1:</b> No registration.	The "0" selection (default) references the settings for Bits 00, 01, 02, 04 above. The "1" selection ignores the selections of Bits 00, 01, 02, 04.

**Switch 03 - Not used** (do not change the settings)

<b>Switch 04</b>		
<b>No</b>	<b>FUNCTION</b>	<b>COMMENTS</b>
0	Full mode address selection  <b>0:</b> Full mode address <b>1:</b> No full mode (simple mode)	If the other ends have the addresses, which have the full mode function flag ("0"), this machine determines them as full mode standard machines. <ul style="list-style-type: none"> <li>• This machine attaches the "demand for reception confirmation" to a message when transmitting.</li> <li>• This machine updates the reception capability to the address book when receiving.</li> </ul>
1-7	<b>Not used</b>	Do not change these settings.

<b>Switch 05</b>		
<b>No</b>	<b>FUNCTION</b>	<b>COMMENTS</b>
0	Direct transmission selection to an SMTP server  <b>0:</b> ON <b>1:</b> OFF	Allows or rejects the direct transmission to the SMTP server.
1-7	Not used	Do not change these settings.

**Switch 06 - Not used** (do not change the settings)

**Switch 07 - Not used** (do not change the settings)

**Switch 08 - Not used** (do not change the settings)

**Switch 09 - Not used** (do not change the settings)

## 5. SPECIFICATIONS

### 5.1 GENERAL SPECIFICATIONS

#### 5.1.1 FCU

<b>Standard:</b>	Group 3
<b>Resolution:</b>	8 x 3.85 lines/mm, 200 x 100 dpi (Standard character) 8 x 7.7 lines/mm, 200 x 200 dpi (Detail character)
<b>Transmission Time:</b>	3 seconds at 28,800 bps, Standard resolution (JBIG transmission: 2 seconds)
<b>Data Compression:</b>	MH, MR, MMR, JBIG
<b>Maximum Original Size:</b>	Standard: A4 (SEF) or 8.5" x 14" (SEF) Custom: 216 mm x 600 mm (8.5" x 23.6")
<b>Maximum Scanning Size:</b>	216 mm x 600 mm (8.5" x 23.6")
<b>Print Process:</b>	LED alley and electro-photographic printing
<b>Transmission speed:</b>	33,600/31,200/28,800/26,400/24,000/21,600/19,200/16,800/14,400/12,000/9,600/ 7,200/4,800/2,400 bps (Auto shift down system)
<b>Memory Capacity:</b>	4MB

## 5.1.2 CAPABILITIES OF PROGRAMMABLE ITEMS

The following table shows the capabilities of each programmable items.

Item	Standard
Quick Dial	2000
Groups	100
Destination per Group	500
Programs	100
Communication records for Journal stored in the memory	200
Specific Senders	250
Memory Transmission file	800
Memory capacity for memory transmission (Note)	320

 **Note**

- Measured using an ITU-T #1 test document (Slerexe letter) at the standard resolution, the auto image density mode, and the Text mode.

## 5.2 IFAX SPECIFICATIONS

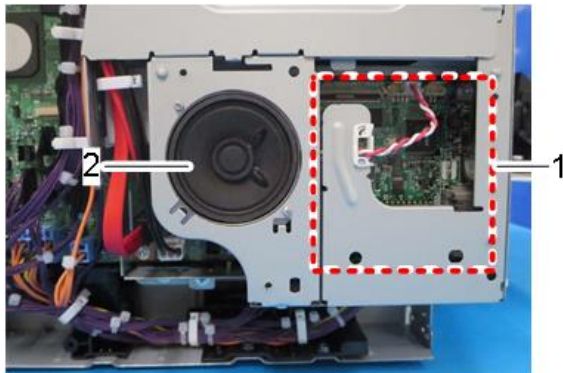
<b>Network:</b>	Standard: Ethernet interface (1000 Base-T/100 Base-TX/10 Base-T) Optional: IEEE802.11a/b/g/n (Wireless LAN interface)
<b>Transmit function:</b>	E-mail
<b>Scan line density:</b>	<ul style="list-style-type: none"> <li>• 200 × 100 dpi (Standard character)</li> <li>• 200 × 200 dpi (Detail character)</li> </ul>
<b>Original Size (Scanning width):</b>	A4
<b>Communication Protocol:</b>	Transmission: SMTP, TCP/IP Reception: POP3, SMTP, IMAP4, TCP/IP
<b>E-mail Format:</b>	Single/Multi-part, MIME Conversion Attached file forms: TIFF-F (MH, MR*1, MMR*1 compression)
<b>Authentication method:</b>	SMTP-AUTH, POP before SMTP, A-POP
<b>Internet communication:</b>	Send and receive an e-mail with a computer that has an e-mail address
<b>Encryption method:</b>	S/MIME
<b>Internet Fax send functions:</b>	Automatic conversion of sent documents to e-mail format and e-mail transmission. Memory transmission only.
<b>Internet Fax receive functions:</b>	Automatic detection and printing of appended TIFF-F (MH) files and ASCII text. Memory reception only.

\*1 :Full mode

### 5.3 IP-FAX SPECIFICATIONS

<b>Network:</b>	Standard: Ethernet interface (1000 Base-T/100 Base-TX/10 Base-T) Optional: IEEE802.11a/b/g/n wireless LAN interface
<b>Scan line density:</b>	8 x 3.85 lines/mm, 200 x 100 dpi (Standard character) 8 x 7.7 lines/mm, 200 x 200 dpi (Detail character)
<b>Maximum Original size:</b>	Standard: A4 (SEF) or 8.5" x 14" (SEF) Custom: 216 mm x 600 mm (8.5" x 23.6")
<b>Maximum scanning size:</b>	216 mm x 600 mm (8.5" x 23.6")
<b>Transmission protocol:</b>	Recommended: T.38, TCP, UDP/IP communication, SIP (RFC 3261 compliant), H.323 v2
<b>Compatible machines:</b>	IP-Fax compatible machines
<b>IP-Fax transmission function:</b>	Specify an IP address and send faxes to an IP-Fax compatible fax through a network. Also capable of sending faxes to a G3 fax connected to a telephone line via a VoIP gateway.
<b>IP-Fax reception function:</b>	Receive faxes sent from an IP-Fax compatible fax through a network. Also capable of receiving faxes from a G3 fax connected to a telephone line via a VoIP gateway.

## 5.4 FAX UNIT CONFIGURATION



d0apc8008

No.	Component	Code	Remarks
1	FCU board	-	Included with the fax unit
2	Speaker	-	
-	Handset HS1010	M444-38	Fax unit option Only for NA
-	Fax Connection Unit Type M34	D3EM-03	SD card option This is used to set up the remote fax function.



**D3ER/D3EQ**  
**PAPER FEED UNIT PB1120/ PB1110**

REVISION HISTORY		
Page	Date	Added/Updated/New
		None



# (D3ER/D3EQ)

## PAPER FEED UNIT PB1120/ PB1110








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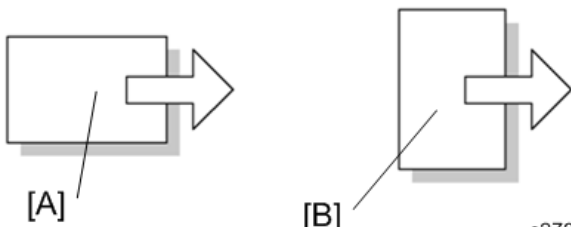
<b>1. DETAILED DESCRIPTIONS .....</b>	<b>1</b>
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# SYMBOLS AND ABBREVIATIONS

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

Symbol	What it means
	Clip ring
	Screw
	Connector
	Clamp
	E-ring
	Flat Flexible Cable
	Timing Belt
SEF	Short Edge Feed
LEF	Long Edge Feed
K	Black
C	Cyan
M	Magenta
Y	Yellow
B/W, BW	Black and White
FC	Full color



c2790086

[A] Short Edge Feed (SEF)

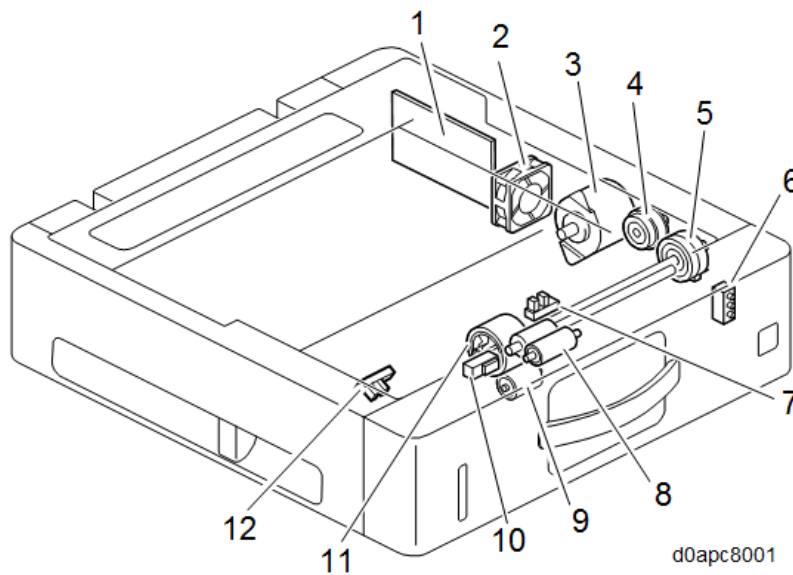
[B] Long Edge Feed (LEF)



# 1. DETAILED DESCRIPTIONS

## 1.1 OVERVIEW

### 1.1.1 MECHANICAL COMPONENTS



No.	Item	No.	Item
1	Controller board (PCB1)	7	Paper end sensor (S1)
2	Bank cooling fan (FAN1)	8	Paper transport roller
3	Bank drive motor (M1)	9	Friction roller
4	Paper transport clutch (CL2)	10	Paper transport sensor (S3)
5	Paper feed clutch (CL1)	11	Paper feed roller
6	Paper size switch (SW1)	12	Paper near-end sensor (S2)

## 1.2 PAPER FEED OPERATION

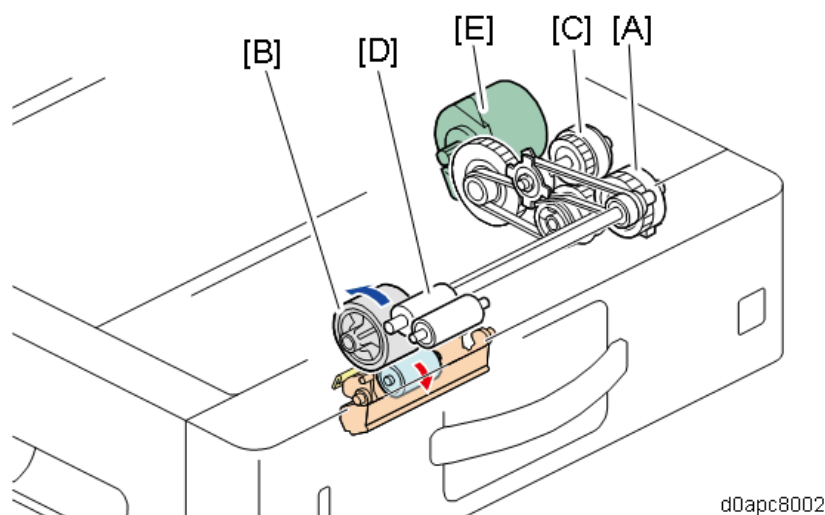
### *Paper Feeding*

The paper feed tray of the main machine employs the RF (Roller Friction) method for paper separation. The RF mechanism comprises a separation roller with a torque limiter attached that forces paper separation (no reverse drive is used).

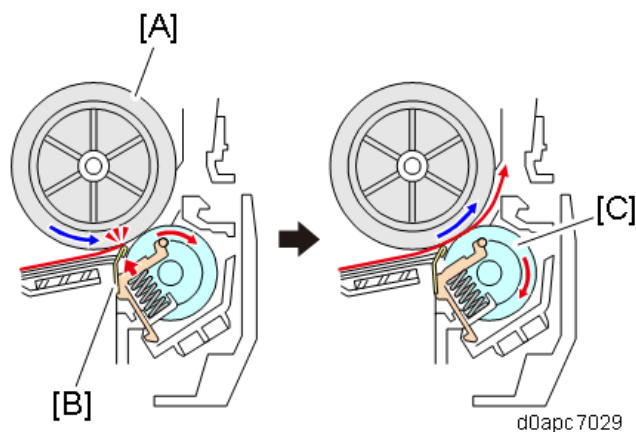
A paper feed signal switches on the paper feed clutch (CL1) [A] and starts rotating the paper feed roller [B] which feeds the paper. At the same time, switches on the paper transport clutch (CL2) [C] and starts rotating the paper transport roller [D] which feeds the paper.

When the leading edge of the moving paper switches on the registration sensor, this switches the paper feed clutch (CL1) and paper transport clutch (CL2) off. Image position timing starts while the registration sensor is on, and then the paper is transported to the transfer unit.

The paper feed clutch (CL1) and paper transport clutch (CL2) are driven by the bank drive motor (M1) [E].



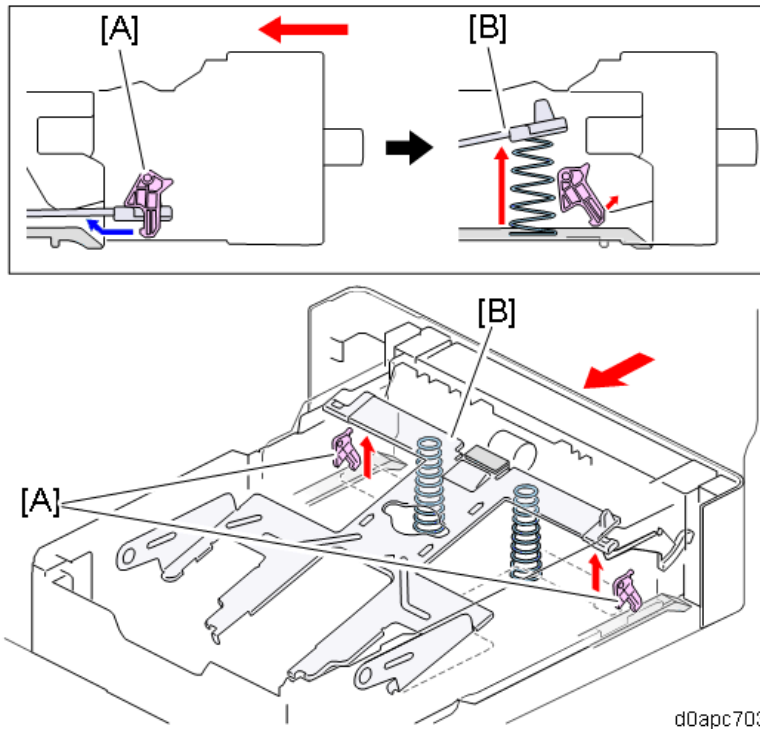
In front of the feed roller [A] a pre-separation plate [B] is installed to block the top of the stack from entering past the feed roller. The friction roller [C] separates the first sheet from the top of the stack so only the top sheet feeds.





### Bottom Plate Lift Mechanism

When a paper tray is set in the machine, a catch on the frame of the machine snags the bottom plate lock lever [A] and releases it. When the lock is released, a spring raises the bottom plate [B] and paper stack to the feed roller.



Also, the bottom plate and end fence are linked, so when the bottom tray rises, the end fence shifts forward against the trailing edge of the stack. This keeps the edge of the stack against the fence to prevent misfeeds.

## 1.3 TRAY PAPER DETECTION

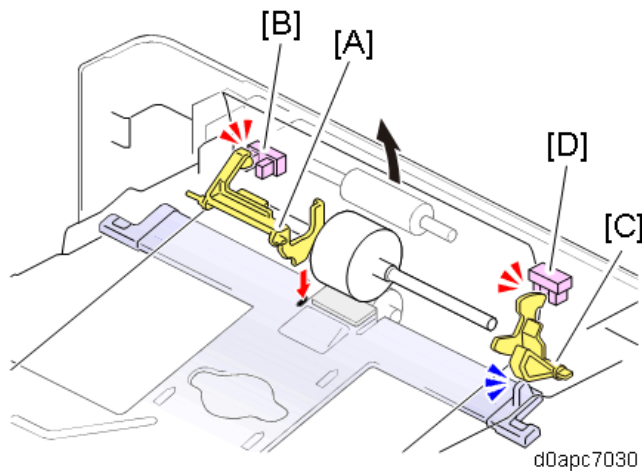
### *Paper End/ Paper Near End Detection*

When the tray runs out of paper, one end of the paper end feeler [A] drops through the cut out on the bottom plate into the gap while the other end of the feeler pops up into the paper end sensor (S1) [B] and turns it off. When paper end is detected, the paper out message is displayed on the operation panel.

This machine is provided with a new paper near-end sensor.

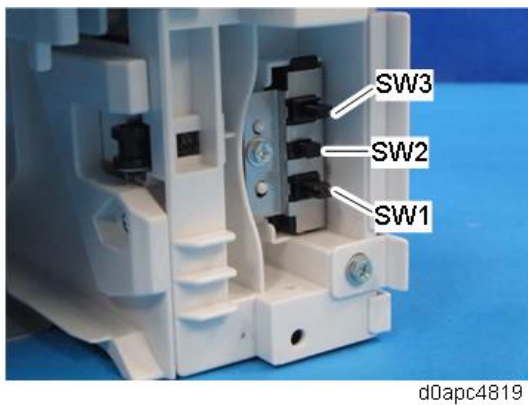
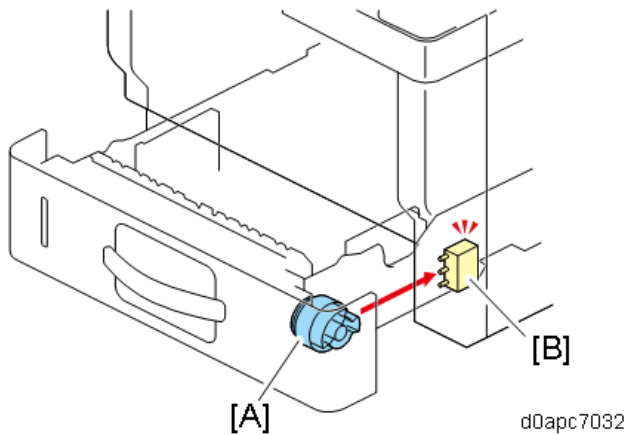
A paper near-end feeler [C], installed on the corner of the bottom plate, detects the bottom plate as it rises. As sheets of paper feed out, the bottom plate rises. This also raises the feeler of the paper near-end sensor (S2) [D] until it blocks the gap of the sensor and switches it off. Paper near-end is detected when there are about  $75 \pm 50$  sheets of paper (0.1 mm thick) remaining in the tray. When paper near-end is detected, the operation panel displays the paper near-end message.

If paper end is detected before paper near-end, paper end takes precedence.



**Paper Size Detection**

When the paper tray is set in the machine, the paper size dial [A] installed on the right corner of the tray pushes onto the three grooves of the paper size switch (SW1) [B]. This sets the reading for the dial paper size setting. When more than one of these switches are set to "L" (ON) the machine knows the paper tray is installed.



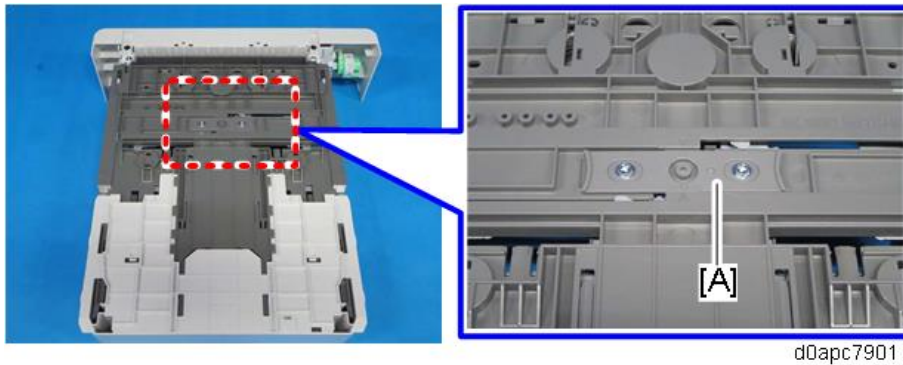
Value	SW 1	SW 2	SW 3	Paper size
1	L	L	L	A4 SEF
2	L	H	L	A5 SEF
3	H	L	L	A6 SEF
4	H	H	L	Legal SEF
5	L	L	H	Letter SEF
6	L	H	H	-
7	H	L	H	Half letter SEF
8	H	H	H	Paper cassette is not set.

L: Switch is pressed

## 1.4 SIDE-TO-SIDE REGISTRATION ADJUSTMENT IN THE OPTIONAL PAPER TRAY

To adjust side-to-side registration, loosen the two screws on the underside of the tray and move the rack and pinion mechanism of the side guides from side to side.

The holder [A] can move to right or left (up to 2mm). When at the default ( $\pm 0$ ) position, the holder position is the triangle marked area.



## 2. REPLACEMENT AND ADJUSTMENT

### Note

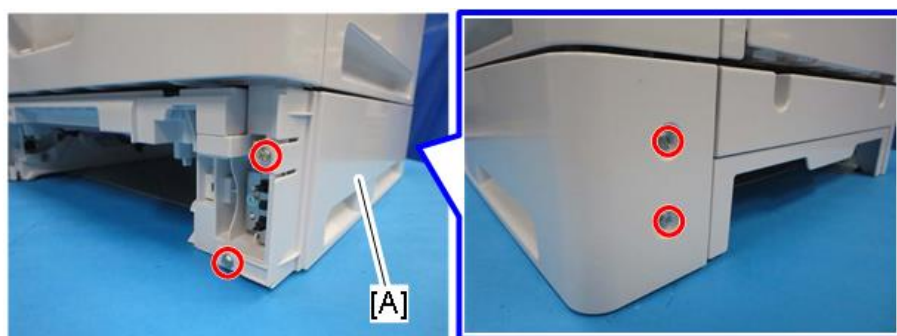
The parts and components of the Paper Feed Unit PB1120 (500 sheets) and Paper Feed Unit PB1110 (250 sheets) are the same. The replacement procedures described below apply to both units.

### 2.1 RIGHT COVER

### Note

The right cover can be removed with the main machine mounted on the paper feed unit.

1. Remove the paper cassette.
2. Remove the right cover [A].



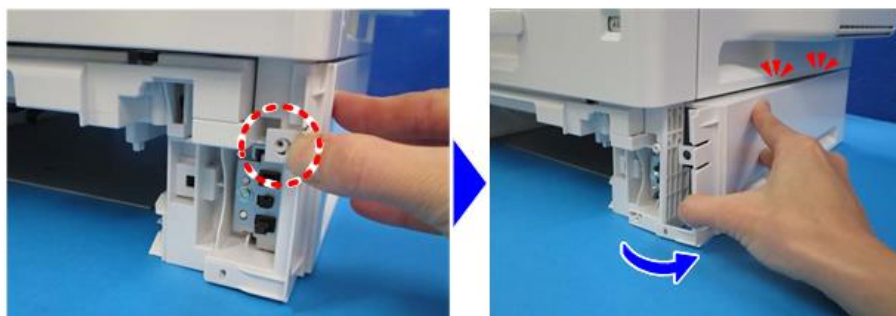
 x4

d0apc4801

### Note

#### Paper Feed Unit PB1110 (250 sheets):

Disconnect the boss, and then open the right cover by holding the bottom part of it to release two hooks.

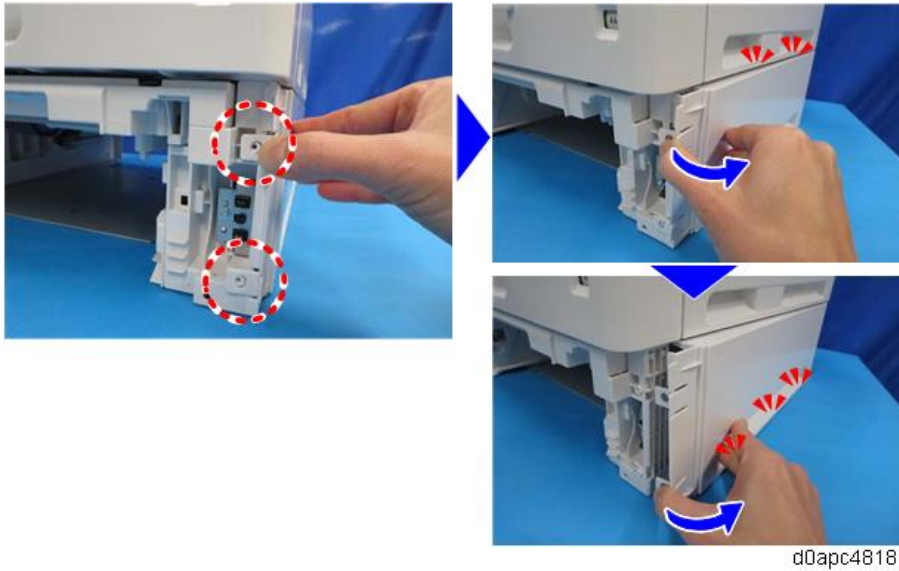


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## Right Cover

### Paper Feed Unit PB1120 (500 sheets):

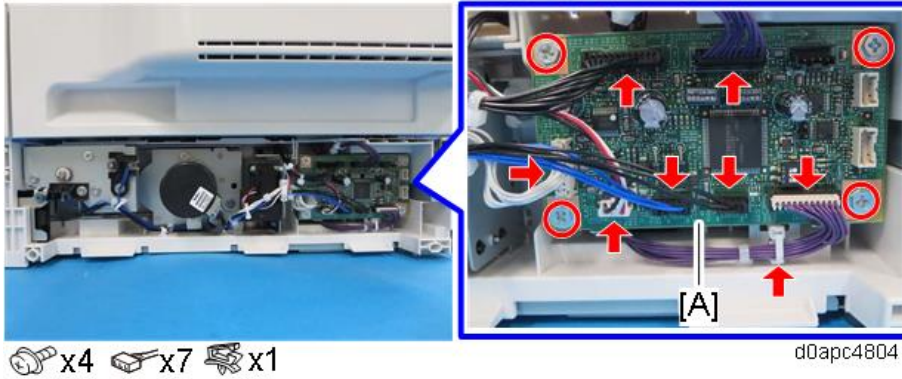
1. Disconnect the two bosses, and then open the right cover by holding the upper side of the right cover to release two upper hooks.
2. Open the right cover with holding the bottom side of right cover to release three lower hooks.



d0apc4818

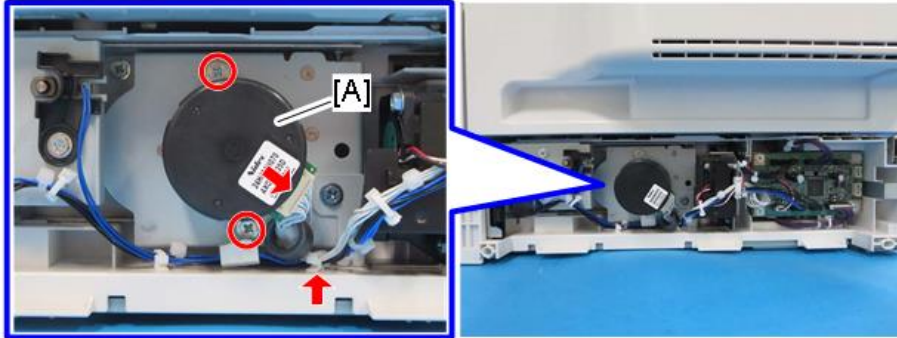
## 2.2 CONTROLLER BOARD (PCB1)

1. Remove the right cover. (*Right Cover*)
2. Remove the controller board (PCB1) [A].



## 2.3 BANK DRIVE MOTOR (M1)

1. Remove the right cover. (*Right Cover*)
2. Remove the bank drive motor (M1) [A].



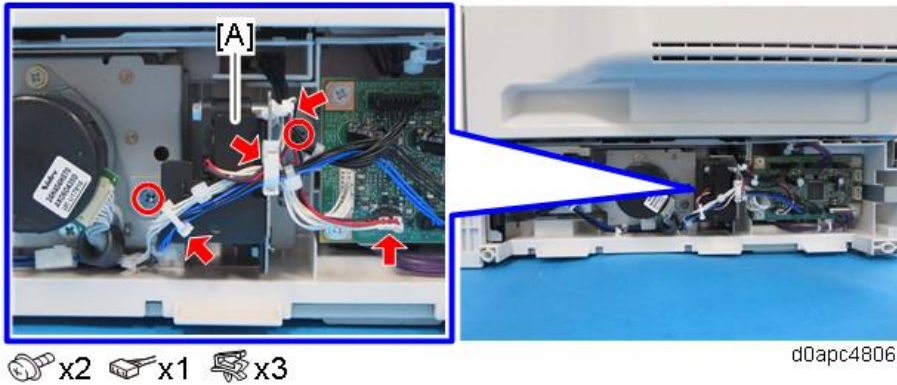
 x2  x1  x1

d0apc4805

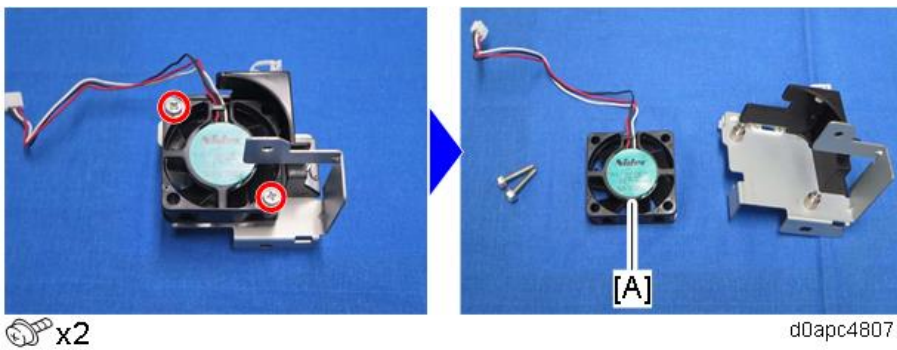


## 2.4 BANK COOLING FAN (FAN1)

1. Remove the right cover. (*Right Cover*)
2. Remove the bank cooling fan (FAN1) [A] with the bracket.

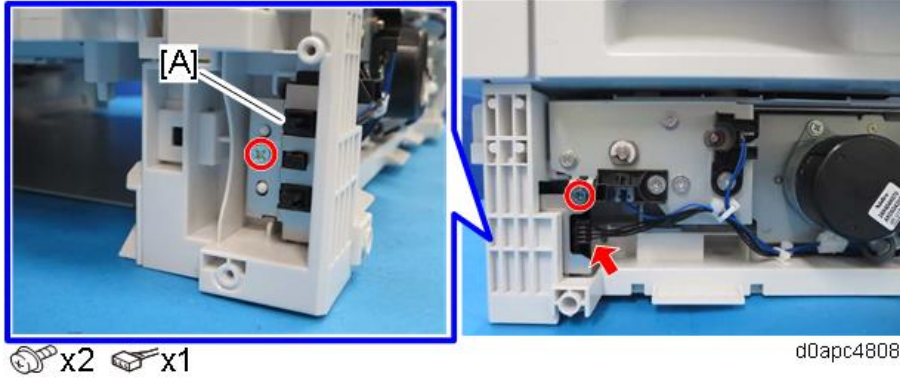


3. Remove the bank cooling fan (FAN1) [A] from the bracket.

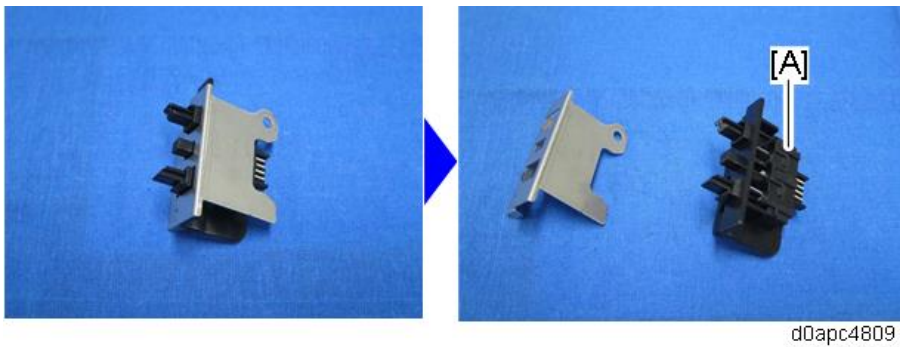


## 2.5 PAPER SIZE SWITCH (SW1)

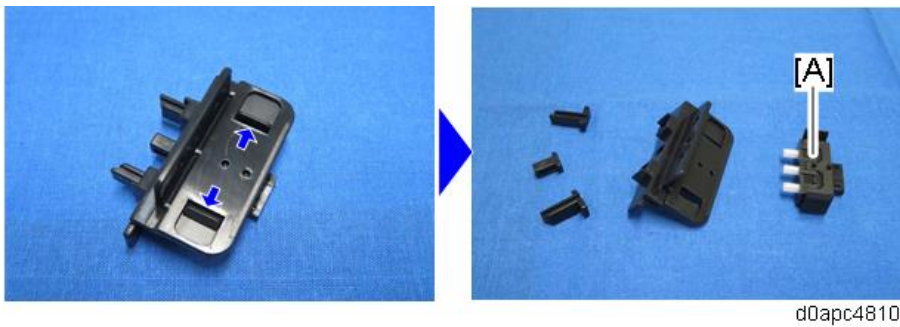
1. Remove the right cover. (*Right Cover*)
2. Remove the paper size switch (SW1) [A] with its bracket.



3. Deattach the paper size switch (SW1) [A] from the bracket.

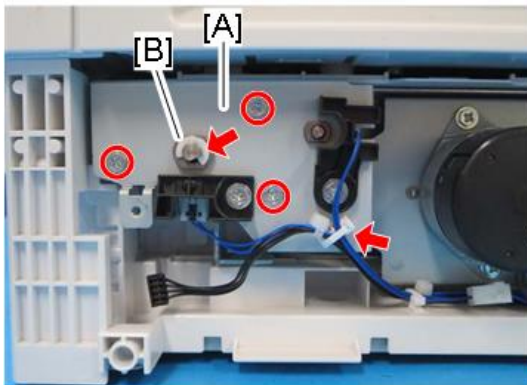


4. Release the two hooks to to remove the paper size switch (SW1) [A].



## 2.6 PAPER FEED CLUTCH (CL1), PAPER TRANSPORT CLUTCH (CL2)

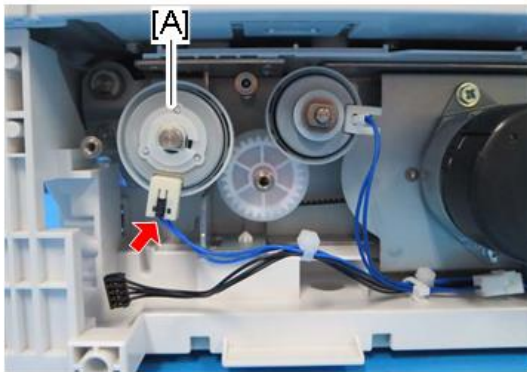
1. Remove the right cover. (*Right Cover*)
2. Remove the paper size switch (SW1). (*Paper Size Switch (SW1)*)
3. Release the clip to remove the bearing [B], and then remove the bracket [A].



⊕ x3 ⊖ x1 ⊕ x1

d0apc4811

4. Remove the paper feed clutch (CL1) [A].



⊖ x1

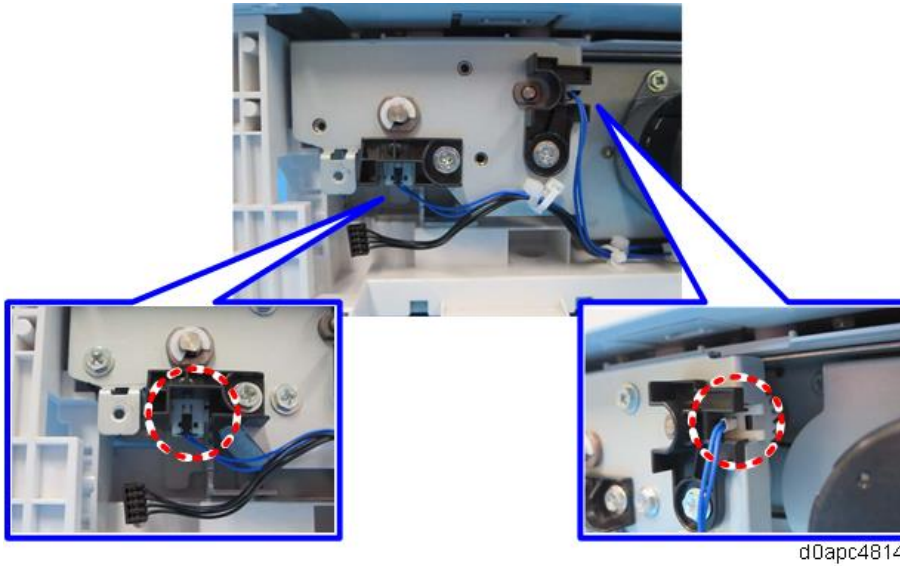
d0apc4812

5. Remove the bearing [A] and flange [B] to remove the paper transport clutch (CL2) [C].



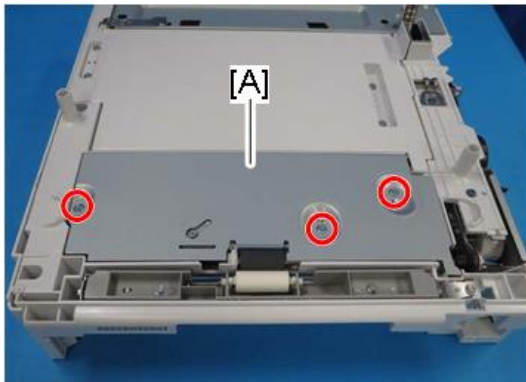
**Note**

When attaching the bracket removed in Step 3, make sure that the clutch connectors are seated correctly on the holder.



## 2.7 PAPER END SENSOR (S1)

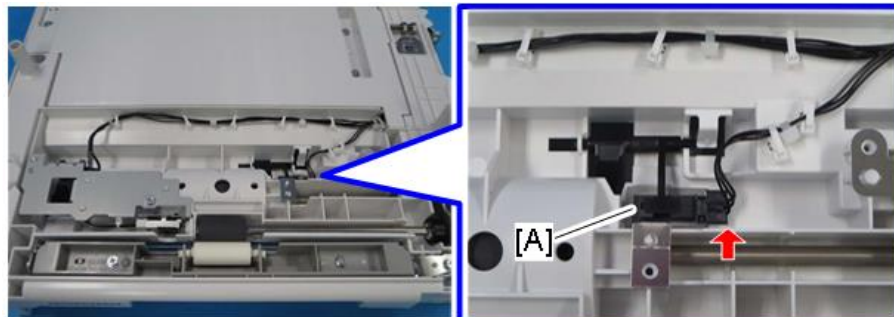
1. Remove the main machine from the paper feed unit.
2. Remove the paper cassette.
3. Remove the top cover [A].



⚙️ x3

d0apc4815

4. Remove the paper end sensor (S1) [A].

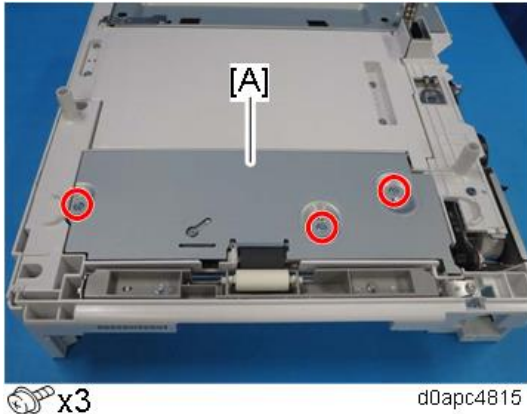


📦 x1

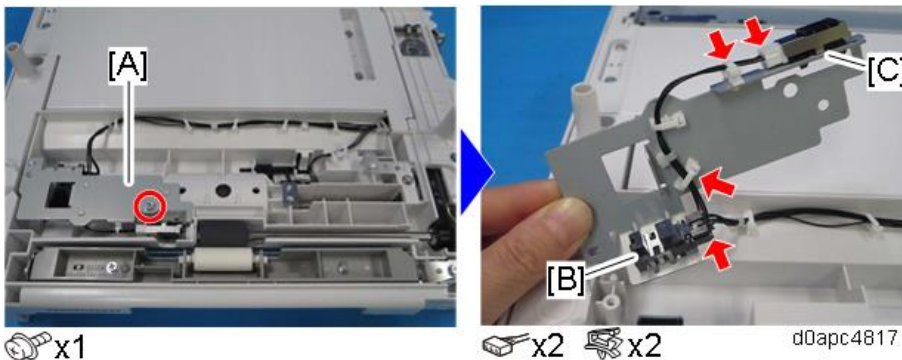
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## 2.8 PAPER NEAR-END SENSOR (S2), PAPER TRANSPORT SENSOR (S3)

1. Remove the main machine from the paper feed unit.
2. Remove the paper cassette.
3. Remove the top cover [A].



4. Remove the bracket [A].
5. Remove the paper near-end sensor (S2) [B].
6. Remove the paper transport sensor (S3) [C].

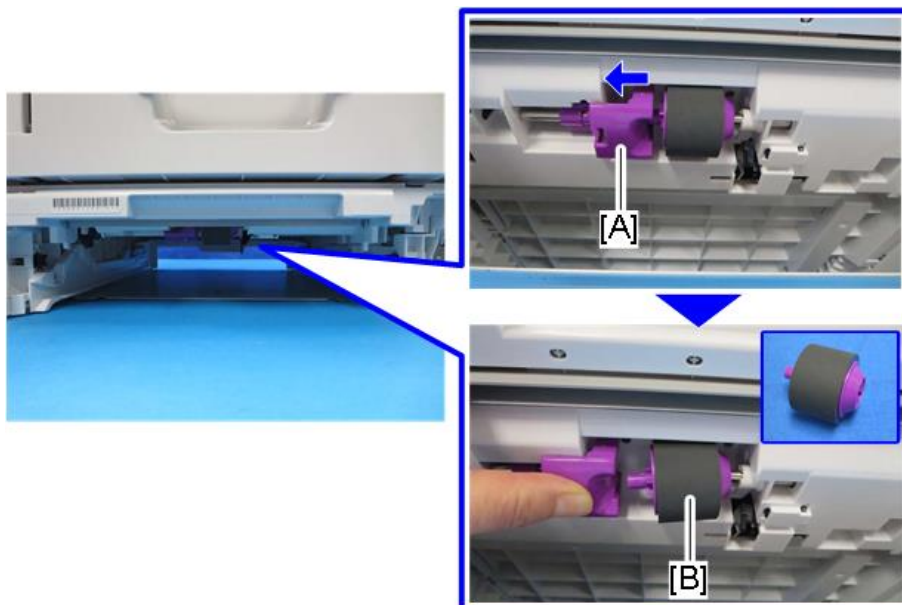


## 2.9 PAPER FEED ROLLER

### ★ Important

Before replacing the paper feed roller, reset the PM counter.

- 1.** Turn the power ON and enter the SP mode.
  - 2.** Execute the following SP corresponding to the part to be replaced to reset the PM counter.
    - SP7-804-051 (Reset PM Counter: Feed Bank1)
    - SP7-804-053 (Reset PM Counter: Feed Bank2)
    - SP7-804-055 (Reset PM Counter: Feed Bank3)
  - 3.** Turn the power OFF.
1. Remove the paper cassette.
  2. Slide the lever [A] to the left as shown below to remove the paper feed roller [B].



d0apc4803

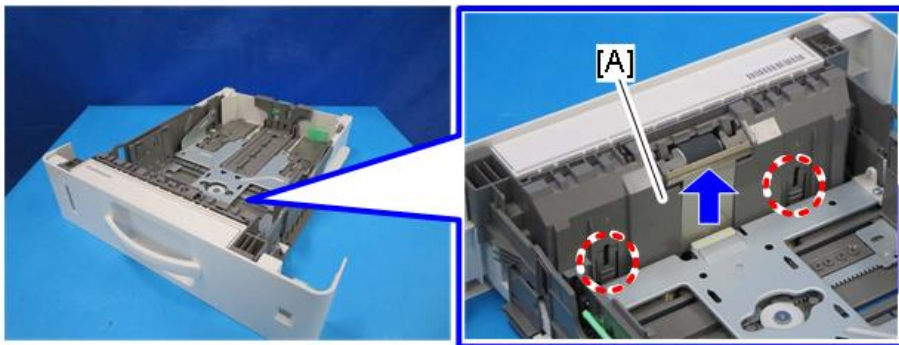
## 2.10 SEPARATION ROLLER

**★ Important**

Before replacing the separation roller, reset the PM counter.

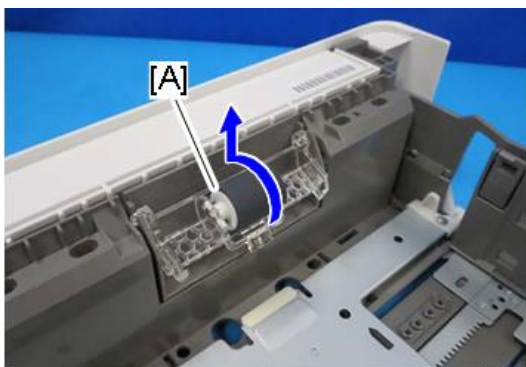
- 1.** Turn the power ON and enter the SP mode.
- 2.** Execute the following SP corresponding to the part to be replaced to reset the PM counter.
  - SP7-804-052 (Reset PM Counter: Spr. Bank1)
  - SP7-804-054 (Reset PM Counter: Spr. Bank2)
  - SP7-804-056 (Reset PM Counter: Spr. Bank3)
- 3.** Turn the power OFF.

1. Remove the paper cassette.
2. Remove the inner cover [A] while pressing the two lock buttons in the paper tray.



d0apc4502

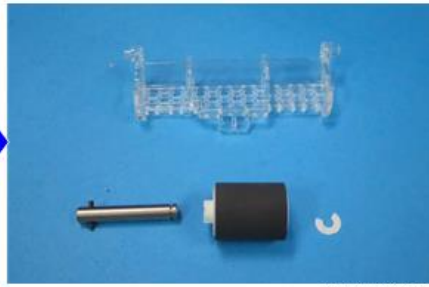
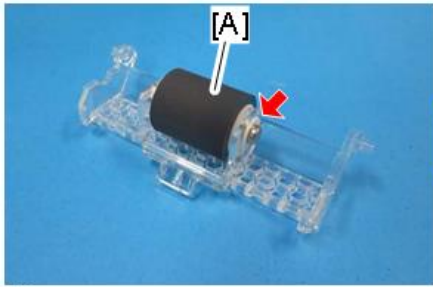
3. Raise the holder of the separation roller [A] and remove it.



d0apc4503



4. Remove the separation roller [A] from the holder.



 x1

d0apc4504

(D3ER/D3EQ)  
Paper Feed Unit  
PB1120/PB1110