

RICOH



D255/D256/M281/M282 ***SERVICE MANUAL***

LANIER RICOH SAVIN®

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Ricoh USA, Inc.

LEGEND

PRODUCT CODE	COMPANY		
	LANIER	RICOH	SAVIN
D255	MP 501SPF	MP 501SPF	MP 501SPF
D255-17	MP 501SPF TL	MP 501SPF TL	MP 501SPF TL
D256	MP 601SPF	MP 601SPF	MP 601SPF
M281	SP 5300DN	SP 5300DN	SP 5300DN
M281-17	SP 5300DN TL	MP 501SPF TL	MP 501SPF TL
M282	SP 5310DN	SP 5310DN	SP 5310DN

DOCUMENTATION HISTORY

REV. NO.	DATE	COMMENTS
*	07/2016	Original Printing

D255/D256/M281/M282

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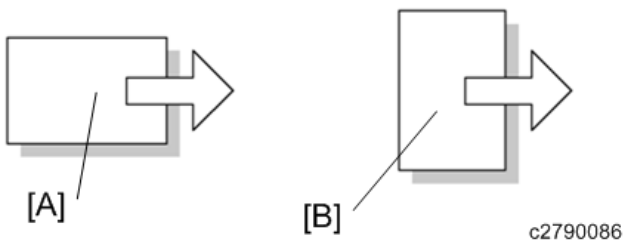
 Energy Save Effectiveness 7-33

READ THIS FIRST

Symbols, Abbreviations and Trademarks

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

	Clip ring
	Screw
	Connector
	Clamp
	E-ring
	Spring
	Flat Flexible Cable
	Timing Belt
SEF	Short Edge Feed [A]
LEF	Long Edge Feed [B]



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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 are as follows:
 - Microsoft® Windows® 8
 - Microsoft® Windows® 8 Pro
 - Microsoft® Windows® 8 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
 - Microsoft® Windows® 10 Pro
 - Microsoft® Windows® 10 Enterprise
 - Microsoft® Windows® 10 Education
- The product names of Windows Server 2003 are as follows:
 - Microsoft® Windows Server® 2003 Standard Edition
 - Microsoft® Windows Server® 2003 Enterprise Edition
- The product names of Windows Server 2003 R2 are as follows:
 - Microsoft® Windows Server® 2003 R2 Standard Edition
 - Microsoft® Windows Server® 2003 R2 Enterprise Edition
- 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

Other product names used herein are for identification purposes only and might be trademarks of their respective companies. We disclaim any and all rights to those marks.

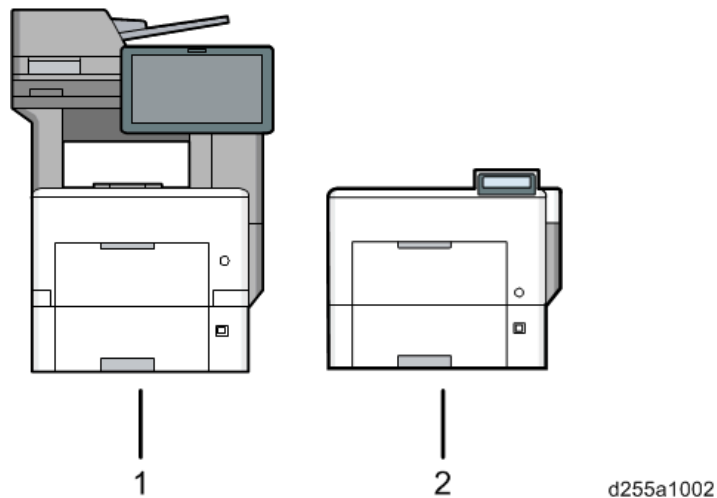
PRODUCT INFORMATION

REVISION HISTORY		
Page	Date	Added/Updated/New
		None

1. PRODUCT INFORMATION

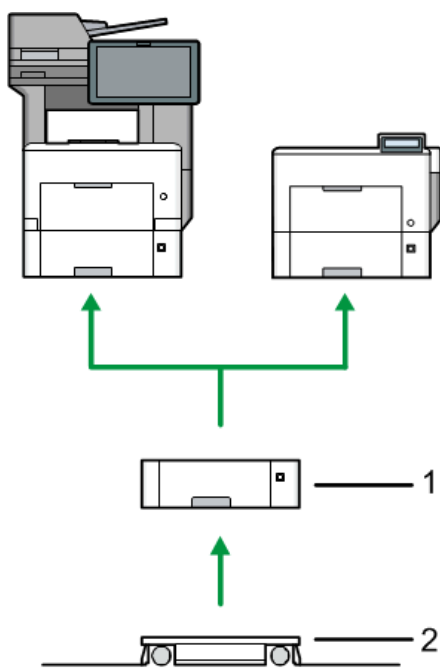
1.1 MACHINE CODES AND PERIPHERALS CONFIGURATION

1.1.1 MAIN MACHINE



No.	Item	Machine Code
1	MP 501SPF	D255-17 (NA) D255-27 (EU) D255-29 (AP)
	MP 601SPF	D256-17 (NA) D256-27 (EU) D256-29 (AP)
2	SP 5300DN	M281-17 (NA) M281-27 (EU) M281-29 (AP) M281-21 (CHN)
	SP 5310DN	M282-17 (NA) M282-27 (EU) M282-29 (AP) M282-21 (CHN)

1.1.2 OPTIONS



d255a1000

No.	Item	Machine Code	MP 501/601	SP 5300/5310
1	Paper Feed Unit PB1100 *1	D3C2-01 (NA/EU/AP) D3C2-02 (CH)	Yes	Yes
2	Caster Table Type M24	D3C7-01	Yes	Yes
-	OCR Unit Type M13	D3AC-23 (NA) D3AC-24 (EU) D3AC-25 (AP)	Yes	No
-	IPDS Unit Type M24	M500-02 (NA) M500-03 (EU) M500-04 (AP/CHN)	Yes	Yes
-	XPS Direct Print Option Type M24	D3CP-12	Yes	Yes
-	VM CARD Type P8	M500-09 (NA) M500-10 (EU) M500-11 (AP/CHN)	No	Yes

No.	Item	Machine Code	MP 501/601	SP 5300/5310
-	USB Device Server Option Type M19	D3BC-28 (NA) D3BC-29 (EU/AP)	Yes	Yes
-	Extended USB Board Type M19	D3BS-01	Yes	Yes
-	IEEE 1284 Interface Board Type M19	D3C0-17	Yes	Yes
-	IEEE 802.11 Interface Unit Type M24	M500-08	Yes	Yes
-	Bluetooth Interface Unit Type D	D566-01	Yes	No
-	File Format Converter Type M19	D3BR-04	Yes	No
-	Enhanced Security HDD Option Type M10	D792-09	Yes	Yes
-	Hard Disk Drive Option Type P8	M500-05	No	Yes
-	NFC Card Reader Type M24	D3CP-08	Yes	No
-	DataOverwriteSecurity Unit Type M19	D3BS-03	Yes	No
-	Optional Counter Interface Unit Type M12	B870-21	Yes	No
-	Fax Connection Unit Type M24	D3CP-05 (NA) D3CP-06 (EU) D3CP-07 (AP)	Yes	No

*1 You can attach up to four paper feed units.

Note

- The following options are installed by the end user. For instructions on installing these options, please refer to the operating instructions "About This Machine" for MP 501/601, "Operating Instruction" for SP 5300/5310.
 - Paper Feed Unit PB1100
 - Caster Table Type M24
 - IPDS Unit Type M24
 - XPS Direct Print Option Type M24
 - VM CARD Type P8
 - USB Device Server Option Type M19
 - Extended USB Board Type M19
 - IEEE 1284 Interface Board Type M19
 - IEEE 802.11 Interface Unit Type M24
 - Bluetooth Interface Unit Type D
 - File Format Converter Type M19
- Service installation is required for installing Paper Feed Unit PB1100 with Caster Table Type M24 depending on the machine configuration. For details, please refer to page 2-22 "Paper Feed Unit PB1100 (D3C2-01, 02)".

INSTALLATION

REVISION HISTORY		
Page	Date	Added/Updated/New
2 ~ 3	08/12/2016	Added Important and Note in Installation Procedure
79	09/15/2016	Corrected After Installing HDD for Option Type M10
106	09/15/2016	Corrected After Installing HDD for Option Type P8
115	08/09/2016	Removed <i>Notes for Energy Mode Setting.</i>

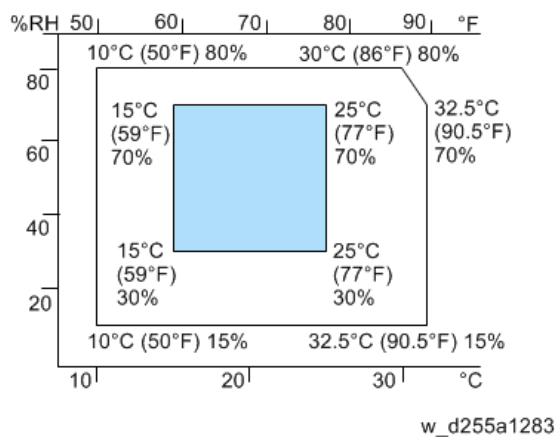
2. INSTALLATION

2.1 INSTALLATION REQUIREMENTS

2.1.1 ENVIRONMENT

Optimum Environmental Conditions

Permissible and recommended temperature and humidity ranges are as follows:



- White area: permissible range
- Blue area: recommended range

Service Environmental Conditions

The service environmental conditions are as follows:

- Temperature: 50 to 90.5 °F (10 to 32.5 °C)
(But temperature should be 86 °F (30 °C) or less when humidity is 80%.)
- Humidity: 15 to 80%
(But humidity should be 70% or less when temperature is 90.5 °F (32.5 °C).)

Adverse environmental conditions may affect the image quality. It is recommended to use the machine at a temperature around 59 to 77 °F or less (15 to 25 °C), and humidity around 30 to 70%.

Avoid the following locations when selecting a site for the machine.

- Avoid locations near a window or with exposure to direct sunlight.
- Avoid locations with vibrations.
- Avoid locations with drastic temperature fluctuations.
- Avoid locations with direct exposure to hot or cold air.
- Avoid poorly ventilated locations.

If the floor material is delicate, when the machine is moved after installation, the casters may damage the floor.

Installation Requirements

During copying, some ozone is released, but the amount does not cause any ill effect to one's health. If, however, the machine is used over a long period of time in a poorly ventilated room or when making an extremely large number of copies, the smell may become unpleasant. To maintain the appropriate environment for copy work, it is suggested that the room be properly ventilated.

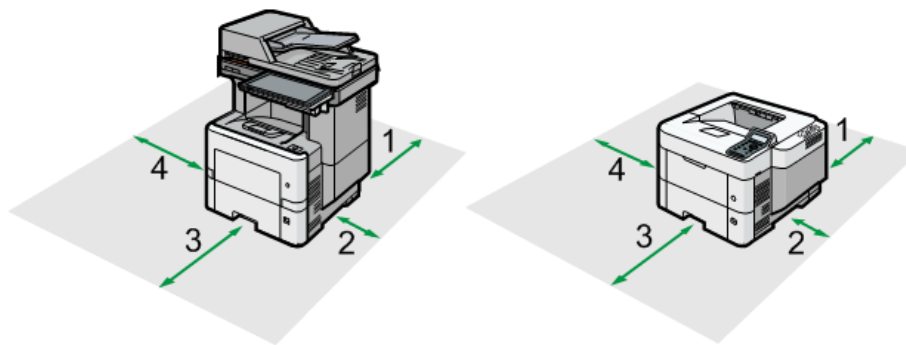
2.1.2 MACHINE LEVEL

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

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

2.1.3 MINIMUM SPACE REQUIREMENTS

Place the machine near the power source, and provide clearance as shown:



d255a1003

1. Rear: Over 300 mm (11.9")
2. Right: Over 200 mm (7.9")
3. Front: Over 500 mm (19.7")
4. Left: Over 300 mm (11.9")

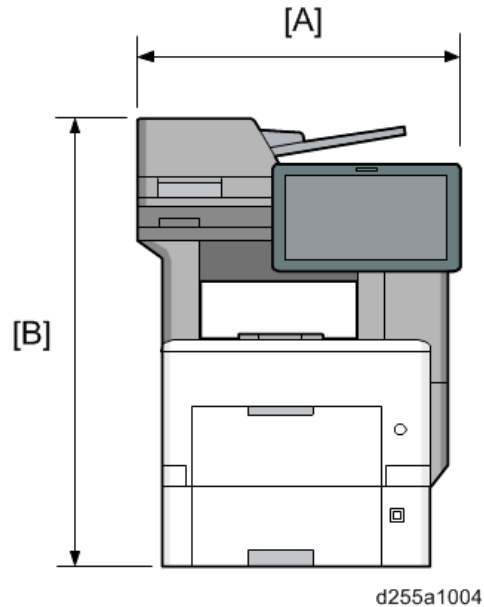
Note

- The 500 mm clearance for the front is only for pulling out the paper tray. If an operator stands in front of the machine, more space is required.

2.1.4 MACHINE DIMENSIONS

MP 501/601

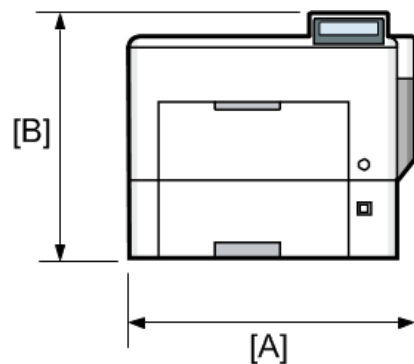
WxDxH (including ARDF and operation panel): 475 x 504 x 645 mm (18.8" x 19.9" x 25.4")



- [A]: 475 mm (18.8")
- [B]: 645 mm (25.4")

SP 5300/5310

WxDxH: 420 x 410 x 345 mm (16.6" x 16.2" x 13.6")



d255a1005

- [A]: 420 mm (16.6")
- [B]: 345 mm (13.6")

2.1.5 POWER REQUIREMENTS

CAUTION

- Make sure that the wall outlet is near the machine and easily accessible.
- Make sure the plug is firmly inserted in the outlet.
- Avoid multi-wiring.
- Be sure to ground the machine.

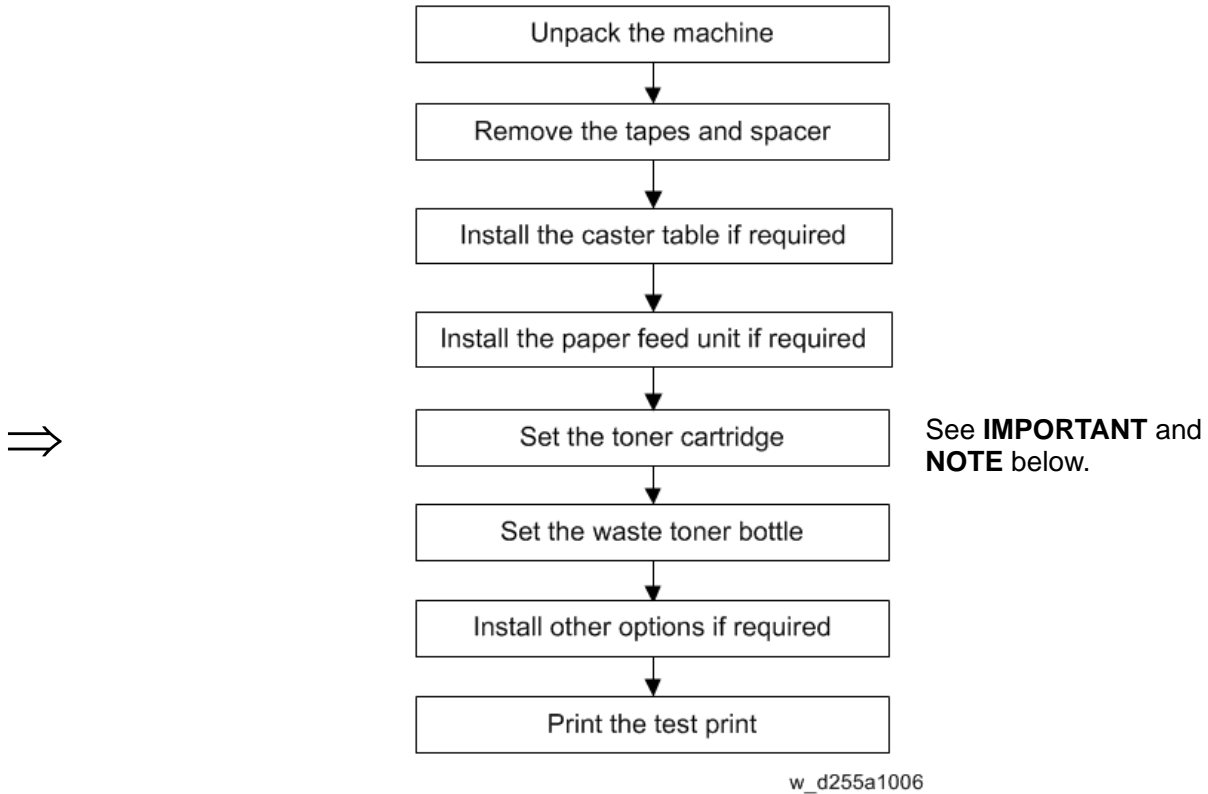
Input voltage

- NA: 120 to 127 V, 6A, 60 Hz \pm 2%
- EU/AP/CHN: 220 to 240 V, 6A, 50 Hz \pm 2%/60 Hz \pm 2%

For users in Norway, this product is also designed for an IT power distribution system with phase-to-phase voltage of 230V.

2.2 MAIN MACHINE INSTALLATION

2.2.1 INSTALLATION FLOWCHART



★ Important (For MP 501/601 only)

- **Do not enter SP Mode** when supplying toner after turning **ON** the machine at installation.
- If you enter and exit SP mode during toner supply, e.g. to skip the Program/Change Administrator screen, toner supply stops and “Add toner” indication may appear.

↓ Note

- If “Add toner” indication appears, open and close the Front Cover of the machine. The toner supply will start.

2.2.2 ACCESSORY CHECK

MP 501/601

Check the quantity and condition of these accessories.

No.	Description	Q'ty		
		NA	EU	AP
1	NFC tag	1	1	1
2	BLE decal	1	1	1
3	Power cord	1	1	1
4	Starter toner	1	1	1
5	Telephone cable with ferrite core	1	-	-
6	Ferrite core	-	1	1
7	CD-ROM: Drivers	1	1	1
8	CD-ROM: OI	-	1	-
9	Manual: Read This First	1	1	-
10	Sheet: Quick Installation Guide	1	1	-
11	Manual: Initial Guide for FAX	1	1	-
12	Guarantee sheet	1	-	-
13	Manual: Start Guide	1	-	1
14	Caution Sheet: Operation panel	1	1	1
15	Caution Sheet: NFC tag	2	2	2
16	Sheet: Security	1	1	1
17	Sheet: EULA (End User License Agreement)	1	1	1
18	Seal: Caution	1	1	1
19	Sheet: Safety Information	-	-	1
20	Sheet: User Registration	1	-	-
21	Sheet: Help Desk Card	1	-	-
22	Sheet: TRCU	-	-	1

SP 5300/5310

Check the quantity and condition of these accessories.

No.	Description	Q'ty			
		NA	EU	AP	CHN
1	Decal: Paper grade	1	-	-	-
2	Sheet: Safety Information	-	1	-	-
3	Power cord	1	1	1	1
4	Starter toner	1	1	1	1
5	CD-ROM: Drivers	1	1	1	1
6	CD-ROM: OI	-	-	1	-
7	Manual: Read This First	1	1	1	1
8	Sheet: Quick Installation Guide	1	2	1	1
9	Sheet: Eco Night	1	1	1	1
10	Guarantee sheet	1	-	-	-
11	Sheet: Control panel	1	1	1	-
12	Sheet: Security	1	1	1	1
13	Guarantee sheet (Chinese)	-	-	-	1
14	Sheet: User Registration	1	-	-	-
15	Sheet: Help Desk Card	1	-	-	-
16	Sheet: EULA (End User License Agreement)	1	1	1	1
17	Seal: Caution	1	1	1	1
18	Sheet: TRCU	-	1	-	-

INSTALLATION PROCEDURE

This machine is installed by the end user.

For instructions on unpacking and installing the machine, please refer to the operating instructions "Quick Installation Guide".

INSTALLATION PROCEDURE (FOR HC MODEL ONLY)

Print settings for label paper (including wristbands) are not available under Paper Type. If your customer prints on label paper, please instruct them to select "Middle Thick" as paper type on both the driver and the machine.

★ Important

On the machine, set the paper type as "Middle Thick" for the tray loaded with label paper.

[User Tools] > [Machine Features] > [System Settings] > [Tray Paper Settings] > [Paper Type: Tray #] > [Paper Thickness] > [Middle Thick]

★ Important

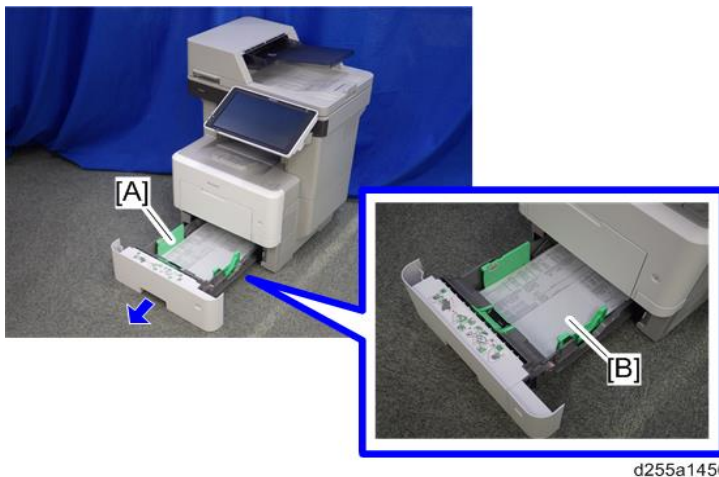
Instruct the user to select "Middle Thick" as paper type on the printer driver when printing on label paper.

SMC STORAGE

The SMC report provided with the machine needs to be stored with the machine.

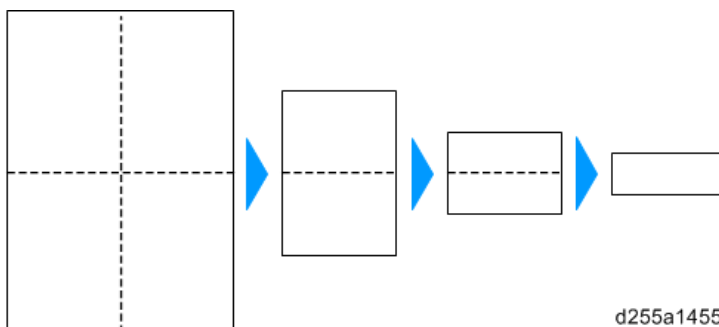
The factory SP settings are recorded in the SMC report. This report may be required after replacing the NVRAMs to set the SP settings to factory default.

1. Pull out the paper feed tray [A].
2. Take out the SMC report [B].



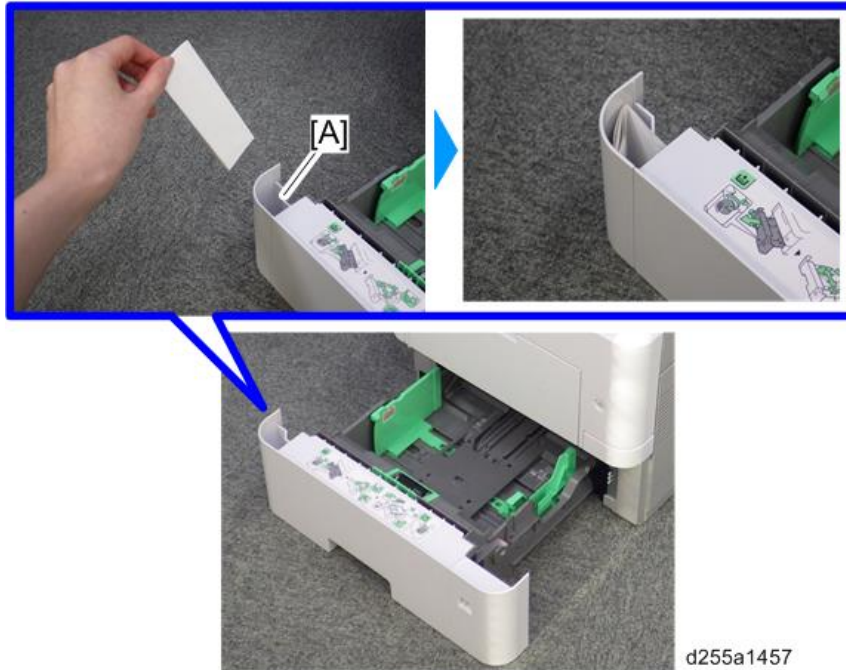
d255a1456

3. Fold the SMC report into a small size as shown below.



d255a1455

4. Store the SMC report in the storage space [A] inside the paper feed tray.

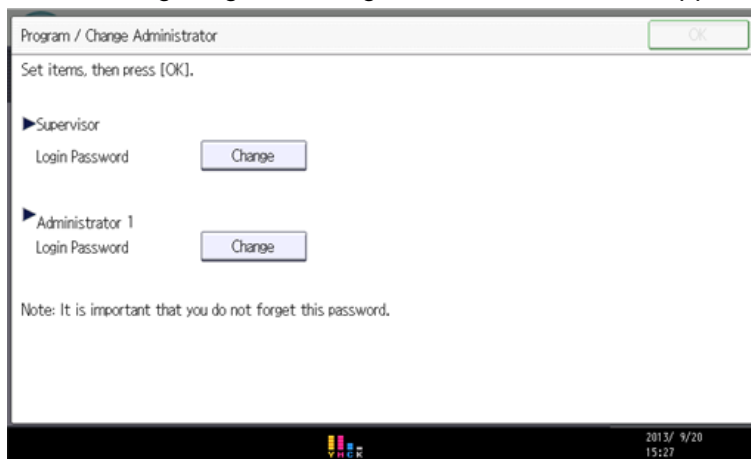


2.2.5 IMPORTANT NOTICE ON SECURITY ISSUES (MP 501/601 ONLY)

In order to increase the security of the MFP, and to ensure that the customer sets the administrator password, an administrator set/change prompt display appears at the first power-up.

Overview

The following Program/Change Administrator screen appears at the first power-up.



When the customer sets the administrator/supervisor login password, the screen disappears and the home display appears. The customer, however, can make this screen disappear with the following procedure if there is no need to set the password.

1. On the Program/Change Administrator screen, press [Change] next to Supervisor and then press [OK] without entering any password.
2. Press [OK] again when the Confirm password display appears.

3. For Administrator 1, perform the same procedure as steps 1 and 2.

4. Press [OK].

The home display appears.

5. Turn OFF/ON the main power.

SP5-755-002 hides the administrator password input screen temporarily and continue the installation procedure without setting an administrator password. However, the Program/Change Administrator screen will appear every time you turn OFF/ON the main power, if the password is not set.

Password Setting Procedure

Note

- For more details about this security issue, see "Notes on Using Multi-Function Printers Safely" supplied with the MFP.

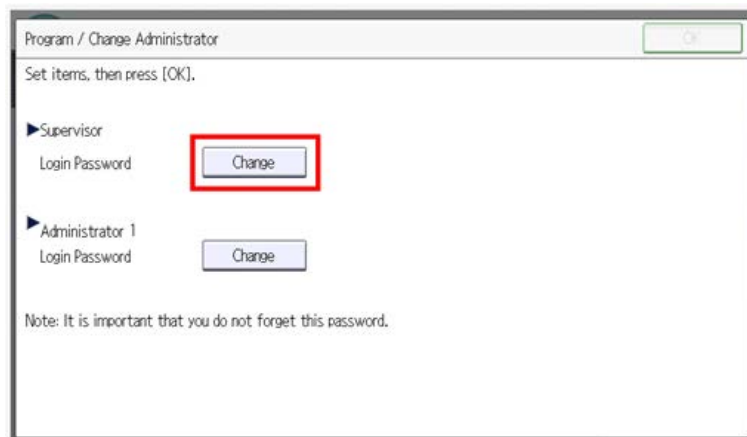
Important

- When Supervisor / Administrator 1-4 passwords are configured via network, the "Change Supervisor login password" window will not be displayed.
- The passwords for Supervisor or Administrator 1 to 4 can be set via "System Settings". However, the Program/Change Administrator screen will appear every time the main power is turned ON if the passwords are set this way. We recommend that customers set the passwords via network or the Program/Change Administrator screen.

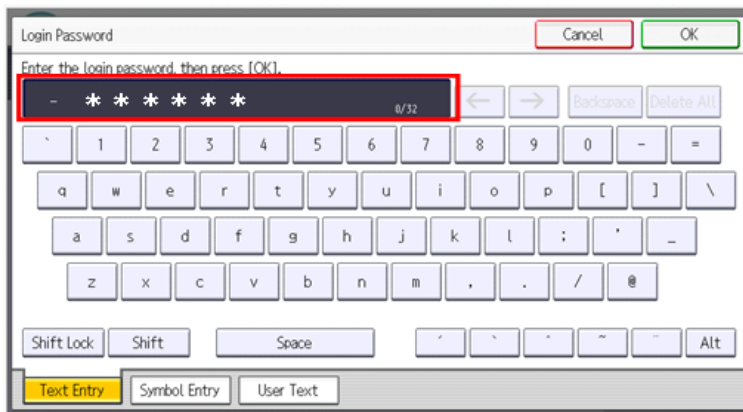
1. Install the MFP.

2. Turn ON the main power.

3. Change the Supervisor login password.



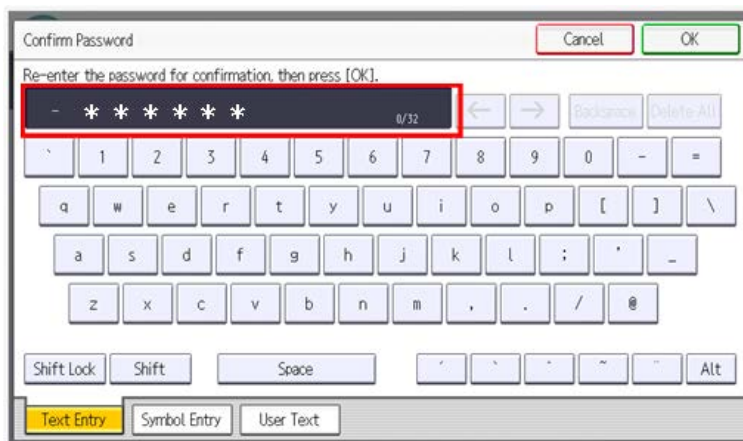
d176f2101

4. Enter a password.

d176f2102

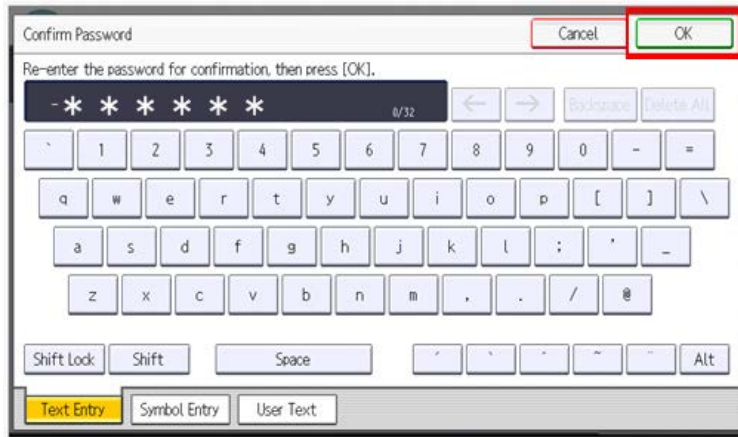
5. Press [OK].

d176f2103

6. Confirm the password.

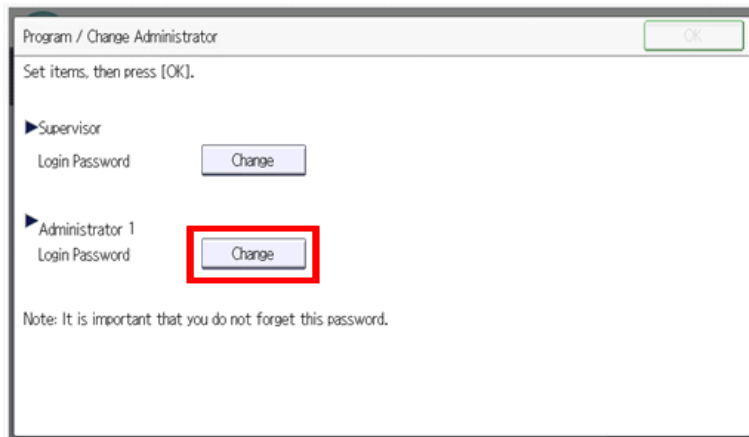
d176f2104

7. Press [OK].



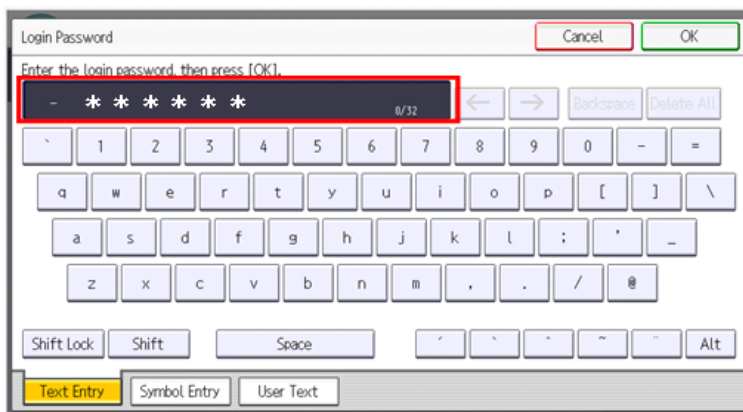
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8. Change the Administrator 1 login password.



d176f2106

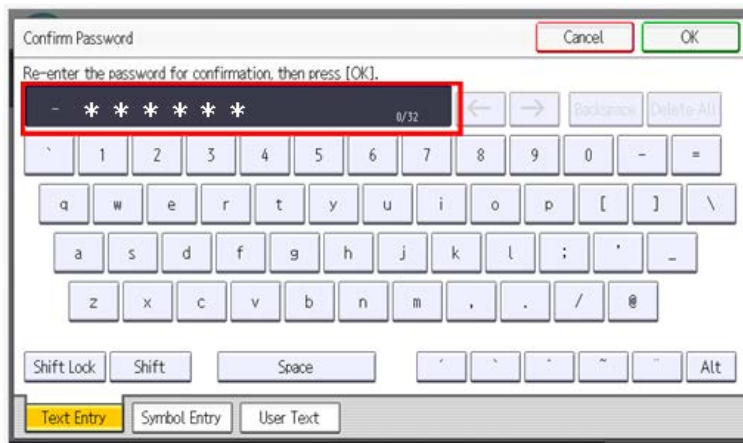
9. Enter the password.



d176f2102

10. Press [OK].

d176f2103

11. Confirm the password.

d176f2104

12. Press [OK].

d176f2105

13. Turn OFF/ON the main power.

2.2.6 SETTINGS ACCORDING TO THE SERVICE CONTRACT

Change the necessary settings depending on the customer's service contract.

Meter Click Charge

There are two ways to set up this function.

- **Meter click charge enabled (SP5-930-001 set to "1 (enabled)"); this is the default setting):** The counter can be displayed and printed by the customer. The service representative can then call the customer and ask for the counter.
- **Meter click charge disabled (SP5-930-001 set to "0 (disabled)"):** The counter cannot be displayed or printed by the customer. To check the counter, the service representative must print the SMC report (SP 5-990).

Item	SP No.	Function	Default
Meter Click Charge	SP5-930-001	<p>Enables or disables Meter Click Charge.</p> <p>When enabled:</p> <ul style="list-style-type: none"> ▪ The counter menu shows immediately after you push the "Menu" key. <p>In MP 501/601, "Counter Method" (SP5-045-001) sets the type of the counter.</p> <ul style="list-style-type: none"> ▪ You can print the counter from the counter menu. <p>When disabled:</p> <ul style="list-style-type: none"> ▪ The counter menu does not show. 	1: ON
Meter Click Charge: Maintenance Kit	SP5-931-001	<p>Enables or disables the PM alert for the maintenance kit.</p> <p>* This setting is unnecessary with this machine since this machine does not have the maintenance kit.</p>	1: No alert

Item	SP No.	Function	Default
Counter Method (MP 501/601 Only)	SP5-045-001	<p>Specifies the counter display method.</p> <ul style="list-style-type: none"> ▪ 1: 1 counter mode Displays only the total counter. ▪ 2: 2 counter mode Displays the total counter and the print counter. 	1: 1 counter mode
Service Tel: Telephone/Facsimile	SP5-812-001, -002	<p>-001: shows or sets the telephone number of the service representative.</p> <p>-002: shows or sets the fax number of the service station. This number is displayed on the error message screen when an SC occurs.</p>	-

2.2.7 MOVING THE MACHINE

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

- Turn OFF the main power and pull out the power plug.
- Close all the covers and trays.
- Remove peripherals physically attached to the main machine: paper feed unit.
- Keep the machine horizontal and move it slowly. Tipping or excessive vibrations may damage the machine.

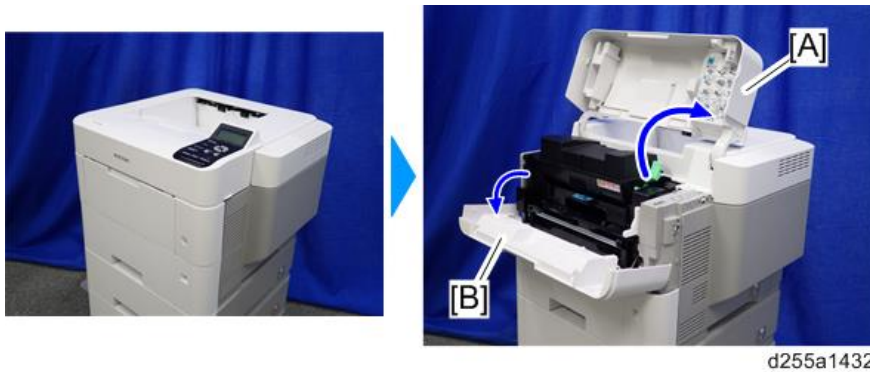
2.2.8 TRANSPORTING THE MACHINE

1. Open the front cover.

MP 501/601: Push the button [A] and open the front cover [B].

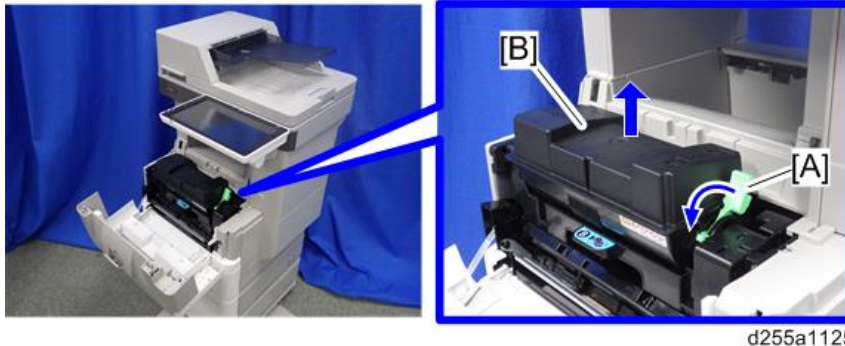


SP 5300/5310: Open the upper cover [A], and then open the front cover [B].



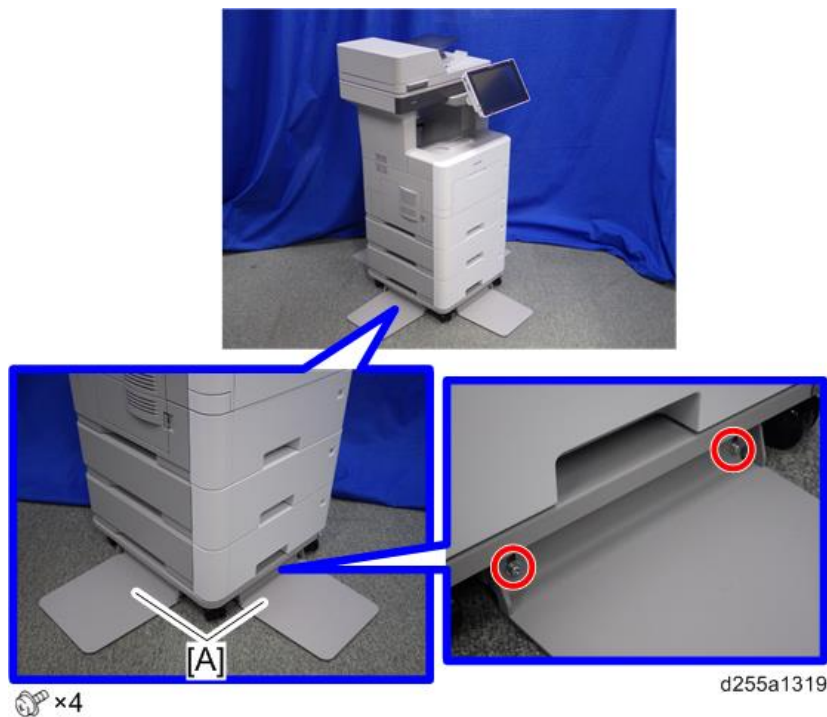
2. Release the lock lever [A] by rotating it towards you, and then remove the toner cartridge [B].

This prevents toner leakage caused by vibration during transport.



3. Make sure there is no paper left in the paper trays. Then fix down the bottom plates with a sheet of paper and tape.
4. If Caster Table Type M24 is installed, remove the four stands [A].

Front/left side



🔑 x4

Rear/right side

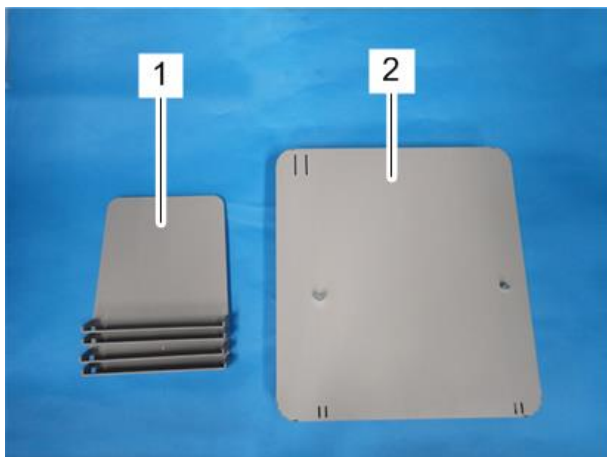


5. Lift the machine, and then move it horizontally to the new location.
6. If you have removed the stands for Caster Table Type M24, reattach them.

2.3 CASTER TABLE TYPE M24 (D3C7-01)

2.3.1 ACCESSORY CHECK

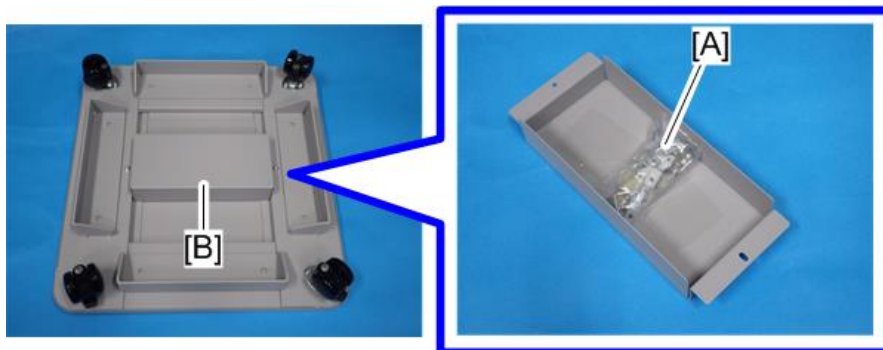
No.	Description	Q'ty
1	Stands	4
2	Caster table	1
-	Manual: Installation Guide	1
-	RoHS sheet	1
-	RoHS decal	1



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Note

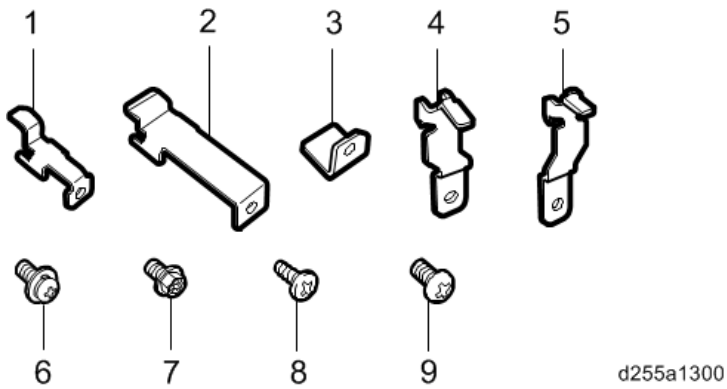
- The joint brackets and screws [A] for installation are stored in the accessory box [B] on the underside of the caster table.



d255a1302

Caster Table Type M24 (D3C7-01)

- The following items are stored in the accessory box.



No.	Description	Q'ty
1	Joint bracket A	2
2	Joint bracket B	1
3	Joint bracket C	4
4	Joint bracket D	4
5	Joint bracket E	4
6	Screws: polished round/spring (M4×10)	8
7	Hexagon flange screws (M4×8)	3
8	Tapping bind screws (3×8)	4
9	Screws (M3×6)	8

2.3.2 INSTALLATION PROCEDURE

For instructions on unpacking and installing the Caster Table Type M24, please refer to the operating instructions "About This Machine" for MP 501/601, or "Operating Instructions" for SP 5300/5310.

When installing with the paper feed unit

Installation by service representative may be required when installing Caster Table Type M24 with Paper Feed Unit PB1100, depending on the machine configuration.

Machine Configuration	MP 501/601		SP 5300/5310	
	Printer only	With 1 to 4 PFU PB1100	Printer only, or with 1 PFU PB1100	With 2 to 4 PFU PB1100
Who can install the caster table	End user	Service representative* ¹	End user	Service representative* ¹

*1 The attaching stands and connecting parts need to be installed to prevent the machine from falling over. If it falls or topples over, an injury might occur. For instructions on installing Paper Feed Unit PB1100 and Caster Table Type M24, please refer to page 2-23 "Installation Procedure".

2.4 PAPER FEED UNIT PB1100 (D3C2-01, 02)

2.4.1 ACCESSORY CHECK

No.	Description	Q'ty
1	Paper feed unit	1
-	Manual: Installation Guide	1
-	EMC address decal (NA/EU/AP only)	1



d255a1299

2.4.2 INSTALLATION PROCEDURE

For instructions on unpacking and installing Paper Feed Unit PB1100, please refer to the operating instructions "About This Machine" for MP 501/601, or "Operating Instructions" for SP 5300/5310.

When installing with the caster table

Installation by service representative may be required when installing Paper Feed Unit PB1100 with Caster Table Type M24, depending on the machine configuration.

Machine Configuration	MP 501/601		SP 5300/5310	
	Printer only	With 1 to 4 PFU PB1100	Printer only, or with 1 PFU PB1100	With 2 to 4 PFU PB1100
Who can install the caster table	End user	Service representative* ¹	End user	Service representative* ¹

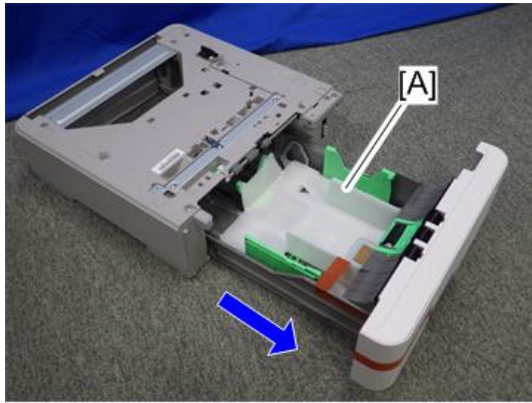
*1 The attaching stands and connecting parts need to be installed to prevent the machine from falling over. If it falls or topples over, an injury might occur. For instructions on installing Paper Feed Unit PB1100 and Caster Table Type M24, please refer to the procedure described in this section.

Installing the optional paper feed unit on the caster table

⚠ CAUTION

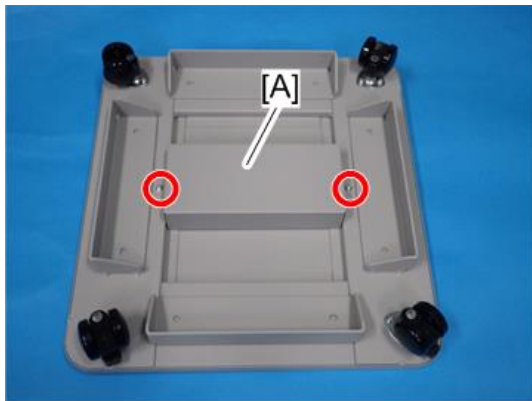
- Turn OFF the main power, and unplug the machine power cord before starting the following procedure.
- You need two or more persons to lift the main machine. The main machine is highly unstable when it is lifted by one person, and may cause injury or property damage.
- Be sure to hold the specified positions when lifting the machine.

1. **Pull out the paper feed tray [A] of the optional paper feed unit.**
2. **Remove all tape and retainers.**



d255a1007

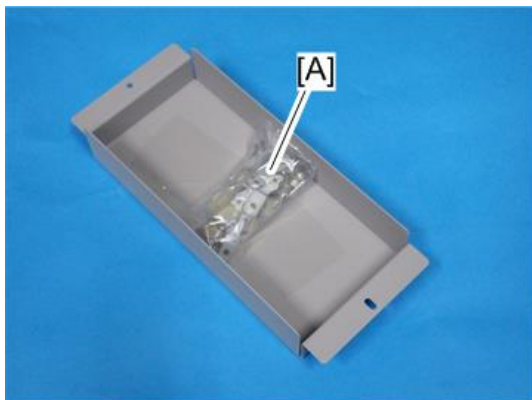
3. Turn over the caster table, and then remove the accessory bracket [A].



×2

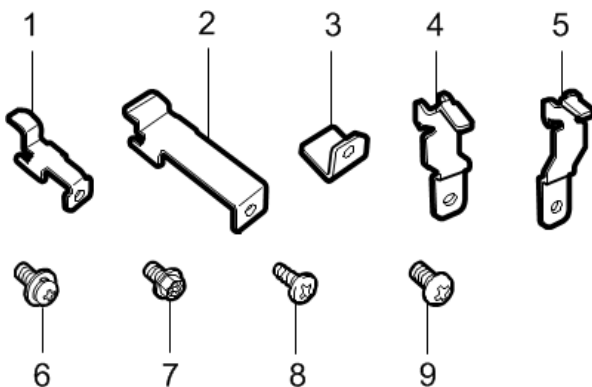
d255a1008

4. Remove the package [A] (which contains joints, brackets, and screws) from the accessory bracket.



d255a1009

5. Check the following items in the package.

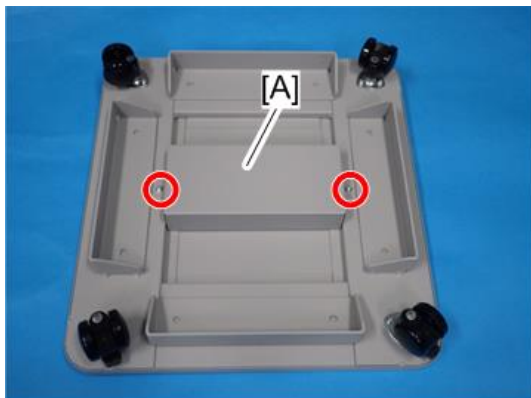


d255a1300

No.	Description	Q'ty
1	Joint bracket A	2
2	Joint bracket B	1
3	Joint bracket C	4
4	Joint bracket D	4
5	Joint bracket E	4
6	Screws: polished round/spring (M4x10)	8
7	Hexagon flange screws (M4x8)	3
8	Tapping bind screws (3x8)	4
9	Screws (M3x6)	8

6. Install the accessory bracket on the caster table.

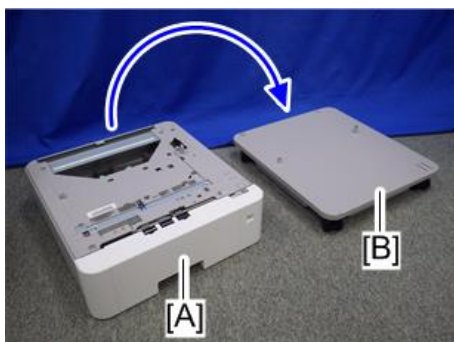
Use the screws removed in Step 3.



 x2

d255a1008

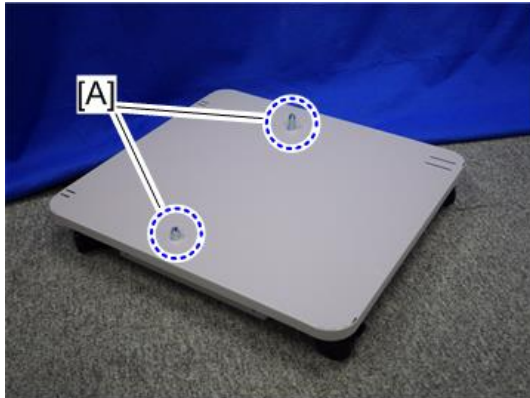
7. Install the optional paper feed unit [A] on the caster table [B].



d255a1010

Note

- There are two upright pins [A] on the caster table. Align them with the holes in the underside of the optional paper feed unit.



d255a1024

- The hole [A] in the caster table indicates the front side of the caster table.



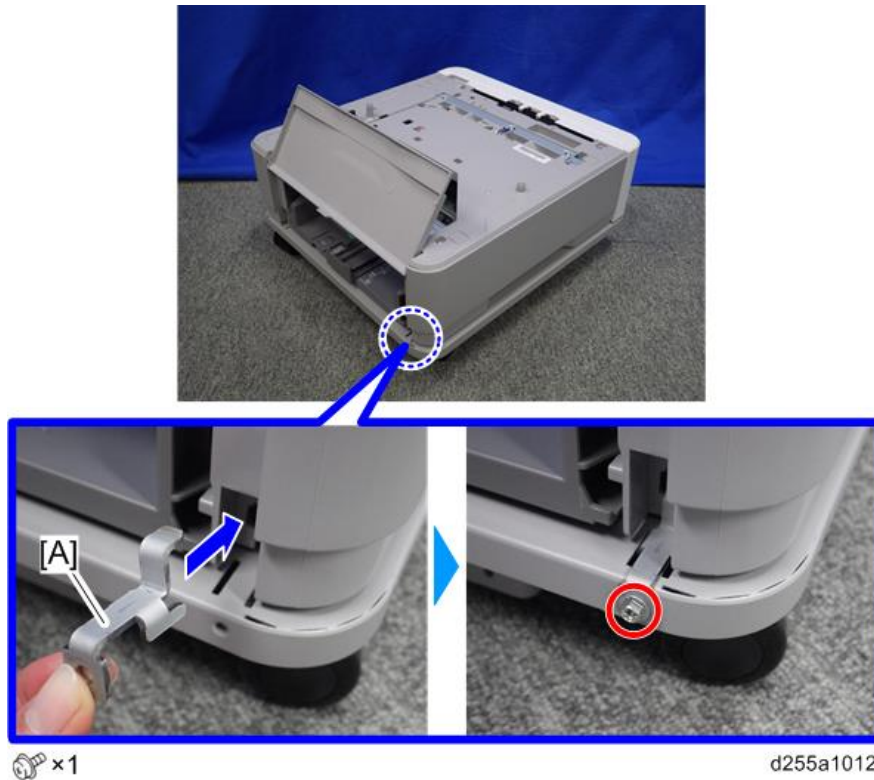
d255a1025

8. Open the rear cover [A] of the optional paper feed unit.

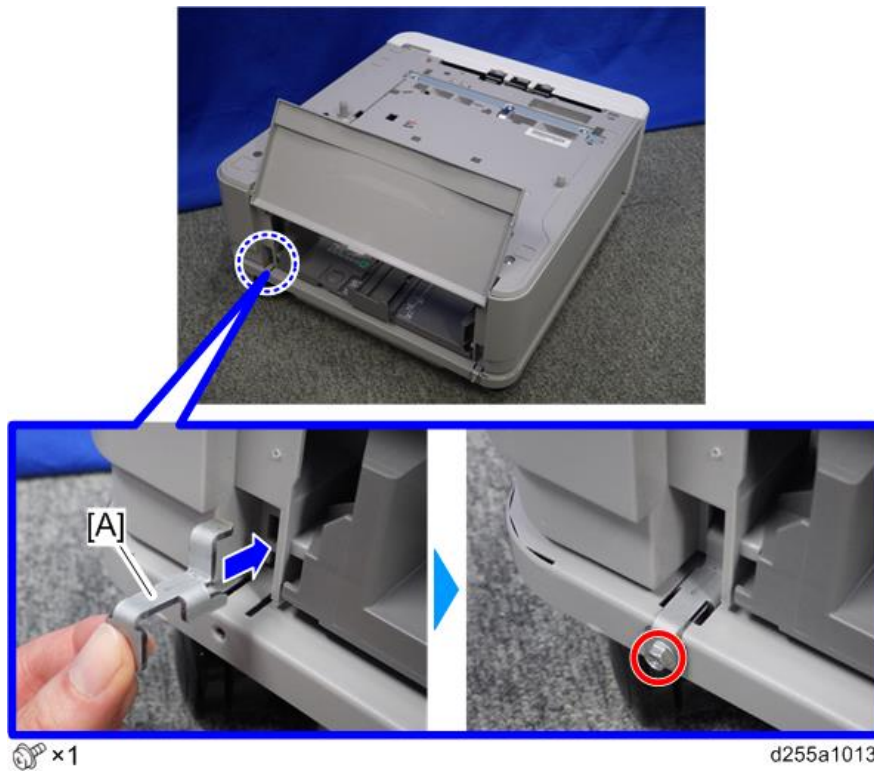


d255a1011

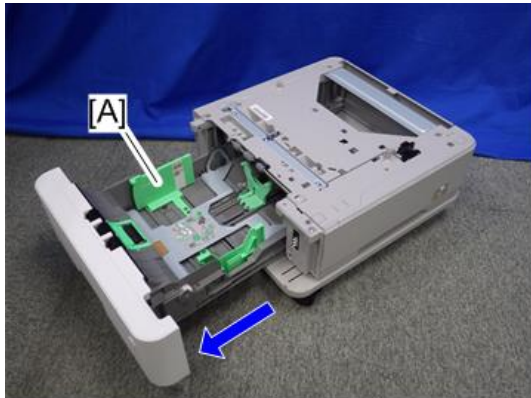
9. Install the joint bracket A [A] on the rear side with the hexagon flange screw (M4×8).



10. Install the joint bracket A [A] on the rear side with the hexagon flange screw (M4×8).



11. Close the rear cover of the optional paper feed unit.
12. Remove the paper feed tray [A] by pulling it out.



d255a1014

13. Install the joint bracket B [A] on the front side with the hexagon flange screw (M4x8).



🔑 x1

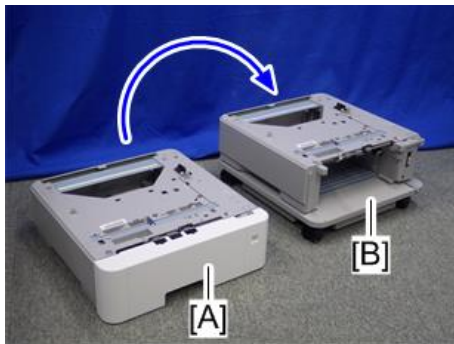
d255a1015

Note

- When you install two or more optional paper feed units, please refer to page 2-29 "When installing two or more optional paper feed units".
- When you install only one optional paper feed unit, please refer to page 2-32.

When installing two or more optional paper feed units

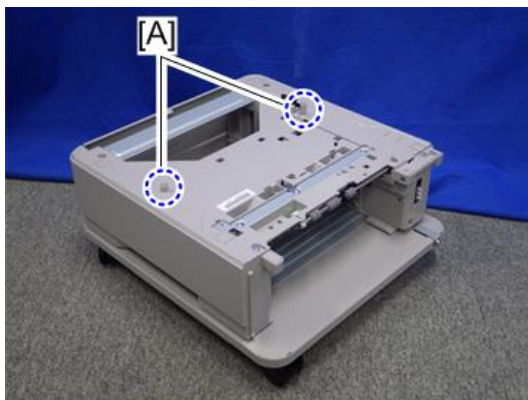
1. Install the optional paper feed unit [A] on the lower paper feed unit [B].



d255a1016

Note

- There are two upright pins [A] on the optional paper feed unit. Align the upright pins of the lower paper feed unit with the holes in the underside of the upper paper feed unit. Then carefully lower the upper paper feed unit.



d255a1048

2. Open the rear cover [A] of the optional paper feed unit.



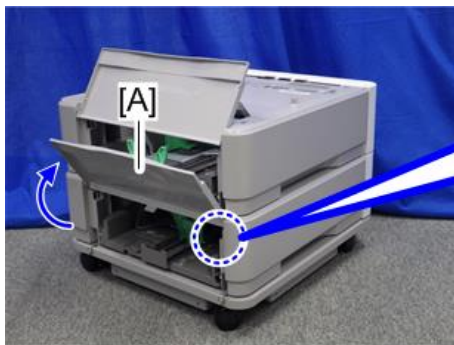
d255a1017

3. Install the joint bracket E [A] on the rear right side to secure the optional paper feed unit and lower paper feed unit.



d255a1284

4. Open the rear cover [A] of the lower paper feed unit, and then secure the joint bracket installed in the previous step with the screw (M3×6).

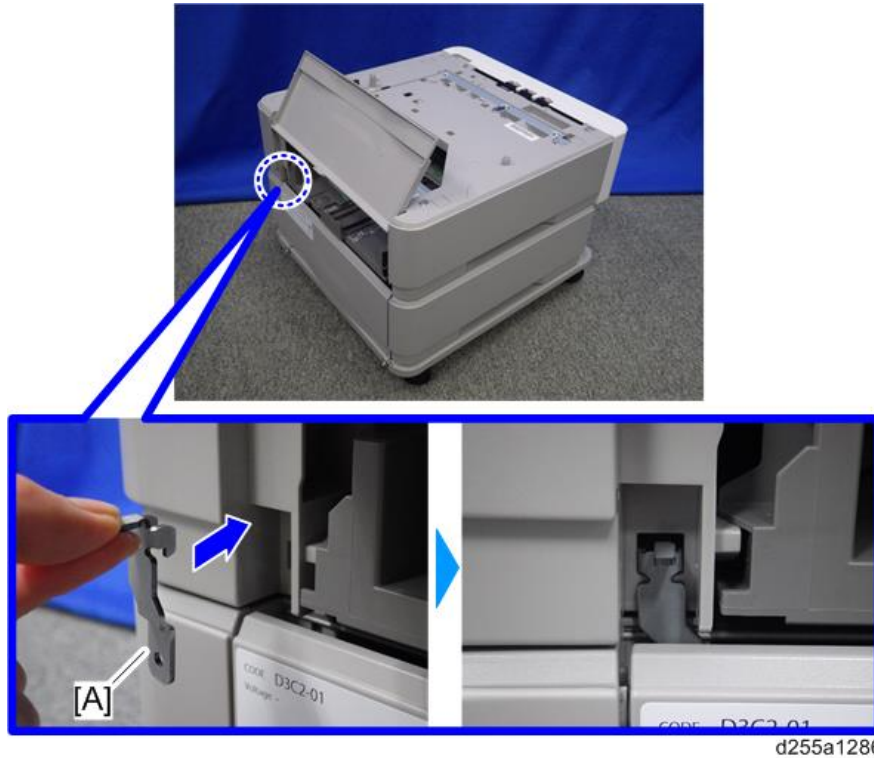


 x1

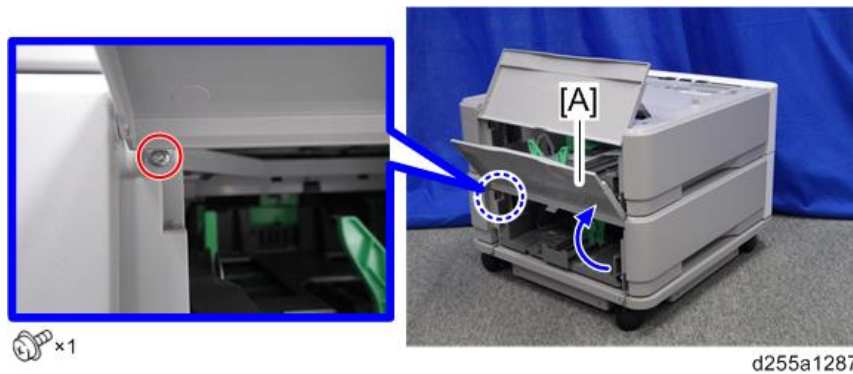


d255a1285

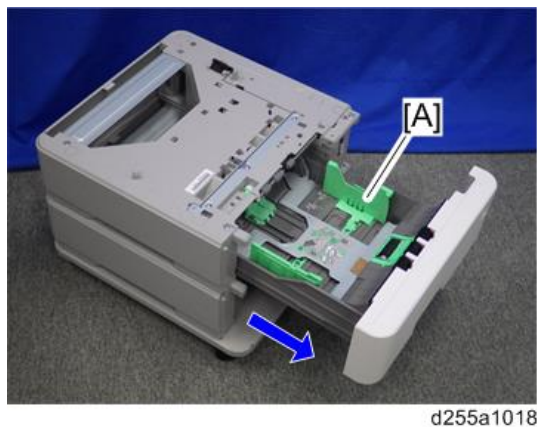
5. Install the joint bracket D [A] on the rear left side to secure the optional paper feed unit and lower paper feed unit.



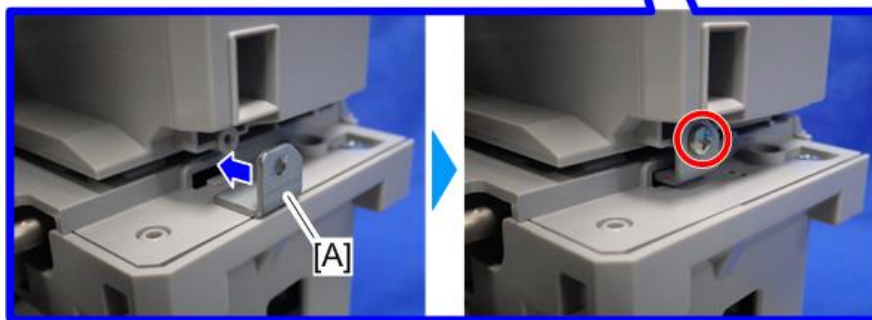
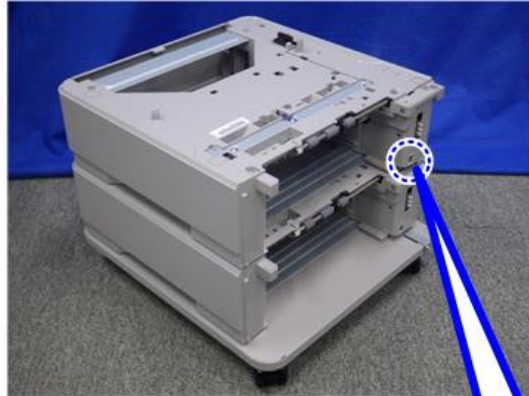
6. Open the rear cover [A] of the lower paper feed unit, and then secure the joint bracket installed in the previous step with the screw (M3×6).



7. Remove the paper feed tray [A] by pulling it out.



8. Install the joint bracket C [A] on the front side to secure the upper paper feed unit and lower paper feed unit with the tapping bind screw (3×8).



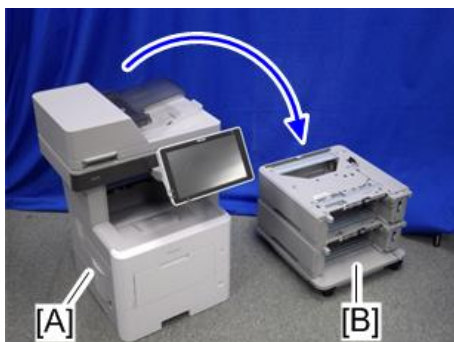
 ×1

d255a1019

9. If you install more optional paper feed units, repeat Steps 1 to 8.

Installing the main machine on the optional paper feed unit

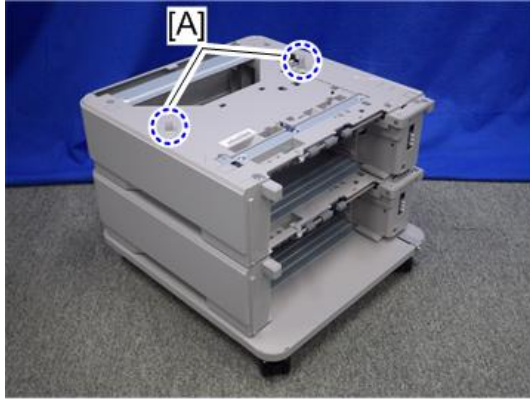
1. Install the main machine [A] on the optional paper feed unit [B].



d255a1020

Note

- There are two upright pins [A] on the optional paper feed unit. Align them with the holes in the underside of the main machine, and then carefully lower the machine.



d255a1026

- Open the rear lower cover [A] of the main machine.



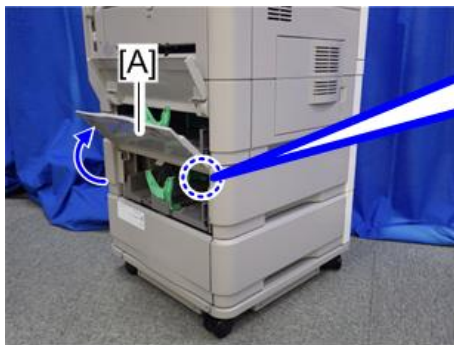
d255a1023

3. Install the joint bracket E [A] on the rear right side to secure the main machine and paper feed unit.



d255a1288

4. Open the rear cover [A] of the paper feed unit, and then secure the joint bracket installed in the previous step with the screw (M3×6).

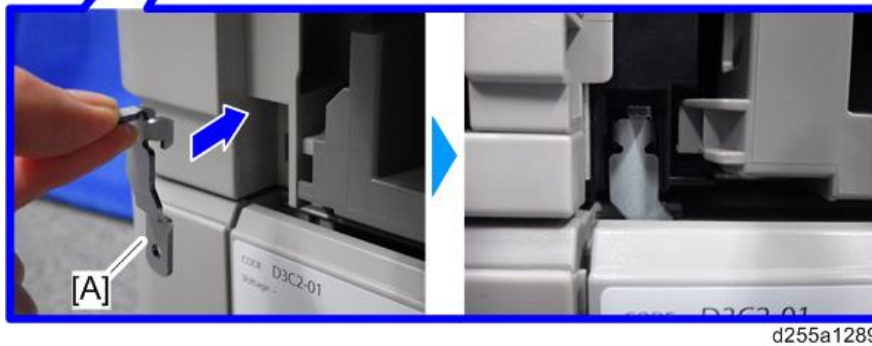


 x1

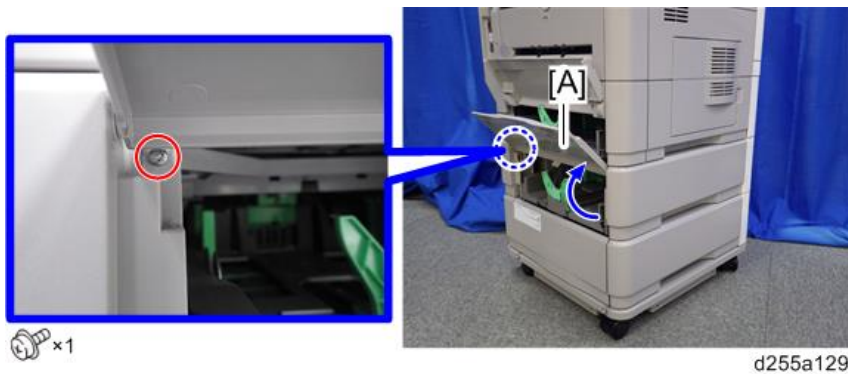


d255a1290

5. Install the joint bracket D [A] on the rear left side to secure the main machine and paper feed unit.



6. Open the rear cover [A] of the paper feed unit, and then secure the joint bracket installed in the previous step with the screw (M3×6).

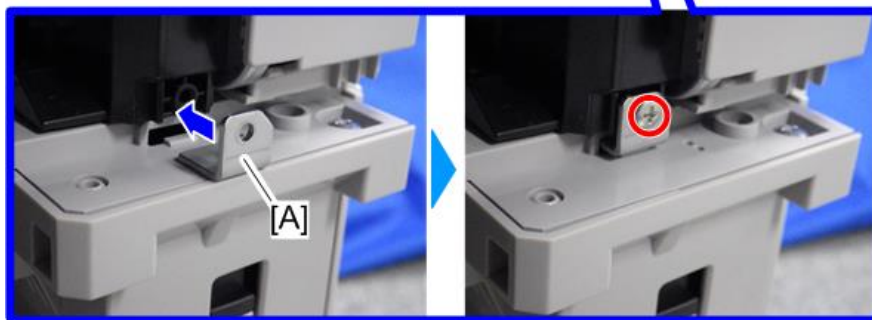


 x1

7. Remove the paper feed tray [A] of the main machine by pulling it out.



8. Install the joint bracket C [A] on the front side to secure the main machine and optional paper feed unit with the tapping bind screw (3×8).



 ×1

d255a1022

9. Put back the paper feed trays.
10. Attach the two stands [A] provided with the caster table on the front and left sides with the screws (polished round/spring (M4×10)).



 ×4

d255a1027

11. Attach the two stands [A] provided with the caster table on the rear and right sides with the screws (polished round/spring (M4×10)).

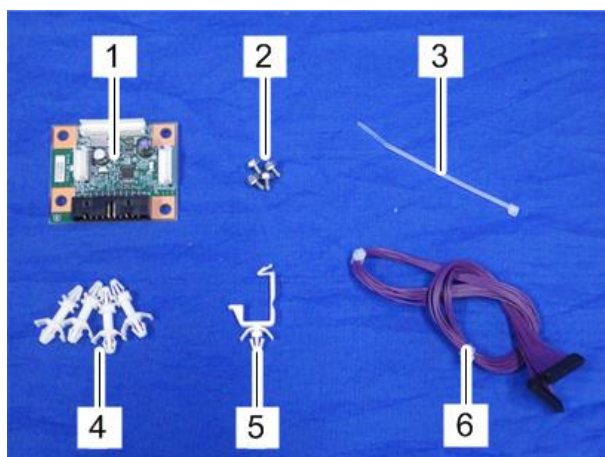


Installation

2.5 OPTIONAL COUNTER INTERFACE UNIT TYPE M12 (B870-21) (MP 501/601 ONLY)

2.5.1 ACCESSORY CHECK

No.	Description	Q'ty
1	MKB board	1
2	Tapping screw: M3x6	4
3	Harness band	1
4	Stud	4
5	Harness clamp: LWS-0711	1
6	Harness	1
-	EMC address decal	1



d255a1029

2.5.2 INSTALLATION PROCEDURE

⚠ CAUTION

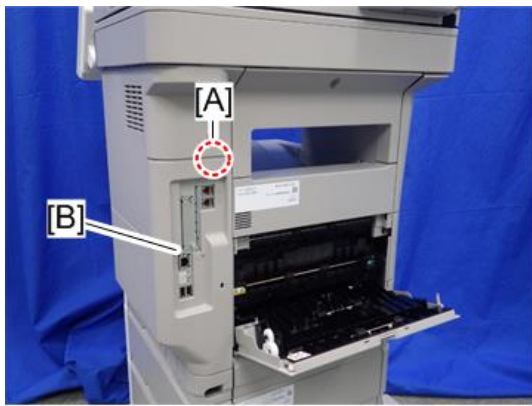
- Turn OFF the main power, and unplug the machine power cord before starting the following procedure.

1. Open the rear upper cover [A].



d255a1030

2. Insert a flathead screwdriver into [A] to release the hook on the inside of the controller cover [B].



d255a1080

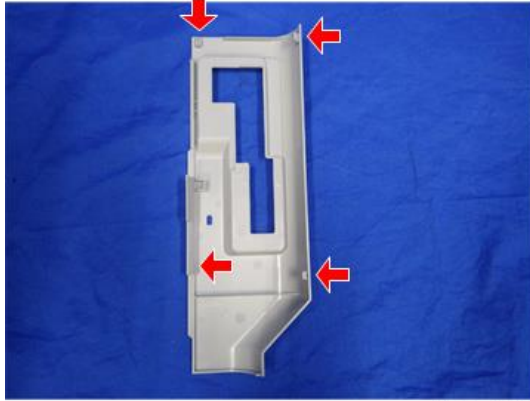
3. Release the hook by opening the right side of the cover, and then remove the cover [A] by rotating it in the direction of the blue arrow.



d255a1032

Note

- Be careful not to damage the hooks on the inside of the controller cover when you remove or install the controller cover.



d255a1033

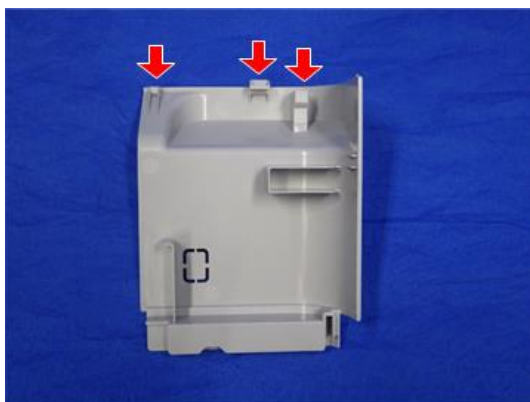
4. Insert a flathead screwdriver in the order of ①, ②, and ③ to release the three hooks of the rear left stay [A].
5. Remove the rear left stay [A].



d255a1034

Note

- Be careful not to damage the hooks on the inside of the rear left stay when you remove or install the rear left stay.

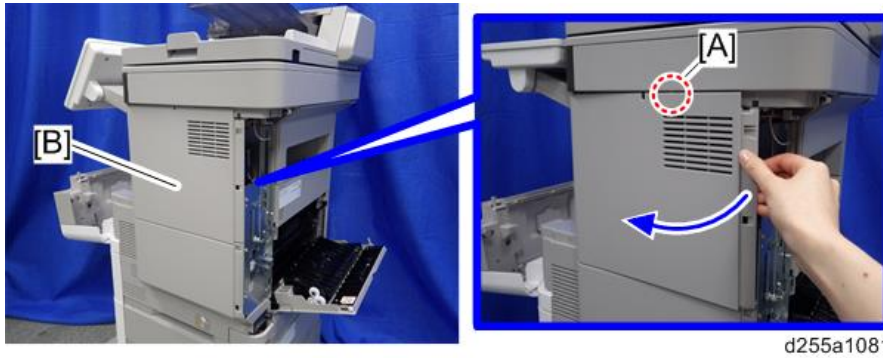


d255a1036

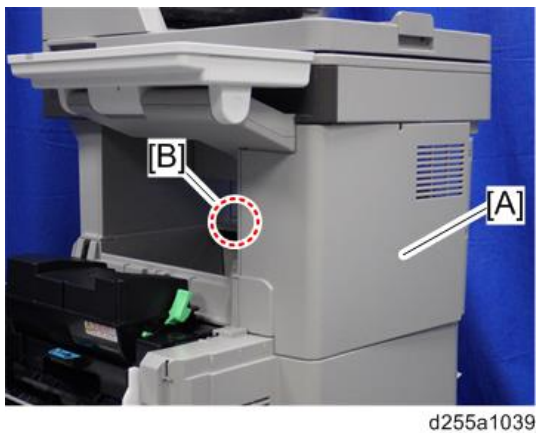
6. Push the button [A] and open the front cover [B].



7. Release the hook [A] of the right upper cover [B] by opening the cover in the direction of the arrow.

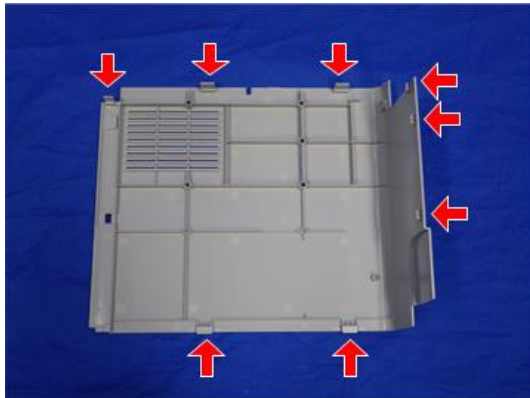


8. Remove the right upper cover [A] by inserting a flathead screwdriver into [B].



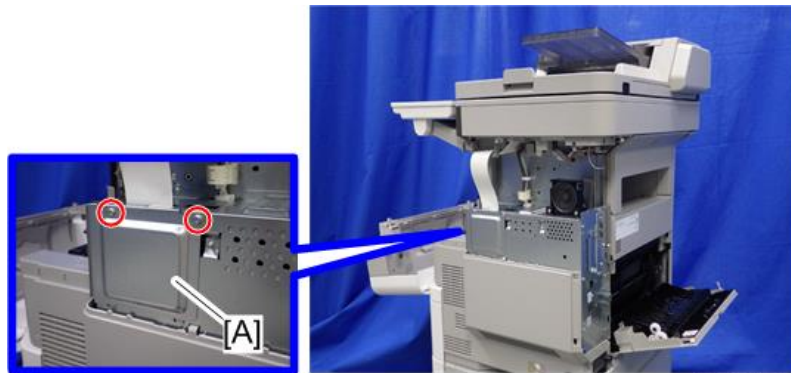
Note

- Be careful not to damage the hooks on the inside of the right upper cover when you remove or install the right upper cover.



d255a1040

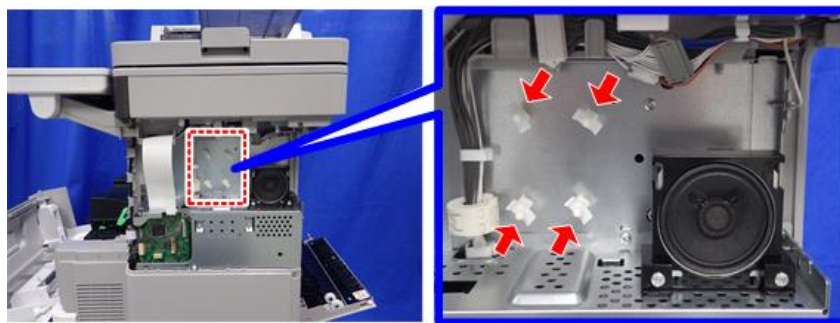
9. Remove the bracket [A].



×2

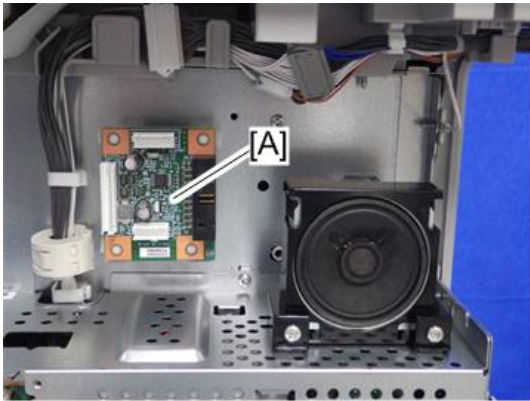
d255a1041

10. Install the four stud stays as shown below.



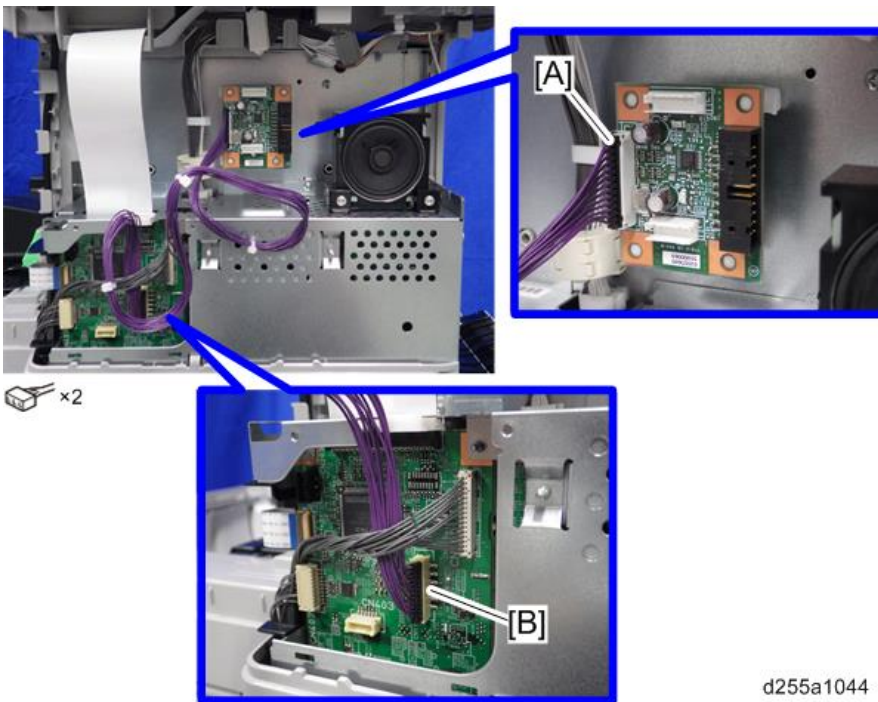
d255a1042

11. Install the optional counter interface board [A] on the four stud stays.



d255a1043

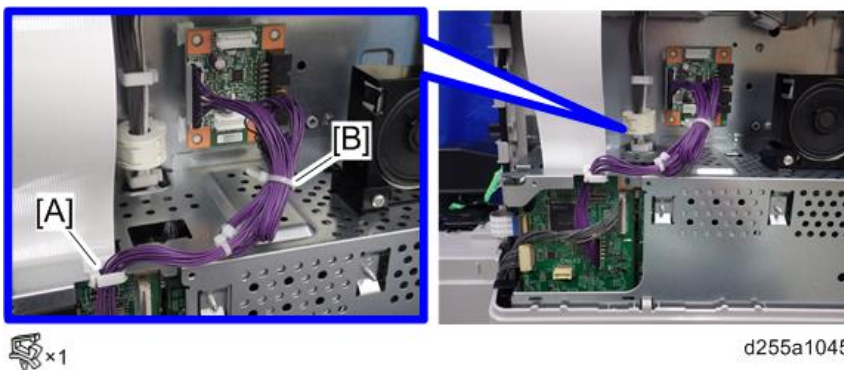
12. Connect the harness (13 pins) to CN3 [A] on the optional counter interface board and CN112 [B] on the BiCU.



d255a1044

13. Fasten the harness with the clamp [A].

14. Bind the harness with the harness bind [B] as shown below.

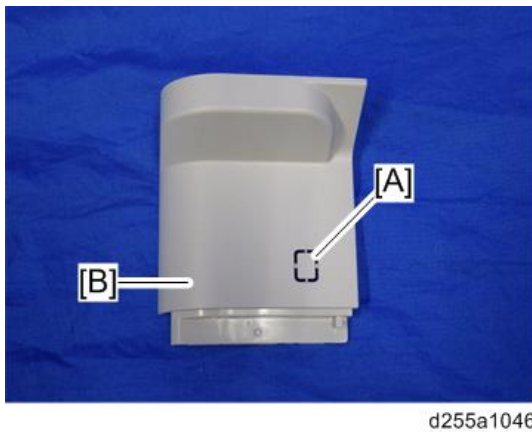


d255a1045

15. Connect the harness from the optional counter device to CN4 [A] on the optional counter interface board.



16. Remove the knockout [A] of the rear left stay [B] with a pair of nippers. Then pass the harness which is connected to the optional counter interface in the previous step.

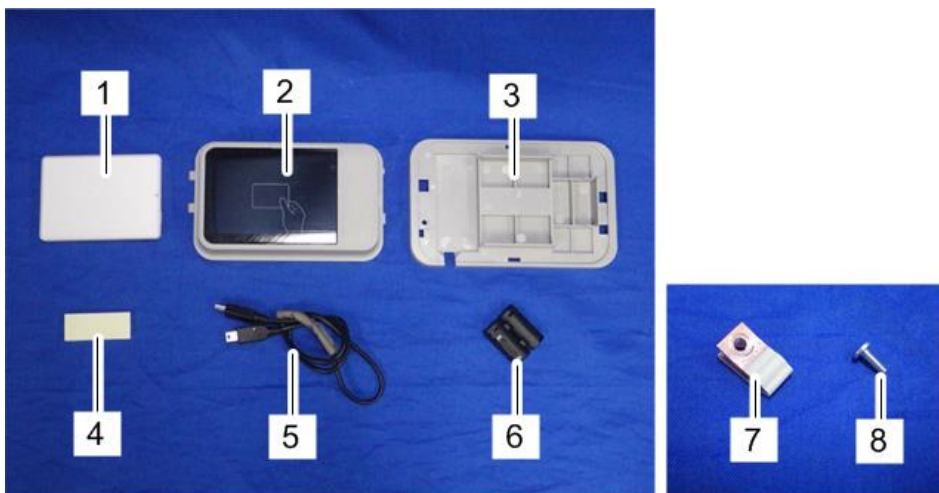


17. Reassemble the machine.

2.6 NFC CARD READER TYPE M24 (D3CP-08) (MP 501/601 ONLY)

2.6.1 ACCESSORY CHECK

No.	Description	Q'ty
1	NFC card reader	1
2	Upper cover	1
3	Base cover	1
4	Hoop and loop fastener	1
5	USB cable	1
6	Ferrite core	1
7	FG clamp	1
8	Tapping screw: 3x8	1
-	EMC address decal	1
-	Caution Sheet	1
-	Caution Chart	1



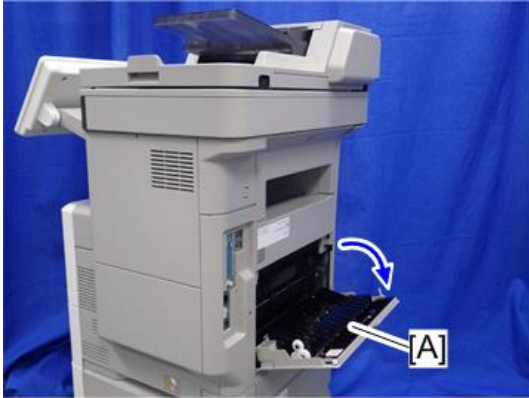
d255a1522

2.6.2 INSTALLATION PROCEDURE

⚠ CAUTION

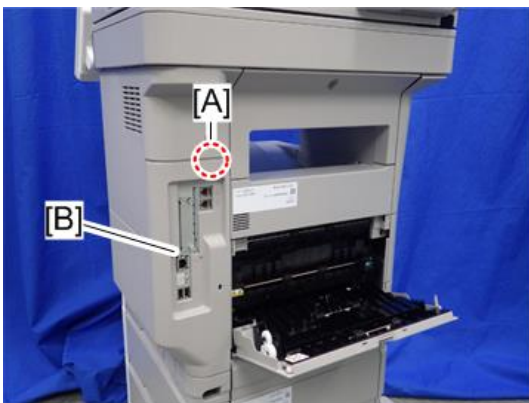
- Turn OFF the main power, and unplug the machine power cord before starting the following procedure.

1. Open the rear upper cover [A].



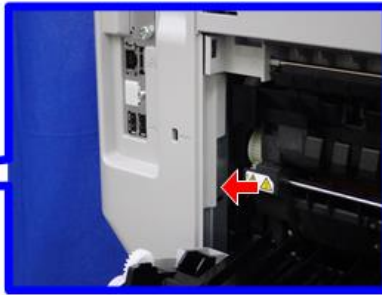
d255a1030

2. Insert a flathead screwdriver into [A] to release the hook on the inside of the controller cover [B].



d255a1080

3. Release the hook by opening the right side of the cover, and then remove the cover [A] by rotating it in the direction of the blue arrow.



d255a1032

Note

- Be careful not to damage the hooks on the inside of the controller cover when you remove or install the controller cover.



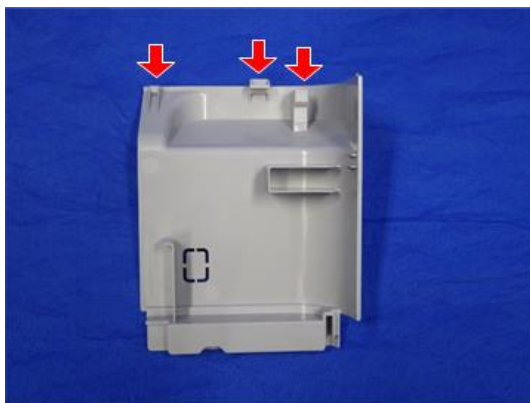
d255a1033

4. Insert a flathead screwdriver in the order of ①, ②, and ③ to release the three hooks of the rear left stay [A].
5. Remove the rear left stay [A].



ⓘ Note

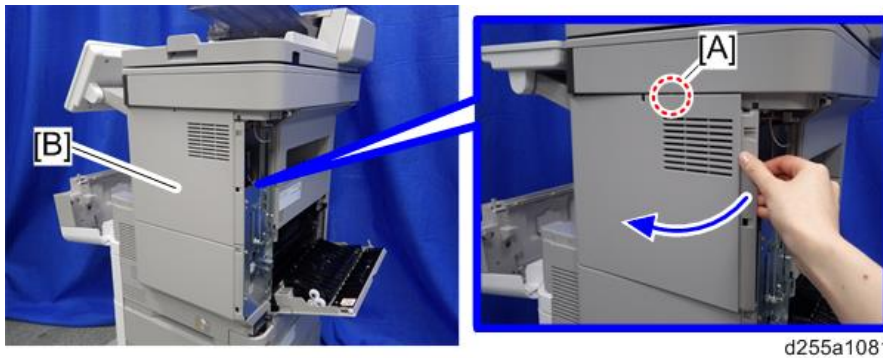
- Be careful not to damage the hooks on the inside of the rear left stay when you remove or install the rear left stay.



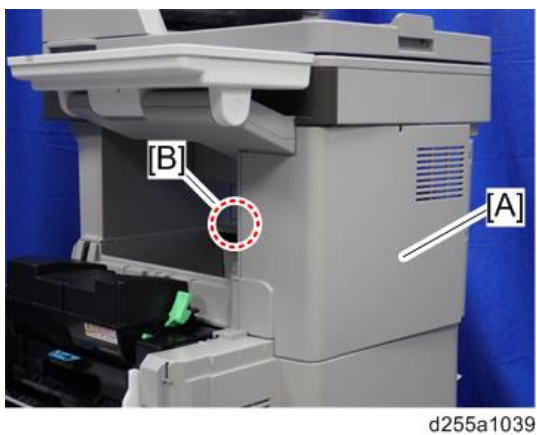
6. Push the button [A] and open the front cover [B].



7. Release the hook [A] of the right upper cover [B] by opening the cover in the direction of the arrow.

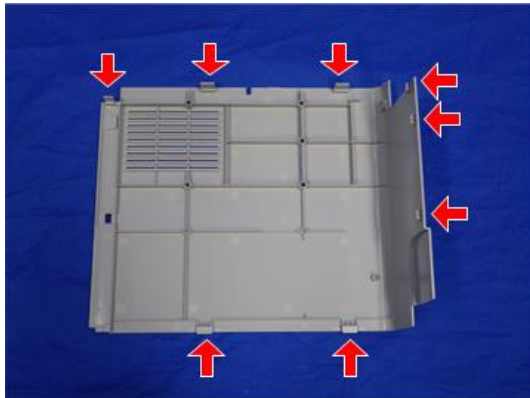


8. Remove the right upper cover [A] by inserting a flathead screwdriver into [B].



Note

- Be careful not to damage the hooks on the inside of the right upper cover when you remove or install the right upper cover.



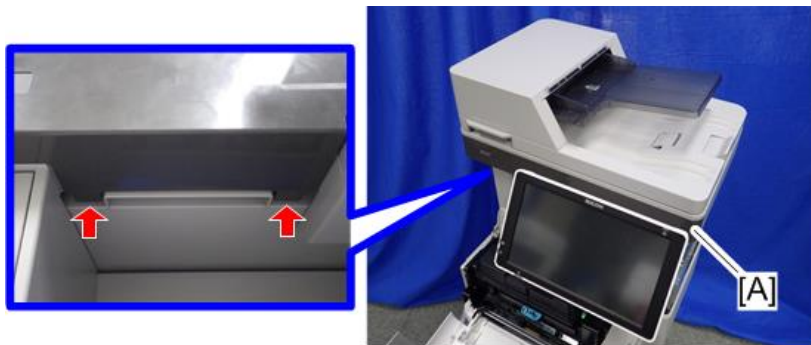
d255a1040

9. Insert a flathead screwdriver at [A] to release the hook of the scanner front cover [B].



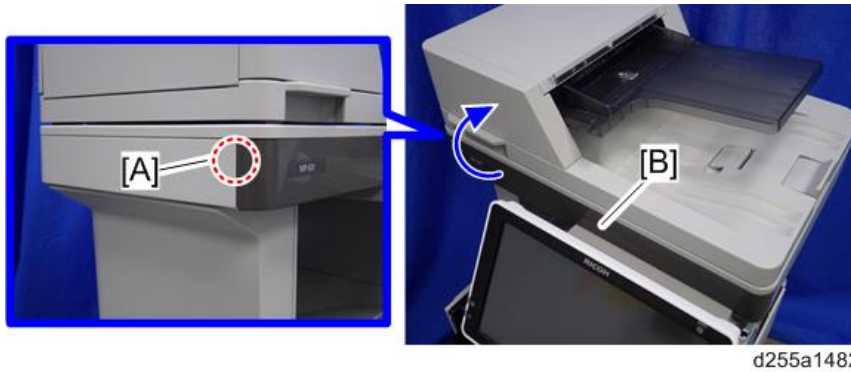
d255a1480

10. Release the two hooks of the scanner front cover [A].



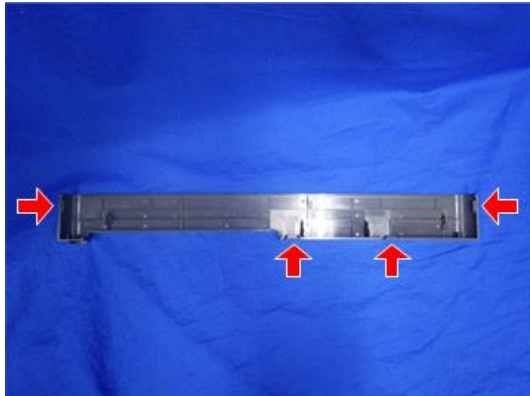
d255a1481

11. Insert a flathead screwdriver at [A] to release the hook, and then remove the scanner front cover [B].



Note

- Be careful not to damage the hooks on the inside of the scanner front cover when you remove or install the scanner front cover.



12. Release the two hooks of the operation panel arm upper cover [A].



13. Insert a flathead screwdriver into [A] to release the hook, and then remove the operation panel arm upper cover [B].

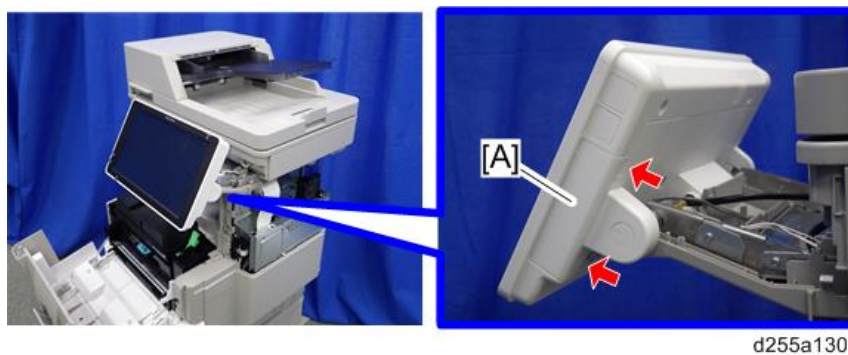


Note

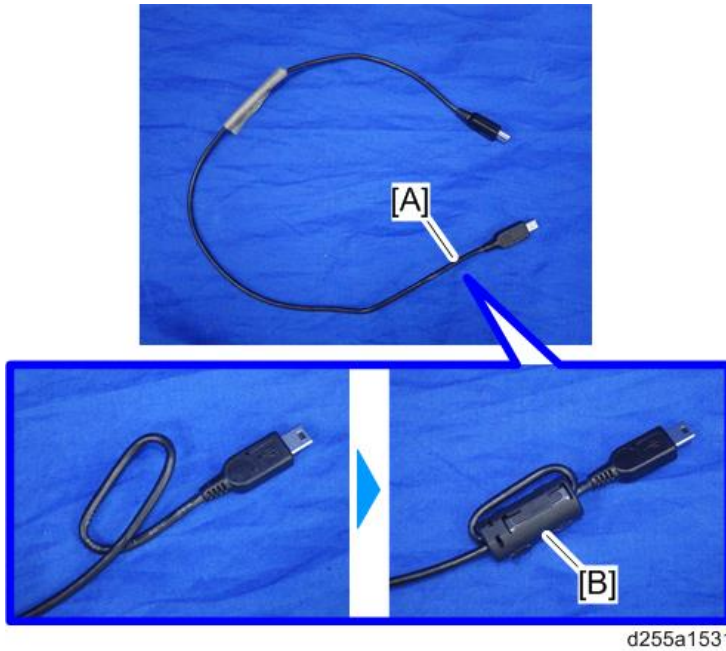
- Be careful not to damage the hooks on the inside of the operation panel arm upper cover when you remove or install the operation panel arm upper cover.



14. Remove the hinge cover [A] from the operation panel. (hookx2)

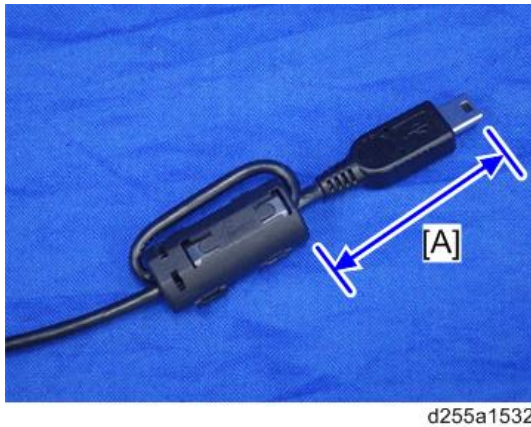


15. Make a loop at the end of the USB cable [A], and then attach the ferrite core [B], as shown below.

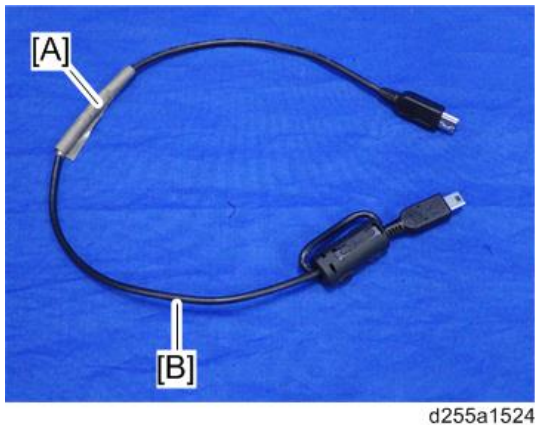


Note

- Attach the ferrite core at a distance of 4.0 cm (1.6 inch) [A] from the end of USB cable.



16. Peel off the conductive tape [A] from the USB cable [B].



17. Insert the USB cable [A] into the media slot of the operation panel.

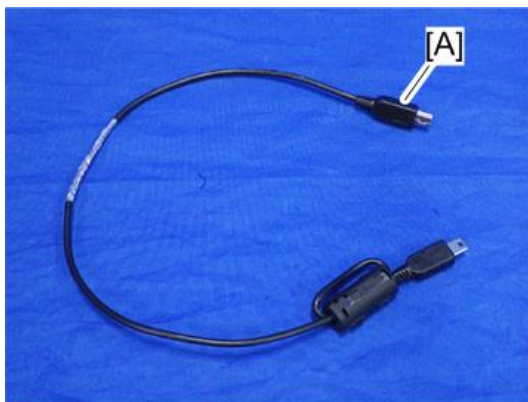


 x1

d255a1308

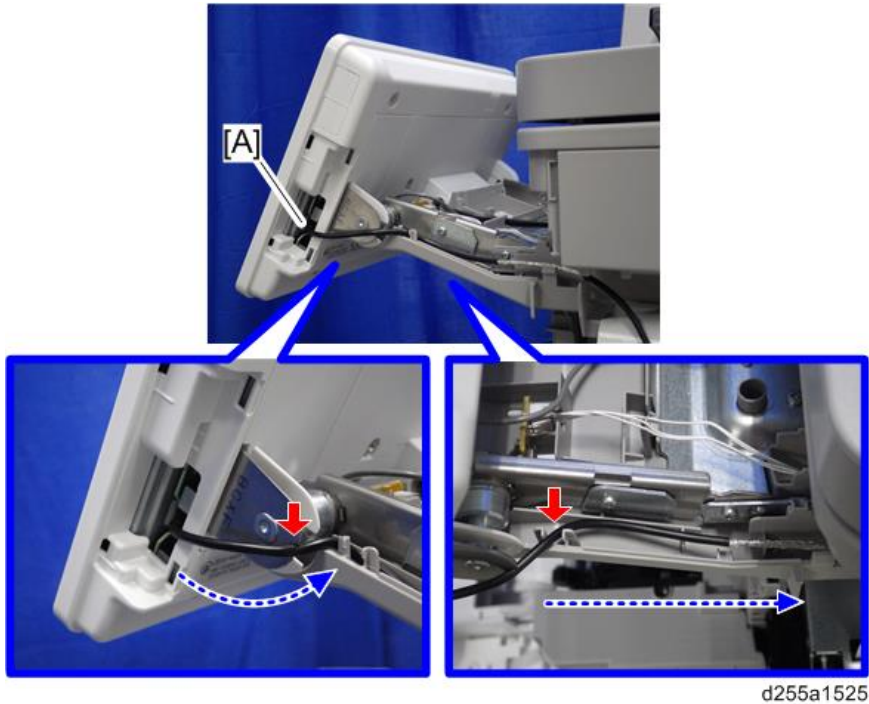
 **Note**

- Insert the end [A] of the USB cable, where the ferrite core is not attached, into the media slot of the operation panel.

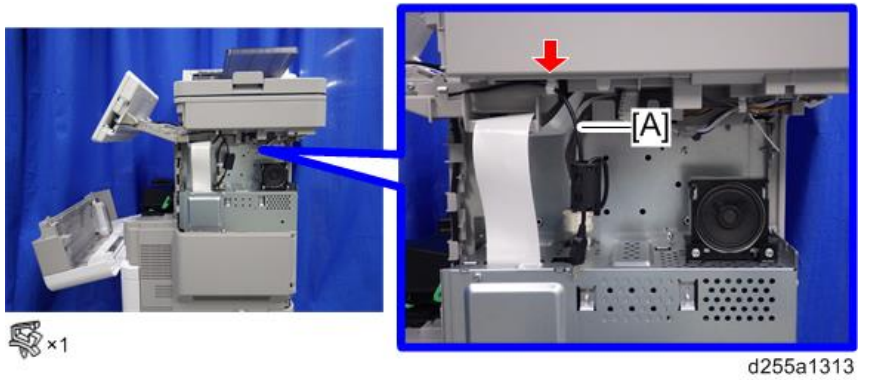


d255a1529

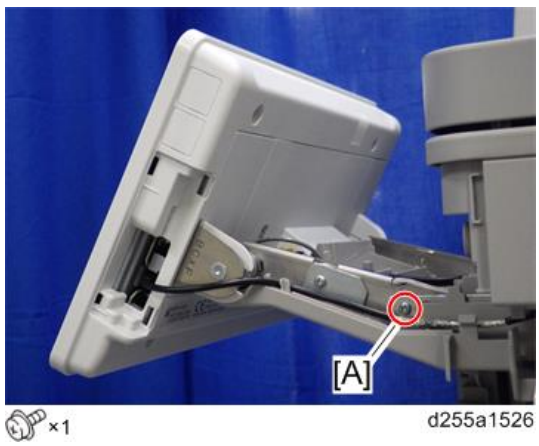
18. Route the USB cable [A] to the right side of the machine. (hookx2)



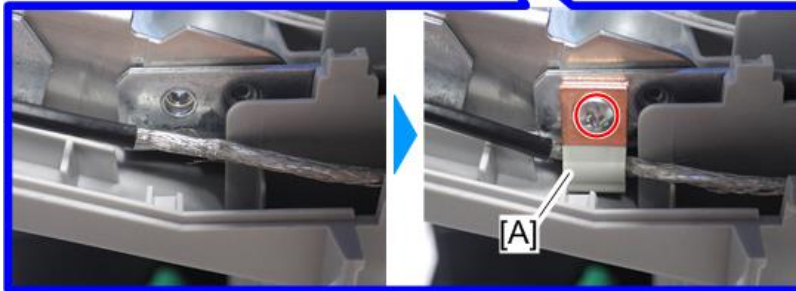
19. Secure the USB cable [A] with the clamp.



20. Remove the screw [A] from the operation panel arm.



21. Install the FG clamp [A] to the operation panel arm.



 x1

d255a1527

 **Note**

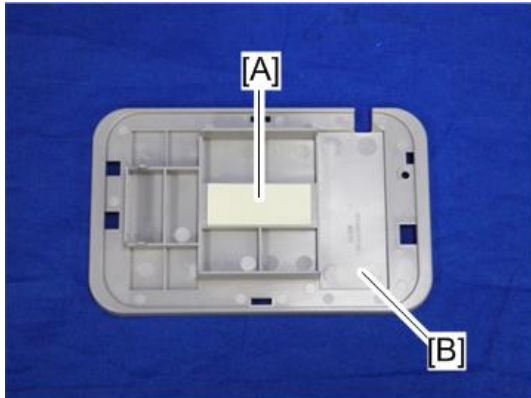
- When installing the FG clamp, bind the USB cable [B] with the FG clamp [A]. Make sure to bind the part where the coating is stripped partially.



d255a1528

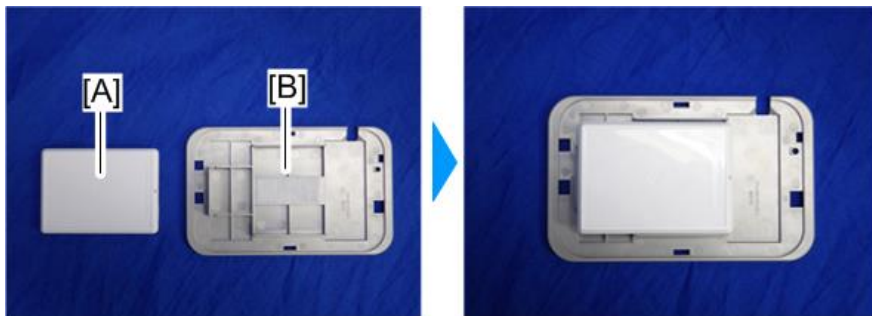
- When installing the FG clamp [A], use the screw provided with NFC Card Reader Type M24.

22. Attach the hook and loop fastener [A] to the base cover [B] at the position shown below.



d255a1324

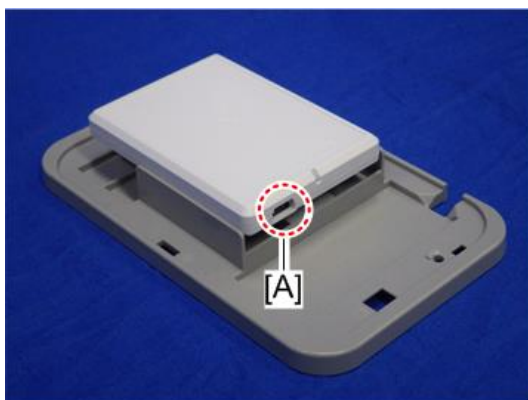
23. Peel off the mount from the hook and loop fastener, and then attach the NFC card reader [A] to the base cover [B] at the position shown below.



d255a1325

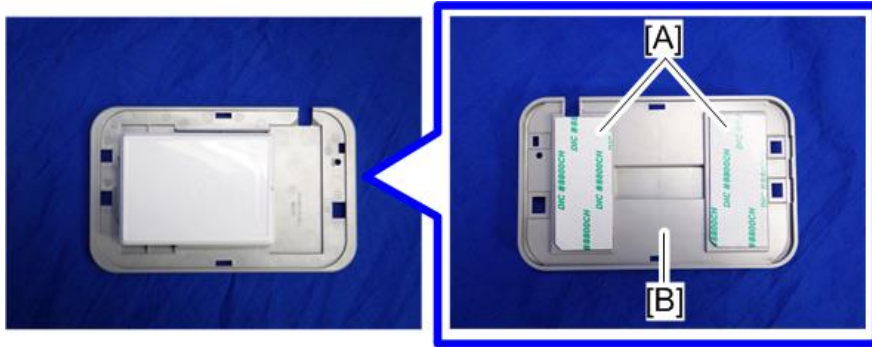
Note

- Attach the NFC card reader with the USB port [A] of the NFC card reader set to face right.



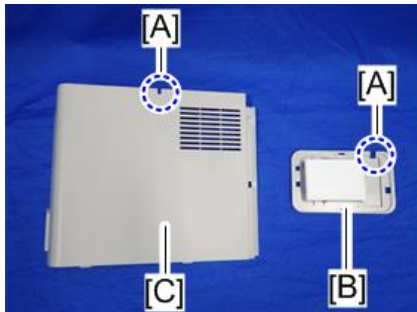
d255a1344

24. Peel off the mount [A] of the seal from the back side [B] of the base cover.



d255a1310

25. Fit the notch part [A] of the base cover [B] into the right upper cover [C] of the main machine, and then attach it.



d255a1311

26. Reattach the right upper cover [A] to the main machine.



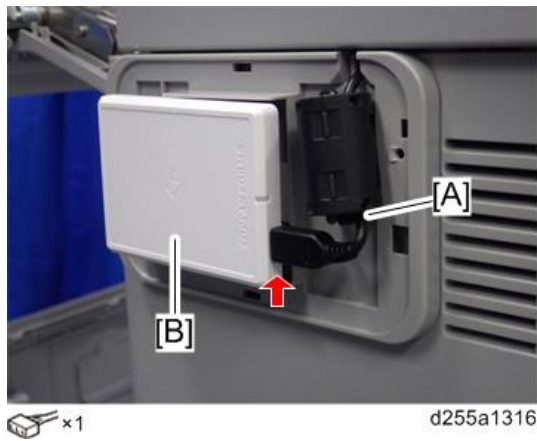
d255a1314

Note

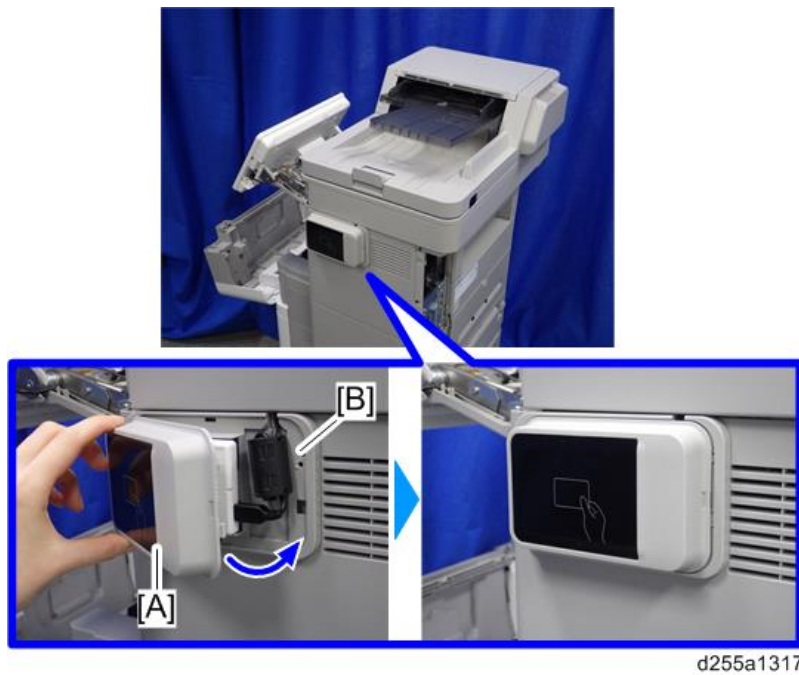
- When attaching the right upper cover, pull out the USB cable [A] through the notch [B] in the right upper cover.



27. Connect the USB cable [A] to the NFC card reader [B].



28. Attach the upper cover [A] to the base cover [B].



29. Reassemble the machine.

2.7 ENHANCED SECURITY HDD OPTION TYPE M10 (D792-09)

2.7.1 ACCESSORY CHECK

No.	Description	Q'ty
1	Enhanced security HDD	1
-	EMC address sheet	1

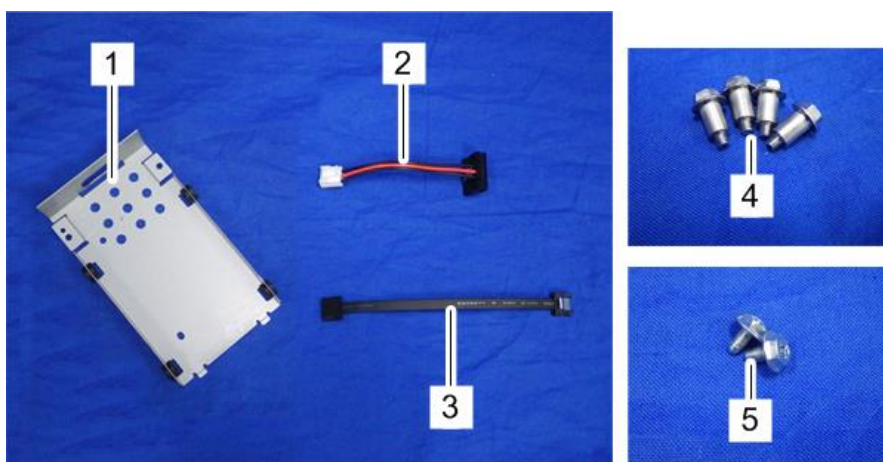


d191b0076

ⓘ Note

- The following parts are separately required when installing Enhanced Security HDD Option Type M10 on SP 5300/5310 in which Hard Disk Drive Option Type P8 is not installed.

No.	Description	Q'ty
1	HDD bracket	1
2	Power source cable	1
3	Data cable	1
4	Stepped screw	4
5	Tapping screw	2



d255a1486

2.7.2 INSTALLATION PROCEDURE (MP 501/601)

⚠ CAUTION

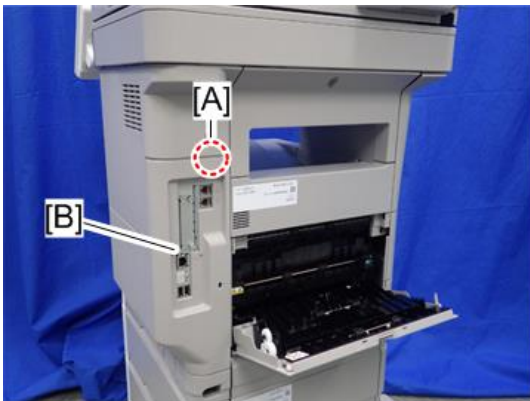
- Turn OFF the main power, and unplug the machine power cord before starting the following procedure.

1. Open the rear upper cover [A].



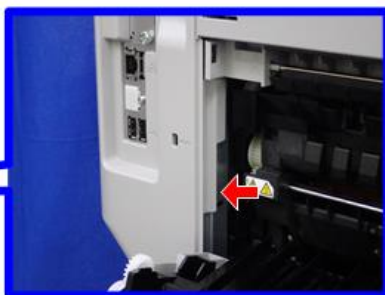
d255a1030

2. Insert a flathead screwdriver into [A] to release the hook on the inside of the controller cover [B].



d255a1080

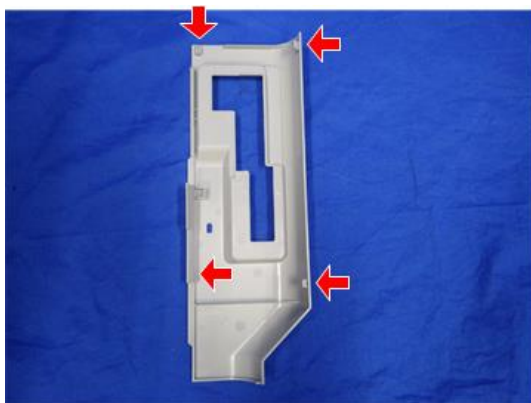
3. Release the hook by opening the right side of the cover, and then remove the cover [A] by rotating it in the direction of the blue arrow.



d255a1032

Note

- Be careful not to damage the hooks on the inside of the controller cover when you remove or install the controller cover.



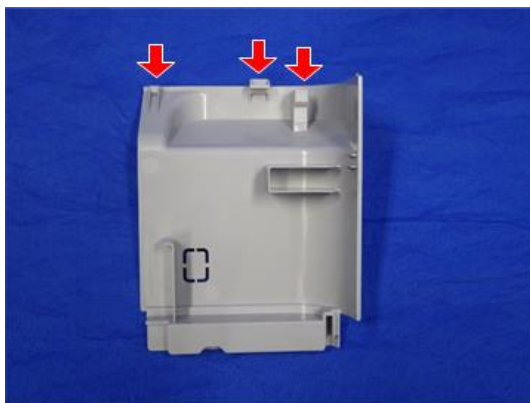
d255a1033

4. Insert a flathead screwdriver in the order of ①, ②, and ③ to release the three hooks of the rear left stay [A].
5. Remove the rear left stay [A].



⬇ Note

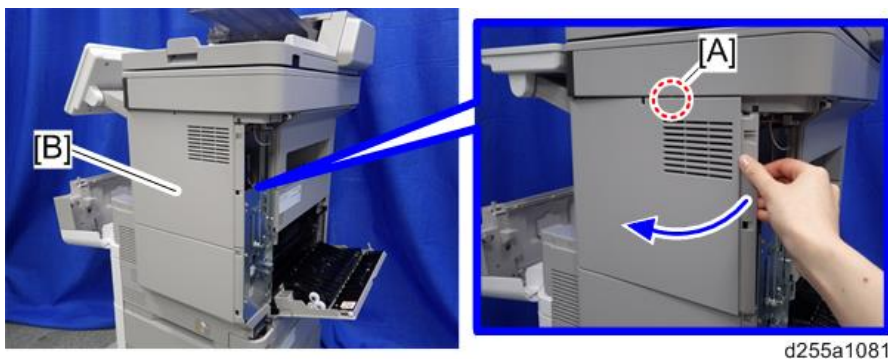
- Be careful not to damage the hooks on the inside of the rear left stay when you remove or install the rear left stay.



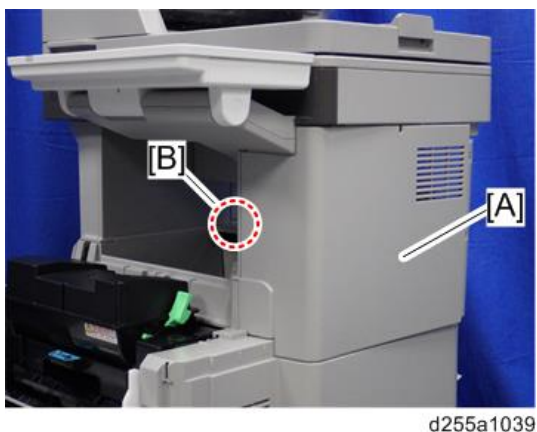
6. Push the button [A] and open the front cover [B].



7. Release the hook [A] of the right upper cover [B] by opening the cover in the direction of the arrow.

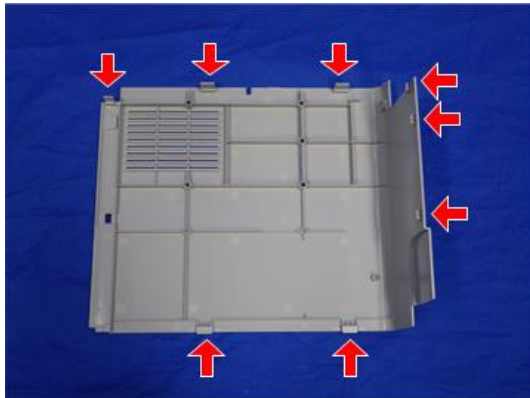


8. Remove the right upper cover [A] by inserting a flathead screwdriver into [B].



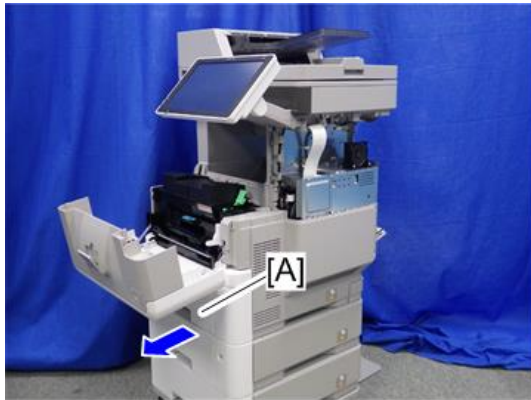
Note

- Be careful not to damage the hooks on the inside of the right upper cover when you remove or install the right upper cover.



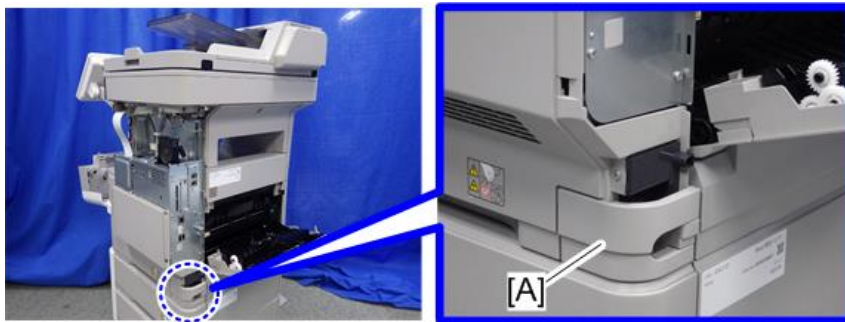
d255a1040

9. Remove the paper feed tray [A] by pulling it out.



d255a1071

10. Remove the power connector cover [A].



d255a1072

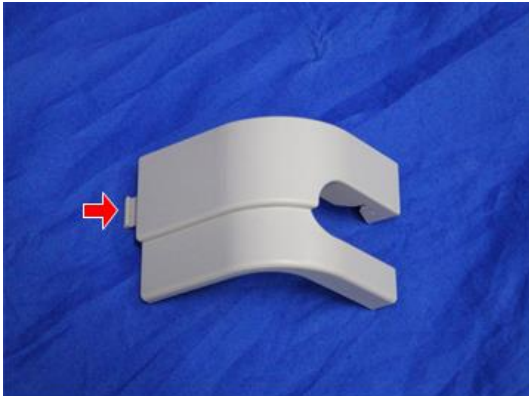
Note

- When removing the power connector cover, pull it in the direction of the arrow.



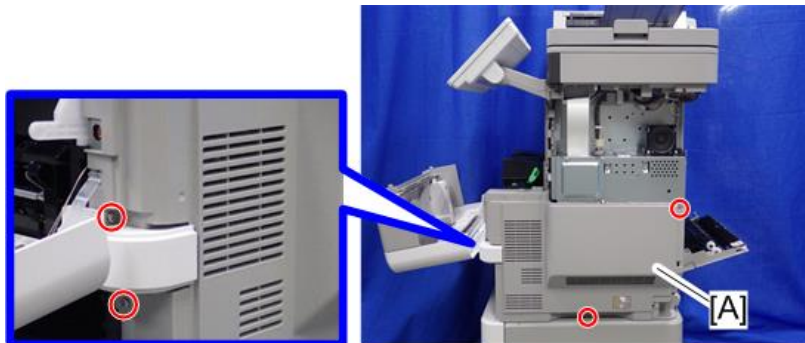
d255a1073

- Be careful not to damage the hook on the power connector cover when you remove or install the power connector cover.



d255a1078

11. Remove the four screws from the right lower cover [A].



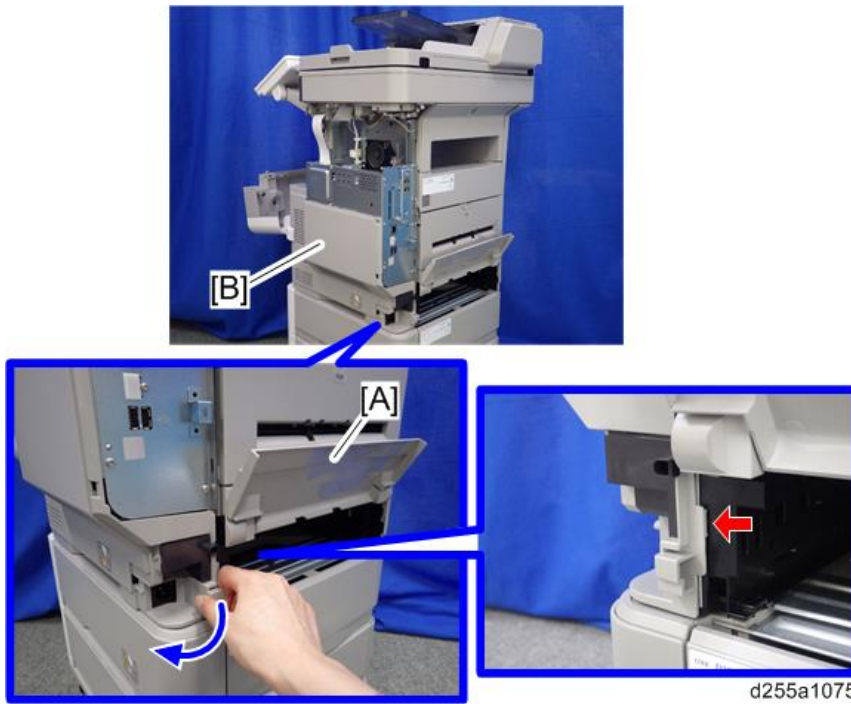
 x4

d255a1074

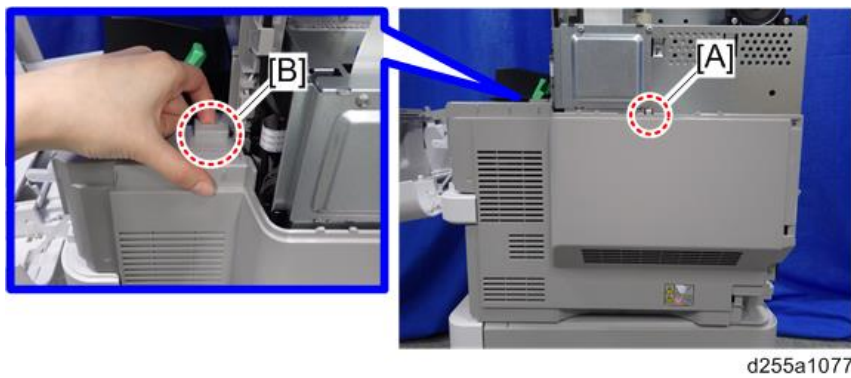
12. Close the rear upper cover [A].



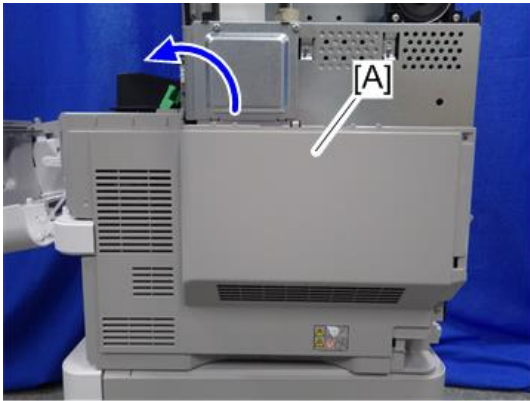
13. Open the rear lower cover [A], and then release the hook of the right lower cover [B] by rotating it in the direction of the blue arrow.



14. Release the hooks [A] and [B].



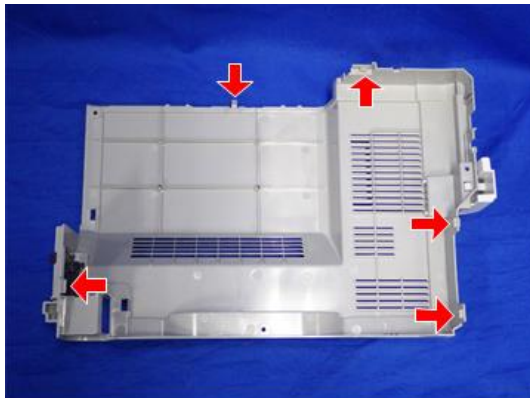
15. Remove the right lower cover [A] by rotating it in the direction of the arrow.



d255a1076

Note

- Be careful not to damage the hooks on the inside of the right lower cover when you remove or install the right lower cover.



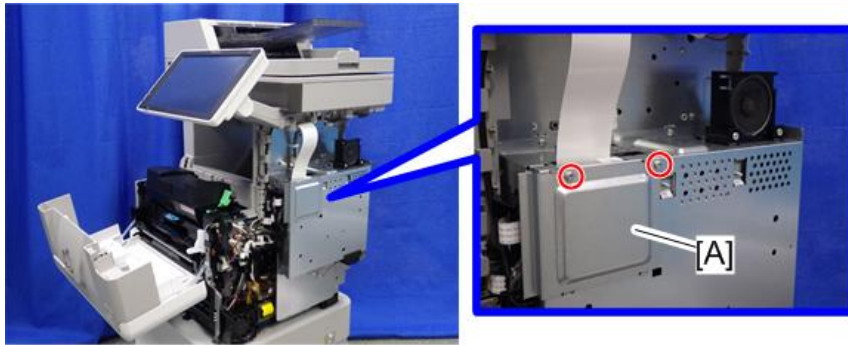
d255a1079

- Do not remove the screw [A] when removing the right lower cover [B].



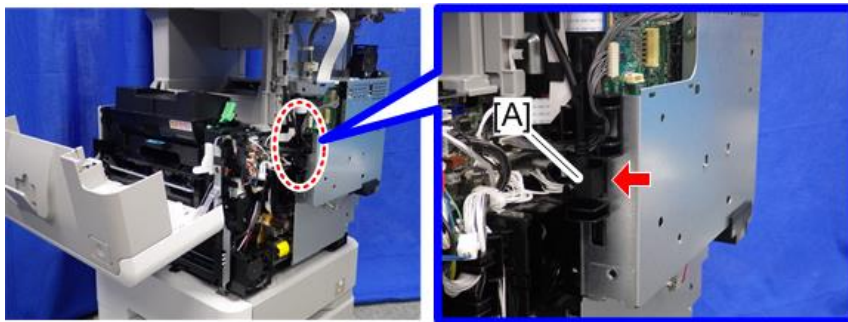
d255a1530

16. Remove the bracket [A].



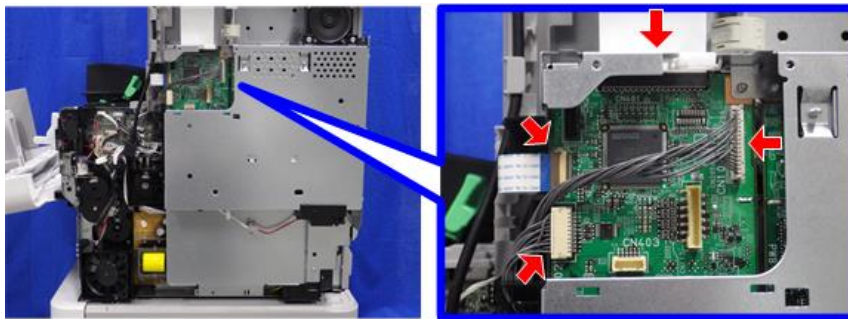
 x2

17. Disconnect the USB connector [A] of the operation panel.



 x1

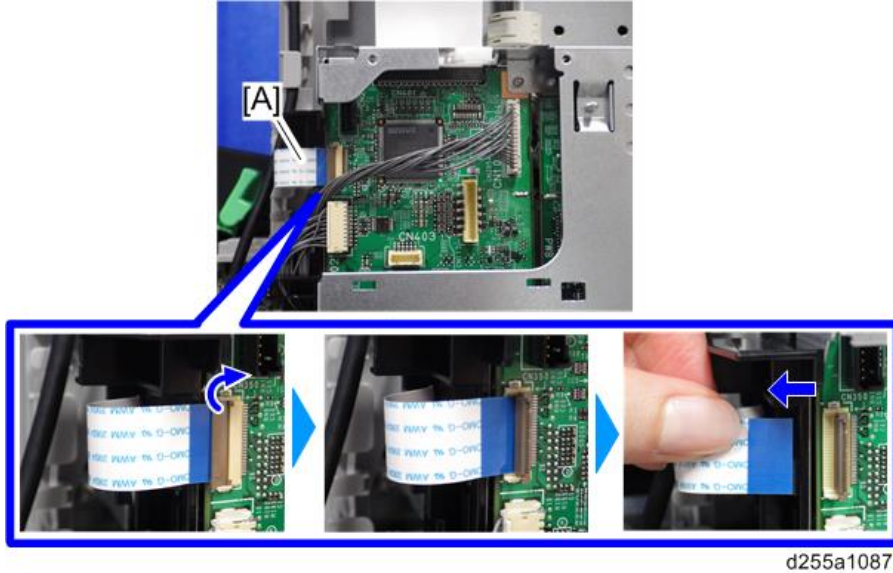
18. Disconnect the two flat cables and two connectors.



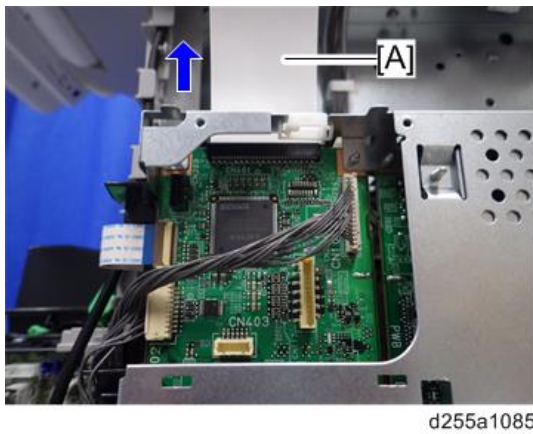
 x2,  x2

Note

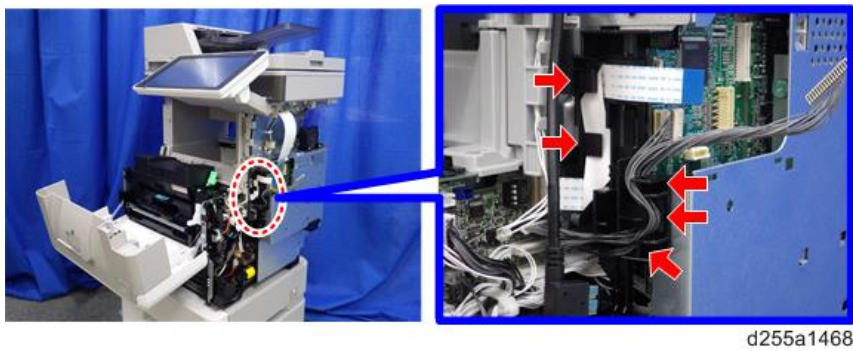
- Make sure to open the flap before disconnecting the flat cable [A], as shown in the following pictures. Otherwise, the connector may be damaged.



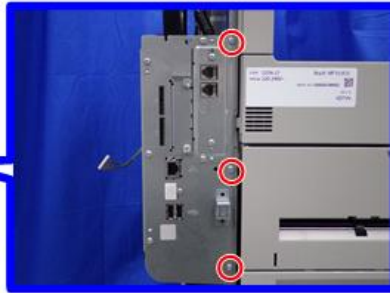
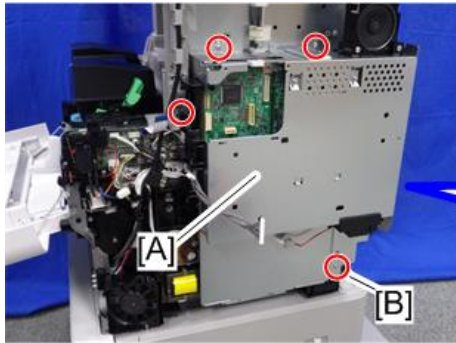
- When disconnecting the flat cable [A], pull it out in the direction of the arrow.



19. Release the flat cable and harness from the harness guides.



20. Remove the seven screws from the controller box [A].



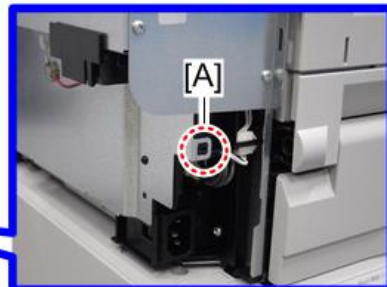
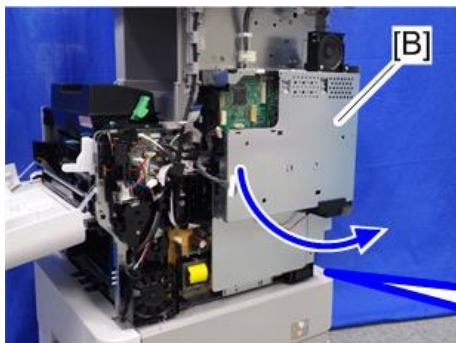
 x7

d255a1088

Note

- The screw [B] is a tapping screw. Be careful not to use the wrong screw when installing the controller box.

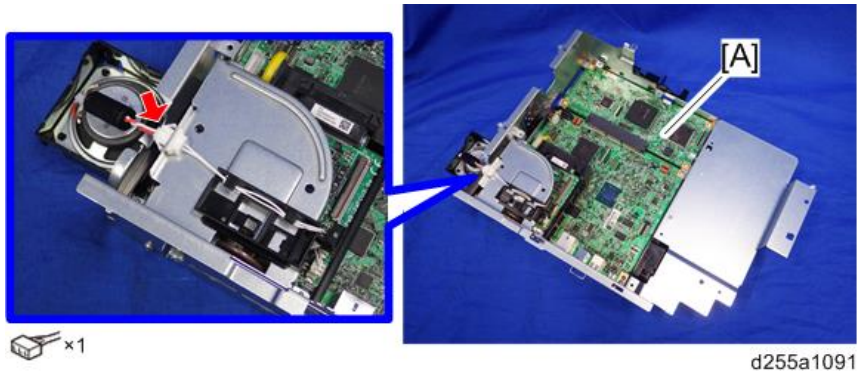
21. Release the hook [A], and then remove the controller box [B] by rotating it counter-clockwise.



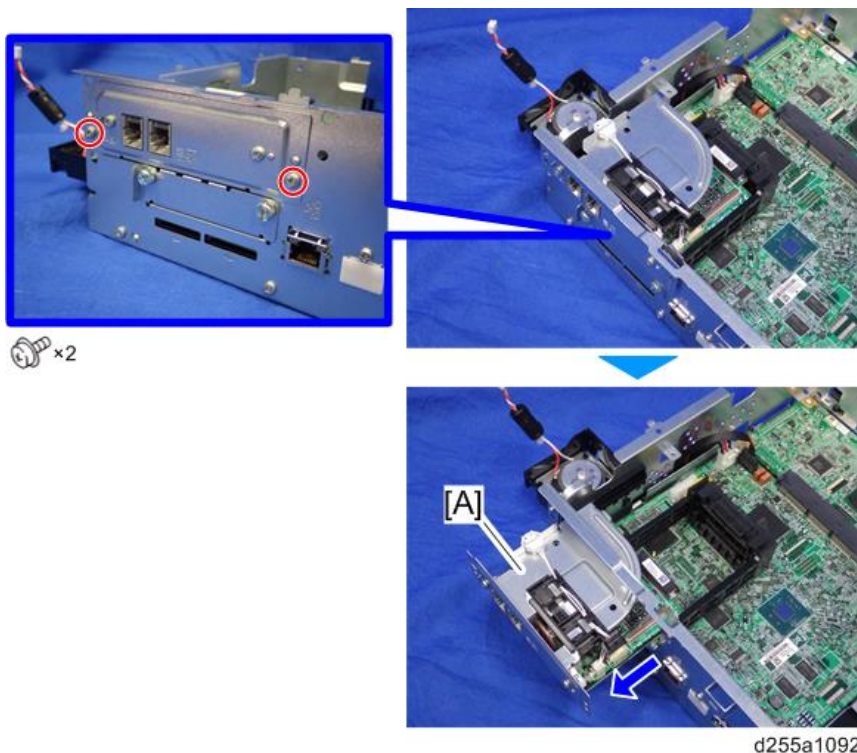
d255a1090



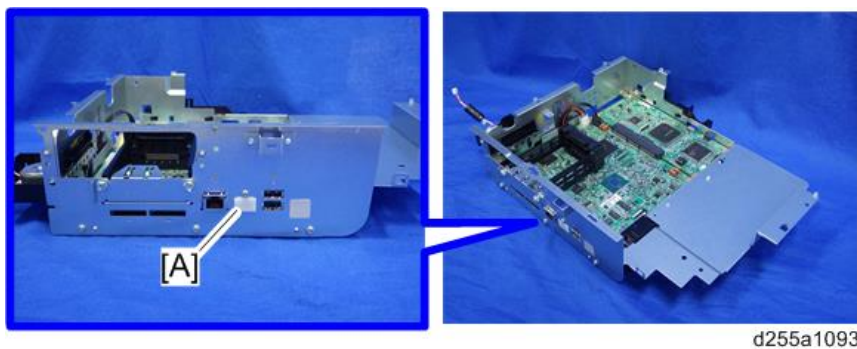
22. Disconnect the connector on the controller box [A].



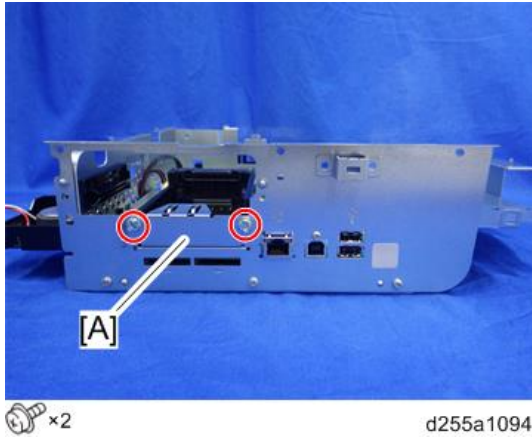
23. Remove the fax unit [A].



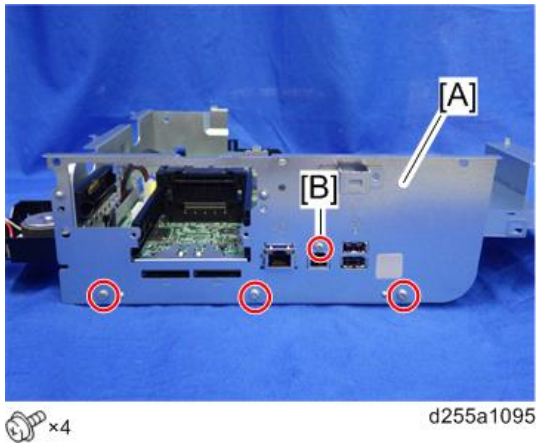
24. Remove the cap [A].



25. Remove the slot cover [A].



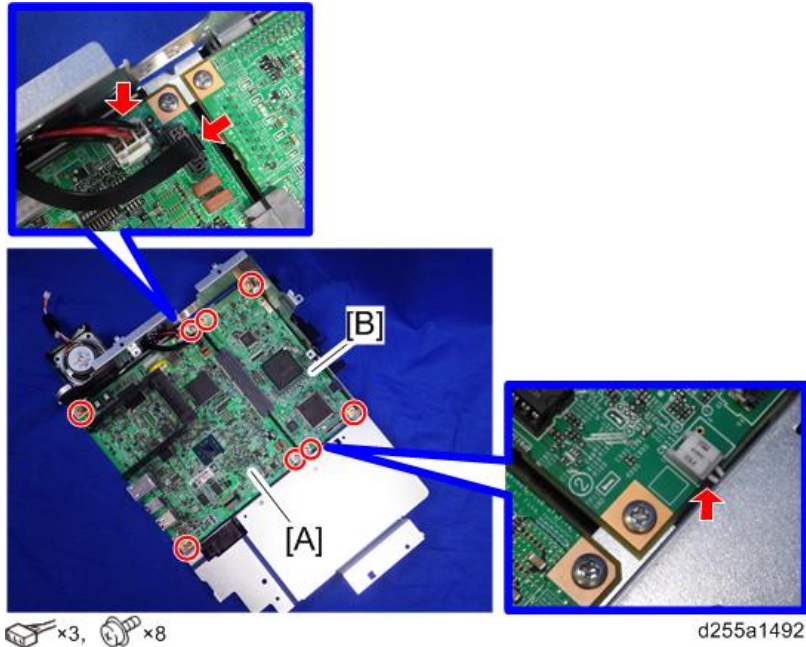
26. Remove the controller box cover [A].



↓ Note

- The screw [B] is a small screw. Be careful not to use the wrong screw when installing the controller box cover.

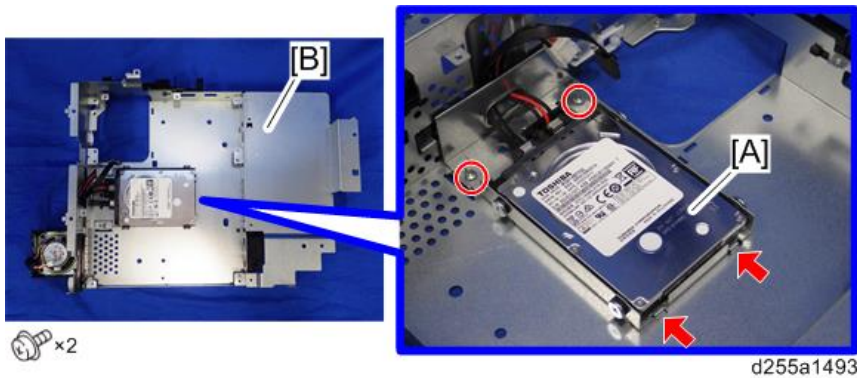
27. Remove the controller board [A] with the BiCU [B].



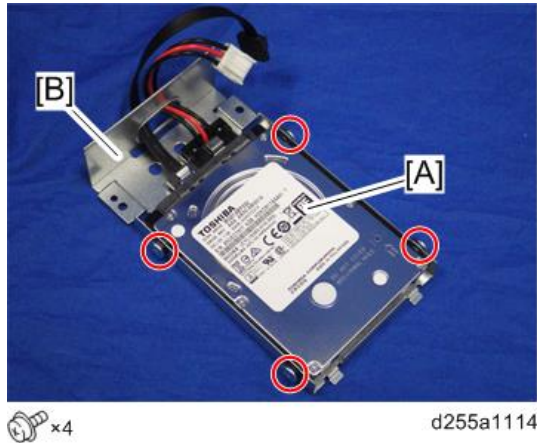
↓ Note

- Be careful not to damage the backside of the controller board [A] and the BiCU [B].

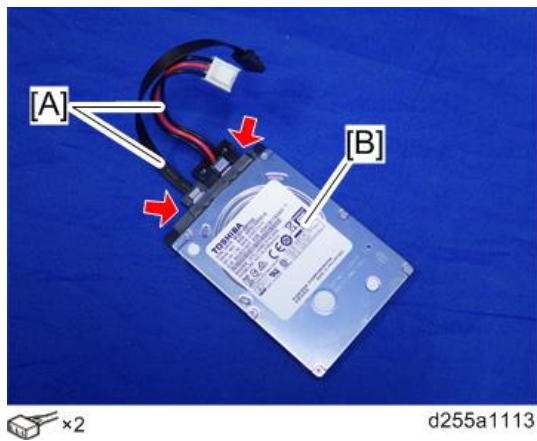
28. Remove the HDD with the bracket [A] from the controller box [B]. (hookx2)



29. Remove the HDD [A] from the HDD bracket [B].



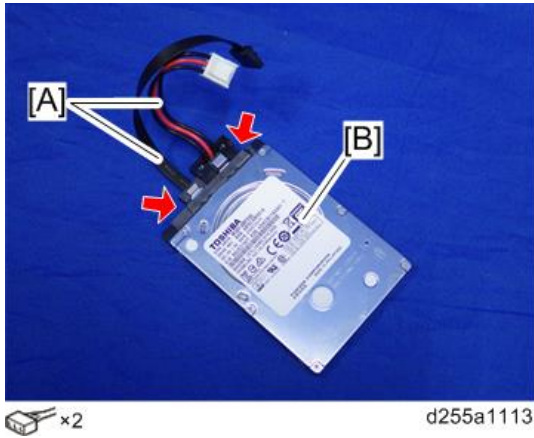
30. Disconnect the two cables [A] from the HDD [B].



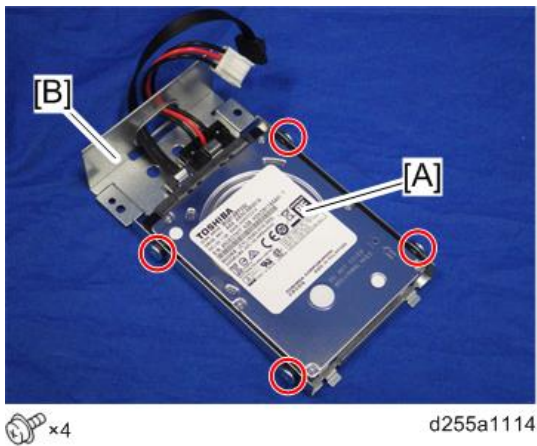
31. Remove the enhanced security HDD from its protective pack.



32. Connect the two cables [A] to the enhanced security HDD [B].

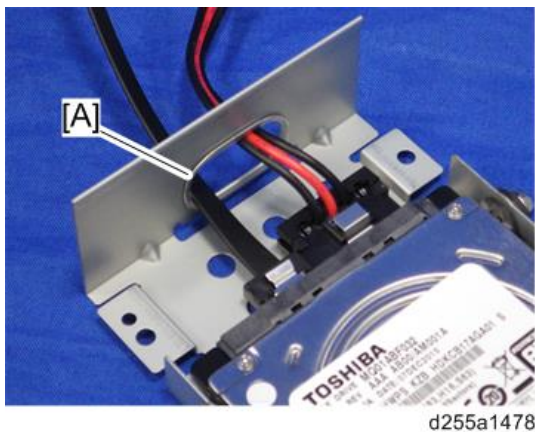


33. Install the enhanced security HDD [A] on the HDD bracket [B].

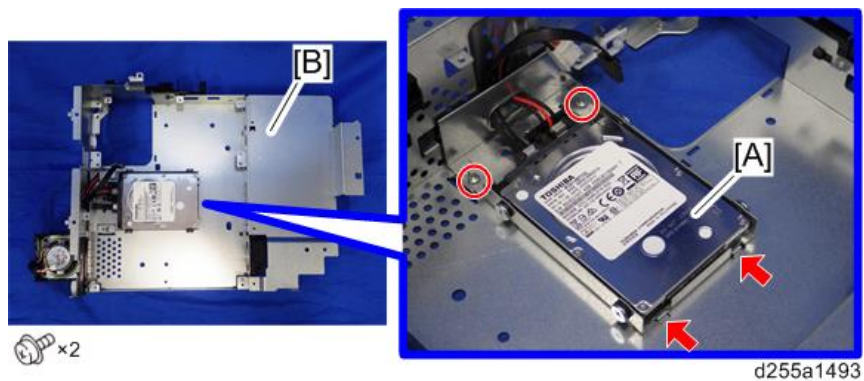


Note

- When installing the enhanced security HDD on the bracket, make sure to pass the cables through the hole [A] of the HDD bracket.



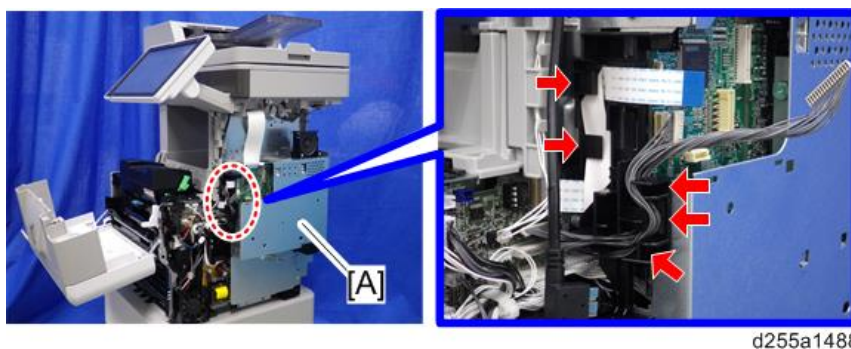
34. Install the HDD with the bracket [A] on the controller box [B]. (hookx2)



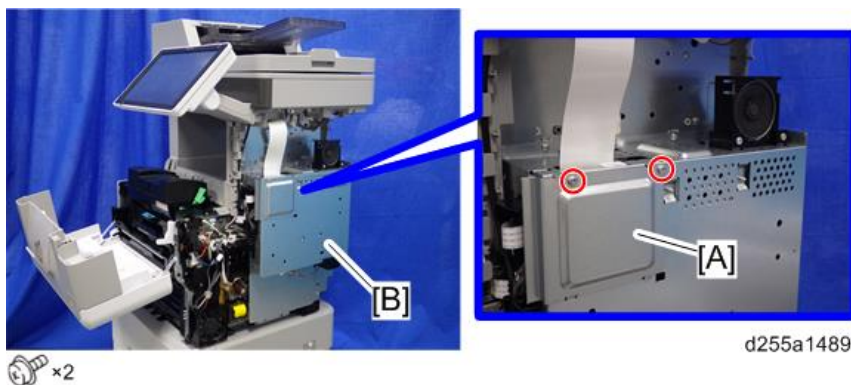
35. Reassemble the machine.

Note

- When reattaching the controller box [A], make sure to secure the harness and flat cable to the harness guides, as shown below.

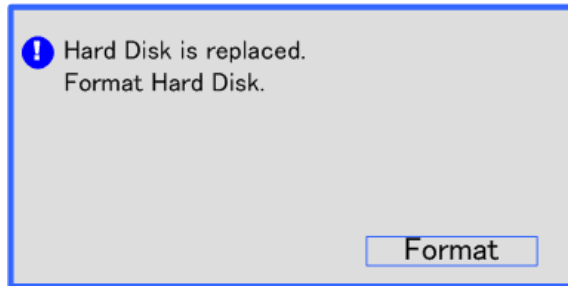


- When reattaching the bracket [A] of the controller box [B], do not interpose the harness and the flat cable between the bracket and the controller box.



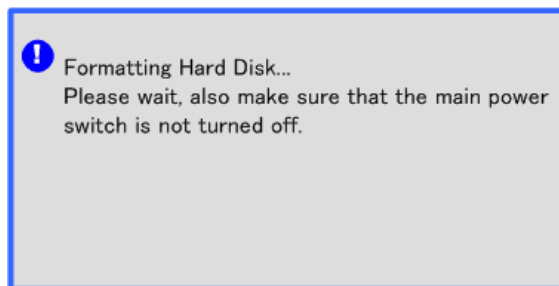
After Installing the HDD

1. Connect the power cord and turn ON the main power. A message prompts you to format the hard disk.



d191b0081

2. Press [Format].

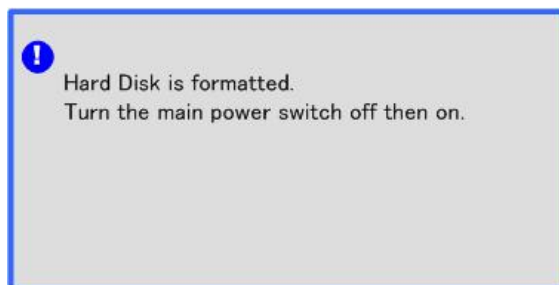


d191b0082

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

★ 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.



d191b0083

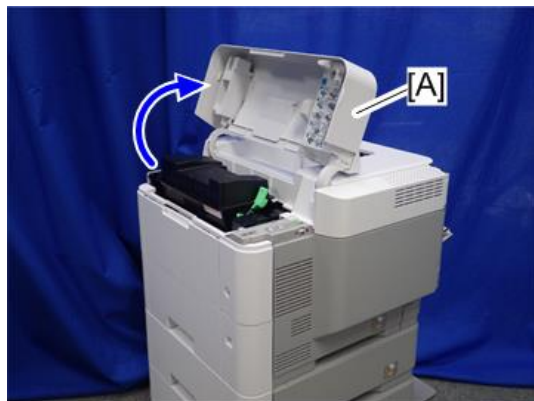
4. Turn the main power OFF/ON after a message tells you formatting is finished.
5. Enter the SP mode.
6. Execute SP5-853-001 to copy the preset stamp data from the firmware to the hard disk. Follow the instructions on the screen. This will require three or four minutes.
- ⇒ 7. Turn the main power OFF/ON.

2.7.3 INSTALLATION PROCEDURE (SP 5300/5310)

⚠ CAUTION

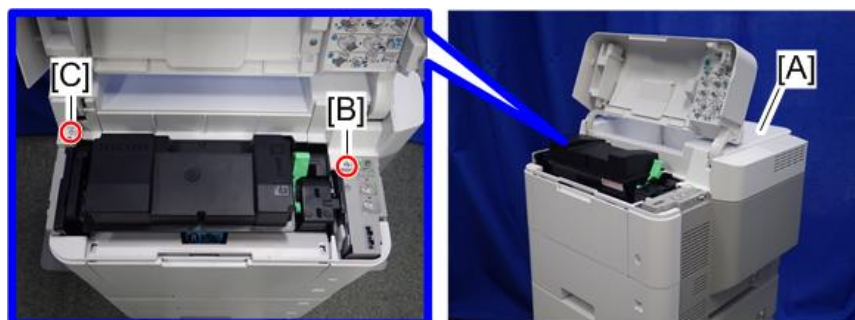
- Turn OFF the main power, and unplug the machine power cord before starting the following procedure.

1. Open the upper cover [A].



d255a1382

2. Remove the two screws from the upper cover [A].



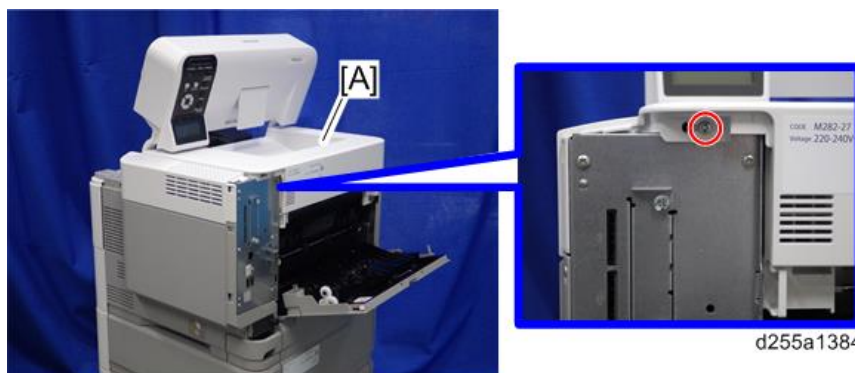
d255a1383

 x2

↓ Note

- The screw [B] is a sems screw. The screw [C] is a tapping screw. Be careful not use the wrong screws when installing the upper cover.

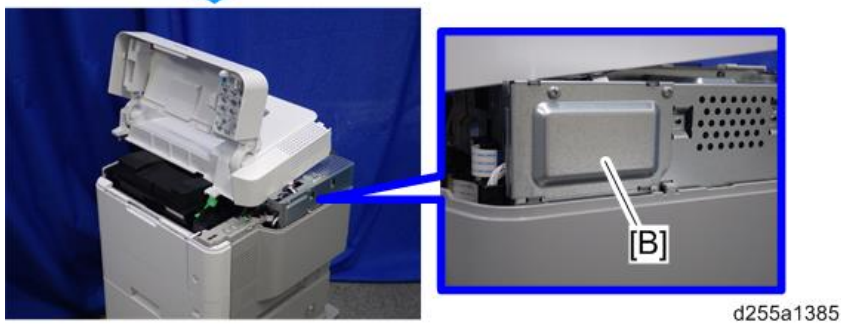
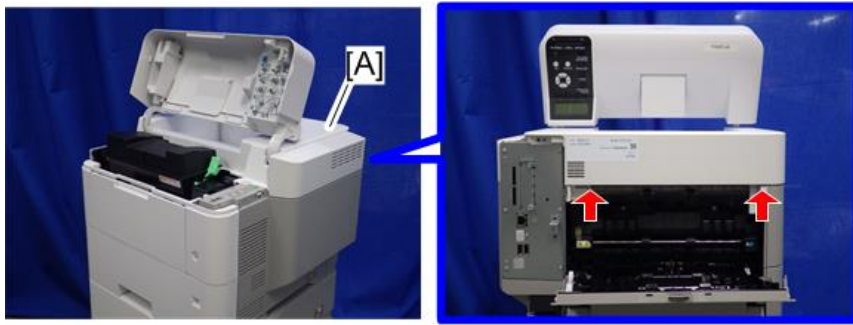
3. Remove the screw from the rear side of the upper cover [A].



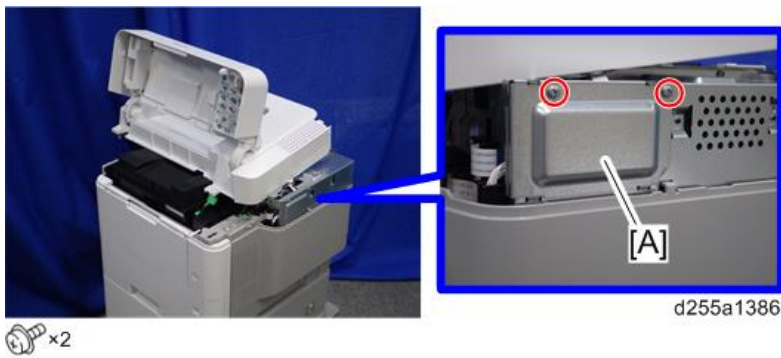
d255a1384

 x1

4. Lift the upper cover [A] by releasing the two hooks, and then put it on the mainframe so that you can access the bracket [B] on the right side of the machine.

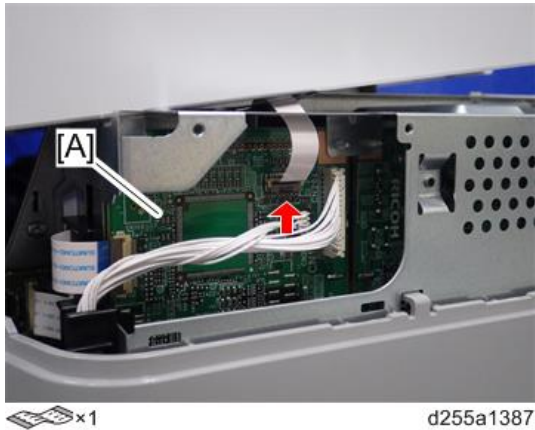


5. Remove the bracket [A].



 x2

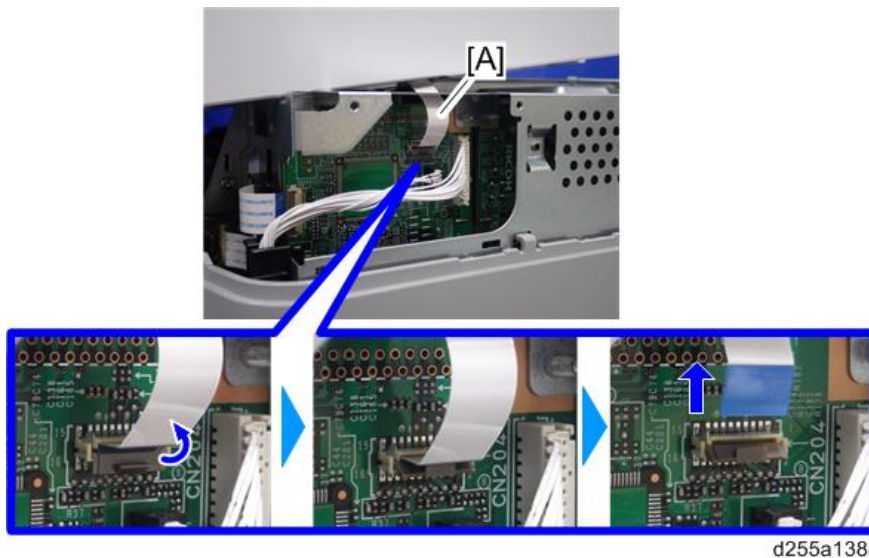
6. Disconnect the flat cable from the BiCU [A].



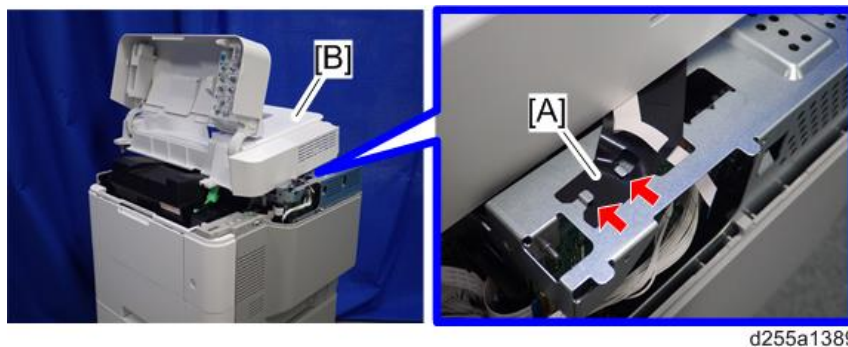
 x1

Note

- Make sure to open the flap before disconnecting the flat cable [A], as shown in the following pictures. Otherwise, the connector may be damaged.



- Remove the plastic sheet [A] from the mainframe (hook×2), and then remove the upper cover [B].

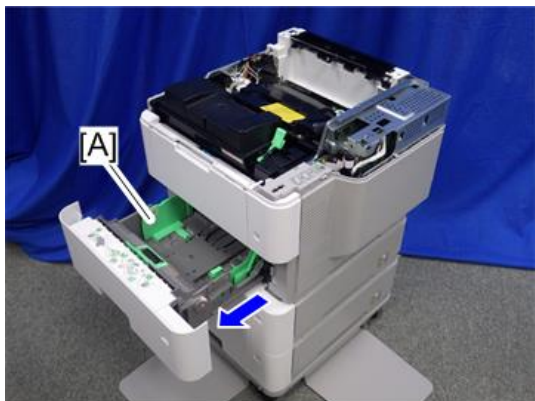


Note

- Be careful not to damage the hooks on the inside of the upper cover when you remove or install the upper cover.

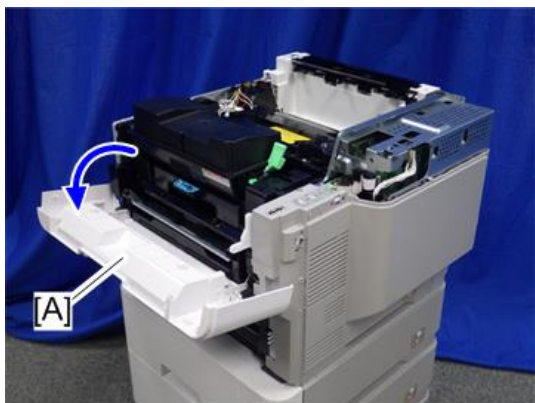


- 8. Remove the paper feed tray [A] by pulling it out.



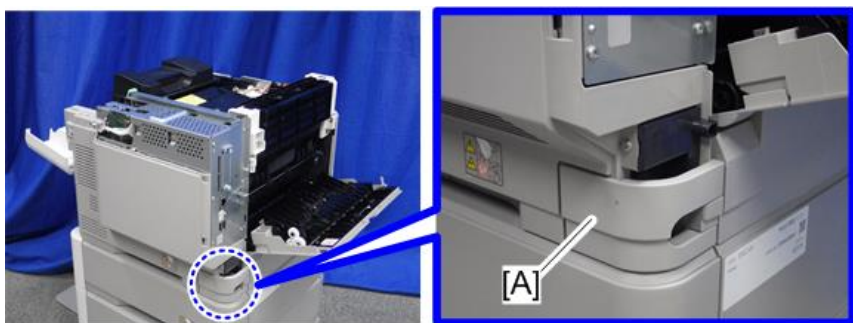
d255a1353

- 9. Open the front cover [A].



d255a1354

- 10. Remove the power connector cover [A].



d255a1355

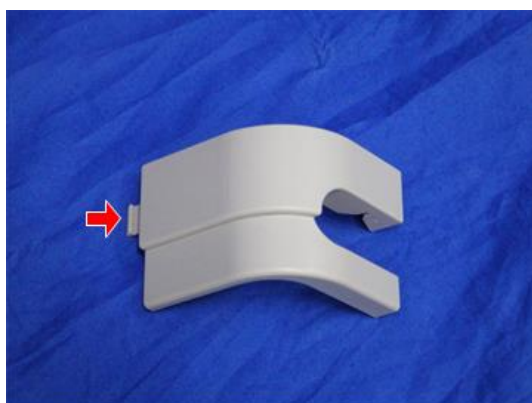
Note

- When removing the power connector cover, pull it in the direction of the arrow.



d255a1356

- Be careful not to damage the hook on the power connector cover when you remove or install the power connector cover.



d255a1078

11. Remove the five screws from the right cover [A].



d255a1357

 x5

Note

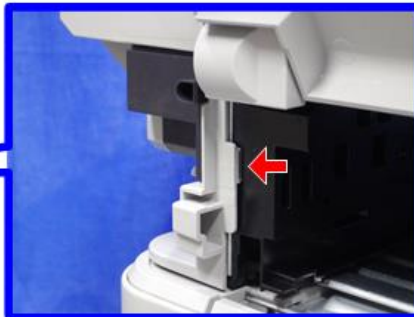
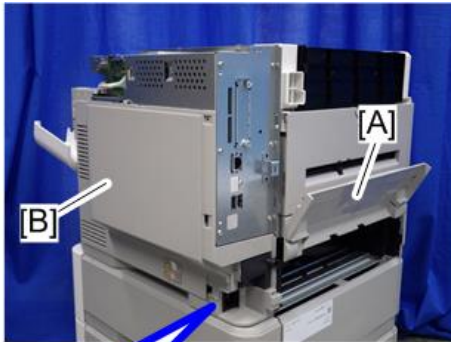
- The screw [B] is a tapping screw. The screw [C] is a long screw. Be careful not to use the wrong screws when installing the right cover.

12. Close the rear upper cover [A].



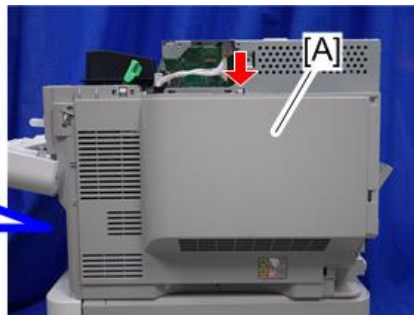
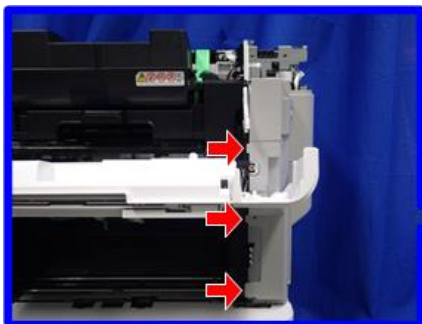
d255a1358

13. Open the rear lower cover [A], and then release the hook of the right cover [B] by rotating it in the direction of the blue arrow.



d255a1359

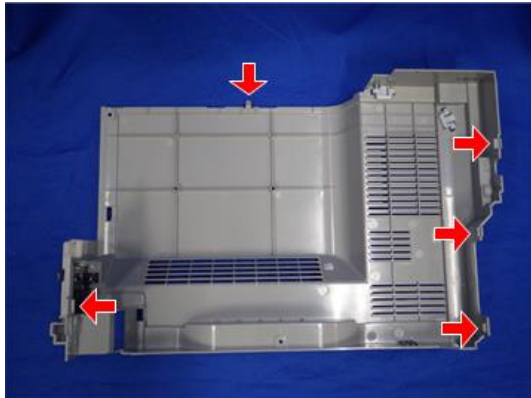
14. Release the four hooks, and then remove the right cover [A].



d255a1360

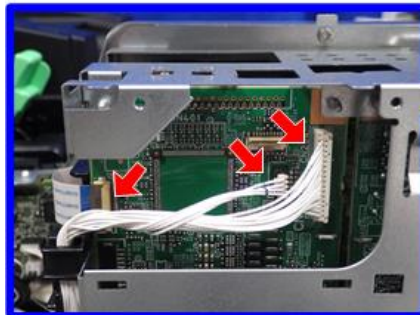
Note

- Be careful not to damage the hooks on the inside of the right cover when you remove or install the right cover.



d255a1361

15. Disconnect the flat cable and two connectors.

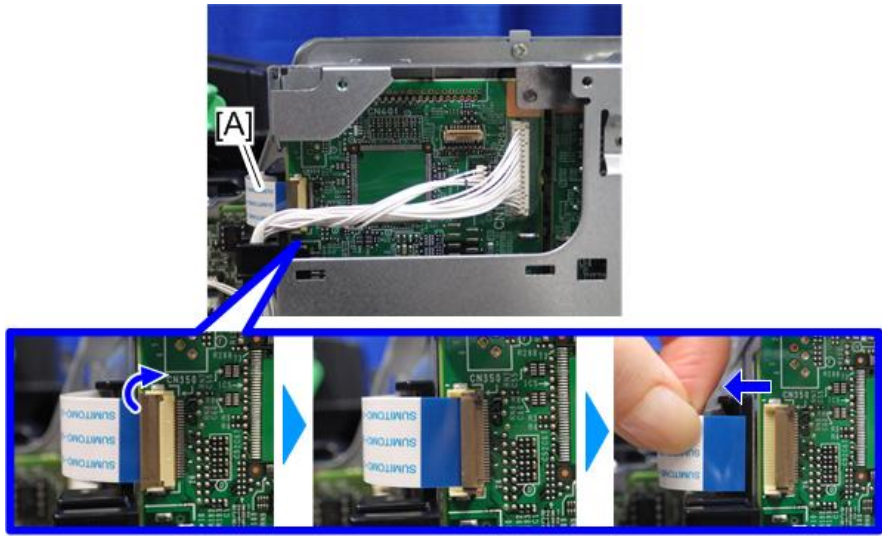


 x2,  x1

d255a1403

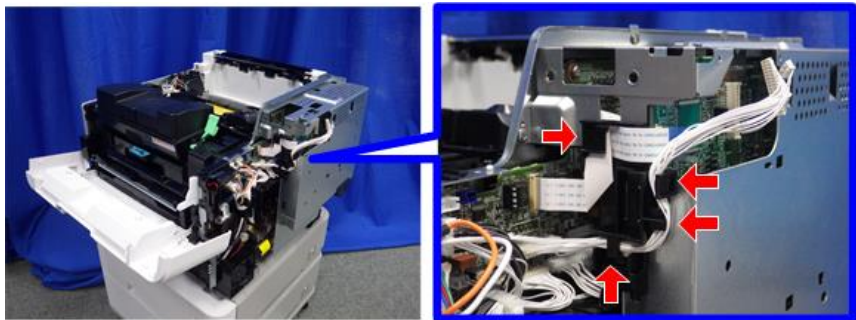
Note

- Make sure to open the flap before disconnecting the flat cable [A], as shown in the following pictures. Otherwise, the connector may be damaged.



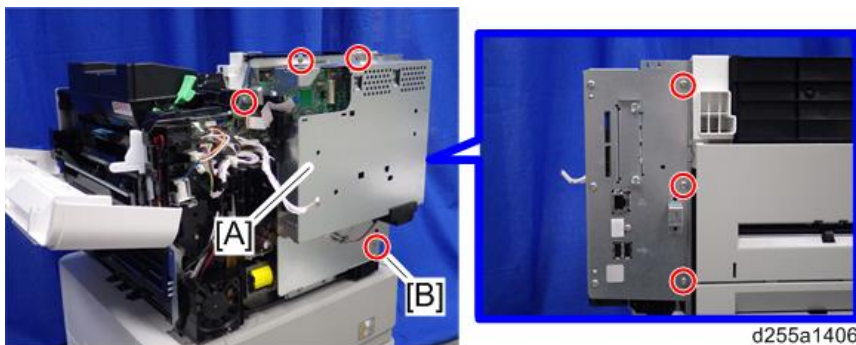
d255a1404

16. Release the flat cable and harness from the harness guides.



d255a1405

17. Remove the seven screws from the controller box [A].



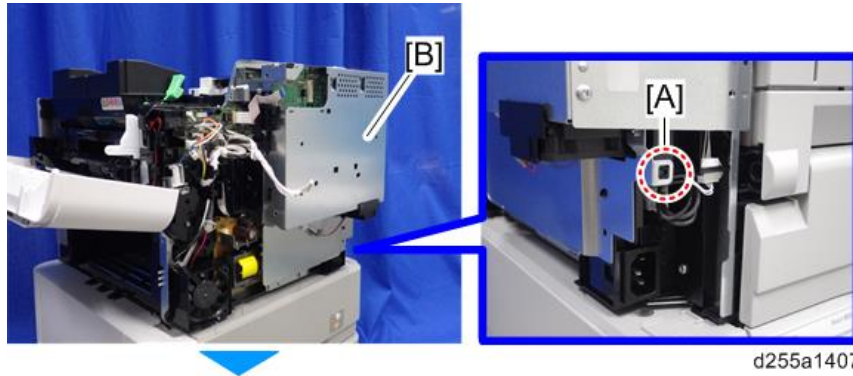
d255a1406

 x7

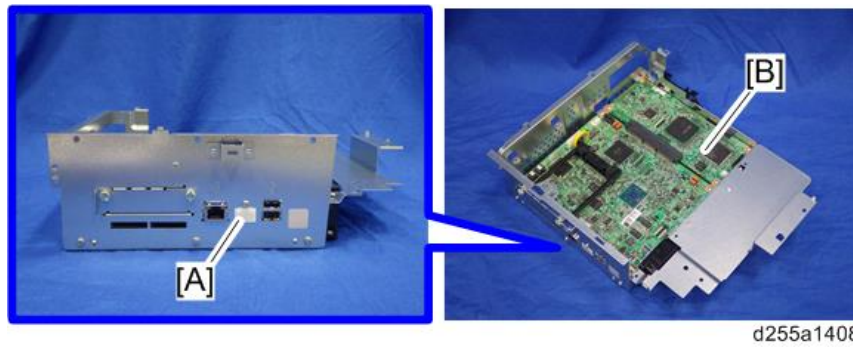
Note

- The screw [B] is a tapping screw. Be careful not to use the wrong screws when installing the controller box.

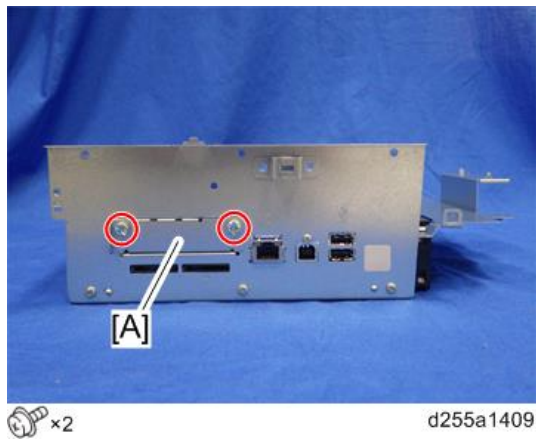
18. Release the hook [A], and then remove the controller box [B].



19. Remove the cap [A] from the controller box [B].

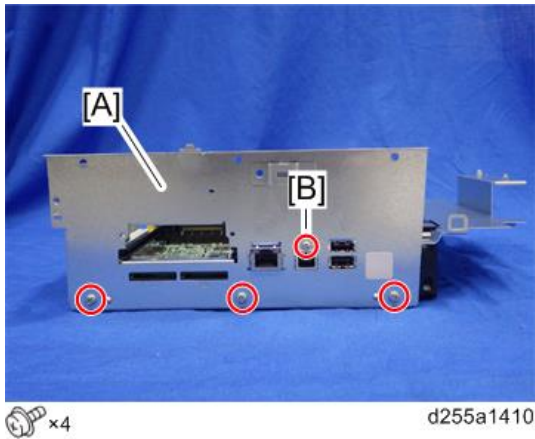


20. Remove the slot cover [A].



 ×2

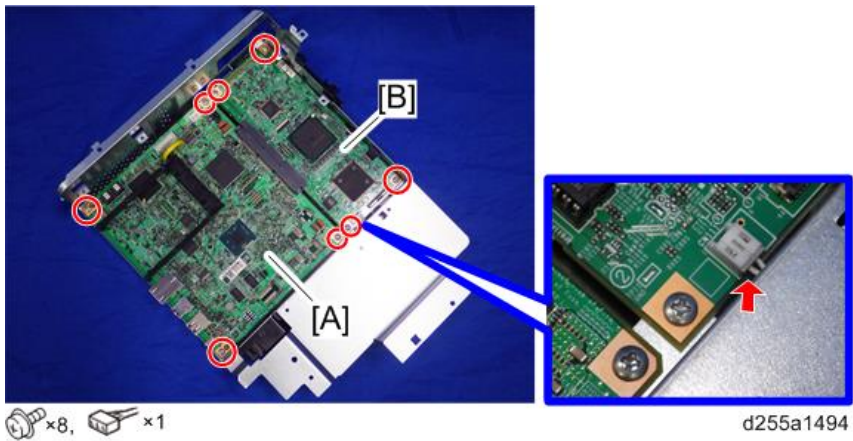
21. Remove the controller box cover [A].



Note

- The screw [B] is a small screw. Be careful not to use the wrong screw when installing the controller box cover.

22. Remove the controller board [A] with the BiCU [B].



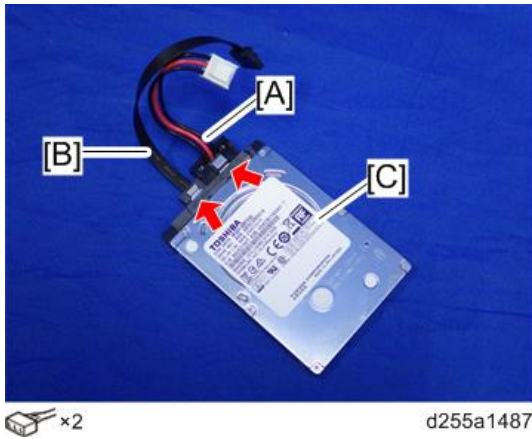
Note

- Be careful not to damage the backside of the controller board [A] and the BiCU [B].

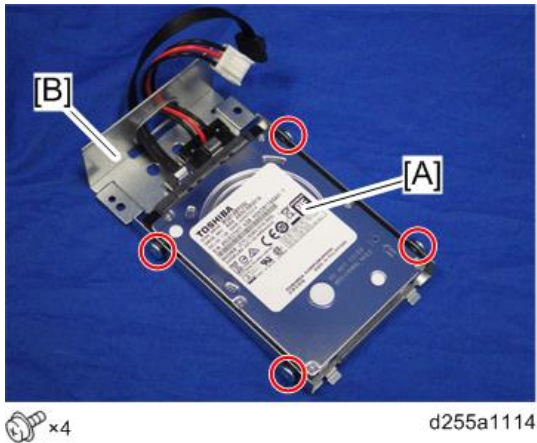
23. Remove the enhanced security HDD from its protective pack.



24. Connect the power source cable [A] and data cable [B] to the enhanced security HDD [C].

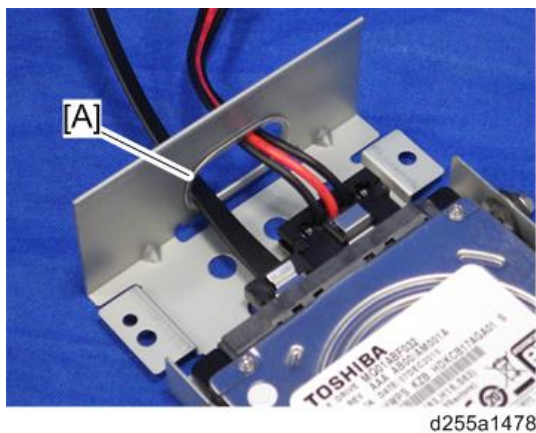


25. Install the enhanced security HDD [A] on the HDD bracket [B] with the stepped screws.

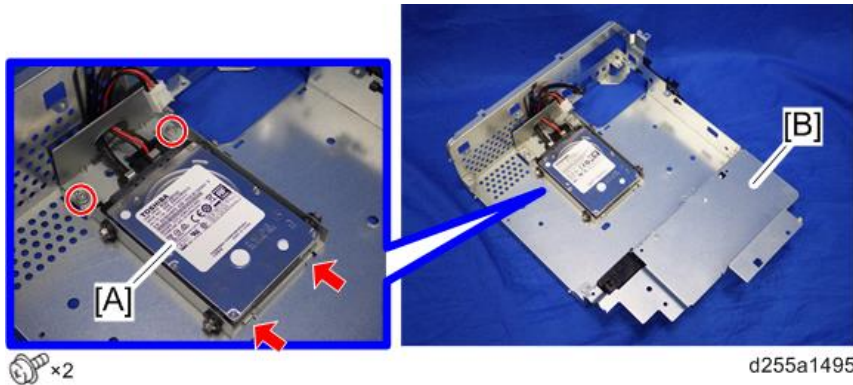


Note

- When installing the enhanced security HDD on the bracket, make sure to pass the cables through the hole [A] of the HDD bracket.



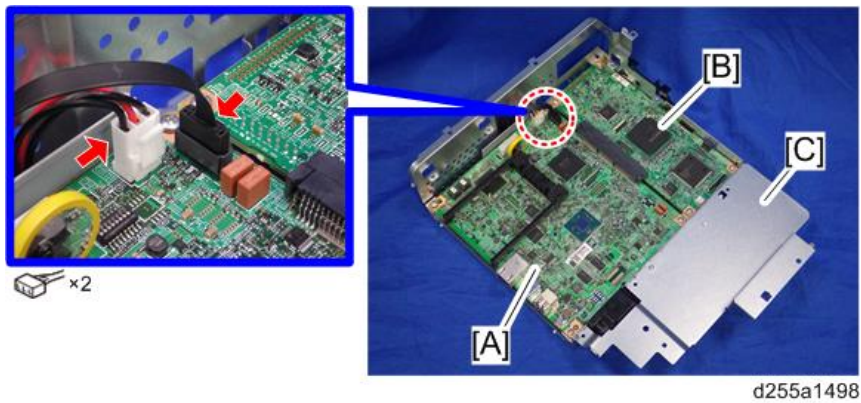
26. Install the HDD with the bracket [A] on the controller box [B] with the tapping screws.
(hookx2)



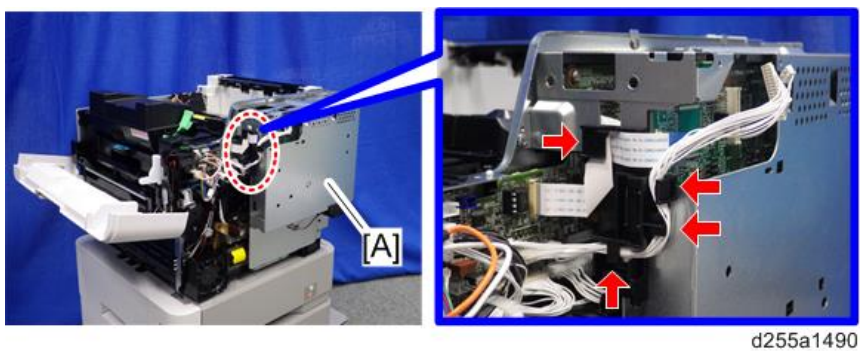
27. Reassemble the machine.

Note

- When reattaching the controller board [A] with the BiCU [B] on the controller box [C], connect the two cables of the HDD to the controller board [A].

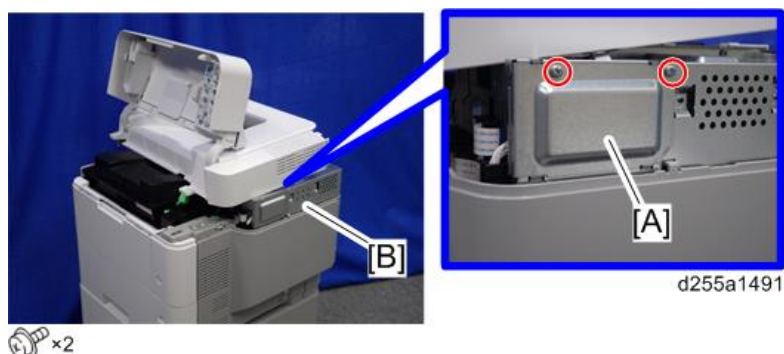


- When reattaching the controller box [A], make sure to secure the harness and flat cable to the harness guides, as shown below.



Installation

- When reattaching the bracket [A] of the controller box [B], do not interpose the harness and the flat cable between the bracket and the controller box.



After Installing the HDD

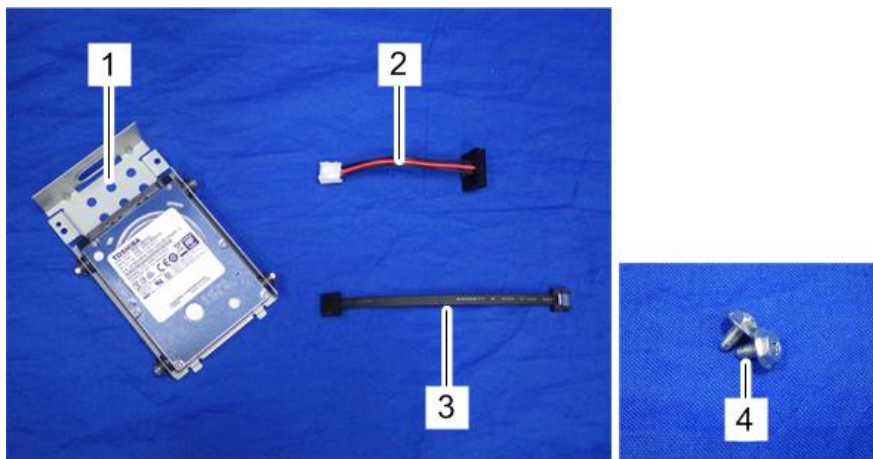
1. **Connect the power cord and turn ON the main power.**
The message "Hard Disk is replaced. Format Hard Disk." is displayed.
2. **Select [Format]. The message "Formatting Hard Disk...Please wait, also make sure the main power switch is not turned off." is displayed.**
3. **Wait for the machine to finish formatting the hard disk.**
★ 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. When the formatting is finished, the message "Hard Disk is formatted. Turn main power switch off then on" is displayed.**
4. **Turn the main power OFF/ON after the message tells you formatting is finished.**
5. **Enter the SP mode.**
6. **Execute SP5-846-041 to let the user have access to the address book.**
7. **Turn the main power OFF/ON.**

2.8 HARD DISK DRIVE OPTION TYPE P8 (M500-05) (SP 5300/5310 ONLY)

2.8.1 ACCESSORY CHECK

No.	Description	Q'ty
1	HDD	1
2	Power source cable	1
3	Data cable	1
4	Tapping screw: round point: 3×6	2

Installation



d255a1474

2.8.2 INSTALLATION PROCEDURE

⚠ CAUTION

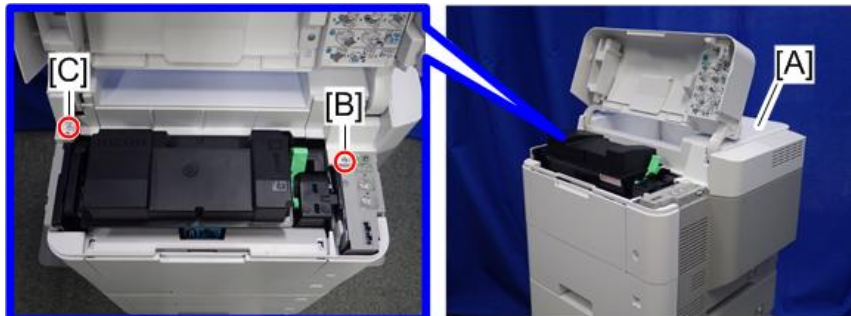
- Turn OFF the main power, and unplug the machine power cord before starting the following procedure.
- You need two or more persons to lift the main machine. The main machine is highly unstable when it is lifted by one person, and may cause injury or property damage.
- Be sure to hold the specified positions when lifting the machine.

1. Open the upper cover [A].



d255a1382

2. Remove the two screws from the upper cover [A].



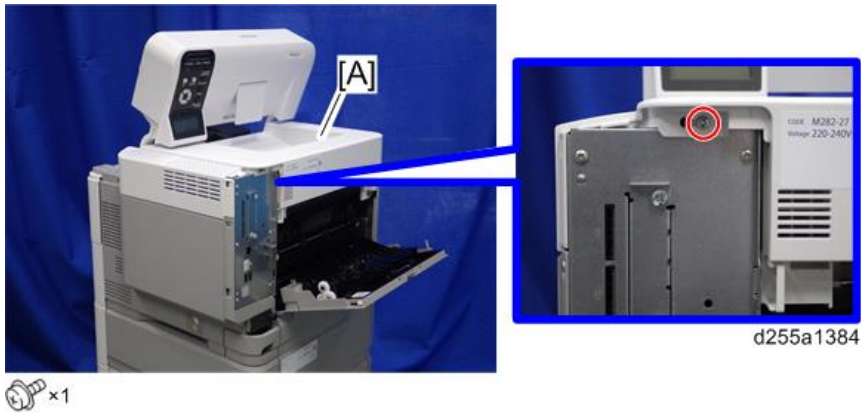
 x2

d255a1383

ⓘ Note

- The screw [B] is a sems screw. The screw [C] is a tapping screw. Be careful not use the wrong screws when installing the upper cover.

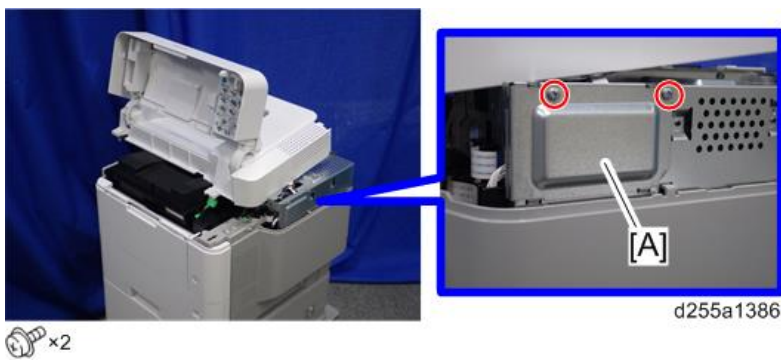
3. Remove the screw from the rear side of the upper cover [A].



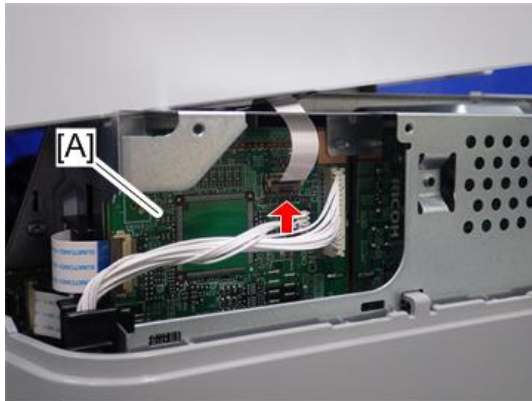
4. Lift the upper cover [A] by releasing the two hooks, and then put it on the mainframe so that you can access the bracket [B] on the right side of the machine.



5. Remove the bracket [A].



6. Disconnect the flat cable from the BiCU [A].

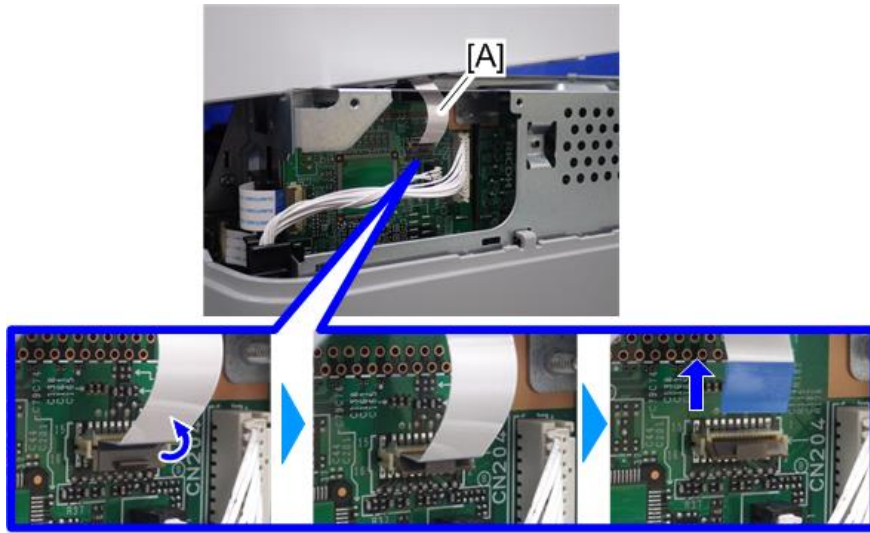


×1

d255a1387

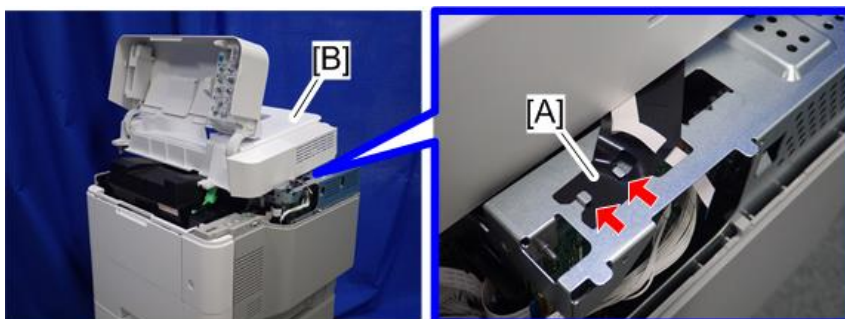
Note

- Make sure to open the flap before disconnecting the flat cable [A], as shown in the following pictures. Otherwise, the connector may be damaged.



d255a1388

7. Remove the plastic sheet [A] from the mainframe (hook×2), and then remove the upper cover [B].



d255a1389

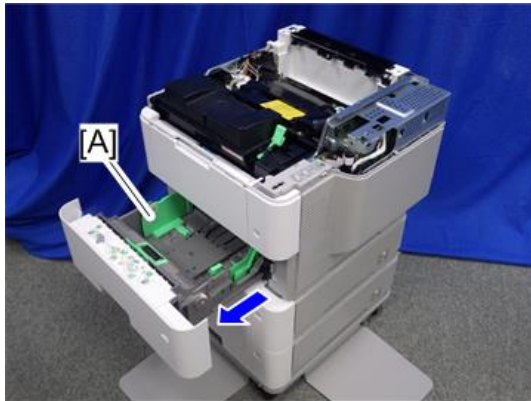
Note

- Be careful not to damage the hooks on the inside of the upper cover when you remove or install the upper cover.



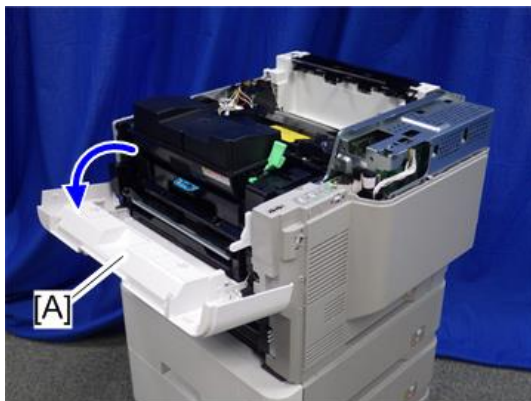
d255a1390

8. Remove the paper feed tray [A] by pulling it out.



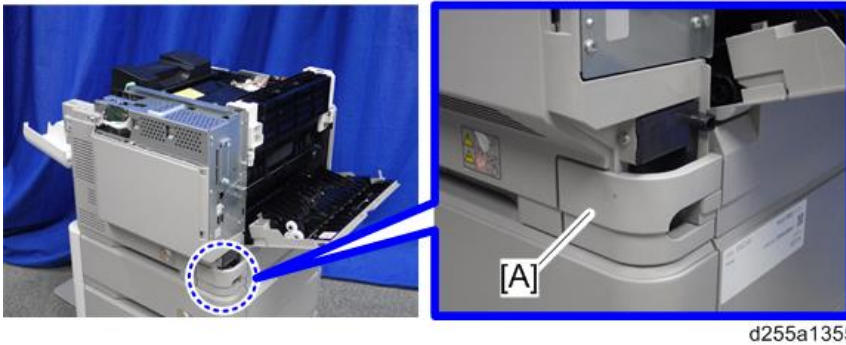
d255a1353

9. Open the front cover [A].



d255a1354

10. Remove the power connector cover [A].

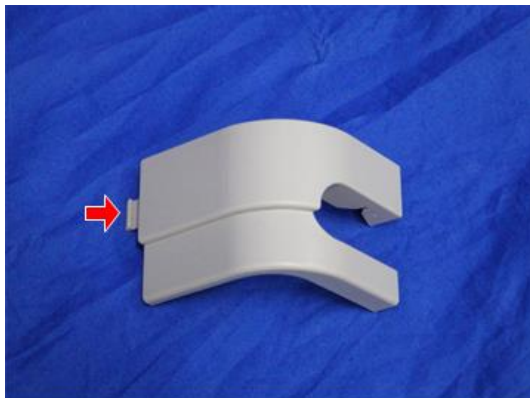


Note

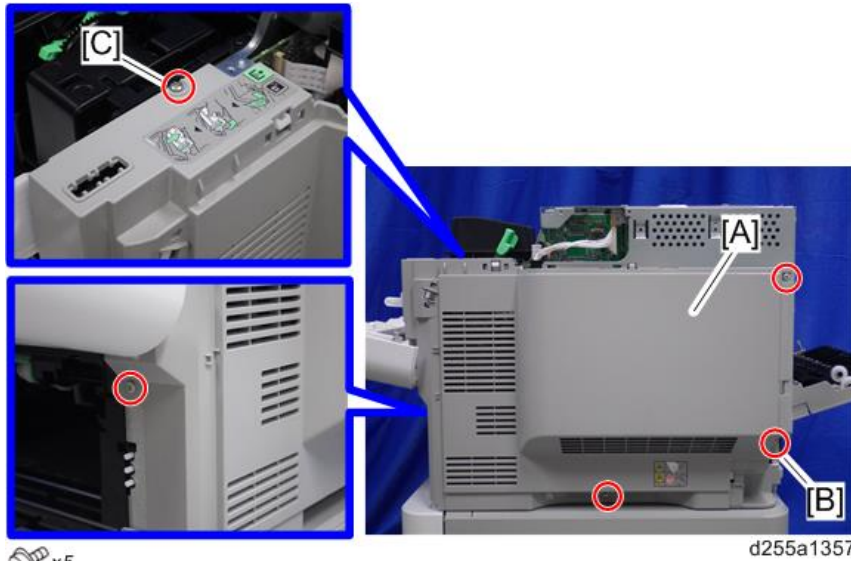
- When removing the power connector cover, pull it in the direction of the arrow.



- Be careful not to damage the hook on the power connector cover when you remove or install the power connector cover.



11. Remove the five screws from the right cover [A].



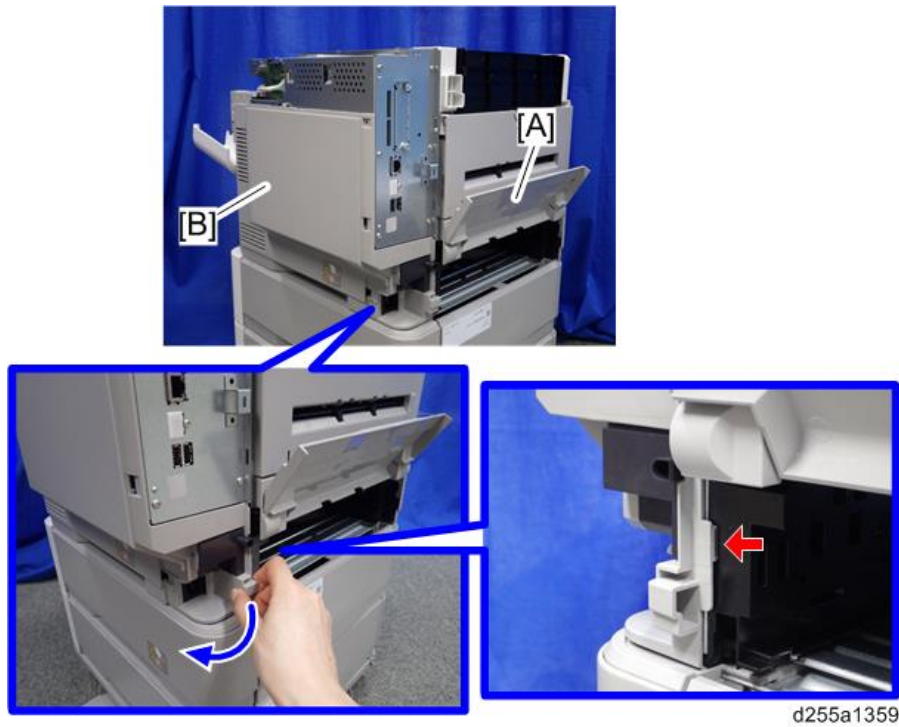
↓ Note

- The screw [B] is a tapping screw. The screw [C] is a long screw. Be careful not to use the wrong screws when installing the right cover.

12. Close the rear upper cover [A].



13. Open the rear lower cover [A], and then release the hook of the right cover [B] by rotating it in the direction of the blue arrow.

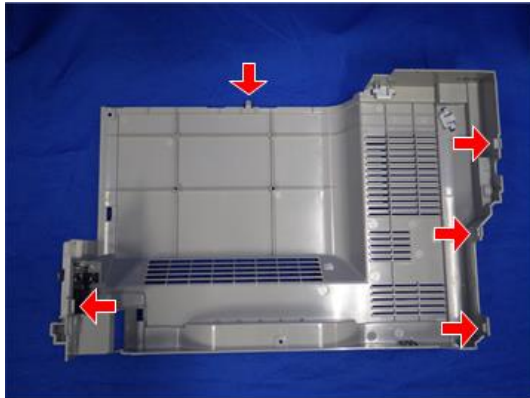


14. Release the four hooks, and then remove the right cover [A].



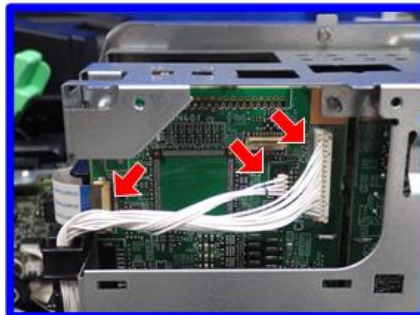
Note

- Be careful not to damage the hooks on the inside of the right cover when you remove or install the right cover.



d255a1361

15. Disconnect the flat cable and two connectors.



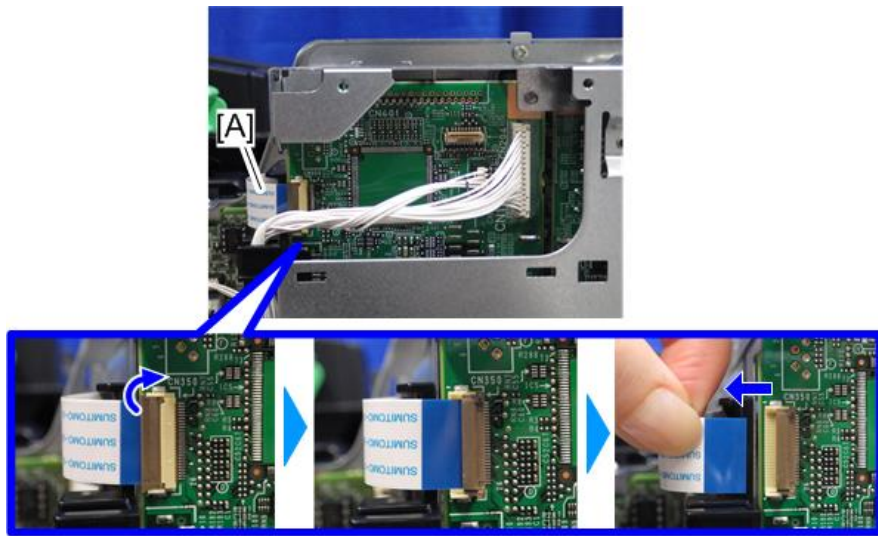
 x2,  x1



d255a1403

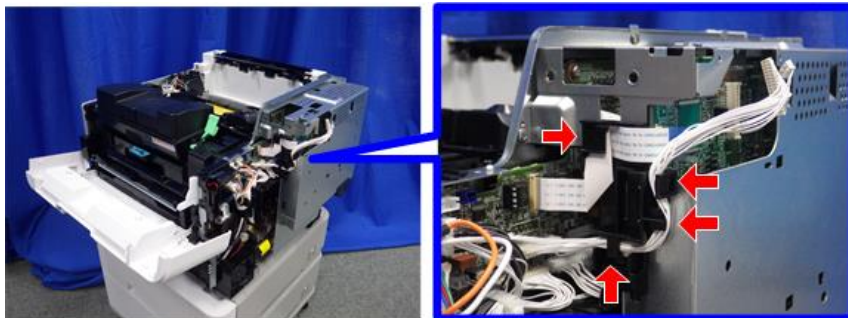
Note

- Make sure to open the flap before disconnecting the flat cable [A] as shown in the following pictures. Otherwise, the connector may be damaged.



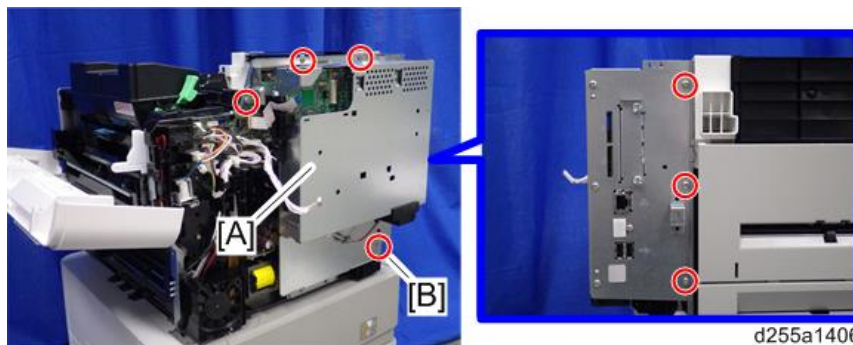
d255a1404

16. Release the flat cable and harness from the harness guides.



d255a1405

17. Remove the seven screws from the controller box [A].

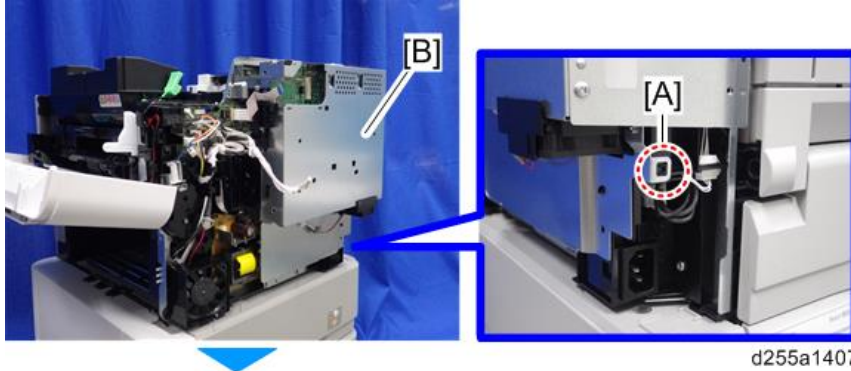


d255a1406

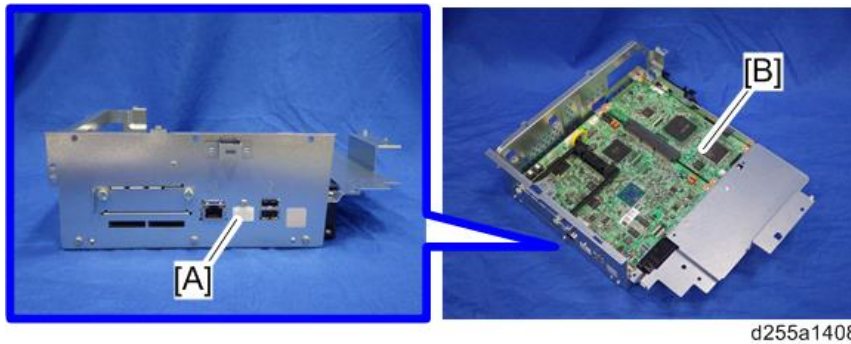
Note

- The screw [B] is a tapping screw. Be careful not to use the wrong screws when installing the controller box.

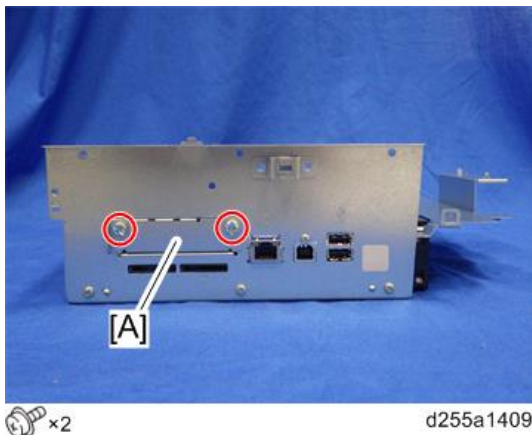
18. Release the hook [A], and then remove the controller box [B].



19. Remove the cap [A] from the controller box [B].



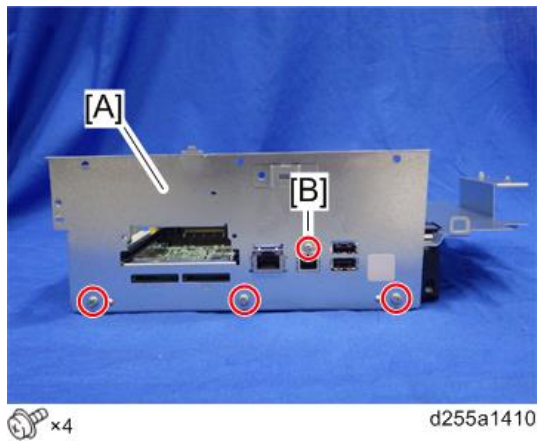
20. Remove the slot cover [A].



 ×2

Installation

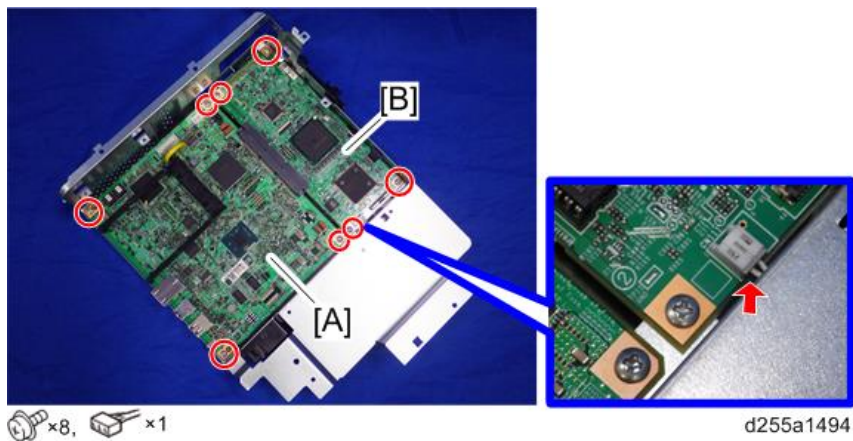
21. Remove the controller box cover [A].



Note

- The screw [B] is a small screw. Be careful not to use the wrong screw when installing the controller box cover.

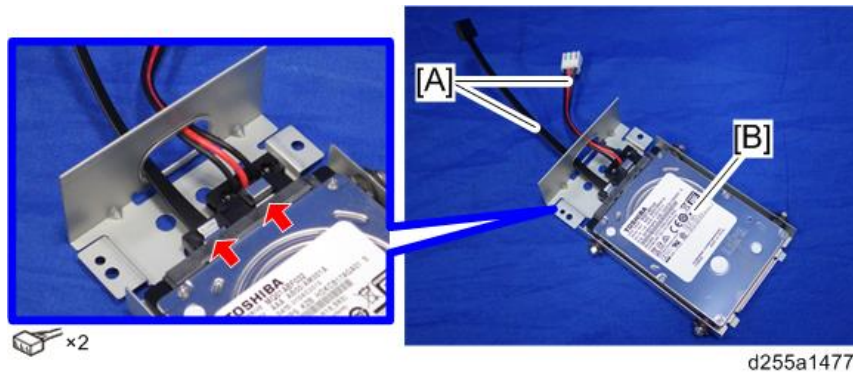
22. Remove the controller board [A] with the BiCU [B].



Note

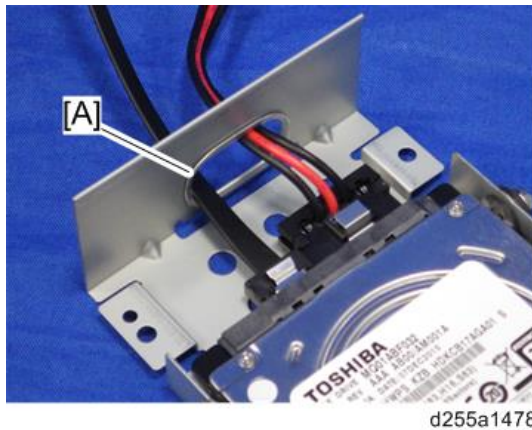
- Be careful not to damage the backside of the controller board [A] and the BiCU [B].

23. Connect the two cables [A] to the HDD [B].

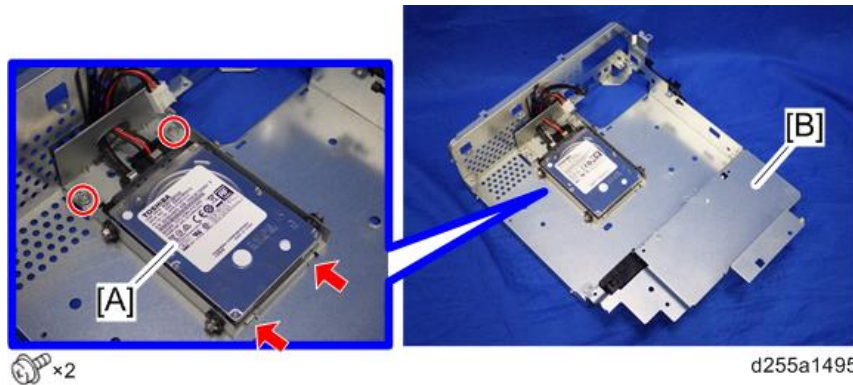


↓ Note

- Make sure to pass the cables through the hole [A] of the HDD bracket.



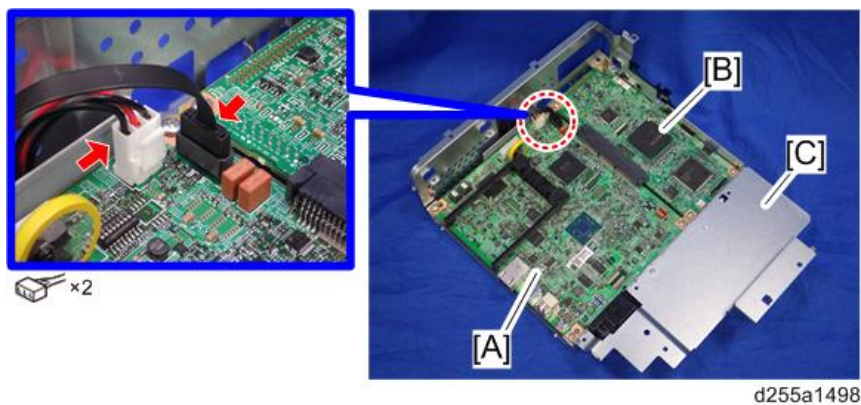
24. Install the HDD [A] on the controller box [B] with the tapping screws. (hookx2)



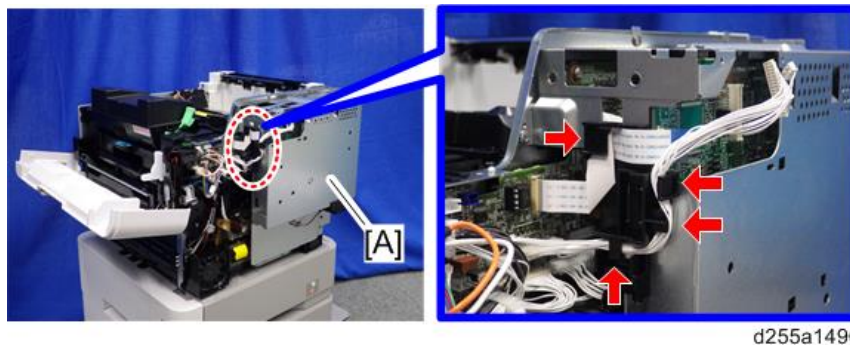
25. Reassemble the machine.

↓ Note

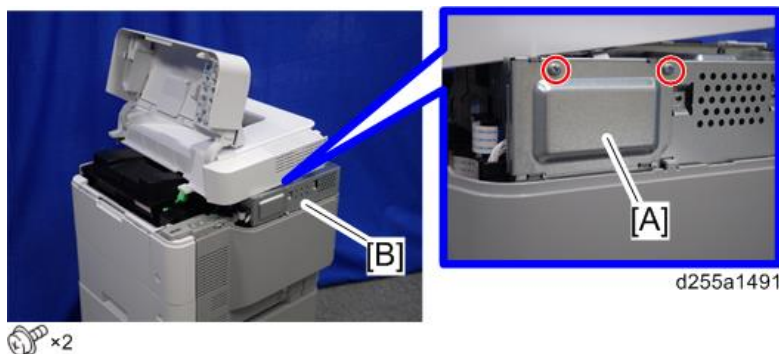
- When reattaching the controller board [A] with the BiCU [B] on the controller box [C], connect the two cables of the HDD to the controller board [A].



- When reattaching the controller box [A], make sure to secure the harness and flat cable to the harness guides, as shown below.



- When reattaching the bracket [A] of the controller box [B], do not interpose harness and flat cable between bracket and controller box.



Ⓜ ×2

After Installing the HDD

1. **Connect the power cord and turn ON the main power.**
The message "Hard Disk is replaced. Format Hard Disk." is displayed.
2. **Select [Format].** The message "Formatting Hard Disk...Please wait, also make sure the main power switch is not turned off." is displayed.
3. **Wait for the machine to finish formatting the hard disk.**

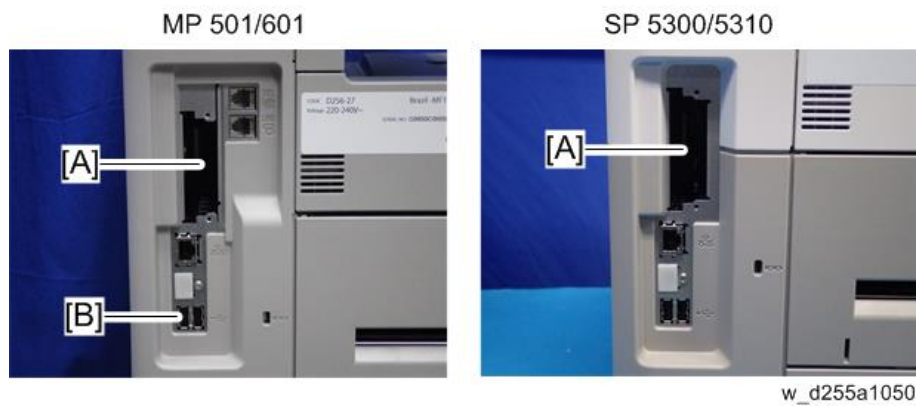
★ Important

- **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. When the formatting is finished, the message "Hard Disk is formatted. Turn main power switch off then on" is displayed.**

- ⇒ 4. **Turn the main power OFF/ON after the message tells you formatting is finished.**

2.9 INTERNAL OPTIONS

2.9.1 LIST OF SLOTS



Slot		Option
[A]	I/F slot	USB Device Server Option Type M19
		IEEE 1284 Interface Board Type M19
		IEEE 802.11 Interface Unit Type M24
		Extended USB Board Type M19
		File Format Converter Type M19 ^{*2}
[B]	USB ports ^{*1}	Bluetooth Interface Unit Type D ^{*2}

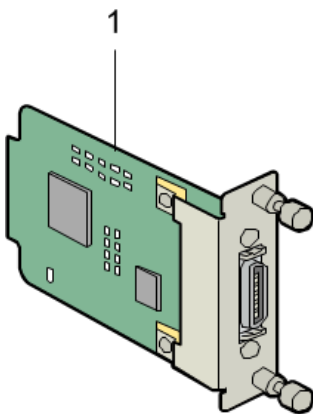
*1 There is no difference between the left and right USB ports.

*2 MP 501/601 only

2.10 IEEE 1284 INTERFACE BOARD TYPE M19 (D3C0-17)

2.10.1 ACCESSORY CHECK

No.	Description	Q'ty
1	IEEE 1284 interface board	1
-	EMC address sheet	1
-	FCC sheet	1
-	RoHS sheet	1
-	RoHS decal	1



d255a1292

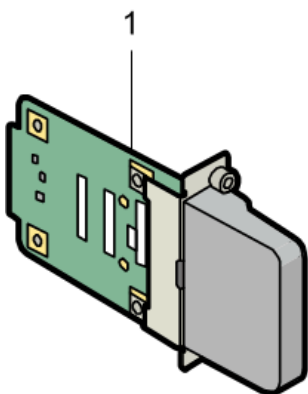
2.10.2 INSTALLATION PROCEDURE

IEEE 1284 Interface Board Type M19 is installed by the end user. For instructions on installing, please refer to the operating instructions "About This Machine" for MP 501/601, or "Operating Instructions" for SP 5300/5310.

2.11 IEEE 802.11 INTERFACE UNIT TYPE M24 (M500-08)

2.11.1 ACCESSORY CHECK

No.	Description	Q'ty
1	IEEE 802.11 interface board	1



d255a1298

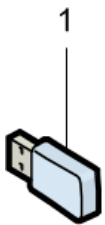
2.11.2 INSTALLATION PROCEDURE

IEEE 802.11 Interface Unit Type M24 is installed by the end user. For instructions on installing, please refer to the operating instructions "About This Machine" for MP 501/601, or "Operating Instructions" for SP 5300/5310.

2.12 BLUETOOTH INTERFACE UNIT TYPE D (D566-01) (MP 501/601 ONLY)

2.12.1 ACCESSORY CHECK

No.	Description	Q'ty
1	Bluetooth interface unit	1
-	EMC address sheet	1
-	CD-ROM	1
-	Caution sheet	1
-	Caution chart	1
-	FCC sheet	1
-	FCC DOC sheet	1



d255a1293

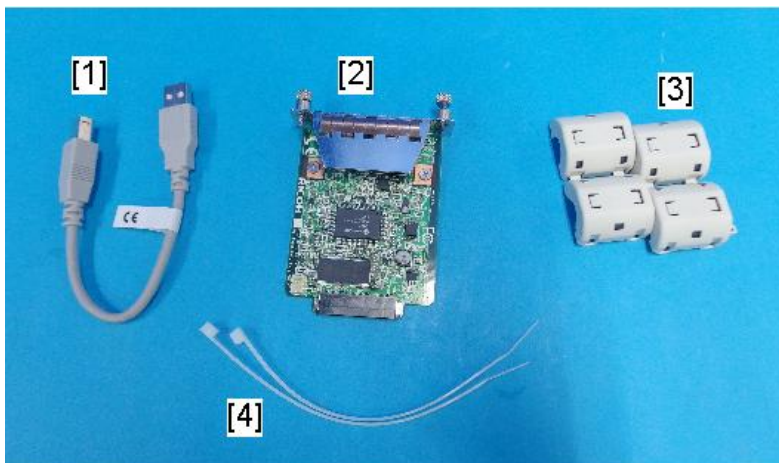
2.12.2 INSTALLATION PROCEDURE

Bluetooth Interface Unit Type D is installed by the end user. For instructions on installing, please refer to the operating instructions "About This Machine".

2.13 USB DEVICE SERVER OPTION TYPE M19 (D3BC-28, 29)

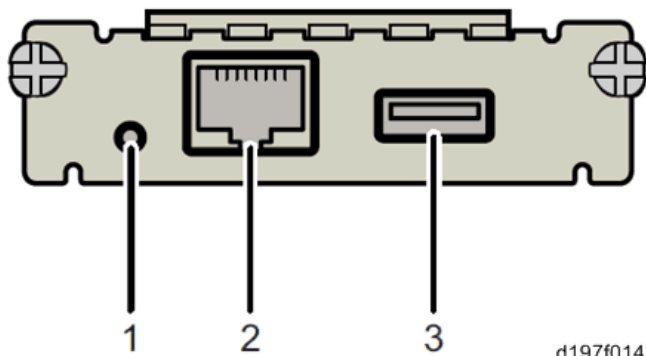
2.13.1 ACCESSORY CHECK

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



d238m0666

Interface Board



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. Do not use this port with other options.

2.13.2 INSTALLATION PROCEDURE

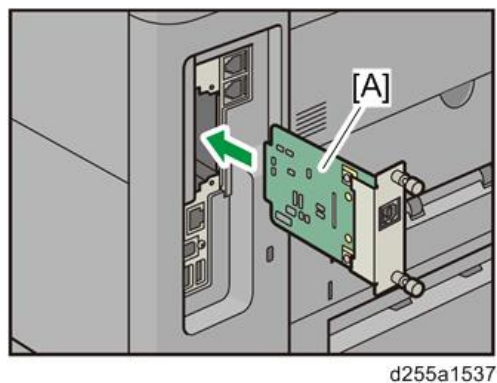
★ Important

- When you install this option to the main machine for the first time, the interface board must be connected directly to your PC to set up the IP address and other network settings.
- Turn OFF the main power, and unplug the machine power cord before starting the following procedure.

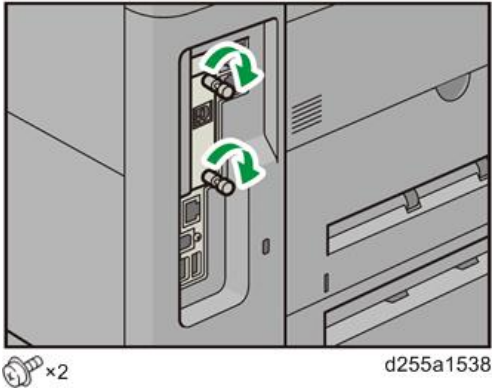
- Loosen the two screws and remove the slot cover [A] from the rear side of the machine.



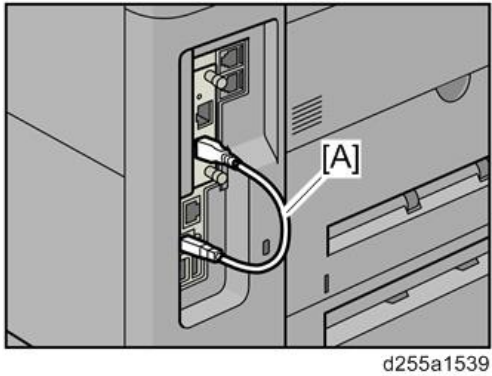
- Fully insert the interface board [A].



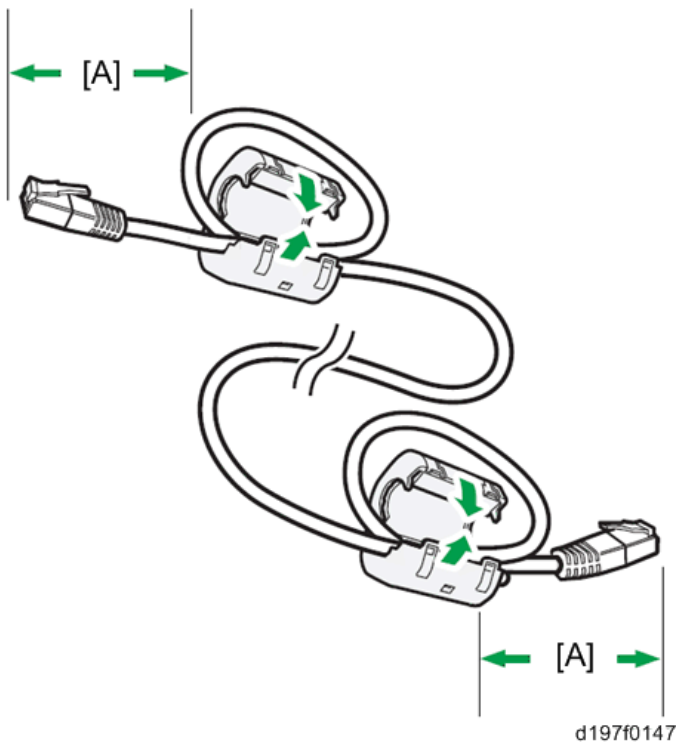
3. Tighten the two screws to secure the interface board.



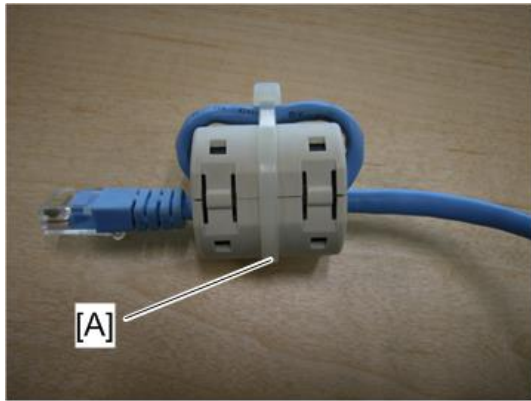
4. Using the supplied USB cable [A], connect the USB device server to the machine.



5. Mount the ferrite cores on the Ethernet cable, while looping the cable at 3 cm (approx. 1.2 inch) [A] from the each end of the cable.

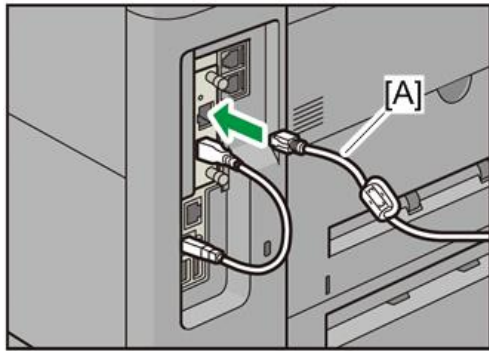


6. Only when installing this option in NA, fix each ferrite core with the cable tie [A].



m0aga0078

7. Insert the Ethernet cable [A] into the Ethernet board on this option.



d255a1540

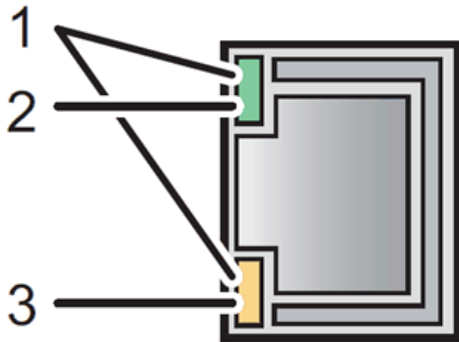
8. Insert the other end of the Ethernet cable to a PC for network setting.
9. Plug the power cord into the wall socket and turn ON the main power.

Note

- Do not unplug the USB connector while the machine is recognizing this option. It may take between 30 seconds to 1 minute to finish recognizing it (the LEDs by the connector light up when finished; see below). If unplugged, connect the cable again.

What Do the LED Indicators Mean?

When this option is properly installed and recognized by the main machine, the LED indicators light up under the following conditions.



d197f0149

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



IP Address Setting

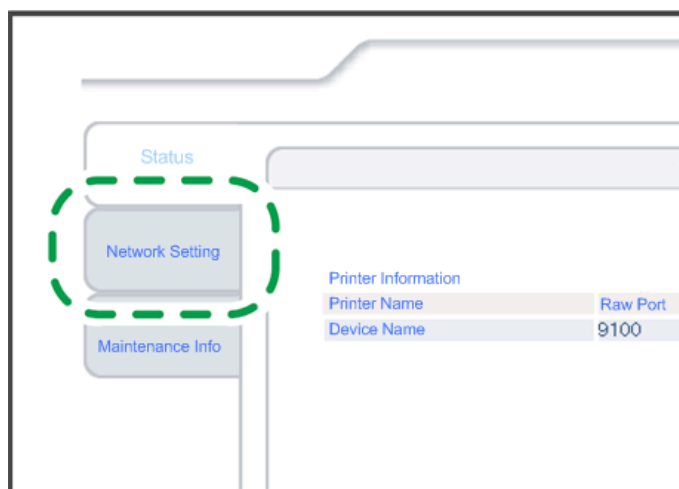
This section describes how to set an IP address on this option manually. You can set an IP address which is not only on the same network segment but also on a different network segment to share a single machine with devices in multiple networks.

★ Important

- You cannot change the IP address 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 in order to change the network setting of this option.
1. Make a note of the current network settings of your PC.
 2. Change the IP address on your PC to [192.168.100.xxx (*0 - 255)].
 3. Change the subnet mask on your PC to [255.255.255.0].
 4. Open a web browser.
 5. Type [http://192.168.100.100/] in the address bar.
 6. Press the "Enter" key.

↓ Note

- The setting screen for this option appears.
7. Click [Network Setting].



d197f0134

8. Enter "root" in the user name textbox and click [OK].
9. Input [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. Set other items if necessary.
11. Click [Set].
12. Close the web browser.
13. Disconnect the Ethernet cable from the PC.
14. Connect the Ethernet cable to a network device (for example, switching hub).
15. Set the IP address of this option in the printer driver that you are using.

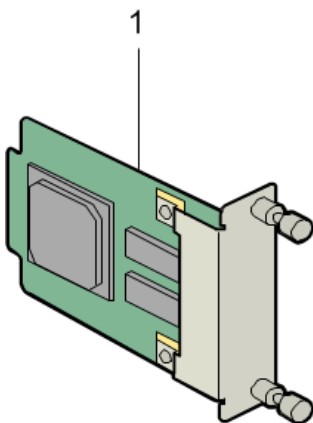
Check All Connections

1. Plug in the power cord. Turn ON the main power.
2. Print the configuration page.
 - MP 501/601
 1. Press the [User Tools] icon on the operation panel.
 2. Press [Machine Features].
 3. Press [List/Test Print] in [Printer Features].
 4. Press [Configuration Page].
 - SP 5300/5310
 1. Select [List/Test Print] -> Press [OK] on the controller panel.
 2. Select [Config. Page] -> Press [OK].

2.14 FILE FORMAT CONVERTER TYPE M19 (D3BR-04) (MP 501/601 ONLY)

2.14.1 ACCESSORY CHECK

No.	Description	Q'ty
1	File Format Converter (MLB: Media Link Board)	1
-	EMC address sheet	1
-	FCC sheet	1
-	RoHS decal	1
-	RoHS label	1



d255a1294

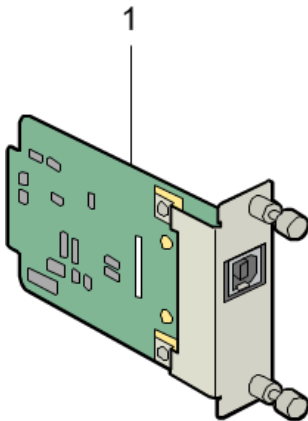
2.14.2 INSTALLATION PROCEDURE

File Format Converter Type M19 is installed by the end user. For instructions on installing, please refer to the operating instructions "About This Machine".

2.15 EXTENDED USB BOARD TYPE M19 (D3BS-01)

2.15.1 ACCESSORY CHECK

No.	Description	Q'ty
1	Extended USB board	1
-	Connector cap	1
-	EMC address sheet	1
-	FCC sheet	1
-	RoHS decal	1
-	RoHS label	1



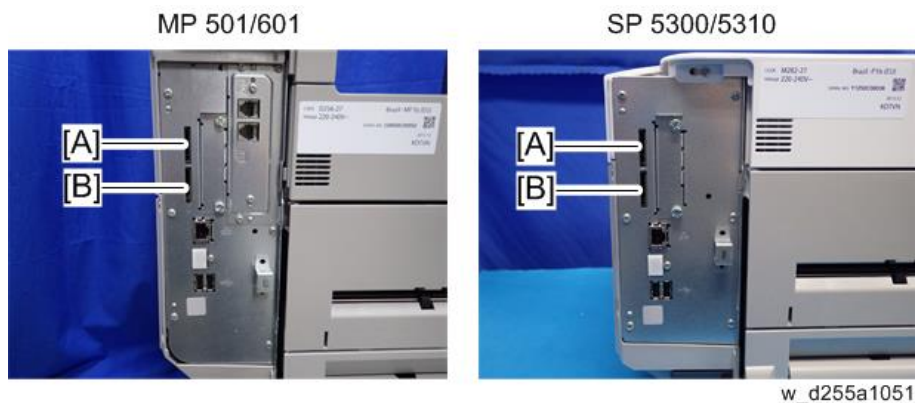
d255a1295

2.15.2 INSTALLATION PROCEDURE

Extended USB Board Type M19 is installed by the end user. For instructions on installing, please refer to the operating instructions "About This Machine" for MP 501/601, or "Operating Instructions" for SP 5300/5310.

2.16 SD CARD OPTIONS

2.16.1 SD CARD SLOTS



Slots		Description
[A]	SD Card Slot 1 (option slot)	Use for the following SD card options. <ul style="list-style-type: none"> ▪ OCR Unit Type M13^{*1} ▪ IPDS Unit Type M24 ▪ XPS Direct Print Option Type M24 ▪ VM Card Type P8^{*2} ▪ Fax Connection Unit Type M24^{*1}
[B]	SD Card Slot 2 (service slot)	Use for service only (for example, updating the firmware).

*1 MP 501/601 only

*2 SP 5300/5310 only

Note

- Optional SD cards can be set in either Slot 1 or Slot 2. However, Slot 2 is the service slot, so it is recommended that Slot 1 to be used to install the SD card options.

2.17 SD CARD APPLI MOVE

2.17.1 OVERVIEW

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

You cannot run application programs from Slot 2. However you can move application programs from Slot 2 to Slot 1 with the following procedure.

When merging SD cards, the target SD card should have the largest memory size of all the application SD cards.

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

- The necessary data for authentication is transferred with the application program from an SD card to another SD card. Authentication fails if you try to use the SD card after you copy the application program from one card to another card.
- Do not use the SD card if it has been used before for other purposes. Normal operation is not guaranteed when such an SD card is used.
- Keep the SD card in a safe place after you copy the application program from one card to another card. This is for the following reasons:
 - 1) The SD card can be the only proof that the user is licensed to use the application program.
 - 2) You may need to check the SD card and its data to solve a problem in the future.

2.17.2 SD CARD APPLI MOVE

1. Choose an SD card with enough space.
2. Enter SP5-873 "SD Card Appli Move". This SP copies the application programs from the original SD card in SD Card Slot 2 to the SD card in SD Card Slot 1. Move the application from the SD card in Slot 2 to the card in Slot 1.
3. Exit the SP mode.

2.17.3 MOVE EXEC

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

Important

- Do not turn ON the write protect switch of any application SD card. If the write protect switch is ON, a download error (e.g. Error Code 44) occurs during a firmware upgrade or application merge.

1. Turn OFF the main power.
2. Make sure that an SD card is in SD Card Slot 1. The application program is copied to this SD card.
3. Insert the SD card (having stored the application program) in SD Card Slot 2. The application program is copied from this SD card.
4. Turn ON the main power.
5. Enter the SP mode.
6. Select SP5-873-001 "Move Exec".
7. Follow the messages shown on the operation panel.
8. Turn OFF the main power.
9. Remove the SD card from SD Card Slot 2.
10. Turn ON the main power.
11. Check that the application programs run normally.

2.17.4 UNDO EXEC

The menu "Undo Exec" (SP5-873-002) lets you copy back application programs from an SD card to the original SD card. You can use this program when, for example, you have mistakenly copied some programs by using Move Exec (SP5-873-001).

Important

- Do not turn ON the write protect switch of any application SD card. If the write protect switch is ON, a download error (e.g. Error Code 44) occurs during a firmware upgrade or application merge.

1. Turn OFF the main power.
2. Insert the original SD card in SD Card Slot 2. The application program is copied back into this card.
3. Insert the SD card (having stored the application program) in SD Card Slot 1. The application program is copied back from this SD card.
4. Turn ON the main power.
5. Enter the SP mode.
6. Select SP5-873-002 "Undo Exec".
7. Follow the messages shown on the operation panel.

8. Turn OFF the main power.
9. Remove the SD card from SD card slot 2.

 Note

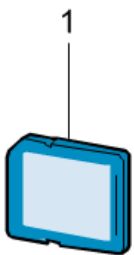
- This step assumes that the application programs in the SD card are used by the machine.

10. Turn ON the main power.
11. Check that the application programs run normally.

2.18 OCR UNIT TYPE M13 (D3AC-23, 24, 25) (MP 501/601 ONLY)

2.18.1 ACCESSORY CHECK

No.	Description	Q'ty
1	OCR unit SD card	1
-	Caution sheet (EU only)	1
-	RoHS sheet (AP/CHN only)	1
-	RoHS decal (AP/CHN only)	1



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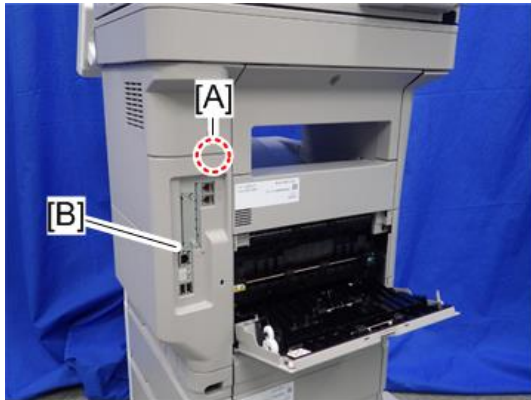
2.18.2 INSTALLATION PROCEDURE

1. Turn OFF the main power.
2. Open the rear upper cover [A].



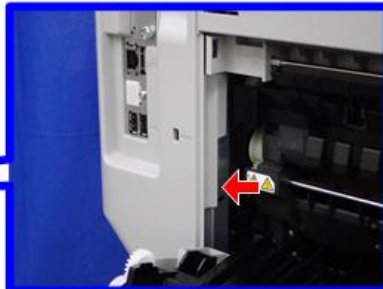
d255a1030

3. Insert a flathead screwdriver into [A] to release the hook on the inside of the controller cover [B].



d255a1080

4. Release the hook by opening the right side of the cover, and then remove the cover [A] by rotating it in the direction of the blue arrow.



d255a1032

Note

- Be careful not to damage the hooks on the inside of the controller cover when you remove or install the controller cover.



d255a1033

5. Insert the OCR Unit Type M13 SD card in SD Card Slot 1 [A] (upper slot).



d255a1469

6. Turn ON the main power.
7. Press [Enter] in SP5-878-004 (Option Setup: OCR Dictionary).
The SD card ID is saved in the NVRAM, and the ID of the MFP is saved on the SD card. The MFP and SD card are thereby linked.
8. When "operation complete" is displayed, press [Close].

Note

- If installation fails, "Failed" is displayed.
- If installation fails, perform the following steps.
 1. Check whether it is a used SD card.
 2. Turn OFF the main power, and repeat steps 1-5.

9. Turn OFF/ON the main power.
10. Press [Enter] in SP5-878-004 (Option Setup: OCR Dictionary).
Dictionary data is copied to the HDD.

Note

- On the first run, SP5-878-004 links the SD card, and on the second run, copies dictionary data.

11. Turn OFF the main power, and remove the SD card from the SD card slot.

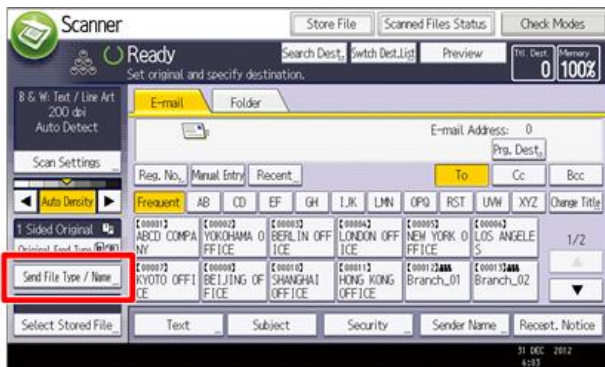
Note

- Keep the SD card in a safe place. The original SD card is needed in the event of a HDD malfunction.

12. Reattach the controller cover.

13. Turn ON the main power.

14. Press [Send File Type / Name] on the scanner screen.



w_d1351739

15. Check if [OCR Settings] is displayed on the Send File Type / Name screen.



w_d1351740

Note

- After installation, the OCR setting can be changed on the "OCR setting" screen.
- When setting OCR, set [OCR setting] to [Yes]. (Default setting: [No])

2.18.3 RECOVERY PROCEDURE

When this option is installed, a function is saved on the HDD, and ID information on the SD card is saved in the NVRAM. Therefore, when replacing the HDD and/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 uploading or downloading the NVRAM data, reinstall using the original SD card.
When not uploading or downloading the 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).

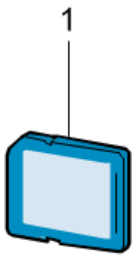
Note

- Perform reinstallation in the same way as installation.

2.19 XPS DIRECT PRINT OPTION TYPE M24 (D3CP-12)

2.19.1 ACCESSORY CHECK

No.	Description	Q'ty
1	XPS Direct Print SD card	1
-	EMC address sheet	1
-	RoHS sheet	1
-	RoHS decal	1



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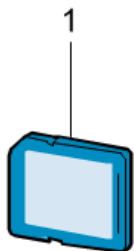
2.19.2 INSTALLATION PROCEDURE

XPS Direct Print Option Type M24 is installed by the end user. For instructions on installing, please refer to the operating instructions "About This Machine".

2.20 IPDS UNIT TYPE M24 (M500-02, 03, 04)

2.20.1 ACCESSORY CHECK

No.	Description	Q'ty
1	IPDS Emulation SD card	1
-	Decal	1
-	EULA sheet (NA only)	1
-	Caution sheet	1
-	CD-ROM	1
-	RoHS sheet (AP/CHN only)	1
-	RoHS decal (AP/CHN only)	1



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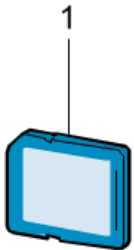
2.20.2 INSTALLATION PROCEDURE

IPDS Unit Type M24 is installed by the end user. For instructions on installing, please refer to the operating instructions "About This Machine" for MP 501/601, or "Operating Instructions" for SP 5300/5310.

2.21 VM CARD TYPE P8 (M500-09, 10, 11) (SP 5300/5310 ONLY)

2.21.1 ACCESSORY CHECK

No.	Description	Q'ty
1	VM SD card	1
-	Caution sheet (EU only)	1



d255a1297

2.21.2 INSTALLATION PROCEDURE

VM CARD Type P8 is installed by the end user. For instructions on installing, please refer to the operating instructions "Operating Instructions".

2.22 DATAOVERWRITESECURITY UNIT TYPE M19 (D3BS-03) (MP 501/601 ONLY)

2.22.1 OVERVIEW

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 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).

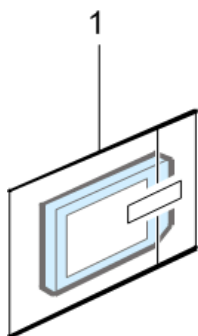
The function of this option is exactly the same as the Data Overwrite Security in Security Functions, which is standard on this machine. (page 2-141 "Data Overwrite Security (MP 501/601)")

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

2.22.2 ACCESSORY CHECK

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

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



d1351921

2.22.3 BEFORE YOU BEGIN THE PROCEDURE

1. Confirm that the DataOverwriteSecurity unit SD card is the correct type for the machine. The correct type for this machine is "Type M19".

★ Important

- If you install any version other than "**Type M19**" for this machine, you will have to replace the NVRAM and do this installation procedure again.

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

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

If any of these settings are at their factory default values, tell the customer that 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 that 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]

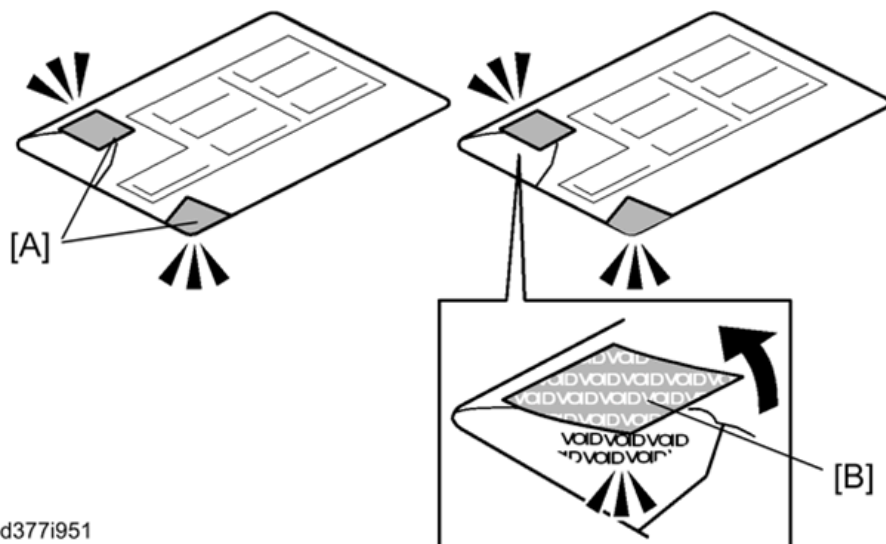
If this setting is disabled (not selected), tell the customer that this setting must be enabled (selected) before you do the installation procedure.

↓ Note

- See the operating instructions "Security Guide" for the factory default values.

Seal Check and Removal

Before opening the box, make sure that the seal has not been broken or peeled off. If the seal has been broken or peeled off (even partially), this is considered an arrival defect. Note that once the seal is peeled off, this will leave a mark on the bag.



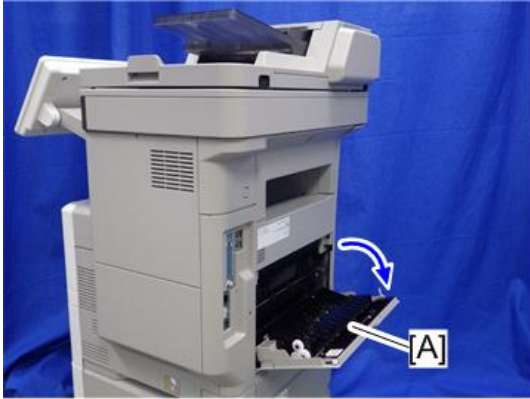
d377i951

★ Important

- You must check the box seals to make sure that they were not removed after the items were sealed in the box at the factory before you do the installation.
1. Check the box seals [A] on each corner of the box.
 - Make sure that a tape is attached to each corner.
 - The surfaces of the tapes must be blank. If you see "VOID" on the tapes, do not install the components in the box.
 2. If the surfaces of the tapes 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.

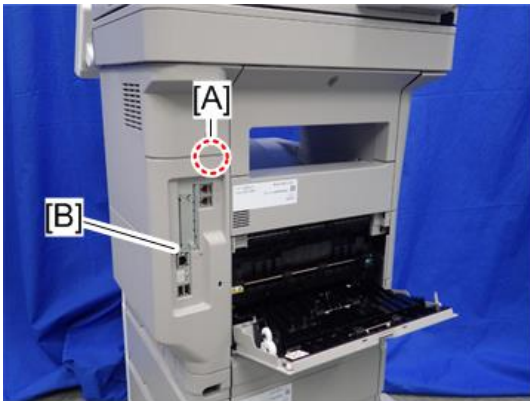
2.22.4 INSTALLATION PROCEDURE

1. Turn OFF the main power, and then remove the power plug and cables that are connected.
2. Open the rear upper cover [A].



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3. Insert a flathead screwdriver into [A] to release the hook on the inside of the controller cover [B].



d255a1080

4. Release the hook by opening the right side of the cover, and then remove the cover [A] by rotating it in the direction of the blue arrow.



d255a1032

Note

- Be careful not to damage the hooks on the inside of the controller cover when you remove or install the controller cover.



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5. Insert the DataOverwriteSecurity Unit Type M19 SD card in SD Card Slot 1 [A] (upper slot).



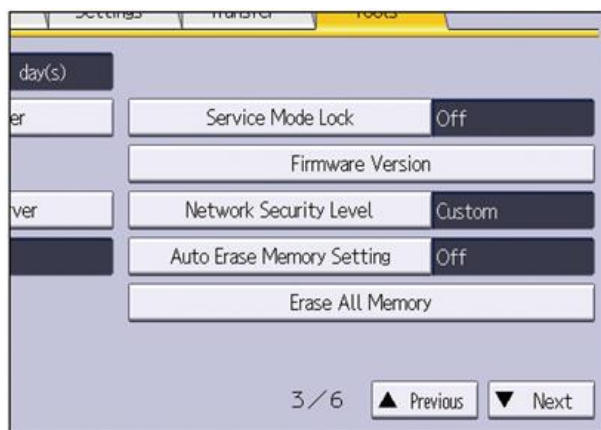
d255a1469

6. Reattach the controller cover.
7. Insert the power cord into the outlet and turn ON the main power.
 - ⓘ Note
 - When installing more than one SD card, perform the merge operation.
8. Enter the SP mode.
9. 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 customer wishes to replace the hard disk with a new one, execute SP5-801-014 only.
- ★ Important
 - 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.
10. Set SP5-836-001 (Capture Function (0:Off 1:On)) to a value of 0 (Disable).
11. Execute SP5-878-001 (Option Setup: Data Overwrite Security).

If the installation fails, "Installation failed" is displayed when this SP is executed.
12. Print out the System Settings List and make sure that the option was installed successfully.
13. Reconnect the network cable.
14. Execute SP5-990-005 (SP print mode Diagnostic Report).
15. 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"

2.2.2.5 CONFIGURING "AUTO ERASE MEMORY" (PERFORMED BY THE CUSTOMER)

1. Press the [User Tools] icon.
2. Press [Machine Features].
3. Press [System Settings].
4. Press [Administrator Tools].
5. Press [Next] twice.
6. Press [Auto Erase Memory Setting].

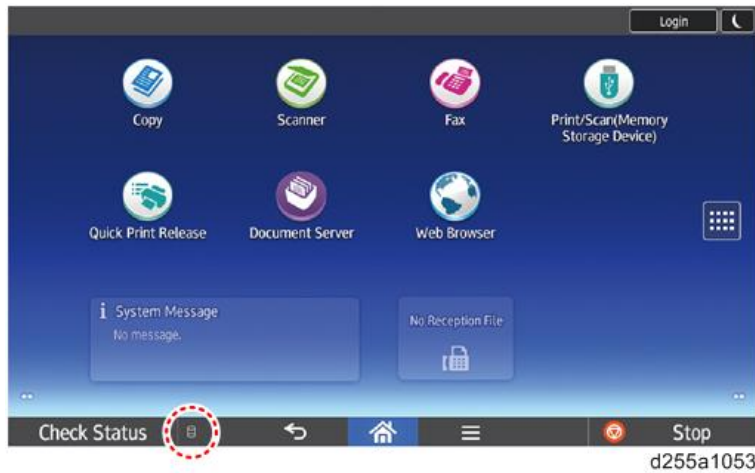


d255a1052

7. Press [On].
8. Select the method of overwriting.
If you select [NSA] or [DoD], proceed to Step 11.
If you select [Random Numbers], proceed to Step 9.
9. Press [Change].
10. Enter the number of times that you want to overwrite using the ten keys, and then press [#].
The Random Numbers method overwrites the data using random numbers. You can set the overwrite to be performed anywhere from 1-9 times, with a default of 3 times.
11. Press [OK].
12. Log out.



13. Check the display and make sure that the Data Overwrite icon appears.

When Auto Erase Memory is enabled, the Data Overwrite icon will be indicated in the bottom left of the panel display.

**14. Take a test copy, and then make sure that the Data Overwrite icon changes from "Dirty" (solid) to "Dirty" (blinking), and then to "Clear".**

- If the Data Overwrite icon does not change to Clear, check to see if there are any active Sample Print or Locked Print jobs. A Sample Print or Locked Print job can only be overwritten after it has been executed.
- The Dirty icon blinks while the overwrite is in progress.
- If you use your machine for a while with Auto Erase Memory disabled, and then suddenly enable it, the overwrite process may take 10 or more hours depending on HDD usage.

Data Overwrite icon:

Icon	Icon name	Explanation
	Dirty	This icon is displayed when there is temporary data to be overwritten, and flashes during overwriting.
	Clear	This icon is displayed when there is no temporary data to be overwritten.

2.23 SECURITY SETTING

2.23.1 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 the following on the operation panel.

- MP 501/601: [User Tools] -> [Machine Features] -> [System Settings] -> [Administrator Tools] -> [Machine Data Encryption Settings] -> [Encrypt] -> [All Data]
- SP 5300/5310: [Security Options] -> [Machine Data Encryption] -> [Encrypt] -> [Carry Over All Data]

Note

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

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 the following on the operation panel.

- MP 501/601: [User Tools] -> [Machine Features] -> [System Settings] -> [Administrator Tools] -> [Machine Data Encryption Settings] -> [Encrypt] -> [All Data]
- SP 5300/5310: [Security Options] -> [Machine Data Encryption] -> [Encrypt] -> [Carry Over All Data]

Important

- **Selecting the setting above 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 HDD, or if the encryption key is changed, this process can take up to 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.

Print the encryption key and keep the encryption key (paper sheet) in a safe place. If the encryption key is lost when you need it, the controller board, HDD and NVRAM must all be replaced at the same time.

 **Note**

- "NVRAM" mentioned here means the NVRAM on the controller board. It has no relation to the "NVRAM" or EEPROM on the BiCU.

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

2.23.2 DATA OVERWRITE SECURITY (MP 501/601)

Before You Begin the Procedure

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

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

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

2. 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 that this setting must be on before you do the installation procedure.

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

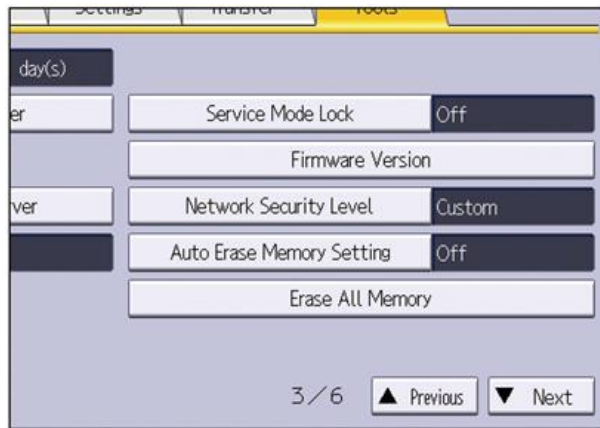
[User Tools] -> [Machine Features] -> [System Settings] -> [Administrator Tools] -> [Administrator Authentication Management] -> [Available Settings]

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

Using Auto Erase Memory

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

1. **Log in as the machine administrator from the control panel.**
2. **Press [System Settings].**
3. **Press [Administrator Tools].**
4. **Press [Next] three times.**
5. **Press [Auto Erase Memory Setting].**

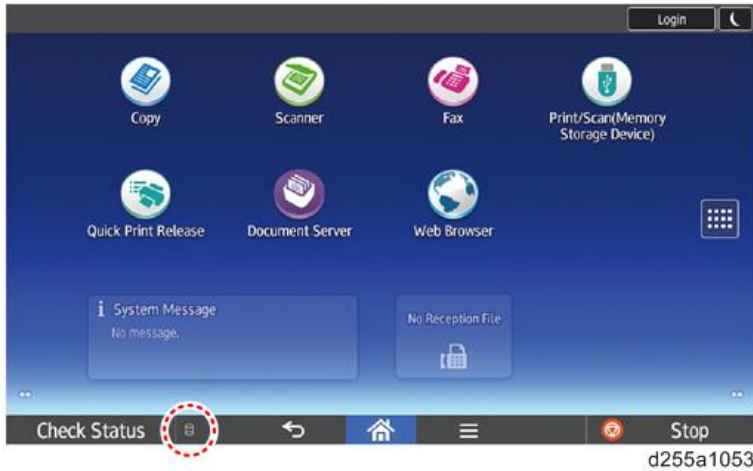


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6. **Press [On].**
7. **Select the method of overwriting.**
If you select [NSA] or [DoD], proceed to step 10.
If you select [Random Numbers], proceed to step 8.
8. **Press [Change].**
9. **Enter the number of times that you want to overwrite using the number keys, and then press [#].**
10. **Press [OK].**
Auto Erase Memory is set.
11. **Log out.**

12. Check the display and make sure that the Data Overwrite icon appears.

When Auto Erase Memory is enabled, the Data Overwrite icon will be indicated in the bottom left of the panel display.



Installation

Icon	Icon name	Explanation
	Dirty	This icon is displayed when there is temporary data to be overwritten, and flashes during overwriting.
	Clear	This icon is displayed when there is no temporary data to be overwritten.

2.23.3 DATA OVERWRITE SECURITY (SP 5300/5310)

Before You Begin the Procedure

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

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

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

2. Make sure that "Administrator Authentication Management" is on.

- 1. Log in as the administrator from Web Image Monitor.
- 2. [Device Management] -> [Configuration] -> [Device Settings] -> [Administrator Authentication Management]

Security Setting

3. From [User Administrator Authentication], [Machine Administrator Authentication], [Network Administrator Authentication], and [File Administrator Authentication], set the administrator authentication setting to [On].

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

Using Auto Erase Memory

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

1. **Log in as the machine administrator from the control panel.**
2. **Select [Security Options] -> Press [OK]**
3. **Select [Auto Erase Memory Setting] -> Press [OK]**
4. **Select [On] -> Select [HDD Erase]**
5. **Select the method of erasing the data from [NSA], [DoD], or [Random Numbers]. -> Press [OK]**

If you select [Random Numbers], enter the number of times that you want to overwrite. Then press [OK].

6. **Press [OK].**
7. **Press [Menu].**
8. **Log out.**

Checking the Auto Erase Memory Status

If 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 -> Select [Memory Erase Status] -> Press [OK]**

The Memory Erase status appears.

2.23.4 HDD ENCRYPTION (MP 501/601)

Before You Begin the Procedure:

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

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

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

2. **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 that this setting must be on before you do the installation procedure.

3. **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 that this setting must be enabled (selected) before you do the installation procedure.

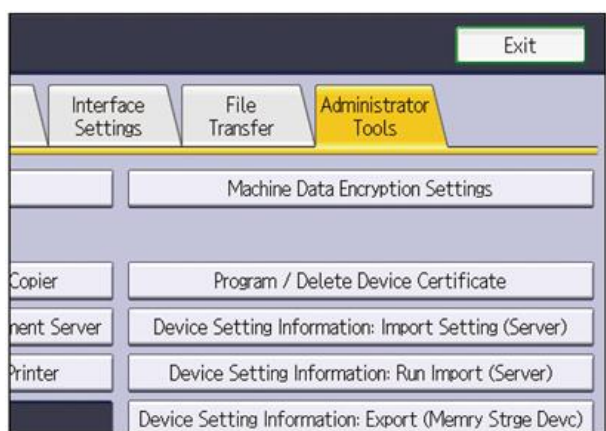
Enable Encryption Setting

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

★ Important

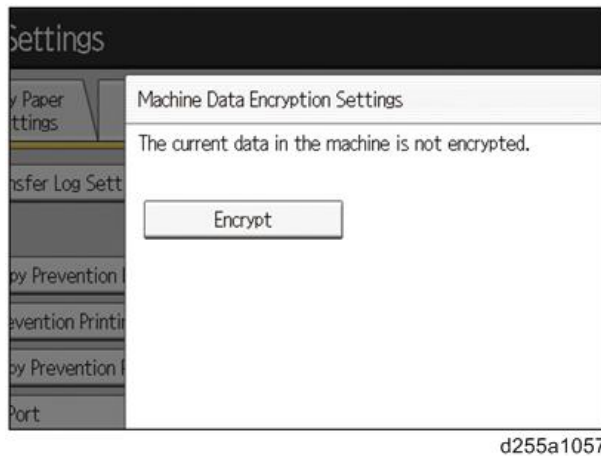
- When setting up encryption, specify whether to start encryption after deleting data (initialize) or encrypt and retain existing data. If data is retained, it may take some time to encrypt it.
- When the Machine Data Encryption Settings is enabled;
 - If the HDD is replaced, HDD data will be deleted. After installing the new HDD, the data in the new HDD will be automatically encrypted.
 - If the NVRAMs on the controller board are replaced, Machine Data Encryption Settings will be automatically enabled after installing the new NVRAMs.
 - If the controller board is replaced, the restore key will be required after installing the new controller board.
 - If you have the restore key, you will be able to continue using the HDD data.
 - If the restore key has been lost, the HDD will be formatted and you need to reset NVRAM data to the default settings after the forced start-up. (HDD data will be deleted) Refer to "How to do a forced start up with no encryption key" in "Encryption Key Restoration" (page 2-149).
 - If the controller board and the NVRAMs are replaced together, HDD data will be deleted since all the encryption information is deleted.

1. Turn ON the main power.
2. Log in as the machine administrator from the control panel.
3. Press [System Settings].
4. Press [Administrator Tools].
5. Press [Next] three times.
6. Press [Machine Data Encryption Settings].



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7. Press [Encrypt].



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

- 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].

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 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.

10. Press [OK].

11. Press [Exit].

12. Press [Exit].

13. Log out.

14. Turn OFF the main power, and then turn the main power back on.

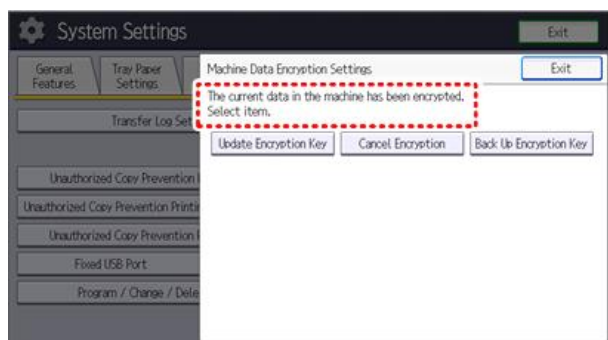
The machine will start to convert the data on the memory after you turn ON the main power.

Wait until the message "Memory conversion complete. Turn the main power switch off." appears, and then turn OFF the main power.

Check the Encryption Settings

1. Press the [User Tools] icon.
2. Press [System Settings].
3. Press [Administrator Tools].
4. Press [Machine Data Encryption Settings].

5. Confirm whether the encryption has been completed or not on this display.



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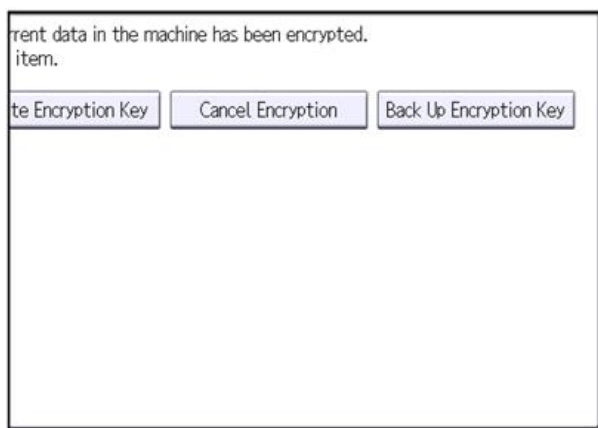
Backing Up the Encryption Key

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 control panel.
2. Press [System Settings].
3. Press [Administrator Tools].
4. Press [Next] three times.
5. Press [Machine Data Encryption Settings].
6. Press [Back Up Encryption Key].



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7. 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 control panel and press [OK]. When the machine's data encryption key is backed up, press [Exit].

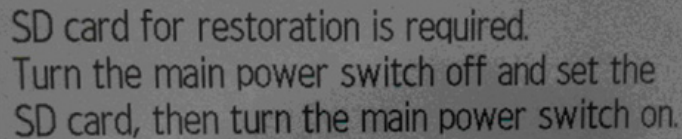
If you have selected [Print on Paper], press [Start] and print out the machine's data encryption key.

8. Press [Exit].
9. 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.

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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_xxxxxxxxxx.txt" and save it in the "xxxxxxxxxxx" folder.
Write the encryption key in the text file.

/restore_key/xxxxxxxxxxx/key_xxxxxxxxxx.txt

↓ Note

- Ask the administrator to enter the encryption key. The key has already been printed out by the user and may have been saved in the "key_xxxxxxxxxx.txt" file. (The function of back-up the encryption key to the SD card directly is provided 11A products or later.)
5. Turn ON the main power.
 6. Confirm that a message is displayed on the LCD telling to insert the SD card that contains the encryption key.
 7. Turn OFF the main power.
 8. Insert the SD card that contains the encryption key into SD Card Slot 2 (the lower slot).
 9. Turn ON the main power.

↓ Note

- The machine will automatically restore the encryption key to the flash memory on the controller board.
10. Turn OFF the main power when the machine has returned to normal status.
 11. Remove the SD card from SD Card Slot 2.

How to do a forced start up 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 OFF the main power.
6. Insert the SD card that contains the encryption key into SD Card Slot 2 (the lower slot).
7. Turn ON the main power.
8. Turn ON the main power, the machine automatically clear the HDD encryption.
9. Turn OFF the main power when the machine has returned to normal status.
10. Remove the SD card from SD Card Slot 2.
11. Turn ON the main power.
12. Execute SP5-801-xx (Exclude SP5-801-001: All Clear and SP5-801-002: Engine) to resets NVRAM data to the default settings.
13. Execute SP5-846-046 to clear the address book information.
14. Set necessary user settings from the [User Tools] icon.

2.23.5 HDD ENCRYPTION (SP 5300/5310)

Before You Begin the Procedure:

1. Make sure that the following settings (1) to (3) are not at their factory default values.
 - (1) Supervisor login password
 - (2) Administrator login name
 - (3) Administrator login passwordIf any of these settings are at their factory default values, tell the customer that these settings must be changed before you do the installation procedure.
2. Make sure that "Administrator Authentication Management" is on.
 1. Log in as the administrator from Web Image Monitor.
 2. [Device Management] -> [Configuration] -> [Device Settings] -> [Administrator Authentication Management]

3. From [User Administrator Authentication], [Machine Administrator Authentication], [Network Administrator Authentication], and [File Administrator Authentication], set the administrator authentication setting to [On].

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

Enable Encryption Setting

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.
- When the Machine Data Encryption Settings is enabled;
 - If the HDD is replaced, HDD data will be deleted. After installing the new HDD, the data in the new HDD will be automatically encrypted.
 - If the NVRAMs on the controller board are replaced, Machine Data Encryption Settings will be automatically enabled after installing the new NVRAMs.
 - If the controller board is replaced, the restore key will be required after installing the new controller board.
 - If you have the restore key, you will be able to continue using the HDD data.
 - If the restore key has been lost, the HDD will be formatted and you need to reset NVRAM data to the default settings after the forced start-up. (HDD data will be deleted) Refer to "How to do a forced start up with no encryption key" in "Encryption Key Restoration" (page 2-152).
 - If the controller board and the NVRAMs are replaced together, HDD data will be deleted since all the encryption information is deleted.

1. Turn ON the main power.
2. Log in as the machine administrator from the control panel.
3. Select [Security Options] -> Press [OK]
4. Select [Machine Data Encryption] -> Press [OK]
5. Make sure [Encrypt] is displayed on the control panel -> Press [OK]
6. Select the data to be carried over to the hard disk and not be reset -> Press [OK]
 - To carry all of the data over to the hard disk, select [Carry Over All Data].
 - To carry over only the printer settings data, select [CarryOver FileSys DataOnly].
 - To reset all of the data, select [Format All Data].
7. Select [PrtOnPpr] -> [Print] -> [Continue]
8. Select [OK].
9. Press [Menu].

10. Log out.

11. Turn OFF the main power, and then turn the main power back ON.

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

Backing Up the Encryption Key

You can back up the encryption key by printing it.

★ Important

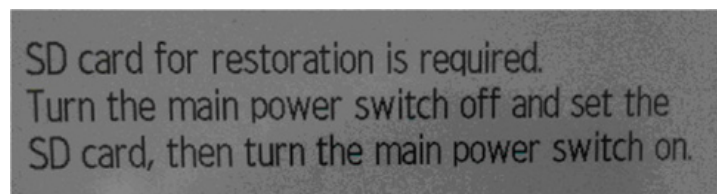
- **The encryption key is required for data recovery if the printer malfunctions. Be sure to store the encryption key safely for retrieving backup data.**

1. **Log in as the machine administrator from the control panel.**
2. **Select [Security Options] -> Press [OK]**
3. **Select [Machine Data Encryption] -> Press [OK]**
4. **Select [Back Up Encryption Key] -> Press [OK]**
5. **Select [PrtOnPpr] -> [Print]**
6. **Press [Menu].**
7. **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.



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

5. Turn ON the main power.
6. Confirm that a message is displayed on the LCD telling to insert the SD card that contains the encryption key.
7. Turn OFF the main power.
8. Insert the SD card that contains the encryption key into SD Card Slot 2 (the lower slot).
9. Turn ON the main power.

Note

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

10. Turn OFF the main power when the machine has returned to normal status.
11. Remove the SD card from SD Card Slot 2.

How to do a forced start up 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 OFF the main power.
6. Insert the SD card that contains the encryption key into SD Card Slot 2 (the lower slot).
7. Turn ON the main power.
8. Turn ON the main power, the machine automatically clear the HDD encryption.
9. Turn OFF the main power when the machine has returned to normal status.
10. Remove the SD card from SD Card Slot 2.
11. Turn ON the main power.
12. Execute SP5-801-xx (Exclude SP5-801-001: All Clear and SP5-801-002: Engine) to resets NVRAM data to the default settings.
13. Execute SP5-846-046 to clear the address book information.
14. Set necessary user settings from the [Menu] key.

2.24 @REMOTE SETTINGS

Note

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

Check points before making @Remote settings

- The setting of SP5-816-201 in the mainframe must be "0".
- 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_____xxxxxxxx).
 - ID2 (SP5-811-003) and the serial number (SP5-811-001) must be the same (e.g. ID2: A01_____23456789 = serial No. A0123456789)
- The following settings must be correctly programmed.
 - 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.

Execute the @Remote Settings

- Enter the SP mode.
- Input the request number which you have obtained from @Remote Center GUI with SP5-816-202.
- Confirm the request number, and then press [EXECUTE] with SP5-816-203.
- Check the confirmation result with SP5-816-204.

Value	Meaning	Solution/ Workaround
0	Succeeded	-
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 user name and password.
6	Communication error	Check the network condition.
8	Other error	See "SP5-816-208 Error Codes" below.

@Remote Settings

Value	Meaning	Solution/ Workaround
9	Request number confirmation executing	Processing. Please wait.
11	Already registered	-
12	Parameter error	-
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. **Make sure that the screen displays the location information with SP5-816-205 only when it has been input at the Center GUI.**
6. **Press [EXECUTE] to execute the registration with SP5-816-206.**
7. **Check the registration result with SP5-816-207.**

Value	Meaning	Solution/ Workaround
0	Succeeded	-
1	Request number error	Check the request number again.
2	Already registered	Check the registration status.
3	Communication error (proxy enabled)	Check the network condition.
4	Communication error (proxy disabled)	Check the network condition.
5	Proxy error (Authentication error)	Check Proxy user name and password.
8	Other error	See "SP5-816-208 Error Codes" below.
9	Request number confirmation executing	Processing. Please wait.
11	Already registered	-
12	Parameter error	-
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	

8. Exit the SP mode.

SP5-816-208 Error Codes

@Remote Settings

These are caused by operation errors, or incorrect settings.

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

Errors 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 mainframe	Check the registration condition of the mainframe.
-2392	Parameter error	-
-2393	External RCG not managed	-
-2394	Mainframe not managed	-
-2395	Box ID for external RCG is illegal.	-
-2396	Mainframe ID for external RCG is illegal.	-
-2397	Incorrect ID2 format	Check the ID2 of the mainframe.
-2398	Incorrect request number format	Check the request number.

2.25 OPERATION GUIDANCE FOR USERS

Function/Operation	Instruction to provide
Basic machine functions, operations	<ul style="list-style-type: none"> ▪ How to load and replace the toner cartridge and the waste toner bottle ▪ How to load paper ▪ How to turn ON/OFF the main power ▪ How to clear paper jams ▪ How to program, modify, and delete Address Book entries ▪ How to customize the UI and home screen ▪ Overview of machine options/peripherals ▪ How to take the proper action for SC errors (clearing the error, contacting service and support, etc.), how to interpret @Remote notifications ▪ Important notes to keep in mind whenever moving the machine ▪ Product limitations
Copier (MP 501/601 Only)	<ul style="list-style-type: none"> ▪ Basic Copier operations ▪ How to load an original in the ARDF or place it on the exposure glass for scanning ▪ How to use thick paper and other specialized paper/media ▪ How to configure the Copier main screen (duplex/simplex, User Codes, etc.) ▪ Basic Document Server operations
Fax (MP 501/601 Only)	<ul style="list-style-type: none"> ▪ How to send a fax (Memory Transmission, Direct Transmission)
Printer	<ul style="list-style-type: none"> ▪ How to install printer drivers (using the recommended method) ▪ How to connect to a PC (performing the port settings) ▪ How to print out a test page ▪ Overview of various settings inside each tab in the printer driver (e.g. duplex printing)
Scanner (MP 501/601 Only)	<ul style="list-style-type: none"> ▪ How to install printer drivers (using the recommended method) ▪ How to connect to a PC and perform a test scan

PREVENTIVE MAINTENANCE

REVISION HISTORY		
Page	Date	Added/Updated/New
		None

3. PREVENTIVE MAINTENANCE

3.1 YIELD PARTS SETTINGS

3.1.1 YIELD PARTS REPLACEMENT PROCEDURE

The parts mentioned in the table have a target yield. However, the total copy/print volume made by the machine will not reach the target yield within the machine's targeted lifetime if the machine is used under the target usage conditions (ACV, color ratio, P/J, and C/O). So, these parts are categorized not as PM parts but as yield parts (EM parts).

1. Enter the SP mode.
2. Output the SMC logging data with SP5-990-004.
3. Set SP7-804-002 to "1".

Item	SP
Drum unit	
Development unit	
Fusing unit	
Transfer unit	
Paper feed roller	SP7-804-002
Pickup roller	
Separation roller	
Feed roller assy (ARDF) *1	
Separation pad (ARDF) *1	

*1 Only for MP 501/601

4. Exit the SP mode.
5. Turn OFF the main power.
6. Replace the yield parts and turn ON the main power.

The machine will reset the PM counter.

After installing the new yield parts

1. Turn ON the main power.
2. Output the SMC logging data with SP5-990-004 and check the counter value.
3. Make sure that the PM counter is "0" with SP7-621-002.

Yield Parts Settings

Operation check

Check if the sample image has been copied normally.

REPLACEMENT AND ADJUSTMENT

REVISION HISTORY		
Page	Date	Added/Updated/New
79	09/15/2016	Added <i>"After Replacement of Development Unit"</i>
102	08/09/2016	Added Fusing Unit note for replacement procedure.
149 ~ 150	02/09/2017	Updated Replacing the NVRAM(EEPROM) on the IOB
154 ~ 155	09/15/2016	Added PSU Caution statement

4. REPLACEMENT AND ADJUSTMENT

4.1 NOTES ON THE MAIN POWER SWITCH

4.1.1 PUSH 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.

Characteristics of the Push Switch (DC Switch)

Power is supplied to the machine even when 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 electrical components in this stage, it can 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 after the main power LED on the operation panel is turned OFF.

Note

- If you unplug the power cord before turning OFF the main power LED, some icons on the operation panel will not appear at the next start-up. Restarting the machine again will solve this issue.

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, there is still residual charge inside the machine for a while. 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, press the main power switch. 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 after 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. This is due to the timing of releasing the residual charge. If you press the main power switch when the residual charge was already released, the power ON flag will not be set. For such a case, start the machine manually by pressing the main power switch.

Shutdown Method

1. Press the main power switch [A] on the machine.
2. The shutdown message appears. After the shutdown process, the main power is turned OFF automatically. The main power LED on the operation panel is turned OFF when the machine completes the shutdown.



CAUTION

- Before removing and adjusting electrical boards, do the following procedure. Otherwise, the board can be damaged by the residual charge inside the machine and must be replaced.
3. Disconnect the power cord after shutdown.
 4. Press the main power switch for a second to remove the residual charge inside the machine.

Forced Shutdown

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

To make a forced shutdown, press and hold the main power switch for 6 seconds.

In general, do not use the forced shutdown.

Important

- Forced shutdown may damage the hard disk and memory, and can cause damage to the machine. Use a forced shutdown only if it is unavoidable.

4.2 BEFOREHAND

CAUTION

- **Before you begin a procedure, please do the following:**

For MP 501 and MP 601, which have fax features, print out all messages stored in the memory, the lists of user-programmed items, and the system parameter list.

If there are printer jobs in the machine, print out all jobs in the printer buffer.

Turn OFF the main power. Disconnect the power cord and network cable. For MP 501 and MP 601, disconnect the telephone line.

Important

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

Note

- Before you start to remove components from the machine, do the following:
 1. Turn OFF the main power.
 2. Make sure that the shutdown process has finished and that the LED on the operation panel has turned OFF.
 3. Unplug the power cord.
- After the main power of the machine has been turned OFF, the power is supplied to the controller board until the HDD unit has been shut down safely.

4.3 SPECIAL TOOLS

The following special tools should be prepared for maintenance of this machine in the field.

U: Unique for this machine

C: Common with listed machine

No.	Part Number	Description	Q'ty	Unique or Common
1	B6455030	SD Card 2GB	1	C (General)
2	B6455040	SD Card 8GB	1	C (General)
3	B6455060	SD Card 16GB	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.

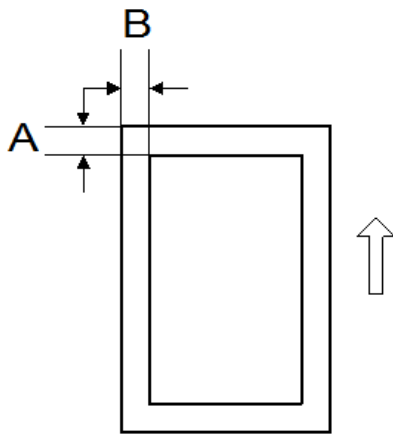
4.4 IMAGE ADJUSTMENT

4.4.1 PRINTING

Note

- Make sure the paper is set correctly in each paper tray before you start these adjustments.
- Use Trimming Area Pattern (SP2-109-003, No.14) to print the test pattern for the following procedures.
- Set SP2-109-003 to "0" again after completing these printing adjustments.

Registration: Leading Edge/Side-to-Side



A: Leading Edge Registration (4 ± 2.5 mm)

B: Side-to-side Registration (4 ± 2.5 mm)

- Check the leading edge registration [A] for each paper feed station, and adjust them using SP1-001.**

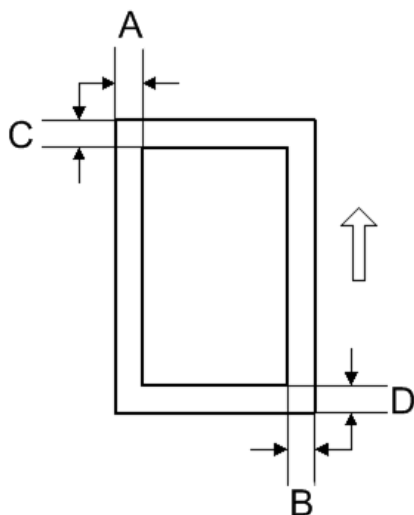
Paper Feed Station	SP No.	Adjustment Range
Tray 1 (Main unit)	SP1-001-001	4±2.5 mm
Tray 2 (Optional tray)	SP1-001-002	
Tray 3 (Optional tray)	SP1-001-003	
Tray 4 (Optional tray)	SP1-001-004	
Tray 5 (Optional tray)	SP1-001-005	
Bypass Tray	SP1-001-006	
Duplex Tray	SP1-001-007	

2. Check the side-to-side registration [B] for each paper feed station, and adjust them using SP1-002.

Paper Feed Station	SP No.	Adjustment Range
Tray 1 (Main unit)	SP1-002-001	4±2.5 mm
Tray 2 (Optional tray)	SP1-002-002	
Tray 3 (Optional tray)	SP1-002-003	
Tray 4 (Optional tray)	SP1-002-004	
Tray 5 (Optional tray)	SP1-002-005	
Bypass Tray	SP1-002-006	
Duplex Tray	SP1-002-007	

Blank Margin

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



- A: Left Edge Blank Margin
- B: Right Edge Blank Margin
- C: Leading Edge Blank Margin
- D: Trailing Edge Blank Margin

1. Check the trailing edge [A], right edge [B], leading edge [C], left edge [D] blank margins, and adjust them using the following SP modes.

Edge	SP No.	Adjustment Range
Left Edge	SP2-103-001	4±2.5 mm
Right Edge	SP2-103-002	
Leading Edge	SP2-103-003	
Trailing Edge	SP2-103-004	

Main Scan Magnification

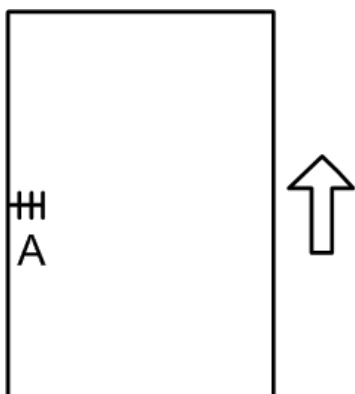
1. Use SP2-109-003, No.5 (Grid Pattern) to print the single-dot grid pattern.
2. Check the magnification, and adjust the magnification using SP2-102-001 (Magnification Adjustment Main Scan) if necessary. The specification is $\pm 1\%$.

4.4.2 SCANNING (MP 501/601 ONLY)

↓ Note

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

Registration: Platen Mode



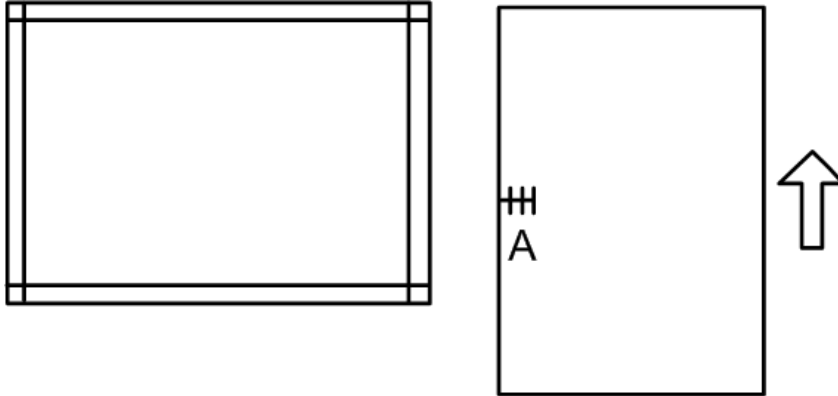
A: Side-to-side Registration (Main Scan Reg)

1. Place the test chart on the exposure glass and make a copy from one of the feed stations.
2. Check the side-to-side registration, and adjust it using the following SP mode if necessary.

SP No.	SP Name	Adjustment Range
SP4-011-001	Main Scan Reg	±2.5 mm

4.4.3 ARDF IMAGE ADJUSTMENT (MP 501/601 ONLY)

Registration



A: Side-to-side Registration

1. Place the temporary test chart on the ARDF and make a copy from one of the feed stations.
2. Check the registration, and adjust them using the following SP modes if necessary.

SP No.	SP Name	Adjustment Range
SP6-006-001	ADF Adjustment Side-to-Side Regist: Front	±3.0 mm
SP6-006-002	ADF Adjustment Side-to-Side Regist: Rear	

4.5 FACTORY SP SETTINGS

This section provides the factory SP settings.

You can check the factory SP settings with the SMC report provided with the machine. The SMC report is stored in the paper feed tray. (For details, see page 2-8 "SMC Storage")

If the SMC report is not stored with the machine, refer to the tables in this section.

4.5.1 MP 501/601

SP No.	SP Name	Default Value	Factory Setting
SP1-001-001	Reistration Correct: Main	+0.0 mm	-- mm ^{*1}
SP1-001-006	Reistration Correct: By-Pass Tray	+0.0 mm	-- mm ^{*1}
SP1-001-007	Reistration Correct: Duplex	+0.0 mm	-- mm ^{*1}
SP1-002-001	Reistration Correct: Main	+0.0 mm	-- mm ^{*1}
SP1-002-006	Reistration Correct: By-Pass Tray	+0.0 mm	-- mm ^{*1}
SP1-002-007	Reistration Correct: Duplex	+0.0 mm	-- mm ^{*1}
SP4-011-001	S-to-S Regist Adjustment	+0.0 mm	-- mm ^{*1}
SP4-108-001	Sub Scan Speed.Adjustment	+0.0 %	-- % ^{*1}
SP4-110-001	L-Edge Timing Adjustment	+0 pulse	-- pulse ^{*1}
SP4-609-001	Gray Balance Set: R: Book Scan	-100 digit	-- digit ^{*1}
SP4-609-002	Gray Balance Set: R: DF Scan	-100 digit	-- digit ^{*1}
SP4-610-001	Gray Balance Set: G: Book Scan	-100 digit	-- digit ^{*1}
SP4-610-002	Gray Balance Set: G: DF Scan	-100 digit	-- digit ^{*1}
SP4-610-003	Gray Balance Set: BW: Book Scan	-100 digit	-- digit ^{*1}
SP4-610-004	Gray Balance Set: BW: Book Scan	-100 digit	-- digit ^{*1}
SP4-611-001	Gray Balance Set: B: Book Scan	-100 digit	-- digit ^{*1}

SP No.	SP Name	Default Value	Factory Setting
SP4-611-002	Gray Balance Set: B: DF Scan	-100 digit	-- digit ^{*1}
SP5-101-107	Auto Logout Timer: Auto Logout Time	1: Enable	0: Disable
SP5-305-101	Auto Off Set: Set Function	1: Enable	0: Disable
SP5-748-201	OpePanel Setting: Cheetah Panel Connect Setting	0: Not connected	1: Connected
SP5-805-002	Drum Heater	NA/EU :0 (Off) AP: 1 (ON)	NA/EU :0 (Off) AP: 1 (ON)
SP5-875-001	SC Auto Reboot: Reboot Setting	0: The machine reboots automatically when the machine issues an SC error and logs the SC error code.	1: The machine does not reboot when an SC error occurs.
SP5-907-001	Plug & Play Maker/Model Name	0	0 or 9 (Set the appropriate setting for the model)
SP5-985-001	Device Setting: On Board NIC	0: Disable	1: Enable
SP5-985-002	Device Setting: On Board USB	0: Disable	1: Enable
SP6-006-001	ADF Adjustment: Side-to-Side Regist: Front	+0.0 mm	-- mm ^{*1}
SP6-026-001	ADF Timing Adjustment: Leading Edge Start Timing: Front	+0 pulse	-- pulse ^{*1}
SP6-026-003	ADF Timing Adjustment: Leading Edge End Timing: Front	-16 pulse	-- pulse ^{*1}

Factory SP Settings

SP No.	SP Name	Default Value	Factory Setting
SP6-026-004	ADF Timing Adjustment: Leading Edge End Timing: Rear	-16 pulse	-- pulse ^{*1}
SP6-027-001	ADF Adjustment Scan Speed: Simplex Mode	+0.0 %	-- % ^{*1}
SP6-027-003	ADF Adjustment Scan Speed: Duplex Mode: Rear	+0.0 %	-- % ^{*1}

*1: This setting is specific to the machine type.

4.5.2 SP 5300/5310

SP No.	SP Name	Default Value	Factory Setting
SP1-001-001	Reistration Correct: Main	+0.0 mm	-- mm ^{*1}
SP1-001-006	Reistration Correct: By-Pass Tray	+0.0 mm	-- mm ^{*1}
SP1-001-007	Reistration Correct: Duplex	+0.0 mm	-- mm ^{*1}
SP1-002-001	Reistration Correct: Main	+0.0 mm	-- mm ^{*1}
SP1-002-006	Reistration Correct: By-Pass Tray	+0.0 mm	-- mm ^{*1}
SP1-002-007	Reistration Correct: Duplex	+0.0 mm	-- mm ^{*1}
SP5-101-107	Auto Logout Timer: Auto Logout Time	1: Enable	0: Disable
SP5-305-101	Auto Off Set: Set Function	1: Enable	0: Disable
SP5-875-001	SC Auto Reboot: Reboot Setting	0: The machine reboots automatically when the machine issues an SC error and logs the SC error code.	1: The machine does not reboot when an SC error occurs.

SP No.	SP Name	Default Value	Factory Setting
SP5-805-002	Drum Heater	NA/EU :0 (Off) AP: 1 (ON)	NA/EU :0 (Off) AP: 1 (ON)
SP5-907-001	Plug & Play Maker/Model Name	0	0 or 9 (Set the appropriate setting for the model)

*1: This setting is specific to the machine type.

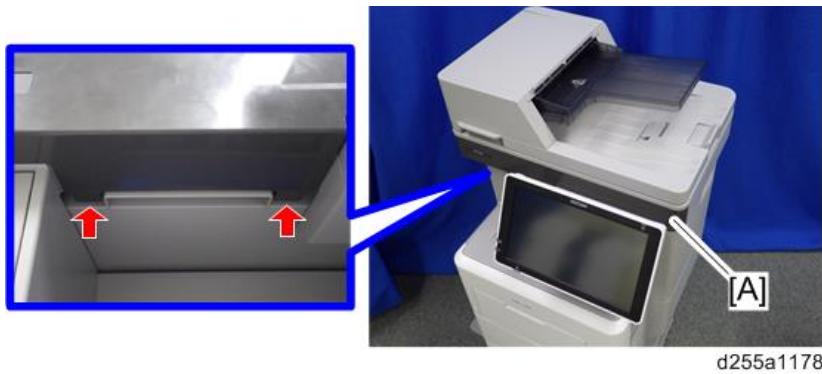
4.6 EXTERIOR COVERS (MP 501/601)

4.6.1 SCANNER FRONT COVER

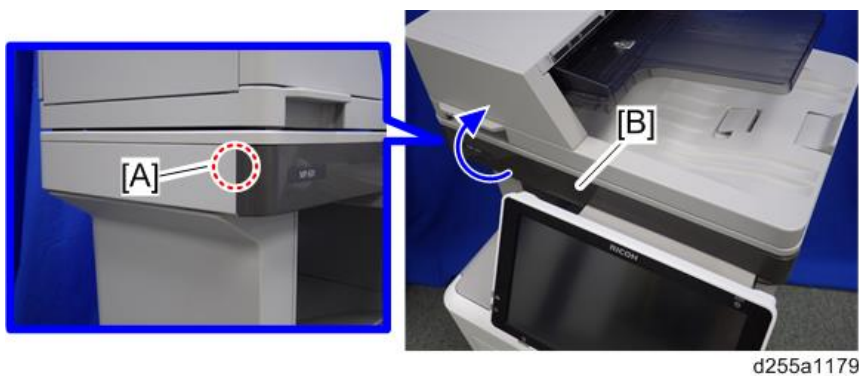
1. Insert a flathead screwdriver at [A] to release the hook of the scanner front cover [B].



2. Release the two hooks of the scanner front cover [A].

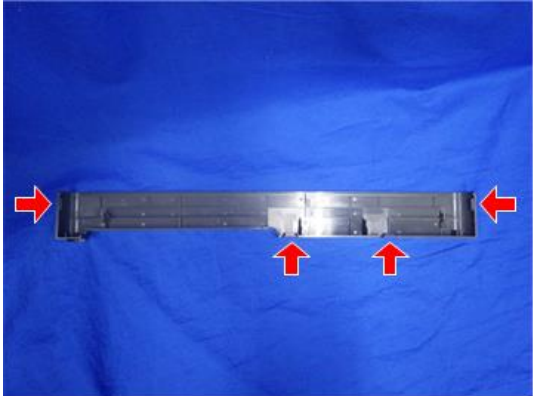


3. Insert a flathead screwdriver at [A] to release the hook, and then remove the scanner front cover [B].



Note

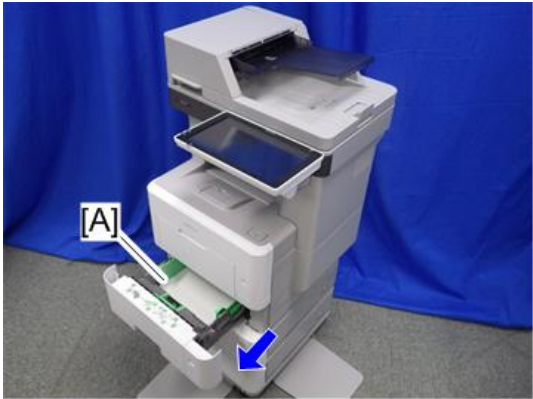
- Be careful not to damage the hooks on the inside of the scanner front cover when you remove or install the scanner front cover.



d255a1186

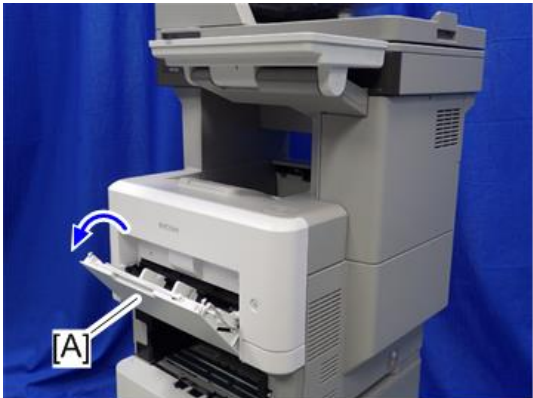
4.6.2 FRONT COVER

1. Remove the paper feed tray [A] by pulling it out.



d255a1115

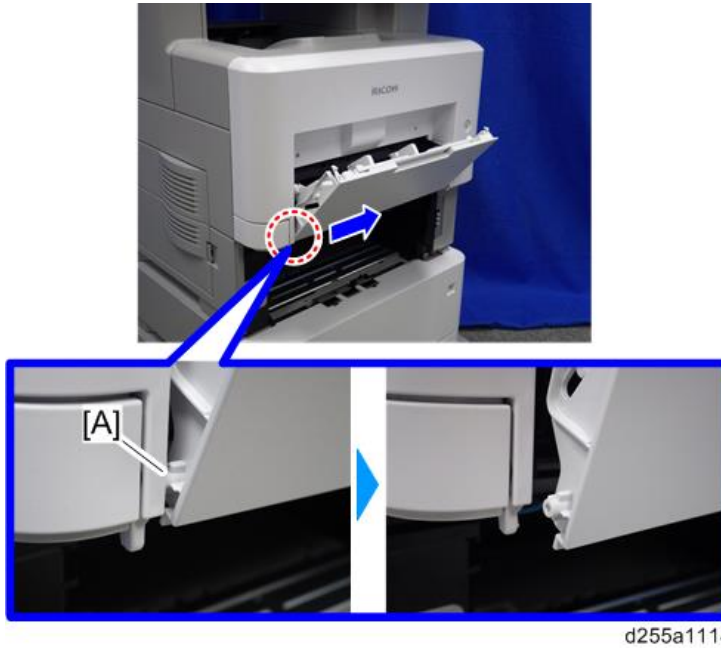
2. Open the bypass tray [A].



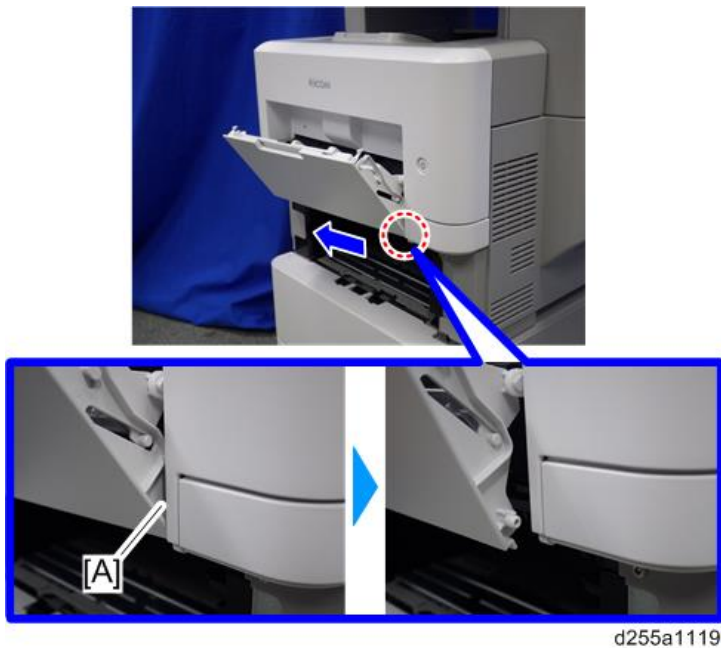
d255a1116

Replacement and Adjustment

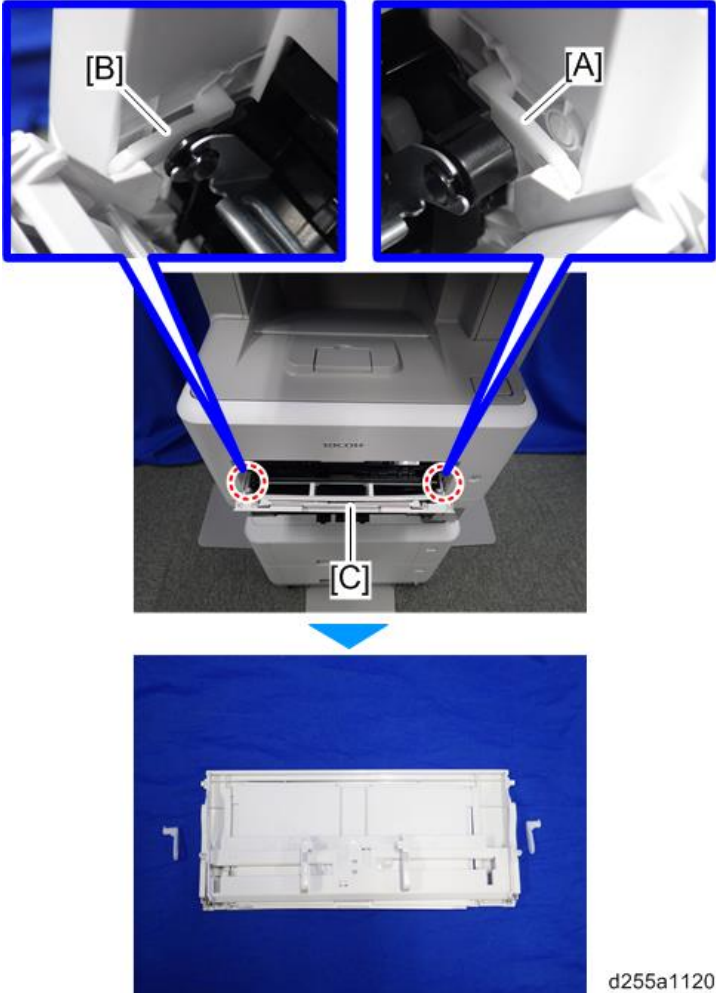
3. Release the left hinge [A] of the bypass tray with a flathead screwdriver by slightly bending the bypass tray inward.



4. Release the right hinge [A] of the bypass tray by sliding it to the left.



- 5. Remove the right connecting arm [A] and left connecting arm [B] of the bypass tray [C].
- 6. Remove the bypass tray [C].



Replacement and Adjustment

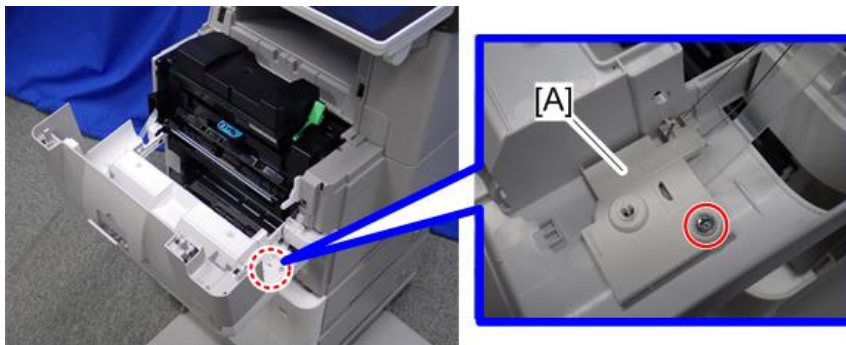
d255a1120

7. Push the button [A] and open the front cover [B].



d255a1117

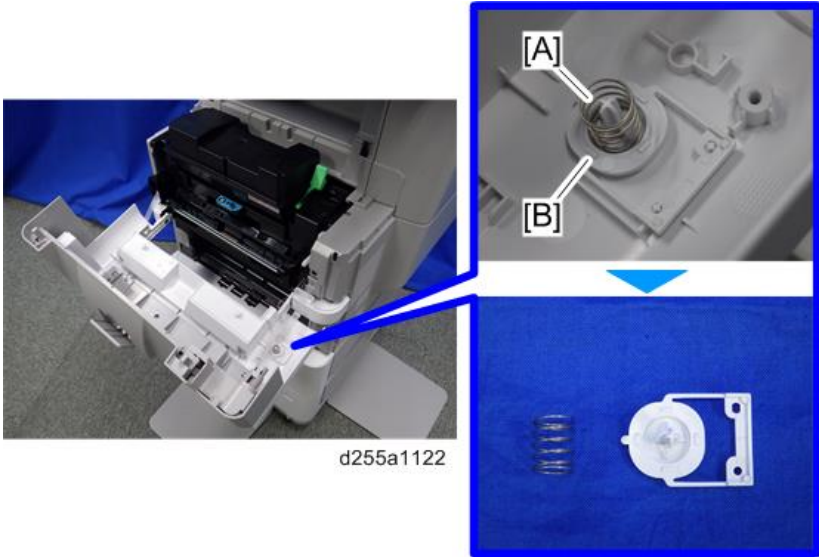
8. Remove the switch cover [A].



 x1

d255a1121

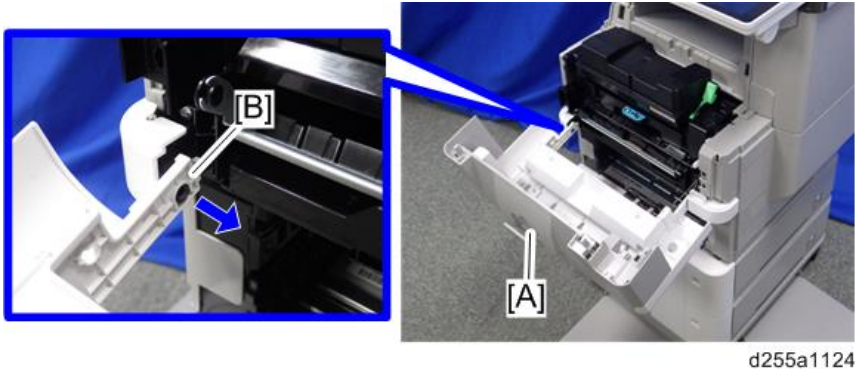
9. Remove the spring [A] and power switch [B].



10. Remove the belt [A].



11. Remove the front cover [A] by releasing the left hinge [B].



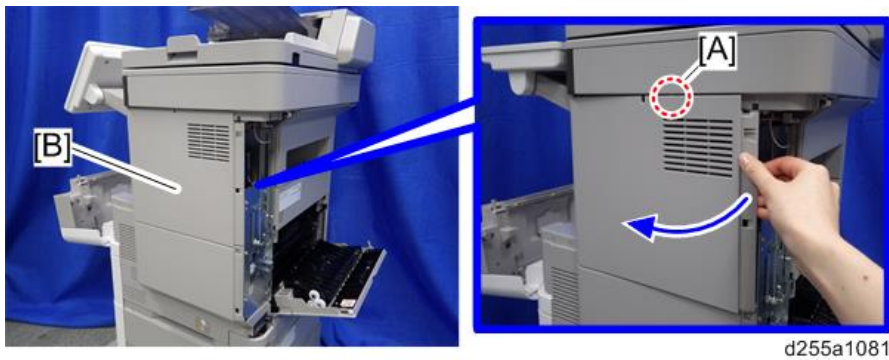
Replacement and Adjustment

4.6.3 RIGHT UPPER COVER

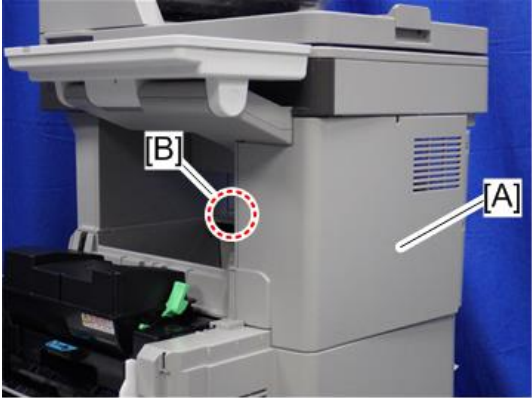
1. Remove the rear left stay. (page 4-37)
2. Push the button [A] and open the front cover [B].



3. Release the hook [A] of the right upper cover [B] by opening the cover in the direction of the arrow.



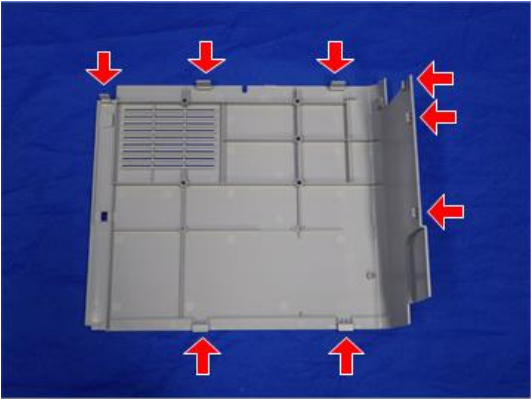
4. Remove the right upper cover [A] by inserting a flathead screwdriver into [B].



d255a1039

Note

- Be careful not to damage the hooks on the inside of the right upper cover when you remove or install the right upper cover.

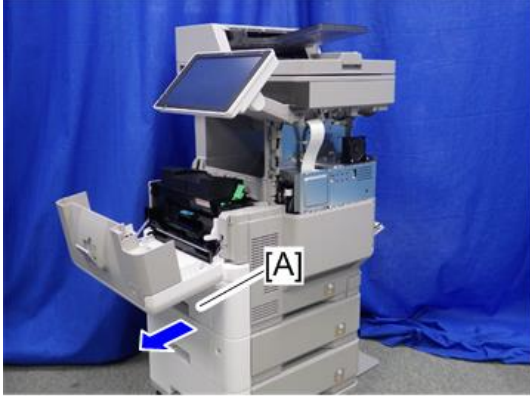


d255a1040

Replacement and Adjustment

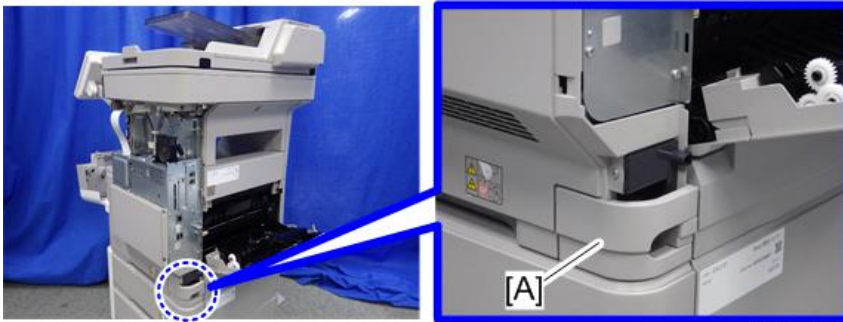
4.6.4 RIGHT LOWER COVER

1. Remove the right upper cover. (page 4-20)
2. Remove the paper feed tray [A] by pulling it out.



d255a1071

3. Remove the power connector cover [A].



d255a1072

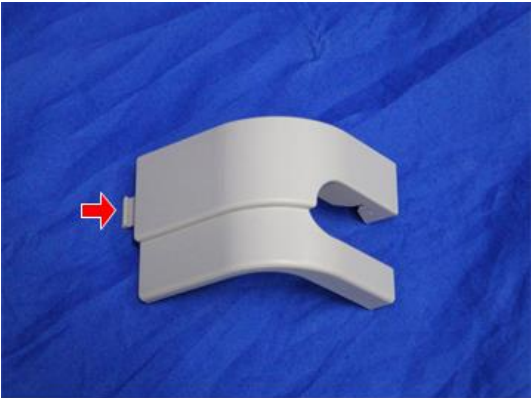
Note

- When removing the power connector cover, pull it in the direction of the arrow.



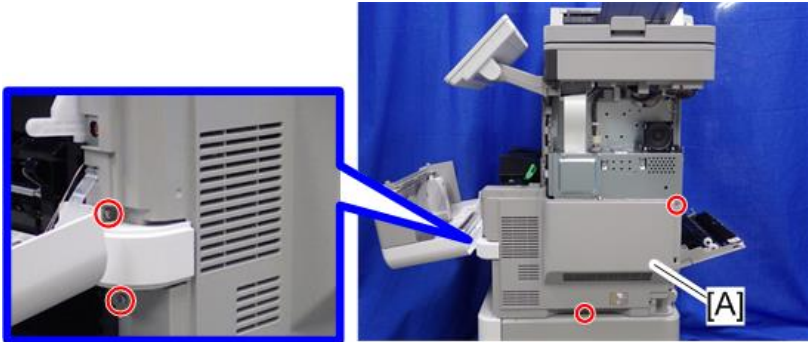
d255a1073

- Be careful not to damage the hook on the power connector cover when you remove or install the power connector cover.



d255a1078

4. Remove the four screws from the right lower cover [A].



 x4

d255a1074

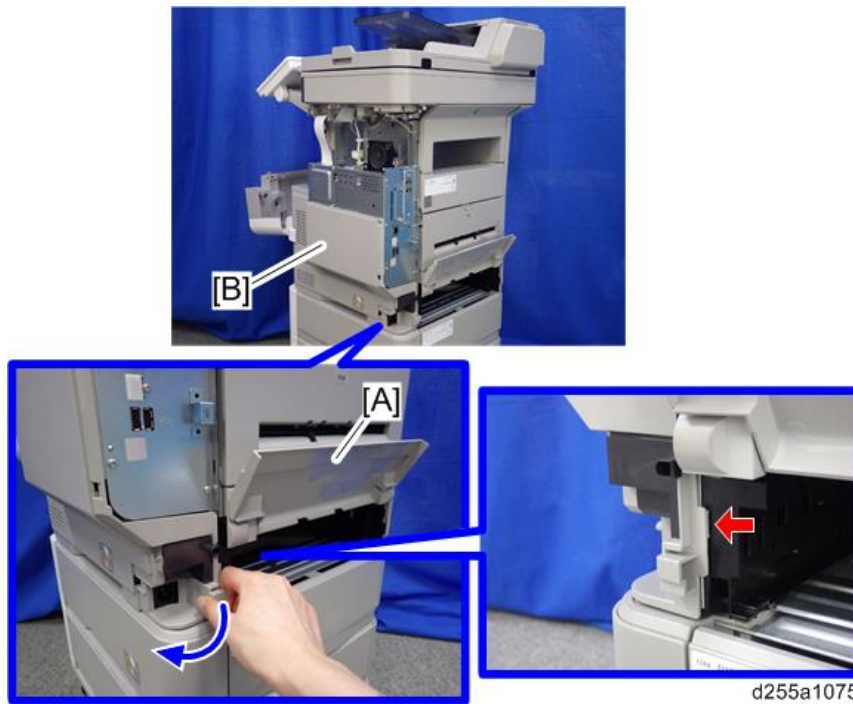
5. Close the rear upper cover [A].



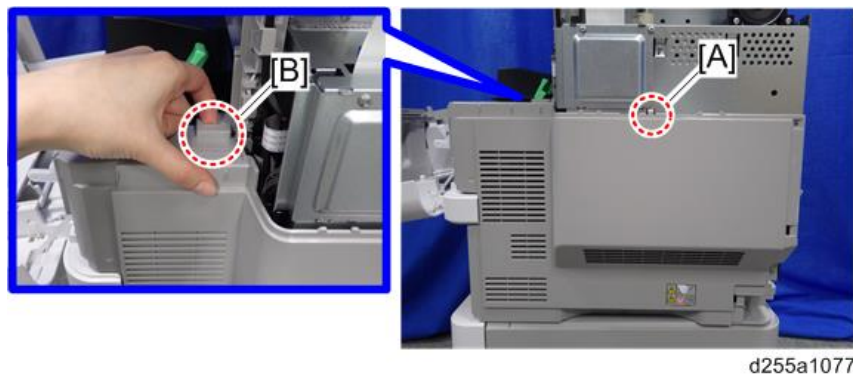
d255a1471

Replacement and Adjustment

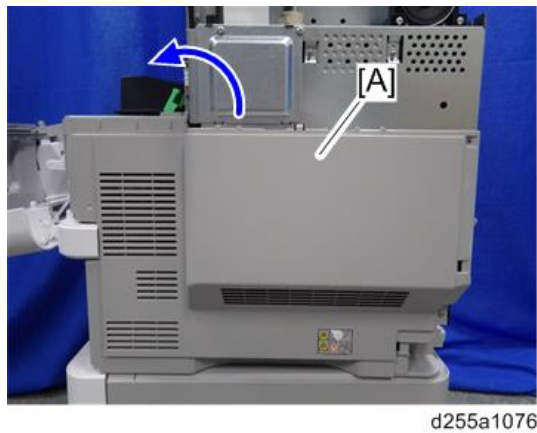
6. Open the rear lower cover [A], and then release the hook of the right lower cover [B] by rotating it in the direction of the blue arrow.



7. Release the hooks [A] and [B].

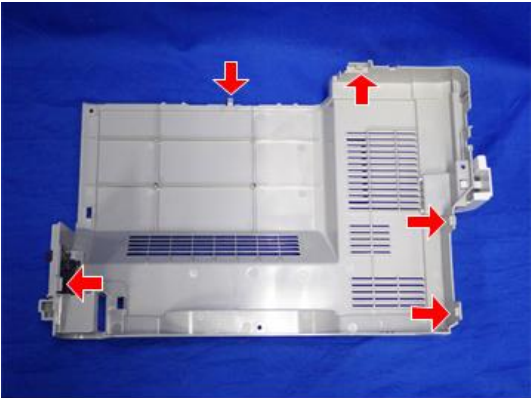


8. Remove the right lower cover [A] by rotating it in the direction of the arrow.



Note

- Be careful not to damage the hooks on the inside of the right lower cover when you remove or install the right lower cover.



d255a1079

- Do not remove the screw [A] when removing the right lower cover [B].



d255a1530

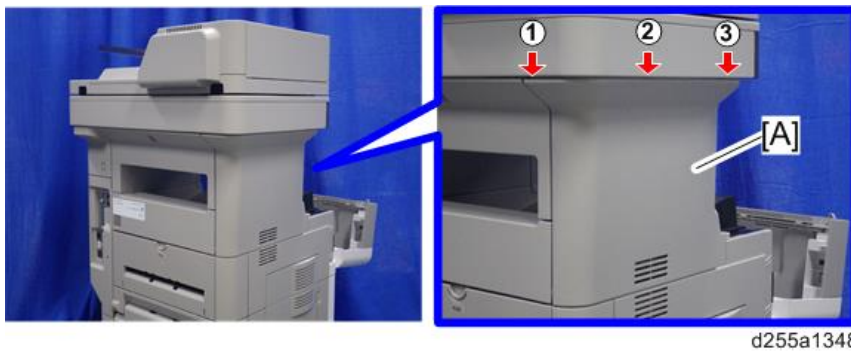
Replacement and Adjustment

4.6.5 LEFT UPPER COVER

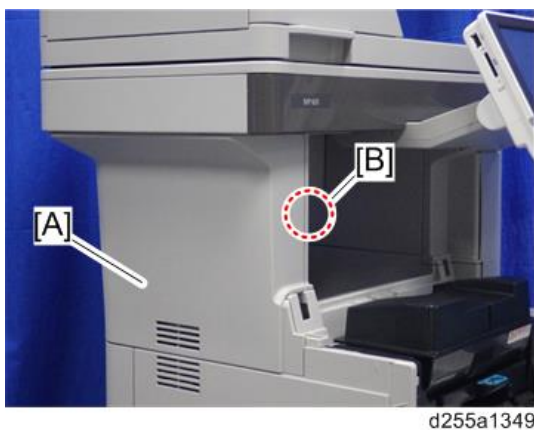
1. Push the button [A] and open the front cover [B].



2. Insert a flathead screwdriver into ①, ②, and ③ in order to release the three hooks of the left upper cover [A].

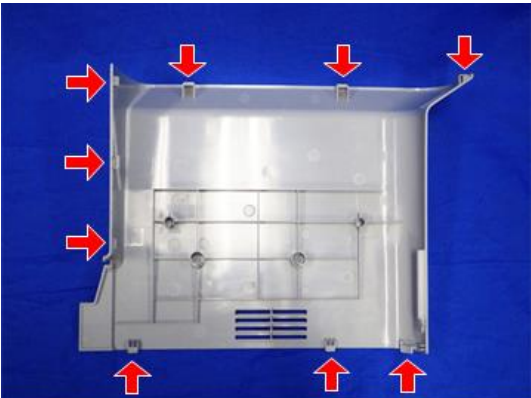


3. Remove the left upper cover [A] by inserting a flathead screwdriver into [B].



Note

- Be careful not to damage the hooks on the inside of the left upper cover when you remove or install the left upper cover.



d255a1157

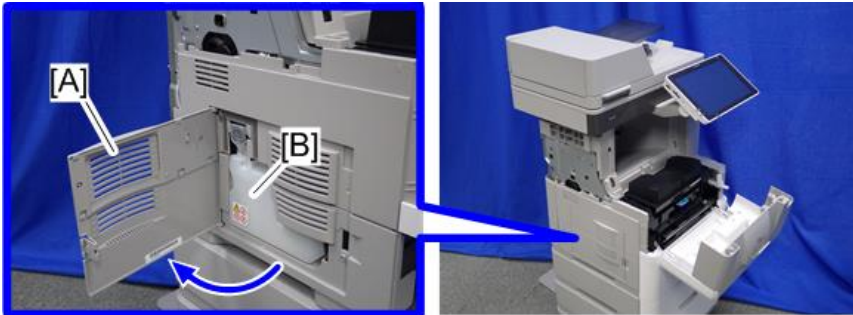
4.6.6 LEFT MIDDLE COVER

1. Remove the following covers.
 - Left upper cover (page 4-26)
 - Left rear cover (page 4-30)
2. Remove the paper feed tray [A] by pulling it out.



d255a1160

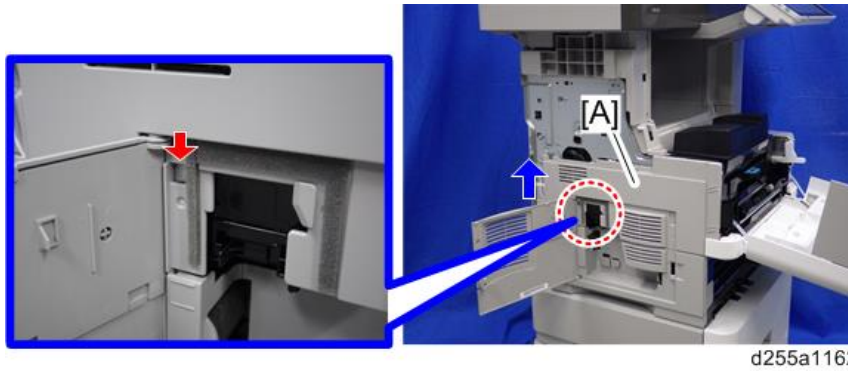
3. Open the waste toner bottle cover [A], and then remove the waste toner bottle [B].



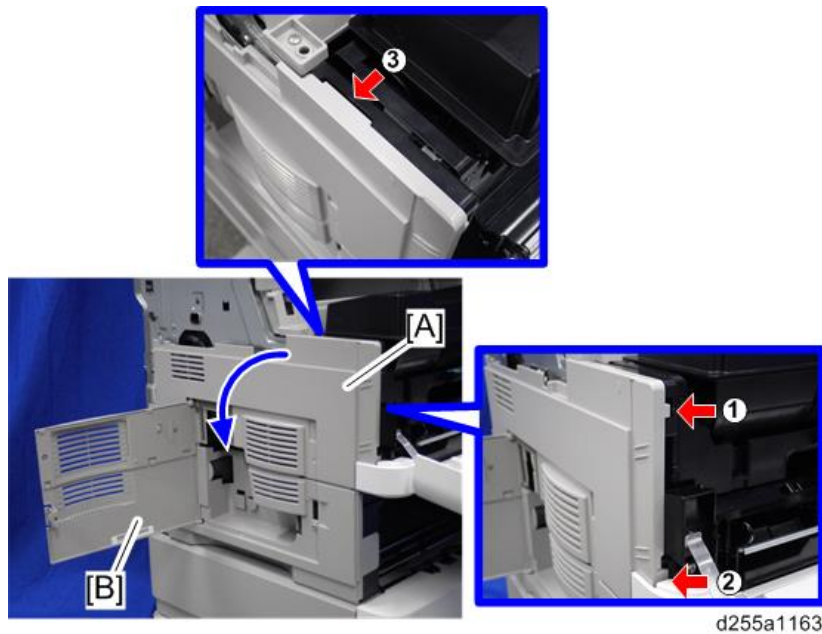
d255a1161

Replacement and Adjustment

4. Release the hook by lifting the left middle cover [A] upward.

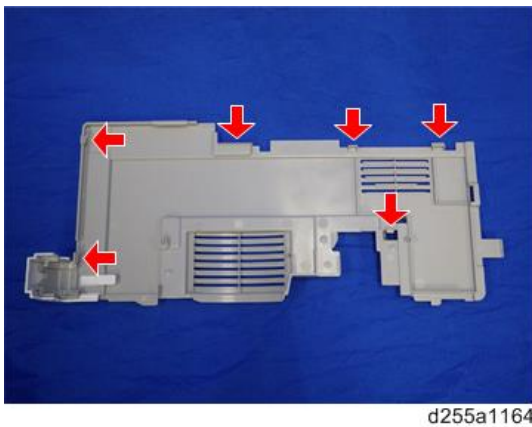


5. Release the hooks in the order of ①, ②, and ③.
6. Remove the left middle cover [A] and waste toner bottle cover [B].



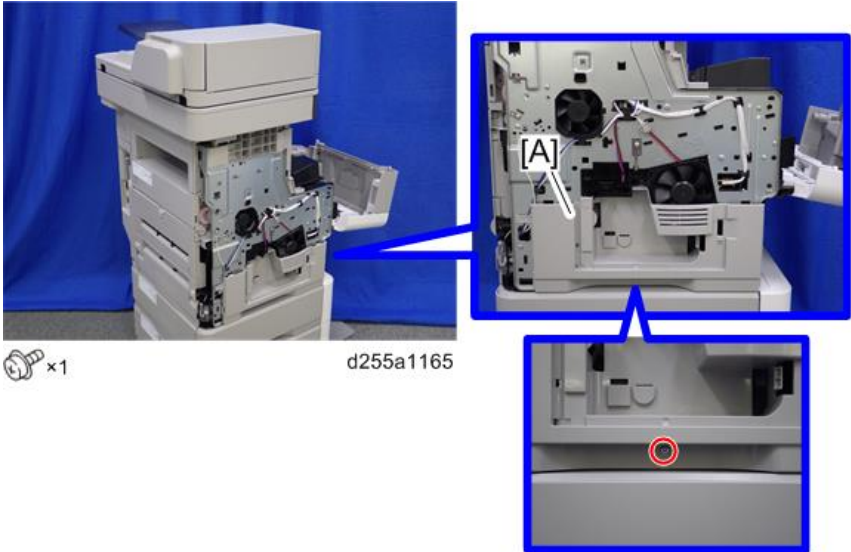
Note

- Be careful not to damage the hooks on the inside of the left middle cover when you remove or install the left middle cover.

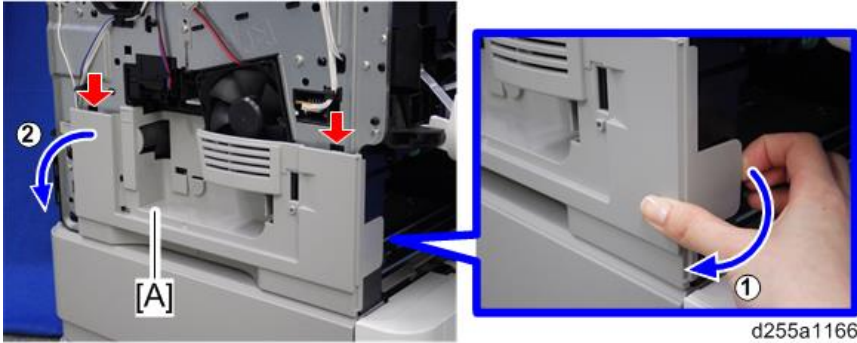


4.6.7 LEFT LOWER COVER

1. Remove the left middle cover. (page 4-27)
2. Remove the screw holding the left lower cover [A].

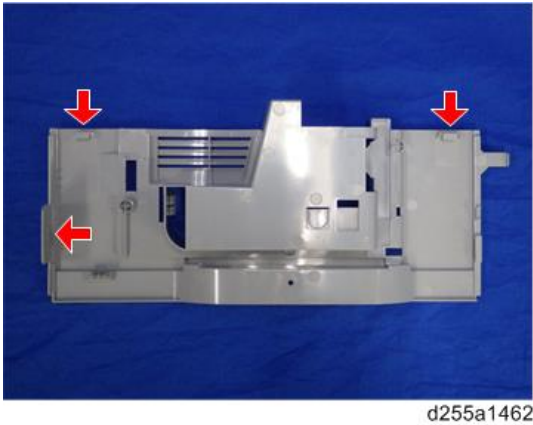


3. Release the hook by opening the right side of the left lower cover as shown below, and then remove the left lower cover [A]. (hookx3)



Note

- Be careful not to damage the hooks on the inside of the left lower cover when you remove or install the left lower cover.



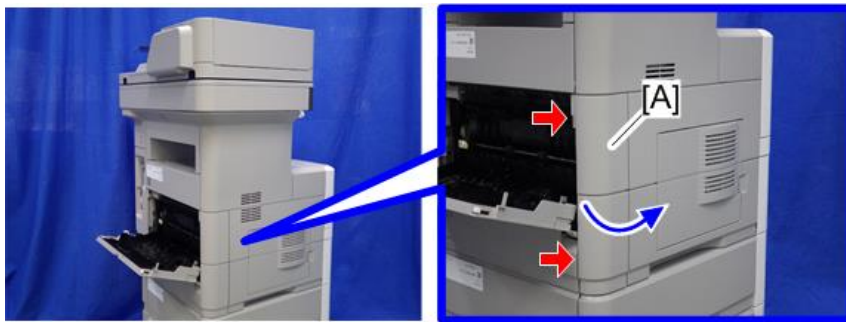
Replacement and Adjustment

4.6.8 LEFT REAR COVER

1. Open the rear upper cover [A].

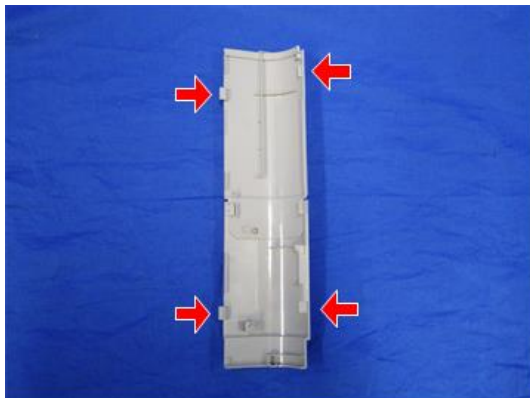


2. Remove the left rear cover [A] by rotating it in the direction of the arrow. (hookx2)



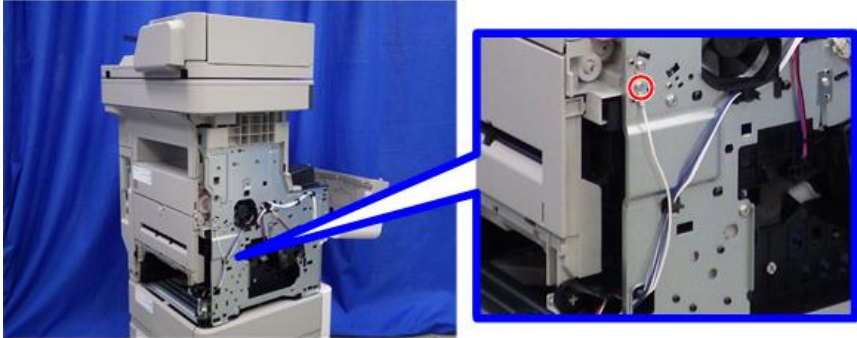
ⓘ Note

- Be careful not to damage the hooks on the inside of the left rear cover when you remove or install the left rear cover.



4.6.9 REAR UPPER COVER

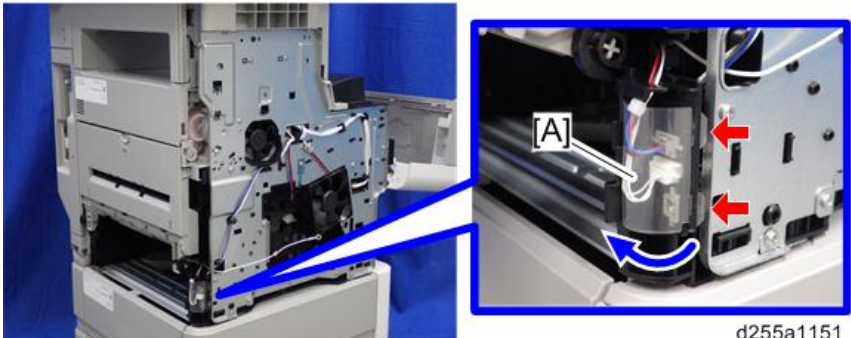
- 1. Remove the following covers.
 - Left lower cover (page 4-29)
 - Rear middle cover (page 4-33)
- 2. Remove the ground screw from the left side of the machine.



 x1

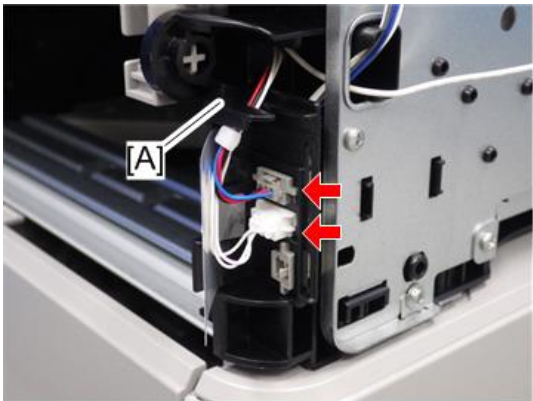
d255a1150

- 3. Open the transparent film [A]. (hookx2)



d255a1151

- 4. Disconnect two connectors, and then release them from the harness guide [A].



 x2

d255a1152

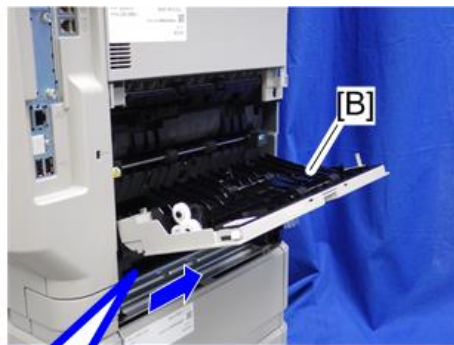
Replacement and Adjustment

5. Open the rear upper cover [A].



d255a1153

6. Release the left hinge [A] of the rear upper cover [B] by slightly bending the rear upper cover inward.



d255a1154

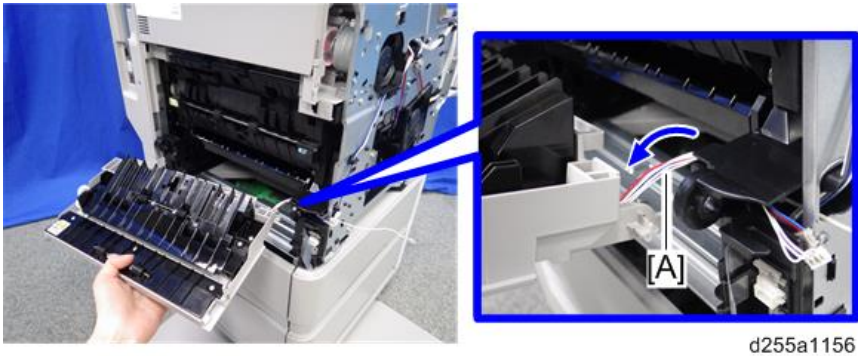
7. Remove the rear upper cover [A] by sliding it to the left.



d255a1155

↓ Note

- When removing the rear upper cover, release the harness [A] from the mainframe.



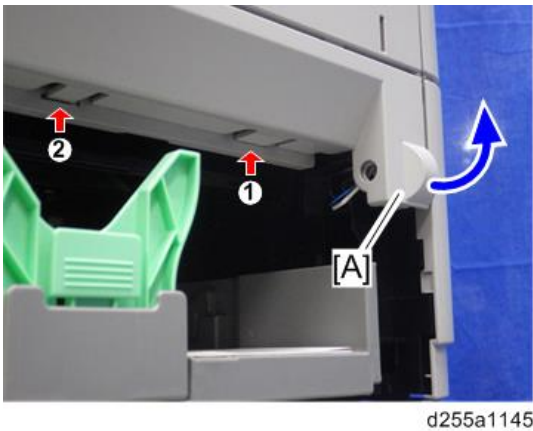
4.6.10 REAR MIDDLE COVER

1. Remove the rear lower cover. (page 4-35)
2. Release three hooks of the rear middle cover [A] in the order of ①, ②, and ③.



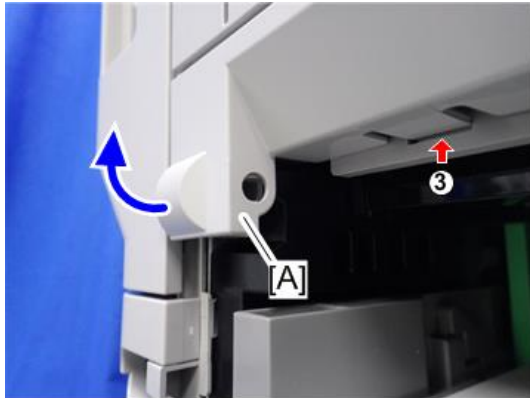
↓ Note

- When releasing the hooks at ① and ②, pull the right side [A] of the rear middle cover while pressing each hook upward.



Replacement and Adjustment

- When releasing the hook at ③, pull the left side [A] of the rear middle cover while pressing the hook upward.



d255a1146

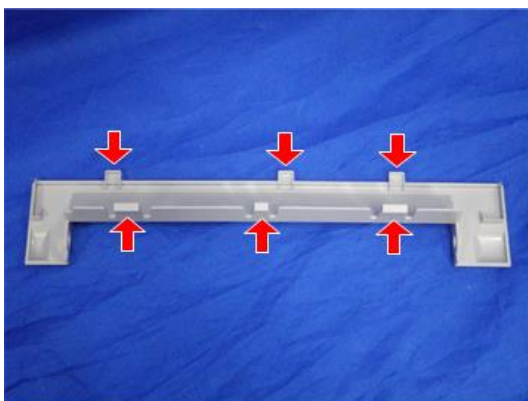
3. Remove the rear middle cover [A] by rotating in the direction of the arrow.



d255a1147

Note

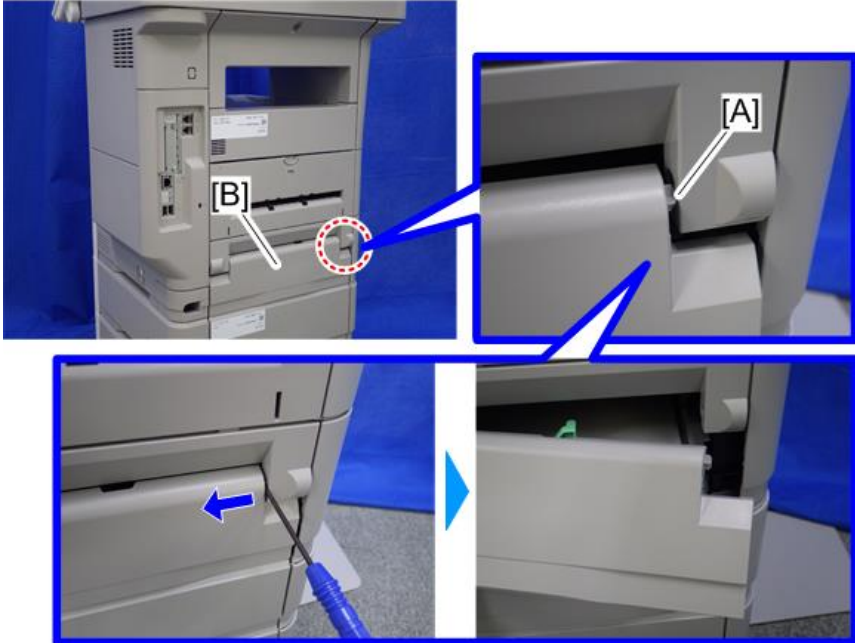
- Be careful not to damage the hooks on the inside of the rear middle cover when you remove or install the rear middle cover.



d255a1149

4.6.11 REAR LOWER COVER

- 1. Release the right hinge [A] of the rear lower cover [B] by pushing the rear lower cover inward with a flathead screwdriver.



d255a1141

- 2. Remove the rear lower cover [A] by sliding it to the right.



d255a1142

Replacement and Adjustment

4.6.12 REAR CENTER STAY

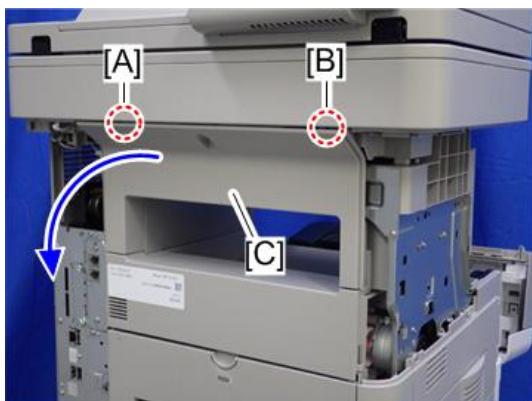
1. Remove the following covers.
 - Rear left stay (page 4-37)
 - Left upper cover (page 4-26)
2. Remove the screw from the rear center stay [A].



 x1

d255a1138

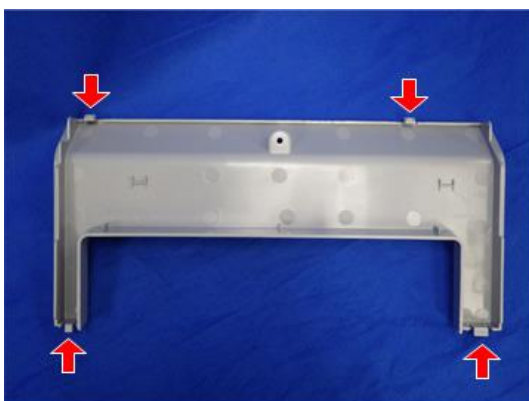
3. Insert a flathead screwdriver into [A] and [B] to release the hooks of the rear center stay [C].
4. Remove the rear center stay [C].



d255a1139

Note

- Be careful not to damage the hooks on the inside of the rear center stay when you remove or install the rear center stay.



d255a1148

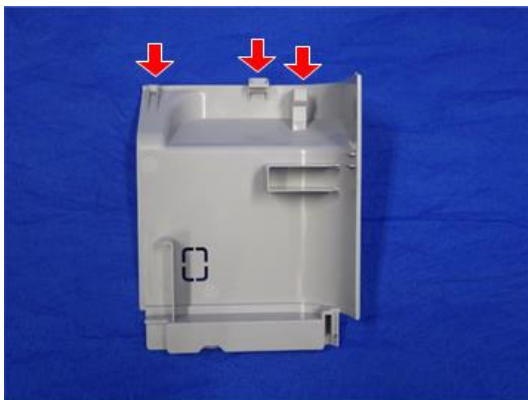
4.6.13 REAR LEFT STAY

1. Remove the controller cover. (page 4-45)
2. Insert a flathead screwdriver in the order of ①, ②, and ③ to release three hooks of the rear left stay [A].
3. Remove the rear left stay [A].



Note

- Be careful not to damage the hooks on the inside of the rear right stay when you remove or install the rear right stay.



4.6.14 PAPER EXIT COVER

1. Remove the rear center stay. (page 4-36)
2. Remove the two screws from the paper exit cover [A].



 x2

d255a1345

3. Remove the paper exit cover [A] from the right side. (hookx1)



d255a1346

Note

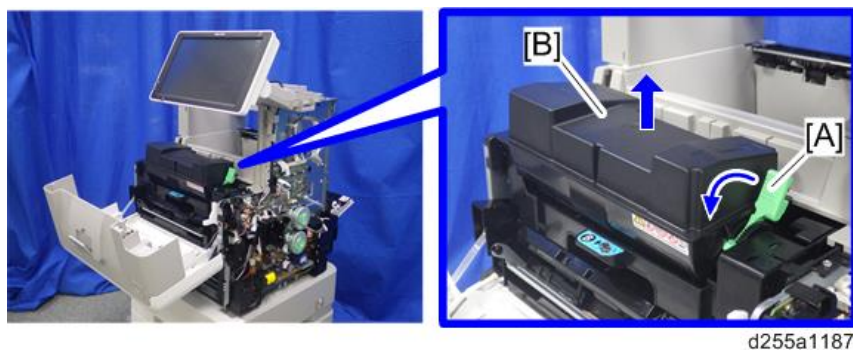
- Be careful not to damage the hook at the rear of the paper exit cover when you remove or install the paper exit cover.



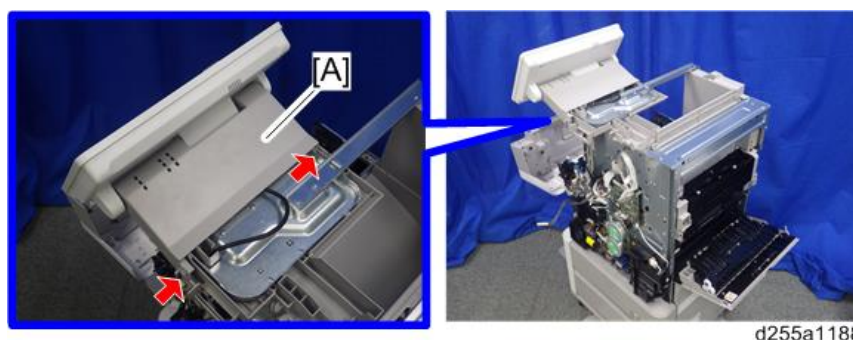
d255a1347

4.6.15 PAPER EXIT TRAY

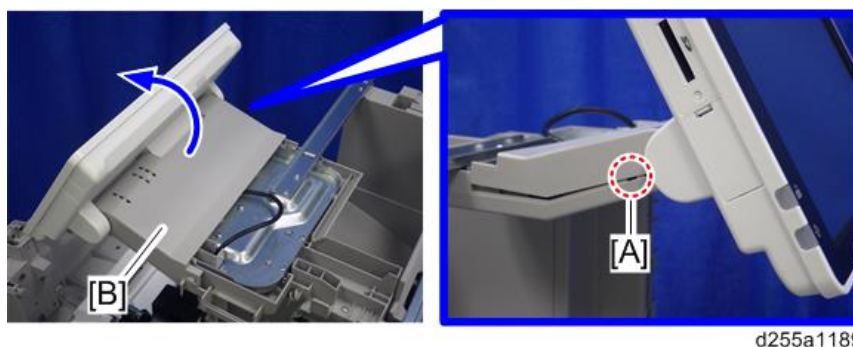
1. Remove the scanner unit. (page 4-76)
2. Remove the controller box. (page 4-128)
3. Remove the following covers.
 - Left lower cover (page 4-29)
 - Paper exit cover (page 4-38)
4. Release the lock lever [A] by rotating it towards you, and then remove the toner cartridge [B].



5. Release the two hooks from the operation panel arm upper cover [A].



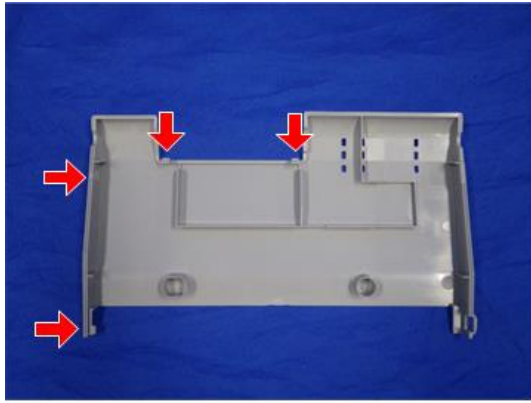
6. Insert a flathead screwdriver into [A] to release the hook, and then remove the operation panel arm upper cover [B].



ⓘ Note

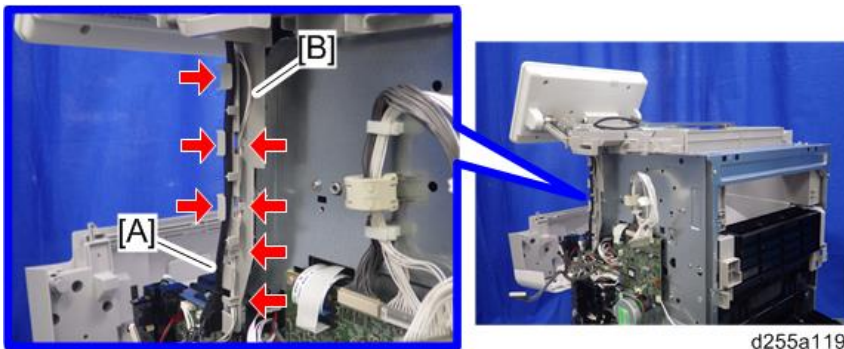
- Be careful not to damage the hooks on the inside of the operation panel arm upper cover when you remove or install the operation panel arm upper cover.

Exterior Covers (MP 501/601)



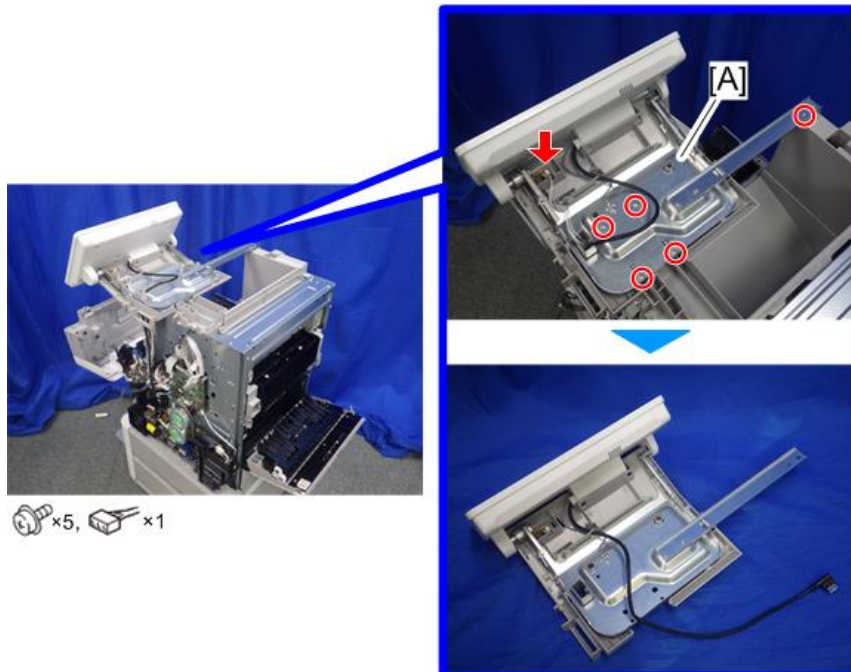
d255a1190

7. Release the USB cable [A] and harness [B] of the operation panel from the harness guides.



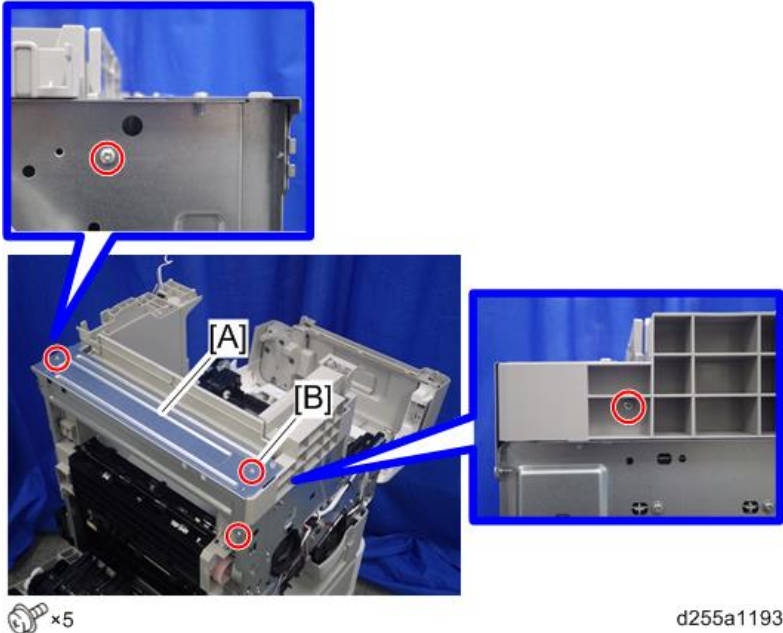
d255a1191

8. Remove the operation panel unit with bracket [A].



d255a1192

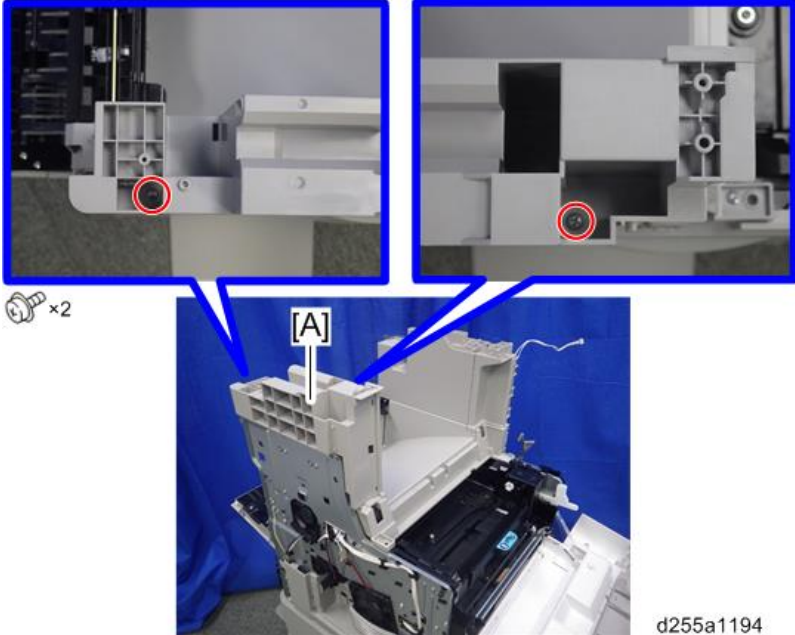
9. Remove the bracket [A].



Note

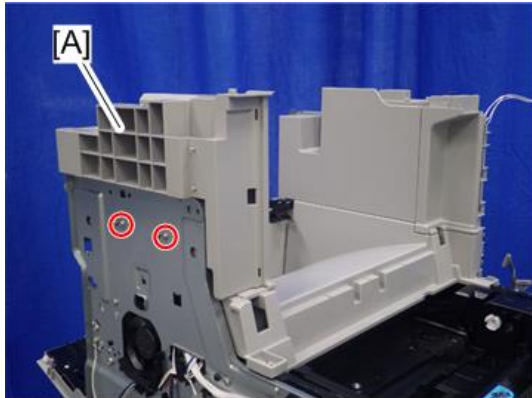
- The screw [B] is a sems screw. Be careful not to use the wrong screw when installing the paper exit tray.

10. Remove the two screws from the left side cover [A].



Replacement and Adjustment

11. Remove the left side cover [A].



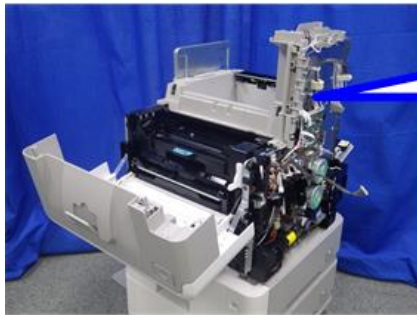
 x2

d255a1195

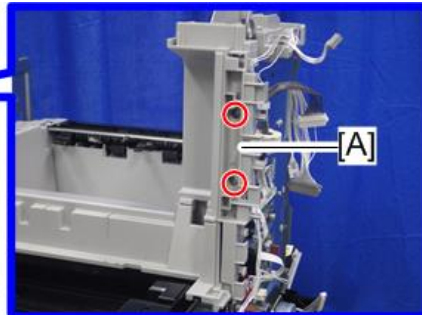
 **Note**

- These two screws are tapping screws. Be careful not to use the wrong screws when installing the paper exit tray.

12. Remove the front right cover [A].



 x2

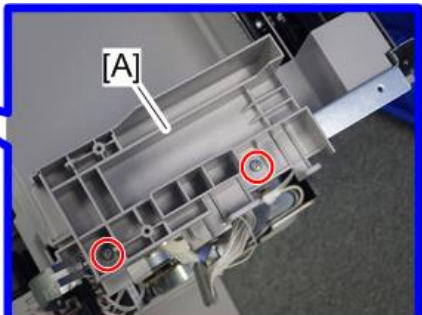


d255a1196

13. Remove the two screws from the right side cover [A].

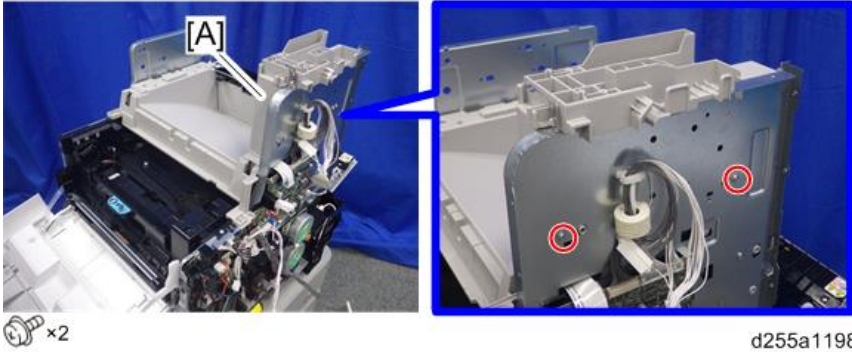


 x2



d255a1197

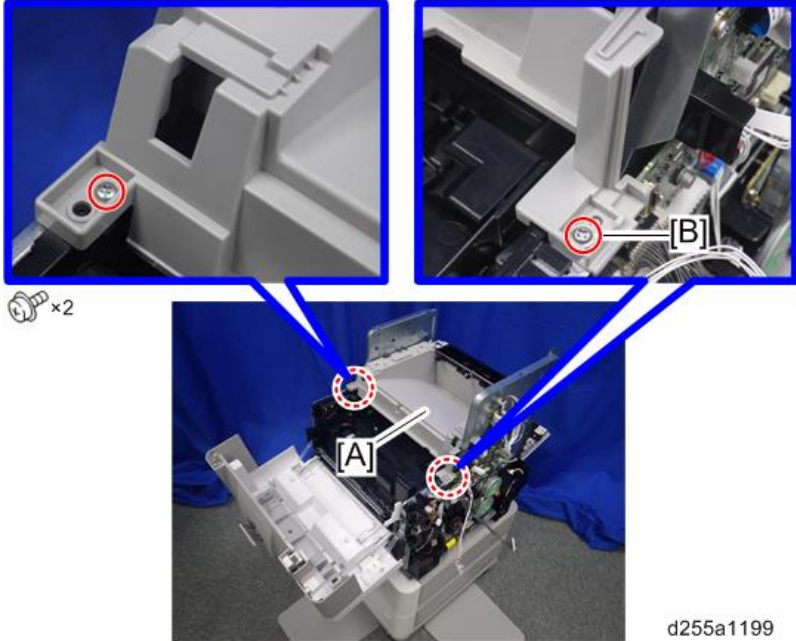
14. Remove the right side cover [A].



Note

- These two screws are tapping screws. Be careful not to use the wrong screws when installing the paper exit tray.

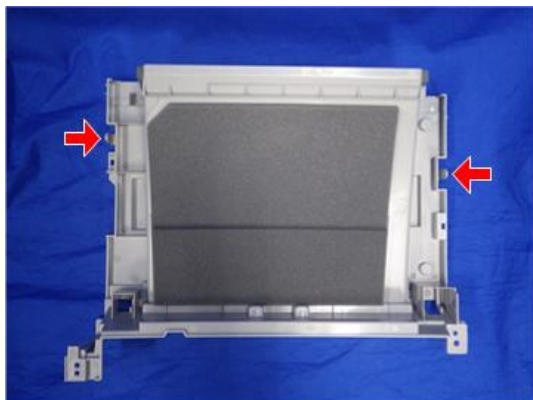
15. Remove the paper exit tray [A].



Replacement and Adjustment

Note

- The screw [B] is a sems screw. Be careful not to use the wrong screw when installing the paper exit tray.
- Be careful not to damage the hooks on the inside of the paper exit tray when you remove or install the paper exit tray.



d255a1250

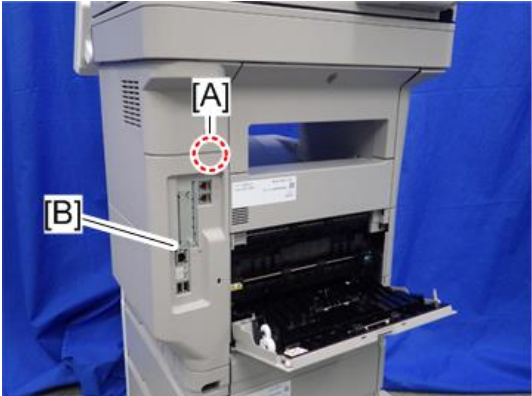
4.6.16 CONTROLLER COVER

- 1. Open the rear upper cover [A].



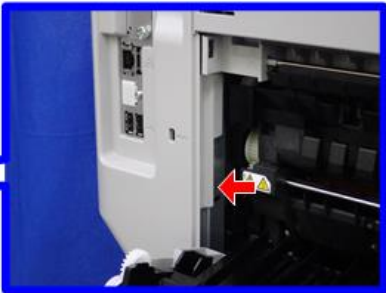
d255a1030

- 2. Insert a flathead screwdriver into [A] to release the hook of the controller cover [B].



d255a1080

- 3. Release the hook by opening the right side of the cover, and then remove the cover [A] by rotating it in the direction of the blue arrow.

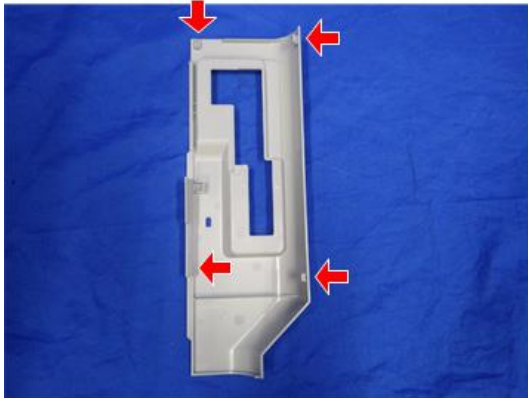


d255a1032

Replacement and Adjustment

Note

- Be careful not to damage the hooks on the inside of the controller cover when you remove or install the controller cover.

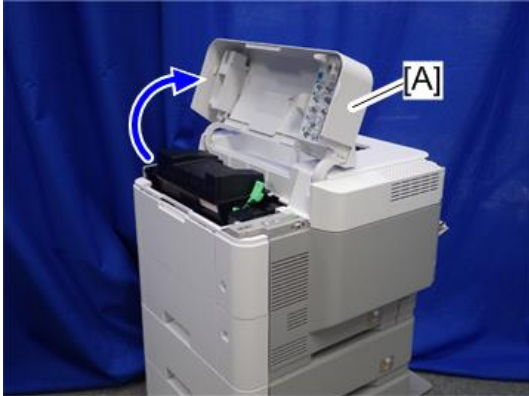


d255a1033

4.7 EXTERIOR COVERS (SP 5300/5310)

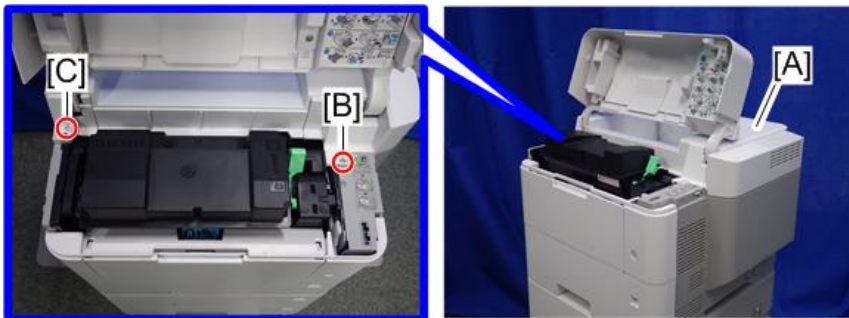
4.7.1 UPPER COVER

1. Remove the controller cover. (page 4-67)
2. Open the upper cover [A].



d255a1382

3. Remove the two screws from the upper cover [A].



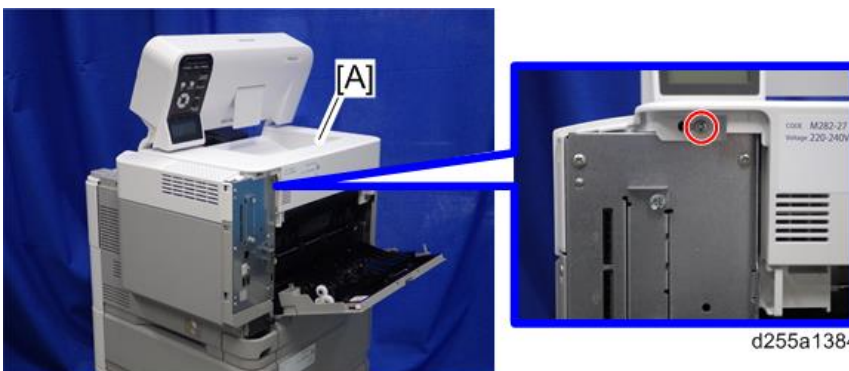
 x2

d255a1383

Note

- The screw [B] is a sems screw. The screw [C] is a tapping screw. Be careful not use the wrong screws when installing the upper cover.

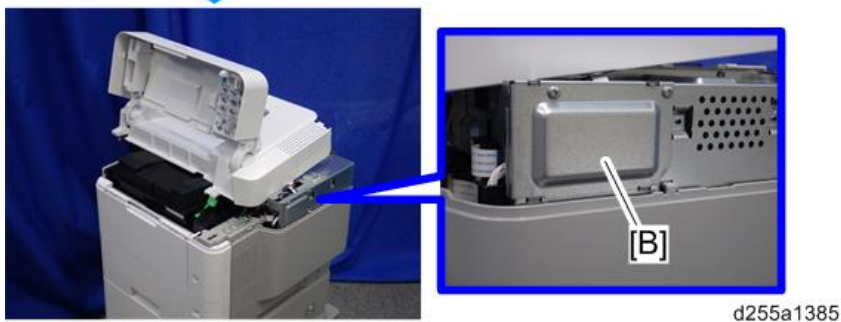
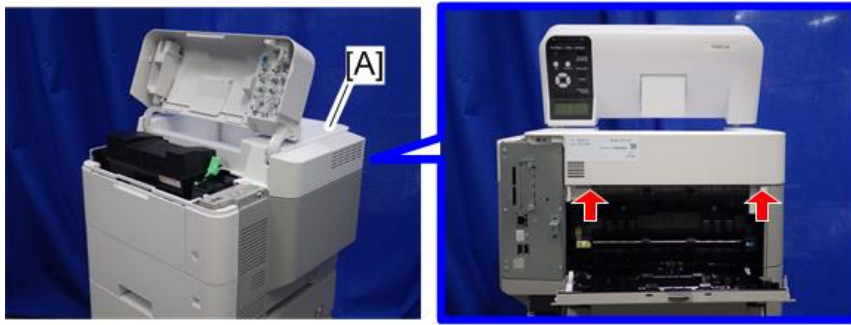
4. Remove the screw from the rear side of the upper cover [A].



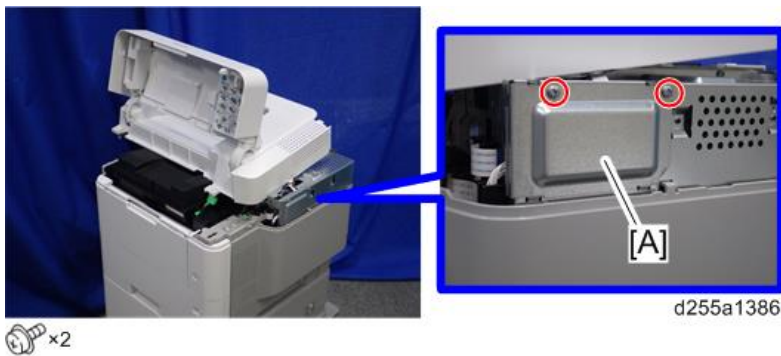
 x1

d255a1384

5. Lift the upper cover [A] by releasing the two hooks, and then put it on the mainframe so that you can access the bracket [B] on the right side of the machine.

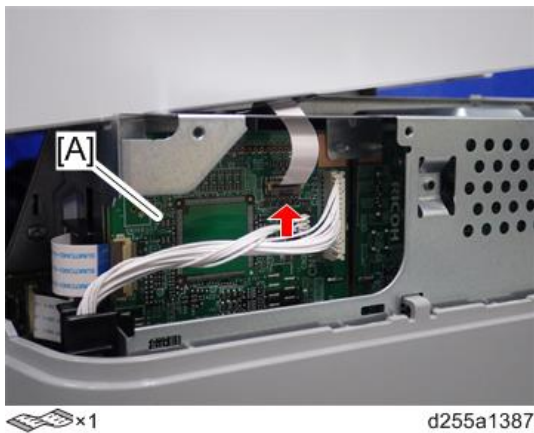


6. Remove the bracket [A].



 x2

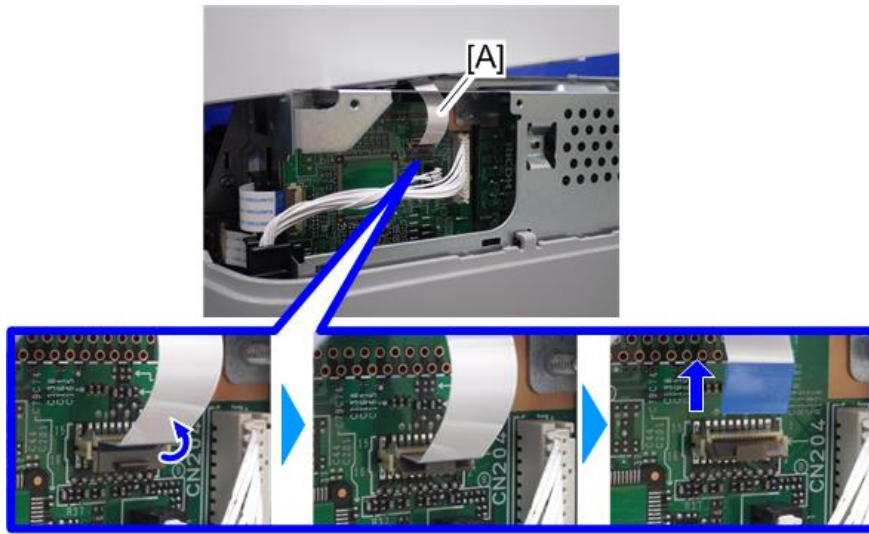
7. Disconnect the flat cable from the BiCU [A].



 x1

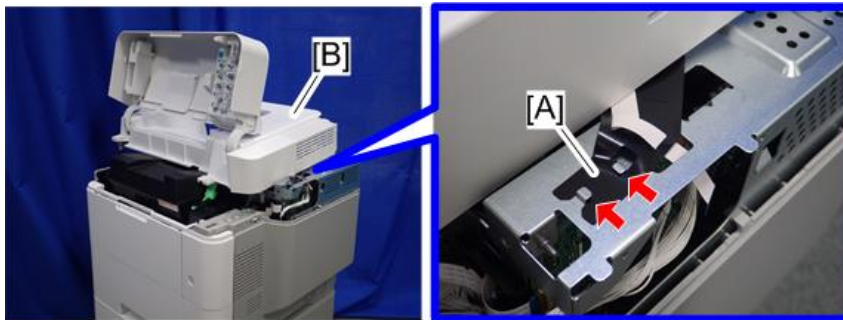
 **Note**

- Make sure to open the flap before disconnecting the flat cable [A], as shown in the following pictures. Otherwise, the connector may be damaged.



d255a1388

- Remove the plastic sheet [A] from the main frame (hookx2), and then remove the upper cover [A].



d255a1389

Note

- Be careful not to damage the hooks on the inside of the upper cover when you remove or install the upper cover.



d255a1390

4.7.2 FRONT COVER

1. Remove the paper feed tray [A] by pulling it out.



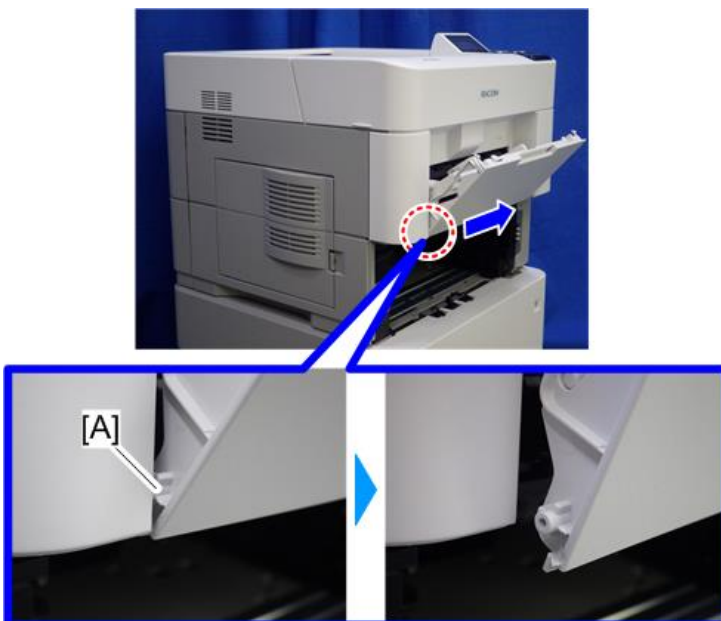
d255a1421

2. Open the bypass tray [A].



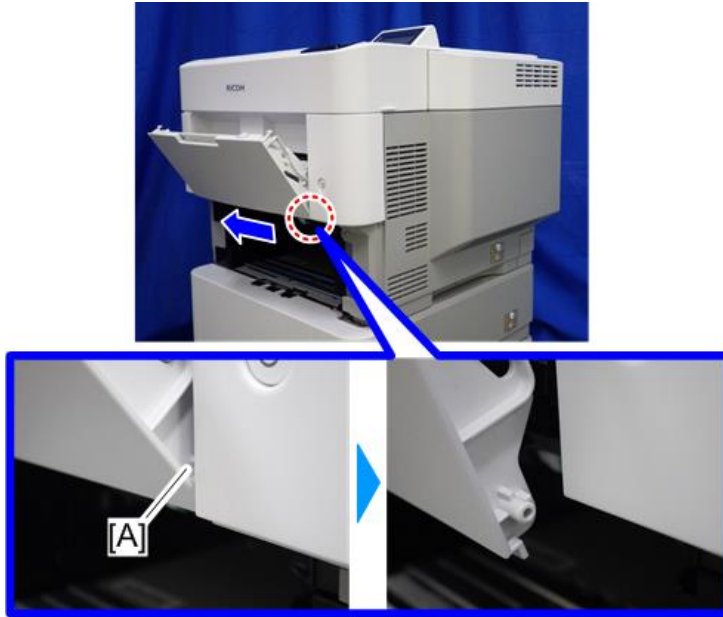
d255a1422

3. Release the left hinge [A] of the bypass tray with a flathead screwdriver by slightly bending the bypass tray inward.



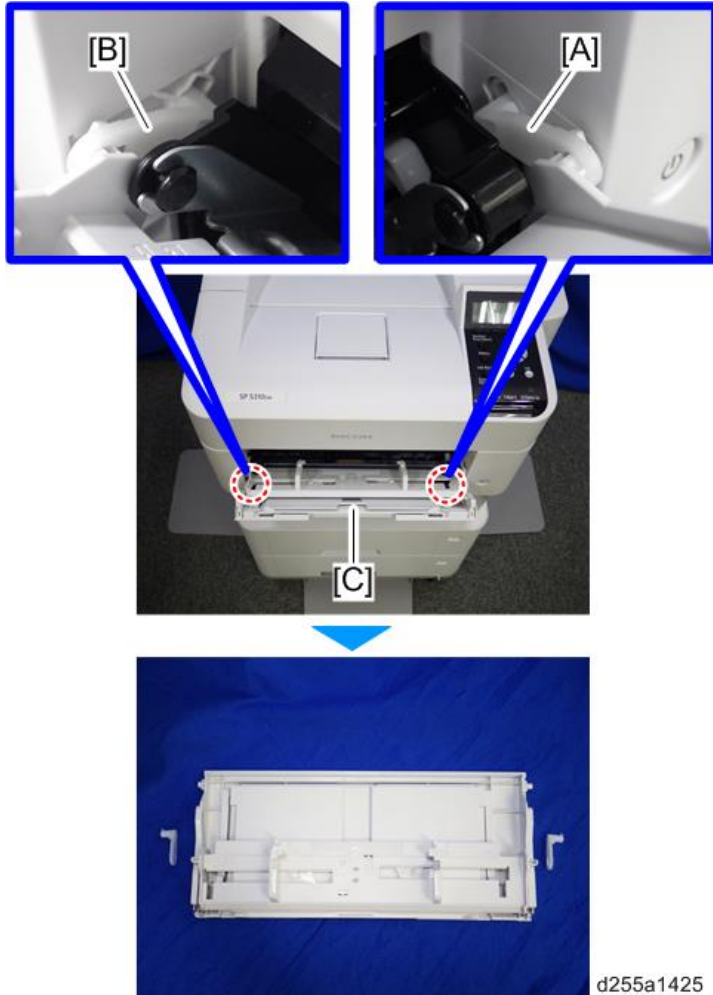
d255a1423

4. Release the right hinge [A] of the bypass tray by sliding it to the left.



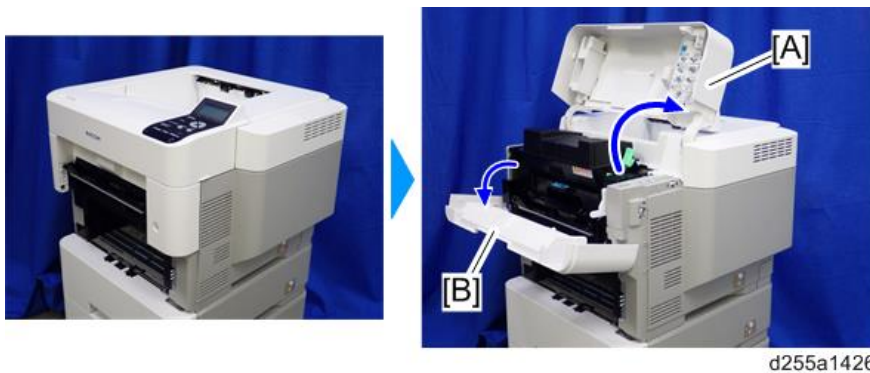
d255a1424

5. Remove the right connecting arm [A] and left connecting arm [B] of the bypass tray [C].
6. Remove the bypass tray [C].



d255a1425

7. Open the upper cover [A], and then open the front cover [B].

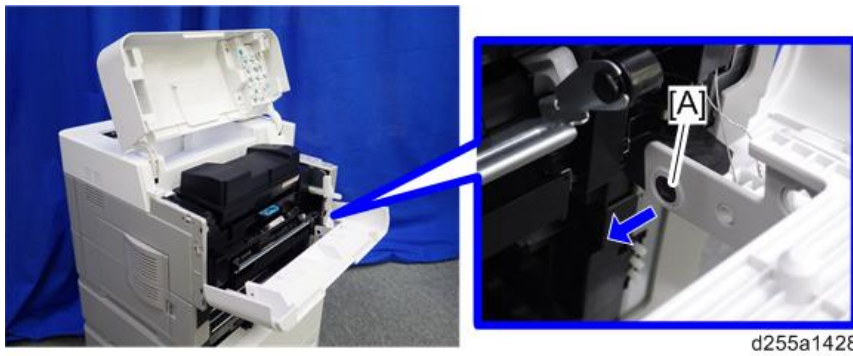


d255a1426

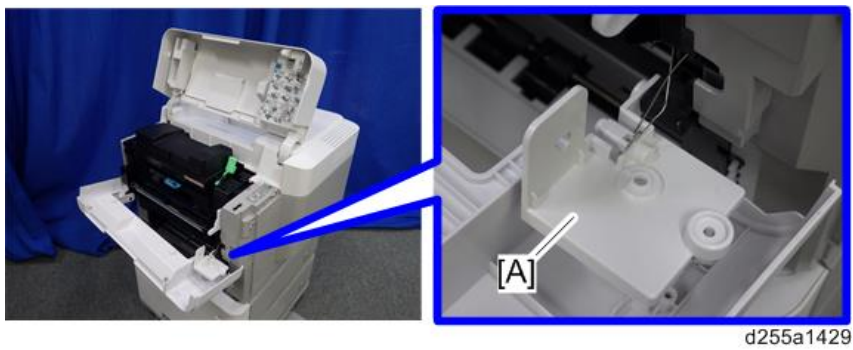
8. Remove the screw from the switch cover [A].



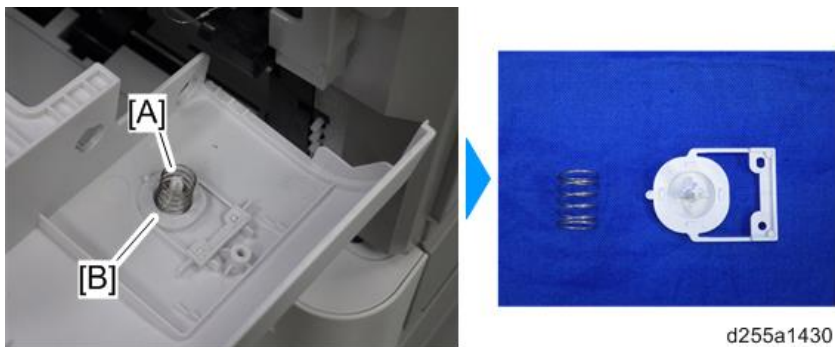
9. Release the right hinge [A] of the front cover.



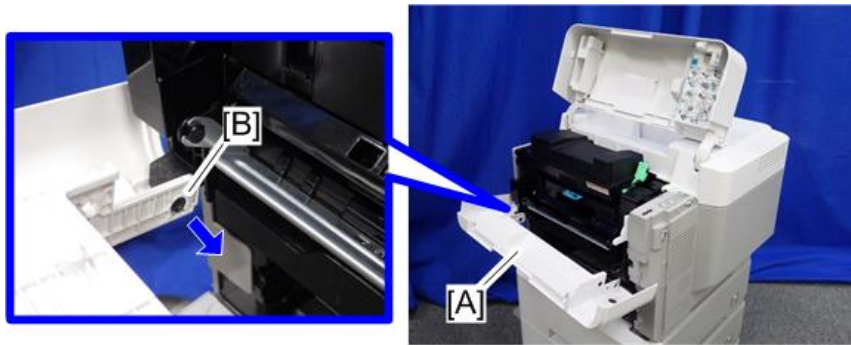
10. Remove the switch cover [A].



11. Remove the spring [A] and power switch [B].



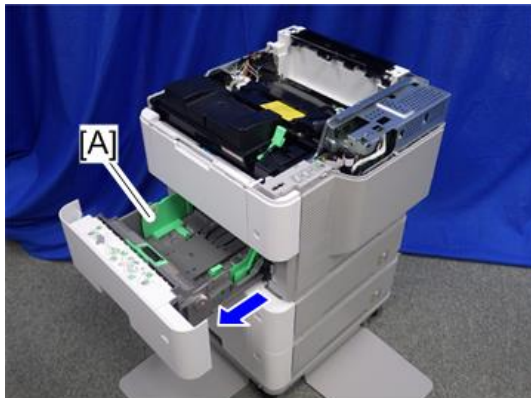
12. Remove the front cover [A] by releasing the left hinge [B].



d255a1431

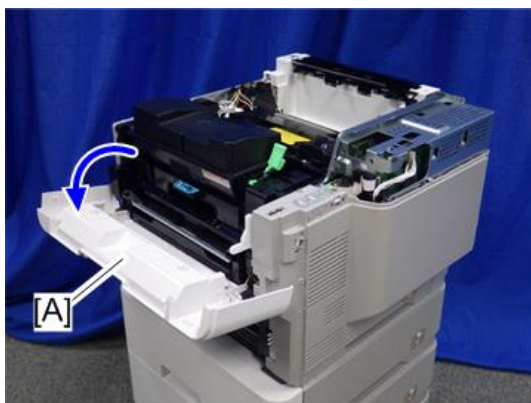
4.7.3 RIGHT COVER

1. Remove the upper cover. (page 4-47)
2. Remove the paper feed tray [A] by pulling it out.



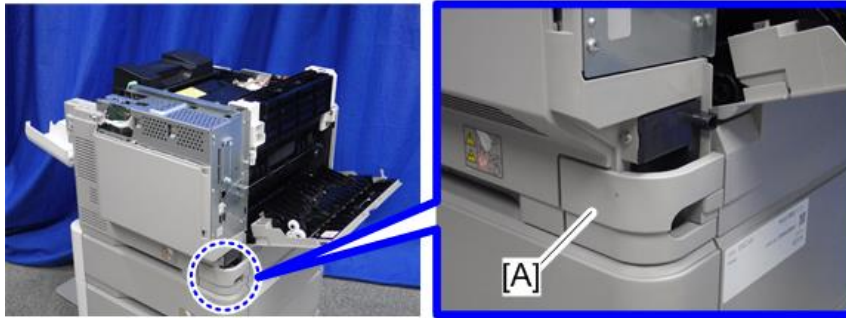
d255a1353

3. Open the front cover [A].



d255a1354

4. Remove the power connector cover [A].



d255a1355

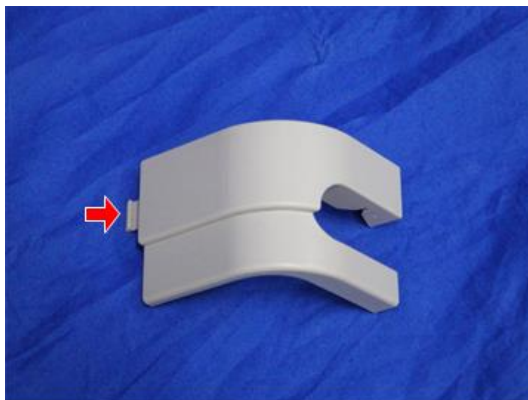
Note

- When removing the power connector cover, pull it in the direction of the arrow.



d255a1356

- Be careful not to damage the hook on the power connector cover when you remove or install the power connector cover.



d255a1078

5. Remove five screws from the right cover [A].



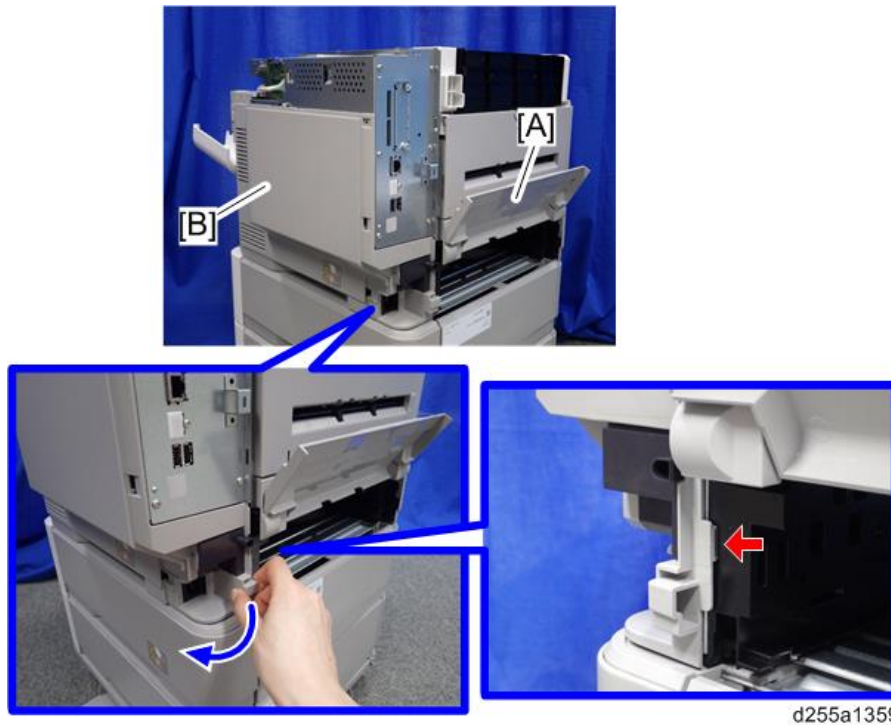
↓ Note

- The screw [B] is a tapping screw. The screw [C] is a long screw. Be careful not to use the wrong screws when installing the right cover.

6. Close the rear upper cover [A].



7. Open the rear lower cover [A], and then release the hook of the right cover [B] by rotating it in the direction of the blue arrow.



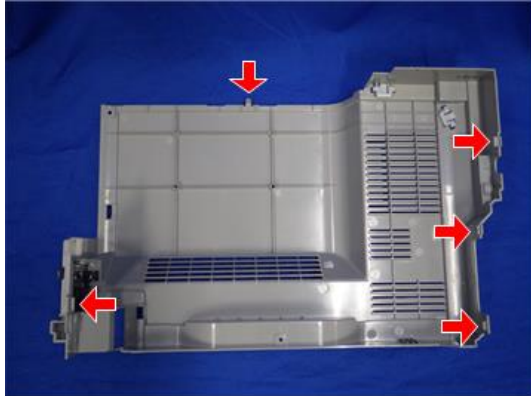
8. Release the four hooks, and then remove the right cover [A].



Replacement and Adjustment

Note

- Be careful not to damage the hooks on the inside of the right cover when you remove or install the right cover.



d255a1361

4.7.4 LEFT UPPER COVER

1. Remove the following covers.
 - Upper cover (page 4-47)
 - Left rear cover (page 4-61)
2. Remove the paper feed tray [A] by pulling it out.



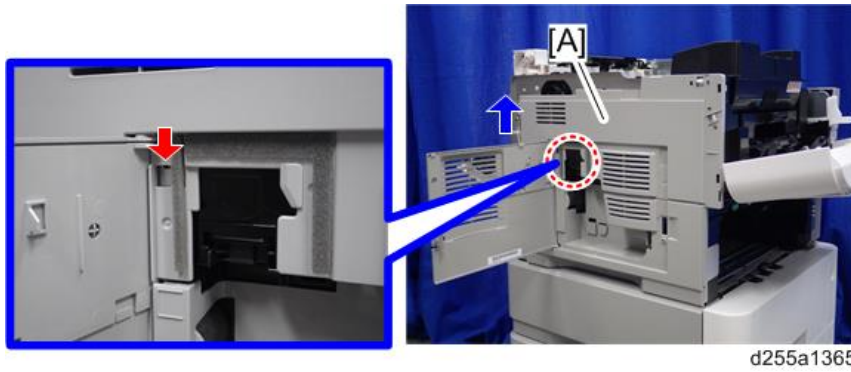
d255a1363

3. Open the waste toner bottle cover [A], and then remove the waste toner bottle [B].

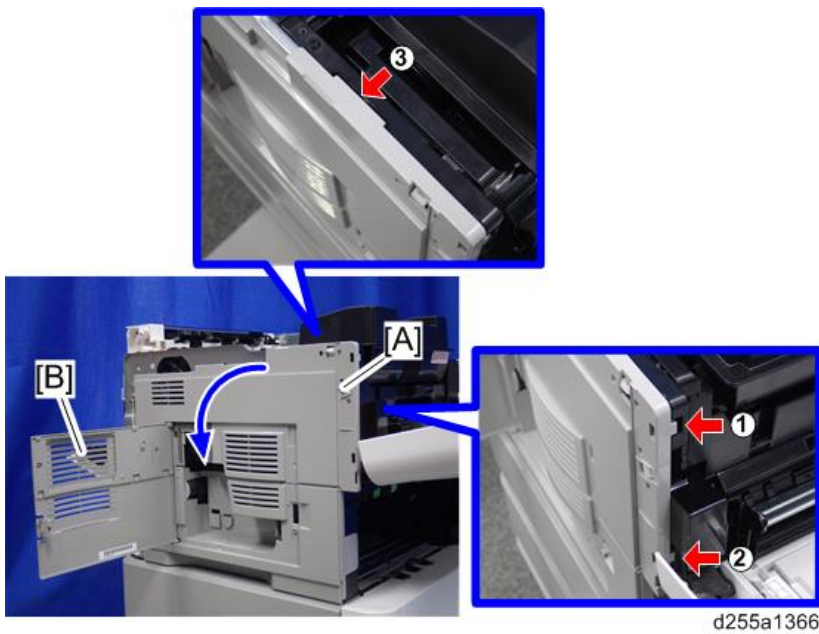


d255a1364

4. Release the hook by lifting the left upper cover [A] upward.

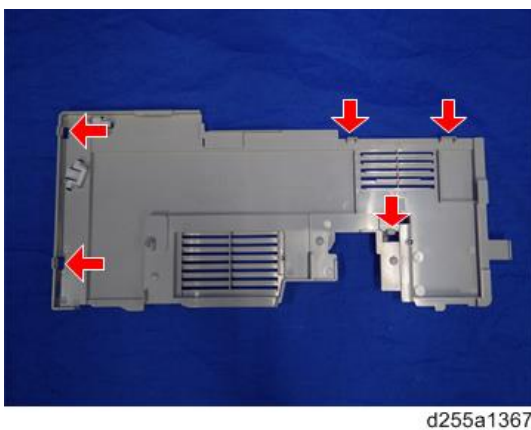


5. Release the hooks in the order of ①, ②, and ③.
6. Remove the left upper cover [A] and waste toner bottle cover [B].



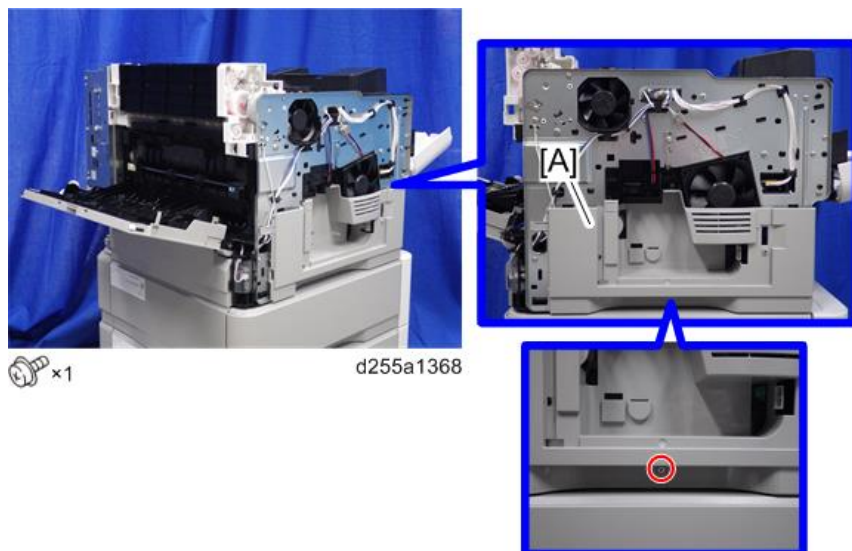
Note

- Be careful not to damage the hooks on the inside of the left upper cover when you remove or install the left upper cover.

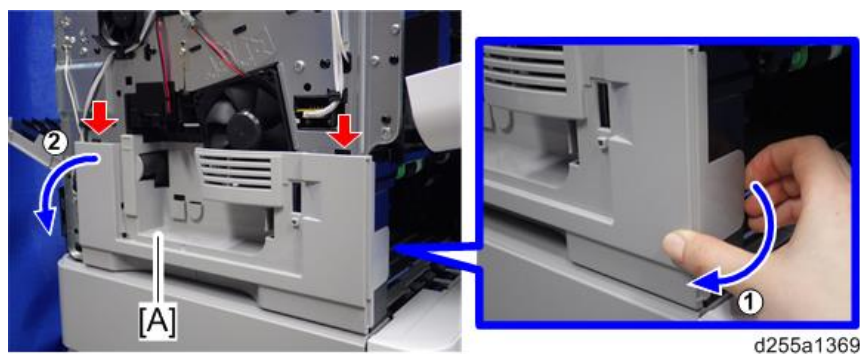


4.7.5 LEFT LOWER COVER

1. Remove the left upper cover. (page 4-58)
2. Remove the screw holding the left lower cover [A].

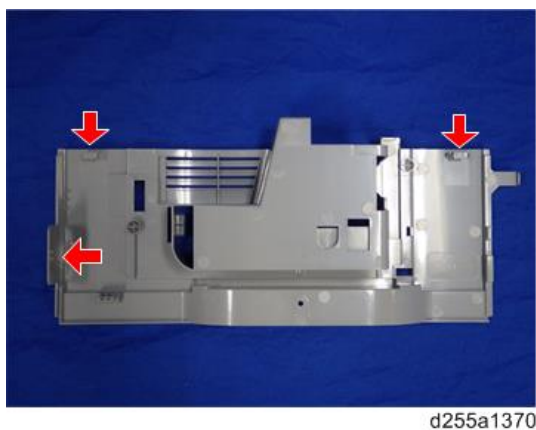


3. Release the hook by opening the right side of the left lower cover as shown below, and then remove the left lower cover [A]. (hookx3)



Note

- Be careful not to damage the hooks on the inside of the left lower cover when you remove or install the left lower cover.



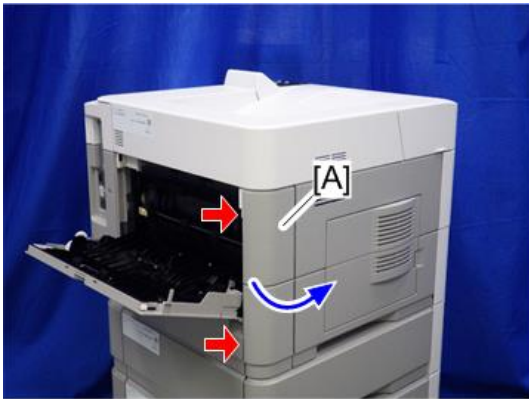
4.7.6 LEFT REAR COVER

1. Open the rear upper cover [A].



d255a1511

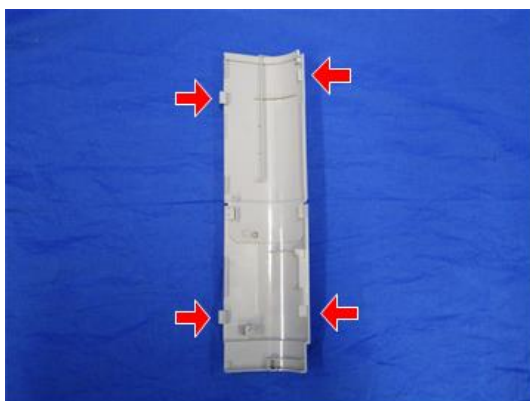
2. Remove the left rear cover [A] by rotating it in the direction of the arrow.



d255a1512

ⓘ Note

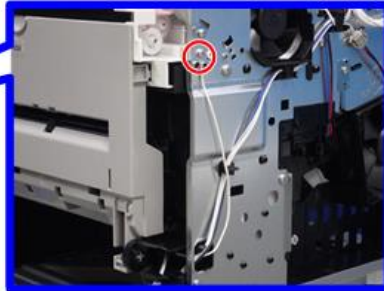
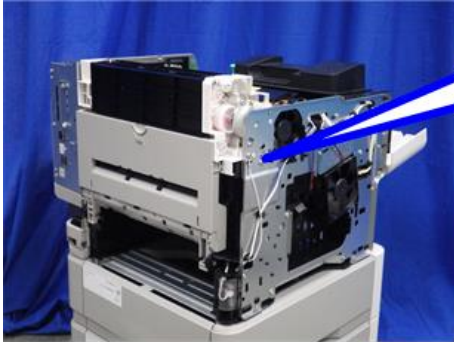
- Be careful not to damage the hooks on the inside of the left rear cover when you remove or install the left rear cover.



d255a1159

4.7.7 REAR UPPER COVER

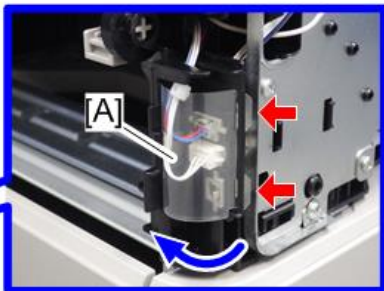
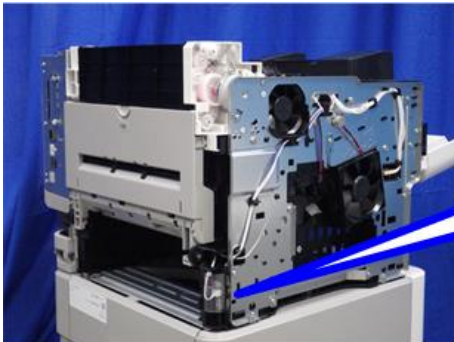
1. Remove the following covers.
 - Left lower cover (page 4-60)
 - Rear middle cover (page 4-64)
2. Remove the ground screw.



d255a1375

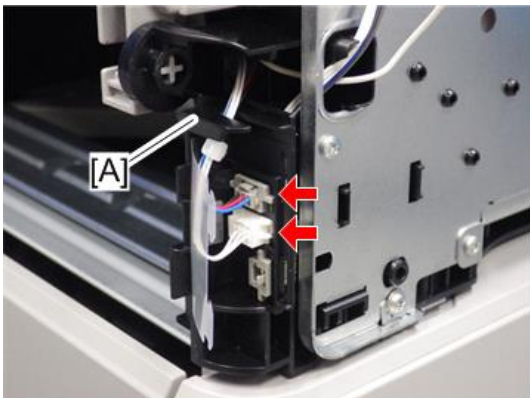


3. Open the transparent film [A]. (hookx2)



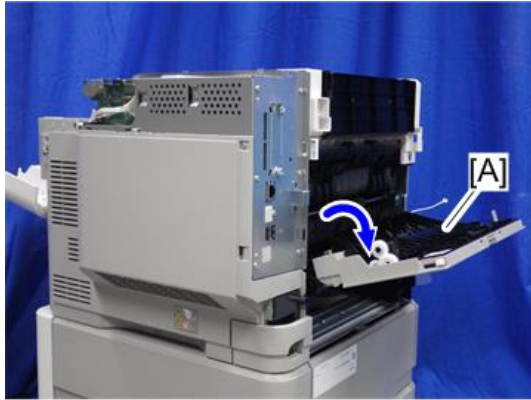
d255a1376

4. Disconnect the two connectors, and then release them from the harness guide [A].



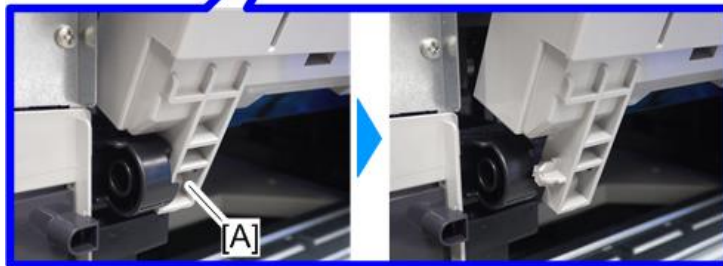
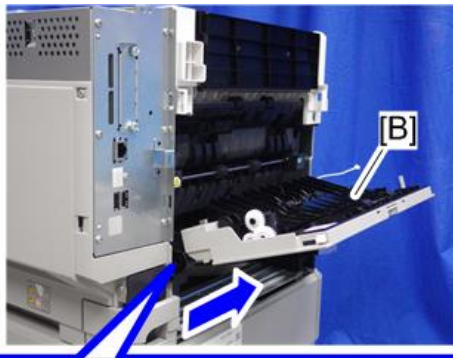
d255a1377

5. Open the rear upper cover [A].



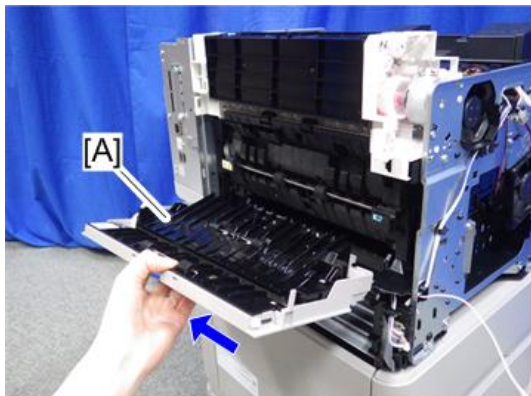
d255a1378

6. Release the left hinge [A] of the rear upper cover [B] by slightly bending the rear upper cover inward.



d255a1379

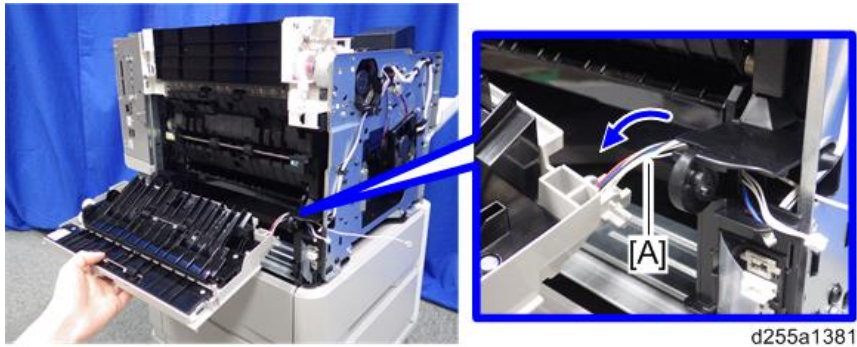
7. Remove the rear upper cover [A] by sliding it to the left.



d255a1380

↓ Note

- When removing the rear upper cover, release the harness [A] from the mainframe.



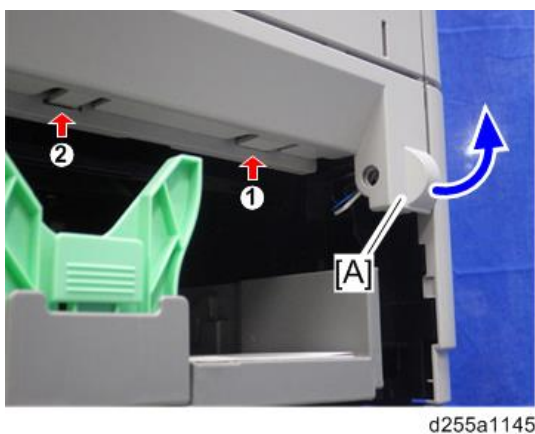
4.7.8 REAR MIDDLE COVER

1. Remove the rear lower cover. (page 4-66)
2. Release three hooks of the rear middle cover [A] in the order of ①, ②, and ③.

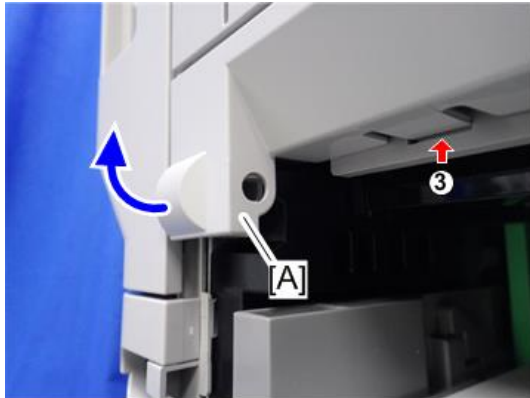


↓ Note

- When releasing the hooks at ① and ②, pull the right side [A] of the rear middle cover while pressing each hook upward.

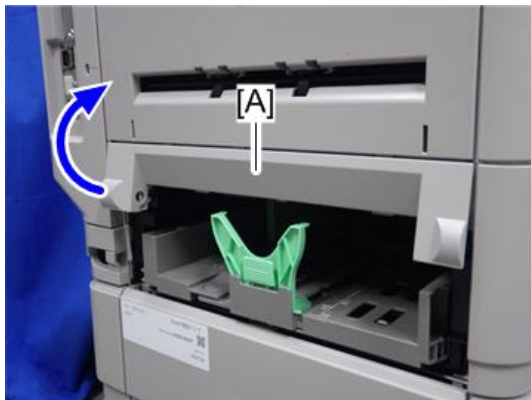


- When releasing the hook at ③, pull the left side [A] of the rear middle cover while pressing the hook upward.



d255a1146

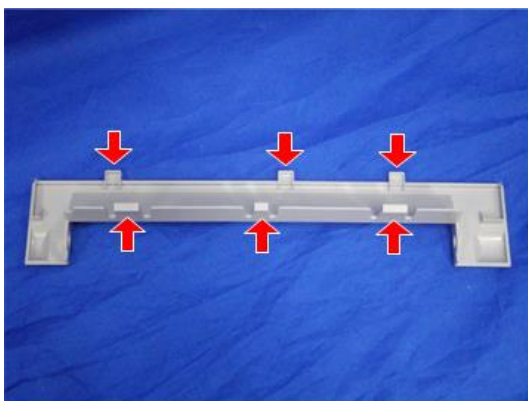
3. Remove the rear middle cover [A] by rotating in the direction of the arrow.



d255a1374

Note

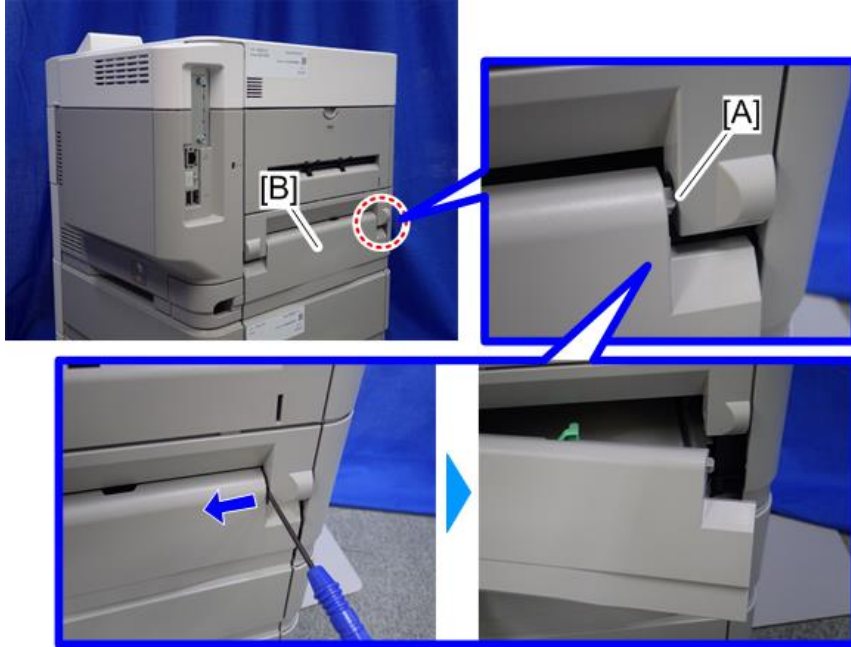
- Be careful not to damage the hooks on the inside of the rear middle cover when you remove or install the rear middle cover.



d255a1149

4.7.9 REAR LOWER COVER

1. Release the right hinge [A] of the rear lower cover [B] by pushing the rear lower cover inward with a flathead screwdriver.



d255a1371

2. Remove the rear lower cover [A] by sliding it to the right.



d255a1372

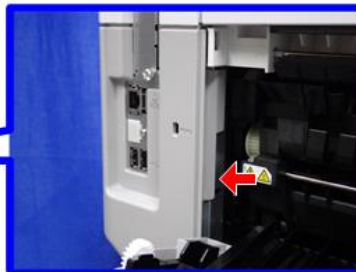
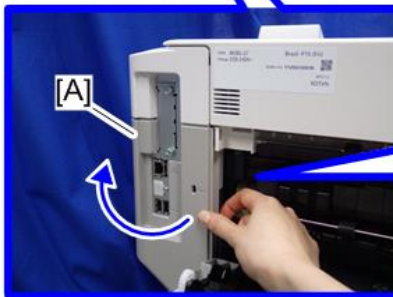
4.7.10 CONTROLLER COVER

1. Open the rear upper cover [A].



d255a1350

2. Release the hook by opening the right side of the cover, and then remove the cover [A] by rotating it in the direction of the blue arrow.



d255a1351

⚠ Note

- Be careful not to damage the hooks on the inside of the controller cover when you remove or install the controller cover.



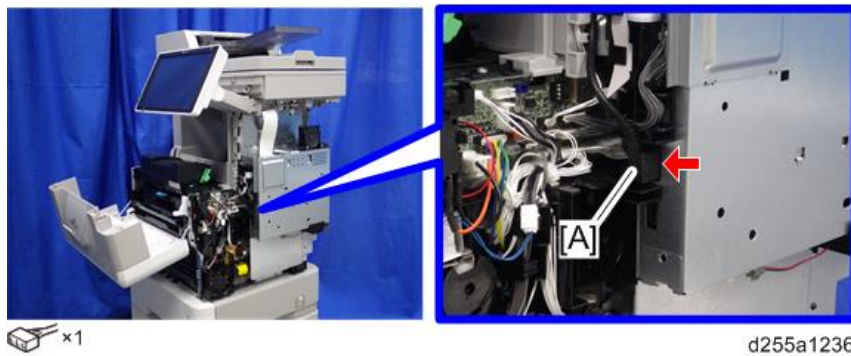
d255a1352

4.8 OPERATION PANEL (MP 501/601)

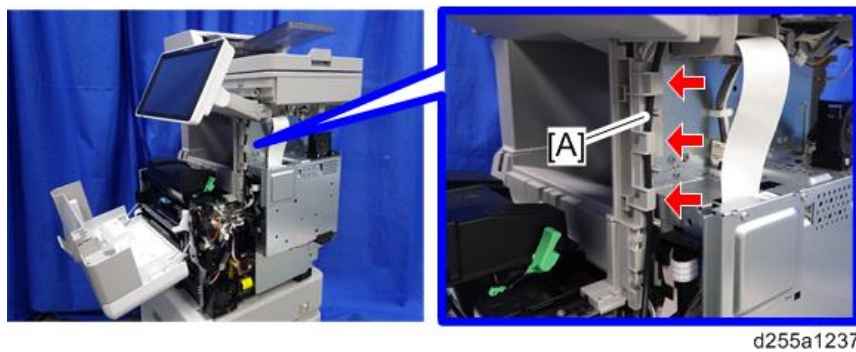
This section includes only the replacement procedure which is unique for the MP 501/601 series. The replacement procedures for the other parts are included in the FSM for the Smart Operation Panel, because these parts are also used with other models.

4.8.1 OPERATION PANEL

1. Remove the following covers.
 - Scanner front cover (page 4-14)
 - Right lower cover (page 4-22)
2. Disconnect the USB cable [A].



3. Release the USB cable [A] from the harness guides.



4. Release the two hooks from the operation panel arm upper cover [A].

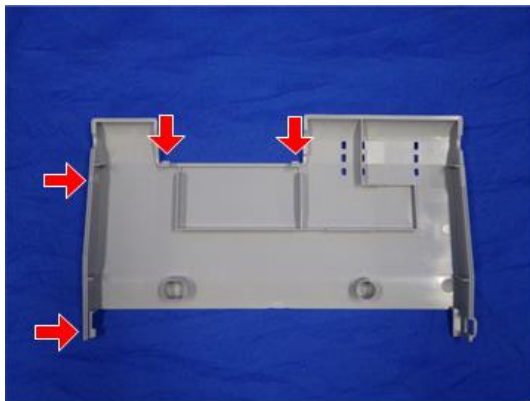


5. Insert a flathead screwdriver into [A] to release the hook, and then remove the operation panel arm upper cover [B].

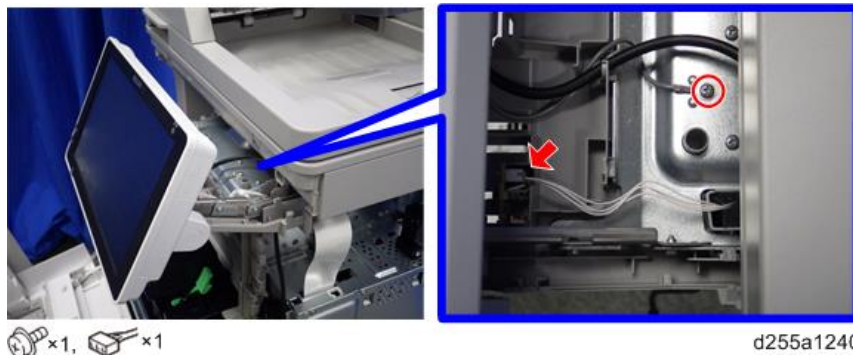


Note

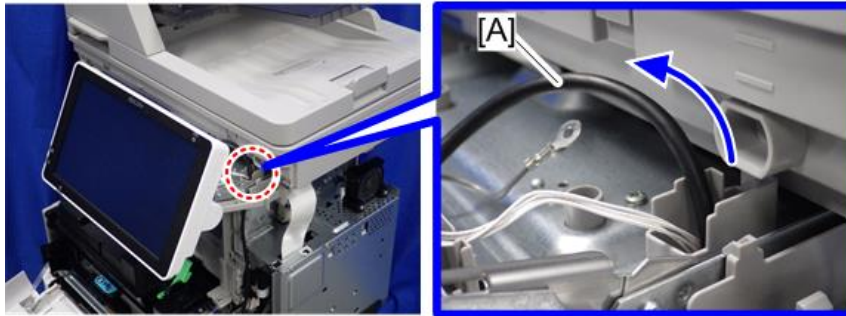
- Be careful not to damage the hooks on the operation panel arm upper cover when you remove or install the operation panel arm upper cover.



6. Remove the ground screw and disconnect the connector.



7. Pull out the USB cable [A].



d255a1241

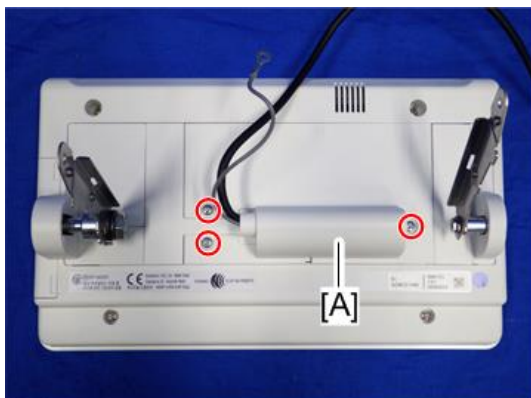
8. Remove the operation panel [A] from the mainframe.



 x4

d255a1242

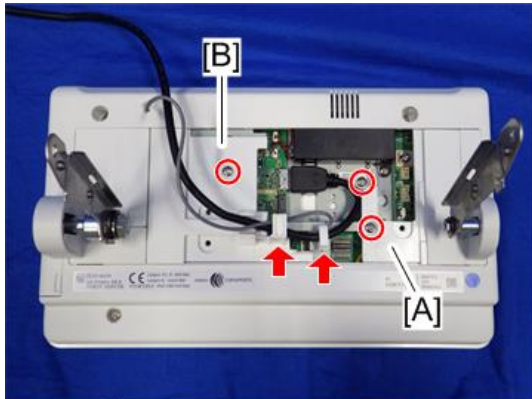
9. Remove the rear center cover [A].



 x3

d255a1243

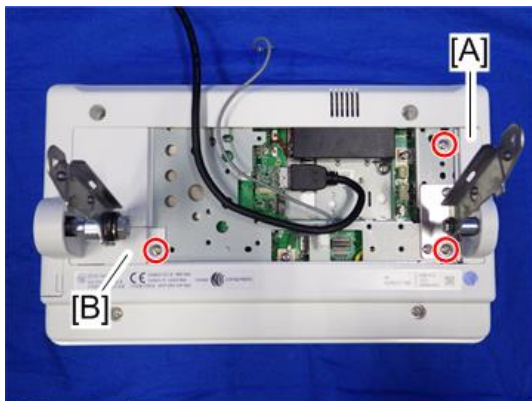
10. Remove the rear right cover [A] and rear left cover [B].



⚙️ x3, 🔧 x1

d255a1244

11. Remove the right hinge cover [A] and left hinge cover (lower) [B].



⚙️ x3

d255a1245

12. Remove the left hinge cover (upper) [A] and left hinge cover (left) [B]. (hookx2)

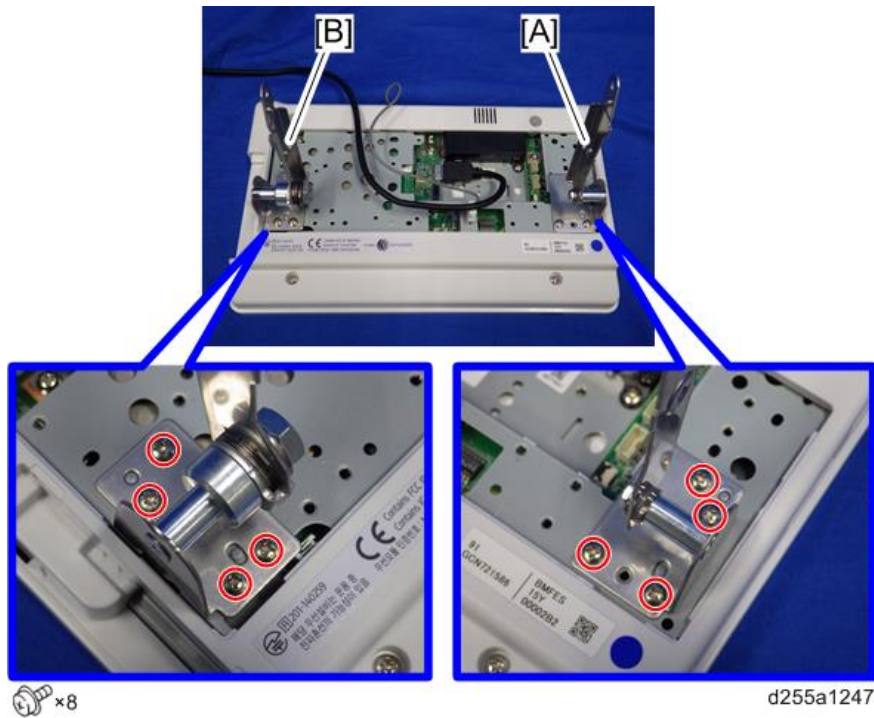


⚙️ x1

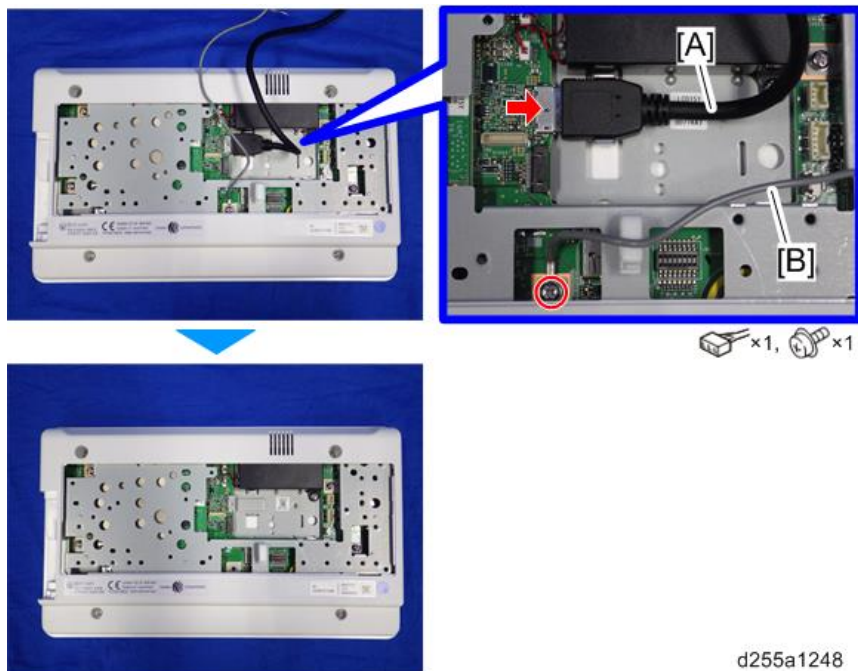
d255a1246

Replacement and Adjustment

13. Remove the right hinge [A] and left hinge [B].

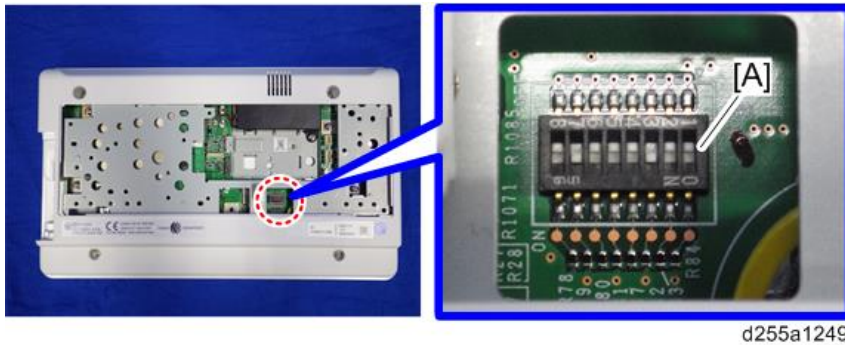


14. Remove the USB cable [A] and ground cable [B].



Before Installing the New Operation Panel

There is a DIP switch [A] on the sub board of the operation panel.



The switch setting to use depends on the model.

Make sure that only switch No. 3 and 7 are ON. Otherwise, SC672-11 occurs when starting the machine.

4.8.2 INTERNAL PARTS

Refer to the FSM for the Smart Operation Panel.

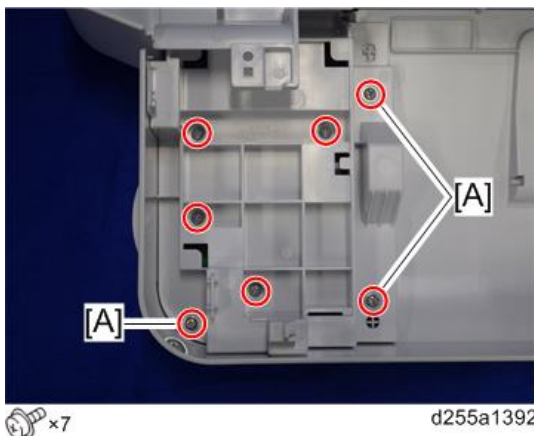
4.9 OPERATION PANEL (SP 5300/5310)

4.9.1 OPERATION PANEL

1. Remove the upper cover. (page 4-47)
2. Remove the sheet [A] from back side of the upper cover [B].

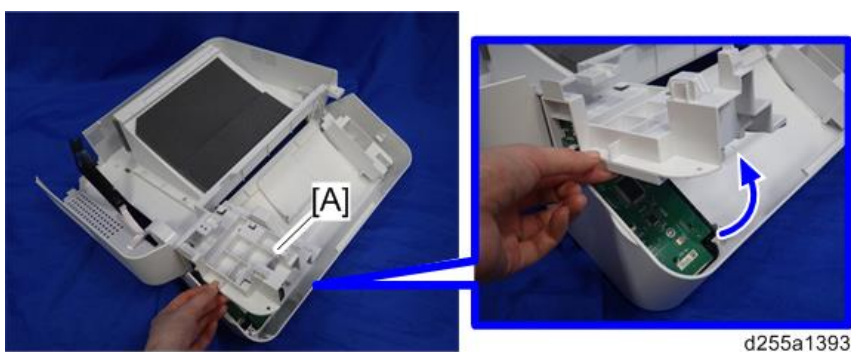


3. Remove the seven screws.

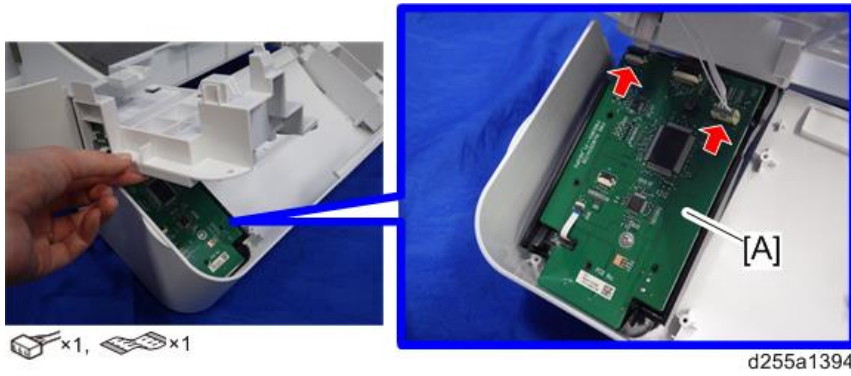


- The screws [A] are sems screws. Be careful not to use the wrong screws when installing the operation panel.

4. Open the bracket [A].

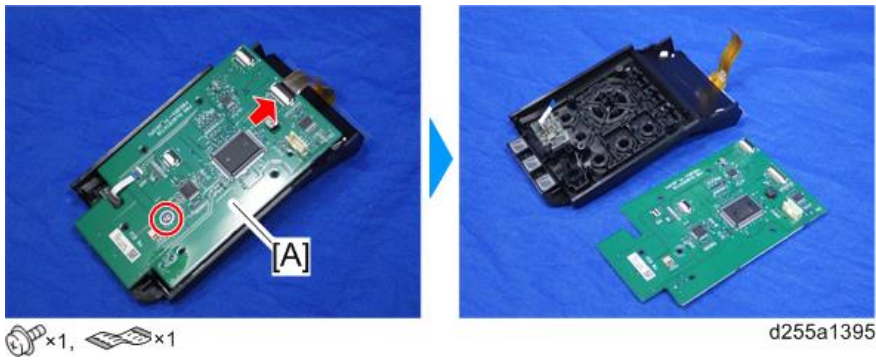


5. Remove the operation panel [A].



4.9.2 OPU BOARD

1. Remove the operation panel. (page 4-74)
2. Remove the OPU board [A].



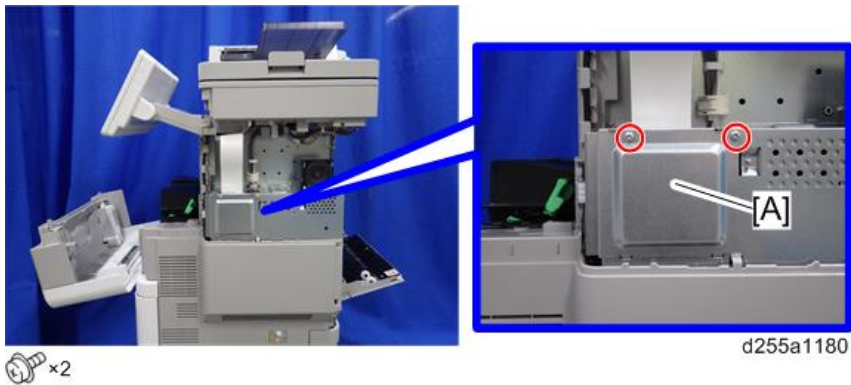
4.10 SCANNER UNIT (MP 501/601 ONLY)

4.10.1 SCANNER UNIT

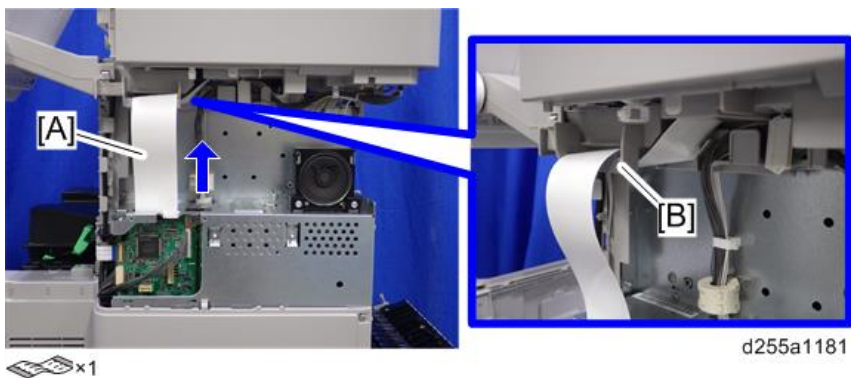
1. Remove the following covers.

- Scanner front cover (page 4-14)
- Right upper cover (page 4-20)
- Left upper cover (page 4-26)
- Rear center stay (page 4-36)

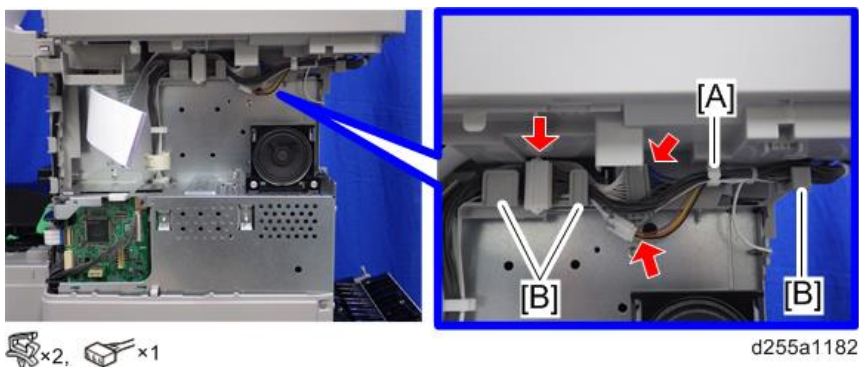
2. Remove the bracket [A].



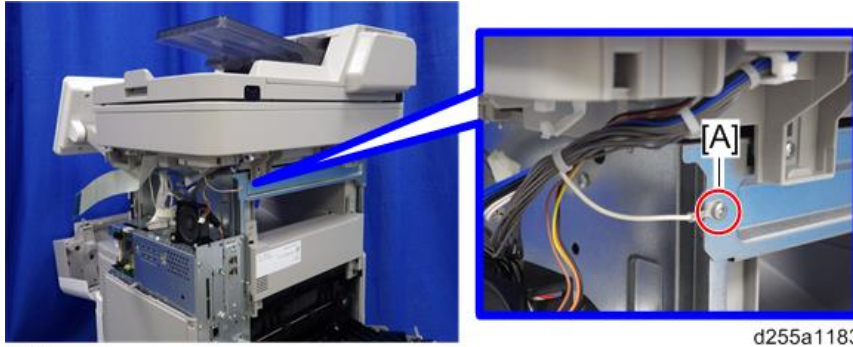
3. Disconnect the flat cable [A] and release it from the harness guide [B].



4. Open the clamp [A] and disconnect the three connectors. Then release the connectors from the harness guides [B].

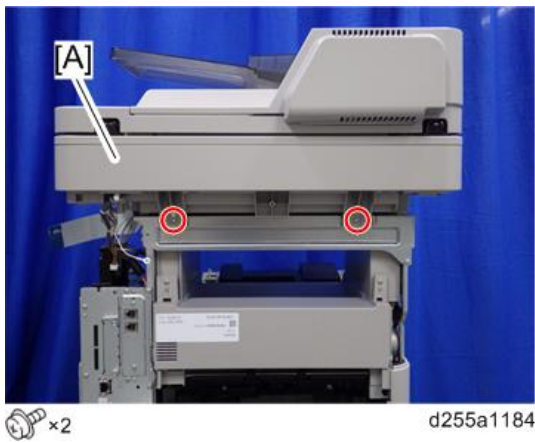


- 5. Remove the ground screw [A].



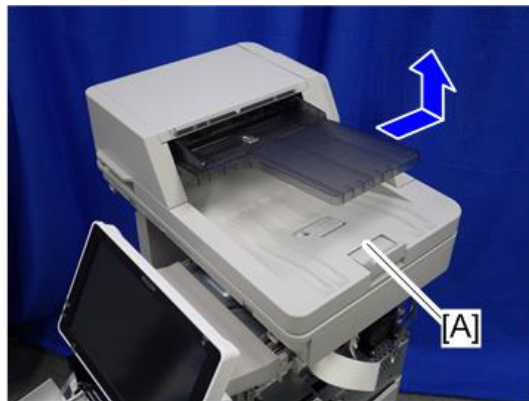
 x1

- 6. Remove the two screws from the rear side of the scanner unit [A].



 x2

- 7. Remove the scanner unit [A].

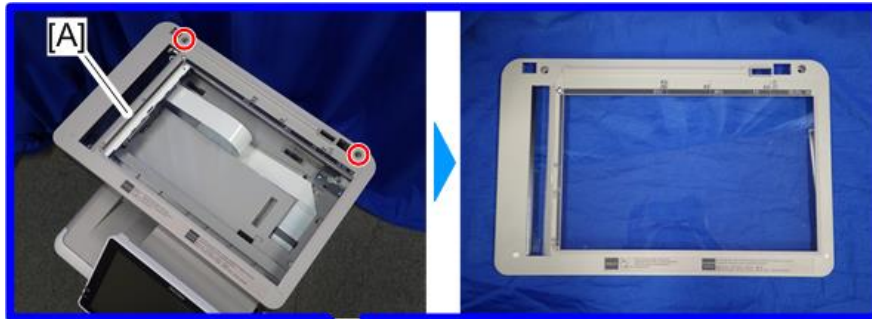


d255a1185

Replacement and Adjustment

4.10.2 SCANNER CARRIAGE

1. Remove the ARDF unit. (page 4-160)
2. Remove the exposure glass [A].



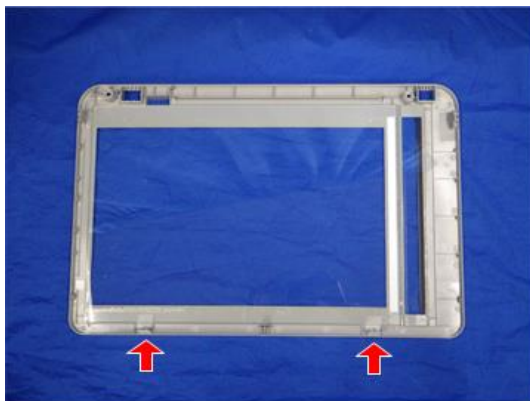
 x2



d255a1274

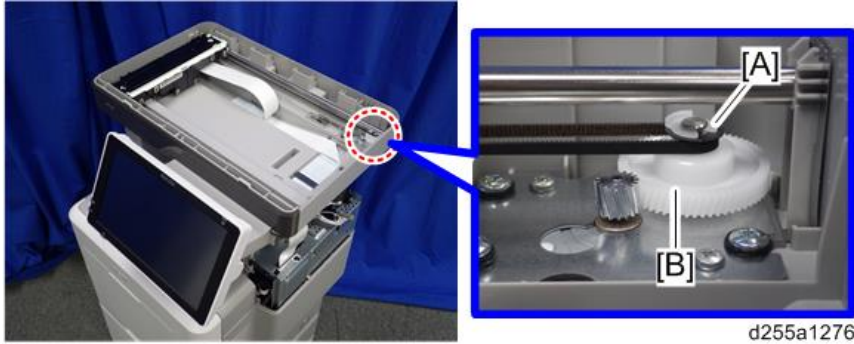
Note

- Be careful not to damage the hooks on the inside of the exposure glass when you remove or install the exposure glass.



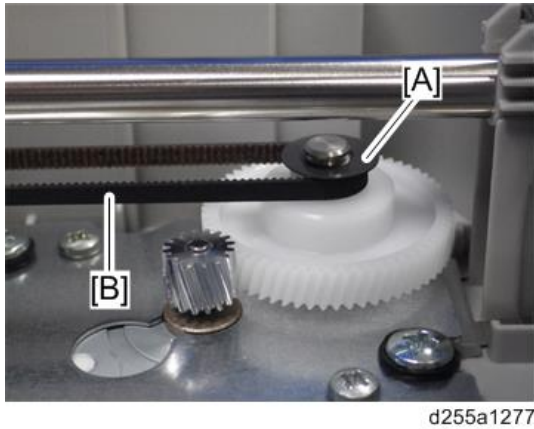
d255a1275

3. Remove the clip [A] from the pulley [B] on the right side.

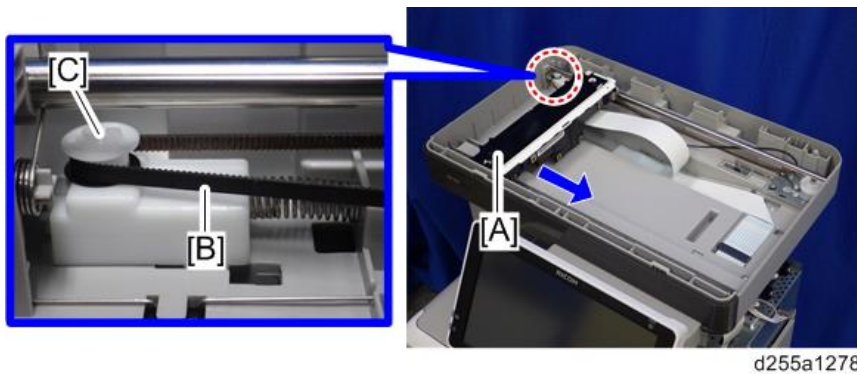


 x1

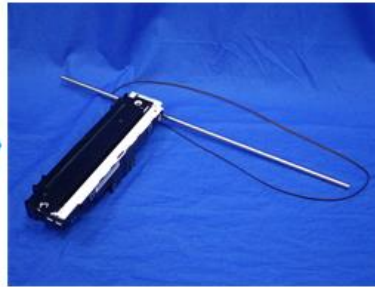
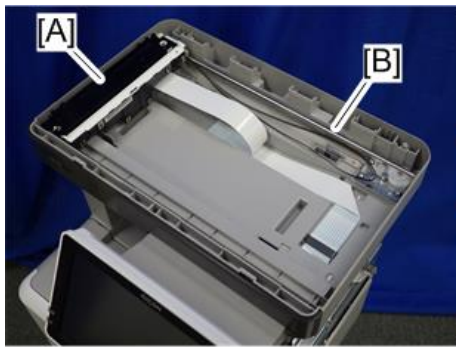
4. Remove the plate [A] and carriage belt [B].



5. Move the scanner carriage [A] to the right, and then remove the carriage belt [B] from the pulley [C] on the left side.



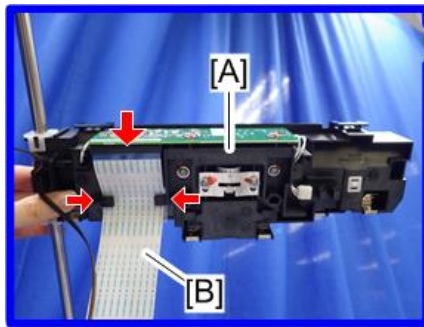
6. Remove the scanner carriage [A] and shaft [B] with the carriage belt from the mainframe.



d255a1279

Note

- When removing the scanner carriage [A] from the mainframe, disconnect the flat cable [B] and release it from the harness guides at the back of the scanner carriage [A].

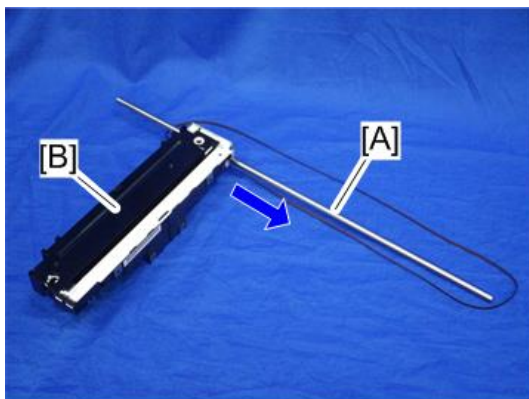


x1



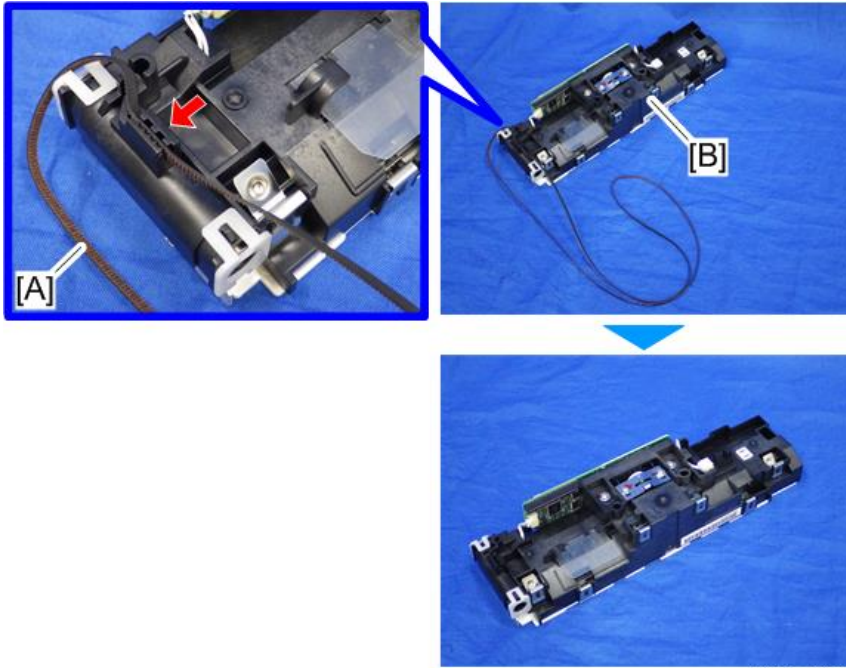
d255a1280

7. Remove the shaft [A] from the scanner carriage [B].



d255a1281

8. Remove the carriage belt [A] from the scanner carriage [B]. (hookx1)



4.11 LASER UNIT (MP 501/601)

⚠ CAUTION

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

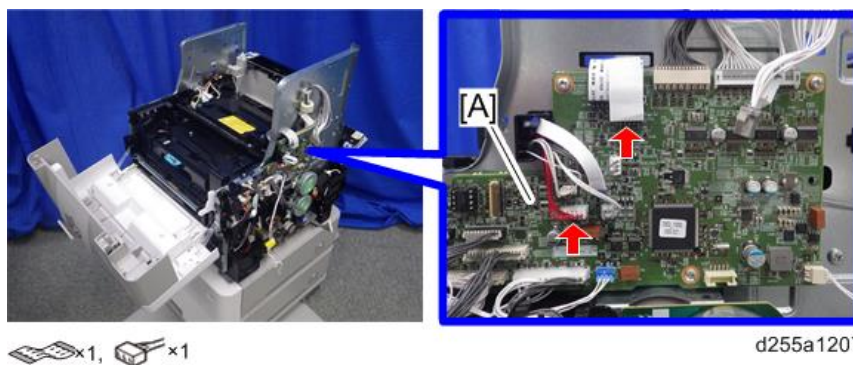
4.11.1 CAUTION DECAL LOCATION

The caution decal is attached as shown below.

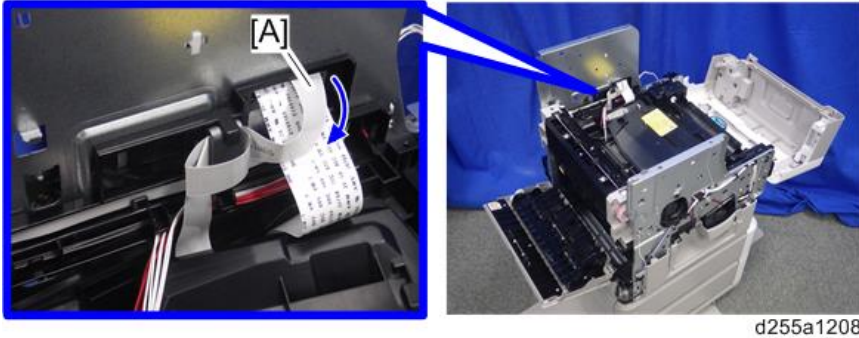


4.11.2 LASER UNIT

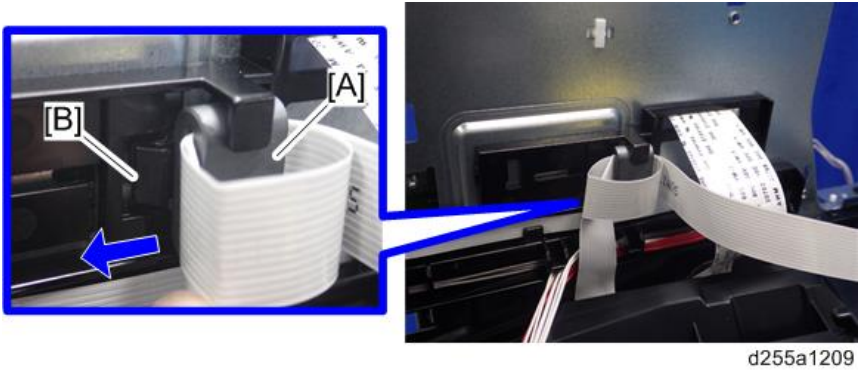
1. Remove the paper exit tray. (page 4-39)
2. Disconnect the red connector and flat cable from IOB [A].



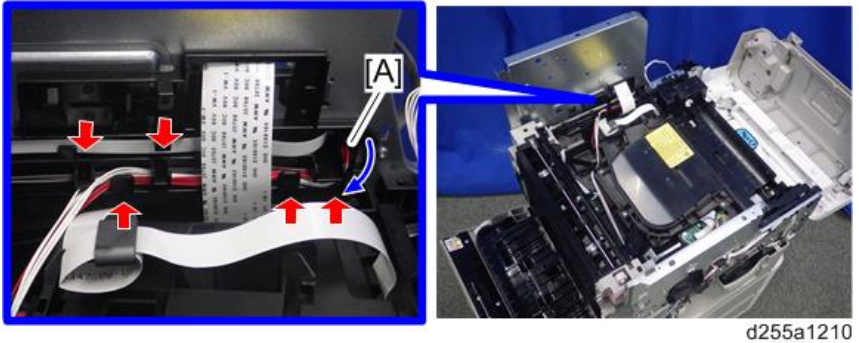
3. Pull the flat cable [A] out through the apertures.



4. Remove the flat cable with the bracket [A] by sliding it to the rear while pushing the hook [B].

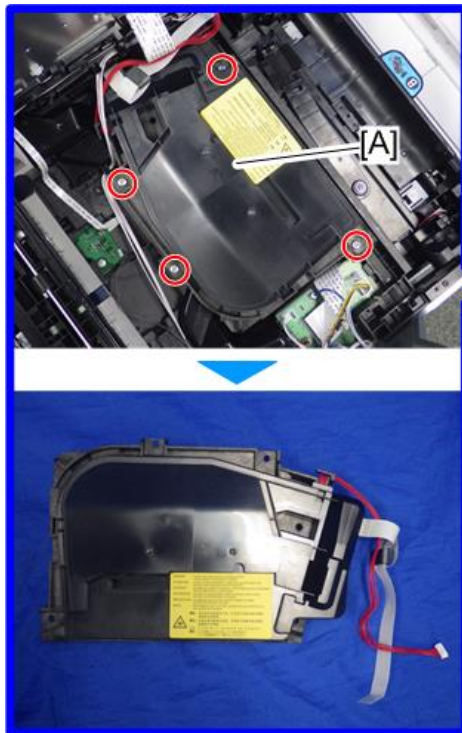


5. Pull the red harness [A] out through the apertures, and then release it from the harness guides.



Replacement and Adjustment

6. Remove the laser unit [A].



 x4

d255a1211

4.12 LASER UNIT (SP 5300/5310)

⚠ CAUTION

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

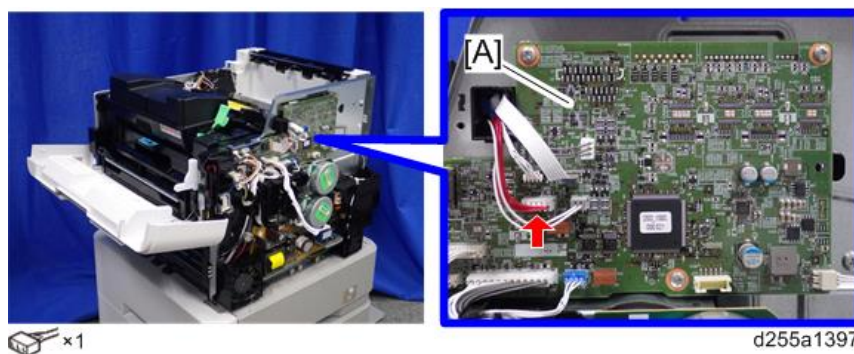
4.12.1 CAUTION DECAL LOCATION

The caution decal is attached as shown below.

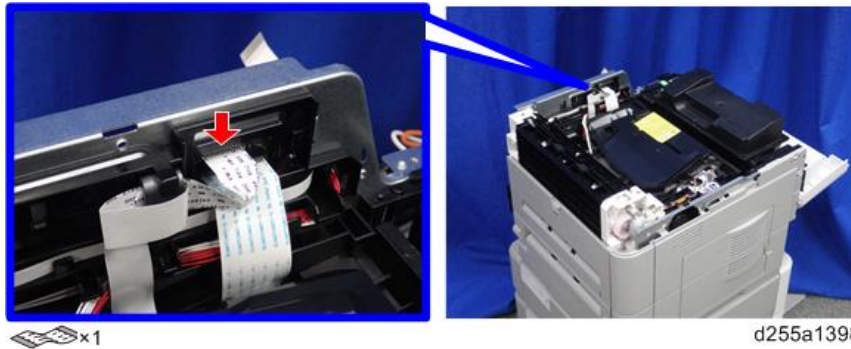


4.12.2 LASER UNIT

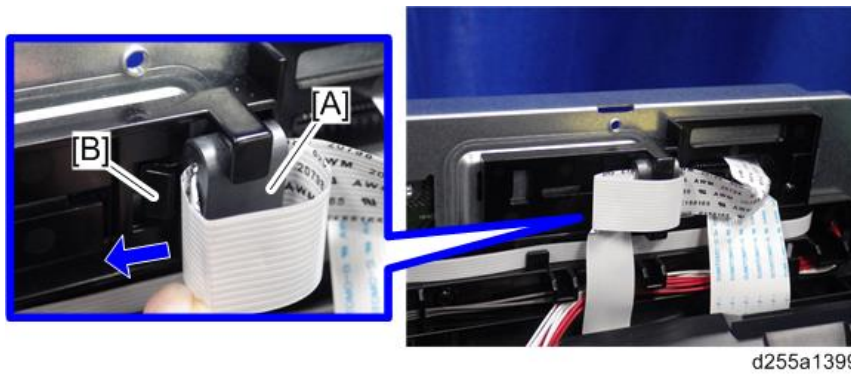
- Remove the controller box. (page 4-132)
- Disconnect the red connector from IOB [A].



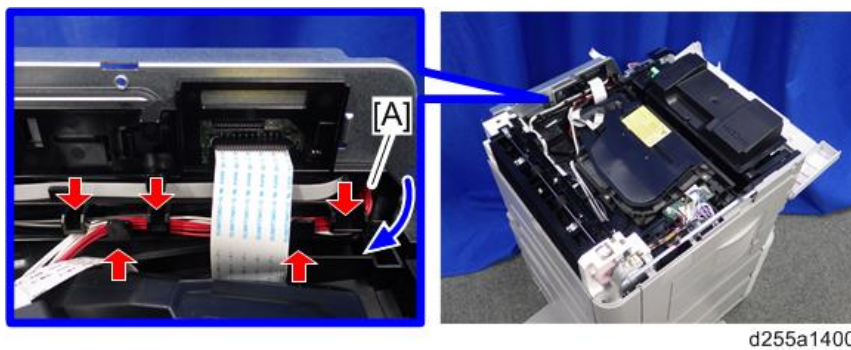
3. Disconnect the flat cable.



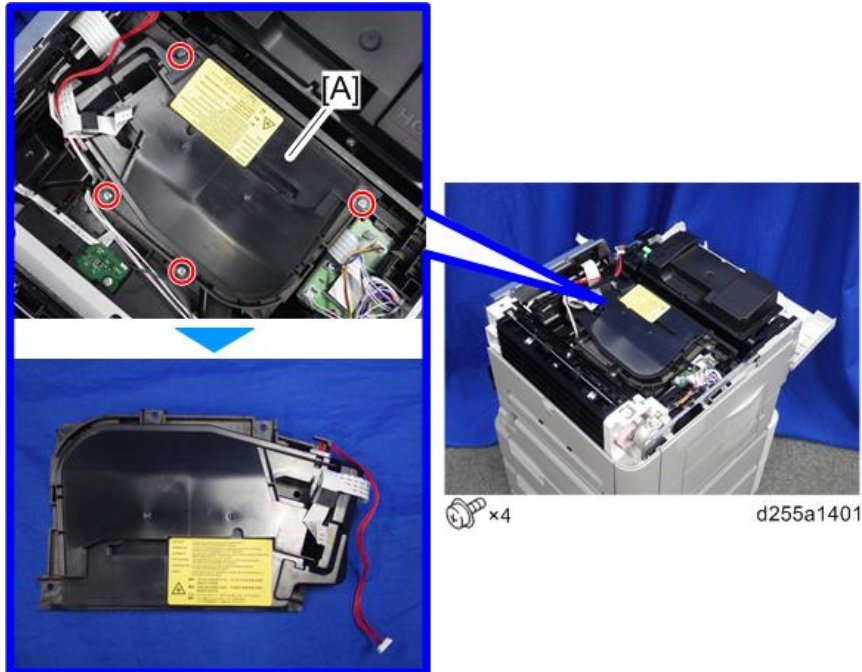
4. Remove the flat cable with the bracket [A] by sliding it to the rear while pushing the hook [B].



5. Pull the red harness [A] out through the apertures, and then release it from the harness guides.



6. Remove the laser unit [A].



4.13 DEVELOPMENT UNIT

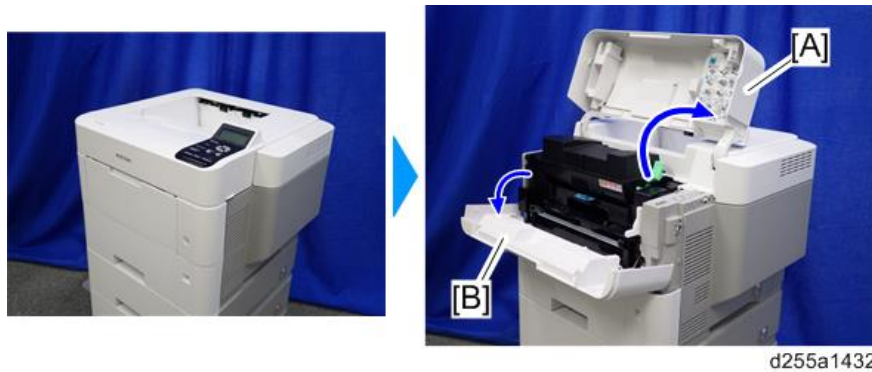
4.13.1 DEVELOPMENT UNIT

1. Open the front cover.

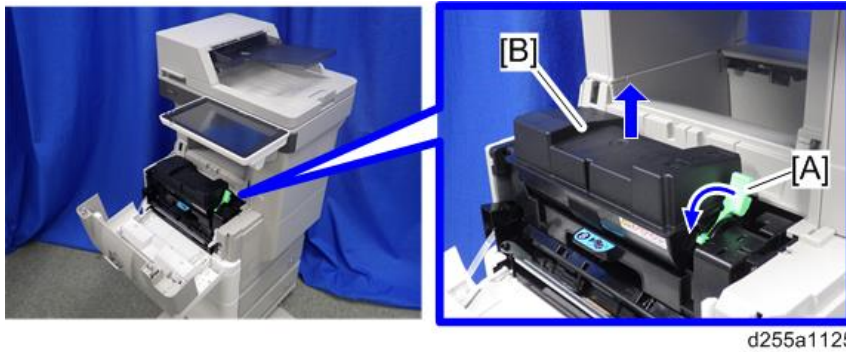
MP 501/601: Push the button [A] and open the front cover [B].



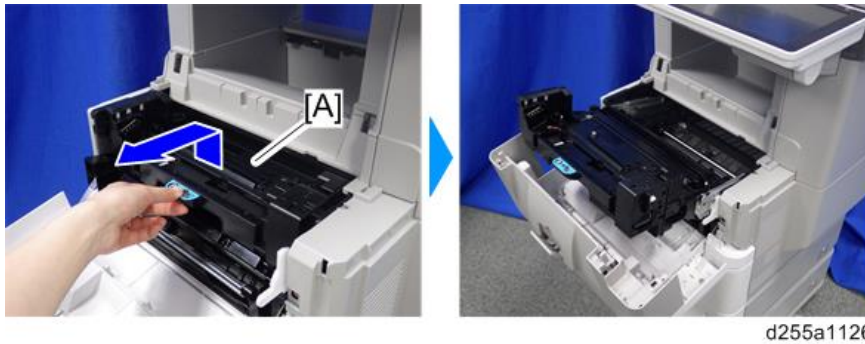
SP 5300/5310: Open the upper cover [A], and then open the front cover [B].



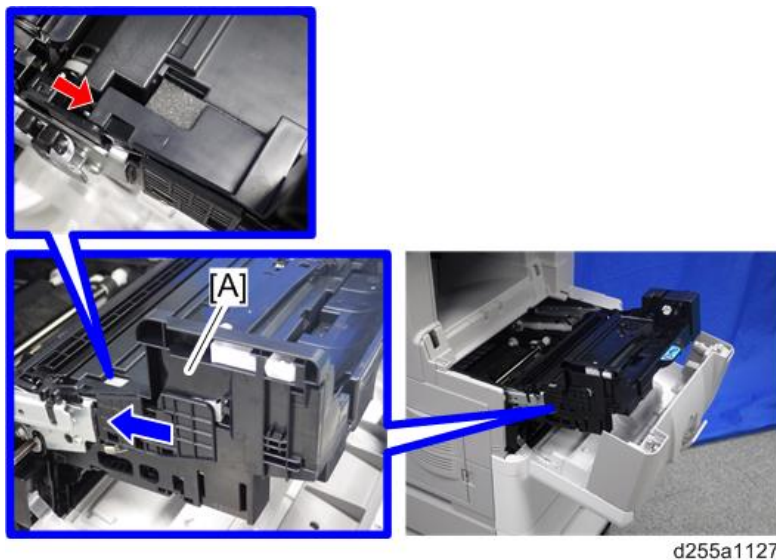
2. Release the lock lever [A] by rotating it towards you, and then remove the toner cartridge [B].



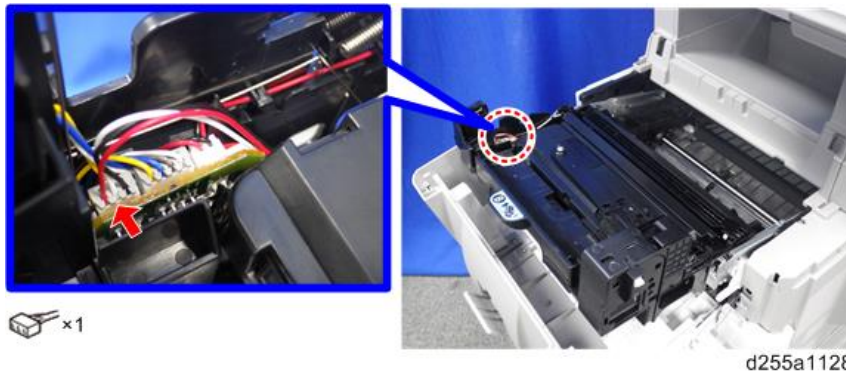
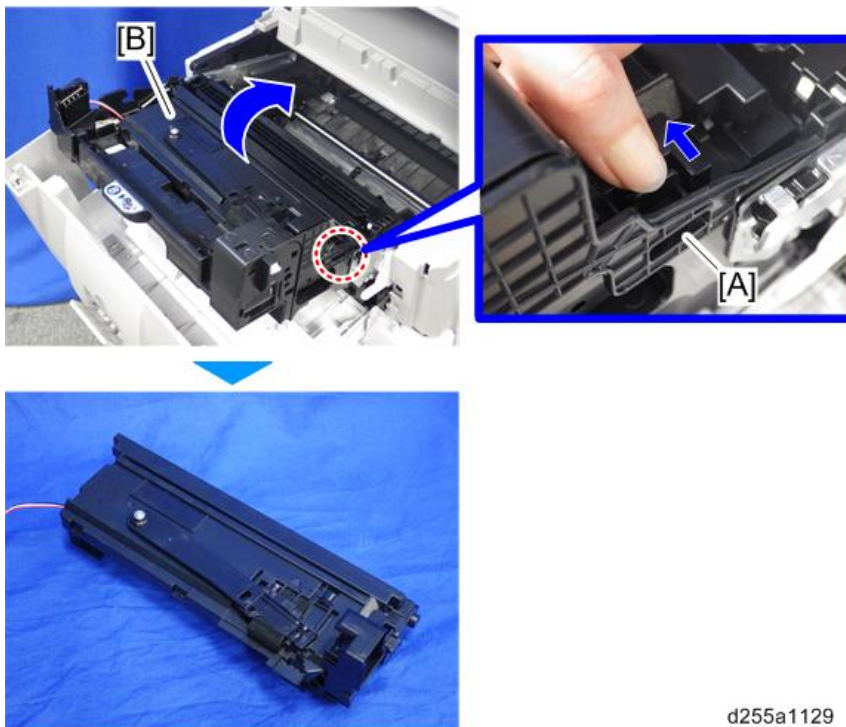
3. Pull out the PCDU [A].



4. Release the hook, and then remove the container guide [A] by sliding it to the rear. (hookx1)



Replacement and Adjustment

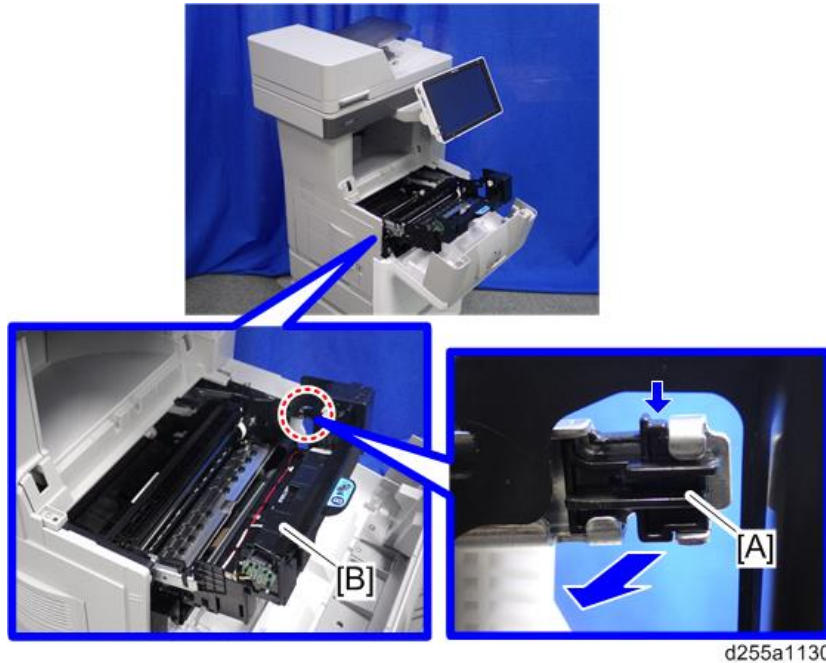
5. Disconnect the connector.**6. Release the hook [A] by pressing the lock lever, and then remove the development unit [B]. (hookx1)****⇒ 4.13.2 AFTER REPLACEMENT OF DEVELOPMENT UNIT**

1. Execute SP3-900-001 to supply toner to the development unit.

4.14 DRUM UNIT

4.14.1 DRUM UNIT

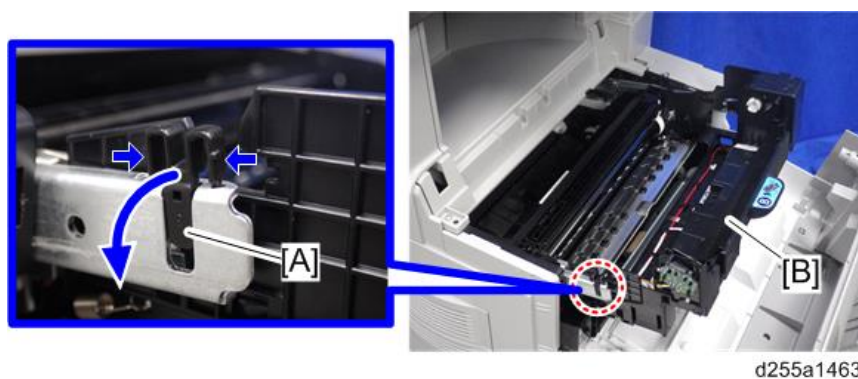
1. Remove the development unit. (page 4-88)
2. Remove the right lock lever [A] from the drum unit [B].



ⓘ Note

- Be careful not to lose the right lock lever [A]. The right lock lever is not included in the drum unit as a service part.

3. Remove the left lock lever [A] from the drum unit [B].

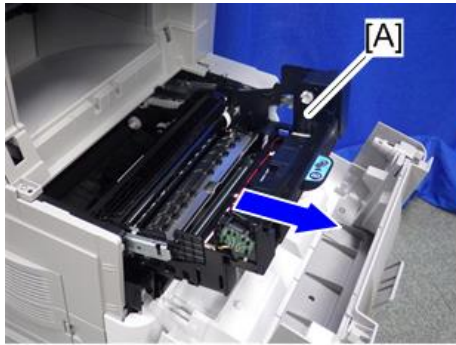


Drum Unit

↓ Note

- Be careful not to lose the left lock lever [A]. The left lock lever is not included in the drum unit as a service part.

4. Remove the drum unit [A] by pulling it out.



d255a1131

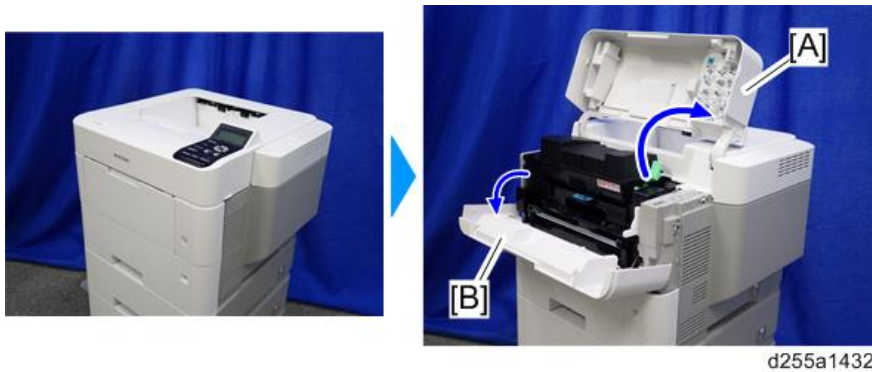
4.14.2 CHARGE ROLLER

1. Open the front cover.

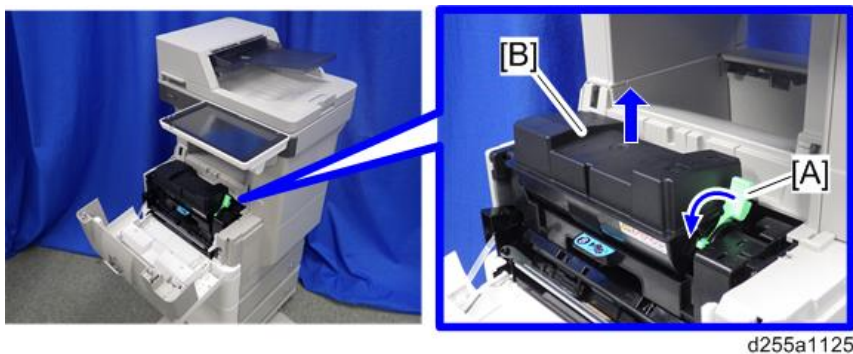
MP 501/601: Push the button [A] and open the front cover [B].



SP 5300/5310: Open the upper cover [A], and then open the front cover [B].

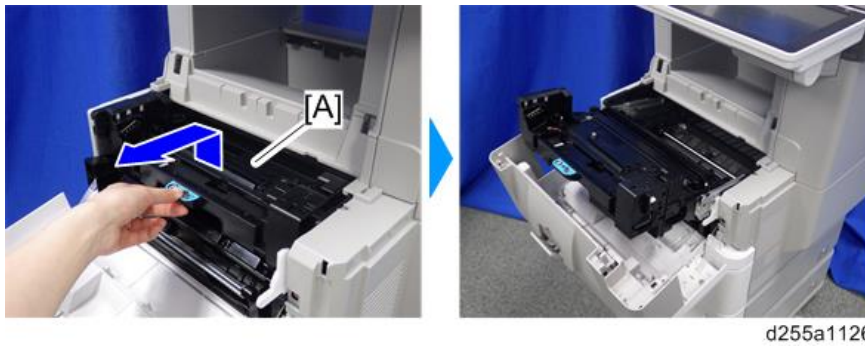


2. Release the lock lever [A] by rotating it towards you, and then remove the toner cartridge [B].

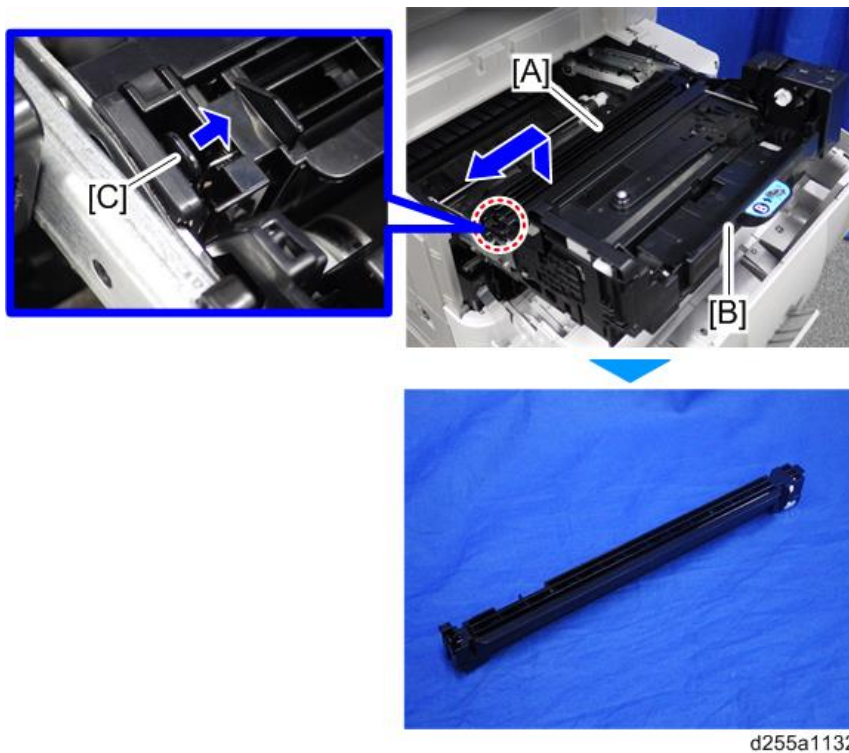


Drum Unit

3. Pull out the PCDU [A].



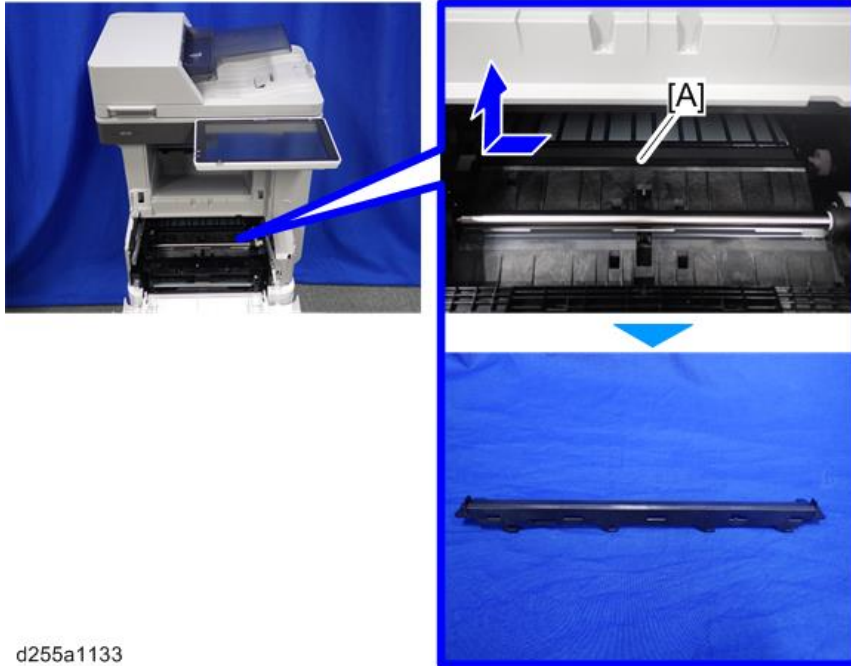
4. Remove the charge roller [A] from the PCDU [B] by pressing the lock lever [C].



4.15 TRANSFER UNIT

4.15.1 TRANSFER ROLLER

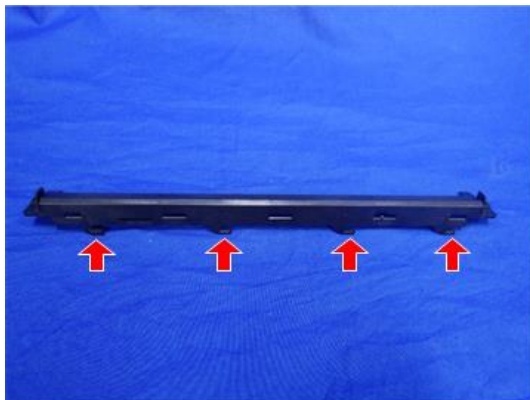
1. Remove the drum unit. (page 4-91)
2. Remove the transfer guide plate [A] by sliding it to the left.



d255a1133

Note

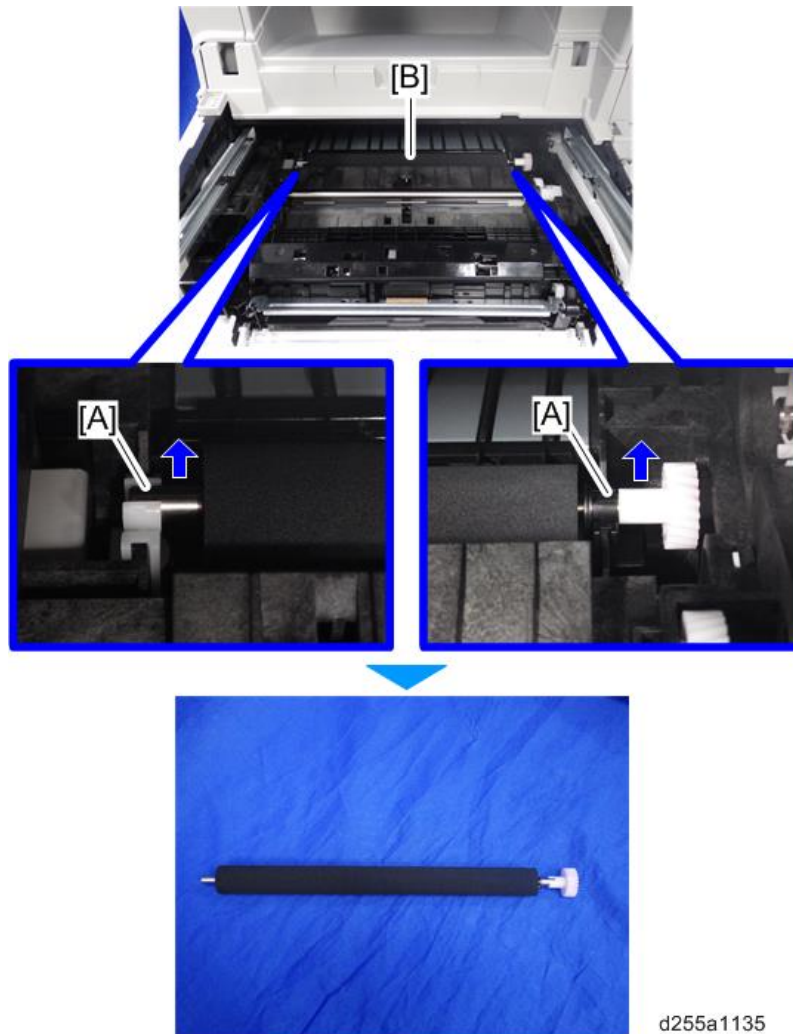
- Be careful not to damage the hooks on the transfer guide plate when you remove or install the transfer guide plate.



d255a1134

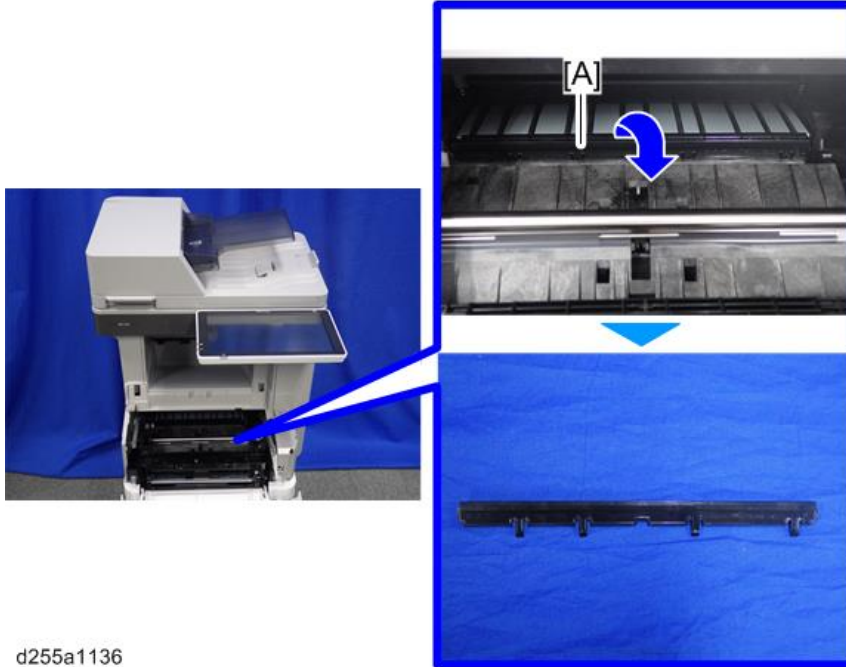
Transfer Unit

3. Remove the shaft [A] of the transfer roller [B] from the bearings on the right and left sides with a flathead screwdriver.
4. Remove the transfer roller [B].



4.15.2 DISCHARGE PLATE UNIT

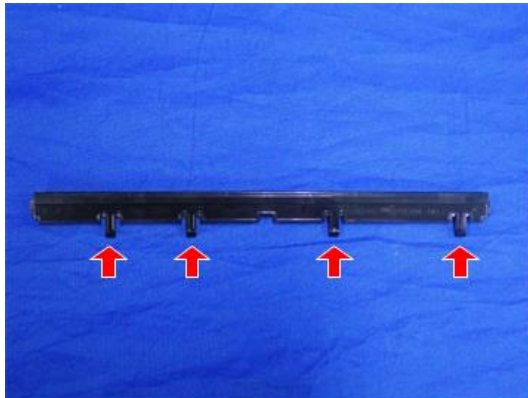
1. Remove the transfer roller. (page 4-95)
2. Remove the discharge plate unit [A] by rotating it towards you.



d255a1136

Note

- Be careful not to damage the hooks on the discharge plate unit when you remove or install the discharge plate unit.



d255a1137

4.16 FUSING UNIT

4.16.1 FUSING UNIT

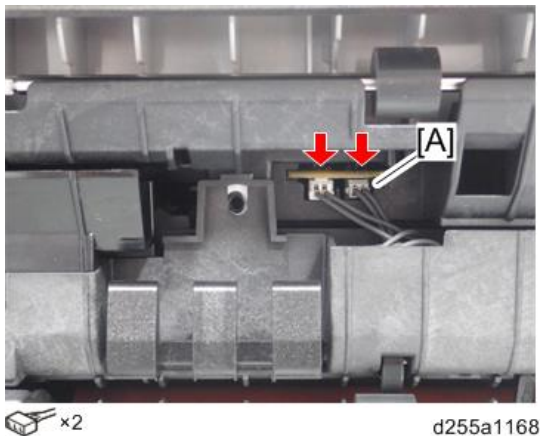
1. Remove the following covers.

- MP 501/601: Rear upper cover (page 4-26), Controller cover (page 4-45)
- SP 5300/5310: Rear upper cover (page 4-62), Controller cover (page 4-67)

2. Remove the connector cover [A] from the rear side of the machine.



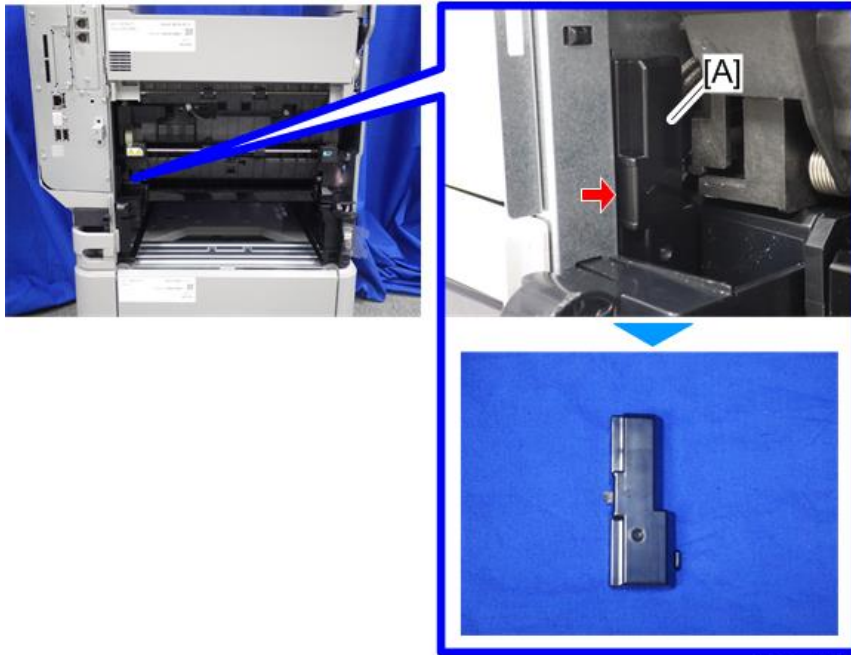
3. Disconnect the two connectors.



 Note

- The connector [A] is gray. Be careful not to connect the wrong connector when installing the fusing unit.

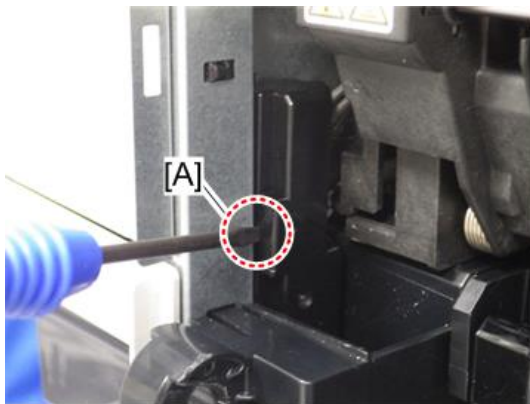
4. Remove the connector cover [A]. (hook×1)



d255a1169

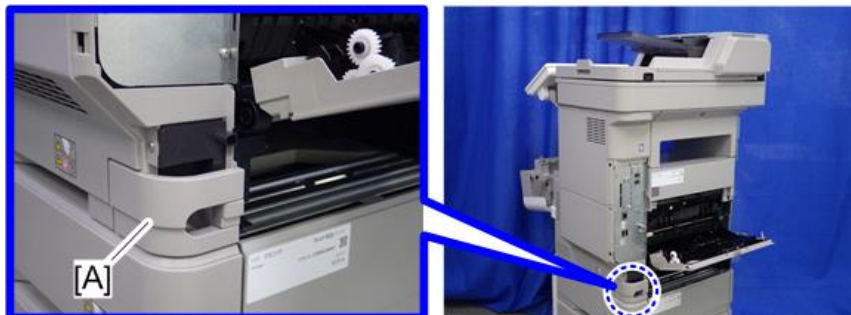
Note

- When removing the connector cover, insert the flathead screwdriver into [A] and release the hook of the connector cover.



d255a1170

5. Remove the power connector cover [A].



d255a1459

Fusing Unit

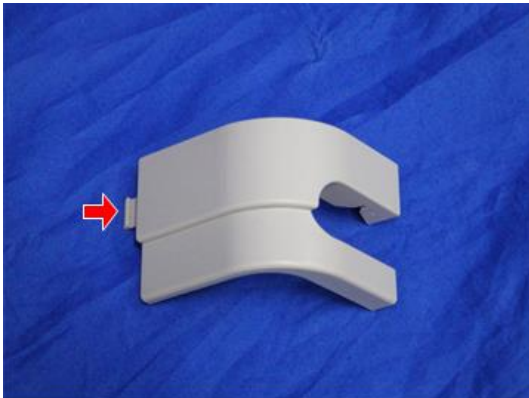
Note

- When removing the power connector cover, pull it in the direction of the arrow.



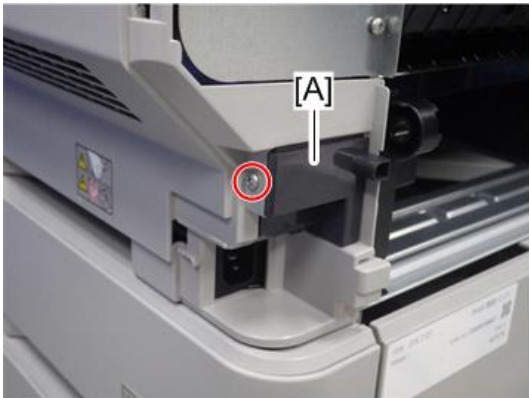
d255a1460

- Be careful not to damage the hook on the power connector cover when you remove or install the power connector cover.



d255a1078

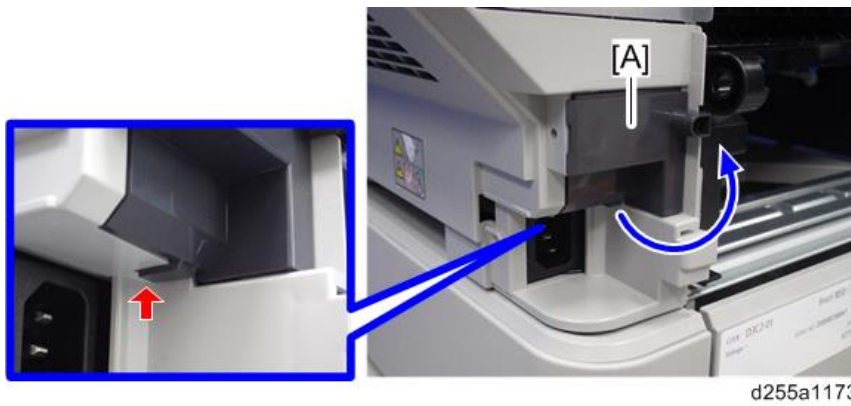
6. Remove the screw from the connector cover [A].



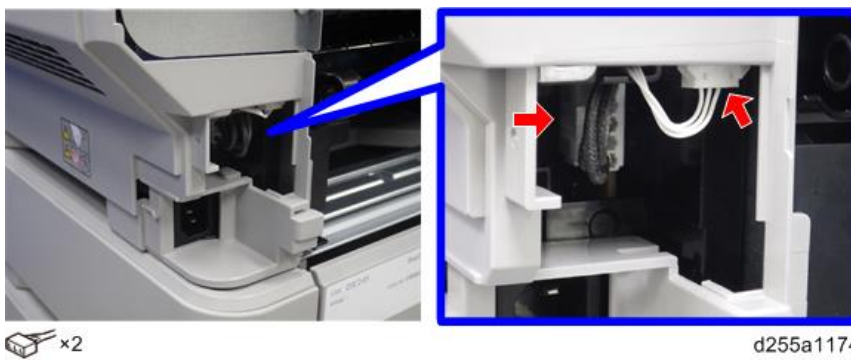
 x1

d255a1172

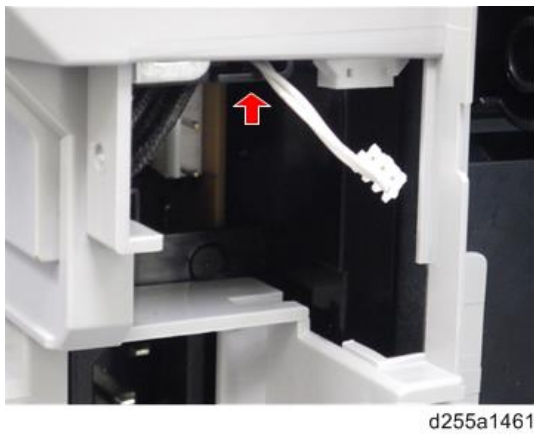
7. Release the hook, and then remove the connector cover [A].



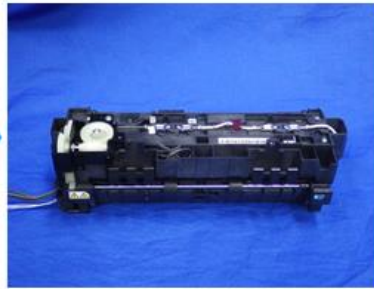
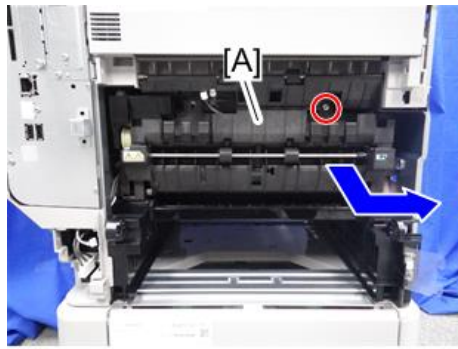
8. Disconnect the two connectors.



9. Release the connector from the harness guide.



10. Remove the fusing unit [A].

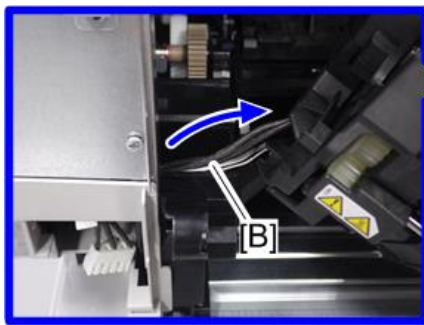


d255a1175

×1

↓ Note

- When removing the fusing unit [A], release the harness [B] from the mainframe.



d255a1176

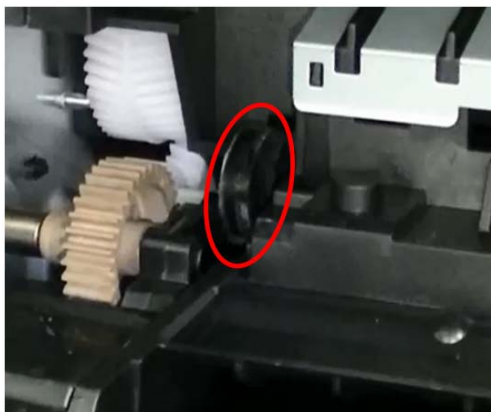


- When reinstalling the fusing unit, perform the following procedures.

- Turn ON the power switch after removing the fusing unit and opening the rear cover.
- Wait for more than 5 seconds and then turn OFF the power switch.

↓ Note

- The cam on the left side turns backward and releases pressure when the power switch is turned ON.

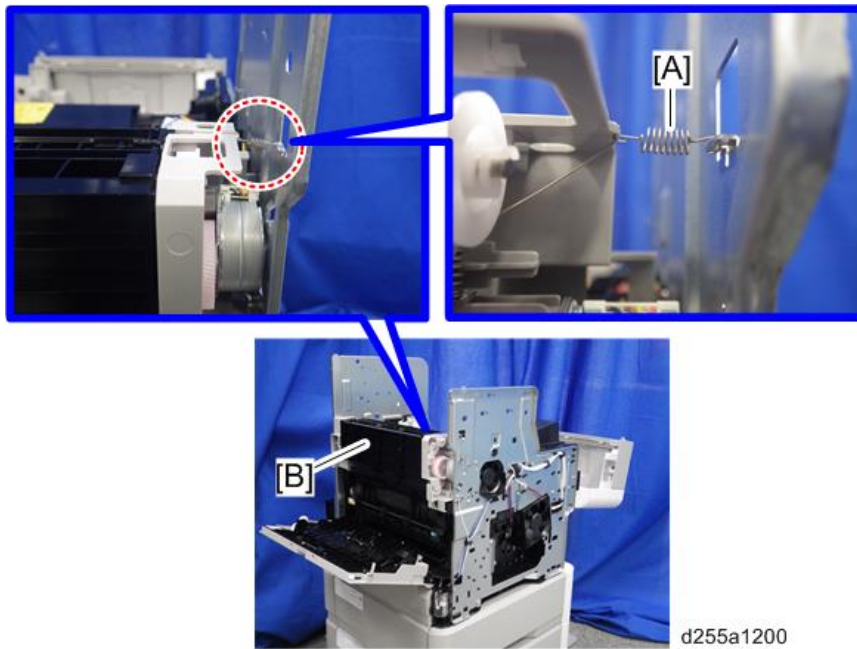


- Reinstall the fusing unit.

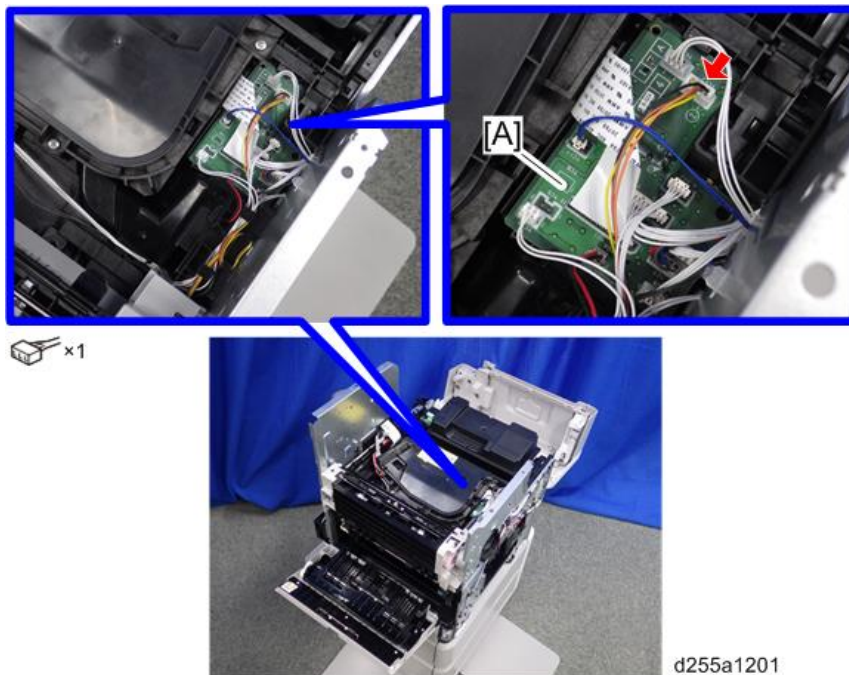
4.17 PAPER EXIT UNIT (MP 501/601)

4.17.1 PAPER EXIT UNIT

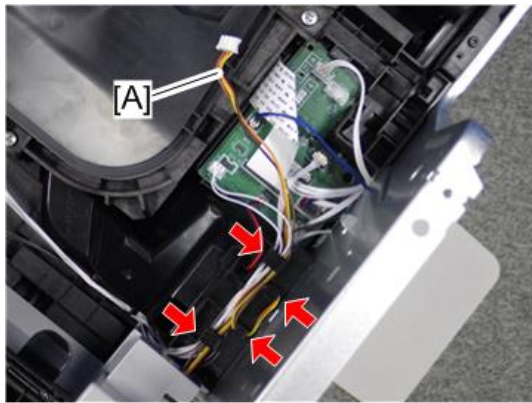
1. Remove the paper exit tray. (page 4-39)
2. Remove the spring [A] from the right side of the paper exit unit [B].



3. Disconnect the connector from the Connect-Left PCB [A].



4. Release the harness [A] from the harness guides.




d255a1464

5. Remove the three screws from the left side of the machine.



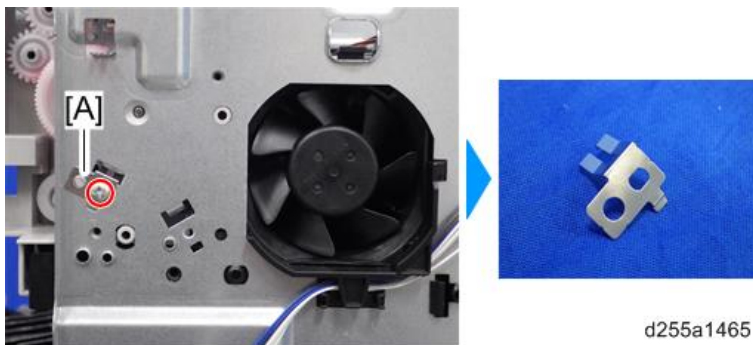
 x3

d255a1202

 **Note**

- The screw [A] is a ground screw and [B] is a big screw. Be careful not to use the wrong screws when installing the paper exit unit.

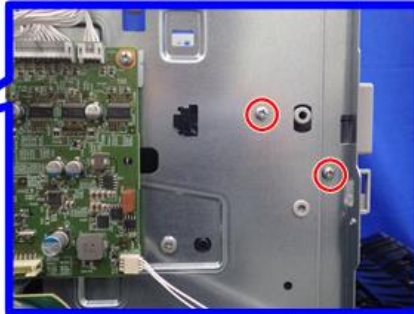
6. Remove the bracket [A].



 x1

d255a1465

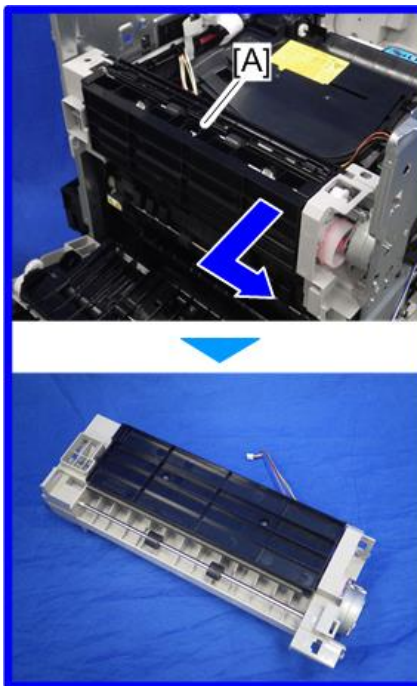
7. Remove the two screws from the right side of the machine.



 x2

d255a1203

8. Remove the paper exit unit [A].



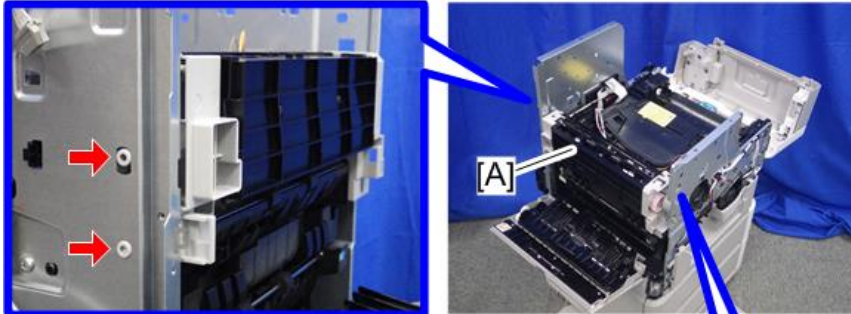
d255a1204

Replacement
and Adjustment

Paper Exit Unit (MP 501/601)

↓ Note

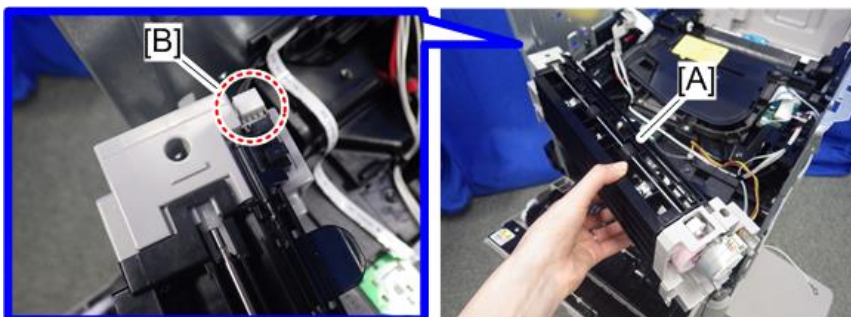
- When removing the paper exit unit [A], release the four hooks from both sides of the paper exit unit.



d255a1466



- When removing the paper exit unit [A], disconnect the connector [B] from the paper exit unit.

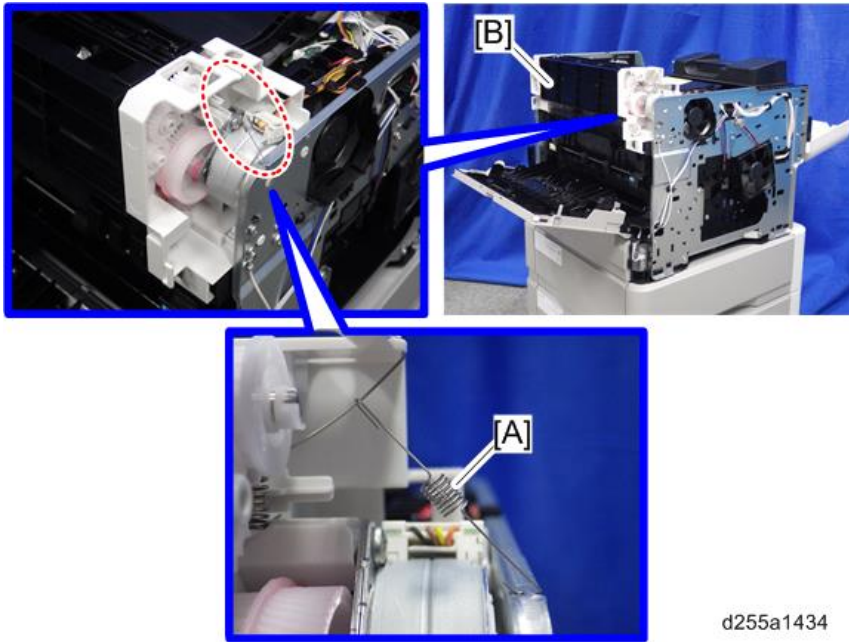


d255a1205

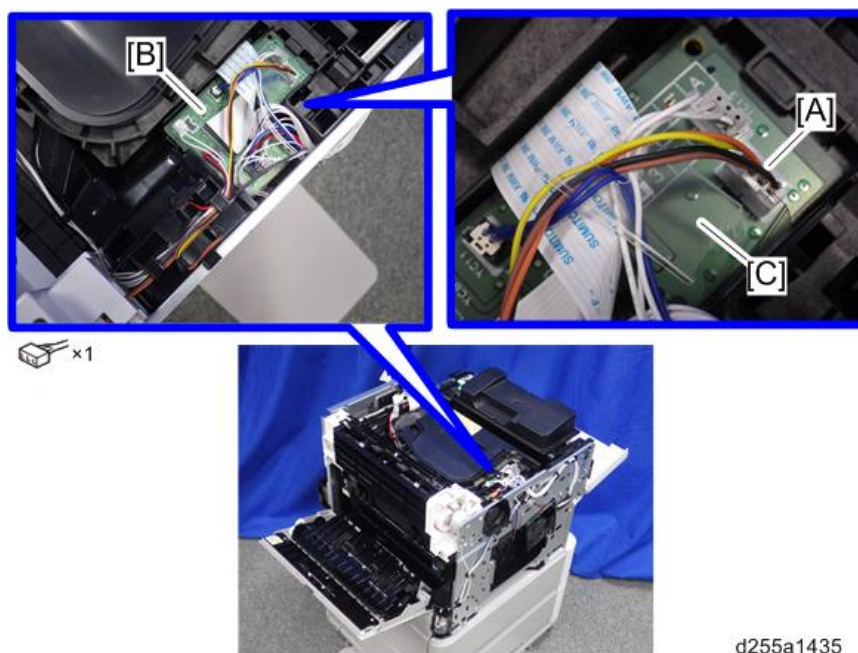
4.18 PAPER EXIT UNIT (SP 5300/5310)

4.18.1 PAPER EXIT UNIT

1. Remove the following covers.
 - Left lower cover (page 4-60)
 - Controller box (page 4-132)
2. Remove the spring [A] from the paper exit unit [B].

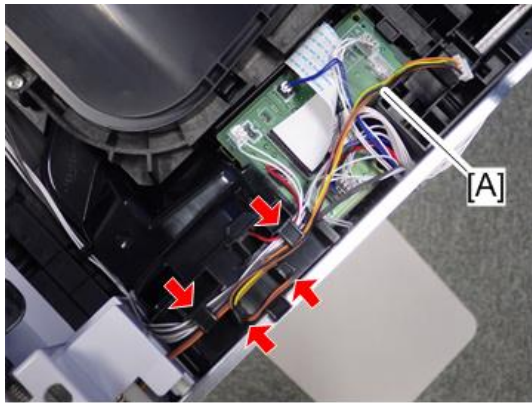


3. Disconnect the connector [A] from the Connect-Left PCB [B], and then release it from the plastic harness guide [C].



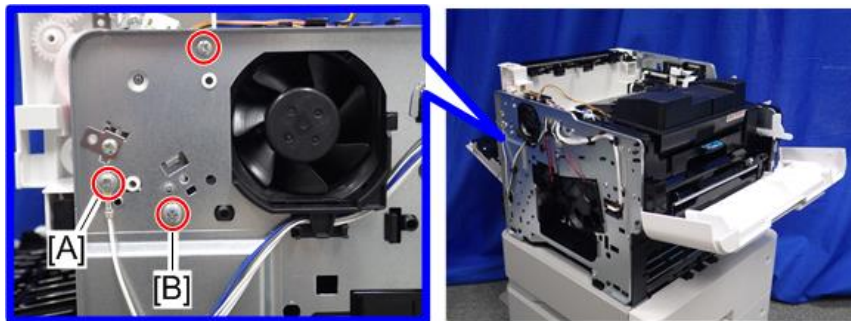
 x1

4. Release the harness [A], disconnected in the previous step, from the harness guides.



d255a1436

5. Remove the three screws from the left side of the machine.



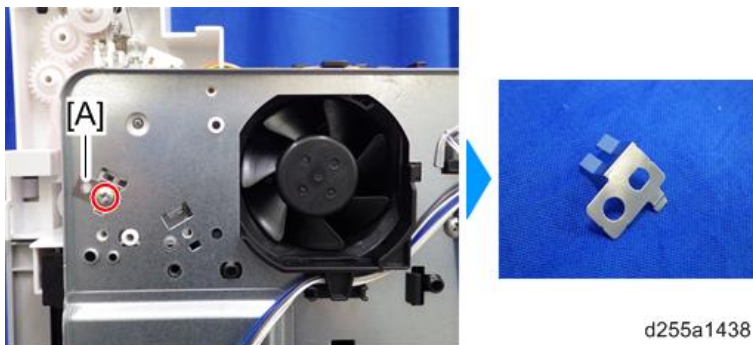
 x3

d255a1437

 **Note**

- The screw [A] is a ground screw and [B] is a big screw. Be careful not to use the wrong screws when installing the paper exit unit.

6. Remove the bracket [A].



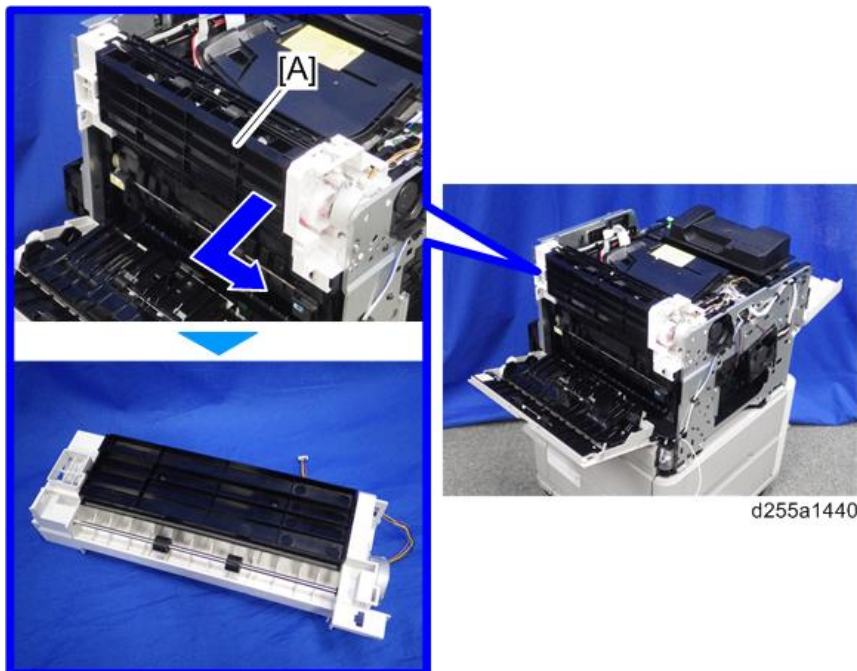
 x1

d255a1438

7. Remove the two screws from the right side of the machine.

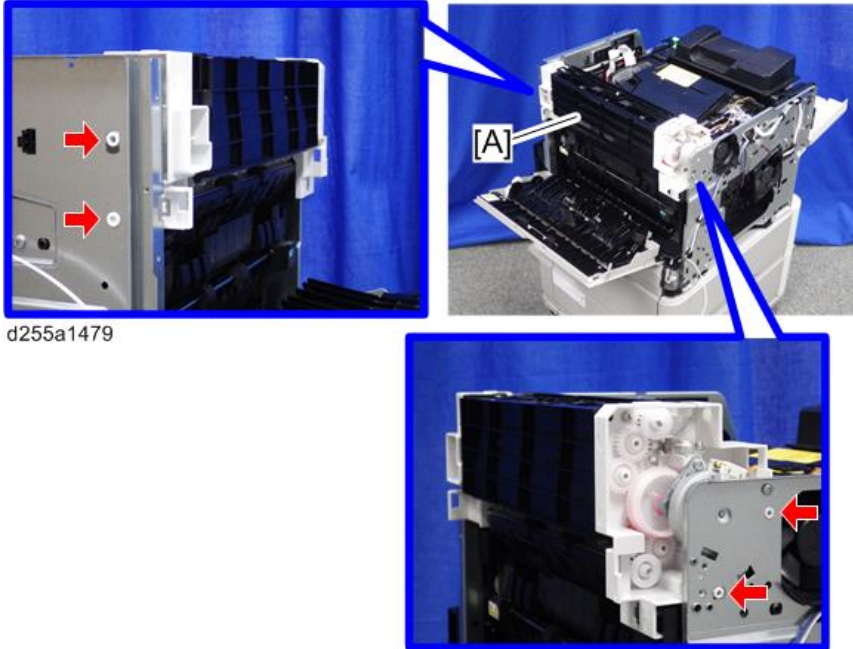


8. Remove the paper exit unit [A].

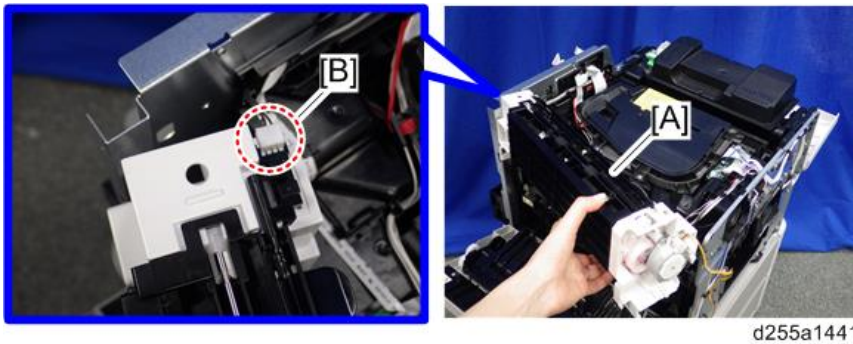


Note

- When removing the paper exit unit [A], release the four hooks from both sides of the paper exit unit.



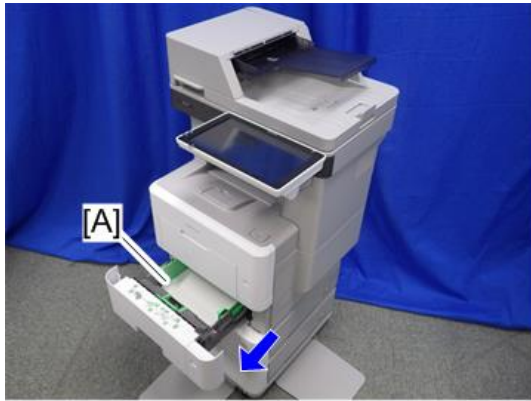
- When removing the paper exit unit [A], disconnect the connector [B] from the paper exit unit.



4.19 PAPER FEED UNIT

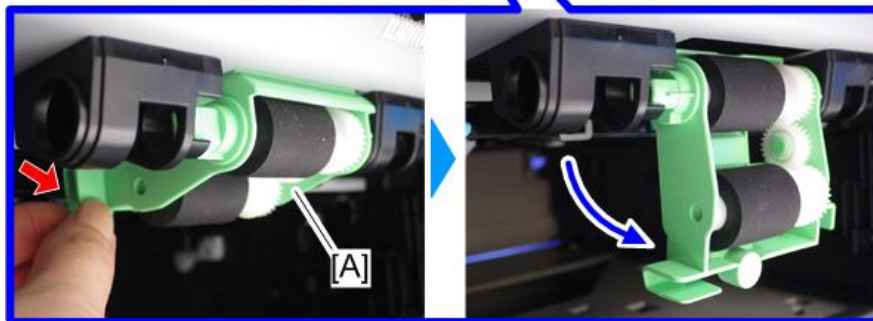
4.19.1 PAPER FEED ROLLER, PICKUP ROLLER

1. Remove the paper feed tray [A] by pulling it out.



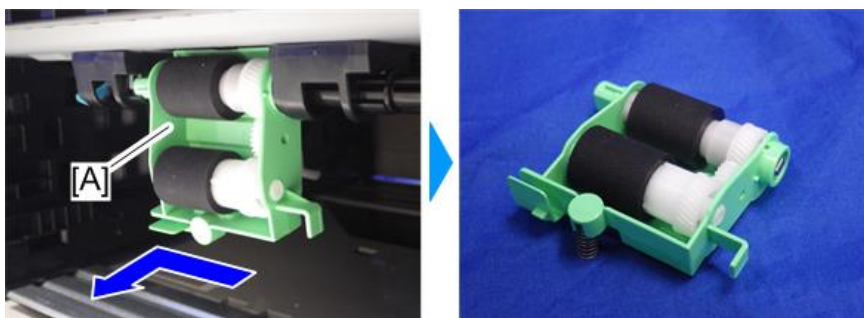
d255a1115

2. Release the lock of the feed roller holder [A] by releasing the lever.



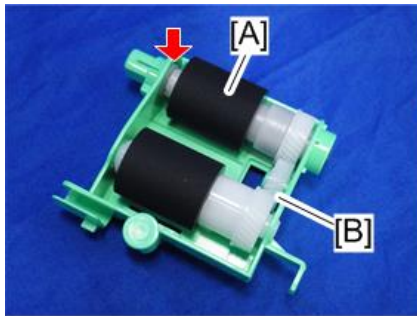
d255a1225

3. Remove the paper roller holder [A] by pushing it to the left.



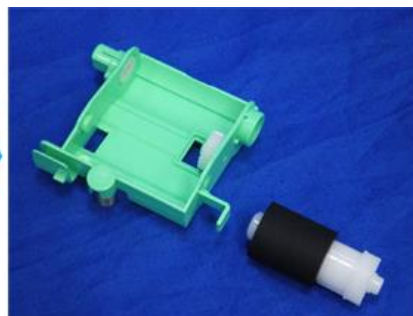
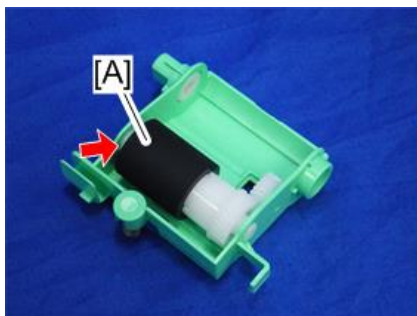
d255a1226

4. Remove the paper feed roller [A] from the feed roller holder [B]. (hook×1)



d255a1419

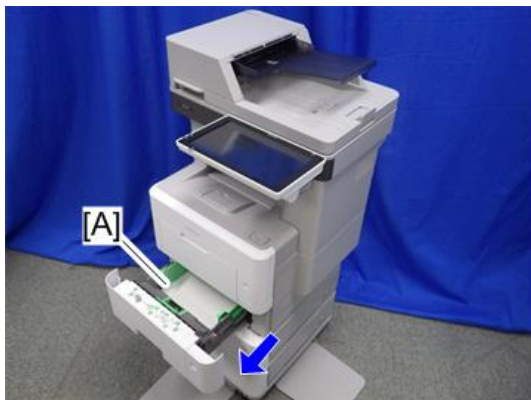
5. Remove the pickup roller [A]. (hook×1)



d255a1420

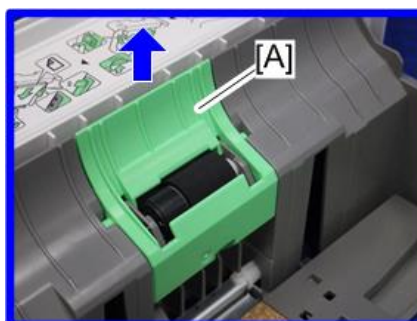
4.19.2 SEPARATION ROLLER

1. Remove the paper feed tray [A] by pulling it out.



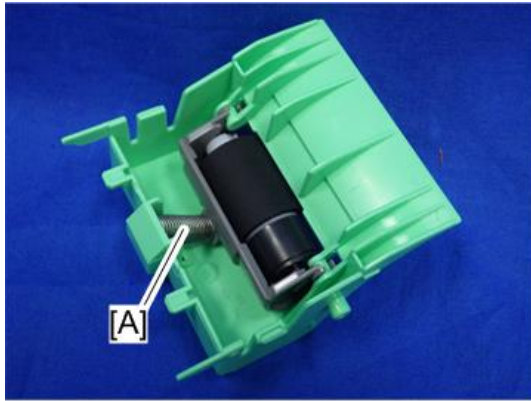
d255a1115

2. Remove the separation roller holder [A].



d255a1227

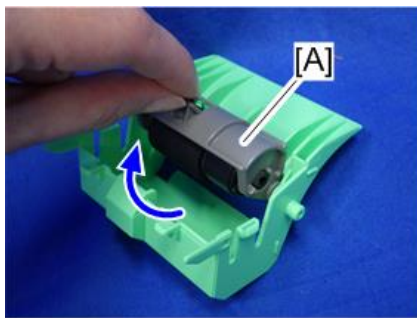
3. Remove the spring [A].



×1

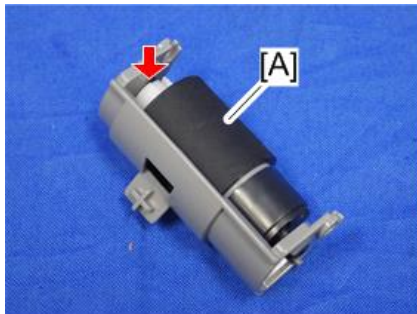
d255a1228

4. Remove the separation roller unit [A] by rotating it as shown below.



d255a1229

5. Remove the separation roller [A]. (hook×1)



d255a1472

4.20 BYPASS TRAY UNIT

4.20.1 BYPASS PAPER FEED ROLLER

1. Remove the following covers.

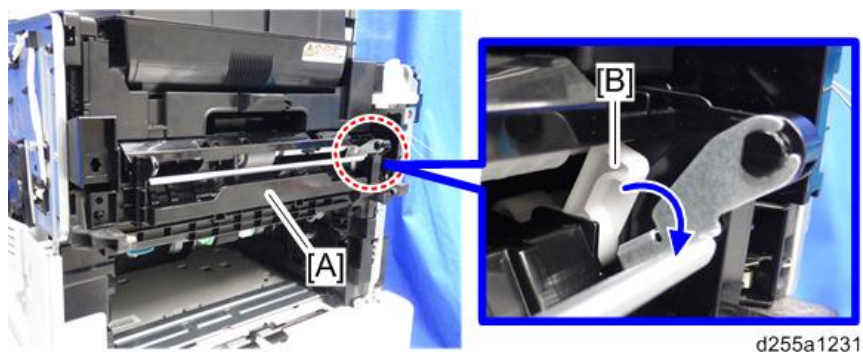
- MP 501/601: Front cover (page 4-15), Right lower cover (page 4-22), Left middle cover (page 4-27)
- SP 5300/5310: Front cover (page 4-50)

2. Remove the bypass bottom plate unit [A].

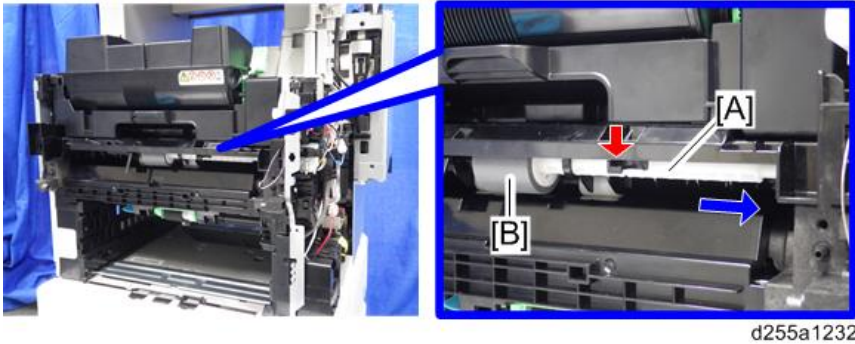


Note

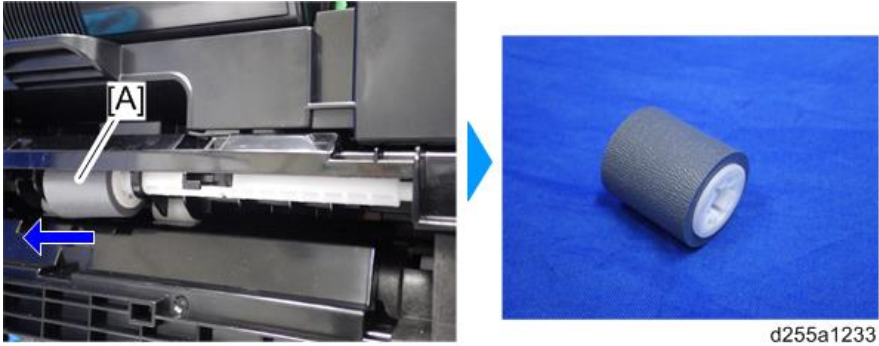
- When removing the bypass bottom plate unit [A], rotate the lever [B].



- 3. Slide the shaft [A] of the bypass tray paper feed roller [B] to the right while releasing the hook.



- 4. Remove the bypass tray paper feed roller [A].

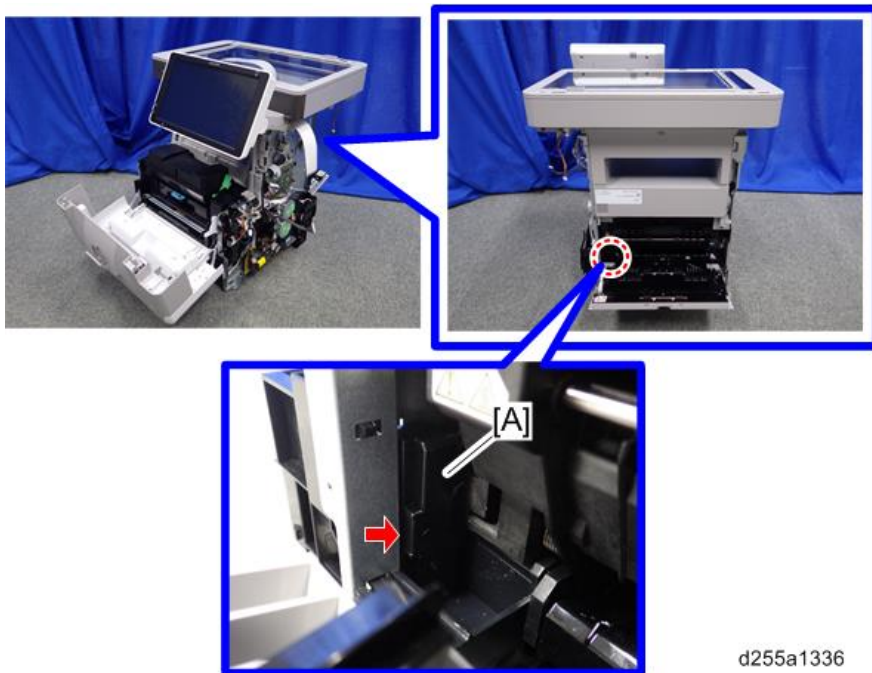


Replacement and Adjustment

4.21 DUPLEX UNIT

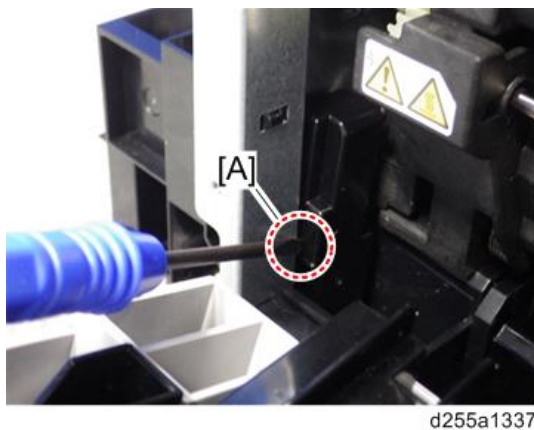
4.21.1 DUPLEX UNIT

1. MP 501/601 only) Remove the ARDF unit. (page 4-160)
2. Remove the left lower cover. (MP 501/601: page 4-29, SP 5300/5310: page 4-60)
3. Remove the controller box. (MP 501/601: page 4-128, SP 5300/5310: page 4-132)
4. Remove the PSU fan. (page 4-158)
5. Remove the connector cover [A] from the rear side of the machine. (hook×1)

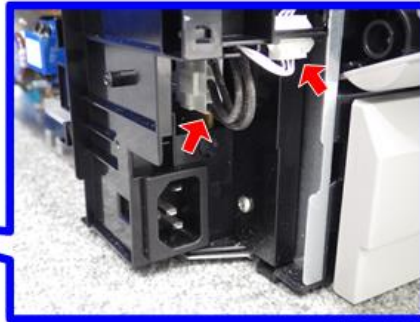
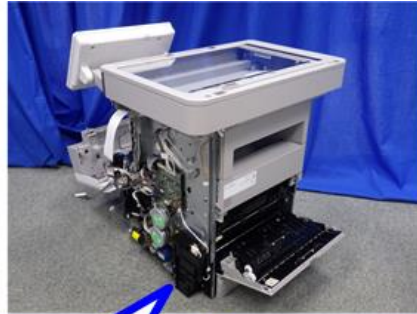


Note

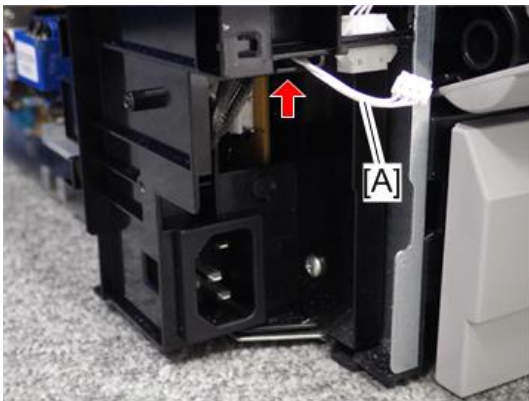
- When removing the connector cover, insert the flathead screwdriver into [A] and release the hook of the connector cover.



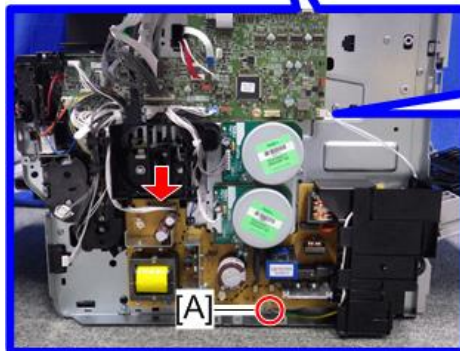
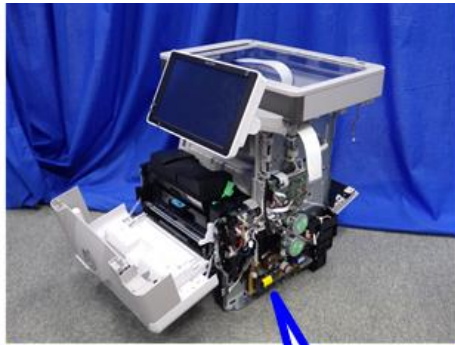
6. Disconnect the two connectors.



7. Release the harness [A] from the harness guide.



8. Remove the ground screw [A] and disconnect the two connectors.

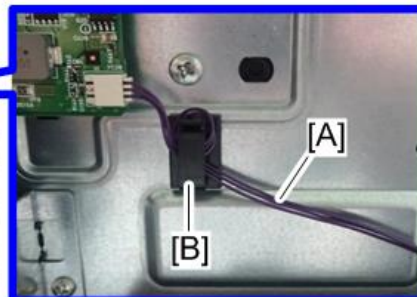
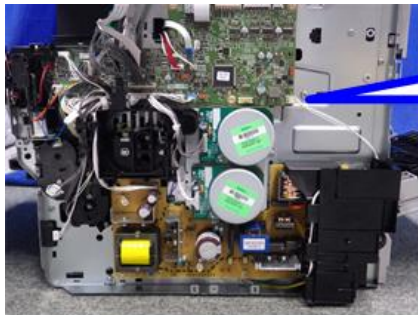


d255a1501

 x1,  x2,  x1

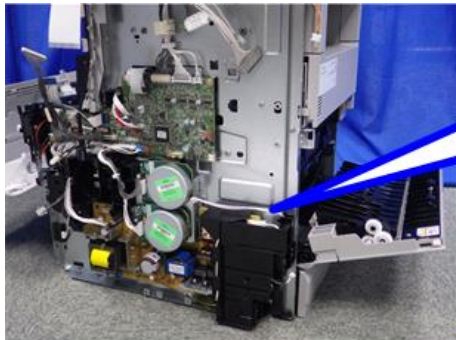
 Note

- When installing, wind the harness [A] around the clamp [B] twice, as shown below.



d255a1502

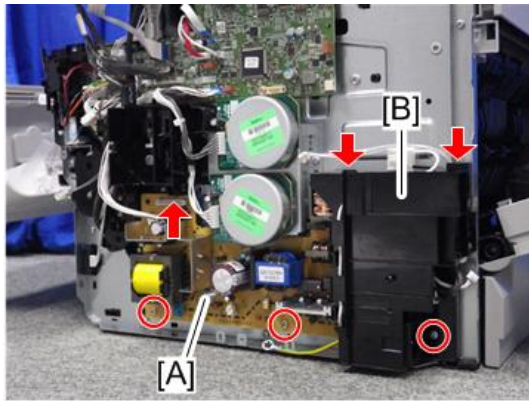
9. Disconnect the connector.



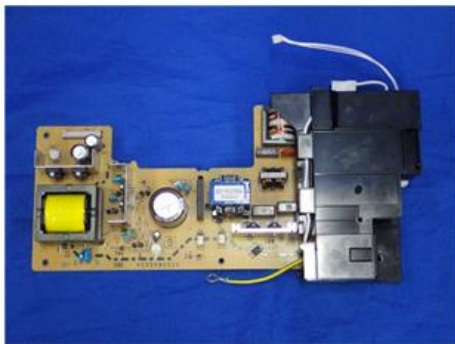
d255a1340

 x1

10. Remove the PSU [A] and bracket [B] from the mainframe. (hook×3)

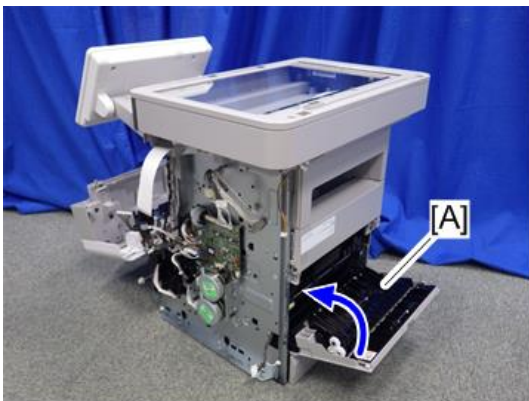


hook ×3



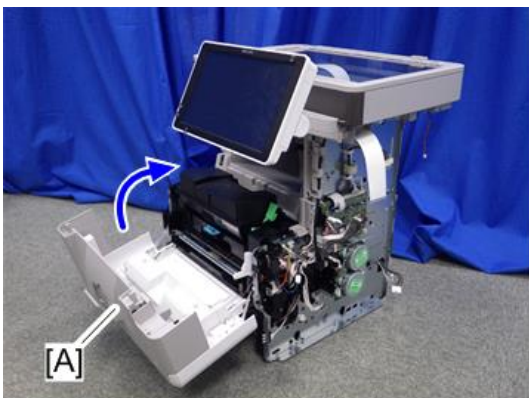
d255a1326

11. Close the rear upper cover [A].



d255a1327

12. Close the front cover [A].

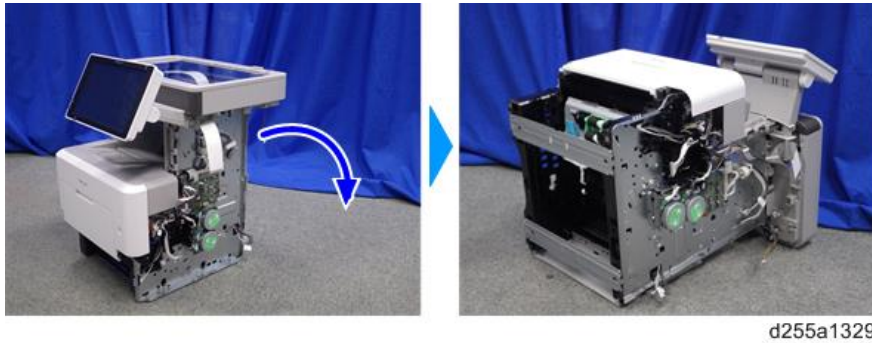


d255a1328

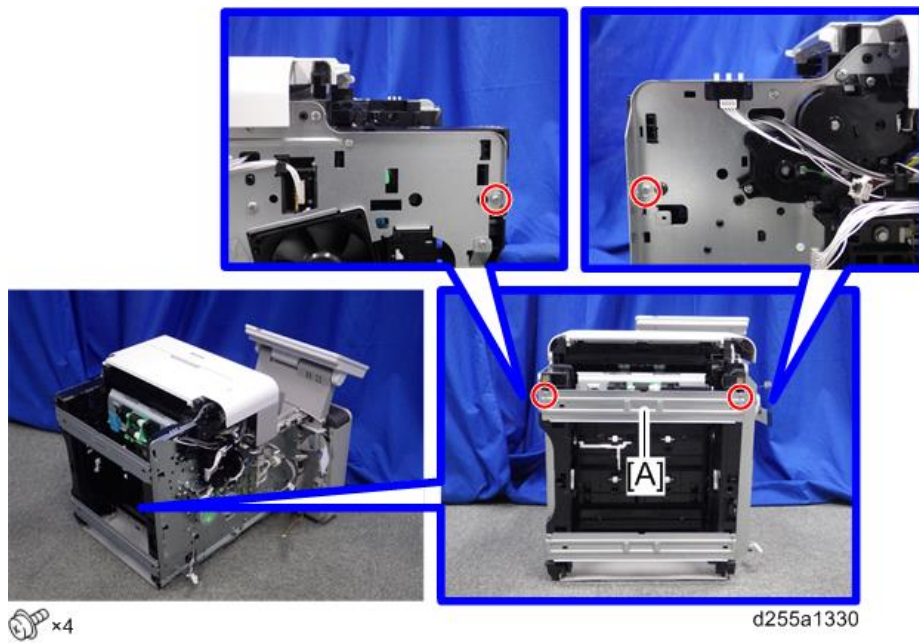
Replacement and Adjustment

Duplex Unit

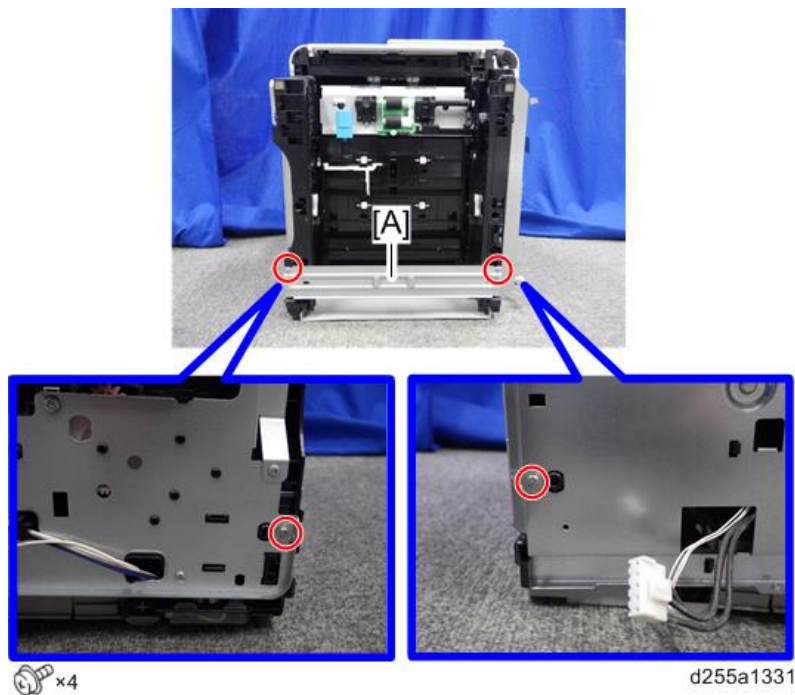
13. Stand the main unit front side up.



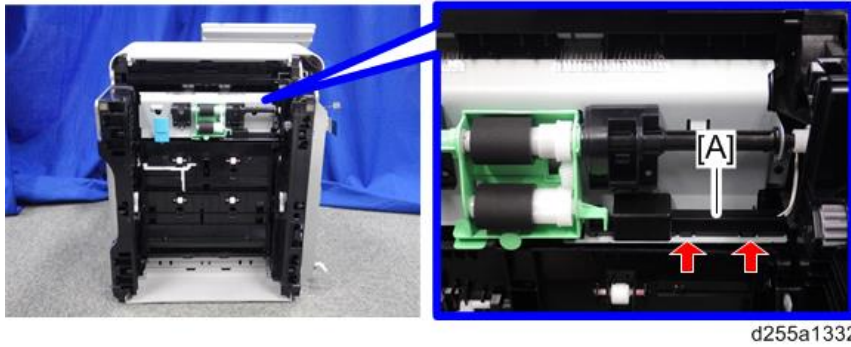
14. Remove the bottom plate [A].



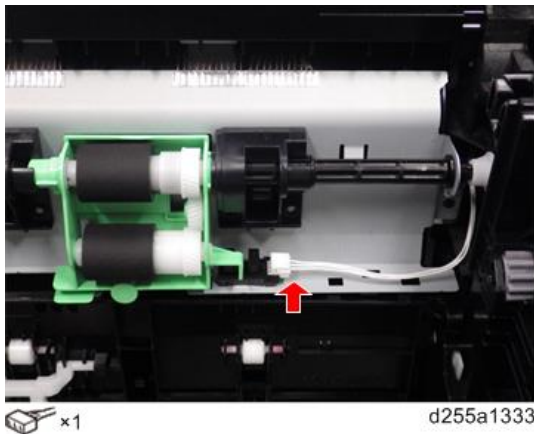
15. Remove the bottom plate [A].



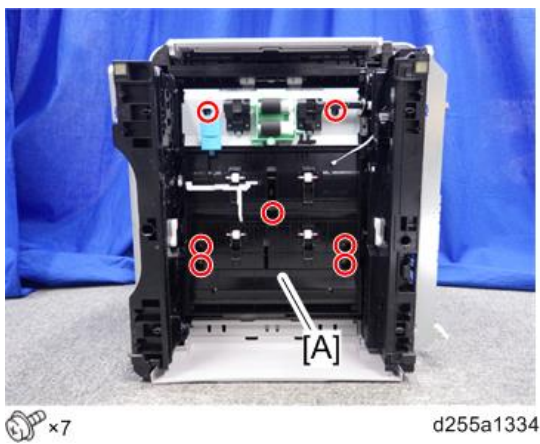
16. Remove the wire cover [A]. (hook×2)



17. Disconnect the connector.



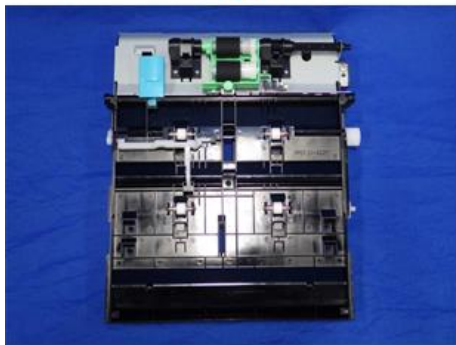
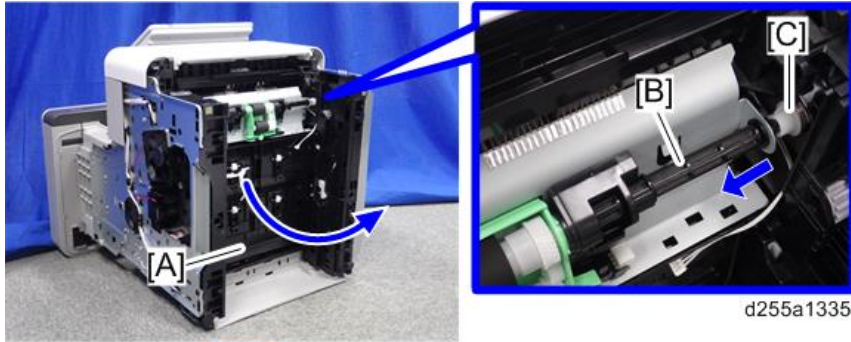
18. Remove the seven screws from the duplex unit [A].



Replacement and Adjustment

Duplex Unit

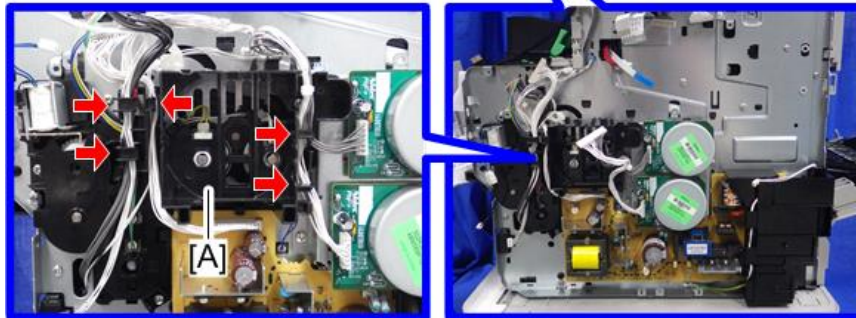
19. Remove the duplex unit [A] while removing the shaft [B] from the coupling [C].



4.22 DRIVE UNIT

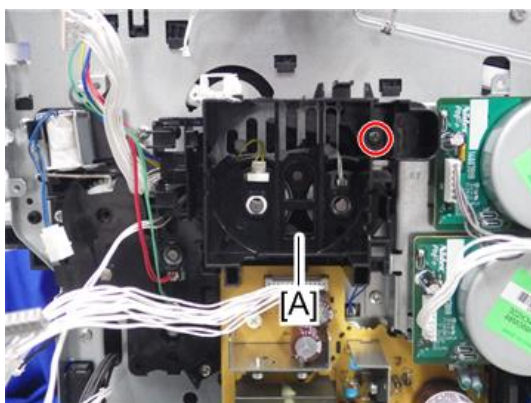
4.22.1 PAPER FEED MOTOR

1. Remove the IOB. (MP 501/601: page 4-147, SP 5300/5310: page 4-148)
2. Remove the PSU fan. (page 4-158)
3. Remove the harness from the harness guides of the bracket [A].



d255a1219

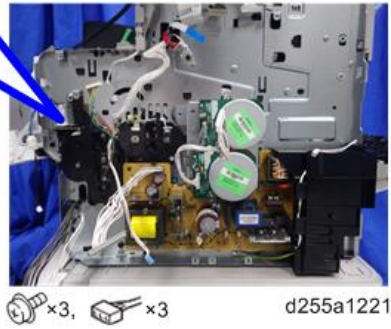
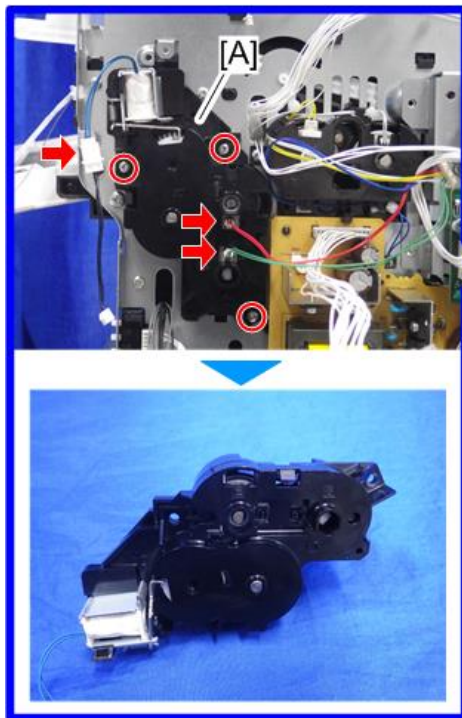
4. Remove the bracket [A].



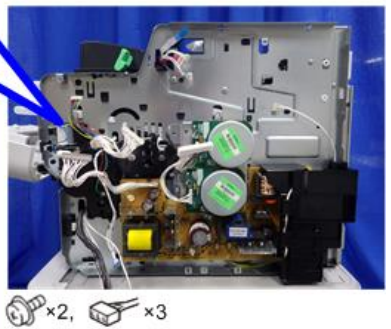
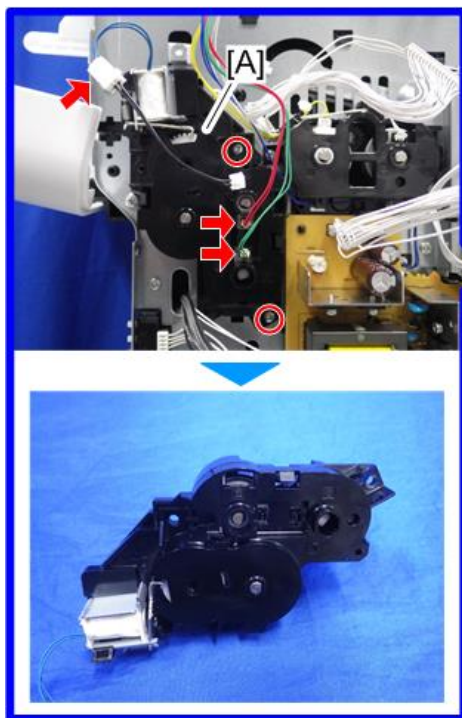
d255a1220

Replacement and Adjustment

- 5. Remove the paper feed motor [A].
MP 501/601

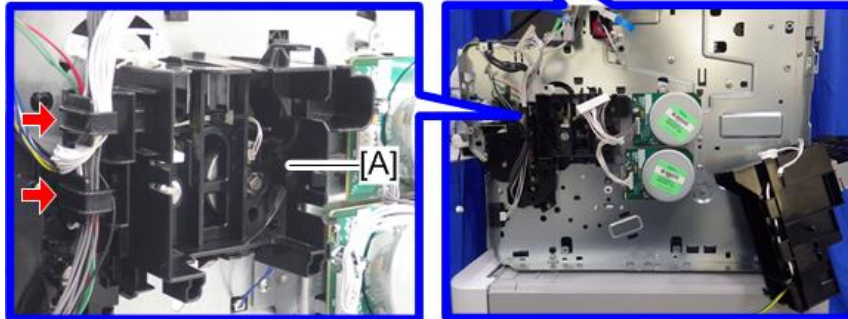


SP 5300/5310



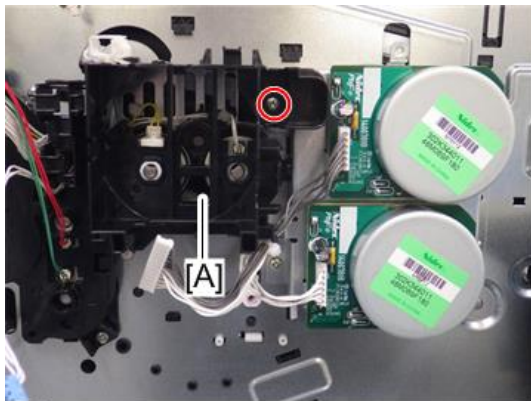
4.22.2 MAIN DRIVE UNIT

1. Remove the IOB. (MP 501/601: page 4-147, SP 5300/5310: page 4-148)
2. Remove the PSU. (page 4-154)
3. Remove the harness from the harness guide of the bracket [A].



d255a1222

4. Remove the bracket [A].

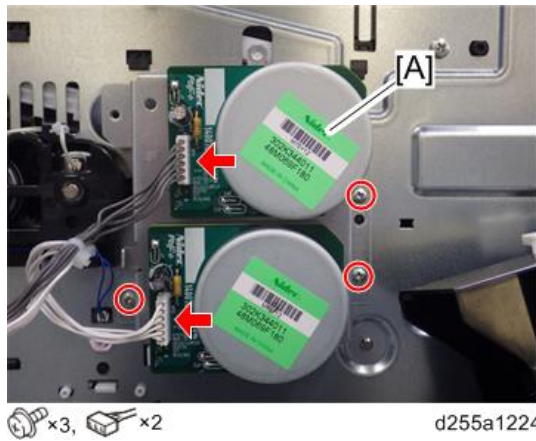


 x1

d255a1223

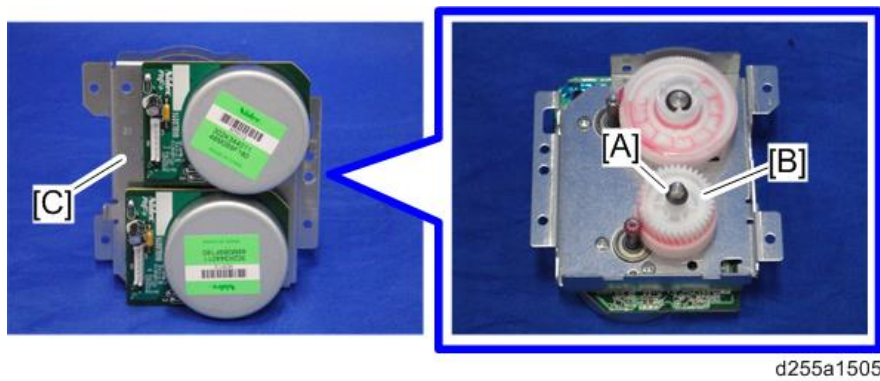
Replacement and Adjustment

5. Remove the main drive unit [A].

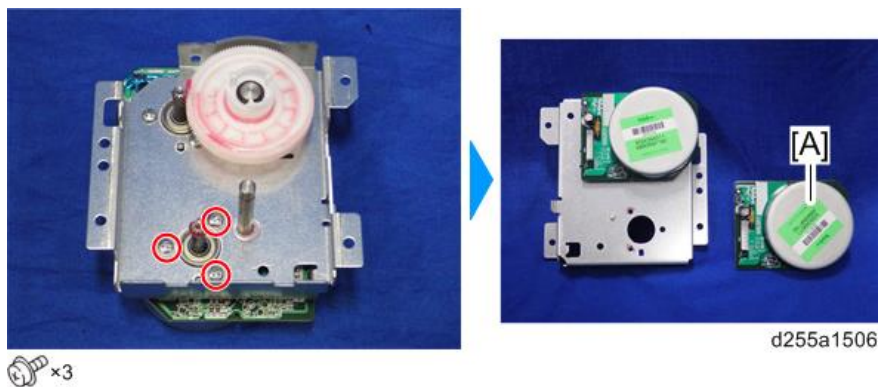


Main Motor

1. Remove the main drive unit. (page 4-125)
2. Remove the clip [A] and gear [B] from the backside of the main drive unit [C].

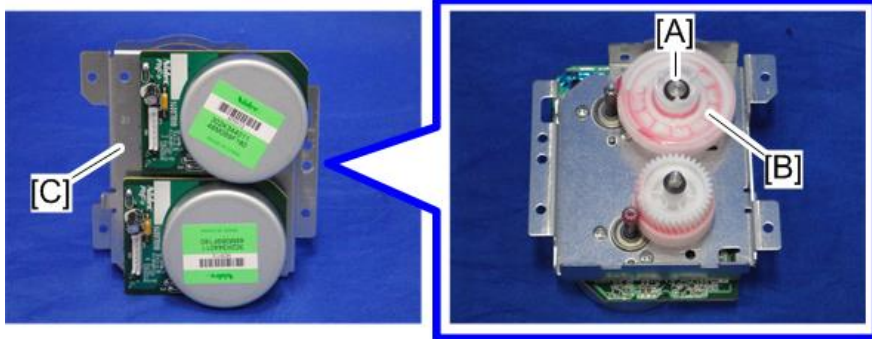


3. Remove the main motor [A].



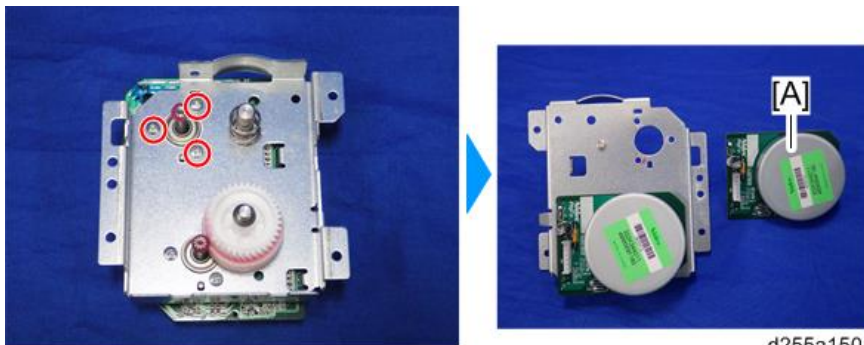
Drum Motor

1. Remove the main drive unit. (page 4-125)
2. Remove the clip [A] and gear [B] from the backside of the main drive unit [C].



d255a1503

3. Remove the drum motor [A].



 x3

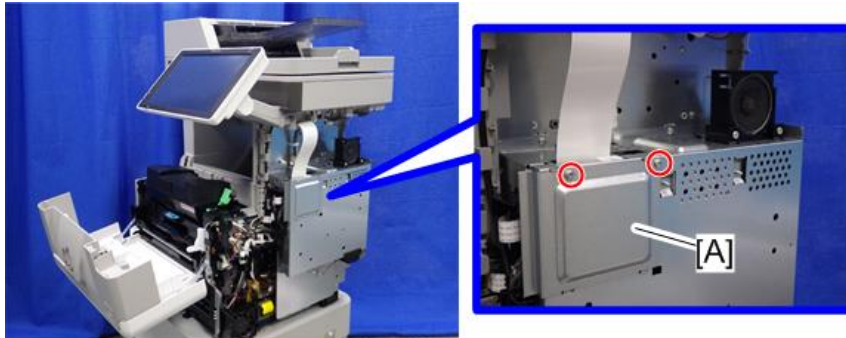
d255a1504

4.23 ELECTRICAL COMPONENTS

4.23.1 CONTROLLER BOX

Controller Box (MP 501/601)

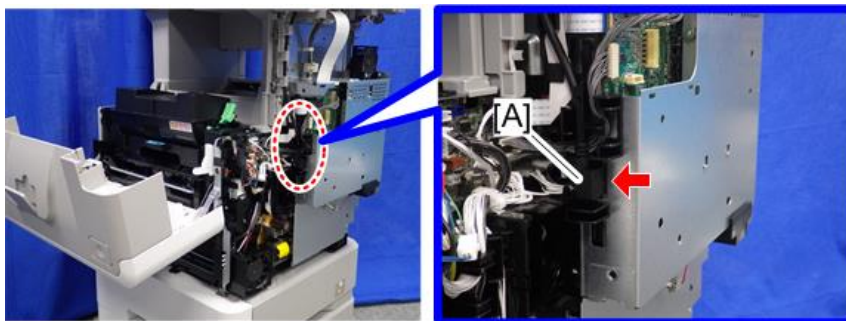
1. Remove the right lower cover. (page 4-22)
2. Remove the bracket [A].



 x2

d255a1082

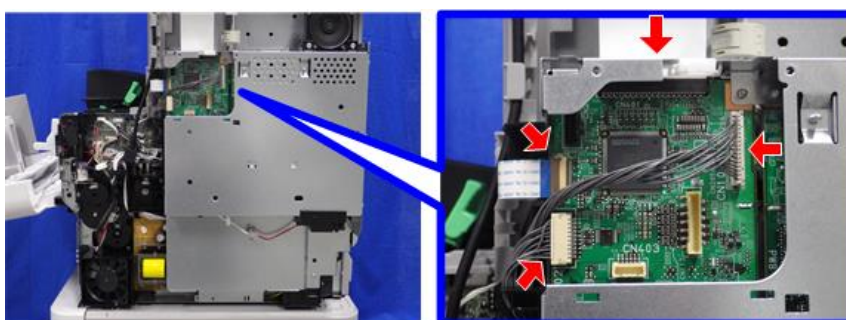
3. Disconnect the USB connector [A] of the operation panel.





 x1

d255a1083

4. Disconnect the two flat cables and two connectors.

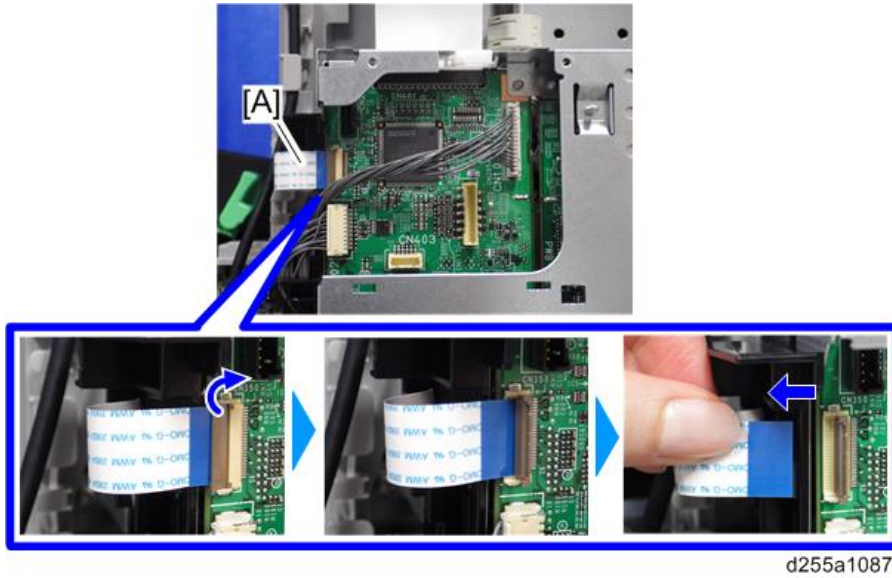


 x2,  x2

d255a1084

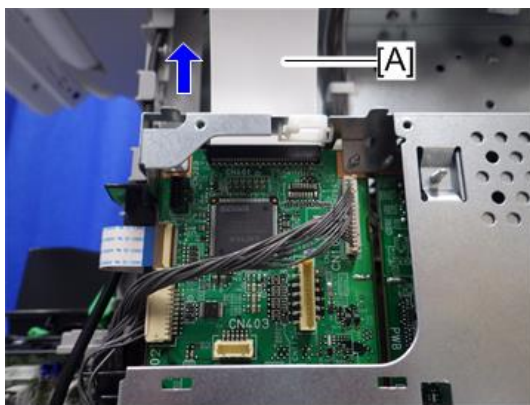
Note

- Make sure to open the flap before disconnecting the flat cable [A], as shown in the following pictures. Otherwise, the connector may be damaged.



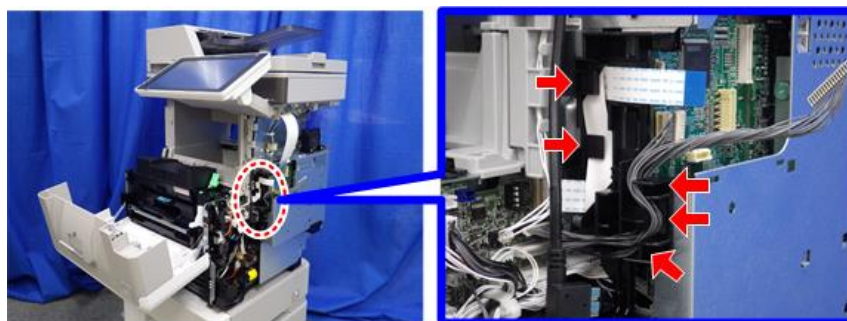
d255a1087

- When disconnecting the flat cable [A], pull it out in the direction of the arrow.



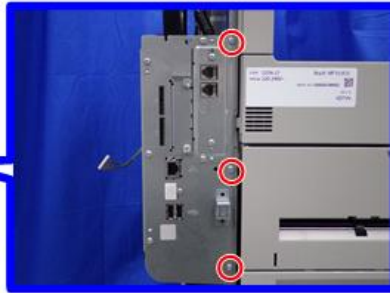
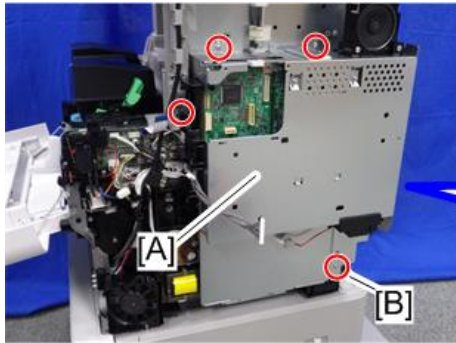
d255a1085

5. Release the flat cable and harness from the harness guides.



d255a1468

6. Remove the seven screws from the controller box [A].



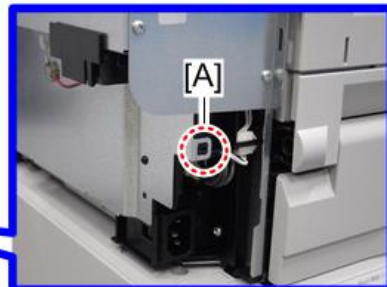
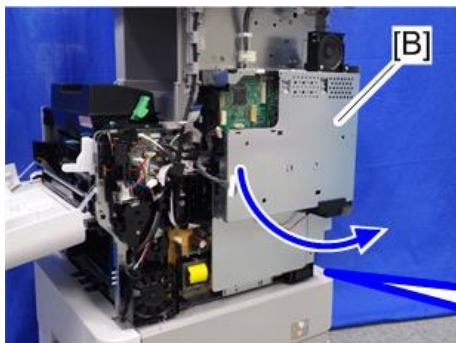
 x7

d255a1088

 Note

- The screw [B] is a tapping screw. Be careful not to use the wrong screw when installing the controller box.

7. Release the hook [A], and then remove the controller box [B] by rotating it counter-clockwise.

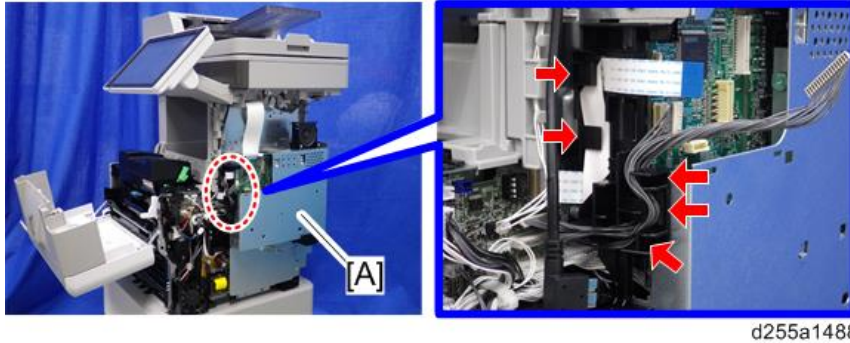


d255a1090

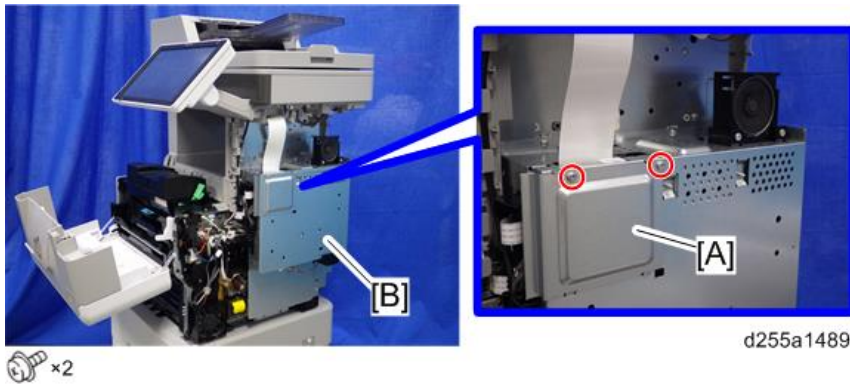


Note

- When installing the controller box [A], make sure to secure the harness and flat cable to the harness guides, as shown below.



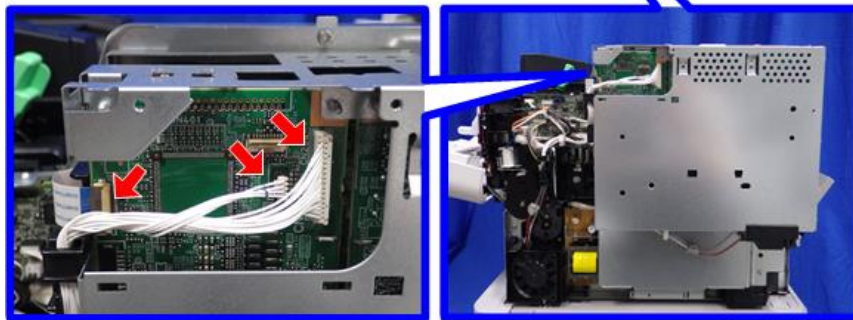
- When installing the bracket [A] of the controller box [B], do not interpose the harness and the flat cable between the bracket and the controller box.



Replacement and Adjustment

Controller Box (SP 5300/5310)

1. Remove the right cover. (page 4-54)
2. Disconnect the flat cable and two connectors.



 x2,  x1

d255a1403

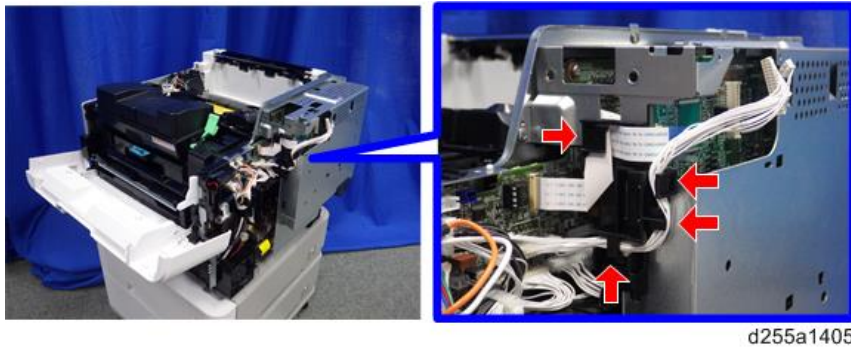
Note

- Make sure to open the flap before disconnecting the flat cable [A], as shown in the following pictures. Otherwise, the connector may be damaged.

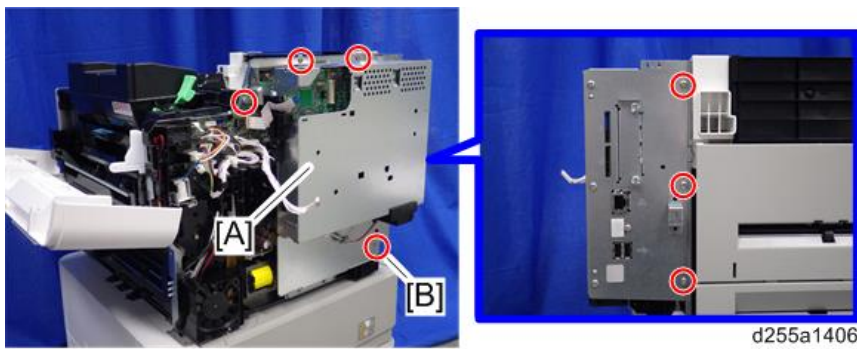


d255a1404

3. Release the flat cable and harness from the harness guides.



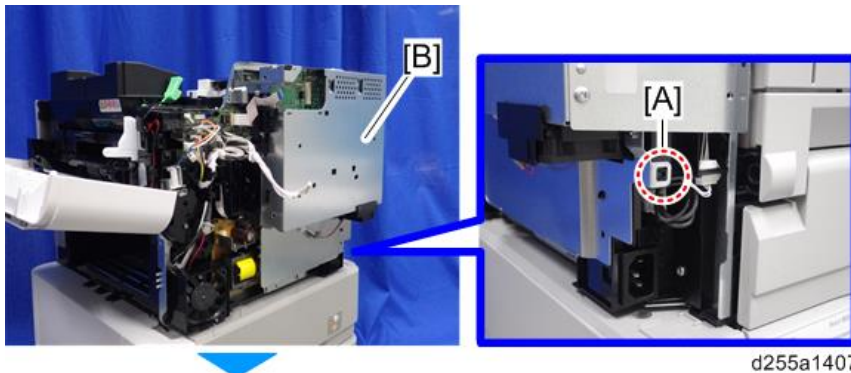
4. Remove the seven screws from the controller box [A].



Note

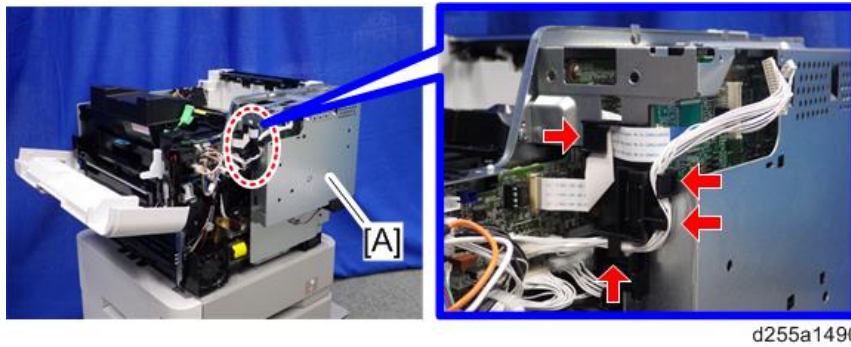
- The screw [B] is a tapping screw. Be careful not to use the wrong screws when installing the controller box.

5. Release the hook [A], and then remove the controller box [B].

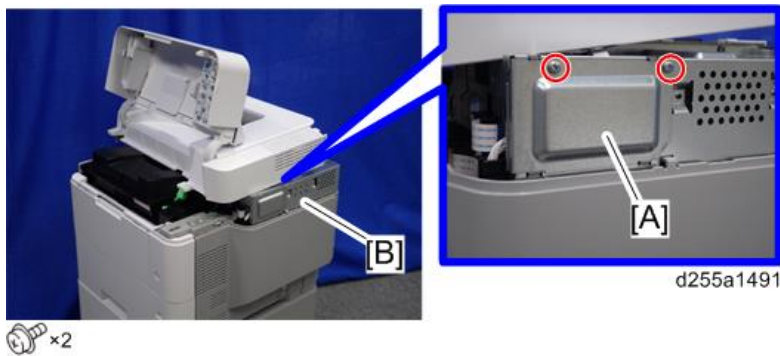


Note

- When installing the controller box [A], make sure to secure the harness and flat cable to the harness guides, as shown below.



- When installing the bracket [A] of the controller box [B], do not interpose the harness and the flat cable between the bracket and the controller box.



4.23.2 CONTROLLER BOARD

Controller Board (MP 501/601)

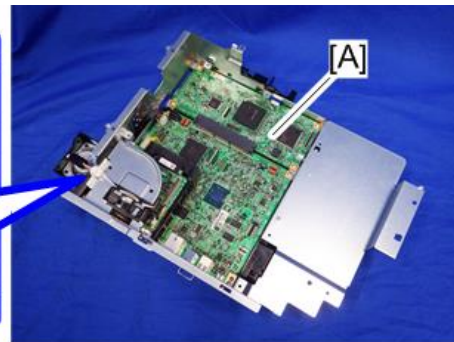
★ Important

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

- Remove the controller box. (page 4-128)
- Disconnect the connector on the controller box [A].



 x1

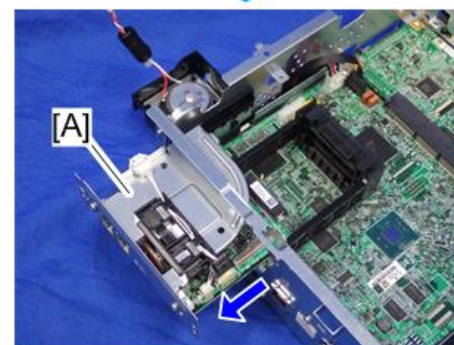
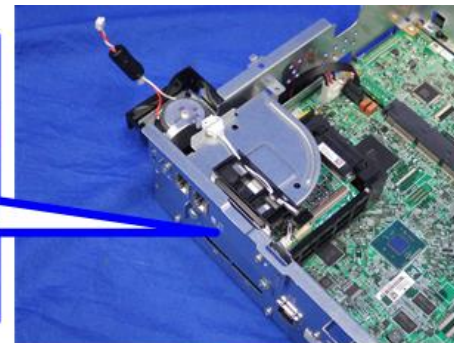


d255a1091

- Remove the fax unit [A].

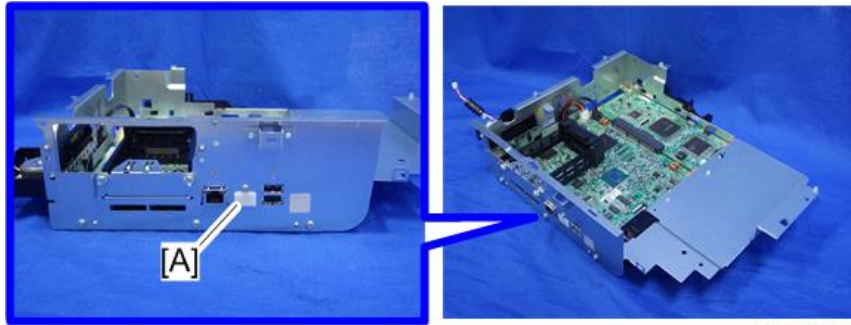


 x2

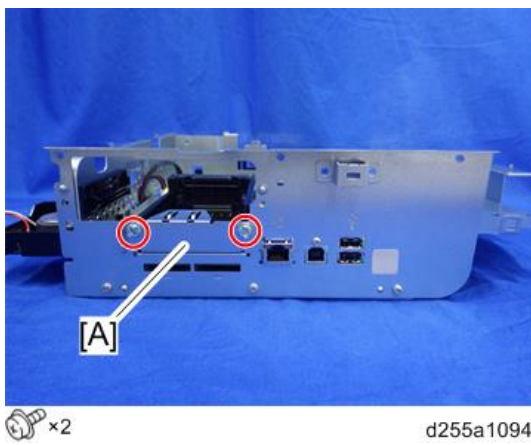


d255a1092

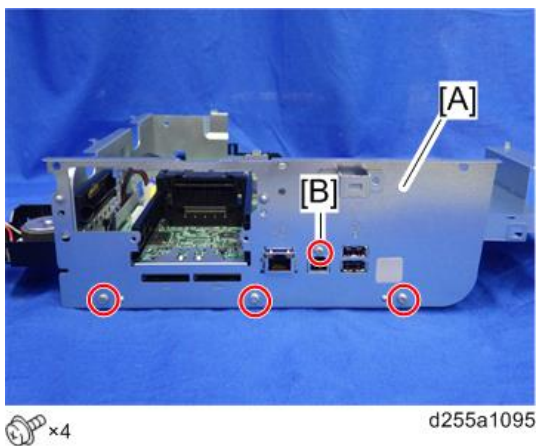
4. Remove the cap [A].



5. Remove the slot cover [A].



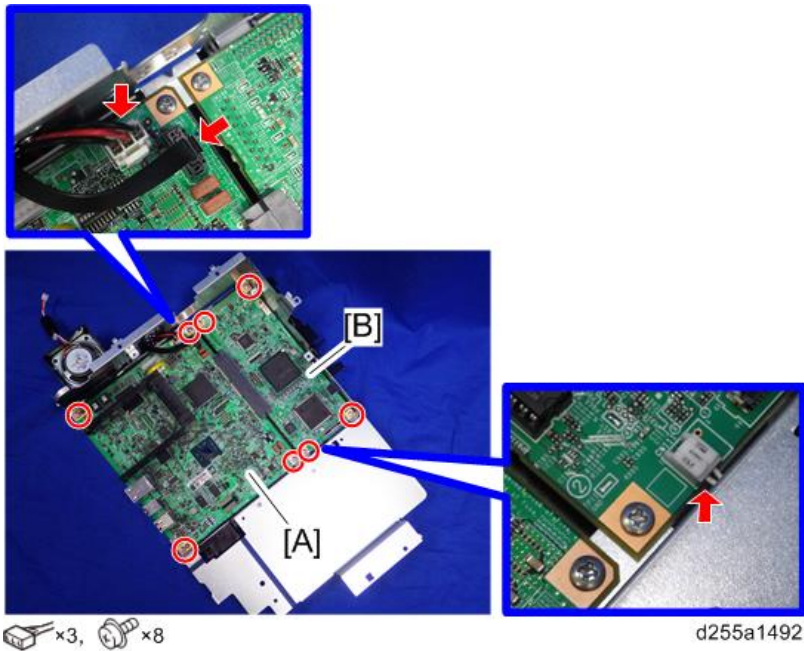
6. Remove the controller box cover [A].



Note

- The screw [B] is a small screw. Be careful not to use the wrong screw when installing the controller box cover.

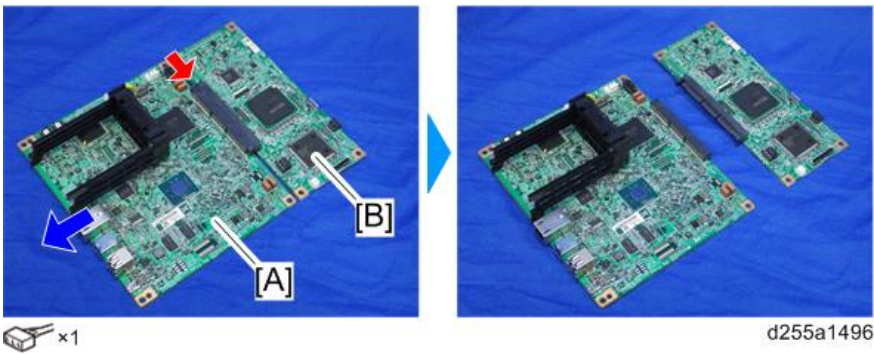
7. Remove the controller board [A] with the BiCU [B].



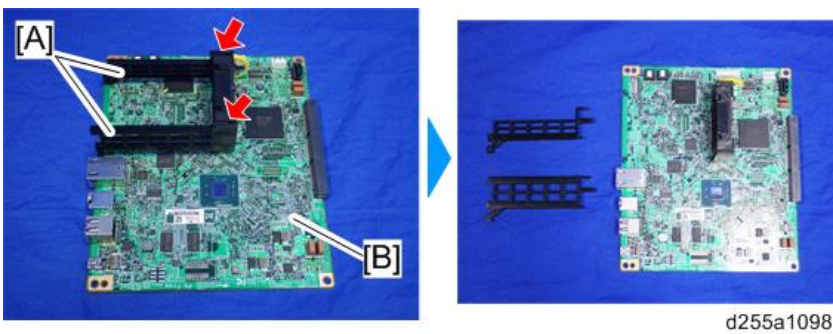
Note

- Be careful not to damage the backside of the controller board [A] and the BiCU [B].

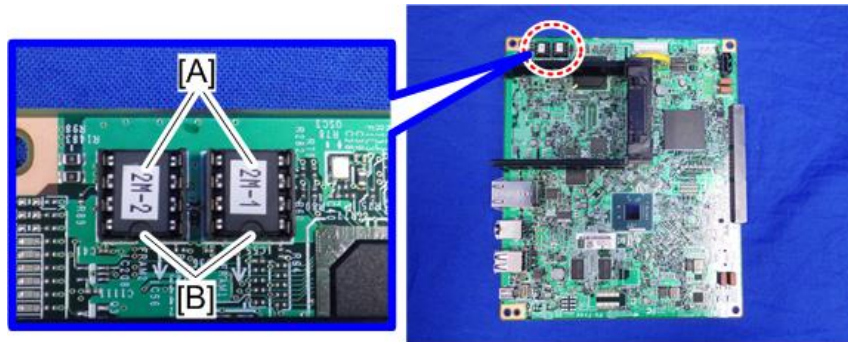
8. Remove the controller board [A] from the BiCU [B].



9. Remove the two guide rails [A] from the controller board [B]. (hookx2)



10. Remove the two NVRAMs [A] from the old controller board and install them on the new controller board.



d255a1099

Important

- Make sure the NVRAM [A] is installed at the correct mounting location and orientation. Install the NVRAM so that the indentation on the NVRAM corresponds with the mark [B] on the controller board.
- Incorrect installation of the NVRAM will damage both the controller board and NVRAM.

Controller Board (SP 5300/5310)

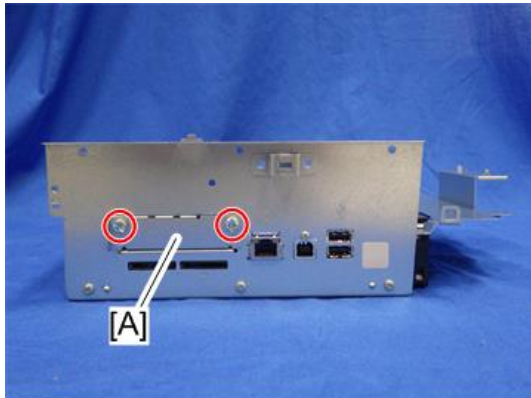
Important

- Keep NVRAMs away from any objects that can cause static electricity. Static electricity can damage NVRAM data.
1. Remove the controller box. (page 4-132)
 2. Remove the cap [A] from the controller box [B].



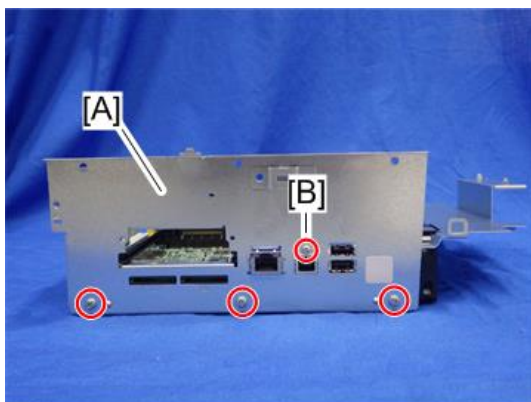
d255a1408

3. Remove the slot cover [A].



 x2 d255a1409

4. Remove the controller box cover [A].

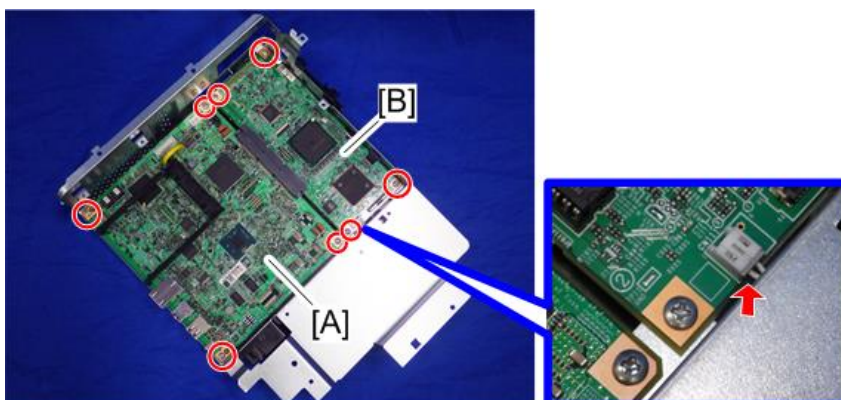


 x4 d255a1410

 **Note**

- The screw [B] is a small screw. Be careful not to use the wrong screw when installing the controller box cover.

5. Remove the controller board [A] with the BiCU [B].



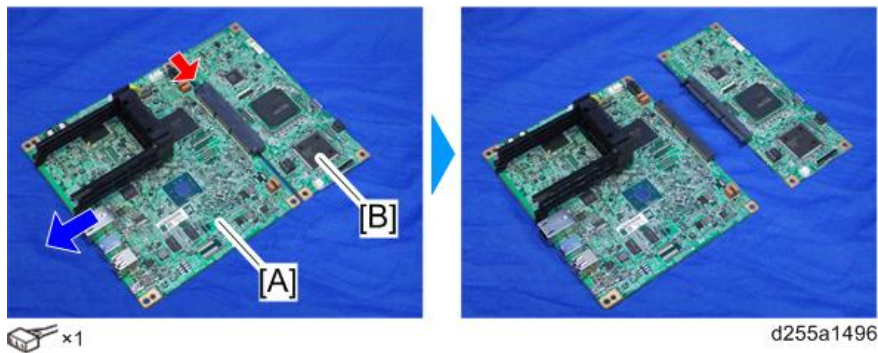
 x8,  x1 d255a1494

 **Note**

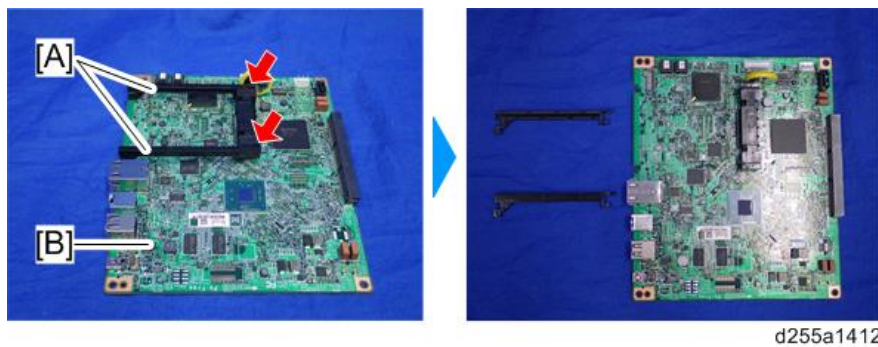
- Be careful not to damage the backside of the controller board [A] and the BiCU [B].

Replacement and Adjustment

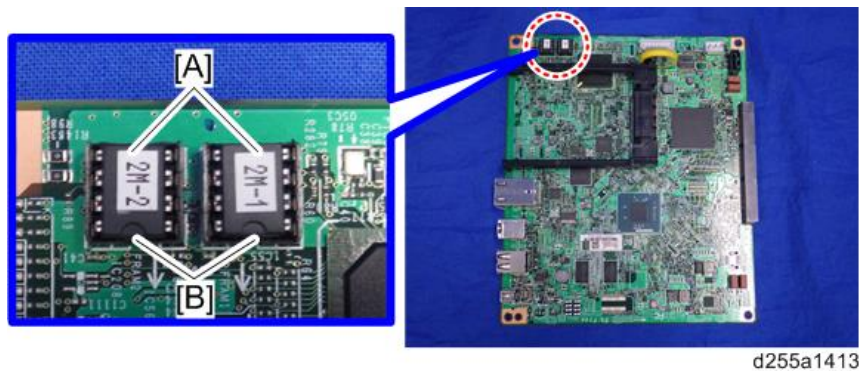
6. Remove the controller board [A] from the BiCU [B].



7. Remove the two guide rails [A] from the controller board [B]. (hookx2)



8. Remove the two NVRAMs [A] from the old controller board and install them on the new controller board.



★ Important

- Make sure the NVRAM [A] is installed at the correct mounting location and orientation. Install the NVRAM so that the indentation on the NVRAM corresponds with the mark [B] on the controller board.
- Incorrect installation of the NVRAM will damage both the controller board and NVRAM.

NVRAM on the controller board

★ Important

- SC195 (Machine serial number error) will be displayed if you forget to attach the NVRAM.
 - If you mounted the NVRAM in the wrong direction, it will cause a short circuit in the controller board and the NVRAM, and each component will need to be replaced.
 - Installing a new NVRAM initializes SPs and issues an SC. Reset the SC with the procedure below.
1. **Make sure that you have the SMC report (Factory SP Settings). This report comes with the machine. (page 2-8)**
If you do not have the SMC report, enter the factory settings while referring to the "Factory SP Settings" (page 4-10).
 2. **Output the SMC log using one of the following methods:**
To print SMC log data, execute SP5-990-001.
To save SMC log data to an SD card, execute SP5-992-001 (SMC List Card Save Function).
 3. **Turn OFF the main power.**
 4. **Insert a blank SD card in the SD Card Slot 2, and then turn ON the main power.**
 5. **Use SP5-824-001 to upload the NVRAM data from the controller board.**
 6. **Make sure the customer has a backup of their address book data. If not, obtain the backup by referring to SP5-846-051.**

★ Important

- 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 the customer have a backup of the address book data, use their own backup data for restoring. This is because there is a risk that the data cannot be backed up properly depending on the NVRAM's condition.
7. **For MP 501/601, do the following steps.**
 1. Print the Box List with the User Tools.
 - [User Tools] -> [Machine Features] -> [Facsimile Features] -> [General Settings] -> [Box Setting: Print List]
 2. Print the Special Sender List by pressing these buttons in the following order.
 - [User Tools] -> [Machine Features] -> [Reception Settings] -> [Program Special Sender: Print List]
 3. Write down the following fax settings.
 - [Receiver] in [User Tools] -> [Machine Features] -> [Facsimile Features] -> [Reception Settings] -> [Reception File Settings] -> [Forwarding].
 - [Notify Destination] in [User Tools] -> [Machine Features] -> [Facsimile Features] ->

[Reception Settings] -> [Reception File Settings] -> [Store].

- [Specify User] in [User Tools] -> [Machine Features] -> [Facsimile Features] -> [Reception Settings] -> [Stored Reception File User Setting].
- [Notify Destination] in [User Tools] -> [Machine Features] -> [Facsimile Features] -> [Reception Settings] -> [Folder Transfer Result Report].
- Specified folder in [User Tools] -> [Machine Features] -> [Facsimile Features] -> [Send Settings] -> [Backup File TX Setting].
- [Receiver] in [User Tools] -> [Machine Features] -> [Facsimile Features] -> [Reception Settings] -> [Reception File Settings] -> [Output Mode Switch Timer].
- [Store: Notify Destination] in [User Tools] -> [Machine Features] -> [Facsimile Features] -> [Reception Settings] -> [Output Mode Switch Timer].
- All the destination information 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 is no transmission standby file. If any standby file exists, ask the customer to delete it or complete the transmission.

8. Turn OFF the main power and unplug the power cord.

9. Turn ON the main power again to discharge the residual charge.

10. Replace the NVRAM with a new one.

11. Turn ON the main power.

 **Important**

- For SP 5300/5310, SC995 will be displayed after turning ON the main power.
- For MP 501/601, SC995 might be internally issued after turning ON the main power.
- After turning ON the main power, SC870 will occur and the address book data will be cleared.

12. For MP 501/601, change the following SP settings for the operation panel after turning ON the main power.

- 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".

13. For MP 501/601, change the Flair API SP values.

- SP5-752-001 (Copy FlairAPIFunction Setting): Change bit 0 from "0" to "1".
- SP1-041-001 (Scan:FlairAPI Setting) in Scanner SP: Change bit 0 from "0" to "1".
- SP3-301-001 (FAX:FlairAPI Setting) in Fax SP: Change bit 0 from "0" to "1".

14. Turn OFF/ON the main power with the SD card where the NV-RAM data has been uploaded in SD slot 2.

15. Download the NV-RAM data stored in the SD card to the brand-new NV-RAM using SP5-825-001 (NV-RAM Data Download).

 Note

- The download will take a few minutes.

16. Turn OFF the main power and remove the SD card from SD Card Slot 2.

17. Turn ON the main power.

18. Restore the original settings of the following SPs, by referring to the SMC data obtained in step 2.

 Note

- SP5-825-001 does not download the following SP data to the new NV-RAM. You must set them manually.
 - SP5-985-001(Device Setting: On Board NIC) (MP 501/601 only)
 - SP5-985-002(Device Setting: On Board USB) (MP 501/601 only)
 - SP5-193-001 (External Controller Info. Settings)
 - SP5-730-001 (Extended Function Setting: Java™ Platform setting) (MP 501/601 only)

19. For MP 501/601, if the security functions (HDD Encryption and HDD Data Overwrite Security) were applied, set the functions again.

20. 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 ask the customer to ensure the address book data has been restored properly.

 Important

- If you have obtained a backup of the customer's address book data, delete the backup immediately after the NVRAM replacement to avoid accidentally taking out the customer's data.

21. Output the SMC log using one of the following methods:

To print SMC log data, execute SP5-990-001.

To save SMC log data to an SD card, execute SP5-992-001 (SMC List Card Save Function).

 Note

- Check that the counters are reset.

22. For MP 501/601, make sure that the list output in steps 7-1 through steps 7-3 matches the destination information in the machine. If not, set it to the setting before replacement.

Important

- Try the following if NVRAM upload (SP5-824-001) or download (SP5-825-001) cannot be done.
 - Check the SP values that changed on the SMC you printed out in step 2. Adjust the values manually. Make sure that the values of SP5-045-001 (MP 501/601 only) and SP5-302-002 are the same as before replacing.

Note

- If a message tells you need an SD card to restore displays after the NVRAM replacement, create a "SD card for restoration" and restore with the SD card. Refer to the following.
 - MP 501/601: page 2-149 "Encryption Key Restoration"
 - SP 5300/5310: page 2-152 "Encryption Key Restoration"

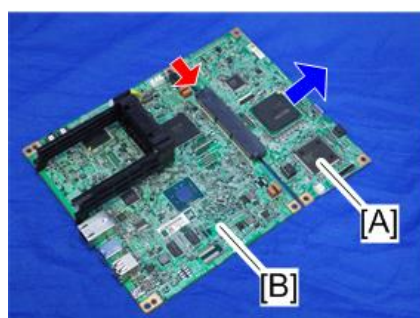
4.23.3 BICU

Note

- Fuse condition on the BiCU is below.

Address	MP 501/601	SP 5300/5310
FU1	5A 76V	T0.5A 63V

1. Remove the controller board with the BiCU from the controller box.
 - MP 501/601: (page 4-135)
 - SP 5300/5310: (page 4-138)
2. Remove the BiCU [A] from the controller board [B].

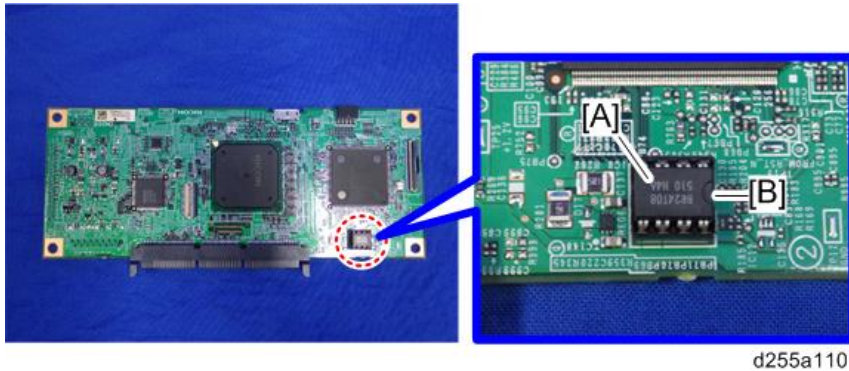


 x1



d255a1497

- Remove the NVRAM [A] from the old BiCU and attach it to the new BiCU.



Note

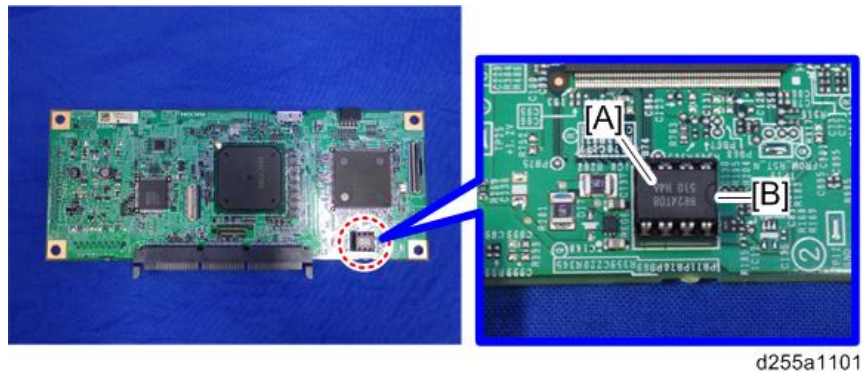
- Attaching the used NVRAM to the new BiCU allows users to use old data such as SP settings.
- Make sure the serial number is input in the machine for the NVRAM data with SP5-811-004. If not, SC995-001 occurs. Install a NVRAM [A] so that the indentation [B] on the NVRAM corresponds with the mark on the BiCU. Incorrect installation of the NVRAM will damage both the BiCU and NVRAM.

Replacing the NVRAM (EEPROM) on the BiCU

- Make sure that you have the SMC report (Factory SP Settings). This report comes with the machine. (page 2-8)**
If you do not have the SMC report, enter the factory settings while referring to the "Factory SP Settings" (page 4-10).
- Output the SMC data ("ALL") using SP5-990-001/SP5-992-001.**
- Turn OFF the main power.**
- Insert a blank SD card in the SD Card Slot 2, and then turn ON the main power.**
- Use SP5-824-001 to upload the NVRAM data from the BiCU.**
- Turn OFF the main power and unplug the power cord.**
- Replace the NVRAM on the BiCU with a new one.**

Important

- Install a new NVRAM [A] so that the indentation [B] on the NVRAM corresponds with the mark on the BiCU. Incorrect installation of the NVRAM will damage both the BiCU and NVRAM.**



8. Plug in the power cord, and then turn ON the main power.

Note

- When the main power is turned ON, SC195-00 appears. Continue with the following steps.

Important

- After changing the EEPROM, some SPs do not have the correct values.
- Because of this, step 9 must be done.

9. Set the machine serial number SP5-811-001, area selection SP5-996-001, CPM set SP5-882-001.

Note

- For information on how to configure the above SPs, contact the supervisor in your branch office.

10. Turn the main power OFF/ON.

11. Execute SP5-801-002 "Memory Clear Engine".

12. Turn OFF the main power, and then turn it back ON.

13. From the SD card where you saved the NV-RAM data in step 5, download the NV-RAM data with SP5-825-001.

14. Turn OFF the main power, and then remove the SD card from SD slot 2.

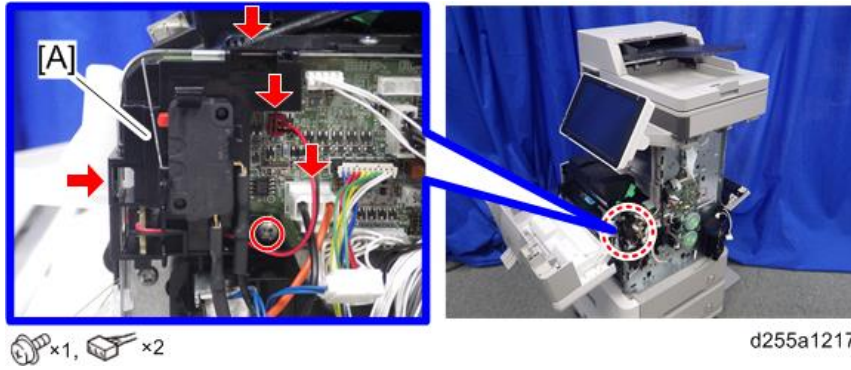
15. Turn ON the main power.

16. Check the SMC report (Factory SP Settings) from step 1, and set the user tool and SP settings so they are the same as before.

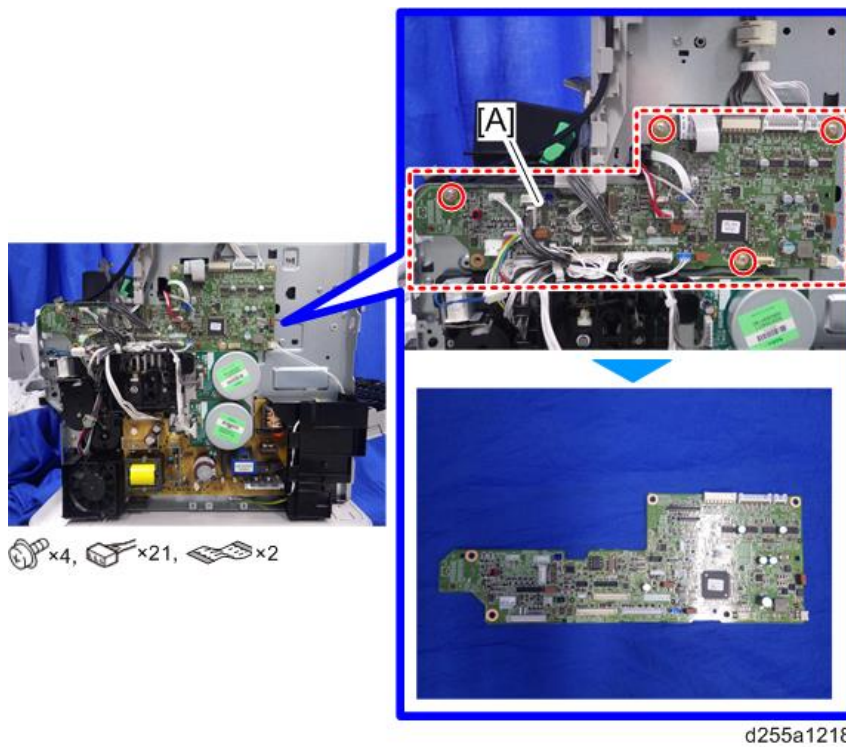
4.23.4 IOB

IOB (MP 501/601)

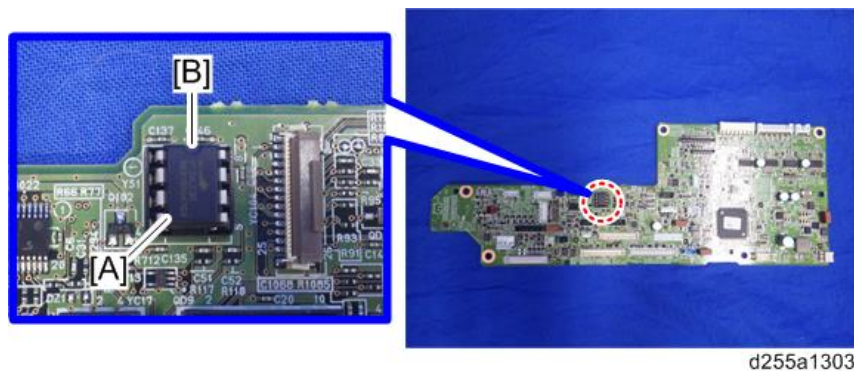
1. Remove the controller box. (page 4-128)
2. Remove the bracket [A]. (hookx2)



3. Remove the IOB [A].



4. Remove the NVRAM [A] from the old IOB and attach it to the new IOB.

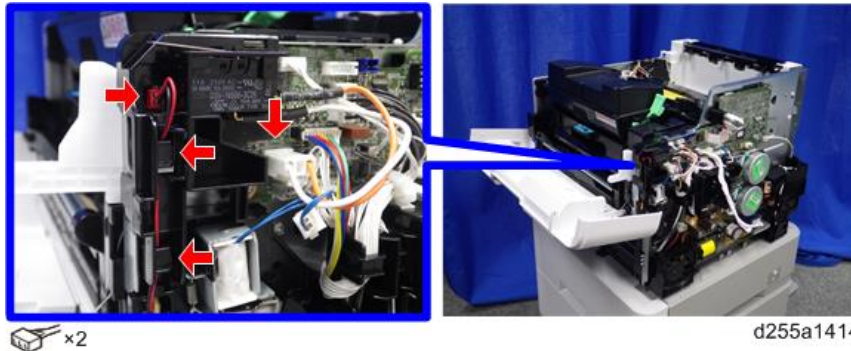


★ Important

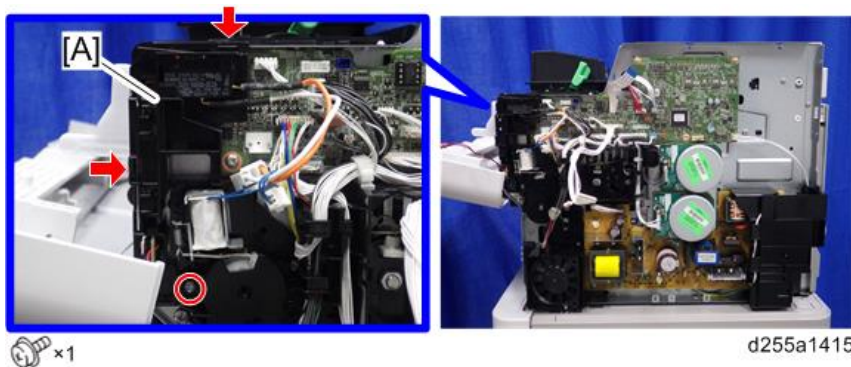
- Install a NVRAM [A] so that the indentation [B] on the NVRAM corresponds with the mark on the IOB. Incorrect installation of the NVRAM will damage both the IOB and NVRAM.

IOB (SP 5300/5310)

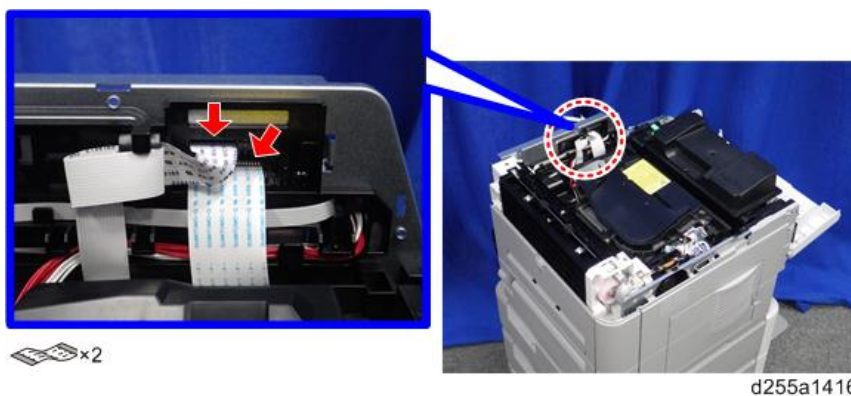
1. Remove the controller box. (page 4-132)
2. Disconnect the two connectors, and then release them from the harness guides.



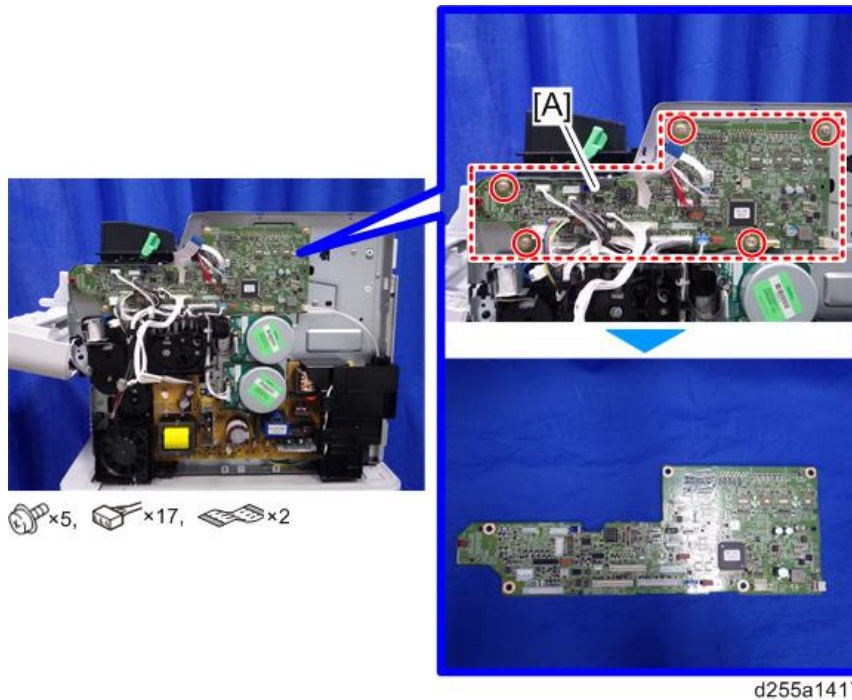
3. Remove the bracket [A]. (hookx2)



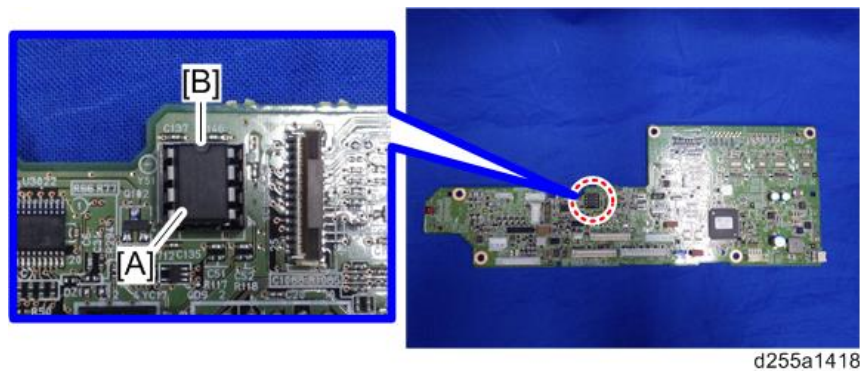
4. Disconnect the two flat cables.



5. Remove the IOB [A].



6. Remove the NVRAM [A] from the old IOB and attach it to the new IOB.



★ Important

- Install a NVRAM [A] so that the indentation [B] on the NVRAM corresponds with the mark on the IOB. Incorrect installation of the NVRAM will damage both the IOB and NVRAM.

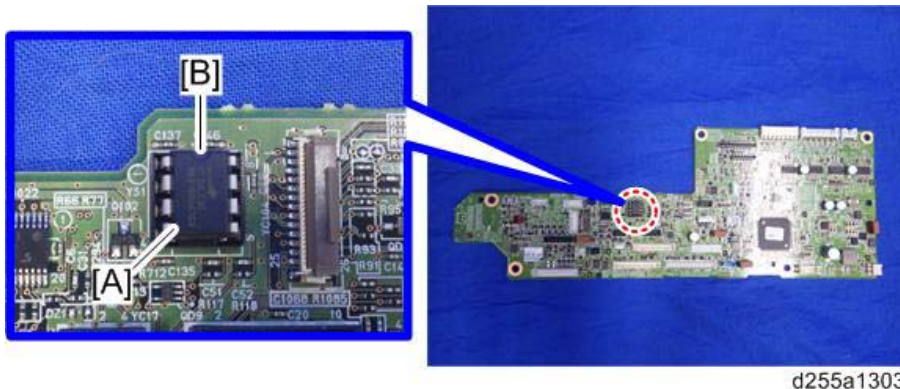
Replacing the NVRAM (EEPROM) on the IOB

- Make sure that you have the SMC report (Factory SP Settings). This report comes with the machine. If you do not have the SMC report, enter the factory settings while referring to the "Factory SP Settings".
- Output the SMC data "ALL" using the SP 5990-001(Print) or SP 5992-001 (SD card).
- Power off the main power and unplug the power cord.

- Replace the NVRAM on the IOB with a new one.

★ Important

- Install the NVRAM [A] so that the indentation [B] on the NVRAM corresponds with the mark on the IOB. Incorrect installation of the NVRAM will damage both the IOB and the NVRAM.



d255a1303

- Plug in the power cord, and then turn ON the main power.
- Execute Sp5-901-00x “All Data Initialize”.

Destination	SP
NA/ LA (120V)	SP5-901-007
EU/ LA (230V)	SP5-901-006

↓ Note

- Do not use SP5-901-009 (Oceania).

- Turn OFF the main power, and then turn ON the main power again.
- Set SP4-698-003 “Factory mode” to “1”.

★ Important

- Do not open the Front Cover, and do not turn OFF/ON the main power until step 11.

↓ Note

- For information on how to configure the above SP, contact the supervisor in your branch office.
- Displayed number will be changed to “0” soon after setting SP4-698-003 to “1”. This is normal operation and the SP has been executed correctly.

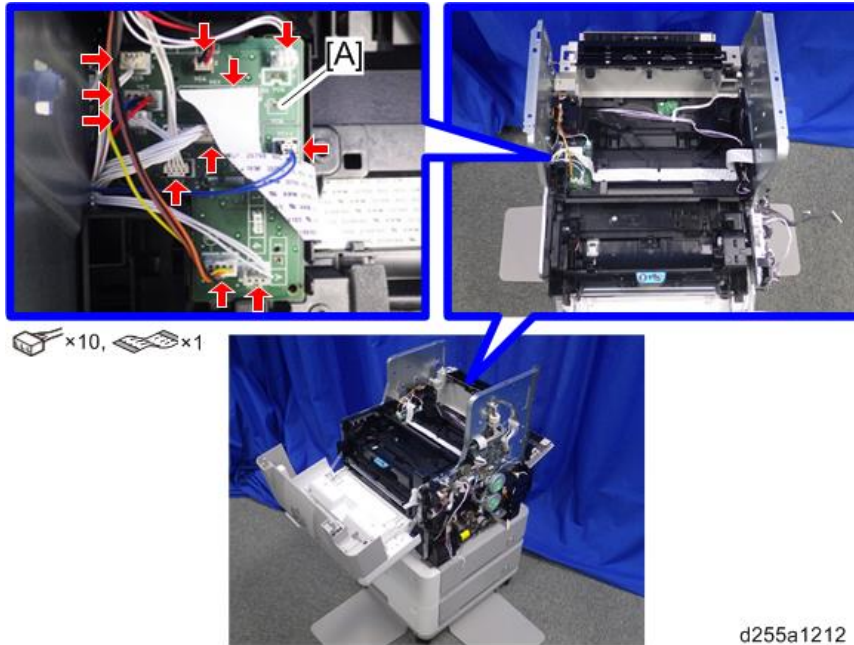
- Execute SP3-900-002 “Toner Install Mode: Off”.
- Set the below SPs to see the SMC report (Factory SP Settings) from step 1 or 2.
 - SP4-108-001 “Sub Scan Speed Adjustment”,
 - SP4-110-001 “L-Edge Timing Adjustment”,
 - SP6-026-001 “ADF Timing Adjustment, Leading Edge Start Timing: Front”,
 - SP6-027-001 “ADF Adjustment Scan Speed, Simplex Mode”
- Turn OFF the main power, then turn ON the main power again.
- Check the SMC report (Factory SP Settings) from step 1 or 2, and set the user tool and SP settings so they are the same as before.

↓ Note

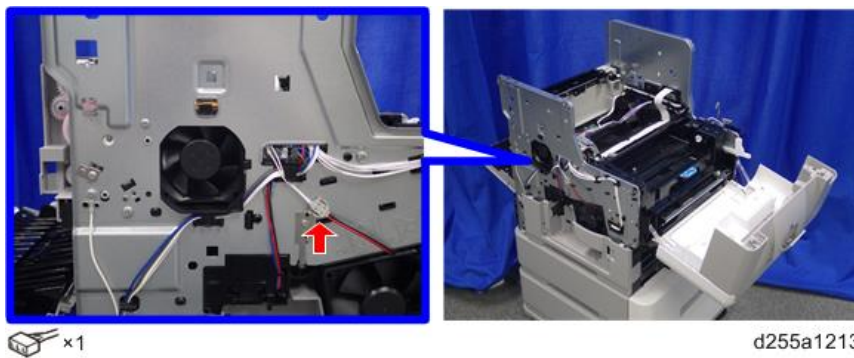
- Check the below SPs have correct values.
 - SP6-026-003: 0
 - SP6-026-004: 0
 - SP6-027-002: -0.3

4.23.5 CONNECT-LEFT PCB

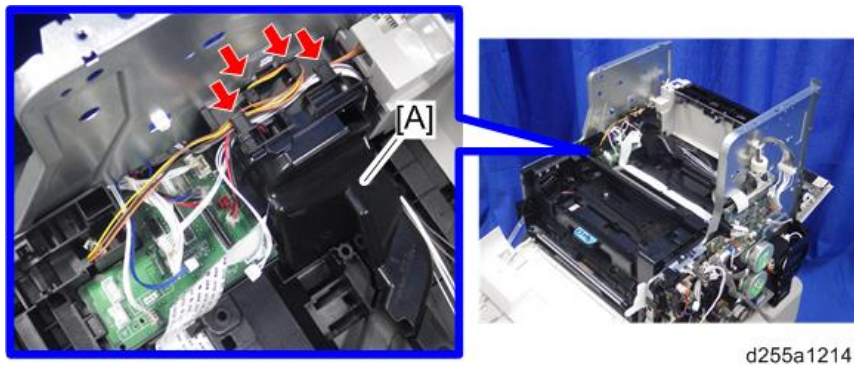
1. Remove the laser unit. (MP 501/601: page 4-82, SP 5300/5310: (page 4-85)
2. For SP 5300/5310, remove the left upper cover. (page 4-58)
3. Disconnect the flat cable and harness from the Connect-Left PCB [A].



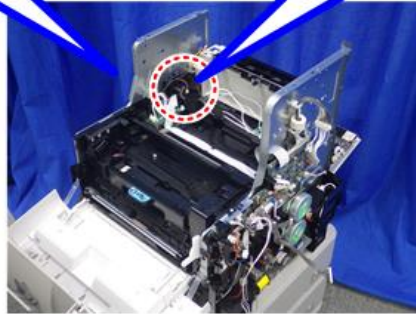
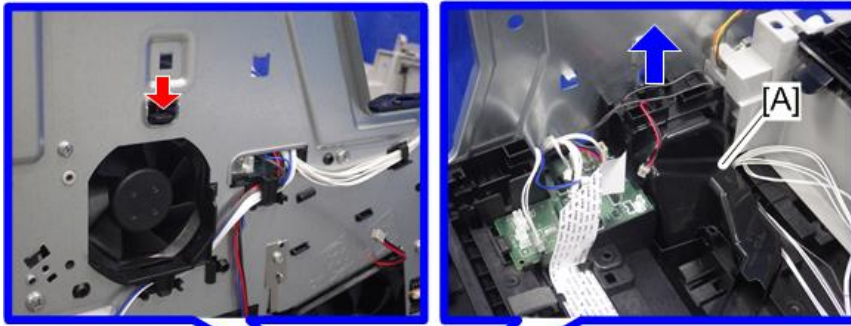
4. Disconnect the connector from the left side of the machine.



5. Release the harness from the harness guides of the laser fan unit [A].

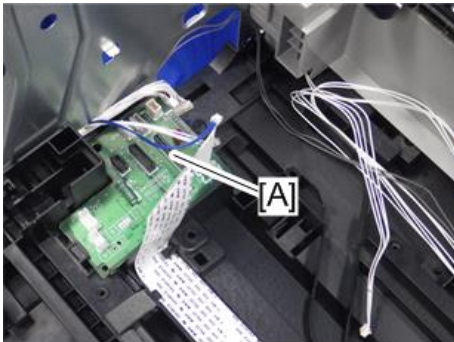


6. Remove the laser fan unit [A]. (hookx1)



d255a1215

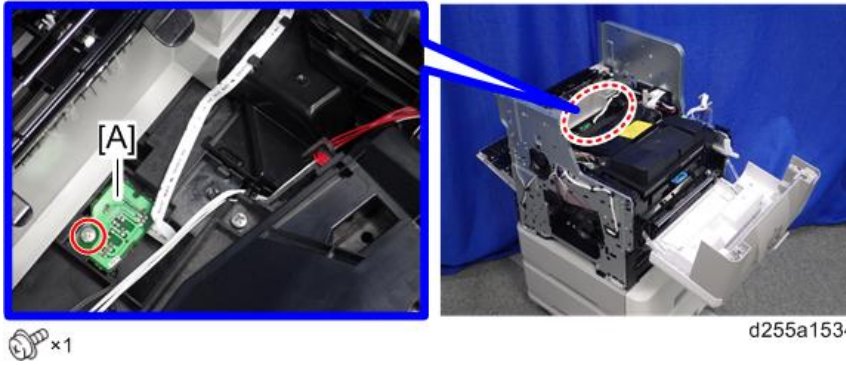
7. Remove the Connect-Left PCB [A].



d255a1216

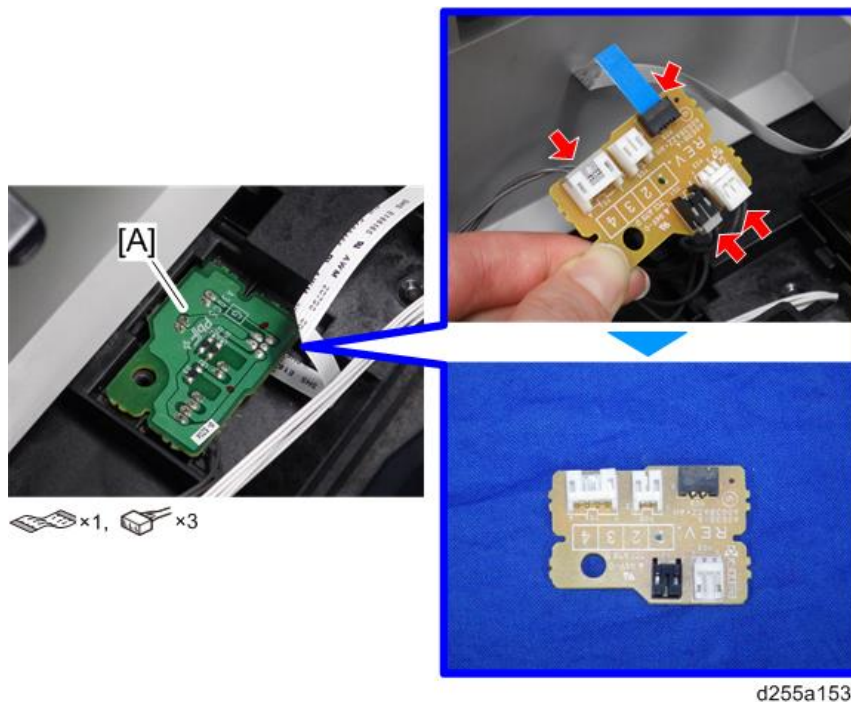
4.23.6 FUSING THERMISTOR CONNECTION PCB



1. Remove the following covers.
 - MP 501/601: Paper exit tray (page 4-39)
 - SP 5300/5310: Upper cover (page 4-47)
2. Remove the screw which is fixing the fusing thermistor connection PCB [A].



 x1

3. Turn over the fusing thermistor connection PCB [A], and then disconnect the flat cable and connectors.

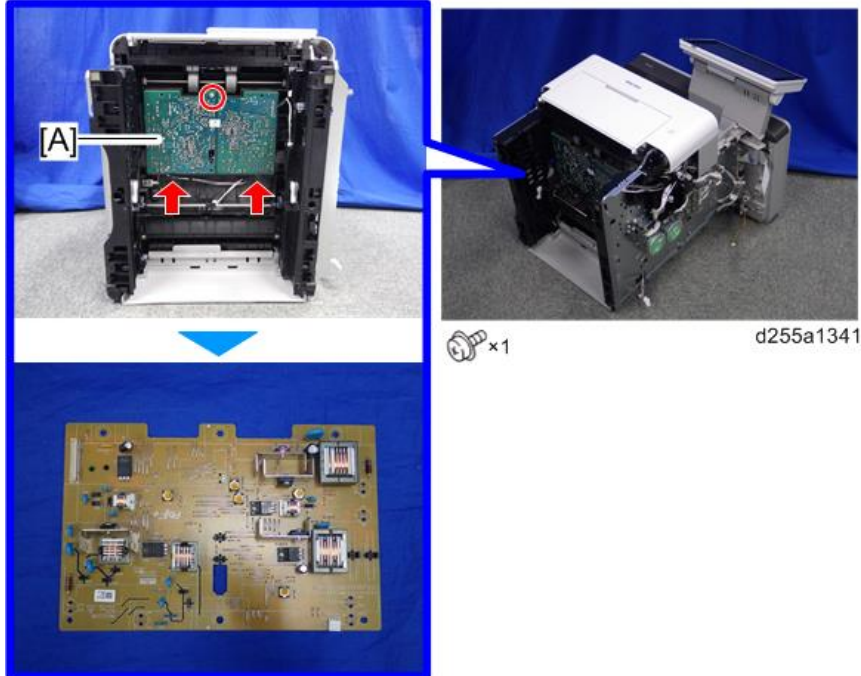


 x1,  x3

Replacement and Adjustment

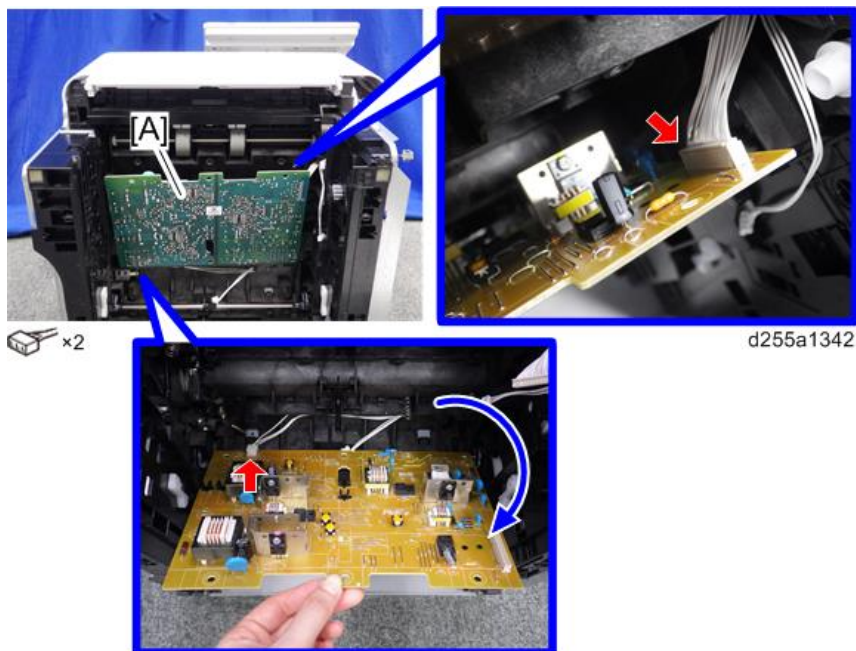
4.23.7 POWER PACK

1. Remove the duplex unit. (page 4-116)
2. Remove the power pack [A]. (hookx2)

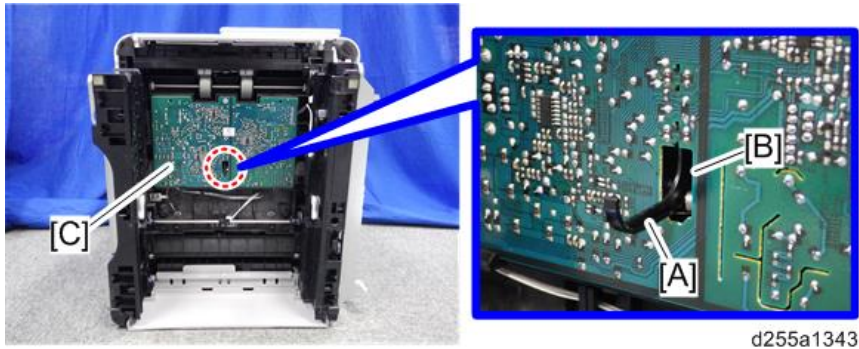


Note

- When removing the power pack, disconnect two connectors from back side of the power pack [A].

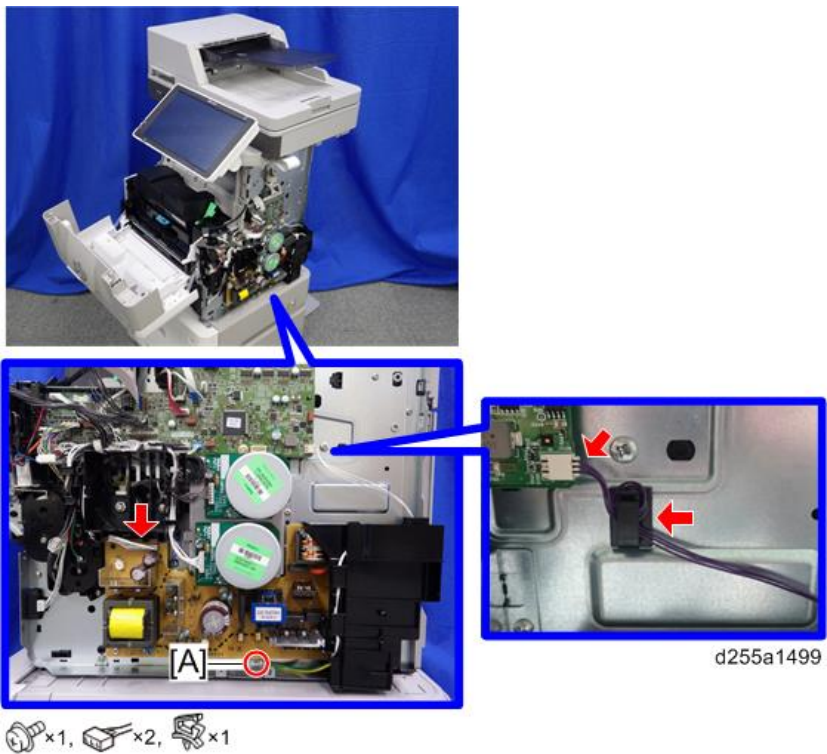


- When installing the power pack, insert the actuator [A] through the hole [B] of the power pack [C].



4.23.8 PSU

1. Remove the controller box (MP 501/601: page 4-128, SP 5300/5310: page 4-132)
2. Remove the PSU fan. (page 4-159)
3. Remove the ground screw [A] and release the two connectors.



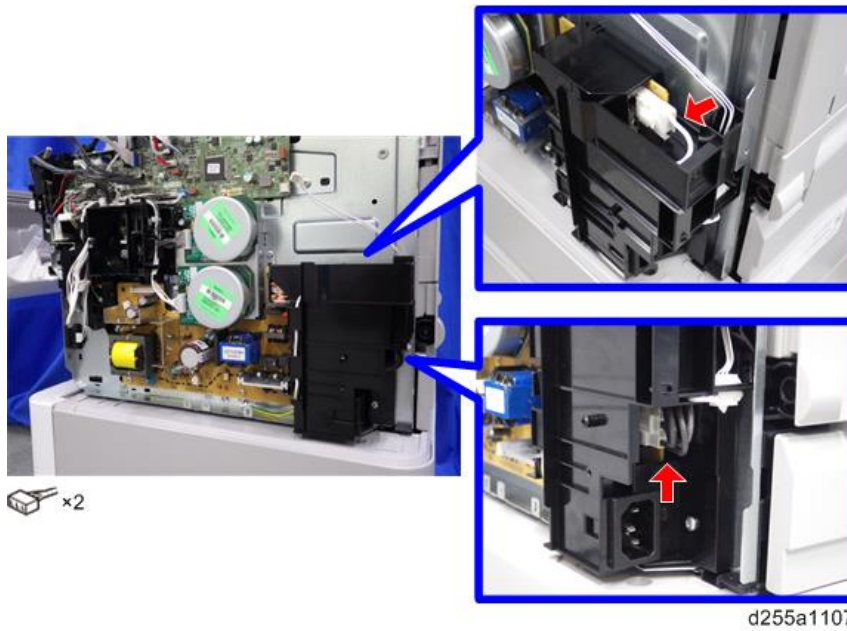
Replacement and Adjustment

Note

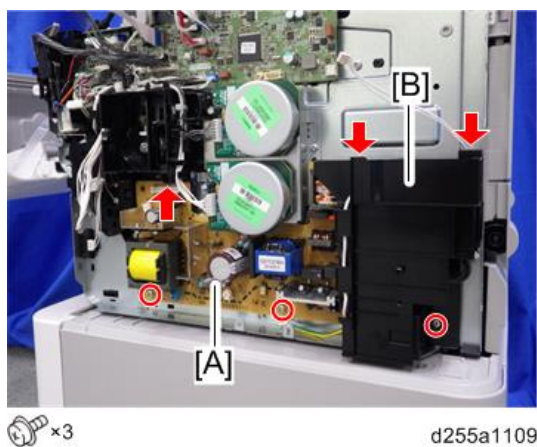
- When installing, wind the harness [A] around the clamp [B] twice, as shown below.



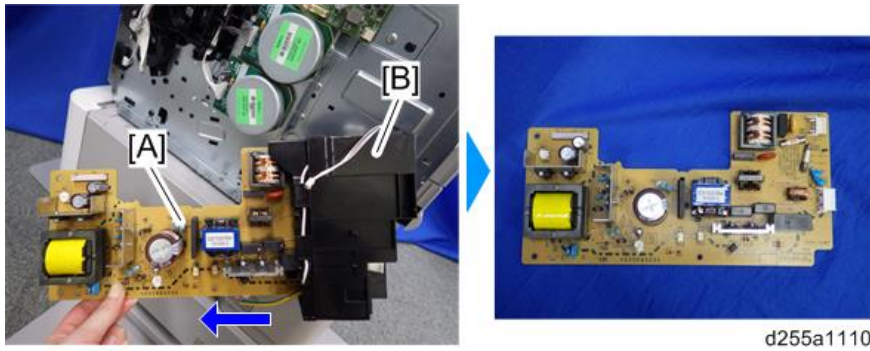
4. Disconnect the two connectors.



5. Remove the PSU [A] and bracket [B] from the mainframe. (hookx3)



6. Remove the PSU [A] from the bracket [B].

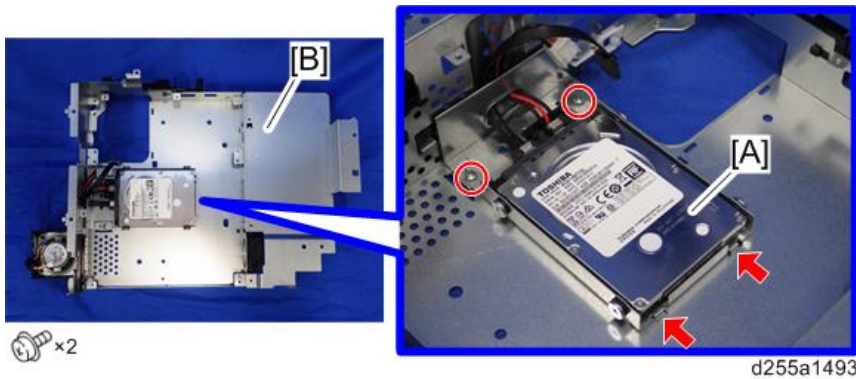


4.23.9 HDD (MP 501/601 ONLY)

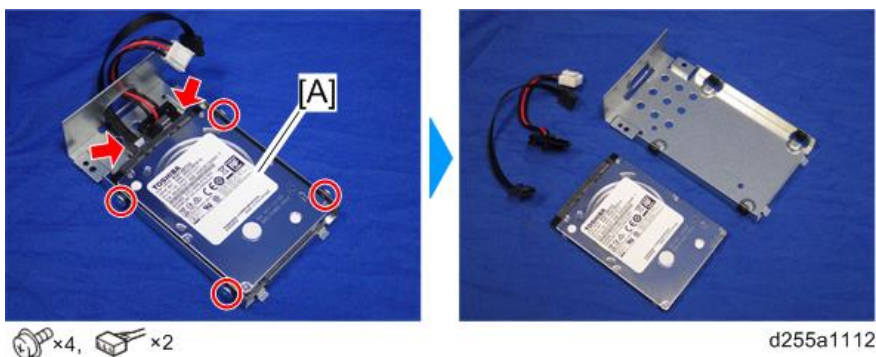
Note

- Before replacing the HDD, copy the address book data to an SD card with SP5-846-051 if possible.
- If the customer uses the DataOverwriteSecurity Unit Type M19, NFC Card Reader Type M24, or OCR Unit Type M13, these applications must be installed again.

1. Remove the controller board with the BiCU. (page 4-135)
2. Remove the HDD with the bracket [A] from the controller box [B]. (hookx2)



3. Remove the HDD [A] from the HDD bracket.



Adjustment after Replacement

1. **Execute SP5-832-001 to initialize the HDD.**

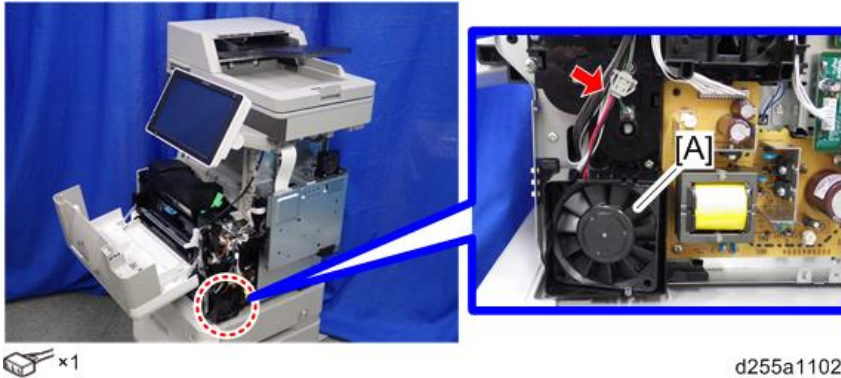
Initialization should be performed for the HDD which has already been formatted before.

2. **If applicable, execute SP5-846-052 to restore the address data from SD card to the HDD.**
3. **Turn the main power OFF/ON.**

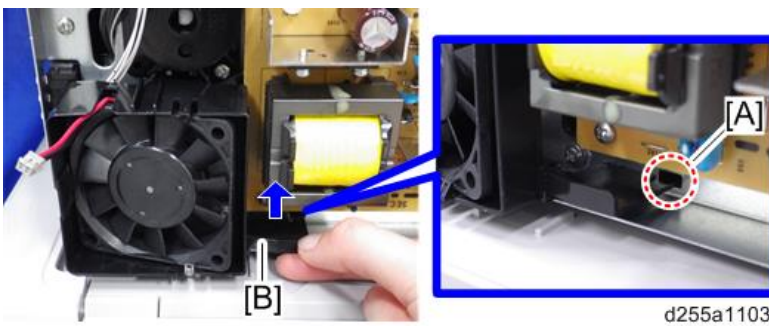
4.24 FANS

4.24.1 PSU FAN

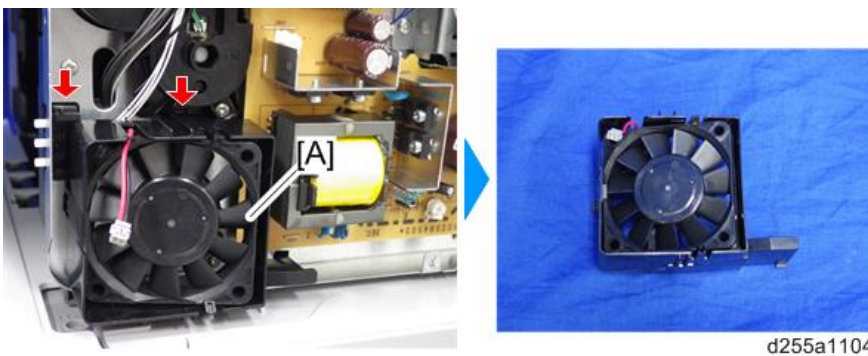
1. Remove the right lower cover. (MP 501/601: page 4-22, SP 5300/5310: page 4-54)
2. Disconnect the connector of the PSU fan [A] from the right side of the machine.



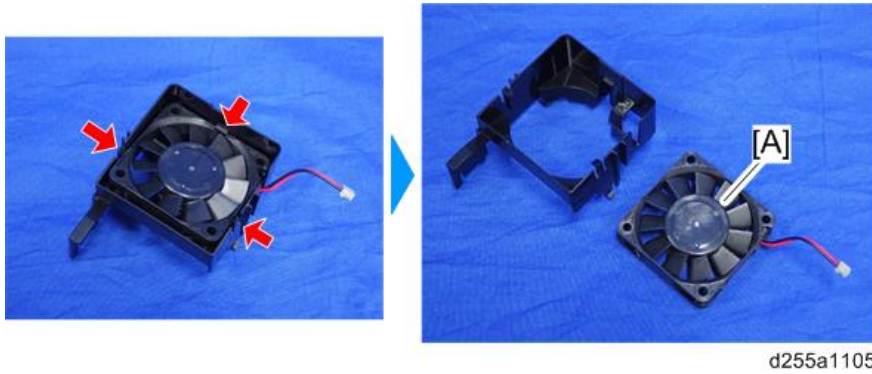
3. Release the hook [A] by lifting the fan bracket [B]. (hookx1)



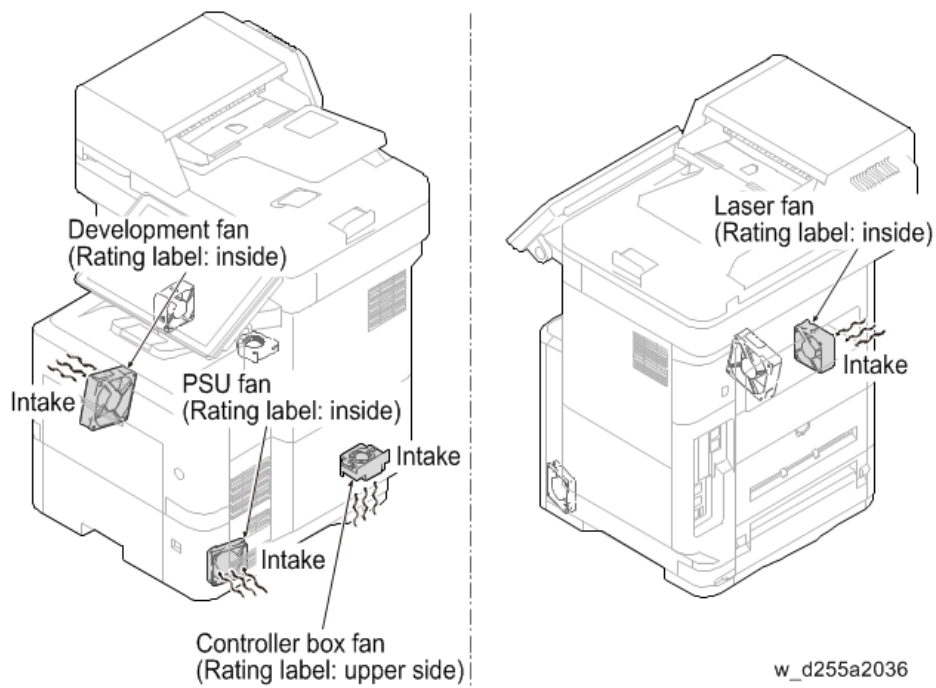
4. Remove the PSU fan with the bracket [A]. (hookx2)



5. Remove the PSU fan [A] from the bracket. (hook×3)



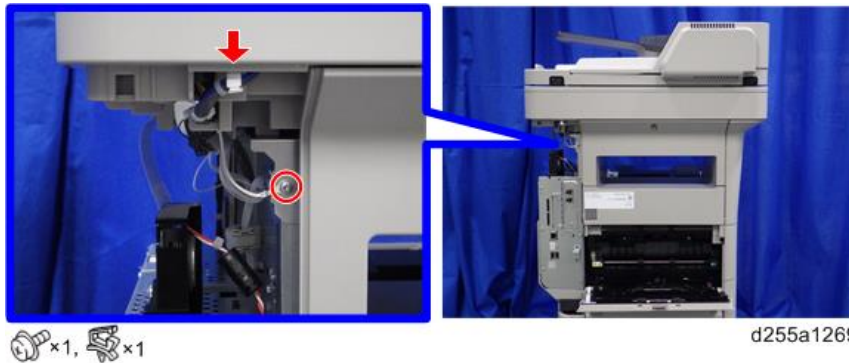
4.24.2 DIRECTION OF INSTALLING THE FANS



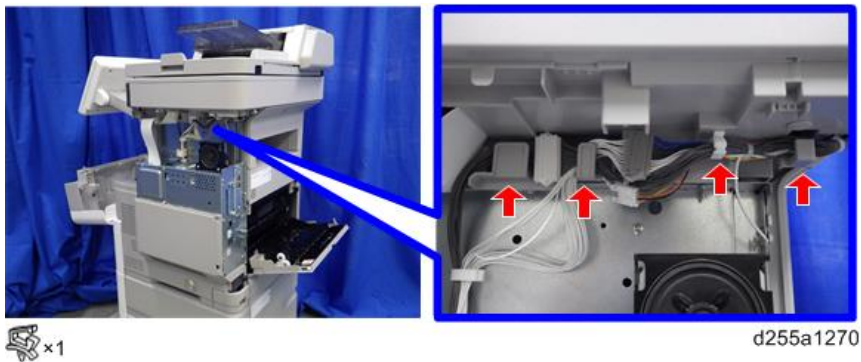
4.25 ARDF (MP 501/601 ONLY)

4.25.1 ARDF UNIT

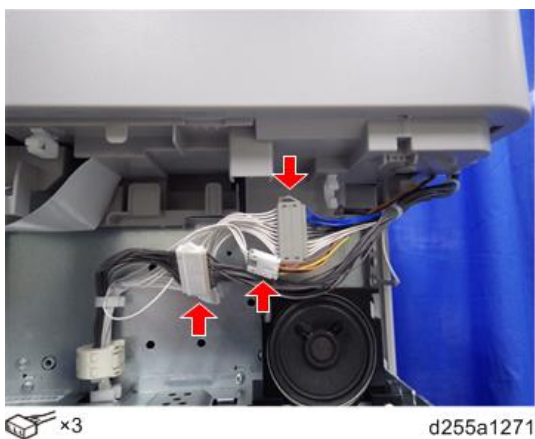
1. Remove the right upper cover. (page 4-20)
2. Remove the ground screw and release the clamp from the rear side of the machine.



3. Release the harness from the harness guides and clamp.

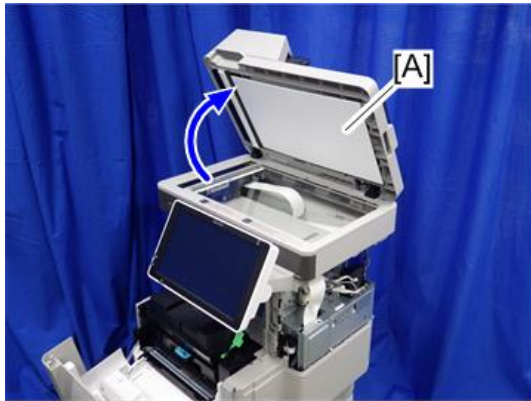


4. Disconnect the three connectors.



ARDF (MP 501/601 Only)

5. Open the ARDF [A].



d255a1272

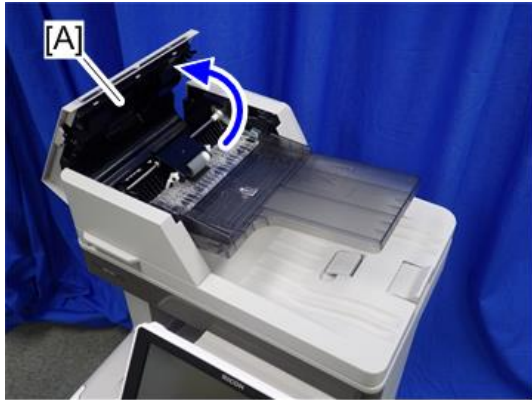
6. Remove the ARDF unit [A] by lifting it up.



d255a1273

4.25.2 ARDF PAPER FEED ROLLER, ARDF PICKUP ROLLER

1. Open the ARDF upper cover [A].



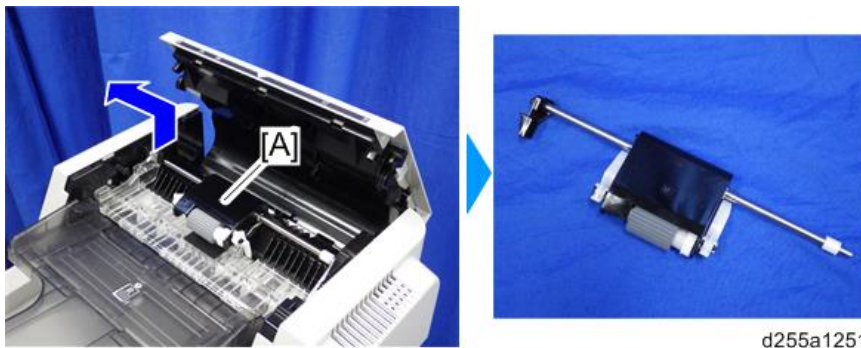
d255a1234

2. Rotate the lock lever [A] to the unlock position. (hookx1)



d255a1235

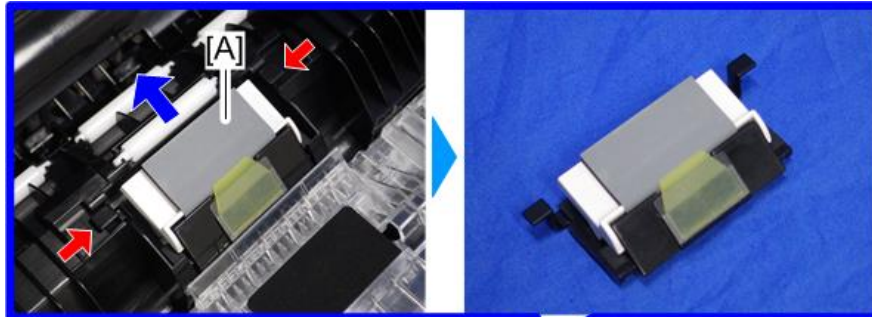
3. Remove the ARDF paper feed roller and ARDF pickup roller [A].



d255a1251

4.25.3 ARDF FRICTION PAD

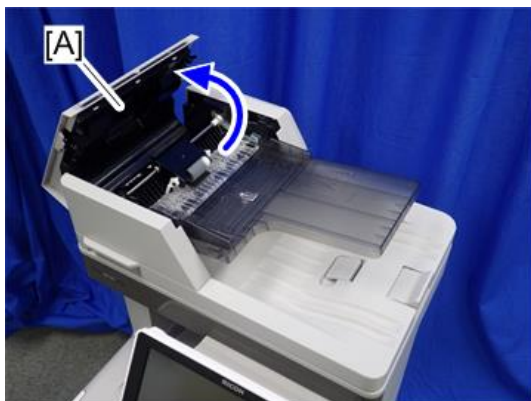
1. Remove the ARDF paper feed roller and ARDF pickup roller. (page 4-163)
2. Remove the ARDF friction pad [A]. (hookx2)



d255a1257

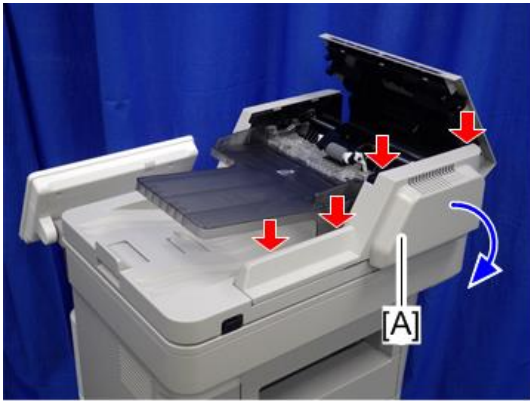
4.25.4 ARDF INVERTER MOTOR

1. Open the ARDF upper cover [A].



d255a1234

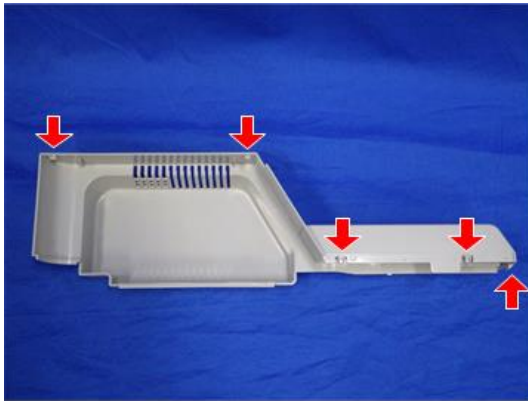
2. Remove the ARDF rear cover [A]. (hookx4)



d255a1258

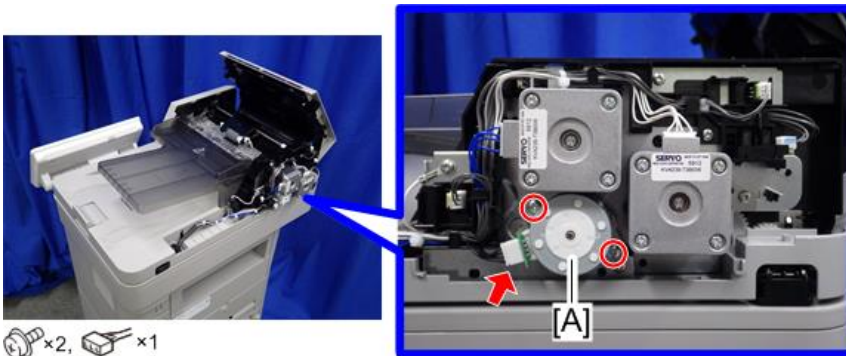
Note

- Be careful not to damage the hooks on the ARDF rear cover when you remove or install the ARDF rear cover.



d255a1259

3. Remove the ARDF inverter motor [A].

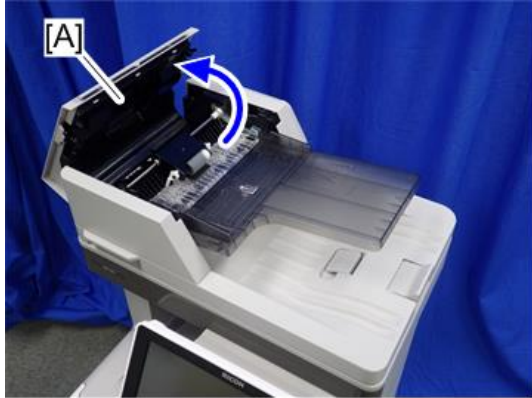


d255a1260

Replacement and Adjustment

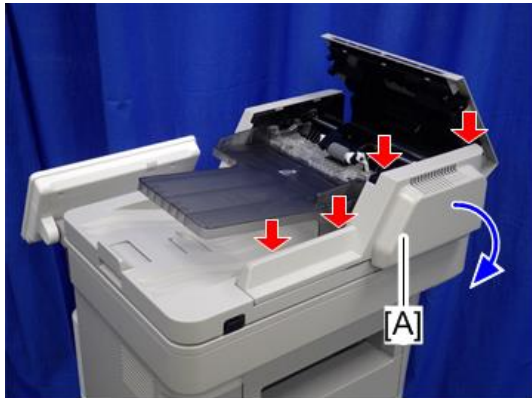
4.25.5 ARDF PAPER FEED MOTOR, ARDF PAPER TRANSPORT MOTOR

1. Open the ARDF upper cover [A].



d255a1234

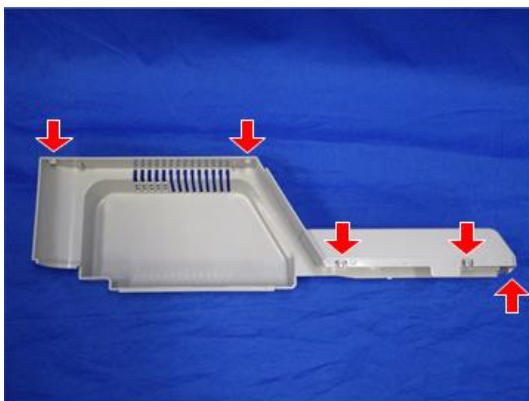
2. Remove the ARDF rear cover [A]. (hookx4)



d255a1258

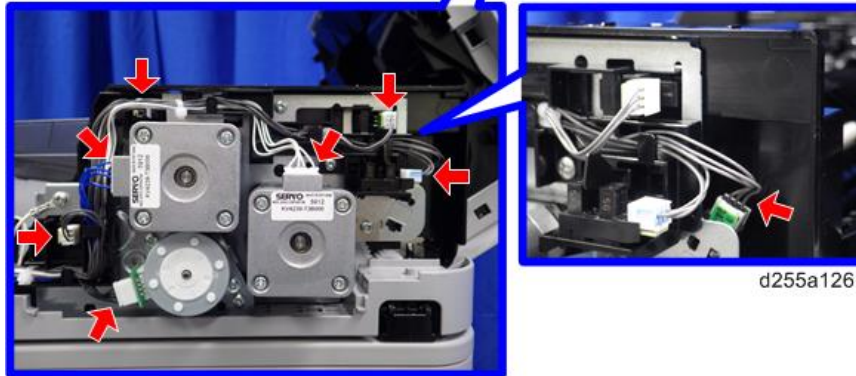
Note

- Be careful not to damage the hooks on the ARDF rear cover when you remove or install the ARDF rear cover.



d255a1259

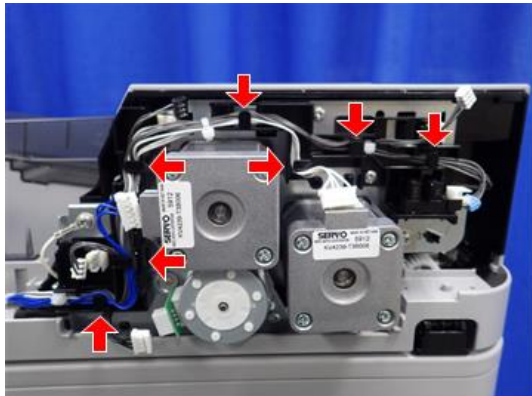
3. Disconnect the eight connectors from the rear side of the ARDF.



d255a1261

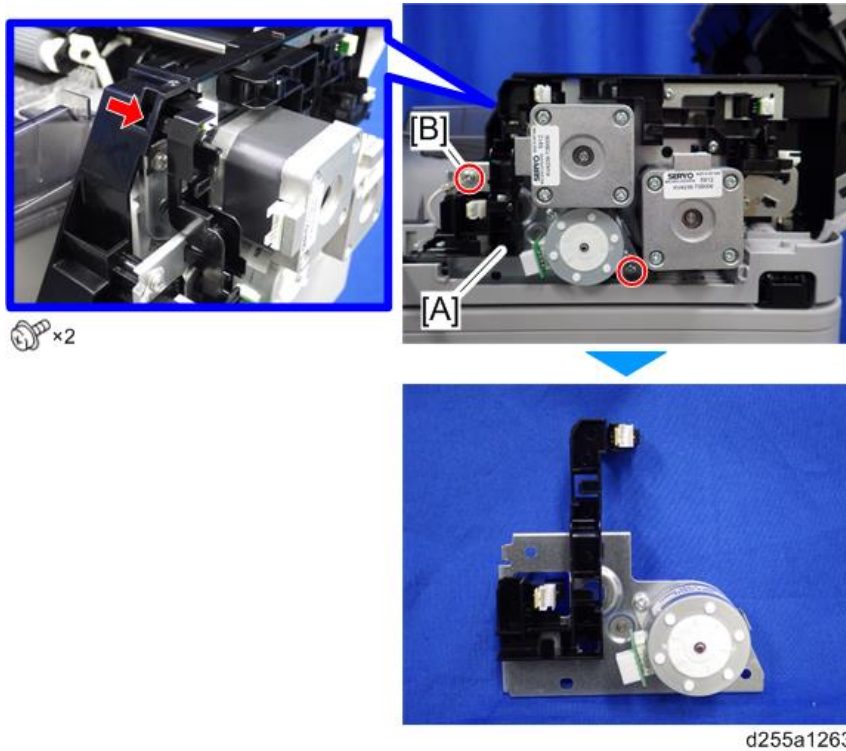
×8

4. Release the harness from the harness guides.



d255a1262

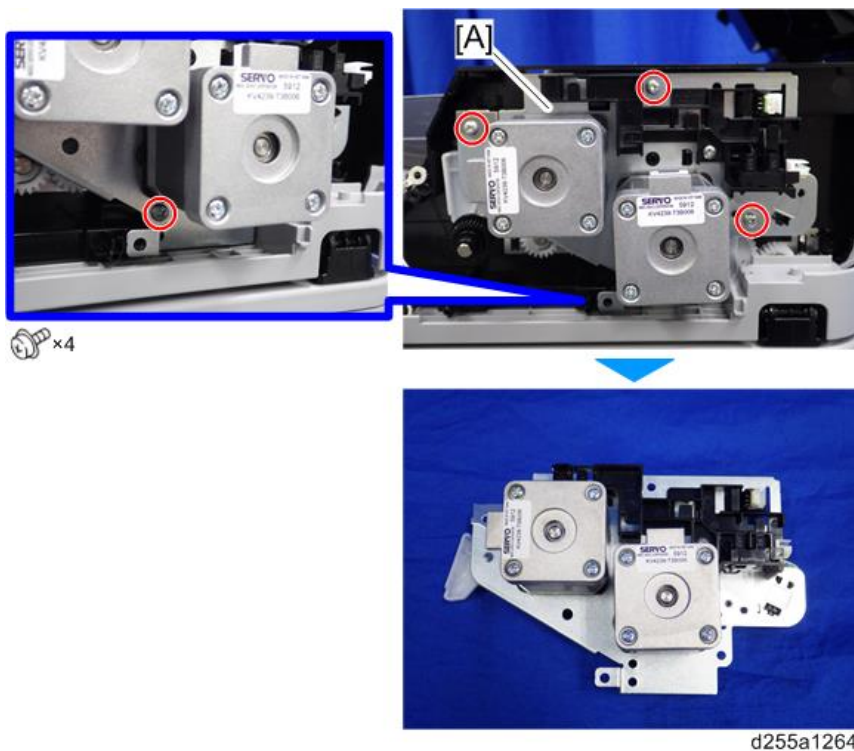
5. Remove the ARDF inverter motor unit [A]. (hook×1)



↓ Note

- The screw [B] is a ground screw. Be careful not to use the wrong screw when installing the ARDF paper feed motor and ARDF paper transport motor.

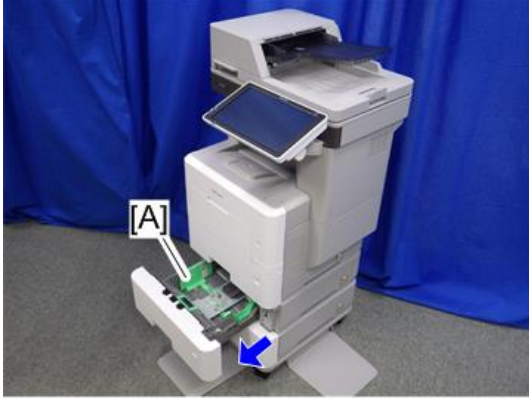
6. Remove the ARDF paper feed motor and ARDF paper transport motor [A].



4.26 PAPER FEED UNIT (PAPER FEED UNIT PB1100)

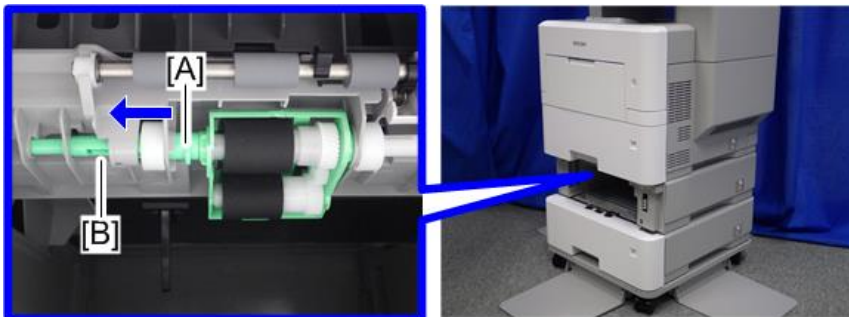
4.26.1 PAPER FEED ROLLER, PICKUP ROLLER

1. Remove the paper feed tray [A] of the optional paper feed unit by pulling it out.



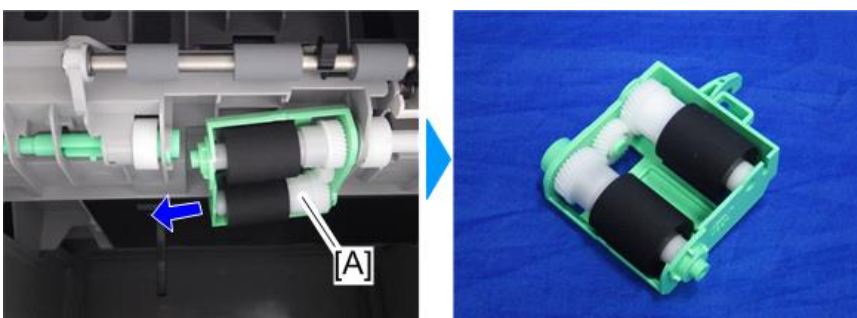
d255a1442

2. Slide the shaft [A] to the left while pushing the release lever [B].



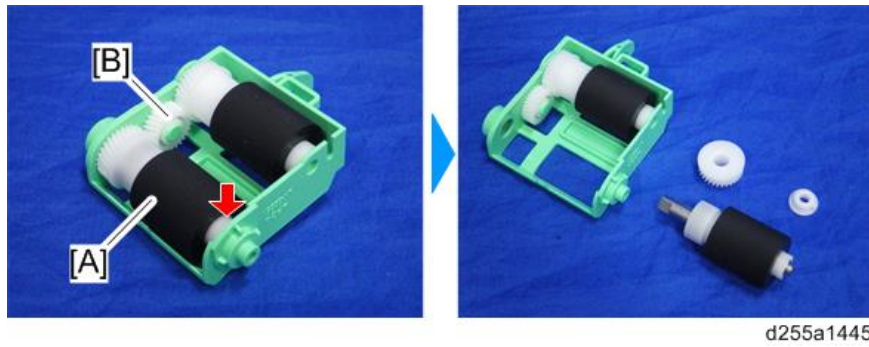
d255a1443

3. Remove the feed roller holder [A] by sliding it to the left.

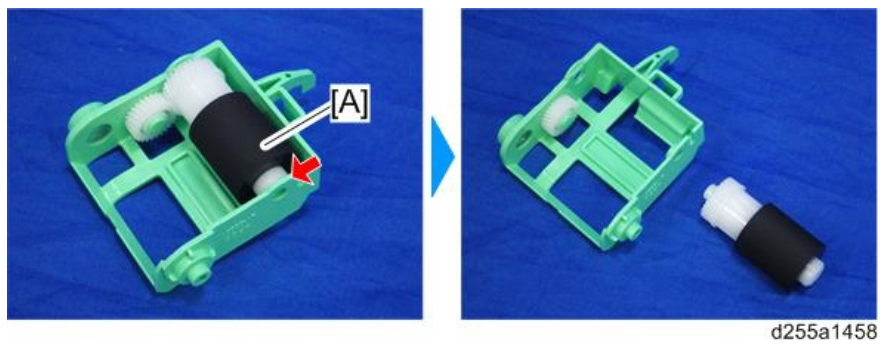


d255a1444

4. Remove the paper feed roller [A] from the feed roller holder [B]. (hook×1)

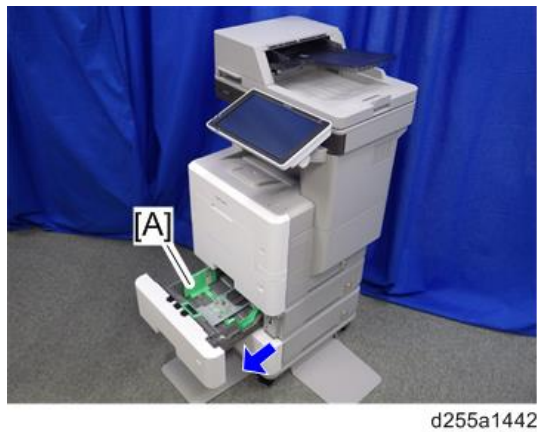


5. Remove the pickup roller [A]. (hook×1)

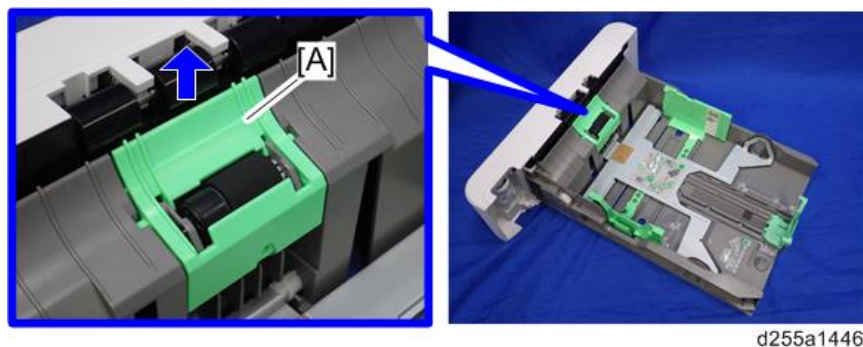


4.26.2 SEPARATION ROLLER

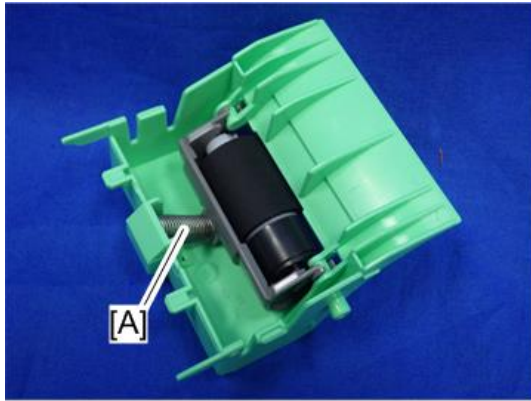
1. Remove the paper feed tray [A] of the optional paper feed unit by pulling it out.



2. Remove the separation roller holder [A].



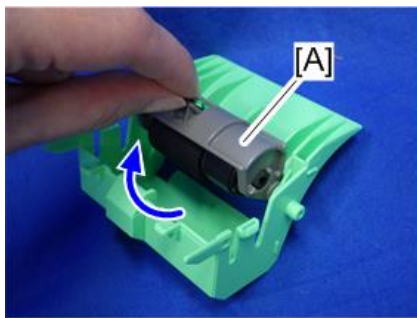
3. Remove the spring [A].



Spring ×1

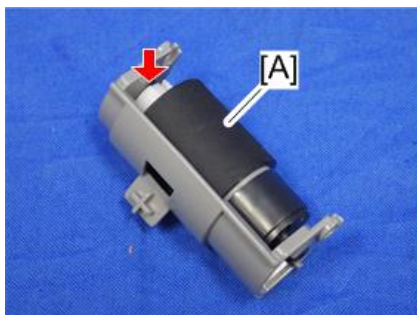
d255a1228

4. Remove the separation roller [A] by rotating it as shown below.



d255a1229

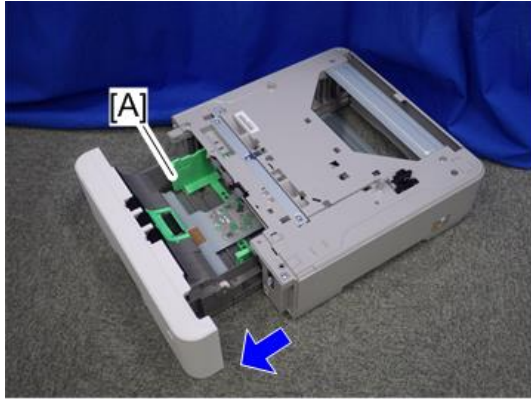
5. Remove the separation roller [A]. (hook×1)



d255a1472

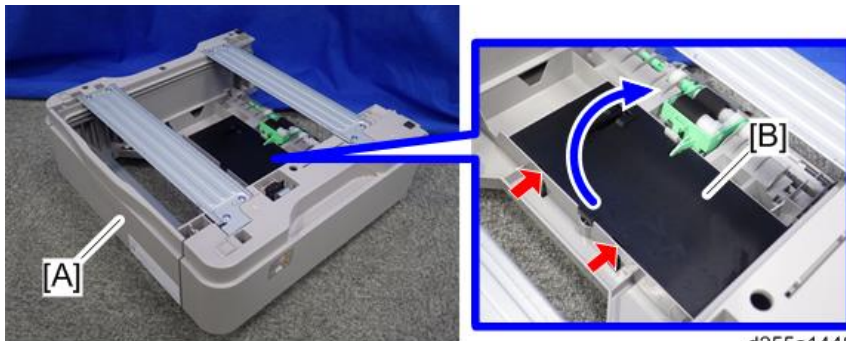
4.26.3 MAIN BOARD

1. Uninstall the optional paper feed unit from the main machine.
2. If the optional paper feed unit is installed on the caster table, uninstall it from the caster table.
3. Remove the paper feed tray [A] of the optional paper feed unit by pulling it out.



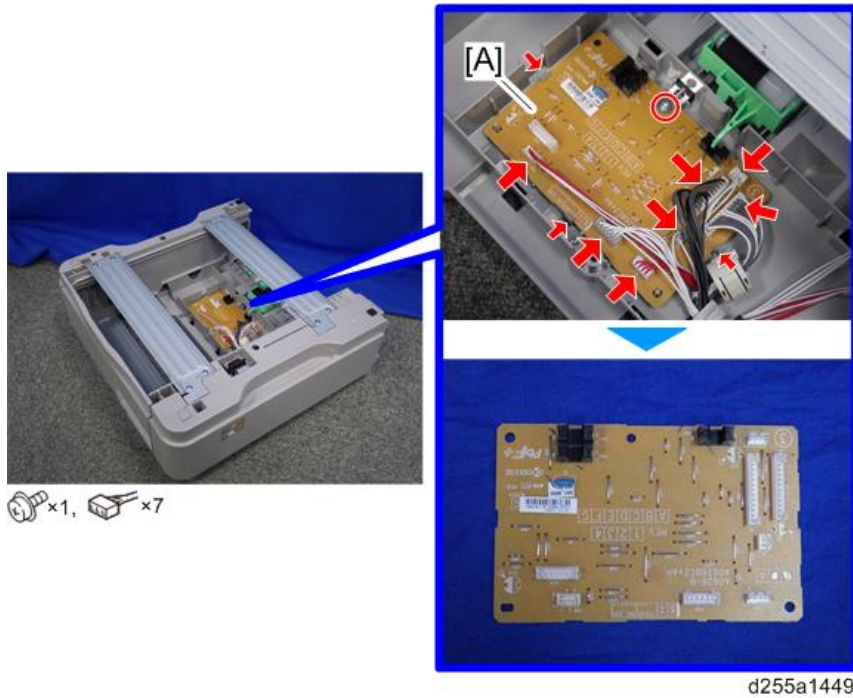
d255a1447

4. Turn over the optional paper feed unit [A], and then remove the board cover [B]. (hookx2)



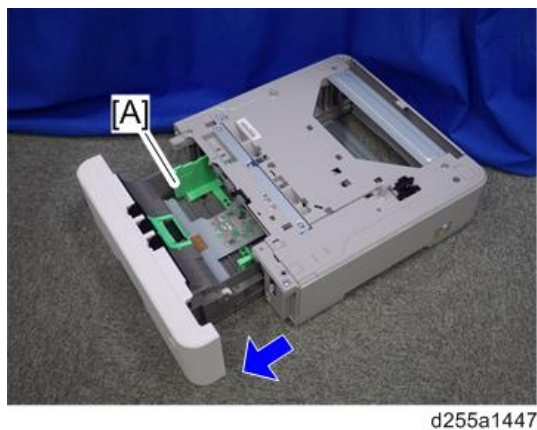
d255a1448

5. Remove the main board [A]. (hookx3)



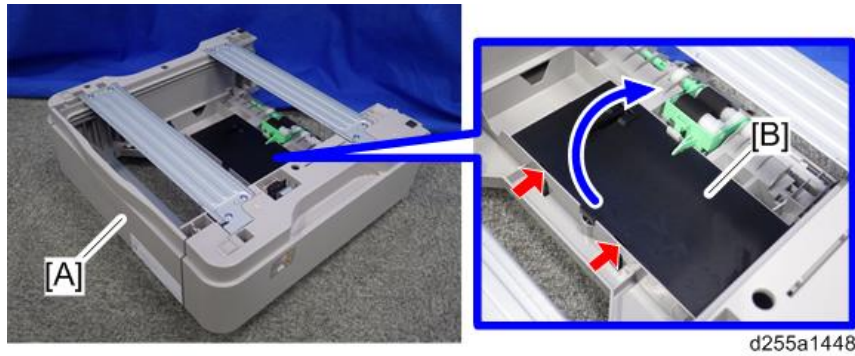
4.26.4 DRIVE UNIT

1. Uninstall the optional paper feed unit from the main machine.
2. If the optional paper feed unit is installed on the caster table, uninstall it from the caster table.
3. Remove the paper feed tray [A] of the optional paper feed unit by pulling it out.

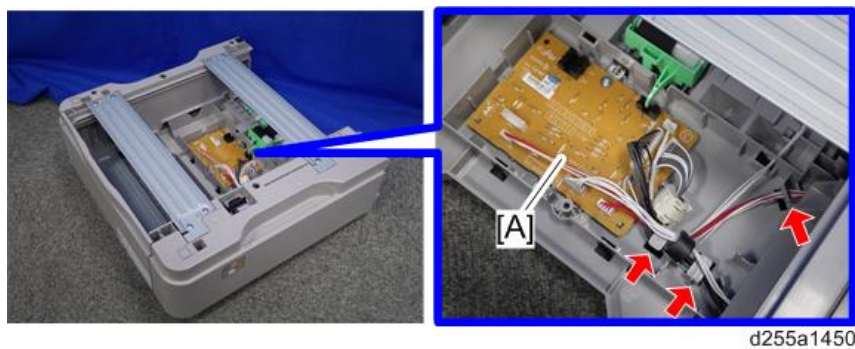


Paper Feed Unit (Paper Feed Unit PB1100)

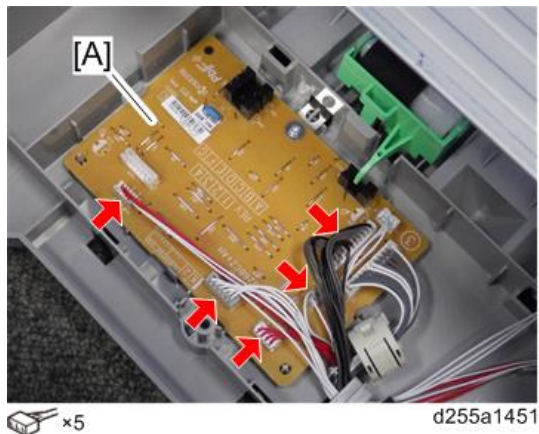
4. Turn over the optional paper feed unit [A], and then remove the board cover [B].
(hook×2)



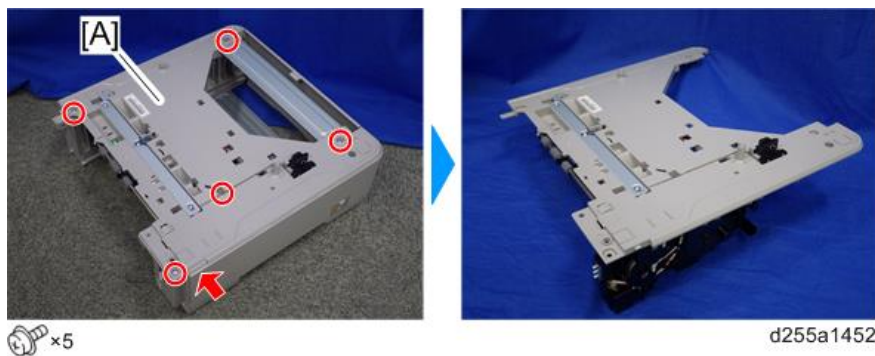
5. Release the harness of the main board [A] from the harness guides.



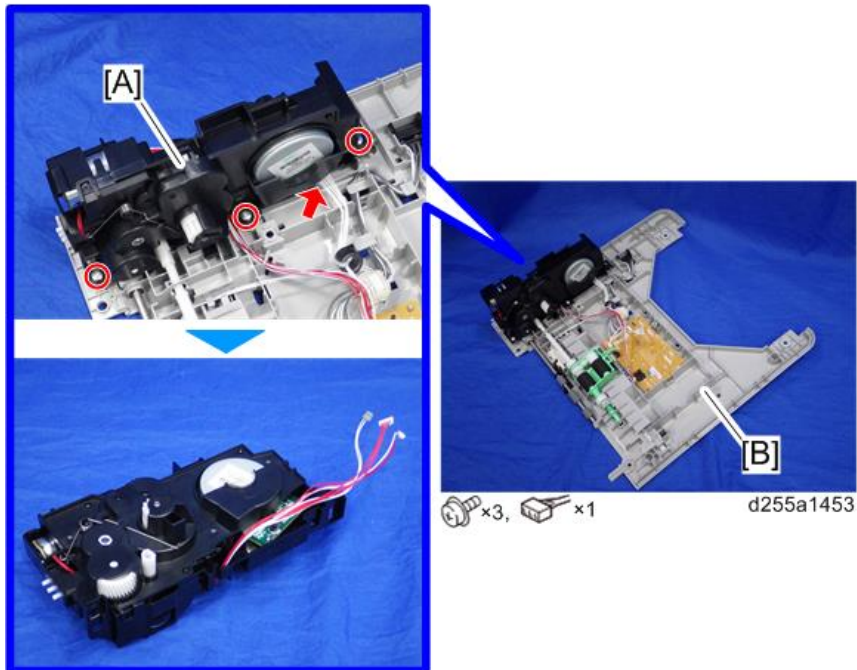
6. Disconnect the five connectors from the main board [A].



7. Turn over the optional paper feed unit again, and then remove the upper cover [A].
(hook×1)

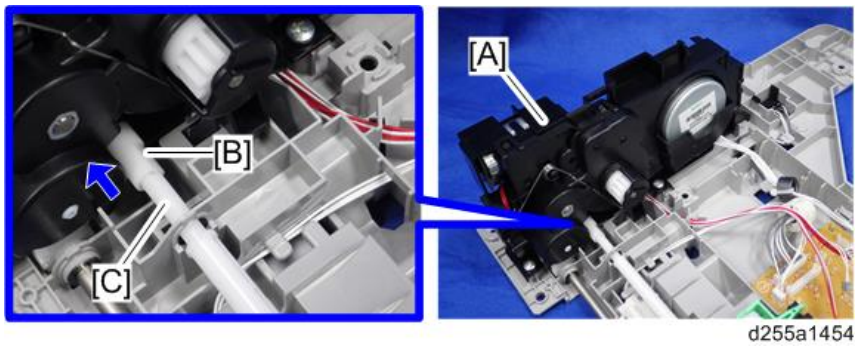


8. Remove the drive unit [A] from the upper cover [B].



↓ Note

- When removing the drive unit [A], remove the coupling [B] from the shaft [C].



Replacement and Adjustment

5. SYSTEM MAINTENANCE

5.1 FIRMWARE UPDATE

5.1.1 OVERVIEW

In order to update the firmware of this machine, it is necessary to download the latest version of firmware on a SD card. Insert the SD card in SD Card Slot 2.

5.1.2 FIRMWARE TYPE

MP 501/601

Firmware type	Firmware position	Message display
FONT (Font EXP)	Controller board	GW13eprt_SAMf
FONT1 (PCL Font)	Controller board	GW3a_pcl_fntl
FONT2 (PS3 Font)	Controller board	GW2eprt_psfnt8
Engine	IOB	BRMF1a_eplot
Engine (IPU)	BiCU	BRMF1a_eipu
NetworkDocBox	Controller board	BRMF1a_netfile
Media print JPEG/TIFF (Printer)	Controller board	BRZMF1e_printer
Web Support	Controller board	BRZMF1a_web
Network Support	Controller board	BRZMF1a_net
PowerSaving Sys	Controller board	BRZMF1e_subcpu
PCL	Controller board	BRMF1eprt_PCL
RPCS	Controller board	BRMF1eprt_RPCS
PS (PDF)	Controller board	BRMF1eprt_PDF
PS3	Controller board	BRMF1eprt_PS3
Web Uapl	Controller board	BRZMF1a_webua

Firmware type	Firmware position	Message display
RFax (Remote Fax)	Controller board	BRMF1a_fax2
Scanner	Controller board	BRMF1a_scn
FCU	Controller board	GW1a_efax_fcu1T
System/Copy	Controller board	BRMF1a_system
Fax	Controller board	BRMF1a_fax
Smart Operation Panel System	Smart Operation Panel – CPU board	M2a_System
CSPF	Smart Operation Panel – CPU board	M2a_cspf
LegacyUI type-1	Smart Operation Panel – CPU board	M2a_LegacyUI
Fax RX File Widget	Smart Operation Panel – CPU board	M2a_WFaxInfo
Quick Scanner	Smart Operation Panel – CPU board	M2a_SimpleScan
Quick Copy	Smart Operation Panel – CPU board	M2a_SimpleCopy
Quick Fax	Smart Operation Panel – CPU board	M2a_SimpleFax
Stop Widget	Smart Operation Panel – CPU board	M2a_WStopKey
Eco-friendly Widget	Smart Operation Panel – CPU board	M2a_WEcoInfo
Standard IC Card Plugin	Smart Operation Panel – CPU board	M2a_QuickCdAuth
iWnn IME	Smart Operation Panel – CPU board	M2a_iWnn

SP 5300/5310

Firmware type	Firmware position	Message display
FONT (Font EXP)	Controller board	GW13e_prt_SAMf
FONT1 (PCL Font)	Controller board	GW3a_pcl_fntl
FONT2 (PS3 Font)	Controller board	GW2e_prt_psfnt8
Engine	IOB	BRP1a_eplot
Engine (IPU)	BiCU	BRP1a_eipu
NetworkDocBox	Controller board	BRMF1a_netfile
Media print JPEG/TIFF (Printer)	Controller board	BRZMF1e_printer
Web Support	Controller board	BRZMF1a_web
Network Support	Controller board	BRZMF1a_net
PowerSaving Sys	Controller board	BRZMF1e_subcpu
PCL	Controller board	BRMF1e_prt_PCL
RPCS	Controller board	BRMF1e_prt_RPCS
PS (PDF)	Controller board	BRMF1e_prt_PDF
PS3	Controller board	BRMF1e_prt_PS3
System	Controller board	BRZP1a_system

 **Note**

- Even when not using a RPCS driver, the XPS driver requires RPCS firmware.

5.1.3 PROCEDURE

 **Important**

- A SD card is a precision device, so when you handle an SD card, respect the following.
- When the power is switched ON, do not insert or remove a card.
- During installation, do not switch 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 on 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 firmware, remove the network cable from this machine.
- If SC818 is generated during software update, switch the power OFF -> ON, and complete the update which was interrupted.
- During software update, network cables, remove interface cables, wireless boards, etc., (so that they are not accessed during update).

Update procedure (MP 501/601)

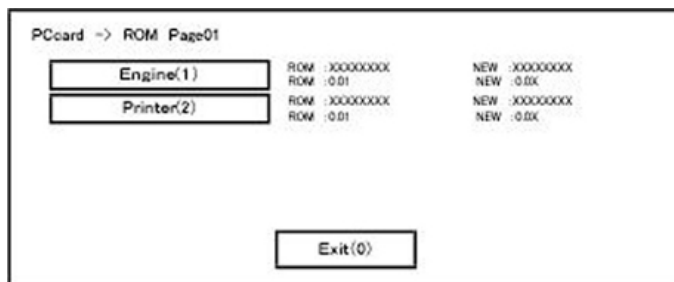
1. First download the software to be updated to the SD card.
2. Turn OFF the main power.
3. Remove the controller cover. (page 4-45)
4. Insert the SD card [A] straight in the SD Card Slot 2 (lower).



d255a1061

↓ Note

- If the customer has used all of the slots, you have to keep an empty slot for this procedure. Ask the customer to temporarily remove the SD card in the SD Card Slot 2.
 - Check whether the card is properly in the SD Card Slot. When a SD card is inserted, a click is heard, and it is locked.
 - To remove the card, release by pressing once in the set state.
5. Turn ON the main power.
 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. (English display) When two or more software modules are contained in the SD card, they are displayed as follows.



When two or more software names are displayed

1. Press the module selection button or 10 keypad [1] - [5].
2. Choose the appropriate module. (If already selected, cancel the selection)

Operation of keys or buttons

Keys or buttons to press	Contents
[Exit] or 10 key [0]	Returns to normal screen.
[Start] Key	Select all modules.
[Clear/Stop] key	Cancel all selection states.

Display contents

On the above screen, two programs, i.e., engine firmware and printer application are displayed. (The screen may change depending on the firmware or application).

The display contents are as follows:

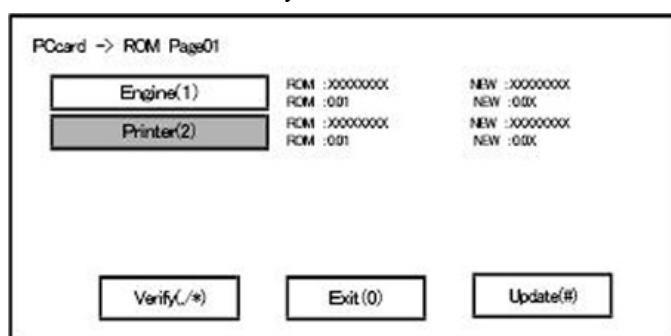
Display	Contents
ROM:	Display installed module number / version information.
NEW:	Display module number / version information in the card.

* The upper row corresponds to the module number, the lower row corresponds to the version name.

- Select the module with the module selection button or 10 key operation. The selected module is highlighted, and [Verify] and [Update] are displayed.

ⓘ Note

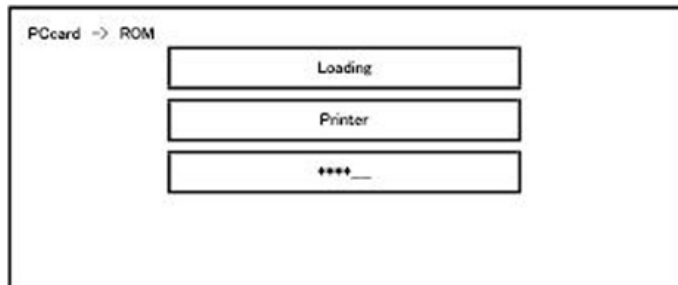
- Depending on the combination of update software, it may not be possible to select simultaneously.



Key or button operations

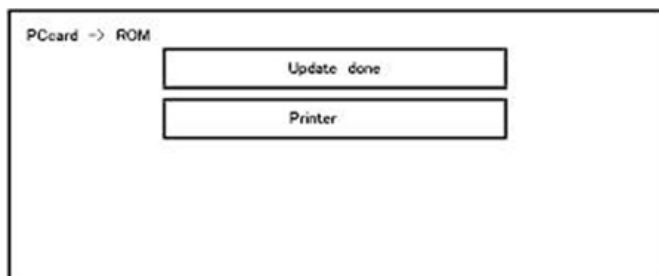
Keys or buttons to press	Contents
[Update] or [#] key	Update the ROM of the selected module.
[Verify] button or [./*] key	Perform verification of the selected module.

9. Press the [Update] or [#] key, and perform software update.
10. During firmware update, a "firmware update/ verification progress screen" is displayed. When firmware update is complete, a "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 is being updated)
- In the lower row, a progress bar is displayed in ten steps. (The more *, the more the progress.)
- When updating the control unit program, since progress cannot be displayed on the screen, the ROM update process is determined when the LED of the [Start] key changes from red to green.x

Firmware update end screen



- This screen is displayed when all selected firmware modules are to be updated. "printer" in the second row shows that the module updated last is the printer. (When more than one are updated simultaneously, only what was updated last is displayed.)
 - When Verify has completed normally, the Update done display of the above screen is "Verify done." If "Verify Error" is displayed, reinstall the software of the application displayed in the lower row.
11. After turning OFF the main power, remove the SD card from the SD Card Slot 2.
 12. Again, turn ON the main power, and check whether the machine is operating normally.
 13. Reassemble the machine.

ⓘ Note

- When the power supply is switched OFF during firmware update, 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 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.

Firmware Update

- Web access card software: EXJS (EXTended Java Script) is a Type-C ESA application, and like a conventional Web access card, update using an sdk folder is required.
- 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 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.

Update procedure (SP 5300/5310)

1. First download the software to be updated to the SD card.
2. Turn OFF the main power.
3. Remove the controller cover. (page 4-67)
4. Insert the SD card [A] straight in the SD Card Slot 2 (lower).



Note

- If the customer has used all of the slots, you have to keep an empty slot for this procedure. Ask the customer to temporarily remove the SD card in SD Card Slot 2.
 - Check whether the card is properly in the SD Card Slot. When a SD card is inserted, a click is heard, and it is locked.
 - To remove the card, release by pressing once in the set state.
5. Turn ON the main power.
 6. Wait until a firmware name is shown on the display (about 1 minute).

Note

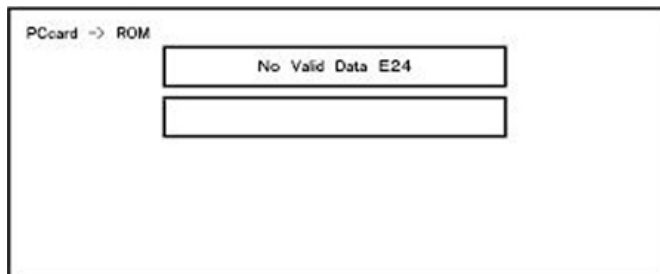
- The firmware name is read from inside the firmware. The firmware name is not changed even if you change the file name on your PC.
7. If the necessary firmware name is shown on the display, check the firmware version with the left-arrow or right-arrow keys. Pressing the left or right-arrow key shows a firmware name, firmware version and serial number in order.
 8. To use a different firmware, push the up-arrow key or the down-arrow key to find the necessary firmware.
 9. To select the firmware, push the OK key. Make sure that the selected firmware is highlighted.

10. If you update more than one firmware program at the same time, find each of them and select each of them. Make sure that the selected firmware is high-lighted.
11. To start firmware update, push the "UpDate" key. While each firmware is downloaded, the underscores on the operation panel are replaced by stars.
12. Wait until the message "Update done" is shown.
13. After turning OFF the main power, remove the SD card.
14. Again, turn ON the main power, and check whether the machine is operating normally.
15. Print the Configuration Page to check that the every firmware is correctly updated:
List/Test Print > Config. Page
16. Reassemble the machine.

ⓘ Note

- An error code is shown if an error occurs during the download. Error codes have the letter "E" and a number. If an error occurs, the firmware is not correctly downloaded; see the error code table (page 5-9) and do the necessary steps. After this, download the firmware again.
- If firmware update is interrupted by power failure, the firmware is not correctly downloaded. In this condition, machine operation is not guaranteed. You have to download the firmware again.

5.1.4 ERROR SCREENS DURING UPDATING



EXX shows an error code.

(This error is generated if update was performed when a printer application startup card is removed after system startup. An error indicating failure of card access is displayed on the screen.)

For error codes, refer to the following table:

Error Code List

Code	Contents	Solutions
20	Physical address mapping cannot be performed.	<ul style="list-style-type: none"> ▪ Switch the main power supply off and on to try again. ▪ Re-insert the SD card to reboot it. ▪ Replace the controller board if the above solutions do not solve the problem.
21	Insufficient memory for the download	<ul style="list-style-type: none"> ▪ Switch the main power supply off and on to try again. ▪ Replace the controller board if the updating cannot be done by switching the power off and on.
23	Error occurred when ROM update program started	Controller program abnormal. If the second attempt fails, replace controller board.
22	Decompression of compressed data failed.	<ul style="list-style-type: none"> ▪ Switch the main power supply off and on to try again. ▪ Replace the SD card used for the update. ▪ Replace the controller board if the above solutions do not solve the problem.
24	SD card access error	<ul style="list-style-type: none"> ▪ Re-insert the SD card. ▪ Switch the main power supply off and on to try again. ▪ Replace the SD card used for the update. ▪ Replace the controller board if the above solutions do not solve the problem.
31	Data incorrect for continuous download	Insert the SD card with the remaining data required for the download, then re-start the procedure.

Code	Contents	Solutions
32	<p>The SD card used after download suspension is incorrect.</p> <p>SD cards are different between the one which was inserted before power interruption and the one which was inserted after power interruption.</p>	<ul style="list-style-type: none"> ▪ Insert the SD card containing the same program as when the firmware update was suspended, and then switch the main power supply off and on to try again. ▪ 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. ▪ Replace the controller board if the above solutions do not solve the problem. Replace all relevant boards if the update is done for the BiCU and FCU. Replace the operation panel unit if the update is done for the operation panel.
33	<p>Card version error.</p> <p>The wrong card version is downloaded.</p>	<ul style="list-style-type: none"> ▪ Install the correct ROM update data for each version in the SD card.
34	<p>Destination error.</p> <p>A card for the wrong destination is inserted.</p>	<ul style="list-style-type: none"> ▪ Install the correct ROM update data for each destination (JPN/ EXP/ OEM) in the SD card.
35	<p>Model error.</p> <p>A card for the wrong model is inserted.</p>	<ul style="list-style-type: none"> ▪ Install the correct ROM update data for each model in the SD card.

Code	Contents	Solutions
36	<p>Module error.</p> <p>The program to be downloaded does not exist on the main unit.</p> <p>The download destination specified by the card does not match up to the destination for the main unit's program.</p>	<ul style="list-style-type: none"> ▪ Install the program to be updated in advance. ▪ 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. ▪ The SD card is incorrect if the program to be updated has been correctly installed. In this case, insert the correct SC card.
38	<p>The version of the downloaded program has not been authorized for the update.</p>	<ul style="list-style-type: none"> ▪ Make sure that the program to be overwritten is the specified version.
40	<p>Engine download fails.</p>	<ul style="list-style-type: none"> ▪ Switch the main power supply off and on to try again. ▪ If the download fails again, replace the controller board and the BiCU.
41	<p>Fax download fails.*¹</p>	<ul style="list-style-type: none"> ▪ Switch the main power supply off and on to try again. ▪ If the download fails again, replace the controller board and the FCU board.
42	<p>Control panel / language download fails.*¹</p>	<ul style="list-style-type: none"> ▪ Switch the main power supply off and on to try again. ▪ If the download fails again, replace the controller board and the operation panel unit.
43	<p>Printing download fails.*¹</p>	<ul style="list-style-type: none"> ▪ Switch the main power supply off and on to try again. ▪ The SD card media is damaged if the update fails again. Replace the SD card media.

Code	Contents	Solutions
44	The data to be overwritten cannot be accessed when controller-related programs are downloaded.	<ul style="list-style-type: none"> ▪ Switch the main power supply off and on to try again. ▪ Install the correct ROM update data in the SD card. ▪ Replace the controller board if the data to be overwritten is contained on the controller board.
49	Firmware updates are currently prohibited.	<ul style="list-style-type: none"> ▪ 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.
50	The results of the electronic authorization check have rejected the update data.	<ul style="list-style-type: none"> ▪ Install the correct ROM update data in the SD card.
57	@Remote is not connected at the date/time reserved for receiving the package firmware update from the network. *1	<ul style="list-style-type: none"> ▪ Check the @Remote connection.
58	Update cannot be done due to a reception route problem. *1	<ul style="list-style-type: none"> ▪ Check the @Remote connection.
59	HDD is not mounted. *1	<ul style="list-style-type: none"> ▪ Check the HDD connection.
60	HDD could not be used during the package firmware update. *1	<ul style="list-style-type: none"> ▪ Try again. ▪ Replace the HDD if the download fails again.
61	The module ID for the package firmware update is incorrect. *1	<ul style="list-style-type: none"> ▪ Prepare the correct package files.
62	The configuration of the package firmware update files is incorrect. *1	<ul style="list-style-type: none"> ▪ Prepare the correct package files.

Code	Contents	Solutions
63	Reception fails due to the power off at the reserved date/time of the remote firmware update from the network. *1	<ul style="list-style-type: none"> ▪ Update is to be done automatically when the next reception time has elapsed.
64	Reception fails due to the power off at the reserved date/time of the package firmware update from the network. *1	<ul style="list-style-type: none"> ▪ Reset the reservation date/time for the remote update.
65	Reception fails due to the status error of the machine at the reserved date/time of the remote firmware update from the network. *1	<ul style="list-style-type: none"> ▪ Update is to be done automatically when the next reception time has elapsed.
66	Reception failed due to the status error of the machine at the reserved date/time of the package firmware update from the network. *1	<ul style="list-style-type: none"> ▪ Reset the reservation date/time for the remote update.
67	Acquisition of the latest version information from the Gateway fails at the reserved date/time of the remote firmware update from the network. *1	<ul style="list-style-type: none"> ▪ Check that the network is connected correctly.
68	Acquisition of the latest version information from the Gateway fails. *1	<ul style="list-style-type: none"> ▪ Check that the network is connected correctly.
69	Download fails at the reserved date/time of the remote firmware update from the network. *1	<ul style="list-style-type: none"> ▪ Check that the network is connected correctly.

Code	Contents	Solutions
70	Package firmware download from the network fails.* ¹	<ul style="list-style-type: none"> Check that the network is connected correctly.
71	Network communication error occurs at the reserved date/time of the package firmware update from the network.* ¹	<ul style="list-style-type: none"> Check that the network is connected correctly.
72	The setting of @Remote is invalid at the reserved date/time of the package firmware update from the network.* ¹	<ul style="list-style-type: none"> Set the setting of @Remote Service in the Administrator Tools to [Do not Prohibit].

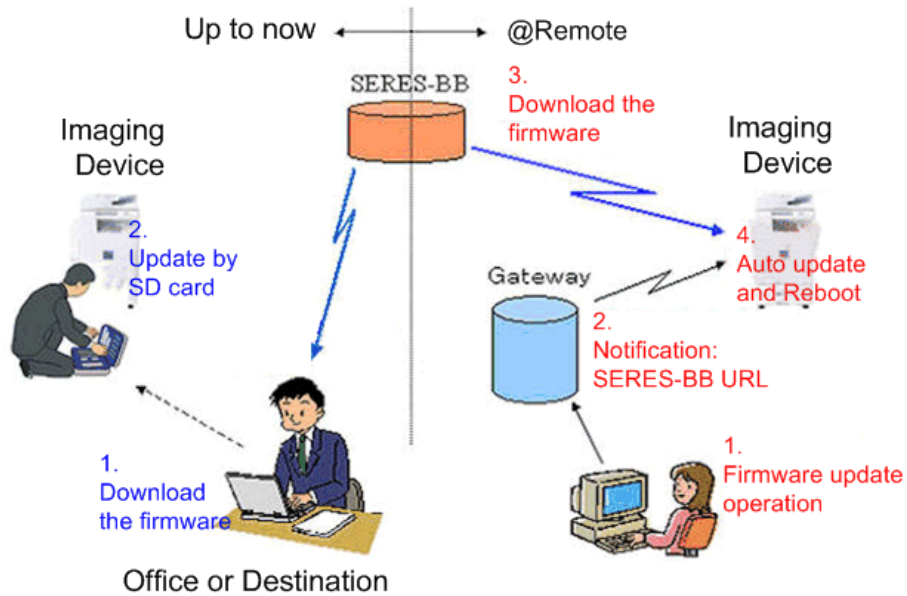
*1 The error occurs in MP 501/601 only

Note

- The PDF firmware installed as standard contains a program required to print PS3 data as default. However, this PS3 program is normally disabled.
- The PS3 firmware is a dongle (key) which enables PS3 data printing functions. When the PS3 firmware is installed, the PS3 program in the PDF firmware is enabled. Due to this specification, the self-diagnosis result report shows the ROM part number/software version of the PDF firmware contained in the PS3 program.

5.2 RFU UPDATING THE FIRMWARE

In this machine, software can be updated by remote control using @Remote.



w_d1463115a

5.2.1 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.

5.3 PACKAGE FIRMWARE UPDATE (MP 501/601 ONLY)

⚠ CAUTION

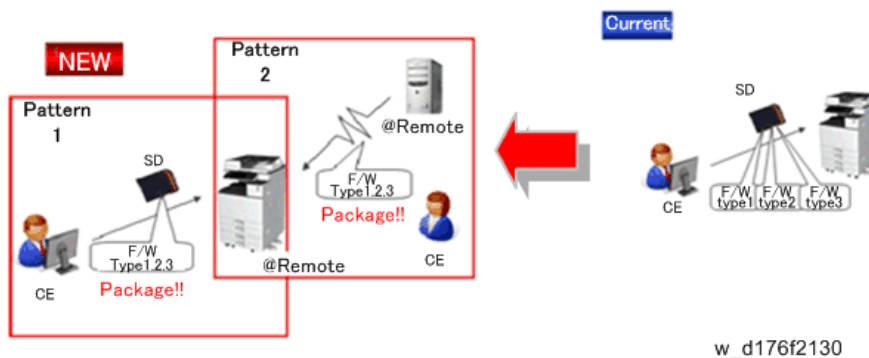
- The HDD unit must be installed on the machine to enable the SFU or the package firmware update via SD card.

5.3.1 OVERVIEW

Each firmware module (such as System/Copy, Engine, etc) used to be updated individually. However, an all-inclusive firmware package (package_ALL) is now available.

There are two ways to update using the firmware package.

- Package Firmware Update via a network: SFU (Smart Firmware Update)
- Package Firmware Update with 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.

ⓘ Note

- SFU requires the connection to @Remote via a device which has the embedded @Remote communicating function. When a machine is connected to @Remote via an intermediate device (RC Gate), the SFU function is disabled.

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	RFU
Individual firmware	N/A	Available	Available
Package firmware	Available	Available	N/A

5.3.2 IMMEDIATE UPDATE

Enter the [Firmware Update] menu in the SP mode and update the package firmware.

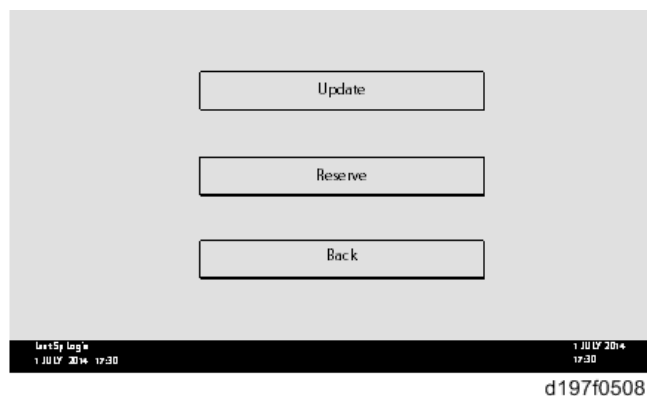
Note

- 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 (page 5-9).

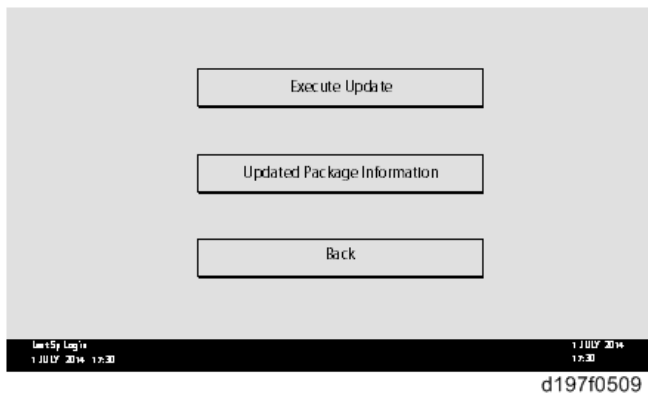
1. Enter the SP mode.
2. Touch [Firmware Update].



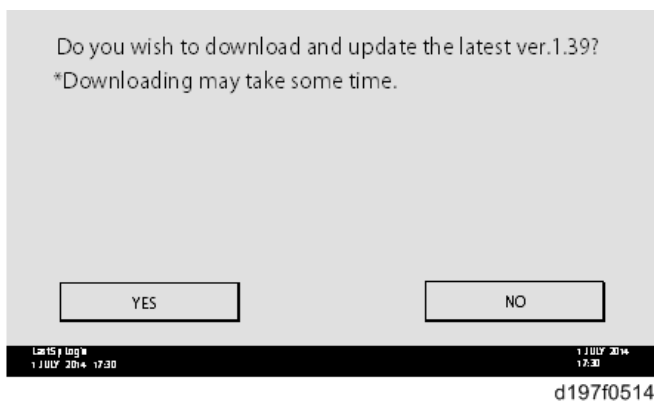
3. Touch [Update].



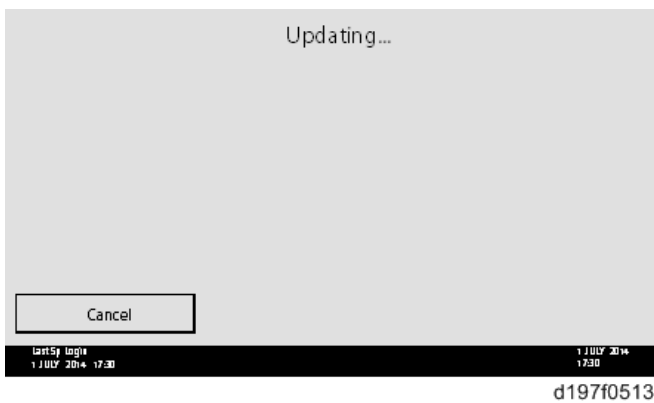
4. Touch [Execute Update].



5. Touch [YES].



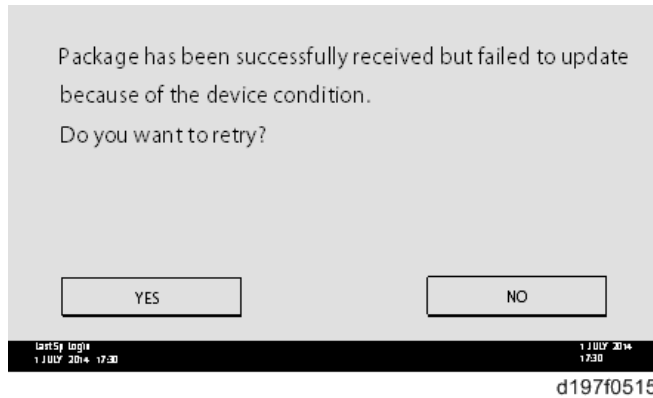
6. The following display will be displayed.



Note

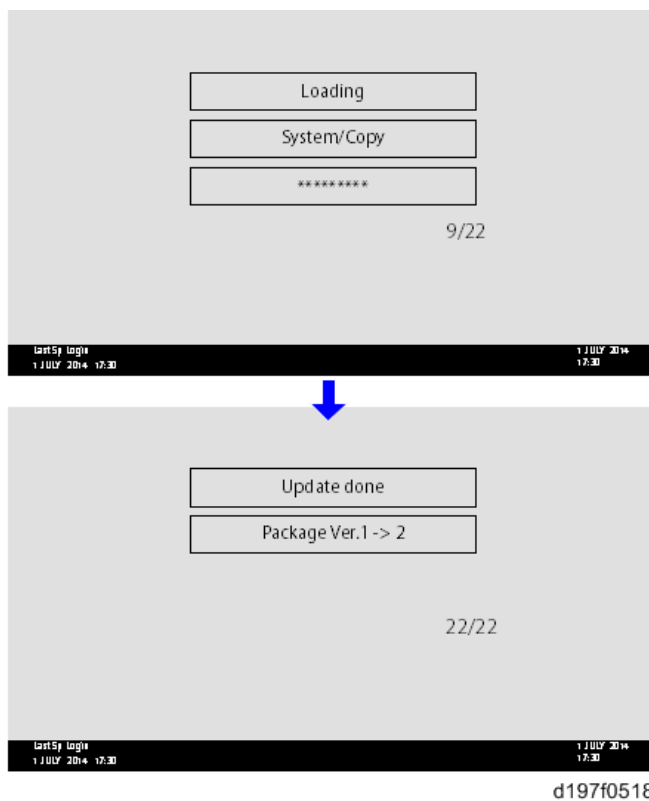
- If the error code E66, which indicates that the download of the firmware has failed, is displayed, implement this procedure from step 1.
- Update will be started automatically after the download is finished.
- When the machine is in the update mode, the automatic update is suspended if a print job is implemented. After the print job is finished, touch [YES] on the display shown with the following picture to restart updating.

Package Firmware Update (MP 501/601 Only)



7. [Update done] 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".

5.3.3 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.

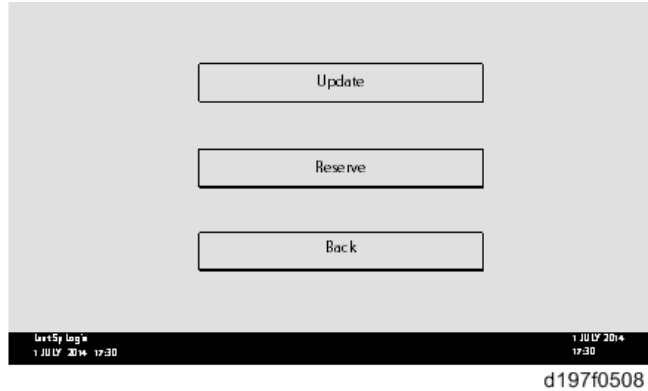
Note

- 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 (page 5-9).

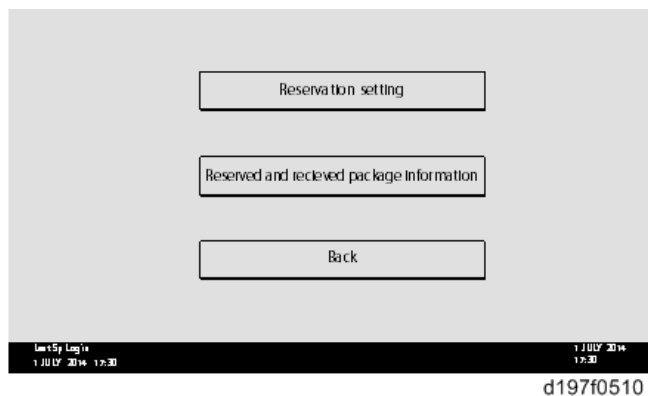
1. Enter the SP mode.
2. Touch [Firmware Update].



3. Touch [Reserve].

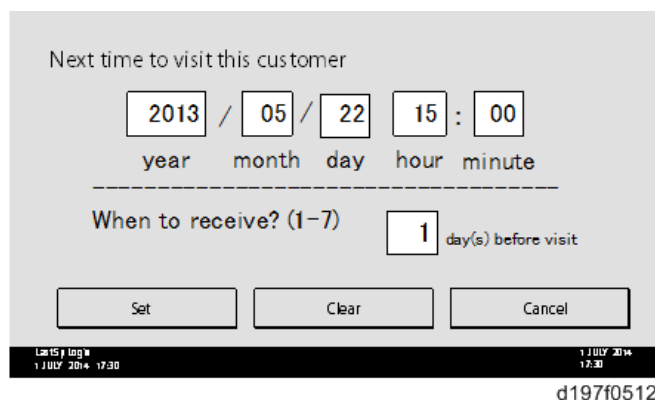


4. Touch [Reservation setting].



5. Enter the dates and times of 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.



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.

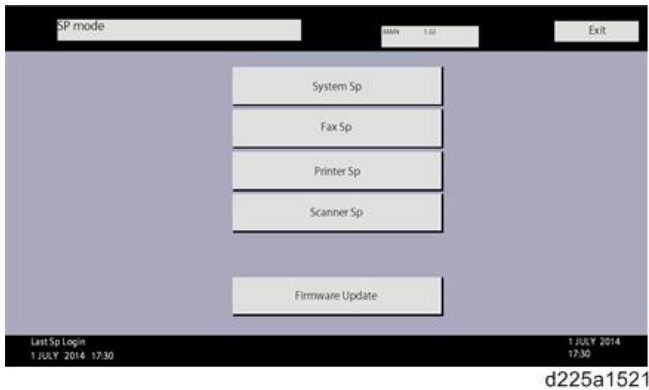


- If the firmware download fails or cannot be completed due to the network settings/condition, no power to the machine, or other reason, the machine will continue retrying every six hours until the scheduled deadline (up to a maximum of four tries). For example, if the download is set for the day before 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.

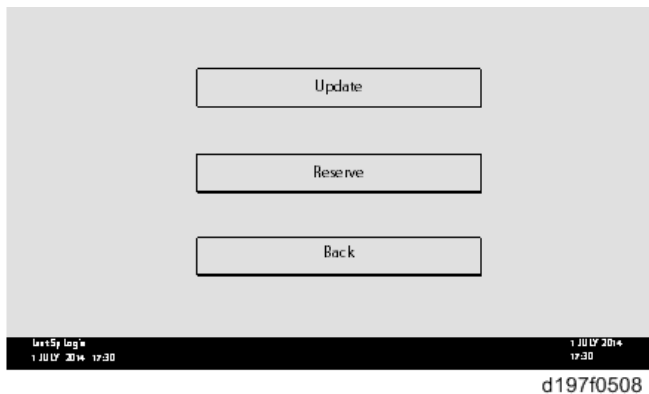
- The download will be terminated if the customer turns the main power OFF while the download is in progress.
- If the download cannot be completed successfully by the time of the next scheduled visit, the machine will stop trying to download the firmware.

How to Check if the Firmware Downloaded with RESERVE

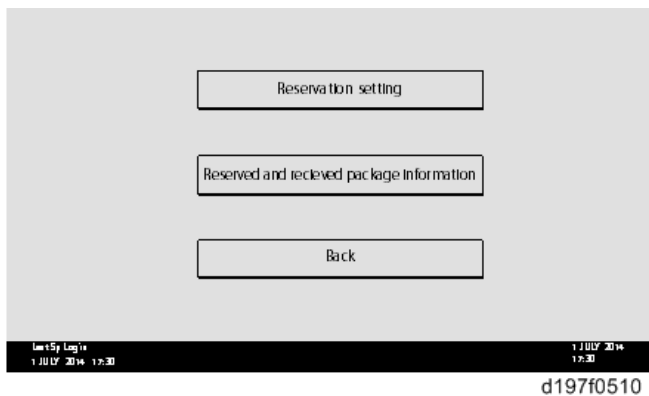
1. Enter the SP mode.
2. Touch [Firmware Update].



3. Touch [Reserve].



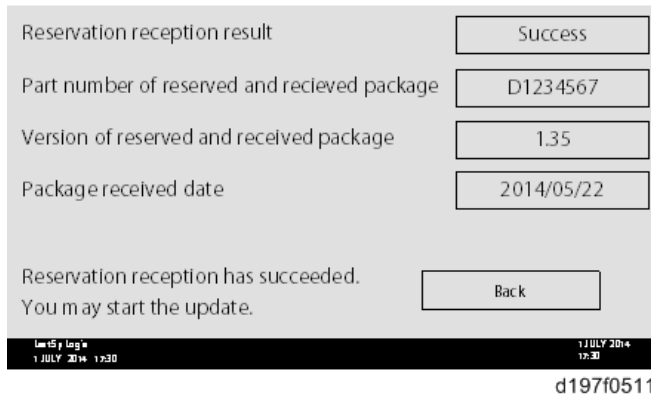
4. Touch [Reserve and received package information].



System Maintenance

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.

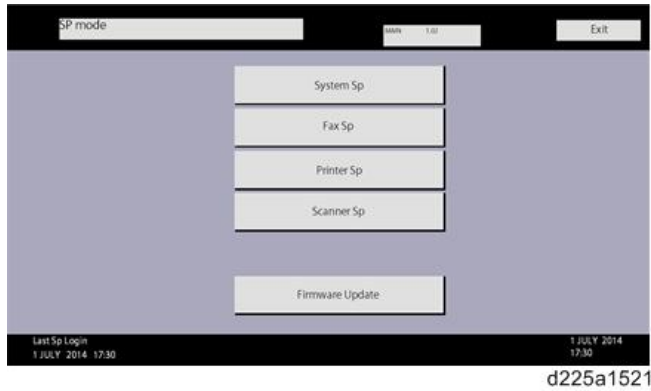


Note

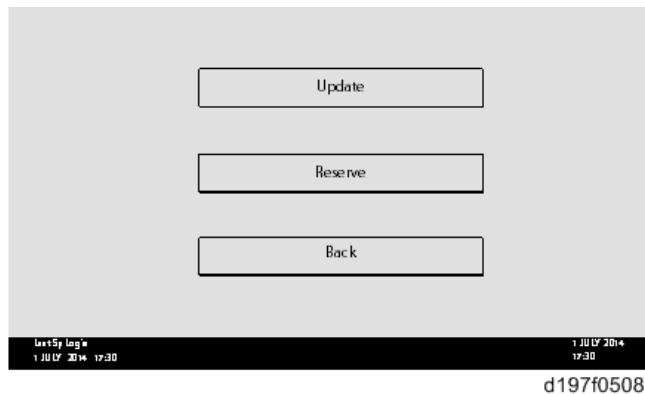
- This information will only be displayed if the reserved firmware has already been downloaded. If not, all the data items are indicated with "-".

How to Install Firmware Downloaded with RESERVE

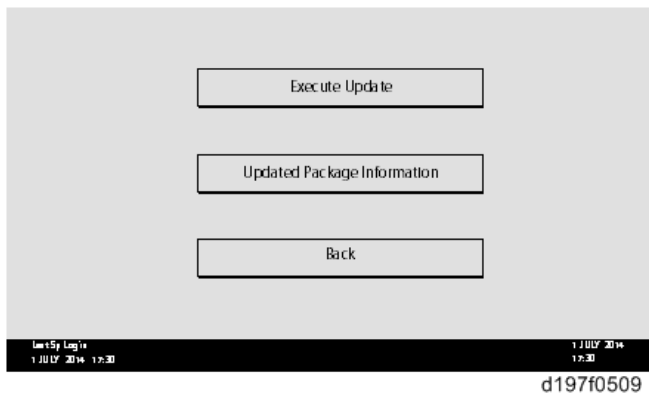
- 1. Enter the SP mode.**
- 2. Touch [Firmware Update].**



- 3. Touch [Update].**

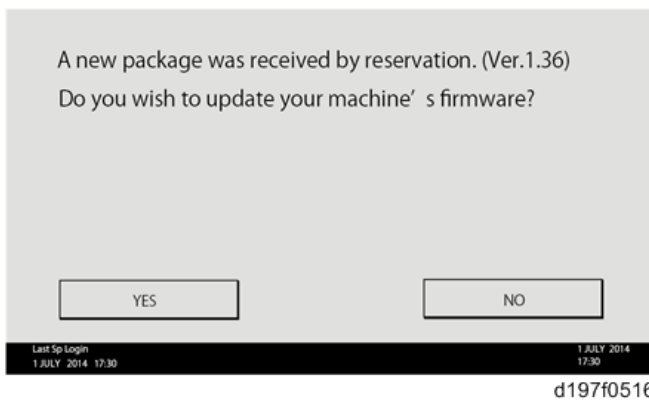


4. Touch [Execute Update].



5. Check the version of the received package firmware, and then touch [YES].

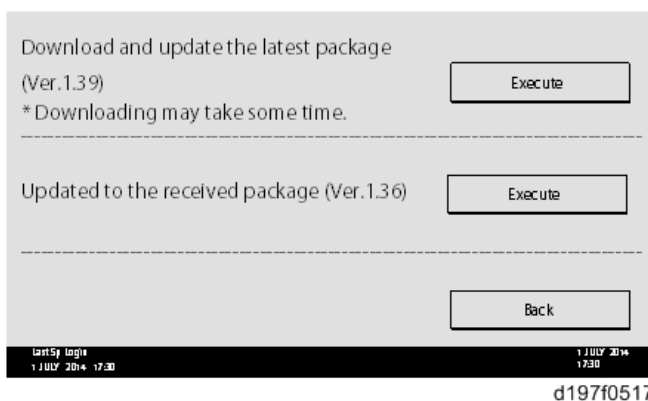
- Update is started.



System Maintenance

Note

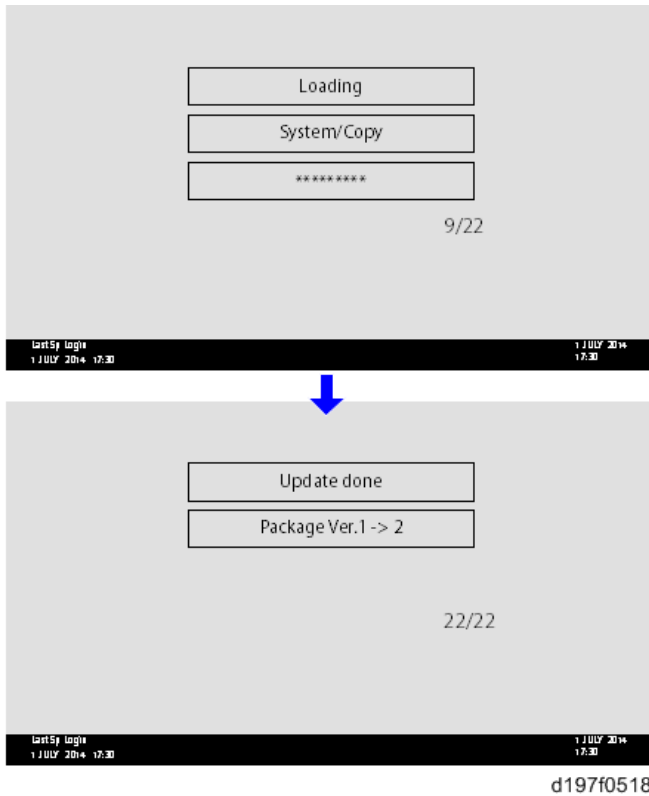
- If the version of the reserved package in the HDD is older than the latest version, the messages shown in the following picture are displayed.



- If you wish to download the latest version, touch [Execute] beside the message "Download and update the latest package." Then update of the package firmware will be started.
- If you wish to update using the firmware in the HDD (old version), touch [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".

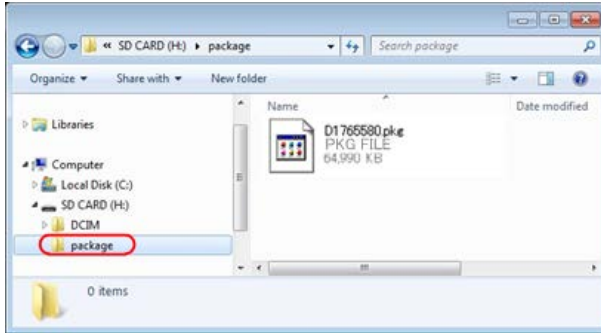
5.3.4 UPDATE VIA SD CARD

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 (page 5-9).

1. Create a new folder in the SD card, and then name it "package".
2. Copy the package firmware (xxxxxxx.pkg) to this folder.

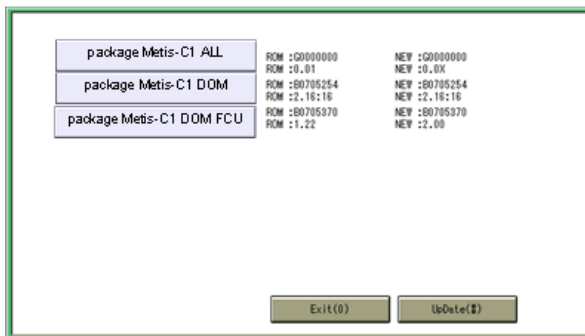


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Important

- 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.

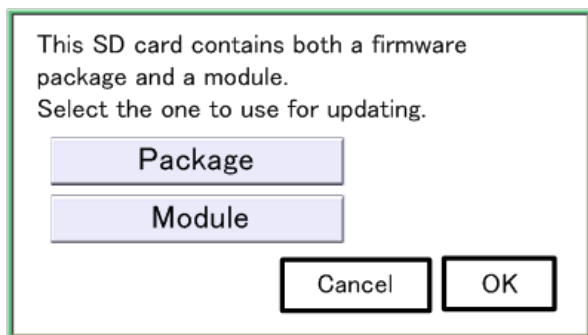
3. Turn OFF the main power.
4. Insert the SD card which contains the package into the SD Card Slot 2 (lower).
5. Turn ON the main power, and then touch [Update].



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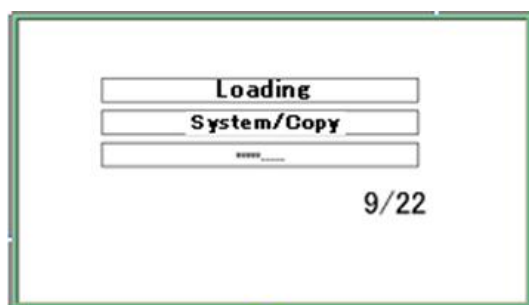
Note

- When the SD card contains both a firmware package and one or more modules, the following display may show up. Select [Package] and touch [OK] to move to step 4 above.



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6. Update is started automatically after the package firmware download to the HDD has been completed.
7. When update is completed, "Update done" is displayed.



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Note

- The figures at the lower right of the display indicate "Number of updated items/ All items to be updated".
8. Turn OFF the main power, and then pull out the SD card from the SD Card Slot 2 (lower).
 9. Turn ON the main power.

5.4 UPDATING JAVAVM

5.4.1 MP 501/601

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".

Updating Procedure

CAUTION

- SD card can be inserted with the machine power off.
 - During the updating process, do not turn OFF the main power.
 - If you turn OFF the main 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 main 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 in [Function Priority].
 - User Tools -> Machine Features -> System Settings -> General Features -> Function Priority
 2. Turn OFF the main power.
 3. Insert the SD card you created into the service slot.
 4. Turn ON the main power.
 5. After booting Java VM, update of the application is started. "Updating SDK/J" appears in the banner message of the touch panel display. (Estimated time: about 2 minutes)
 6. After completing the update and starting the Java VM, "Update SDK/J done SUCCESS (xx.yy.zz), restore SUCCESS" appear in the banner message of the touch panel display. After turning OFF the main power, remove the SD card from the slot.
"xx.yy.zz" indicates the firmware version of the Java VM.

When you fail to update, "Update SDK/J done FAIL" is displayed. You can confirm the cause of the error message below.

7. Turn ON the main power.
8. Return to the previous setting for the boot priority application.

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/bootscrip 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/bootscrip 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)	Inadequacy SD card for updating (Files in the updating tool are missing)


Error Message	Cause	Remedy
[file name: XX] error, No space left on device pasePut() - error : The destination directory cannot be made. pasePut() - error : fileCopy Error. Put Error!	Writing destination is full. (The NAND flash memory on the controller board is full.)	Uninstall the unnecessary SDK applications. If you can not uninstall it, implement escalation, stating the "model name, application configuration, SMC sheet (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 can not 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!		
[XXXXXX] is an unsupported command.		
Version Error		

5.4.2 SP 5300/5310

For the SP5300/5310 series, updating Java VM is performed with PC using the update tool.

- **Prepare the following items in advance.**
 - SD memory card reader/writer
 - PC
- **Updating flow is as follows.**
 1. Deactivate the SDK applications with Web Image Monitor.
 2. Remove the VM CARD Type P8 from the main machine.
 3. Update Java VM with PC using the update tool.
 4. Install the VM CARD Type P8 to the main machine.
 5. Activate the SDK applications with Web Image Monitor.

Deactivating SDK Applications

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.
"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 main power OFF.**
 6. **Remove the controller cover. (page 4-67)**
 7. **Remove VM CARD Type P8 from the SD Card Slot 1 [A].**



Updating JavaVM

1. Insert VM CARD Type P8 into SD memory card reader/writer of your PC.
2. 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")
3. Download the update modules from Firmware Download Center.
4. Unzip the downloaded file, and then execute the .exe file.
5. The folder is generated.
6. Execute the .bat file in the folder.
7. Input the drive letter following a 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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8. Press the [Enter] key to start updating Java VM.
It takes 3 minutes to update Java VM.
9. After completing the update, remove VM CARD Type P8 from SD memory card reader/writer of your PC.

10. Insert VM CARD Type P8 into SD Card Slot 1 [A] of the machine.



11. Reassemble the machine.

Activating SDK Applications

1. Turn the main power ON.
2. Log in as the administrator from Web Image Monitor.
3. Change the setting of "Auto Start" to "On" for each SDK application.
 1. Display the [Startup Setting] menu.
 - [Device Management] -> [Configuration] -> [Extended Feature Settings] -> [Startup Setting]
 2. Click the [Details] icon (📄) for each SDK application.
 3. Make sure that "Auto Start" is set to "On". (Default: On)
4. Reconfigure the heap size setting in [Heap / Stack Size Settings].
 - [Device Management] -> [Configuration] -> [Extended Feature Settings] -> [Administrator Tools] -> [Heap / Stack Size Settings]

5.5 CAPTURING THE DEBUG LOGS

5.5.1 OVERVIEW

★ Important

- **This function is not available on models without a hard disk.**
- **Log related to FAX like FCU debug log is stored only when a machine has FAX.**

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 service representative to save and retrieve error information for analysis.

The Capturing Log feature saves debug logs for the following three.

- Controller debug log
- Engine debug log
- FCU debug log (MP 501/601 only)
- Operation panel log
- Communication log (network packet)
- Configuration page
- Printer setting list
- Font list
- Error log
- Fax information (MP 501/601 only)
- SMC

★ Important

- In older models, a service representative enabled the logging tool after a problem occurred. After that, when the problem had been reproduced, the service representative 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 (GW debug log)	<ul style="list-style-type: none"> ▪ Saved at all times 	HDD (4 GB) Compressed when written to an SD card from the HDD (from 4 GB to about 300 MB)
Engine debug log	<ul style="list-style-type: none"> ▪ When an engine SC occurs ▪ When paper feeding/output stop by jams ▪ When the machine covers are opened during normal operation 	HDD (Up to 300 times)
Operation panel debug log	<ul style="list-style-type: none"> ▪ When a controller SC occurs ▪ When saving by manual operation with the Number keys and the Reset key (Press [Reset], [0], [1] and [C] (hold for 3 seconds)) ▪ When the operation unit detects an error ▪ When the operation panel detects an error 	Operation panel (400 MB /Up to 30 times) When updating the firmware for the operation panel, the debug logs are erased.

Note

- Debug logs are not saved in the following conditions.
 - When there is no HDD.
 - 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)

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

Also the following operation logs are not saved.

- Soft keyboard on the touch panel display
- External keyboard

5.5.2 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 the main power OFF/ON.
- You need to retrieve the debug logs dating back three days from the date of the problem.
- 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

1. Insert the SD card into the SD card slot.

MP 501/601:

Insert an SD card into the media slot on the side of the operation panel.

SP 5300/5310:

1. Remove the controller cover. (page 4-67)
2. Insert the SD card into the SD Card Slot 2 (lower) [A].



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2. Enter SP mode.

3. Set the start date of the log with SP5-858-101 (Start date of debug log output)

e.g.: March 28, 2013: input 20130328 (yyyymmdd)

Note

- Be sure to confirm the date when the problem occurred before obtaining the logs.

4. Set the end date of the log with SP5-858-102 (Days of tracing)

Note

- "2" is the value set by default, which is the minimum needed for investigating the problem.
- A value of "1" to "180" can be set.

5. Execute SP5-858-111 (Acquire All Info & Logs) to write the debug log to the SD card.

6. If the transfer is finished successfully, "completed" is displayed.

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. (It is recommended that you format the SD card using the Panasonic SD Formatter (freeware)).
 - Controller debug log (GW debug log): 2 - 20 minutes
 - Engine debug log: 2 minutes
 - Operation panel log: 2 - 20 minutes

7. Make sure that the SD card access LED is off, then remove the SD card.

Note

- If "failed" appears on the operation panel, turn the main power OFF, and then recover from step 1 again.

The debug logs are saved with the following file names.

Controller debug log (GW debug log)	/LogTrace/machine number/watching/yyyymmdd_hhmmss_unique identification number.gz
Engine debug log	/LogTrace/machine number/engine/yyyymmdd_hhmmss.gz
FCU debug log (MP 501/601 only)	/LogTrace/machine number/fcolog/yyyymmdd_hhmmss.gz
Operation panel log	/LogTrace/machine number/opepanel/yyyymmdd_hhmmss.tar.gz

Communication log (network packet)	/LogTrace/machine number/packet_log/yyyymmdd_hhmmss.gz
Configuration page	/LogTrace/machine number/gps/ConfigurationPage/ConfigurationPage_YYYYMMDD_HHMMSS.csv
Printer setting list	<ul style="list-style-type: none"> ▪ /LogTrace/machine number/gps/PrintSettingList/PrintSettingList_RPGL_YYYYMMDD_HHMMSS.txt ▪ /LogTrace/machine number/gps/PrintSettingList/PrintSettingList_RTIFFF_YYYYMMDD_HHMMSS.csv
Font list	<ul style="list-style-type: none"> ▪ /LogTrace/machine number/gps/FontPage/FontPage_PCL_the page number_YYYYMMDD_HHMMSS.jpg ▪ /LogTrace/machine number/gps/FontPage/FontPage_PDF_the page number_YYYYMMDD_HHMMSS.jpg ▪ /LogTrace/machine number/gps/FontPage/FontPage_PS_the page number_YYYYMMDD_HHMMSS.jpg
Error log	/LogTrace/machine number/gps/ErrorLog/yyyymmdd_hhmmss.csv
Fax information (MP 501/601 only)	/LogTrace/machine number/faxreport/yyyymmdd_hhmmss.csv
SMC	/LogTrace/machine number/smc/machine number_5992XXX_YYYYMMDD_HHMMSS.csv

System Maintenance

5.6 NVRAM DATA UPLOAD/DOWNLOAD

5.6.1 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. **Execute SP5-990-001 (SP Print Mode: All (Data List)) before you turn OFF the main power. You will need a record of the NVRAM settings if the upload fails.**
2. **Turn OFF the main power.**
3. **Remove the controller cover. (MP 501/601: page 4-45, SP 5300/5310: page 4-67)**
4. **Insert the SD card into SD Card Slot 2 (lower) [A].**

MP 501/601



d255a1061

SP 5300/5310



d255a1062

5. **Turn ON the main power.**
6. **Press [Execute] in SP5-824-001 (NVRAM Data Upload).**
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.

5.6.2 DOWNLOADING AN SD CARD TO NVRAM

Do the following procedure to download SP data from an SD card to the NVRAM in the machine.

- The NVRAM data download may fail if the SD card with the NVRAM data is damaged, or if the connection between the controller and BiCU 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 OFF the main power.
2. Remove the controller cover. (MP 501/601: page 4-45, SP 5300/5310: page 4-67)
3. Insert the SD card into SD Card Slot 2 (lower) [A].

MP 501/601



d255a1061

SP 5300/5310



d255a1062

4. Turn ON the main power.
5. Press [Execute] with SP5-825-001 (NVRAM Data Download).

NVRAM Data Upload/Download

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 (MP 501/601 only)

5.7 UP/SP DATA IMPORT/EXPORT

5.7.1 OVERVIEW

Import/export conditions

Import/export is possible between devices only if their model type, region of use.

5.7.2 UP DATA IMPORT/EXPORT (MP 501/601)

Data that can be imported and exported

- Copier / Document Server Features
- Printer Features
- Scanner Features
- Facsimile Features
- Browser Features
- Program (Document Server)
- Program (Copier)
- Program (Scanner)
- Web Image Monitor Setting
- Web Service Settings
- System Settings
- Screen Features
- Home screen customization settings ^{*1}

*1 Wallpaper cannot be exported if "Live Wallpapers" is selected.

Data that cannot be imported or exported

- Some System Settings ^{*1 *2}
 - *1 The setting for the date, settings that require the device certificate, and settings that need to be adjusted for each machine (for example, image adjustment settings) cannot be imported or exported.
 - *2 Settings only for executing functions and settings only for viewing cannot be imported or exported.
- Extended Feature Settings
- Address book
- Programs (fax function)
- Programs (printer function)
- Settings that can be specified via telnet

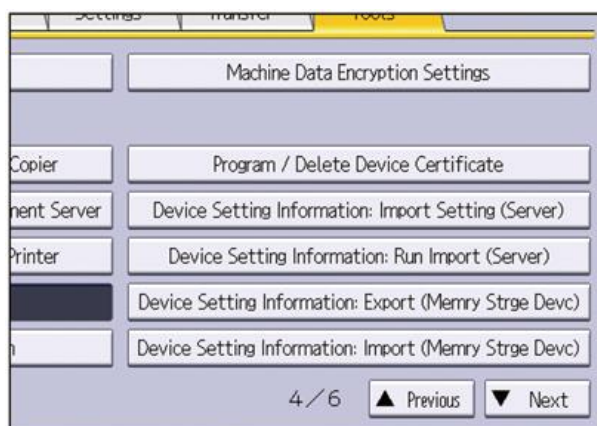
- @Remote-related data
- Counters
- Settings that can only be specified via Web Image Monitor or Web Service (for example, Bonjour, SSDP setting)

Exporting Device Information

This can be exported / imported by an administrator with all privileges.

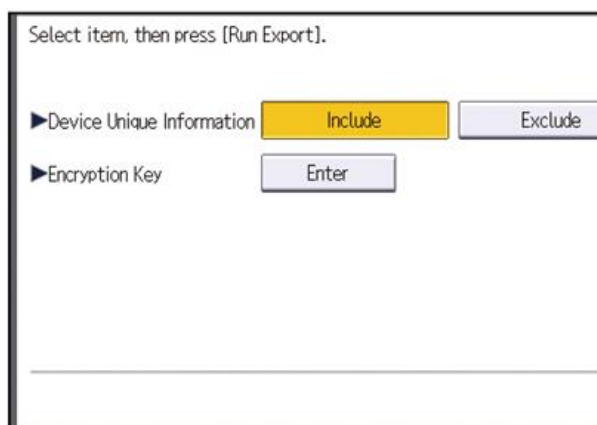
When exporting SP device information from the control panel, the data is saved on an SD card.

1. **Insert an SD card into the media slot on the side of the operation panel.**
2. **Log in from the operation panel as an administrator with all privileges.**
3. **Press [System Settings].**
4. **Press [Administrator Tools].**
5. **Press [Next] three times.**
6. **Press [Device Setting Information: Export (Memory Storage Device)].**



d255a1063

7. **Set the export conditions.**



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- Specify whether to [Include] or [Exclude] the "Device Unique Information". "Device Unique Information" includes the IP address, host name, fax number, etc.
- Specify an encryption key.

8. Press [Run Export].
9. Press [OK].
10. Press [Exit].
11. Log out.

Note

- If data export fails, the details of the error can be viewed in the log.
- When device Information is periodically imported, it is necessary to create the device setting information file with special software and store it on the web server.

Importing Device Information

This can be exported / imported by an administrator with all privileges.

Import device information saved on an SD card.

1. Insert an SD card into the media slot on the side of the operation panel.
2. Log in from the operation panel as an administrator with all privileges.
3. Press [System Settings].
4. Press [Administrator Tools].
5. Press [Next] three times.
6. Press [Device Setting Information: Import (Memory Storage Devc)].
7. Configure the import conditions.



- Press [Select] of the "Device Setting Info. File" to select the file(s) to import.
- Specify whether to [Include] or [Exclude] the "Device Unique Information". "Device Unique Information" includes the IP address, host name, fax number, etc.
- Enter the encryption key that was specified when the file was exported.

8. Press [Run Import].
9. Press [OK].
10. Press [Exit].

The machine restarts.

Note

- If import or export fails, you can check the log for the error. The log is stored in the same location as the exported device setting information file.

5.7.3 UP DATA IMPORT/EXPORT (SP 5300/5310)

Data that can be imported and exported

- Paper Input
- Maintenance
- System
- Print Settings
- Security Options
- Remote Services
- Host Interface
- Web Image Monitor Setting
- Web Service Settings

Data that cannot be imported or exported

- Address book
- Programs (printer function)
- Settings that can be specified via telnet
- RICOH @Remote-related data
- Counters
- Settings that can only be specified via Web Image Monitor or Web Service (for example, Bonjour, SSDP setting)
- Settings for the date and time
- Settings that require the device certificate
- Settings that need to be adjusted for each printer (for example, image adjustment settings)
- Settings exclusively for executing functions and settings exclusively for viewing

Exporting Device Information

This can be exported / imported by an administrator with all privileges.

When exporting SP device information from the control panel, the data is saved on an SD card.

1. **Remove the controller cover. (page 4-67)**
2. **Insert the SD card into the SD Card Slot 2 (lower) [A].**



d255a1062

3. Turn the main power ON.
4. Press the [Menu] key.
5. Log in from the control panel as an administrator with all privileges.
6. Select [Device Setting Information] -> Press [OK]
7. Select [DevSettgInfo: Exp (MemDev)] -> Press [OK]
8. Select [Device Unique Information] -> Press [OK]
9. Select [Include] or [Exclude] -> Press [OK]

If [Include] is selected, the device unique information (IP address, host name, fax number, etc) is included in the exporting device information.
10. Select [Enter Encryption Key] -> Press [OK]
11. Select [Yes] -> Press [OK]
12. Select [Enter] -> Enter an encryption key. -> Select [Accept]
13. Select [Enter] -> Re-enter the encryption key. -> Select [Accept]
14. Select [Export] -> [Export]
15. When the confirmation screen appears, select [Yes].
16. Make sure the message regarding that the exporting process being successfully completed appears. -> Select [Exit]
17. Log out.

Note

- If data export fails, the details of the error can be viewed in the log.
- When device Information is periodically imported, it is necessary to create the device setting information file with special software and store it on the web server.

Importing Device Information

This can be exported / imported by an administrator with all privileges.

Import device information saved on an SD card.

1. Remove the controller cover. (page 4-67)
2. Insert the SD card into the SD Card Slot 2 (lower) [A].



d255a1062

3. Turn the main power ON.
4. Press the [Menu] key.
5. Log in from the control panel as an administrator with all privileges.

6. **Select [Device Setting Information] -> Press [OK]**
7. **Select [DevSettgInfo: Exp (MemDev)] -> Press [OK]**
8. **Select [Device Unique Information] -> Press [OK]**
9. **Select [Include] or [Exclude] -> Press [OK]**
If [Include] is selected, the device unique information (IP address, host name, fax number, etc) is included in the importing device information.
10. **Select [Enter Encryption Key] -> Press [OK]**
11. **Select [Yes] -> Press [OK]**
12. **Select [Enter] -> Enter an encryption key. -> Select [Accept]**
13. **Select [Enter] -> Re-enter the encryption key. -> Select [Accept]**
14. **Select [Export] -> [Export]**
15. **When the confirmation screen appears, select [Yes].**
16. **Make sure the message regarding that the exporting process being successfully completed appears. -> Select [Exit]**
17. **Log out.**

 **Note**

- If import or export fails, you can check the log for the error. The log is stored in the same location as the exported device setting information file.

5.7.4 SP DATA IMPORT/EXPORT (MP 501/601)

Data that can be imported and exported

- System SP
- Printer SP
- Fax SP
- Scanner SP

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 operation panel.**
2. **Enter SP mode.**
3. **Press SP5-749-001 (Import/Export: Export)**
4. **Select "Target" SP settings (System/Printer/Fax/Scanner/Smart Operation Panel) 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>Unique information that can be updated</p> <p>#1. Items that are to be used to identify the machine. Example: Network Information/ Host name / 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>Unique information that cannot be updated</p> <p>#1. Items that may cause a problem if imported Example: Serial number / Information related to @Remote</p> <p>#2. Items for managing the history of the machine 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>Secret information</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: User name / User ID / Department code / Mail address / Phone number</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 "Crypt config" setting (Encryption).

Encryption	Select whether to encrypt or not when exporting. If you push the "Encryption" key, you can export secret information.	If the encryption function is used, setting of an encryption key is required by direct input. <ul style="list-style-type: none"> ▪ Type the arbitrary password using the soft keyboard ▪ Can enter up to 32 characters
------------	--	--

7. Press [EXECUTE].

8. Press [OK].

 Note

- If data export fails, the details of the error can be viewed in the log.

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 operation 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.

5.7.5 SP DATA IMPORT/EXPORT (SP 5300/5310)

Data that can be imported and exported

- Service SP
- Engine SP

Exporting Device Information

When exporting SP device information from the control panel, the data is saved on an SD card.

1. Remove the controller cover. (page 4-67)
2. Insert the SD card into the SD Card Slot 2 (lower) [A].



d255a1062

3. Turn the main power ON.
4. Enter SP mode.
5. Select SP5-749-001 (Import/Export: Export).
6. If you want to include the unique information in the exported file, select [Unique].
7. Select [Encryption] -> Enter an encryption key. -> Select [Accept]
8. Press [EXECUTE].
9. Press [OK].

ⓘ Note

- If data export fails, the details of the error can be viewed in the log.

Importing Device Information

Import device information saved on an SD card.

1. **Remove the controller cover. (page 4-67)**
2. **Insert the SD card into the SD Card Slot 2 (lower) [A].**



d255a1062

3. **Turn the main power ON.**
4. **Enter SP mode.**
5. **Select SP5-749-101 (Import/Export: Import).**
6. **If you want to include the unique information in the imported file, select [Unique].**
7. **Select [Encryption] -> Enter an encryption key. -> Select [Accept]**
8. **Press [EXECUTE].**
9. **Press [OK].**

↓ Note

- If data export fails, the details of the error can be viewed in the log.

5.7.6 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*, *Destinaion*, *IP*, *Host*, *Storage*, *FileNam
e*, *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*
```

w_d1825500

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.	Switch the power off and then back on, and then try the operation again. If the error persists, contact your supervisor.

Result Code	Cause	Solutions
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>Reason for the Error (Ng-Name)</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 medium.	<p>Check whether the file format is correct.</p> <p>The import file should be a CSV file.</p>
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.

5.8 ADDRESS BOOK UPLOAD/DOWNLOAD

5.8.1 INFORMATION LIST

The following information is possible to be uploaded and downloaded.

MP 501/601

- Registration No.
- User Code
- E-mail
- Protection Code
- Fax Destination
- Fax Option
- Group Name
- Key Display
- Select Title
- Folder
- Local Authentication
- Folder Authentication
- Account ACL
- New Document Initial ACL
- LDAP Authentication

SP 5300/5310

- Registration No.
- User Code
- Local Authentication/ Authentication Lock-out
- Account ACL
- New Document Initial ACL
- LDAP Authentication
- Group Entry Number
- Group Name

5.8.2 DOWNLOAD

1. Prepare a formatted SD card.
2. Make sure that the write-protection on the SD card is off.
3. Turn OFF the main power.
4. Remove the controller cover. (MP 501/601: page 4-45, SP 5300/5310: page 4-67)
5. Insert the SD card into SD Card Slot 2 (lower) [A].

MP 501/601



d255a1061

SP 5300/5310



d255a1062

6. Turn ON the main power.
7. Enter the SP mode.
8. Execute SP5-846-051 (Backup All Addr Book).
9. Exit the SP mode, and then turn OFF the main power.
10. Remove the SD card from the SD Card Slot 2 (lower).
11. Reassemble the machine.

ⓘ Note

- If the capacity of SD card is not enough to store the local user information, an error message is displayed.
- Carefully handle the SD card, which contains user information. Do not take it back to your location.

5.8.3 UPLOAD

1. Turn OFF the main power.
2. Remove the controller cover. (MP 501/601: page 4-45, SP 5300/5310: page 4-67)
3. Install the SD card, which has already been uploaded, into the SD Card Slot 2 (lower) [A].

MP 501/601



d255a1061

SP 5300/5310



d255a1062

4. Turn ON the main power.
5. Enter the SP mode.
6. Execute SP5-846-052 (Restore All Addr Book).
7. Exit the SP mode, and then turn OFF the main power.
8. Remove the SD card from the SD Card Slot 2 (lower).
9. Reassemble the machine.

↓ Note

- The counter in the user code information is initialized after uploading.
- The information of an administrator and supervisor cannot be downloaded nor uploaded.
- If there is no data of address book information in the SD card, an error message is displayed.

5.9 SMC LIST CARD SAVE FUNCTION

5.9.1 OVERVIEW

SMC List Card Save

The SMC List Card Save (SP Text Mode) function is used to save the SMC list as CSV files to the SD-card inserted into the operation panel SD card slot.

5.9.2 PROCEDURE

MP 501/601

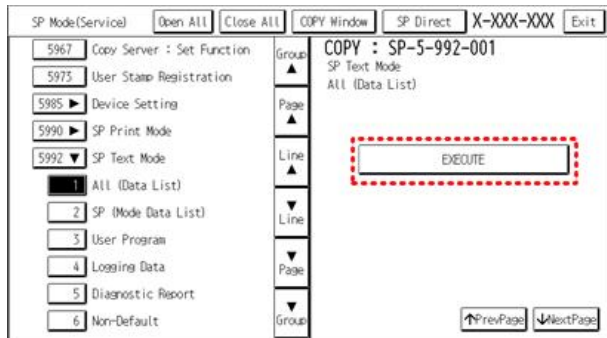
1. Turn OFF the main power.
2. Insert the SD card into the operation panel SD card slot. Then turn ON the main power.
3. Enter SP mode.
4. Select [System SP].
5. Select SP5-992 (SP Text Mode).
6. Select a detail SP number shown below to save data on the SD card.

SP5-992-xxx (SP Text Mode)

Detail No.	SMC Categories to Save
001	All (Data List)
002	SP (Mode Data List)
003	User Program
004	Logging Data
005	Diagnostic Report
006	Non-Default
007	NIB Summary
008	Capture Log
021	Copier User Program
022	Scanner SP
023	Scanner User Program
024	SDK/J Summary

Detail No.	SMC Categories to Save
025	SDK/J Application Info
026	Printer SP
027	SmartOperationPanel SP
028	SmartOperationPanel UP

7. Press [EXECUTE].



d255a1065

8. Press [EXECUTE] again to start. Press [CANCEL] to cancel the saving.



d255a1066

9. "It is executing it" is shown on the screen while executing.



d255a1067

10. Wait for 2 to 3 minutes until "Completed" is shown.

Note

- The SMC list saving may take from 2 to 3 minutes to complete.
- Press [CANCEL] to abort executing.

SMC List Card Save Function



d255a1070

11. Press [Exit] to exit from SP mode.

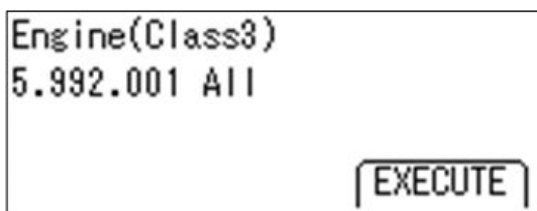
SP 5300/5310

1. Turn OFF the main power.
2. Insert the SD card into the SD Card Slot 2 (lower). Then turn ON the main power.
3. Enter the [Engine] in the SP mode (Service).
4. Select SP5-992 (SP Text Mode).
5. Select a detail SP number shown below to save data on the SD card and press [OK].

SP5-992-xxx (SP Text Mode)

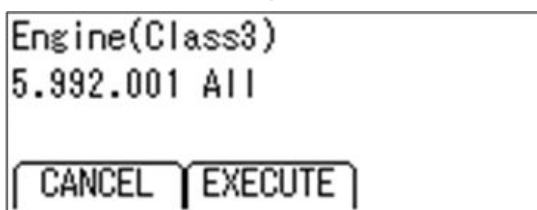
Detail No.	SMC Categories to Save
001	All (Data List)
002	SP (Mode Data List)
003	User Program
004	Logging Data
005	Diagnostic Report
006	Non-Default
007	NIB Summary
024	SDK/J Summary
025	SDK/J Application Info
026	Printer SP

- Press [EXECUTE].



m257z0027

- Press [EXECUTE] again to start. Press [CANCEL] to cancel the saving.



m257z0028

- Wait for 2 to 3 minutes until "Completed" is shown.

Note

- The SMC list saving may take from 2 to 3 minutes to complete.
- Press [CANCEL] to abort executing.

- Press [End] to exit from SP mode.

5.9.3 FILE NAMES OF THE SAVED SMC LISTS

The SMC list data saved on the SD-card will be named automatically. The file naming rules are as follows.

Example:

W801P999017_59921_20111011_53954.csv



d1440131a

A:

Machine serial number (fixed for each machine)

B:

SP number saved in this file.

First four digits (5992) in this part are fixed. The other one or two digits are the detail SP number(s). In this case, it is one digit. Therefore, this file is of SP5-992-001 (All data list). See the upper SP table for the correspondence between SP detail numbers and the contents.

C:

File creation date

Year/Month/Day ("Zero" will be omitted if each is one digit.)

D:

File creation time

Hour/Minute/Second ("Zero" will be omitted if each is one digit.)

E:

File Extension CSV (Comma Separated Value)

This part is fixed.



- A folder named by the machine serial number will be created on the SD card when this function is executed.
- This function can save the SMC list data only to an SD card inserted into the operation panel SD card slot.

5.9.4 ERROR MESSAGES

SMC List Card Save error message:

- **Failed:**

FACTOR: Read-only file system, No space left on device.

If an error occurs, pressing [Exit] will cause the device to discard the job and return to the ready state.

5.10 TEST PATTERN PRINTING

Printing Test pattern: SP2-109

Some of these test patterns are used for copy image adjustments but most are used primarily for design testing.

ⓘ Note

- Do not operate the machine until the test pattern is printed out completely. Otherwise, SC will occur.

5.10.1 MP 501/601

- Enter the SP mode and select SP2-109-003 (Pattern Selection).
- Select the test pattern for print from the list then press [OK].
- To change the density of the test pattern, select the density with SP2-109-006, then press [#].

ⓘ Note

- If select "0" with SP2-109-006, the color adjusted so will not show up in the test pattern.
- To print, touch [Copy Window], then set settings within the following window for test print (paper size etc...).
 - Press [Start] to start test print.
 - After checking test pattern, press [SP Mode] to return to SP mode display.
 - Reset all settings to the default values (SP2-109-003, SP2-109-006).
 - Exit SP mode.

No.	Pattern	No.	Pattern
0	None	13	Independent Pattern (4dot)
1	Vertical Line (1 dot)	14	Trimming Area
2	Vertical Line (2 dot)	15	Hound's Tooth Check (Horizontal)
3	Horizontal Line (1 dot)	16	Hound's Tooth Check (Vertical)
4	Horizontal Line (2 dot)	17	Black Band (Horizontal)
5	Grid Vertical Line	18	Black Band (Vertical)
6	Grid Horizontal Line	19	Checker Flag Pattern
7	Grid Pattern Small	20	Grayscale (Vertical)

Test Pattern Printing

No.	Pattern	No.	Pattern
8	Grid Pattern Large	21	Grayscale (Horizontal)
9	Argyle Pattern Small	22	Two Beam Density Pattern
10	Argyle Pattern Large	23	Full Dot Pattern
11	Independent Pattern (1dot)	24	All White Pattern
12	Independent Pattern (2dot)		

5.10.2 SP 5300/5310

1. Enter the SP mode and select SP2-109-003 (Test Pattern).
2. Enter the number for the test pattern that you want to print -> Press [OK].

SP2-109-003 (Test Pattern)

No.	Pattern	No.	Pattern
0	None	13	Independent Pattern (4dot)
1	Vertical Line (1 dot)	14	Trimming Area
2	Vertical Line (2 dot)	15	Hound's Tooth Check (Horizontal)
3	Horizontal Line (1 dot)	16	Hound's Tooth Check (Vertical)
4	Horizontal Line (2 dot)	17	Black Band (Horizontal)
5	Grid Vertical Line	18	Black Band (Vertical)
6	Grid Horizontal Line	19	Checker Flag Pattern
7	Grid Pattern Small	20	Grayscale (Vertical)
8	Grid Pattern Large	21	Grayscale (Horizontal)
9	Argyle Pattern Small	22	Two Beam Density Pattern
10	Argyle Pattern Large	23	Full Dot Pattern
11	Independent Pattern (1dot)	24	All White Pattern
12	Independent Pattern (2dot)		

3. To change the density of the test pattern, select the density with SP2-109-006.

Note

- If select "0" with SP2-109-006, the color adjusted so will not show up in the test pattern.

4. Enter SP5-990-001, and then press [EXECUTE] to start printing the test pattern.
5. Check the test pattern.
6. Exit SP mode.

TROUBLESHOOTING

REVISION HISTORY		
Page	Date	Added/Updated/New
45 ~ 48	09/15/2016	Added SC636-01
55	12/14/2016	Added SC672-00
57	03/08/2017	Added SC673-10
111	03/08/2017	Added Troubleshooting Guide: Image Quality: Black or White spots repeat at 30mm or 96mm intervals
119 ~ 126	02/09/2017	Added "When SC672 (Controller start up error) is displayed

6. TROUBLESHOOTING

6.1 SELF-DIAGNOSTIC MODE

6.1.1 SERVICE CALL CODES

Service Call Conditions

Pattern	Display	How to reset	SC call or SC alarm in customer support system
A	The SC is displayed on the operation panel, and the machine cannot be used (safety-related SC).	Execute CE reset SP mode, and switch main power from OFF to ON.	Occurrence & alarm count ↓ Immediate alarm
B	When a function is selected, the SC is displayed on the operation panel, and the machine cannot be used (down-time mitigation).	Switch main power from OFF to ON.	Occurrence & alarm count ↓ Power OFF → ON ↓ Alarm count and alarm only if recurrence
C	No display on the operation panel, and use is permitted.	Count only logging.	Occurrence ↓ Logging count & alarm count
D	The SC is displayed on the operation panel, and the machine cannot be used (machine-error SC).	Switch main power from OFF to ON.	Occurrence & alarm count ↓ Power OFF → 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, reboot is not performed. During 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 * mark is added alongside the SC number for clarity.
- Automatic reboot can be enabled or disabled with SP5-875-001 (SC automatic reboot setting) (default value: ON).

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 (MP 501/601)

When an ordinary SC (pattern 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: 0 "Automatic reboot").

When a type D occurs, 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 cancelled by pressing the [OK] key (display is not cancelled 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
 □ □ □ □ □ □ □ □ □ □
- Reset key (Reboot key)

Key to perform reboot

Cancel key is not displayed.

- 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

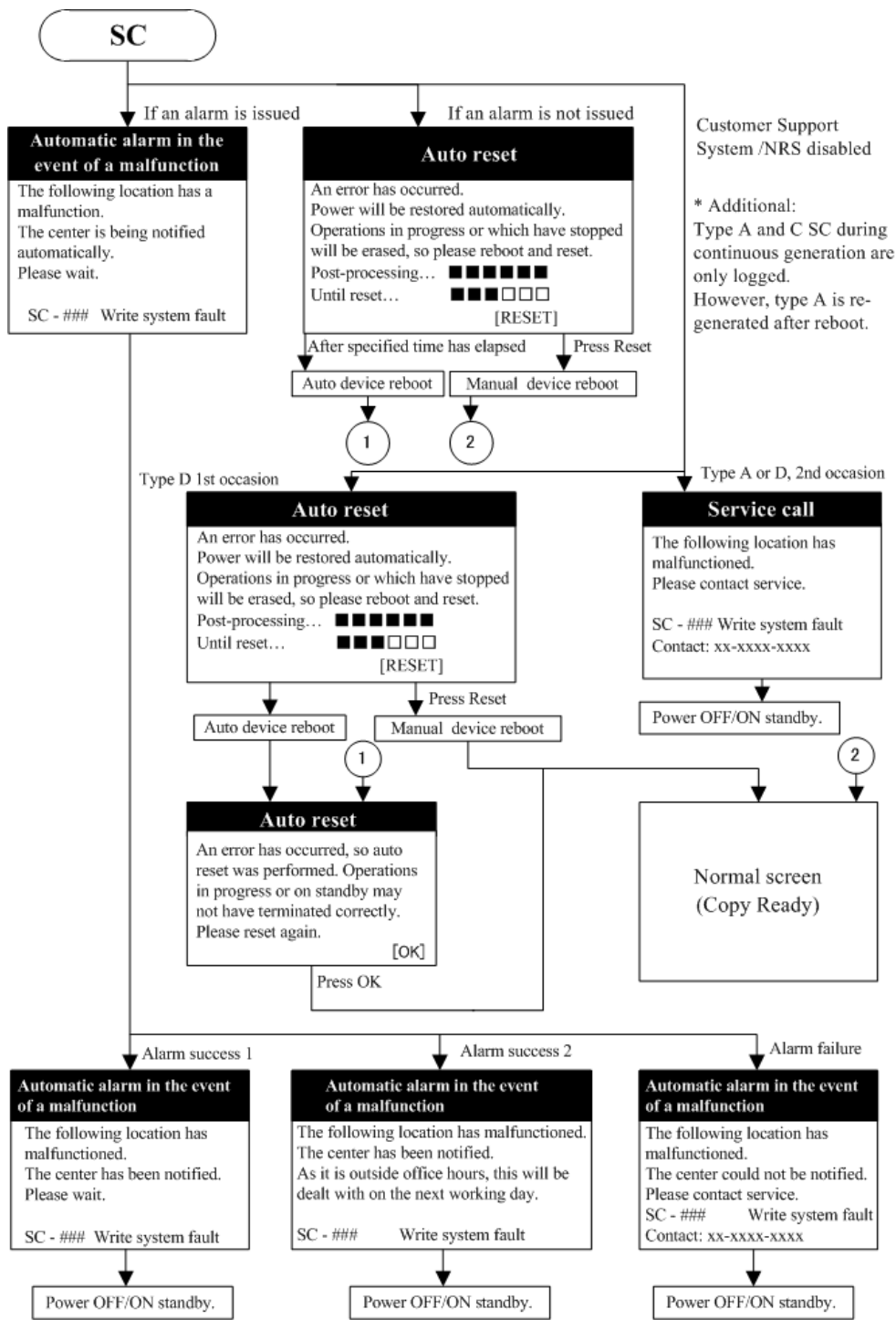
Reboot is performed 30 seconds after an engine reboot is possible, after the end of post-processing during printing, etc.

At that time, a reboot is performed even if the machine is operating. The engine does not start process control when a reboot is possible.

- Automatic reboot

See the flowchart below.

Self-Diagnostic Mode



w_d1462643

6.2 SERVICE CALL 101-195

6.2.1 SC100 (ENGINE: SCANNING) (MP 501/601 ONLY)

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC101-01	D	Lamp Error (Scanning)
		<p>The white level peak did not reach the prescribed threshold when the white guide plate was scanned.</p> <p>Error detection timing;</p> <ul style="list-style-type: none">▪ During a scan from the exposure glass: When the scanning of white guide plate is completed. (when the SHGH is negated)▪ During a scan from ARDF: During the shading operation. When the scanning of white guide plate is completed. (when the SHGH is negated)
		<ul style="list-style-type: none">▪ Condensation in scanner unit▪ Connector disconnected▪ Scanner Carriage defective▪ BiCU defective▪ Harness defective▪ White Guide Plate dirty or defective▪ IOB defective

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		<p>Check if the SC occurs by turning the main 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"> 1. Reconnect the connector. Reconnect the following connectors; <ul style="list-style-type: none"> ▪ Scanner Carriage – BiCU connector ▪ BiCU – IOB connector 2. Check the white guide plate (exposure glass). Check the white guide plate attached to the exposure glass. If the white guide plate is in an unusual state, replace the white guide plate. 3. Scanner carriage defective Replace the scanner carriage. 4. BiCU defective Replace the BiCU. 5. Harness defective Replace the following harnesses. <ul style="list-style-type: none"> ▪ Scanner Carriage – BiCU harness ▪ BiCU – IOB harness 6. IOB defective Replace the IOB.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC101-02	D	Lamp Error (Detecting the lighting error)
		<p>The white level peak did not reach the prescribed threshold when the white guide plate was scanned. Error detection timing; During the scanner adjustment (detecting the lighting error) at the time of applying power source for scanner (when the main power is turned ON).</p>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		<ul style="list-style-type: none"> ▪ Condensation in scanner unit ▪ Connector disconnected ▪ Scanner Carriage defective ▪ BiCU defective ▪ Harness defective ▪ White Guide Plate dirty or attachment fault ▪ IOB defective
		<p>Check if the SC occurs by turning the main 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"> 1. Reconnect the connector. Reconnect the following connectors; <ul style="list-style-type: none"> ▪ Scanner Carriage – BiCU connector ▪ SBU – LEDB connector (SBU side connector on the scanner carriage) ▪ BiCU – IOB harness 2. Check the white guide plate (exposure glass). Check the white guide plate attached to the exposure glass. If the white guide plate is in an unusual state, replace the white guide plate. 3. Scanner carriage defective Replace the scanner carriage. 4. BiCU defective Replace the BiCU. 5. Harness defective Replace the following harnesses. <ul style="list-style-type: none"> ▪ Scanner Carriage – BiCU harness ▪ BiCU – IOB harness 6. IOB defective Replace the IOB.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC102-00	D	LED Light Quantity Error
		<p>The white level peak exceeded the prescribed threshold when the white guide plate was scanned.</p> <p>Error detection timing; During the scanner adjustment (detecting the lighting error) at the time of applying power source for scanner (when the main power is turned ON).</p>
		<ul style="list-style-type: none"> ▪ Connector disconnected ▪ Scanner Carriage defective ▪ BiCU defective ▪ Harness defective ▪ IOB defective
		<p>Check if the SC occurs by turning the main 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"> 1. Reconnect the connector. Reconnect the following connectors; <ul style="list-style-type: none"> ▪ Scanner Carriage – BiCU connector ▪ SBU – LEDB connector (SBU side connector on the scanner carriage) ▪ BiCU – IOB harness 2. Check the white guide plate (exposure glass). Check the white guide plate attached to the exposure glass. If the white guide plate is in an unusual state, replace the white guide plate. 3. Scanner carriage defective Replace the scanner carriage. 4. BiCU defective Replace the BiCU. 5. Harness defective Replace the following harnesses. <ul style="list-style-type: none"> ▪ Scanner Carriage – BiCU harness ▪ BiCU – IOB harness 6. IOB defective Replace the IOB.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC120-00	D	Scanner Home Position error
		The home position is not correct when the main power is turned ON, at the end of a reading process from the exposure glass and ARDF.
		<ul style="list-style-type: none"> ▪ Scanner motor defective ▪ Scanner HP sensor defective ▪ SBU defective ▪ BiCU defective ▪ Controller board defective
		<ul style="list-style-type: none"> ▪ Scanner motor defective <ol style="list-style-type: none"> 1. Move the scanner carriage by hand to check whether it is unusually difficult to move. 2. Check that the scanner driving belt is not disengaged. 3. Reconnect the following connector. Scanner Motor – Controller Board connector 4. If the connector is broken, shorted, or grounded, replace the connector. 5. Replace the scanner motor.
		<ul style="list-style-type: none"> ▪ Scanner HP sensor defective <ol style="list-style-type: none"> 1. Check that the scanner HP sensor is correctly positioned. 2. Reconnect the following connectors. <ul style="list-style-type: none"> ▪ Scanner HP Sensor – SBU connector ▪ SBU – Controller Board connector 3. Replace the scanner HP sensor. ▪ SBU defective Replace the scanner unit. ▪ BiCU defective Replace the BiCU. ▪ Controller board defective Replace the controller board.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC141-00	D	Black level detection error
		The black level cannot be adjusted to the target level at the time of applying power source for scanner (when the main power is turned ON).
		<ul style="list-style-type: none"> ▪ Scanner Carriage defective ▪ BiCU defective ▪ Harness defective ▪ IOB defective
		<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"> 1. Reconnect the following connectors. <ul style="list-style-type: none"> ▪ Scanner Carriage – BiCU connector ▪ BiCU – IOB connector 2. Scanner carriage defective Replace the scanner carriage. 3. BiCU defective Replace the BiCU. 4. Harness defective Replace the following harnesses. <ul style="list-style-type: none"> ▪ Scanner Carriage – BiCU harness ▪ BiCU – IOB harness 5. IOB defective Replace the IOB.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC142-00	D	White level detection error
		The white level cannot be adjusted to the target level during auto gain control.
		<ul style="list-style-type: none"> ▪ Condensation in scanner unit ▪ Scanner Carriage defective ▪ BiCU defective ▪ Harness defective ▪ Connector disconnected ▪ White Guide Plate dirty or attachment fault
		<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"> 1. Reconnect the following connectors. <ul style="list-style-type: none"> ▪ Scanner Carriage – BiCU connector ▪ SBU – LEDB connector (SBU side connector which is on the scanner carriage) ▪ BiCU – IOB connector 2. Check the white guide plate (exposure glass). Check the white guide plate attached to the exposure glass. If the white guide plate is in an unusual state, replace the white guide plate. 3. Scanner carriage defective Replace the scanner carriage. 4. BiCU defective Replace the BiCU. 5. Harness defective Replace the following harnesses. <ul style="list-style-type: none"> ▪ Scanner Carriage – BiCU harness ▪ BiCU – IOB harness 6. IOB defective Replace the IOB.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC144-00	D	SBU Communication Error
		<ul style="list-style-type: none"> ▪ The machine cannot detect that the Scanner Carriage is connected. ▪ The machine cannot communicate with the Scanner Carriage, or the communication data is incorrect. ▪ The configuration of FPGA is not completed. <p>Error detection timing: At the time of applying power source for scanner (when the main power is turned ON or when the machine returns from energy save mode)</p>
		<ul style="list-style-type: none"> ▪ Scanner Carriage defective ▪ BiCU defective ▪ IOB defective ▪ Harness defective
		<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"> 1. Reconnect the following connectors. <ul style="list-style-type: none"> ▪ Scanner Carriage – BiCU connector ▪ BiCU – IOB connector 2. Scanner carriage defective Replace the scanner carriage. 3. BiCU defective Replace the BiCU. 4. IOB defective Replace the IOB. 5. Harness defective Replace the following harnesses. <ul style="list-style-type: none"> ▪ Scanner Carriage – BiCU harness ▪ BiCU – IOB harness

6.2.2 SC100 (ENGINE: OTHERS)

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.

6.3 SERVICE CALL 202-270

6.3.1 SC200 (ENGINE: IMAGE WRITING)

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC202-00	D	Polygon Motor Error
		After Polygon motor is stabilized, the ready signal is at the H level for 20 seconds consecutively.
		<ul style="list-style-type: none"> ▪ Polygon motor defective ▪ IOB defective
		<ul style="list-style-type: none"> ▪ Polygon motor defective <ol style="list-style-type: none"> 1. Confirm that the connector between laser unit and IOB is firmly connected. If necessary, connect the connector all the way in. 2. If the connector is broken, shorted, or grounded, replace the connector. 3. Replace the laser unit. ▪ IOB defective <ol style="list-style-type: none"> 1. Update the engine software to the latest version. 2. Replace the IOB.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC220-00	D	Leading Edge: LD synchronization detection error
		<p>The leading edge LD synchronization detection signal was not output within the specified time (sec.) while the polygon mirror motor was operating at normal speed.</p> <p>Error detection timing; During the startup operation of the machine or during printing.</p>

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		<ul style="list-style-type: none"> ▪ Laser unit defective (Synchronization optical system defective, LDB defective, LD defective) ▪ BiCU defective (Image writing ASIC defective) ▪ IOB defective ▪ LDB – IOB, IOB – BiCU harness broken, or connector disconnected
		<ol style="list-style-type: none"> 1. Turn the main power OFF/ON. 2. Check for condensation on the mirrors and lenses. 3. Reconnect the connectors between LDB and IOB, and between IOB and BiCU. 4. Replace the laser unit. 5. Replace the BiCU. 6. Replace the harness between LDB and IOB, and between IOB and BiCU. 7. Replace the IOB.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC270-00	D	GAVD Communication Error
		The communication is not performed normally between CPU and image writing ASIC. Error detection timing; Only when initial setting is executed.
		<ul style="list-style-type: none"> ▪ Image writing ASIC defective ▪ Interface circuit between CPU and image writing ASIC defective
		<ol style="list-style-type: none"> 1. Turn the main power OFF/ON. 2. Replace the BiCU.

6.4 SERVICE CALL 303-396

6.4.1 SC300 (ENGINE: IMAGING 1: CHARGE, DEVELOPMENT)

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC303-00	D	Charger Current Error
		When the charging voltage is applied by changing the voltage in three levels, the current value is less than 20uA in one of three levels.
		<ul style="list-style-type: none"> ▪ Connector defective or disconnected ▪ Power pack defective ▪ IOB defective
		<ul style="list-style-type: none"> ▪ Connector defective or disconnected Reconnect the following connectors. Then perform a conduction inspection. If there is no conduction, replace the connector. <ul style="list-style-type: none"> ▪ Drum Unit – Power Pack connector ▪ Power Pack – IOB connector ▪ Power pack defective Replace the power pack. ▪ IOB defective Replace the IOB.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC321-00	C	Development Unit Non-Installing Error
		The sensor output value is 31 or less continuously for 5 seconds.
		<ul style="list-style-type: none"> ▪ Connector defective or disconnected ▪ Toner density sensor defective ▪ Connect-Left PCB defective ▪ IOB defective

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		<ul style="list-style-type: none"> ▪ Connector defective or disconnected Reconnect the following connectors. Then perform a conduction inspection. If there is no conduction, replace the connector. <ul style="list-style-type: none"> ▪ Development Unit – Drum PCB connector ▪ Drum PCB – Drum Connection PCB connector ▪ Drum Connection PCB – Connect-Left PCB connector ▪ Connect-Left PCB – IOB connector ▪ Toner density sensor defective Replace the toner density sensor. ▪ Connect-Left PCB defective Replace the Connect-Left PCB. ▪ IOB defective Replace the IOB.

6.4.2 SC300 (ENGINE: IMAGING 2: AROUND THE DRUM)

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC396-01	D	Drum Motor Error 1
		The drum motor is not stabilized within 2 seconds after the motor is activated.
		<ul style="list-style-type: none"> ▪ Connector disconnected or defective ▪ Drive transmission of the drum motor defective ▪ Drum motor defective ▪ IOB defective

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		<ul style="list-style-type: none"> ▪ Connector disconnected or defective Reconnect the following connector. Then perform a conduction inspection. If there is no conduction, replace the connector. <ul style="list-style-type: none"> ▪ IOB – Drum Motor connector ▪ Drive transmission of the drum motor defective Check the gears. If any gears are damaged, replace them. ▪ Drum motor defective Replace the drum motor. ▪ IOB defective Replace the IOB.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC396-02	D	Drum Motor Error 2
		After the drum motor is stabilized, the stable OFF signal is detected for 2 seconds consecutively.
		<ul style="list-style-type: none"> ▪ Connector disconnected or defective ▪ Drive transmission of the drum motor defective ▪ Drum motor defective ▪ IOB defective
		<ul style="list-style-type: none"> ▪ Connector disconnected or defective Reconnect the following connector. Then perform a conduction inspection. If there is no conduction, replace the connector. <ul style="list-style-type: none"> ▪ IOB – Drum Motor connector ▪ Drive transmission of the drum motor defective Check the gears. If any gears are damaged, replace them. ▪ Drum motor defective Replace the drum motor. ▪ IOB defective Replace the IOB.

6.5 SERVICE CALL 490-491

6.5.1 SC400 (ENGINE: IMAGING 3: AROUND THE DRUM)

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC490-00	D	Toner Density Sensor Error
		The sensor output value is 930 or more continuously for 5 seconds.
		<ul style="list-style-type: none"> ▪ Toner density sensor defective ▪ Toner motor defective ▪ Connect-Left PCB defective ▪ IOB defective
		<ul style="list-style-type: none"> ▪ Toner density sensor defective <ol style="list-style-type: none"> 1. Reconnect the following connectors. <ul style="list-style-type: none"> ▪ Toner Density Sensor – Drum PCB connector ▪ Drum PCB – Drum Connection PCB connector ▪ Drum Connection PCB – Connect-Left PCB connector ▪ Connect-Left PCB – IOB connector 2. If the connector is broken, shorted, or grounded, replace the connector. 3. Check that the gears and rollers of the development unit are not damaged and rotate smoothly. 4. Replace the development unit.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		<ul style="list-style-type: none"> ▪ Toner motor defective <ol style="list-style-type: none"> 1. Check the drive gears can rotate or they are not unusually loaded. If necessary, replace the drive gear. 2. Reconnect the following connectors. <ul style="list-style-type: none"> ▪ Toner Density Sensor – Drum PCB connector ▪ Drum PCB – Drum Connection PCB connector ▪ Drum Connection PCB – Connect-Left PCB connector ▪ Connect-Left PCB – IOB connector 3. If the connector is broken, shorted, or grounded, replace the connector. 4. Replace the drum unit.
		<ul style="list-style-type: none"> ▪ Connect-Left PCB defective Replace the Connect-Left PCB. ▪ IOB defective <ol style="list-style-type: none"> 1. Update the engine software to the latest version. 2. Replace the IOB.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC491-01	D	Drum Unit Type Mismatch Error
		<ul style="list-style-type: none"> ▪ Cannot communicate with the EEPROM of the drum PCB normally. ▪ An incompatible drum unit is installed.
		<ul style="list-style-type: none"> ▪ Connector defective or disconnected ▪ Drum PCB defective ▪ Connect-Left PCB defective ▪ IOB defective
		<ul style="list-style-type: none"> ▪ Connector defective or disconnected Reconnect the following connectors. Then perform a conduction inspection. If there is no conduction, replace the connector. <ul style="list-style-type: none"> ▪ Drum Unit – Drum Connection PCB connector ▪ Drum Connection PCB – Connect-Left PCB connector ▪ Connect-Left PCB – IOB connector ▪ Drum PCB defective Replace the drum PCB. ▪ Connect-Left PCB defective Replace the Connect-Left PCB. ▪ IOB defective Replace the IOB.

Troubleshooting

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC491-02	D	Drum Unit Error
		<ul style="list-style-type: none"> ▪ No response from the device in reading/writing for 5 ms or more and this problem is repeated 5 times consecutively. ▪ The reading data of 2 locations do not match 8 times consecutively. ▪ The writing data and reading date do not match 8 times consecutively.
		<ul style="list-style-type: none"> ▪ Drum PCB defective ▪ Connect-Left PCB defective ▪ IOB defective
		<ul style="list-style-type: none"> ▪ Drum PCB defective <ol style="list-style-type: none"> 1. Reconnect the following connectors. <ul style="list-style-type: none"> ▪ Drum PCB – Drum Connection PCB connector ▪ Drum Connection PCB – Connect-Left PCB connector ▪ Connect-Left PCB – IOB connector 2. If the connector is broken, shorted, or grounded, replace the connector. 3. Replace the drum unit.
		<ul style="list-style-type: none"> ▪ Connect-Left PCB defective Replace the Connect-Left PCB. ▪ IOB defective <ol style="list-style-type: none"> 1. Update the engine software to the latest version. 2. Replace the IOB.

6.6 SERVICE CALL 501-582

6.6.1 SC500 (ENGINE: PAPER TRANSPORT 1: PAPER FEED, DUPLEX, TRANSPORT)

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC501-01	D	Paper Feed Tray Lift Motor Error (Tray 1)
		After the paper feed tray 1 is set, paper feed tray lift sensor does not turn on within 10 seconds. This SC is issued if a problem is detected four times consecutively.
		<ul style="list-style-type: none"> ▪ Bottom plate of the paper feed tray defective ▪ Connector disconnected or defective ▪ Drive transmission of the paper feed tray lift motor defective ▪ Paper feed tray lift motor defective ▪ IOB defective
		<ul style="list-style-type: none"> ▪ Bottom plate of the paper feed tray defective Check the bottom plate of the paper feed tray. If the bottom plate does not move smoothly, repair or replace the paper feed tray. ▪ Connector disconnected or defective Reconnect the following connector. Then perform a conduction inspection. If there is no conduction, replace the connector. <ul style="list-style-type: none"> ▪ Paper Feed Tray Lift Motor – IOB connector
		<ul style="list-style-type: none"> ▪ Drive transmission of the paper feed tray lift motor defective Check the gears. If any gears are damaged, replace them. ▪ Paper feed tray lift motor defective Replace the paper feed tray lift motor. ▪ Engine board defective Replace the engine board.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC502-01	D	Paper Feed Tray Lift Motor Error (Tray 2)
		<p>After the paper feed tray 2 is set, paper feed tray lift sensor does not turn on within 10 seconds. This SC is issued if a problem is detected four times consecutively.</p>
		<ul style="list-style-type: none"> ▪ Bottom plate of the paper feed tray defective ▪ Connector disconnected or defective ▪ Drive transmission of the paper feed tray lift motor defective ▪ Paper feed tray lift motor defective ▪ Main board defective
		<ul style="list-style-type: none"> ▪ Bottom plate of the paper feed tray defective Check the bottom plate of the paper feed tray. If the bottom plate does not move smoothly, repair or replace the paper feed tray. ▪ Connector disconnected or defective Reconnect the following connector. Then perform a conduction inspection. If there is no conduction, replace the connector. <ul style="list-style-type: none"> ▪ Paper Feed Tray Lift Motor – Main Board connector
<ul style="list-style-type: none"> ▪ Drive transmission of the paper feed tray lift motor defective Check the gears. If any gears are damaged, replace them. ▪ Paper feed tray lift motor defective Replace the paper feed tray lift motor. ▪ Main board defective Replace the main board. 		

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC502-02	D	Paper Feed Tray Error (Tray 2)
		The error signal is detected for 2 seconds consecutively after the paper feed motor is activated.
		<ul style="list-style-type: none"> ▪ Connector defective or disconnected ▪ Drive transmission of the paper feed motor defective ▪ Paper feed motor defective ▪ Main board defective
		<ul style="list-style-type: none"> ▪ Connector defective or disconnected Reconnect the following connector. Then perform a conduction inspection. If there is no conduction, replace the connector. <ul style="list-style-type: none"> ▪ Paper Feed Tray Lift Motor – Main Board connector ▪ Drive transmission of the paper feed motor defective Check the gears. If any gears are damaged, replace them. ▪ Paper feed motor defective Replace the paper feed motor. ▪ Main board defective Replace the main board.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC503-01	D	Paper Feed Tray Lift Motor Error (Tray 3)
		<p>After the paper feed tray 3 is set, paper feed tray lift sensor does not turn on within 10 seconds. This SC is issued if a problem is detected four times consecutively.</p>
		<ul style="list-style-type: none"> ▪ Bottom plate of the paper feed tray defective ▪ Connector disconnected or defective ▪ Drive transmission of the paper feed tray lift motor defective ▪ Paper feed tray lift motor defective ▪ Main board defective
		<ul style="list-style-type: none"> ▪ Bottom plate of the paper feed tray defective Check the bottom plate of the paper feed tray. If the bottom plate does not move smoothly, repair or replace the paper feed tray. ▪ Connector disconnected or defective Reconnect the following connector. Then perform a conduction inspection. If there is no conduction, replace the connector. <ul style="list-style-type: none"> ▪ Paper Feed Tray Lift Motor – Main Board connector
		<ul style="list-style-type: none"> ▪ Drive transmission of the paper feed tray lift motor defective Check the gears. If any gears are damaged, replace them. ▪ Paper feed tray lift motor defective Replace the paper feed tray lift motor. ▪ Main board defective Replace the main board.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC503-02	D	Paper Feed Tray Error (Tray 3)
		The error signal is detected for 2 seconds consecutively after the paper feed motor is activated.
		<ul style="list-style-type: none"> ▪ Connector defective or disconnected ▪ Drive transmission of the paper feed motor defective ▪ Paper feed motor defective ▪ Main board defective
		<ul style="list-style-type: none"> ▪ Connector defective or disconnected Reconnect the following connector. Then perform a conduction inspection. If there is no conduction, replace the connector. <ul style="list-style-type: none"> ▪ Paper Feed Motor – Main Board connector ▪ Drive transmission of the paper feed motor defective Check the gears. If any gears are damaged, replace them. ▪ Paper feed motor defective Replace the paper feed motor. ▪ Main board defective Replace the main board.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC504-01	D	Paper Feed Tray Lift Motor Error (Tray 4)
		<p>After the paper feed tray 4 is set, paper feed tray lift sensor does not turn on within 10 seconds. This SC is issued if a problem is detected four times consecutively.</p>
		<ul style="list-style-type: none"> ▪ Bottom plate of the paper feed tray defective ▪ Connector disconnected or defective ▪ Drive transmission of the paper feed tray lift motor defective ▪ Paper feed tray lift motor defective ▪ Main board defective
		<ul style="list-style-type: none"> ▪ Bottom plate of the paper feed tray defective Check the bottom plate of the paper feed tray. If the bottom plate does not move smoothly, repair or replace the paper feed tray. ▪ Connector disconnected or defective Reconnect the following connector. Then perform a conduction inspection. If there is no conduction, replace the connector. <ul style="list-style-type: none"> ▪ Paper Feed Tray Lift Motor – Main Board connector
		<ul style="list-style-type: none"> ▪ Drive transmission of the paper feed tray lift motor defective Check the gears. If any gears are damaged, replace them. ▪ Paper feed tray lift motor defective Replace the paper feed tray lift motor. ▪ Main board defective Replace the main board.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC504-02	D	Paper Feed Tray Error (Tray 4)
		The error signal is detected for 2 seconds consecutively after the paper feed motor is activated.
		<ul style="list-style-type: none"> ▪ Connector defective or disconnected ▪ Drive transmission of the paper feed motor defective ▪ Paper feed motor defective ▪ Main board defective
		<ul style="list-style-type: none"> ▪ Connector defective or disconnected Reconnect the following connector. Then perform a conduction inspection. If there is no conduction, replace the connector. <ul style="list-style-type: none"> ▪ Paper Feed Motor – Main Board connector ▪ Drive transmission of the paper feed motor defective Check the gears. If any gears are damaged, replace them.
		<ul style="list-style-type: none"> ▪ Paper feed motor defective Replace the paper feed motor. ▪ Main board defective Replace the main board.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC505-01	D	Paper Feed Tray Lift Motor Error (Tray 5)
		<p>After the paper feed tray 5 is set, paper feed tray lift sensor does not turn on within 10 seconds. This SC is issued if a problem is detected four times consecutively.</p>
		<ul style="list-style-type: none"> ▪ Bottom plate of the paper feed tray defective ▪ Connector disconnected or defective ▪ Drive transmission of the paper feed tray lift motor defective ▪ Paper feed tray lift motor defective ▪ Main board defective
		<ul style="list-style-type: none"> ▪ Bottom plate of the paper feed tray defective Check the bottom plate of the paper feed tray. If the bottom plate does not move smoothly, repair or replace the paper feed tray. ▪ Connector disconnected or defective Reconnect the following connector. Then perform a conduction inspection. If there is no conduction, replace the connector. <ul style="list-style-type: none"> ▪ Paper Feed Tray Lift Motor – Main Board connector
		<ul style="list-style-type: none"> ▪ Drive transmission of the paper feed tray lift motor defective Check the gears. If any gears are damaged, replace them. ▪ Paper feed tray lift motor defective Replace the paper feed tray lift motor. ▪ Main board defective Replace the main board.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC505-02	D	Paper Feed Tray Error (Tray 5)
		The error signal is detected for 2 seconds consecutively after the paper feed motor is activated.
		<ul style="list-style-type: none"> ▪ Connector defective or disconnected ▪ Drive transmission of the paper feed motor defective ▪ Paper feed motor defective ▪ Main board defective
		<ul style="list-style-type: none"> ▪ Connector defective or disconnected Reconnect the following connector. Then perform a conduction inspection. If there is no conduction, replace the connector. <ul style="list-style-type: none"> ▪ Paper Feed Motor – Main Board connector ▪ Drive transmission of the paper feed motor defective Check the gears. If any gears are damaged, replace them. ▪ Paper feed motor defective Replace the paper feed motor. ▪ Main board defective Replace the main board.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC520-01	D	Main Motor Error 1
		The main motor is not stabilized within 2 seconds after the motor is activated.
		<ul style="list-style-type: none"> ▪ Main motor defective ▪ IOB defective
		<ul style="list-style-type: none"> ▪ Main motor defective <ol style="list-style-type: none"> 1. Reconnect the following connector. Then perform a conduction inspection. If there is no conduction, replace the connector. <ul style="list-style-type: none"> ▪ IOB – Main Motor connector 2. Replace the main motor. ▪ IOB defective <ol style="list-style-type: none"> 1. Update the engine software to the latest version. 2. Replace the IOB.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC520-02	D	Main Motor Error 2
		After the main motor is stabilized, the stable OFF signal is detected for 2 seconds consecutively.
		<ul style="list-style-type: none"> ▪ Main motor defective ▪ IOB defective
		<ul style="list-style-type: none"> ▪ Main motor defective <ol style="list-style-type: none"> 1. Check if the gears rotate smoothly. If any gears are damaged, replace them. 2. Reconnect the following connector. Then perform a conduction inspection. If there is no conduction, replace the connector. <ul style="list-style-type: none"> ▪ IOB – Main Motor connector 3. Replace the main motor. ▪ IOB defective <ol style="list-style-type: none"> 1. Update the engine software to the latest version. 2. Replace the IOB.

6.6.2 SC500 (ENGINE: PAPER TRANSPORT 2: FUSING, OTHERS)

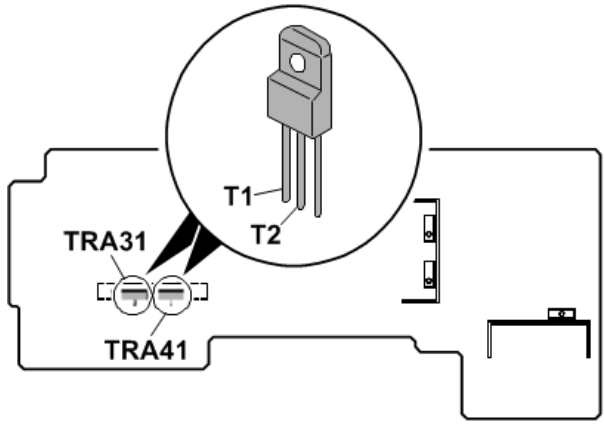
SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC540-01	D	Fusing Pressure Release Motor Error 1
		The over-current detection signal of the fusing pressure release motor is detected 20 times consecutively.
		<ul style="list-style-type: none"> ▪ Connector disconnected or defective ▪ Drive transmission of the fusing pressure release motor defective ▪ Fusing pressure release motor defective ▪ Connect-Left PCB defective ▪ IOB defective
		<ul style="list-style-type: none"> ▪ Connector disconnected or defective Reconnect the following connectors. Then perform a conduction inspection. If there is no conduction, replace the connector. <ul style="list-style-type: none"> ▪ Fusing Pressure Release Motor – Connect-Left PCB connector ▪ Connect-Left PCB – IOB connector
		<ul style="list-style-type: none"> ▪ Drive transmission of the fusing pressure release motor defective Check the gears. If any gears are damaged, replace them. ▪ Fusing pressure release motor defective Replace the fusing pressure release motor. ▪ Connect-Left PCB defective Replace the Connect-Left PCB. ▪ IOB defective Replace the IOB.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC540-02	D	Fusing Pressure Release Motor Error 2
		The position detection sensor is not detected for 30 seconds consecutively after the fusing pressure release motor is activated.
		<ul style="list-style-type: none"> ▪ Connector defective or disconnected ▪ Drive transmission of the fusing pressure release motor defective ▪ Fusing pressure release motor defective ▪ Connect-Left PCB defective ▪ IOB defective
		<ul style="list-style-type: none"> ▪ Connector defective or disconnected Reconnect the following connectors. Then perform a conduction inspection. If there is no conduction, replace the connector. <ul style="list-style-type: none"> ▪ Fusing Pressure Release Motor – Connect-Left PCB connector ▪ Connect-Left PCB – IOB connector
		<ul style="list-style-type: none"> ▪ Drive transmission of the fusing pressure release motor defective Check the gears. If any gears are damaged, replace them. ▪ Fusing pressure release motor defective Replace the fusing pressure release motor. ▪ Connect-Left PCB defective Replace the Connect-Left PCB. ▪ IOB defective Replace the IOB.

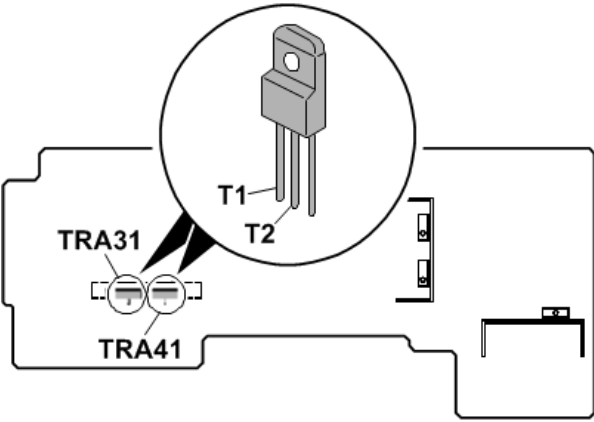
SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC541-00	D	Fusing Thermistor (Center) Disconnected Error
		<p>Input from fusing thermistor (center) is 1019 or more (A/D value) continuously for 4 seconds.</p> <ul style="list-style-type: none"> <li>▪ Connector pin defective <li>▪ Triac defective <li>▪ Fusing unit defective <li>▪ Fusing thermistor connection PCB defective <li>▪ IOB defective <li>▪ Fusing thermistor (center) defective <li>▪ Fusing thermostat defective <li>▪ PSU defective
		<ul style="list-style-type: none"> <li>▪ Connector pin defective If the I/F connector pins of the fuser unit and the main unit are deformed owing to foreign materials, replace the connectors or the units including the connectors.
		<ul style="list-style-type: none"> <li>▪ Triac defective Disconnect the power cord and check that the resistance between terminals T1 and T2 of the triac TRA31 and triac TRA41 on the PSU are several Mega-Ohms and not shorted. If failed, replace the PSU. <div style="text-align: center;"> <p>w_d255a1518</p> </div>

Troubleshooting

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		<ul style="list-style-type: none"> ▪ Fusing unit defective <ol style="list-style-type: none"> 1. Check that no paper jam is present. 2. Reconnect the following connectors. <ul style="list-style-type: none"> ▪ Fusing Unit – Fusing Thermistor Connection PCB connector ▪ Fusing Thermistor Connection PCB – IOB connector 3. If the connector is broken, shorted, or grounded, replace the connector. 4. Replace the fusing unit. ▪ Fusing thermistor connection PCB defective Replace the fusing thermistor connection PCB. <hr/> <ul style="list-style-type: none"> ▪ IOB defective <ol style="list-style-type: none"> 1. Update the engine software to the latest version. 2. Replace the IOB. ▪ Fusing thermistor (center) defective Replace the fusing unit. ▪ Fusing thermostat defective <ol style="list-style-type: none"> 1. Reconnect the following connector. <ul style="list-style-type: none"> ▪ Fusing Unit – PSU connector 2. If the connector is broken, shorted, or grounded, replace the connector. 3. Replace the fusing unit. ▪ PSU defective Replace the PSU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC543-00	D	<p>Fusing Thermistor (Center) High Temperature</p>
		<ul style="list-style-type: none"> ▪ The fusing thermistor (center) detects the temperature that exceeds 245 degrees C. ▪ The fusing thermistor (center) detects the temperature that exceeds 195 degrees C in a heater-off state after the fusing thermistor (center) detects the temperature of 155 degrees C or less.
		<ul style="list-style-type: none"> ▪ Connector pin defective If the I/F connector pins of the fuser unit and the main unit are deformed owing to foreign materials, replace the connectors or the units including the connectors.
		<ul style="list-style-type: none"> ▪ Triac defective Disconnect the power cord and check that the resistance between terminals T1 and T2 of the triac TRA31 and triac TRA41 on the PSU are several Mega-Ohms and not shorted. If failed, replace the PSU.  <p style="text-align: right; font-size: small;">w_d255a1518</p>
		<ul style="list-style-type: none"> ▪ Fusing thermistor defective Replace the fusing unit. ▪ IOB defective Replace the IOB.

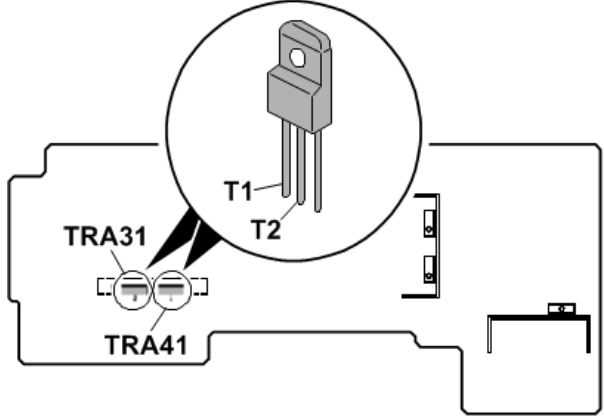
SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC549-00	D	Fusing Lamp Disconnected Error
		<p>The fusing thermistor (center) temperature does not reach a temperature of 100 degrees C within 30 seconds after the machine starts warming up.</p>
		<ul style="list-style-type: none"> ▪ Connector pin defective ▪ Triac defective ▪ Fusing unit defective ▪ Fusing thermistor connection PCB defective ▪ IOB defective ▪ PSU defective ▪ Fusing lamp defective
		<ul style="list-style-type: none"> ▪ The fusing thermistor (center) detects the temperature that exceeds 235 degrees C. ▪ The fusing thermistor (center) detects the temperature that exceeds 195 degrees C in a heater-off state after the fusing thermistor (center) detects the temperature of 155 degrees C or less.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		<ul style="list-style-type: none"> ▪ Connector pin defective If the I/F connector pins of the fuser unit and the main unit are deformed owing to foreign materials, replace the connectors or the units including the connectors. ▪ Triac defective Disconnect the power cord and check that the resistance between terminals T1 and T2 of the triac TRA31 and triac TRA41 on the PSU are several Mega-Ohms and not shorted. If failed, replace the PSU.  <p style="text-align: right; font-size: small;">w_d255a1518</p>
		<ul style="list-style-type: none"> ▪ Fusing unit defective <ol style="list-style-type: none"> 1. Check that no paper jam is present. 2. Reconnect the following connectors. <ul style="list-style-type: none"> ▪ Fusing Unit – Fusing Thermistor Connection PCB connector ▪ Fusing Thermistor Connection PCB – IOB connector 3. If the connector is broken, shorted, or grounded, replace the connector. 4. Replace the fusing unit.

Troubleshooting

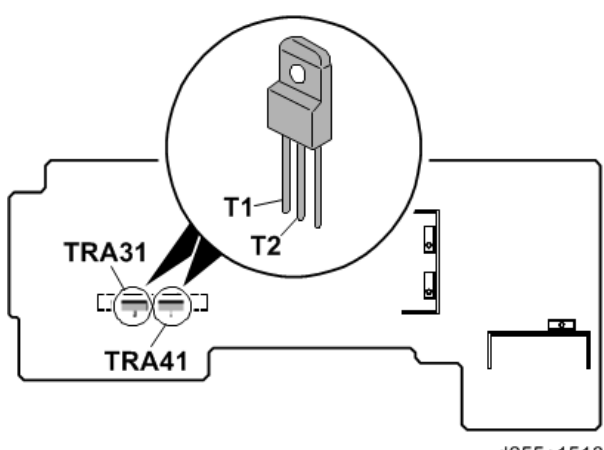
SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		<ul style="list-style-type: none"> ▪ Fusing thermistor connection PCB defective Replace the fusing thermistor connection PCB. ▪ IOB defective <ol style="list-style-type: none"> 1. Update the engine software to the latest version. 2. Replace the IOB. ▪ PSU defective <ol style="list-style-type: none"> 1. Reconnect the following connector. <ul style="list-style-type: none"> ▪ PSU – IOB connector 2. Replace the PSU. ▪ Fusing lamp defective Replace the fusing unit.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC551-00	D	Fusing Thermistor (End) Disconnected Error
		Input from fusing thermistor (end) is 1019 or more (A/D value) continuously for 4 seconds.
		<ul style="list-style-type: none"> ▪ Connector defective or disconnected ▪ Connector pin defective ▪ Triac defective ▪ Fusing thermistor defective ▪ Fusing thermistor connection PCB defective ▪ IOB defective
		<ul style="list-style-type: none"> ▪ Connector defective or disconnected Reconnect the following connectors. <ul style="list-style-type: none"> ▪ Fusing Thermistor – Fusing Thermistor Connection PCB connector ▪ Fusing Thermistor Connection PCB – IOB connector ▪ Connector pin defective If the I/F connector pins of the fuser unit and the main unit are deformed owing to foreign materials, replace the connectors or the units including the connectors.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		<ul style="list-style-type: none"> ▪ Triac defective Disconnect the power cord and check that the resistance between terminals T1 and T2 of the triac TRA31 and triac TRA41 on the PSU are several Mega-Ohms and not shorted. If failed, replace the PSU.  <p style="text-align: right; font-size: small;">w_d255a1518</p>
		<ul style="list-style-type: none"> ▪ Fusing thermistor defective Replace the fusing unit. ▪ Fusing thermistor connection PCB defective Replace the fusing thermistor connection PCB. ▪ IOB defective Replace the IOB.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC553-00	D	<p>Fusing Thermistor (End) High Temperature</p> <ul style="list-style-type: none"> ▪ The fusing thermistor (end) detects the temperature that exceeds 245 degrees C. ▪ The fusing thermistor (end) detects the temperature that exceeds 195 degrees C in a heater-off state after the fusing thermistor (end) detects the temperature of 155 degrees C or less.
		<ul style="list-style-type: none"> ▪ Connector pin defective ▪ Triac defective ▪ Fusing thermistor defective ▪ IOB defective

Troubleshooting

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		<ul style="list-style-type: none"> Connector pin defective If the I/F connector pins of the fuser unit and the main unit are deformed owing to foreign materials, replace the connectors or the units including the connectors.
		<ul style="list-style-type: none"> Triac defective Disconnect the power cord and check that the resistance between terminals T1 and T2 of the triac TRA31 and triac TRA41 on the PSU are several Mega-Ohms and not shorted. If failed, replace the PSU.  <p style="text-align: right;">w_d255a1518</p>
		<ul style="list-style-type: none"> Fusing thermistor defective Replace the fusing unit. IOB defective Replace the IOB.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC581-00	C	Temperature Sensor Disconnected Error
		<ul style="list-style-type: none"> The average of the output from the temperature sensor is 1019 or more for 160 ms. The average of the output from the temperature sensor is 930 or more for 5 seconds.
		<ul style="list-style-type: none"> Temperature sensor defective IOB defective

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		<ul style="list-style-type: none"> ▪ Temperature sensor defective <ol style="list-style-type: none"> 1. Reconnect the following connector. <ul style="list-style-type: none"> ▪ Temperature Sensor – IOB connector 2. If the connector is broken, shorted, or grounded, replace the connector. 3. Replace the temperature sensor. ▪ IOB defective <ol style="list-style-type: none"> 1. Update the engine software to the latest version. 2. Replace the IOB.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC582-00	C	Temperature Sensor Shorted Error
		The average of the output from the temperature sensor is 31 or less for 5 seconds.
		<ul style="list-style-type: none"> ▪ Temperature sensor defective ▪ IOB defective
		<ul style="list-style-type: none"> ▪ Temperature sensor defective <ol style="list-style-type: none"> 1. Reconnect the following connector. <ul style="list-style-type: none"> ▪ Temperature Sensor – IOB connector 2. If the connector is broken, shorted, or grounded, replace the connector. 3. Replace the temperature sensor. ▪ IOB defective <ol style="list-style-type: none"> 1. Update the engine software to the latest version. 2. Replace the IOB.

6.6.3 SC500 (ENGINE: PAPER TRANSPORT 3: PAPER FEED, DUPLEX, TRANSPORT, FUSING)

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC547-00	D	Zero Cross Signal Error
		While fusing lamp ON/OFF control is performed, the zero cross signal is not input within 2 seconds consecutively.
		<ul style="list-style-type: none"> ▪ Fusing unit defective ▪ PSU defective ▪ IOB defective
		<ul style="list-style-type: none"> ▪ Fusing unit defective <ol style="list-style-type: none"> 1. Reconnect the following connectors. <ul style="list-style-type: none"> ▪ PSU – IOB connector 2. If the connector is broken, shorted, or grounded, replace the connector. ▪ PSU defective Replace the PSU. ▪ IOB defective Replace the IOB.

6.7 SERVICE CALL 622-691

6.7.1 SC600 (ENGINE: COMMUNICATION AND OTHERS)

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC622-01	D	Paper Feed Unit Communication Error (Tray 2)
		A communication error is detected from the paper feed unit 2, 10 times consecutively.
		<ul style="list-style-type: none"> ▪ Paper feed tray 2 defective ▪ Connector disconnected or defective ▪ Main board defective ▪ IOB defective
		<ul style="list-style-type: none"> ▪ Paper feed tray 2 defective Check the connection between the main machine and paper feed tray 2. ▪ Connector disconnected or defective Reconnect the following connector. <ul style="list-style-type: none"> ▪ IOB – Main Board connector ▪ Replace the main board. ▪ Replace the IOB.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC622-02	D	Paper Feed Unit Communication Error (Tray 3)
		A communication error is detected from the paper feed unit 3, 10 times consecutively.
		<ul style="list-style-type: none"> ▪ Paper feed tray 3 defective ▪ Main board defective ▪ IOB defective

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		<ul style="list-style-type: none"> ▪ Paper feed tray 3 defective Check the connection between the main machine and paper feed tray 3. ▪ Main board defective <ol style="list-style-type: none"> 1. Reconnect the following connector. <ul style="list-style-type: none"> ▪ IOB – Main Board connector 2. If the connector is broken, shorted, or grounded, replace the connector. 3. Replace the main board. ▪ IOB defective <ol style="list-style-type: none"> 1. Update the engine software to the latest version. 2. Replace the IOB.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC622-03	D	Paper Feed Unit Communication Error (Tray 4)
		A communication error is detected from the paper feed unit 4, 10 times consecutively.
		<ul style="list-style-type: none"> ▪ Paper feed tray 4 defective ▪ Main board defective ▪ IOB defective
		<ul style="list-style-type: none"> ▪ Paper feed tray 4 defective Check the connection between the main machine and paper feed tray 4. ▪ Main board defective <ol style="list-style-type: none"> 1. Reconnect the following connector. <ul style="list-style-type: none"> ▪ IOB – Main Board connector 2. If the connector is broken, shorted, or grounded, replace the connector. 3. Replace the main board. ▪ IOB defective <ol style="list-style-type: none"> 1. Update the engine software to the latest version. 2. Replace the IOB.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC622-04	D	Paper Feed Unit Communication Error (Tray 5)
		A communication error is detected from the paper feed unit 4, 10 times consecutively.
		<ul style="list-style-type: none"> ▪ Paper feed tray 4 defective ▪ Main board defective ▪ IOB defective
		<ul style="list-style-type: none"> ▪ Paper feed tray 4 defective Check the connection between the main machine and paper feed tray 4. ▪ Main board defective <ol style="list-style-type: none"> 1. Reconnect the following connector. <ul style="list-style-type: none"> ▪ IOB – Main Board connector 2. If the connector is broken, shorted, or grounded, replace the connector. 3. Replace the main board. ▪ IOB defective <ol style="list-style-type: none"> 1. Update the engine software to the latest version. 2. Replace the IOB.

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SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC636-01	D	IC Card error (Expanded authentication module error)
		<p>Issued when expanded authentication management is set to "ON" but either of the following occur.</p> <ul style="list-style-type: none"> ▪ There is no expanded authentication module in the machine. ▪ The SD Card or the file of the expanded authentication module is broken. ▪ There is no DESS module in the machne.

Troubleshooting

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		<ul style="list-style-type: none"> ▪ There is no DESS module in the machine (models on which the function is optional). ▪ There is no expanded authentication module in the machine. ▪ The SD Card or the file of the expanded authentication module is broken
		<ul style="list-style-type: none"> ▪ Set a working SD Card/expanded authentication file. ▪ Install the DESS module. ▪ In the SSP Mode, set SP5-401-160 to "0". ▪ In the SSP Mode, set SP5-401-161 to "0". ▪ Replace the NVRAM.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC665-02	D	BiCU – IOB Connection Error
		FFC connection error (connector disconnected) between BiCU and IOB is detected during the startup operation of the engine (when the main power is turned on or when the machine returns from energy save mode)
		<ul style="list-style-type: none"> ▪ FFC defective or disconnected ▪ BiCU defective ▪ IOB defective
		<ol style="list-style-type: none"> 1. Turn the main power OFF/ON. 2. Reconnect the FFC between BiCU and IOB. 3. Replace the FFC between BiCU and IOB. 4. Replace the BiCU. 5. Replace the IOB.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC665-21	D	BREIT Connection Error
		The signal connection error is detected between CPU and Breit during the startup operation of the engine (when the main power is turned on or when the machine returns from energy save mode).
		BiCU defective
		<ol style="list-style-type: none"> 1. Turn the main power OFF/ON. 2. Replace the BiCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC667-01	D	Master Device Operating Mode Setting Error
		The mode setting error of CPU is detected during the startup operation of the engine (when the main power is turned on or when the machine returns from energy save mode).
		BiCU defective
		<ol style="list-style-type: none"> 1. Turn the main power OFF/ON. 2. Replace the BiCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC667-20	D	Breit Operating Mode Setting Error
		The mode setting error of Breit is detected during the startup operation of the engine (when the main power is turned on or when the machine returns from energy save mode).
		BiCU defective
		<ol style="list-style-type: none"> 1. Turn the main power OFF/ON. 2. Replace the BiCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC668-00	D	SPI Communication Error
		<ul style="list-style-type: none"> ▪ The SPI communication error cannot be recovered within 10 seconds after the error occurred. ▪ The error recovery does not finish normally.
		<ul style="list-style-type: none"> ▪ FFC defective or disconnected ▪ BiCU defective ▪ IOB defective
		<ol style="list-style-type: none"> 1. Turn the main power OFF/ON. 2. Reconnect the FFC between BiCU and IOB. 3. Replace the FFC between BiCU and IOB. 4. Replace the BiCU. 5. Replace the IOB.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC669		EEPROM Communication Error
SC669-01	D	EEPROM OPEN: ID error
SC669-02	D	EEPROM OPEN: Channel error
SC669-03	D	EEPROM OPEN: Device error
SC669-04	D	EEPROM OPEN: Communication abort error
SC669-05	D	EEPROM OPEN: Communication timeout error
SC669-06	D	EEPROM OPEN: Operation stopped error
SC669-07	D	EEPROM OPEN: Buffer full
SC669-08	D	EEPROM OPEN: No error code
SC669-09	D	EEPROM CLOSE: ID error
SC669-10	D	EEPROM CLOSE: No error code
SC669-11	D	EEPROM Data write: ID error
SC669-12	D	EEPROM Data write: Channel error
SC669-13	D	EEPROM Data write: Device error

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC669-14	D	EEPROM Data write: Communication abort error
SC669-15	D	EEPROM Data write: Communication timeout error
SC669-16	D	EEPROM Data write: Operation stopped error
SC669-17	D	EEPROM Data write: Buffer full
SC669-18	D	EEPROM Data write: No error code
SC669-19	D	EEPROM Data read: ID error
SC669-20	D	EEPROM Data read: Channel error
SC669-21	D	EEPROM Data read: Device error
SC669-22	D	EEPROM Data read: Communication abort error
SC669-23	D	EEPROM Data read: Communication timeout error
SC669-24	D	EEPROM Data read: Operation stopped error
SC669-25	D	EEPROM Data read: Buffer full
SC669-26	D	EEPROM Data read: No error code
SC669-36	D	Verification error
SC669-37	D	Error Detection
		The toner density sensor cannot be recovered after retrying N ^{*1} times for EEPROM communication error. (*1 SC669-01 to 26: 3, SC669-36: 2, SC669-37: 1)
		<ul style="list-style-type: none"> ▪ Electrical noise ▪ EEPROM not installed correctly ▪ EEPROM defective ▪ BiCU defective
		<ol style="list-style-type: none"> 1. Turn the main power OFF/ON. 2. Reinstall the EEPROM on the BiCU. 3. Replace the EEPROM on the BiCU. 4. Replace the BiCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC687-00	D	PER Not Received Error
		RAPI-PER command was not received from the controller within the specified time (120 sec.) after RAPI-PES (preparation request for image transmission) is issued.
		<ul style="list-style-type: none"> ▪ Electrical noise ▪ Controller board defective
		<p>Check if the SC occurs by turning the main power OFF then ON for ten times. 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"> 1. Check the engine and controller firmware, and update the firmware to the latest version. 2. If the SC is issued during printing or during receiving fax documents, replace the controller board. If the SC is issued during copying, check the ARDF and IOB connection.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC689-01	D	EEPROM Communication Error 1
		<ul style="list-style-type: none"> ▪ No response from the device in reading/writing for 5 seconds or more and this problem is repeated 5 times. ▪ The reading data of 2 locations does not match 8 times consecutively. ▪ The writing data and reading date does not match 8 times consecutively.
		EEPROM on the controller board defective
		<ol style="list-style-type: none"> 1. Turn the main power OFF and wait for 5 seconds. Then turn ON the main power. 2. Check whether the EEPROM on the controller board is installed correctly. If necessary, reinstall it. 3. Replace the controller board. 4. If the EEPROM on the controller board is damaged, replace the EEPROM.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC689-02	D	EEPROM Communication Error 1
		IOB defective
		Controller board defective
		Replace the controller board.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC690-00	C	EEPROM Data Error
		Reading data from EEPROM is abnormal.
		EEPROM on the controller board defective
		<ol style="list-style-type: none"> 1. Turn the main power OFF and wait for 5 seconds. Then turn the main power ON. 2. Replace the IOB. 3. If the EEPROM on the controller board is damaged, replace the EEPROM.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC691-00	D	Image Processing Error
		Paper jam (J010, J011, J012, J013, J014, J015) is detected twice.
		Controller board defective
		Replace the controller board.

6.7.2 SC600 (CONTROLLER)

SC No.	Type	Details (Symptom, Possible Cause, Troubleshooting Procedures)
SC641-00	D	Communication error between BiCU and Controller board.
		Controller board does not respond after BiCU tries to communicate three times.
		<ul style="list-style-type: none"> ▪ Controller board software error ▪ Connect error between BiCU and Controller board ▪ BiCU software error
		<ul style="list-style-type: none"> ▪ Check connections between Controller board and BiCU. ▪ Turn the main power OFF then ON.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC670-01	D	Engine does not start up during the starting up
		<ul style="list-style-type: none"> ▪ /ENGRDY signal was not asserted when the machine was turned on. ▪ PCI I/F is not linked up when the machine returns from energy saver mode. ▪ EC/PC/SC response was not received within specified time from power on. ▪ Writing to Rapi driver failed (the other party not found through PCI). ▪ Connection defect between controller board and BiCU. ▪ BiCU is down / unstable
		Engine board does not start up.
		Refer to page 6-118 "SC670 (engine start up error) is displayed".

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC670-02	D	Engine does not start up after the starting up
		<ul style="list-style-type: none"> ▪ CPU reset by software ▪ CPU reset by anomaly CPU ▪ CPU reset by hardware defect / noise ▪ Hardware defect
		Engine board reset unexpectedly.
		Refer to page 6-118 "SC670 (engine start up error) is displayed".

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC672-00	D	Controller start up error
		After the machine was powered on, communication between the controller and the operation panel was not established.
		<ul style="list-style-type: none"> ▪ Controller stalled ▪ Board installed incorrectly ▪ Controller board defective ▪ Operation panel connector loose, broken, or defective ▪ Controller late
		<ol style="list-style-type: none"> 1. Turn the main power OFF/ON. 2. Check the connection of the operation panel. 3. Check the connection of the controller board. 4. Replace the controller board.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC672-10	D	Controller start up error
		After the machine was powered on, communication between the controller and the operation panel was not established.
		<ul style="list-style-type: none"> ▪ Controller stalled ▪ Board installed incorrectly ▪ Controller board defective ▪ Operation panel connector loose, broken, or defective ▪ Controller late
		<ol style="list-style-type: none"> 1. Turn the main power OFF/ON. 2. Check the connection of the operation panel. 3. Check the connection of the controller board. 4. Replace the controller board.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC672-11	D	Controller start up error
		After the machine was powered on, communication between the controller and the operation panel was not established, or communication with controller was interrupted after a normal startup.
		<ul style="list-style-type: none"> ▪ Controller stalled ▪ Board installed incorrectly ▪ Controller board defective ▪ Operation panel connector loose, broken, or defective ▪ Controller late
		<ol style="list-style-type: none"> 1. Turn the main power OFF/ON. 2. Check the connection of the operation panel. 3. Check the connection of the controller board. 4. Replace the controller board.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC672-12	D	Controller start up error
		Communication with controller was interrupted after a normal startup.
		<ul style="list-style-type: none"> ▪ Controller stalled ▪ Board installed incorrectly ▪ Controller board defective ▪ Operation panel connector loose, broken, or defective ▪ Controller late
		<ol style="list-style-type: none"> 1. Turn the main power OFF/ON. 2. Check the connection of the operation panel. 3. Check the connection of the controller board. 4. Replace the controller board.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC672-13	D	Controller start up error
		The operation panel detects that the controller is down due to other reason shown in SC672-10, SC672-11, and SC672-12.
		<ul style="list-style-type: none"> ▪ Controller stalled ▪ Board installed incorrectly ▪ Controller board defective ▪ Operation panel connector loose, broken, or defective ▪ Controller late
		<ol style="list-style-type: none"> 1. Turn the main power OFF/ON. 2. Check the connection of the operation panel. 3. Check the connection of the controller board. 4. Replace the controller board.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC672-99	D	Controller start up error
		The operation panel software ended abnormally.
		<ul style="list-style-type: none"> ▪ Controller stalled ▪ Board installed incorrectly ▪ Controller board defective ▪ Operation panel connector loose, broken, or defective ▪ Controller late
		<ol style="list-style-type: none"> 1. Turn the main power OFF/ON. 2. Check the connection of the operation panel. 3. Check the connection of the controller board. 4. Replace the controller board.



SC No.	Type	Error Name/Error Condition/Major Cause/Solution
673-10	D	Operation panel Flair communication error (Smart Operation Panel)
		<p>This SC is issued only for the machine that has the Smart Operation Panel installed.</p> <ul style="list-style-type: none"> • Communication between Smart Operation Panel and main machine (this is called "Flair communication") is not sent to Smart Operation Panel. • SP setting (SP5-748-201) for Smart Operation Panel is not activated.
		The CATS module (controller) did not see the response to notification of monitoring service module (operation panel).
		<ol style="list-style-type: none"> 1. Turn the main power OFF/ON. 2. Set SP5-748-201 (OpePanel Setting: Cheetah Panel Connect Setting) to "1: Connect" if the value is "0: Not connect". 3. Replace the controller board. 4. Replace the BiCU.

6.8 SERVICE CALL 700

6.8.1 SC700 (ENGINE: PERIPHERALS) (MP 501/601 ONLY)

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC700-00	C	ARDF Inverter Motor Error
		<p>The home position cannot be detected even if the machine retries 3 times consecutively.</p> <p>* Conditions to detect the home position: When the home position is detected by driving the ARDF inverter motor one rotation.</p>
		<ul style="list-style-type: none"> ▪ ARDF inverter motor defective ▪ ARDF position sensor defective ▪ IOB defective
		<ul style="list-style-type: none"> ▪ ARDF inverter motor defective <ol style="list-style-type: none"> 1. Disconnect the power cord, and wait 5 seconds. Reconnect the power cord, and then turn the main power ON. 2. Confirm that the connector of ARDF inverter motor is firmly connected. If necessary, connect the connector all the way in. 3. Reconnect the following connector. <ul style="list-style-type: none"> ▪ ARDF Inverter Motor – IOB connector 4. If the connector is broken, shorted, or grounded, replace the connector. If the connector pin is deformed, replace the connector. 5. Replace the ARDF inverter motor.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		<ul style="list-style-type: none"> ▪ ARDF position sensor defective <ol style="list-style-type: none"> 1. Rotate the ARDF inverter motor by hand to check whether it is unusually difficult to rotate. 2. Check that the ARDF position sensor is not disengaged and is correctly positioned. And check that the actuator correctly shields the light. 3. Reconnect the following connector. <ul style="list-style-type: none"> ▪ ARDF Position Sensor – IOB 4. If the connector is broken, shorted, or grounded, replace the connector. 5. Replace the ARDF position sensor.
		<ul style="list-style-type: none"> ▪ IOB defective <ol style="list-style-type: none"> 1. Update the engine software to the latest version. 2. Replace the IOB.

6.9 SERVICE CALL 816-899

6.9.1 SC800 (CONTROLLER)

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC816-**	[0x0000]	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 to 12	D	Sysarch (LPUX_GET_PORT_INFO) error
SC816-13	D	open() error
SC816-14	D	Memory address error
SC816-15 to 18	D	open() error
SC816-19	D	Double open() error
SC816-20	D	open() error
SC816-22	D	Parameter error
SC816-23, 24	D	read() error
SC816-25	D	write () error

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC816-26 to 28	D	write() communication retry error
SC816-29, 30	D	read() communication retry error
SC816-35	D	read() error
SC816-36 to 96	D	Subsystem error
SC 816-99	D	Subsystem error
		<p>Energy save I/O subsystem detected some abnormality.</p> <ul style="list-style-type: none"> ▪ Energy save I/O subsystem defective ▪ Energy save I/O subsystem detected a controller board error (non-response). ▪ Error was detected during preparation for transition to STR. ▪ SC816-99 occurs as a subsystem error except any error from -06 to 96. <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"> 1. Update the following firmware and the other system firmware to the latest version. <ul style="list-style-type: none"> ▪ MP 501/601: "System/Copy" firmware ▪ SP 5300/5310: "System" firmware 2. Disable the STR shift function by SP5-191-001 (Power Str Set). 3. Replace the controller board.

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC817-00	D	Monitor error: File detection / Digital signature error (MP 501/601 Only)
		<ul style="list-style-type: none"> ▪ Bootloader cannot read any of diagnostic module, kernel, or root filesystem. ▪ In a bootloader SD card, the digital signature checking for any of diagnostic module, kernel, or root filesystem is failed.
		<ul style="list-style-type: none"> ▪ Any of the following items does not exist or is broken OS Flash ROM, Diagnostic module in SD card, Kernel, Root filesystem ▪ Any of the following items is revised fraudulently: Diagnostic module in SD card, Kernel, Root filesystem
		<ul style="list-style-type: none"> ▪ ROM update for controller system ▪ Use another booting SD card having a valid digital signature

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC819-00	D	Kernel halt error [xxxx]: Detailed error code
		Due to a control error, a RAM overflow occurred during system processing. One of the following messages was displayed on the operation panel.
	[0x5032]	HAIC-P2 error
		HAIC-P2 decompression error (An error occurred in the ASIC compression/decompression module.)
		<ul style="list-style-type: none"> ▪ The code data saved in the HDD was broken for an unexpected reason. (HDD device defective) ▪ The code data saved to memory was broken for an unexpected reason. (Memory device defective) ▪ ASIC defective ▪ Data other than code data was unzipped due to a software malfunction.

No.	Type	Error Name/Error Condition/Major Cause/Solution
		<ul style="list-style-type: none"> ▪ Turn the main power OFF/ON. ▪ Replace the HDD. ▪ Replace the memory ▪ Replace the controller board. ▪ Fix the software
	[0x5245]	<p>Link up error</p> <p>Link up transaction between Engine ASIC and Veena was not completed within 100 ms.</p> <p>Either one of following message appears on console if Link up error occurs.</p> <p>RESUME:PCI-Express bus ROOT_DL status error RESUME:PCI-Express bus DETUP status error "0x53554D45" -> Link up error</p> <p>Also, error code "0x5245" and detail code ""0x53554D45" -> Link up error" appears on operation panel.</p> <ul style="list-style-type: none"> ▪ Turn the main power OFF/ON. ▪ Replace the controller board or the BiCU.
	[0x5355]	<p>L2 status time out</p> <p>L2 status register between Engine ASIC and Veena was not reached the target value within 1 sec.</p> <p>Engine ASIC during operation was rebooted or shifted to energy saving mode.</p> <p>Machine reboots when SC23x, SC30x occurs.</p> <p>If Engine ASIC is working when rebooting (or shifting to the energy saving mode), L2 status value is not on target.</p> <p>The following message appears on console.</p> <p>SUSPEND:PCI-Express L2 Status Check Error</p> <p>Also, error code "0x5355" and detail code ""0x5350454E44" -> L2 status time out" appears on operation panel.</p> <ul style="list-style-type: none"> ▪ Turn the main power OFF/ON. ▪ Replace the controller board or the BiCU.
	[0x6261]	HDD defective

No.	Type	Error Name/Error Condition/Major Cause/Solution
		<p>Received file system data was broken even if the initialization succeeds and there was no error reply from the HDD.</p> <p>Power supply disconnection during data writing to the HDD.</p> <p>Replace the HDD.</p> <p>This SC may occur when turning on the machine for the first time with a new HDD. In this case, turn the main power OFF/ON.</p>
	[0x696e]	<p>gwinit processing end</p> <p>If the SCS process is ended for some reason</p> <p>If an unexpected error occurs at SCS processing end, gwinit processing also halts (this result is judged a kernel stop error, by gwinit specification)</p> <p>"0x69742064" -> "init died"</p> <p>Turn the main power OFF/ON.</p>
	[0x766d]	<p>VM full error</p> <p>Occurs when too much RAM is used during system processing</p> <p>"vm_pageout: VM is full"</p> <p>Turn the main power OFF/ON.</p>
	Console string	<p>Other error (characters on operation panel)</p> <p>System detected internal mismatch error</p> <ul style="list-style-type: none"> ▪ Software defective ▪ Insufficient memory ▪ Hardware driver defective (RAM, flash memory, CPU) <ul style="list-style-type: none"> ▪ Replace with a larger capacity RAM, or flash memory. ▪ Replace the controller board. ▪ Replace the connected controller option with a new one.

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC840-00	D	EEPROM access error
		<ul style="list-style-type: none"> ▪ During the I/O processing, a reading error occurred. The 3rd reading failure causes this SC code. ▪ During the I/O processing, a writing error occurred.
		<ul style="list-style-type: none"> ▪ Defective EEPROM
		-

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.
		-

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
		Turn the main power OFF/ON.

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 save mode, the Nand-Flash status was read and judged that the number of unusable blocks had exceeded threshold, and then SCS generated the SC code.

No.	Type	Error Name/Error Condition/Major Cause/Solution
		Number of unusable blocks exceeded threshold for Nand-Flash
		Replace the controller board.

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC842-02	C	Number of Nand-Flash block deletions exceeded
		At startup, or when the machined returned from energy save mode, the Nand-Flash was read and judged that the number of deleted blocks had exceeded threshold, and then SCS generated this SC code.
		Number of blocks deleted exceeded threshold for Nand-Flash.
		Replace the controller board.

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC845		Hardware Error Detected when the automatic firmware update
SC845-01	D	Engine Board
SC845-02	D	Controller Board
SC845-03	D	Operation Panel (Normal)
SC845-04	D	Operation Panel (Smart Panel)
SC845-05	D	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
		Replace the target board. For SC845-02, HDD and memory may cause the problem. Replace the HDD or memory if the SC cannot be recovered by replacing the controller board.

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC853-00	B	Bluetooth device connection error (MP 501/601 Only)
		The Bluetooth hardware (USB type) was connected after the machine was turned on.
		The Bluetooth hardware (USB type) was connected after the machine was turned on.
		Always connect the Bluetooth device (USB type) before the machine is turned on.

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC854-00	B	Bluetooth device disconnected (MP 501/601 Only)
		The Bluetooth hardware (USB type) was disconnected after the machine was turned on.
		The Bluetooth hardware (USB type) was disconnected after the machine was turned on.
		Never remove Bluetooth (USB type) after machine starts.

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"> ▪ Defective wireless LAN board ▪ Loose connection
		<ul style="list-style-type: none"> ▪ Turn the main power OFF/ON. ▪ Replace wireless LAN board

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC855-02	B	Wireless LAN board error (driver initialization failure)
		Wireless LAN board error (wireless LAN card: 802.11 is covered)
		<ul style="list-style-type: none"> ▪ Defective wireless LAN board ▪ Loose connection
		<ul style="list-style-type: none"> ▪ Turn the main power OFF/ON. ▪ Replace wireless LAN board

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC858-00	A	Data encryption conversion error (Key Setting Error)
		A serious error occurred during an attempt to update the encryption key.
		<ul style="list-style-type: none"> ▪ USB Flash, other data, corrupted ▪ Communication error caused by electrostatic noise ▪ Controller board defective
		Replace the controller board.

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC858-01	A	Data encryption conversion error (HDD Key Setting Error)
		A serious error occurred during an attempt to update the encryption key.
		<ul style="list-style-type: none"> ▪ USB Flash, other data, corrupted ▪ Communication error caused by electrostatic noise ▪ Controller board defective
		<ul style="list-style-type: none"> ▪ Turn the main power OFF/ON. ▪ If the error persists, replace the controller board.

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC858-02	A	Data encryption conversion error (NVRAM Read/Write Error)

No.	Type	Error Name/Error Condition/Major Cause/Solution
		A serious error occurred after data conversion during an attempt to update the encryption key.
		NVRAM defective
		<ul style="list-style-type: none"> ▪ Replace the NVRAM. ▪ Replace the controller board.

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC858-30	A	Data encryption conversion error (NVRAM Before Replace Error)
		A serious error occurred after data conversion during an attempt to update the encryption key.
		Software error such as conversion parameters being invalid.
		<ul style="list-style-type: none"> ▪ Turn the main power OFF/ON. ▪ If the error persists, replace the controller board.

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC858-31	A	Data encryption conversion error (Other Error)
		A serious error occurred after data conversion during an attempt to update the encryption key.
		Controller board defective
		Replace the controller board.

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC859-00	B	Data encryption conversion HDD conversion error
		When the data encryption key was updated, HDD data was converted, but not correctly. Image displayed at conversion only (this SC is not displayed), but SC is displayed after machine is cycled off/on.

No.	Type	Error Name/Error Condition/Major Cause/Solution
		<ul style="list-style-type: none"> ▪ HDD conversion was set with the data encryption key update function, but the HDD was removed. ▪ Machine lost power during data encryption key update ▪ Electrostatic noise, or an HDD error occurred, during data encryption key update, and data was not encrypted.
		<ul style="list-style-type: none"> ▪ Check HDD connection. ▪ Format the HDD (SP5-832: HDD formatting). ▪ If there is a problem with the HDD, it has to be replaced.

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC859-01	B	Data encryption conversion HDD conversion error (HDD check error)
		When the data encryption key was updated, HDD data was converted, but not correctly. Image displayed at conversion only (this SC is not displayed), but SC is displayed after machine is cycled off/on.
		<ul style="list-style-type: none"> ▪ HDD conversion was set with the data encryption key update function, but the HDD was removed. ▪ Machine lost power during data encryption key update ▪ Electrostatic noise, or an HDD error occurred, during data encryption key update, and data was not encrypted.
		<ul style="list-style-type: none"> ▪ Check HDD connection. ▪ Format the HDD (SP5-832: HDD formatting). ▪ If there is a problem with the HDD, it has to be replaced.

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC859-02	B	Data encryption conversion HDD conversion error (Power failure during conversion)

No.	Type	Error Name/Error Condition/Major Cause/Solution
		When the data encryption key was updated, HDD data was converted, but not correctly. Image displayed at conversion only (this SC is not displayed), but SC is displayed after machine is cycled off/on. Details: NVRAM/HDD conversion is incomplete.
		Power failure occurred during encryption key update.
		None The display after restart instructs the user to format the HDD.

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC859-10	B	Data encryption conversion HDD conversion error (Data read/write command error)
		When the data encryption key was updated, HDD data was converted, but not correctly. Image displayed at conversion only (this SC is not displayed), but SC is displayed after machine is cycled off/on. Details: Abnormal DMAC return value has been received two or more times (DMAC timeout, serial communication error etc.)
		HDD was not successfully converted during encryption key update due to HDD errors or cable noises.
		<ul style="list-style-type: none"> ▪ Check HDD connection. ▪ Format the HDD (SP5-832: HDD formatting). ▪ If there is a problem with the HDD, it has to be replaced.

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC860-00	B	HDD startup error at main power on (HDD error)
		<ul style="list-style-type: none"> ▪ The HDD is connected but the driver detected the following errors. ▪ SS_NO.T_READY:/* (-2)HDD does not become READY*/ ▪ SS_BAD_LABEL:/* (-4)Wrong partition type*/ ▪ SS_READ_ERROR:/* (-5)Error occurred while reading or checking the label*/ ▪ SS_WRITE_ERROR:/* (-6)Error occurred while writing or checking the label*/ ▪ SS_FS_ERROR:/* (-7)Failed to repair the filesystem*/ ▪ SS_MOUNT_ERROR:/* (-8)Failed to mount the filesystem*/ ▪ SS_COMMAND_ERROR:/* (-9)Drive not responding to command*/ ▪ SS_KERNEL_ERROR:/* (-10)Internal kernel error*/ ▪ SS_SIZE_ERROR:/* (-11)Drive size too small*/ ▪ SS_NO._PARTITION:/* (-12)The specified partition does not exist*/ ▪ SS_NO._FILE:/* (-13)Device file does not exist*/ ▪ Attempted to acquire HDD status through the driver but there has been no response for 30 seconds or more.
		<ul style="list-style-type: none"> ▪ Unformatted HDD ▪ Label data corrupted ▪ HDD defective
		Format the HDD (SP5-832: HDD formatting) through SP mode.

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC862-00	D	Number of the defective sector reaches the maximum count
		101 defective sectors are generated at the image storage area in the HDD.
		SC863 occurs during the HDD reading and defective sectors are registered up to 101.
		<ul style="list-style-type: none"> ▪ Format the HDD with SP5-832. ▪ Replace the HDD.

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 the disk label area.)
		<p>Guide for when to replace the HDD</p> <ol style="list-style-type: none"> 1. When SC863 has occurred ten times or more <ul style="list-style-type: none"> ▪ The interval is short. ▪ Repeatedly occurs in the same situation (At power-on, etc.). ▪ Startup takes a long time when the main power is turned ON. 2. It takes a long time after main power on for the operation panel to become ready. 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.

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC863-02 to 23	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 partition "a" (SC863-02) to partition "v" (SC863-23)).
		<p>Guide for when to replace the HDD</p> <ol style="list-style-type: none"> When SC863 has occurred ten times or more <ul style="list-style-type: none"> The interval is short. Repeatedly occurs in the same situation (At power-on, etc.). Startup takes a long time when the main power is turned ON. It takes a long time after main power on for the operation panel to become ready. 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.

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC864-01	D	HDD data CRC error
		During HDD operation, the HDD cannot respond to a CRC error query. Data transfer did not execute normally while data was being written to the HDD.
		Bad sectors were generated during operation. (An error occurred in an area that does not belong to a partition, such as the disk label area.)
		<ul style="list-style-type: none"> Format the HDD. Replace the HDD.

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC864-02 to 23	D	HDD data CRC error
		During HDD operation, the HDD cannot respond to a CRC error query. Data transfer did not execute normally while data was being written to the HDD.
		Bad sectors were generated during operation. (An error occurred in partition "a" (SC864-02) to partition "v" (SC864-23)).
		<ul style="list-style-type: none"> ▪ Format the HDD. ▪ Replace the HDD.

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC865-00	D	HD access error
		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.

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC865-01	D	HDD access error
		During HDD operation, the HDD returned an error.
		The HDD returned an error that does not constitute SC863 (bad sector) or SC864 (CRC error). (An error occurred in an area that does not belong to a partition, such as the disk label area.)
		Replace the HDD.

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC865-02 to 23	D	HDD access error
		During HDD operation, the HDD returned an error.
		The HDD returned an error that does not constitute SC863 (bad sector) or SC864 (CRC error). (An error occurred in partition "a" (SC865-02) to partition "v" (SC865-23)).
		Replace the HDD.

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC865-50 to 73	D	HDD time-out error
		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.
		<ul style="list-style-type: none"> ▪ Check the harness connections between the controller board and HDD. ▪ Replace the HDD.

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC866-00	B	SD card authentication error
		A license error of an application that is started from the SD card was detected.
		Invalid program data is stored on the SD card.
		Store a valid program data on the SD card.

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC867-00	C	SD card removed
		The SD card was removed while the machine is on.
		An application SD card has been removed from the slot (mount point of /mnt/sd0).
		Turn the main power OFF/ON.

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC867-01	C	SD card removed
		The SD card was removed while the machine is on.
		An application SD card has been removed from the slot (mount point of /mnt/sd1).
		Turn the main power OFF/ON.

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC867-02	C	SD card removed
		The SD card was removed while the machine is on.
		An application SD card has been removed from the slot (mount point of /mnt/sd2).
		Turn the main power OFF/ON.

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC868-**		SD card access error
SC868-00	D	The SD controller returned an error during operation. (An error occurred at the mount point of /mnt/sd0)
SC868-01	D	The SD controller returned an error during operation. (An error occurred at the mount point of /mnt/sd1)

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC868-02	D	The SD controller returned an error during operation. (An error occurred at the mount point of /mnt/sd1)
		<ul style="list-style-type: none"> ▪ SD card defective ▪ SD controller defective <p>Slot number is displayed on the sub code. Detail code is described in SMC print can confirm the details of the error.</p> <ul style="list-style-type: none"> ▪ -13 to -3: File system check error ▪ Otherwise (no code, -2) : Device access error
		<p>SD card that starts an application</p> <ol style="list-style-type: none"> 1. Turn the main power OFF and check the SD card insertion status. 2. If no problem is found, insert the SD card and turn the main power ON. 3. If an error occurs, replace the SD card. 4. If the error persists even after replacing the SD card, replace the controller board. <p>SD card for users</p> <ol style="list-style-type: none"> 1. In case of a file system error, reformat the SD card (using the "SD Formatter" made by Panasonic).* <p>In case of a device access error</p> <ol style="list-style-type: none"> 1. Turn the main power OFF and check the SD card insertion status. 2. If no problem is found, insert the SD card and turn the main power ON. 3. If an error occurs, use another SD card. 4. If the error persists even after replacing the SD card, replace the controller board.

* Do not format an SD card supplied with the main machine or sold as an option. You may only format SD cards used for Firmware Update by a service representative.

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.)
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.)
SC870-09	B	Address Book data error (Machine configuration: Inconsistency in the NVRAM area used for storing settings required for Address Book configuration.)
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 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 file.)
SC870-22	B	Address Book data error (File I/O: Failed to open file.)

No.	Type	Error Name/Error Condition/Major Cause/Solution
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 file.)
SC870-25	B	Address Book data error (File I/O: Failed to check 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 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 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 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 encrypted text to plaintext.)
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 file when changing encryption setting.)

No.	Type	Error Name/Error Condition/Major Cause/Solution
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 (06A and later).)
		When an error related to the Address Book is detected during startup or operation.
		<ul style="list-style-type: none"> ▪ Software bug ▪ Inconsistency of Address Book source location (machine/delivery server/LDAP server) ▪ Inconsistency of Address Book encryption setting or encryption key (NVRAM or HDD was replaced individually without formatting the Address Book) ▪ Address Book storage device (SD/HDD) was temporarily removed or hardware configuration does not match the application configuration. ▪ Address Book data corruption was detected.

No.	Type	Error Name/Error Condition/Major Cause/Solution
		<p>Install the device that contains address book information properly, and turn the main power off/on. If SC occurs again, do the following steps.</p> <ol style="list-style-type: none"> After installing the HDD, or SD/USB ROM, execute SP5-846-046 (UCS Setting). Wait more than 3 seconds, then execute SP5-832 (HDD Formatting). Turn the main power OFF/ON. <p>Procedure after SC870 is cleared</p> <ol style="list-style-type: none"> If there is backup data in SD card or Web Image Monitor, restore the address book data. (To restore from SD card, enter the encryption password which is the same as when you enter to backup.)

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC872-00	B	HDD mail reception error
		An error was detected on the HDD immediately after the machine was turned on.
		<ul style="list-style-type: none"> ▪ HDD defective ▪ Power was turned off while the machine used the HDD.
		<ul style="list-style-type: none"> ▪ Format the HDD (SP5-832-007: HDD Formatting: Mail RX Data). ▪ Replace the HDD. <p>When you do the above, the following information will be initialized.</p> <ul style="list-style-type: none"> ▪ Partly received partial mail messages. ▪ Already-read statuses of POP3-received messages (All messages on the mail server are handled as new messages).

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC873-00	B	HDD mail reception error
		An error was detected on the HDD immediately after the machine was turned on.
		<ul style="list-style-type: none"> ▪ HDD defective ▪ Power was turned off while the machine used the HDD.
		<ul style="list-style-type: none"> ▪ Format the HDD (SP5-832-008: HDD Formatting: Mail TX Data). ▪ Replace the HDD. <p>When you do the above, the following information will be initialized.</p> <ul style="list-style-type: none"> ▪ Sender's mail text ▪ Default sender name/password (SMB/FTP/NCP) ▪ Administrator mail address ▪ Scanner delivery history

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 hdderase
SC874-41	D	Delete all error (Delete data area) : Other fatal errors
SC874-42	D	Delete all error (Delete data area) : End by cancellation

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC874-61 to -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 (MP 501/601 Only)
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"> ▪ Error detected in HDD data delete program ▪ Error detected in NVRAM data delete program ▪ The "Delete All" option was not set
		<ul style="list-style-type: none"> ▪ Turn the main power 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.) ▪ If the "Delete All" option is not installed when this error occurs, install the option.

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"> ▪ HDD logical formatting failed. ▪ The modules failed to erase data.
		Turn the main power OFF/ON.

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 set to on but it cannot be done.
		<ul style="list-style-type: none"> ▪ Data Overwrite Security option SD card is broken. ▪ Data Overwrite Security option SD card has been removed.
		<ul style="list-style-type: none"> ▪ If the SD card is broken, prepare a new Data Overwrite Security option SD card and replace the NVRAM. ▪ If the SD card has been removed, turn the main power off and reinstall a working Data Overwrite Security option SD card.

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC878-00	D	TPM authentication error
		TPM electronic recognition failure
		<ul style="list-style-type: none"> ▪ Update of system module attempted without correct update path ▪ USB flash memory not operating correctly
		Replace the controller board.

Trusted Platform Module

- In computing, Trusted Platform Module (TPM) is both the name of a published specification detailing a secure crypto processor that can store cryptographic keys that protect information, as well as the general name of implementations of that specification often called the "TPM chip" or "TPM Security Device" (as designated in certain Dell BIOS settings).

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC878-01	D	USB flash error
		There is a problem in the file system of the USB flash memory.
		USB Flash system files corrupted.
		Replace the controller board.

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC878-02	D	TPM error
		An error occurred in either TPM or the TPM driver.
		TPM not operating correctly.
		Replace the controller board.

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC878-03	D	TCSD error
		An error occurred in the TPM software stack.
		<ul style="list-style-type: none"> ▪ TPM, TPM software cannot start ▪ A file required by TPM is missing
		Replace the controller board.

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC878-20	D	Random number generator self check error
		The unusual status is detected during the self test of generated random number seed.

No.	Type	Error Name/Error Condition/Major Cause/Solution
		TPM defective. (The random number seed is generated by TPM)
		<ol style="list-style-type: none"> 1. Turn ON the main power. 2. Replace the controller board.

No.	Type	Error Name/Error Condition/Major Cause/Solution
SC899-00	D	Software performance error (signal reception end)
		Unknown software error occurred.
		Occurs when an internal program behaves abnormally.
		<p>In the case of a hardware defect</p> <ul style="list-style-type: none"> ▪ Replace the hardware. <p>In the case of a software error</p> <ul style="list-style-type: none"> ▪ Turn the main power OFF/ON. ▪ Try updating the firmware.

6.10 SERVICE CALL 900-998

6.10.1 SC900 (ENGINE: OTHERS)

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"> ▪ Machine serial number cannot be identified because of BiCU replacement or malfunctioning. ▪ Machine serial number cannot be identified because of NV-RAM replacement.
		Machine serial number (11 digits) or machine identification code does not match.
		<ol style="list-style-type: none"> 1. Enter the machine serial number using SP5-811 (MachineSerial), and then turn the main power ON/OFF. 2. Attach the NV-RAM that was installed previously.

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"> ▪ Attach the NV-RAM that was installed previously. ▪ Download data on the NV-RAM using SP5-825-001 (NV-RAM Data Download).

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.

6.10.2 SC900 (CONTROLLER)

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC900-00	A	Electric counter error
		The electric total counter value is out of specification. Error is detected when increasing the total counter.
		<ul style="list-style-type: none"> ▪ Unexpected NV-RAM is attached. ▪ NV-RAM defective ▪ NV-RAM data corrupted. ▪ Data written to unexpected area because of external factor etc. ▪ The count requested by the SRM on receiving PRT is not completed.
		Replace the NV-RAM.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC990-00	D	Software operation error
		Software attempted an unexpected operation.
		<ul style="list-style-type: none"> ▪ Parameter error ▪ Internal parameter error ▪ Insufficient work memory ▪ Operation error caused by abnormalities that are normally undetectable.
		<ul style="list-style-type: none"> ▪ Turn the main power OFF/ON. ▪ Reinstall the software of the controller board and BiCU.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC991-00	C	Recoverable software operation error
		Software attempted an unexpected operation. SC991 covers recoverable errors as opposed to CS990.
		<ul style="list-style-type: none"> ▪ Parameter error ▪ Internal parameter error ▪ Insufficient work memory ▪ Operation error caused by abnormalities that are normally undetectable.
		Logging only

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC992-00	D	Undefined SC issued.
		An SC, that is not controlled by the system, occurred.
		<ul style="list-style-type: none"> ▪ An SC for the previous model was used mistakenly, etc. ▪ Basically a software bug.
		Turn the main power OFF/ON.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC997-00	D	Application function selection error
		<ul style="list-style-type: none"> ▪ No response to the predetermined command from SCS to the same application program 4 times consecutively. <p>Cases when SC997-00 occur;</p> <ol style="list-style-type: none"> 1. SCS sends command to the copy application. 2. There has been no response from the copy application for 30 sec. (Error count value: 1) 3. Step1-2 is repeatedly performed 3 times. (Error count value: 4) 4. SC997-00 occur.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
		<p>Cases when SC997-00 does not occur;</p> <ol style="list-style-type: none"> 1. SCS sends command to the copy application. 2. There has been no response from the copy application for 30 sec. (Error count value: 1) Step1-2 is repeatedly performed 2 times. (Error count value: 4) 3. SCS sends command to the copy application. There has been response from the copy application. (Error count value: 1) <ul style="list-style-type: none"> ▪ The application ended by an unusual process.
		<p>Software bug (mainly the application)</p> <ul style="list-style-type: none"> ▪ Check the optional RAM/DIMM/boards required by the application program. ▪ Check if the combination of downloaded programs are correct.

SC No.	Type	Error Name/Error Condition/Major Cause/Solution
SC998-00	D	<p>Application start error</p> <ul style="list-style-type: none"> ▪ No application was registered to system within a specified time after the main power was turned ON. (No application starts/All applications have been terminated abnormally) ▪ Application started but cannot be drawn now for some reason. <p>Software bug (mainly the application)</p> <ul style="list-style-type: none"> ▪ The optional RAM/DIMM/boards, required by the application program, are not installed correctly. <ul style="list-style-type: none"> ▪ Check the optional RAM/DIMM/boards required by the application program. ▪ Check if the combination of downloaded programs are correct. ▪ Replace the controller board.

6.11 JAM DETECTION

6.11.1 PAPER 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.

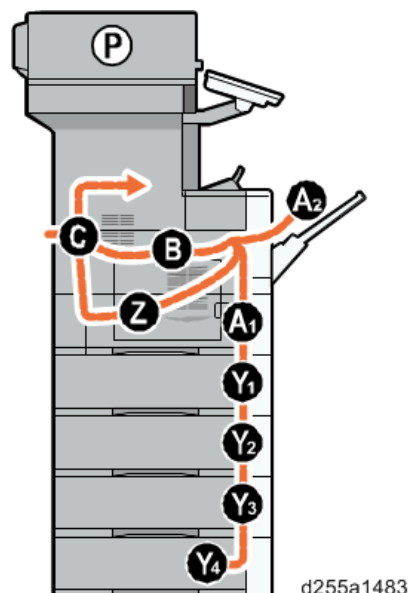
↓ Note

- The 10 latest printer jams are displayed.
- Initial jams are not recorded.

6.11.2 JAM CODES AND DISPLAY CODES

- MP 501/601

When a jam occurs, the location is displayed on the operation panel.



- SP 5300/5310

An error message appears if a paper misfeed occurs. The error message indicates where the misfeed occurs.

SP7-504 and SP7-505 (for ARDF) show how many jams occurred at each location.

Jam Detection

SP No	Jam Code	Description	Indication on the operation panel
SP7-504	001	Bypass paper end sensor	A2
		Paper feed sensor 1 (Tray 1)	A1
		Paper feed sensor 2 (Tray 2)	Y1
		Paper end sensor 3 (Tray 3)	Y2
		Paper end sensor 4 (Tray 4)	Y3
		Paper end sensor 5 (Tray 5)	Y4
		Registration sensor 1	B
		Registration sensor 2	B
		Duplex sensor 1	Z
		Duplex sensor 2	Z
		Rear cover switch	C
	010	Unit package won't become ready.	A1
	011	Transfer unit not ready.	A1
	012	Drive does not stop.	A1
	013	Duplex printing signal doesn't come.	A1
	014	Fuser unit not ready.	A1
	015	Tray 2 feeding signal doesn't come.	A1
	025	Rear cover open jam	A1
	026	Upper cover open jam	A1
	027	More pages than the duplex unit can contain.	A1
	028	Tray 1: No feed	A1
	029	Duplex unit: No feed	Z
	030	Bypass tray: No feed	A2, B

SP No	Jam Code	Description	Indication on the operation panel
	031	Tray 1: Multiple feed	B
	032	Tray 2: Multiple feed	Y1
	033	Tray 3: Multiple feed	Y2
	034	Tray 4: Multiple feed	Y3
	035	Tray 5: Multiple feed	Y4
	036	Duplex unit: Multiple feed	B
	037	Bypass tray: Multiple feed	B
	038	Paper feed sensor 2: Late jam (When paper feed from Tray 3)	Y1
	039	Paper feed sensor 2: Late jam (When paper feed from Tray 4)	Y1
	040	Paper feed sensor 2: Late jam (When paper feed from Tray 5)	Y1
	041	Paper feed sensor 2: Lag jam (When paper feed from Tray 3)	Y1
	042	Paper feed sensor 2: Lag jam (When paper feed from Tray 4)	Y1
	043	Paper feed sensor 2: Lag jam (When paper feed from Tray 5)	Y1
	044	Paper feed sensor 3: Late jam (When paper feed from Tray 4)	Y2
	045	Paper feed sensor 3: Late jam (When paper feed from Tray 5)	Y2
	046	Paper feed sensor 3: Lag jam (When paper feed from Tray 4)	Y2
	047	Paper feed sensor 3: Lag jam (When paper feed from Tray 5)	Y2

Jam Detection

SP No	Jam Code	Description	Indication on the operation panel
	048	Paper feed sensor 4: Late jam (When paper feed from Tray 5)	Y3
	049	Paper feed sensor 4: Lag jam (When paper feed from Tray 5)	Y3
	050	Registration sensor 1: Late jam (When paper feed from Tray 2)	B
	051	Registration sensor 1: Late jam (When paper feed from Tray 3)	B
	052	Registration sensor 1: Late jam (When paper feed from Tray 4)	B
	053	Registration sensor 1: Late jam (When paper feed from Tray 5)	B
	054	Registration sensor 1: Lag jam (When paper feed from Tray 2)	B
	055	Registration sensor 1: Lag jam (When paper feed from Tray 3)	B
	056	Registration sensor 1: Lag jam (When paper feed from Tray 4)	B
	057	Registration sensor 1: Lag jam (When paper feed from Tray 5)	B
	058	Registration sensor 2: Late jam (When paper feed from Tray 1)	B
	059	Registration sensor 2: Late jam (When paper feed from Tray 2)	B
	060	Registration sensor 2: Late jam (When paper feed from Tray 3)	B
	061	Registration sensor 2: Late jam (When paper feed from Tray 4)	B

SP No	Jam Code	Description	Indication on the operation panel
	062	Registration sensor 2: Late jam (When paper feed from Tray 5)	B
	063	Registration sensor 2: Late jam (When paper feed from duplex unit)	B
	064	Registration sensor 2: Late jam (When paper feed from bypass tray unit)	B
	065	Registration sensor 2: Lag jam (When paper feed from Tray 1)	B
	066	Registration sensor 2: Lag jam (When paper feed from Tray 2)	B
	067	Registration sensor 2: Lag jam (When paper feed from Tray 3)	B
	068	Registration sensor 2: Lag jam (When paper feed from Tray 4)	B
	069	Registration sensor 2: Lag jam (When paper feed from Tray 5)	B
	70	Registration sensor 2: Lag jam (When paper feed from duplex unit)	B
	071	Registration sensor 2: Lag jam (When paper feed from bypass tray unit)	B
	072	Paper exit full sensor: Late jam (When paper feed from Tray 1)	B
	073	Paper exit full sensor: Late jam (When paper feed from Tray 2)	B
	074	Paper exit full sensor: Late jam (When paper feed from Tray 3)	B
	075	Paper exit full sensor: Late jam (When paper feed from Tray 4)	B

Jam Detection

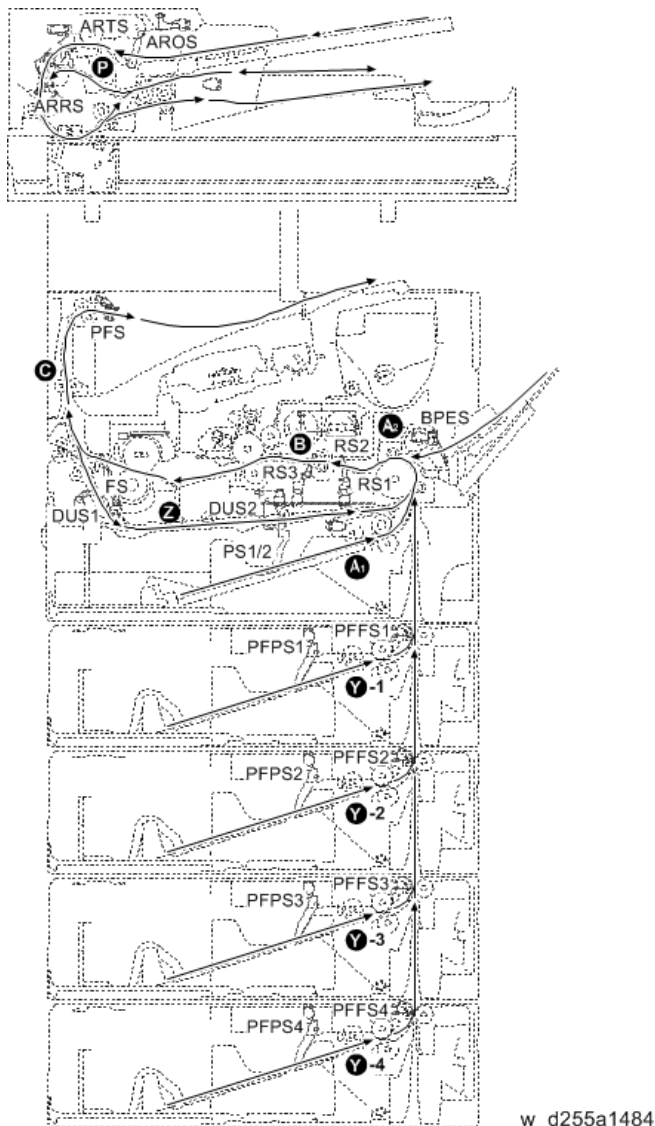
SP No	Jam Code	Description	Indication on the operation panel
	076	Paper exit full sensor: Late jam (When paper feed from Tray 5)	B
	077	Paper exit full sensor: Late jam (When paper feed from duplex unit)	B
	078	Paper exit full sensor: Late jam (When paper feed from bypass tray unit)	B
	079	Paper exit full sensor: Lag jam (When paper feed from Tray 1)	C
	080	Paper exit full sensor: Lag jam (When paper feed from Tray 2)	C
	081	Paper exit full sensor: Lag jam (When paper feed from Tray 3)	C
	082	Paper exit full sensor: Lag jam (When paper feed from Tray 4)	C
	083	Paper exit full sensor: Lag jam (When paper feed from Tray 5)	C
	084	Paper exit full sensor: Lag jam (When paper feed from duplex unit)	C
	085	Paper exit full sensor: Lag jam (When paper feed from bypass tray unit)	C
	086	Duplex sensor 1: Late jam (When paper feed from Tray 1)	C
	087	Duplex sensor 1: Late jam (When paper feed from Tray 2)	C
	088	Duplex sensor 1: Late jam (When paper feed from Tray 3)	C
	089	Duplex sensor 1: Late jam (When paper feed from Tray 4)	C

SP No	Jam Code	Description	Indication on the operation panel
	090	Duplex sensor 1: Late jam (When paper feed from Tray 5)	C
	091	Duplex sensor 1: Late jam (When paper feed from bypass tray unit)	C
	092	Duplex sensor 2: Late jam (When paper feed from Tray 1)	Z
	093	Duplex sensor 2: Late jam (When paper feed from Tray 2)	Z
	094	Duplex sensor 2: Late jam (When paper feed from Tray 3)	Z
	095	Duplex sensor 2: Late jam (When paper feed from Tray 4)	Z
	096	Duplex sensor 2: Late jam (When paper feed from Tray 5)	Z
	097	Duplex sensor 2: Late jam (When paper feed from bypass tray unit)	Z
	098	Duplex sensor 2: Lag jam (When paper feed from duplex unit)	B
	099	Tray 2: No feed	Y1
	100	Tray 3: No feed	Y2
	101	Tray 4: No feed	Y3
	102	Tray 5: No feed	Y4
SP7-505	001 ^{*1}	ARDF registration sensor: Initial jam	P
	002 ^{*1}	ARDF registration sensor: Late jam	P
	003 ^{*1}	ARDF registration sensor: Lag jam	P

*1 MP 501/601 only

6.11.3 SENSOR LAYOUT

MP 501/601

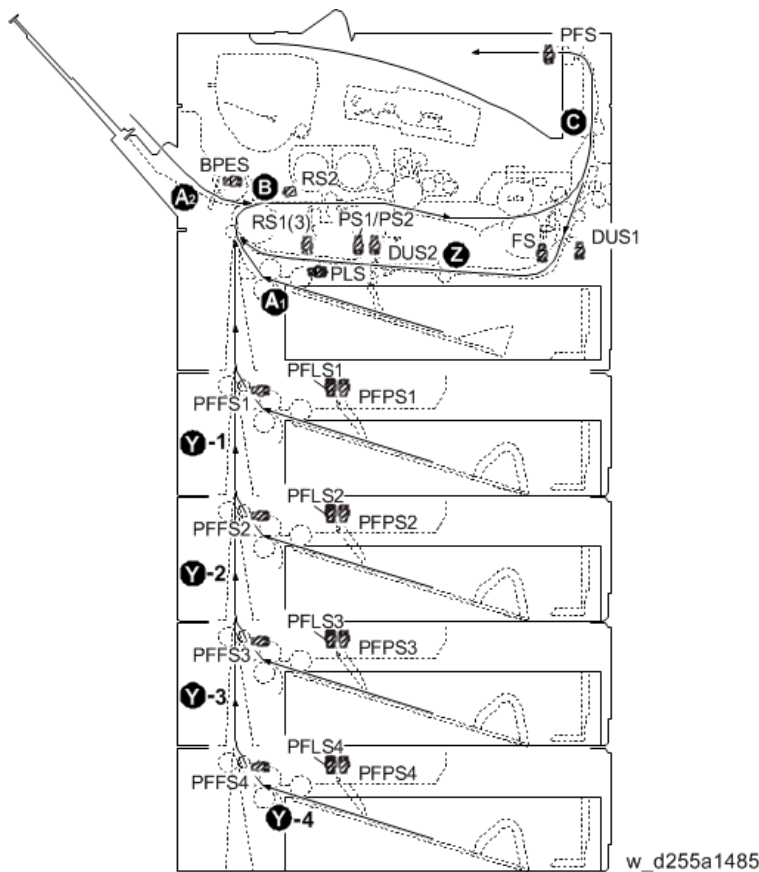


Abbreviation	Name	Abbreviation	Name
AROS	ARDF original sensor	PFPS1	Paper end sensor 1 ^{*1}
ARRS	ARDF registration sensor	PFPS2	Paper end sensor 2 ^{*1}
ARTS	ARDF original timing sensor	PFPS3	Paper end sensor 3 ^{*1}
BPES	Bypass paper end sensor	PFPS4	Paper end sensor 4 ^{*1}
DUS1	Duplex sensor 1	PFS	Paper exit full sensor
DUS2	Duplex sensor 2	PS1	Paper end sensor 1

Abbreviation	Name	Abbreviation	Name
FS	Fusing sensor	PS2	Paper end sensor 2
PFFS1	Paper feed sensor 1 ^{*1}	RS1	Registration sensor 1
PFFS2	Paper feed sensor 2 ^{*1}	RS2	Registration sensor 2
PFFS3	Paper feed sensor 3 ^{*1}	RS3	Registration sensor 3
PFFS4	Paper feed sensor 4 ^{*1}		

*1 Optional paper feed unit

SP 5300/5310



Troubleshooting

Abbreviation	Name	Abbreviation	Name
BPES	Bypass paper end sensor	PFFS1	Paper end sensor 1 ^{*1}
DUS1	Duplex sensor 1	PFFS2	Paper end sensor 2 ^{*1}

Jam Detection

Abbreviation	Name	Abbreviation	Name
DUS2	Duplex sensor 2	PFPS3	Paper end sensor 3 ^{*1}
FS	Fusing sensor	PFPS4	Paper end sensor 4 ^{*1}
PFFS1	Paper feed sensor 1 ^{*1}	PFS	Paper exit full sensor
PFFS2	Paper feed sensor 2 ^{*1}	PLS	Paper feed tray limit sensor
PFFS3	Paper feed sensor 3 ^{*1}	PS1	Paper end sensor 1
PFFS4	Paper feed sensor 4 ^{*1}	PS2	Paper end sensor 2
PFLS1	Paper feed tray limit sensor 1 ^{*1}	RS1	Registration sensor 1
PFLS2	Paper feed tray limit sensor 2 ^{*1}	RS2	Registration sensor 2
PFLS3	Paper feed tray limit sensor 3 ^{*1}	RS3	Registration sensor 3
PFLS4	Paper feed tray limit sensor 4 ^{*1}		

*1 Optional paper feed unit

6.11.4 PAPER SIZE CODES

Paper size codes are as follows.

* The unit of Main Scan/Sub Scan Length is 0.1 mm.

Size Code	Paper Size Name	Orientation	Main Scan Length	Sub Scan Length
005(05H)	A4	LEF	2970	2100
006(06H)	A5	LEF	2100	1480
007(07H)	A6	LEF	1480	1050
014(0EH)	B5	LEF	2570	1820
015(0FH)	B6	LEF	1820	1280
036(24H)	8 1/2"x14"(LG)	LEF	3556	2159
037(25H)	8 1/2"x13"(Foolscape)	LEF	3302	2159
038(26H)	8 1/2"x11"(LT)	LEF	2794	2159
039(27H)	8 1/4"x14"	LEF	3556	2096
040(28H)	8 1/4"x13"(Folio)	LEF	3302	2096
041(29H)	8"x13"(F/GL)	LEF	3302	2032
043(2BH)	8"x10"(UK)	LEF	2540	2032
044(2CH)	5 1/2"x8 1/2"(HLT)	LEF	2159	1397
045(2DH)	7 1/4"x10 1/2"(Exective)	LEF	2667	1842
067(43H)	16K	LEF	2670	1950
072(48H)	8 1/2"x13 2/5"(Oficio)	LEF	3404	2159
080(50H)	4 1/8"x9 1/2"(Com10)	LEF	2413	1048
081(51H)	3 7/8"x7 1/2"(Monarch)	LEF	1905	984
083(53H)	C5 Envelope	LEF	2290	1620
084(54H)	C6 Envelope	LEF	1620	1140

Jam Detection

Size Code	Paper Size Name	Orientation	Main Scan Length	Sub Scan Length
085(55H)	DL Envelope	LEF	2200	1100
134(86H)	A5	SEF	1480	2100

6.12 TROUBLESHOOTING GUIDE

6.12.1 IMAGE QUALITY

Skewed image

Symptom

Images are skewed.

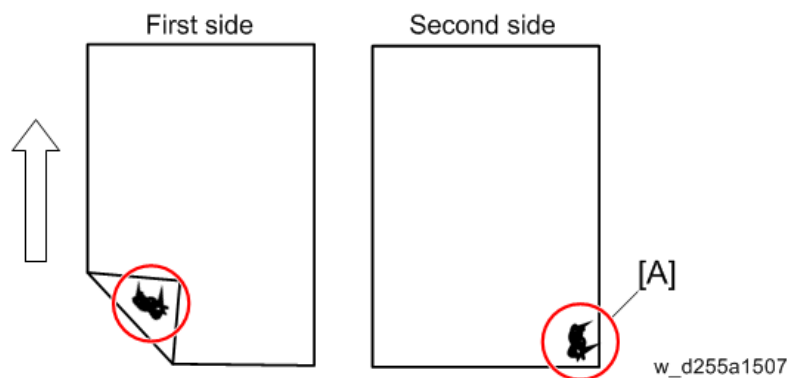
Solution

Check whether the side fences in the paper feed tray are set properly. They must tightly fit to the paper without space.

Toner sticking to the right side area on the second side of the paper

Symptom

Toner sticking to the right side area [A] on the second side of the paper.



* The arrow indicates the paper feed direction.

The toner sticking image:



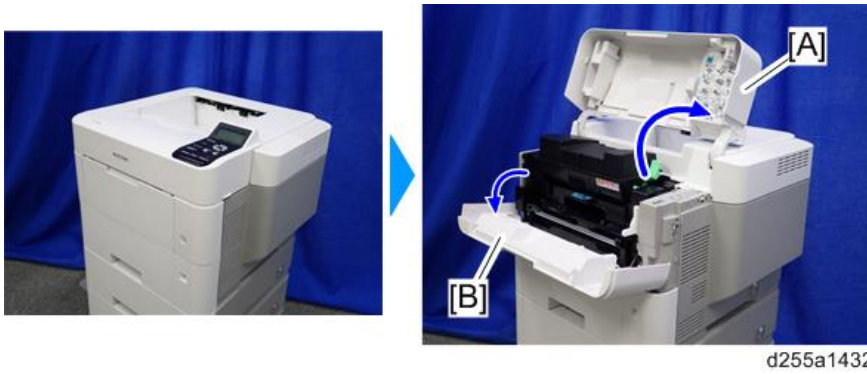
Solution

1. Open the front cover.

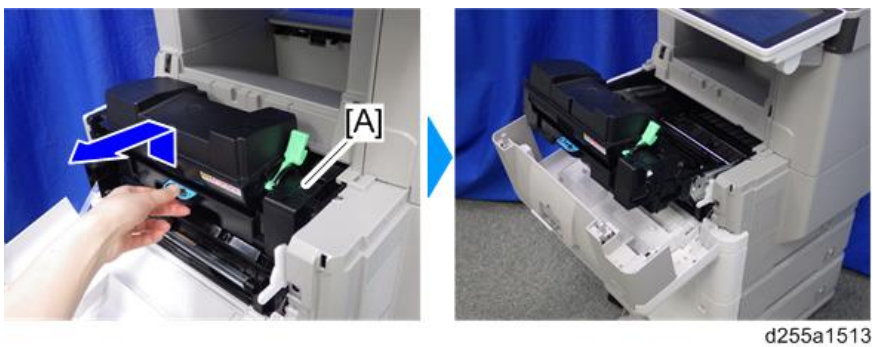
MP 501/601: Push the button [A] and open the front cover [B].



SP 5300/5310: Open the upper cover [A], and then open the front cover [B].



2. Pull out the PCDU [A].



3. Clean the [A] area with a dry cloth.

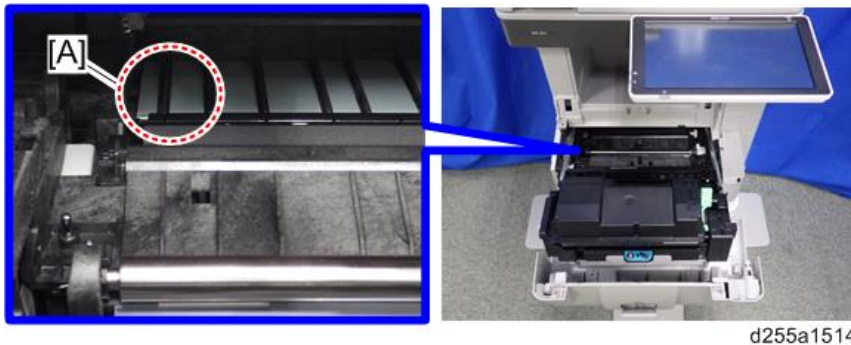


Image quality failure due to the fixing failure

Symptom

The following image quality failure occur due to the fixing failure.

- Backside partial stains
- Toner peeling
- Black spots caused by the toner fixation

Solution

Change the paper type setting to thicker with the procedure below.

- MP 501/601
 1. Press the [User Tools] icon on the operation panel.
 2. Press [Tray Paper Settings].
 3. Press [Next].
 4. Select the tray from [Tray Paper Size: Tray 1] to [Tray Paper Size: Tray 5] for which you want to change the paper type.
 5. Change the paper type setting to thicker in [Paper Thickness].
- SP 5300/5310
 1. Press the [Menu] key on the control panel.
 2. Select [Paper Input] -> Press [OK]
 3. Select the tray from [Tray Paper Size: Tray 1] to [Tray Paper Size: Tray 5] for which you want to change the paper type -> Press [OK]
 4. Change the paper type setting to thicker -> Press [OK]

The setting is complete when specifying the following types of paper:
Thin Paper, Plain Paper, Plain Paper 2, Middle Thick, Thick Paper 1, Thick Paper 2, Thick Paper 3, Special Paper 1, Special Paper 2, Special Paper 3
 5. If you have selected [Recycled Paper], [Color Paper], [Letterhead], [Label Paper], [Envelope], or [Preprinted Paper] for the paper type, press [Escape].
 6. Select [Maintenance] -> Press [OK]
 7. Select [General Settings] -> Press [OK]

8. Select the paper thickness setting for the specified paper type -> Press [OK]
9. Select the tray where the specified type of paper is loaded -> Press [OK]
If you selected [Letterhead Setting], [Label Paper Setting], or [Envelope Setting] in Step 8, you can specify the paper thickness for each tray separately. For other paper types, the specified paper thickness is applied to all trays.
10. Change the paper type setting to thicker -> Press [OK]

Toner scattered

Symptom

The toner spreads under the horizontal lines.

Solution 1

Change the paper type setting to thicker with the procedure below.

- MP 501/601
 1. Press the [User Tools] icon on the operation panel.
 2. Press [Tray Paper Settings].
 3. Press [Next].
 4. Select the tray from [Tray Paper Size: Tray 1] to [Tray Paper Size: Tray 5] for which you want to change the paper type.
 5. Change the paper type setting to thicker in [Paper Thickness].
- SP 5300/5310
 1. Press the [Menu] key on the control panel.
 2. Select [Paper Input] -> Press [OK]
 3. Select the tray from [Tray Paper Size: Tray 1] to [Tray Paper Size: Tray 5] for which you want to change the paper type -> Press [OK]
 4. Change the paper type setting to thicker -> Press [OK]
The setting is complete when specifying the following types of paper:
Thin Paper, Plain Paper, Plain Paper 2, Middle Thick, Thick Paper 1, Thick Paper 2, Thick Paper 3, Special Paper 1, Special Paper 2, Special Paper 3
 5. If you have selected [Recycled Paper], [Color Paper], [Letterhead], [Label Paper], [Envelope], or [Preprinted Paper] for the paper type, press [Escape].
 6. Select [Maintenance] -> Press [OK]
 7. Select [General Settings] -> Press [OK]
 8. Select the paper thickness setting for the specified paper type -> Press [OK]
 9. Select the tray where the specified type of paper is loaded -> Press [OK]
If you selected [Letterhead Setting], [Label Paper Setting], or [Envelope Setting] in Step 8, you can specify the paper thickness for each tray separately. For other paper types, the specified paper thickness is applied to all trays.
 10. Change the paper type setting to thicker -> Press [OK]

Solution 2

Enable the scattered toner prevention function with SP1-891-xxx (Scattering Control).
 Change the value of the tray which you want to adjust from "0" to "1".

SP No.	SP Name	Adjustment Range
SP1-891-001	Scattering Control: Main	0 or 1 (0: Disable, 1: Enable)
SP1-891-002	Scattering Control: Option Tray 1	
SP1-891-003	Scattering Control: Option Tray 2	
SP1-891-004	Scattering Control: Option Tray 3	
SP1-891-005	Scattering Control: Option Tray 4	
SP1-891-006	Scattering Control: By-Pass Tray	

Note

- You can also enable the scattered toner prevention function with the UP mode.
 - MP 501/601: [User Tools] -> [Machine Features] -> [Scattered Toner Image Prevention]
 - SP 5300/5310: [Menu] -> [Maintenance] -> [Quality Maintenance] -> [Scattered Toner Prevention]

Related information

When you change the paper type setting or enable the scattered toner prevention function, the transfer current, fusing temperature, and copy/print speed are changed. The following table shows the difference of those values (transfer current, fusing temperature, copy/print speed) for each paper type on the basis of "Plain Paper 2" when the paper type setting is changed or scattered toner prevention function is enabled.

(Conditions: paper size: A4 LT, temperature: 23°C, humidity: 50%)

MP 501/SP 5300

Paper Type	Transfer Current [μ A]		Fusing Temperature [$^{\circ}$ C]		Copy/Print Speed [ppm]	
	A4	LT	A4	LT	A4	LT
1. When the scattered toner prevention function is disabled.						
Thin Paper	-60	-60	-15	-15	50	52
Plain Paper 1	-25	-25	-5	-5	50	52
Plain Paper 2	0	0	0	0	50	52
Middle Thick	0	0	25	25	50	52
Thick Paper 1	-100	-100	5	5	35	35
Thick Paper 2	-100	-100	10	10	35	35
Thick Paper 3	-100	-100	15	15	35	35
2. When the scattered toner prevention function is enabled.						
Plain Paper 1	45	45	-5	-5	50	52
Plain Paper 2	45	45	0	0	50	52
Middle Thick	45	45	25	25	50	52

MP 601/SP 5310

Paper Type	Transfer Current [μA]		Fusing Temperature [°C]		Copy/Print Speed [ppm]	
	A4	LT	A4	LT	A4	LT
1. When the scattered toner prevention function is disabled.						
Thin Paper	-60	-60	-20	-20	60	62
Plain Paper 1	-15	-15	-5	-5	60	62
Plain Paper 2	0	0	0	0	60	62
Middle Thick	0	0	25	25	60	62
Thick Paper 1	-110	-110	0	0	38	38
Thick Paper 2	-110	-110	5	5	38	38
Thick Paper 3	-110	-110	15	15	38	38
2. When the scattered toner prevention function is enabled.						
Plain Paper 1	50	50	-5	-5	60	62
Plain Paper 2	50	50	0	0	60	62
Middle Thick	50	50	25	25	60	62

Black or White spots repeat at 30mm or 96mm intervals

Symptom

- White spots / Black spots appear on the printouts in 96mm pitch.
- Black spots appear on the printouts in 30mm pitch.

Cause

Adhesives contained in label paper adhere to the drum, and then to the charge roller.

Solution

1. Set A4 (or LT) paper on the bypass tray and execute "Drum Refresh" mode.
 MP 501: [User Tools] > [Machine Features] > [Maintenance] > [Drum Refresh]
 SP 5300: [Menu] > [Quality Maintenance] > [Drum Refresh]
2. Remove the charge roller unit and clean the surface of the roller with dry cloth.

Troubleshooting

6.12.2 PAPER TRANSPORT

Paper jam occurred in the paper path between Tray 1 and around the registration roller

Symptom

The paper jam (such as J031, J054, J057, J069) occur in the paper path between Tray 1 and around the registration.

Solution

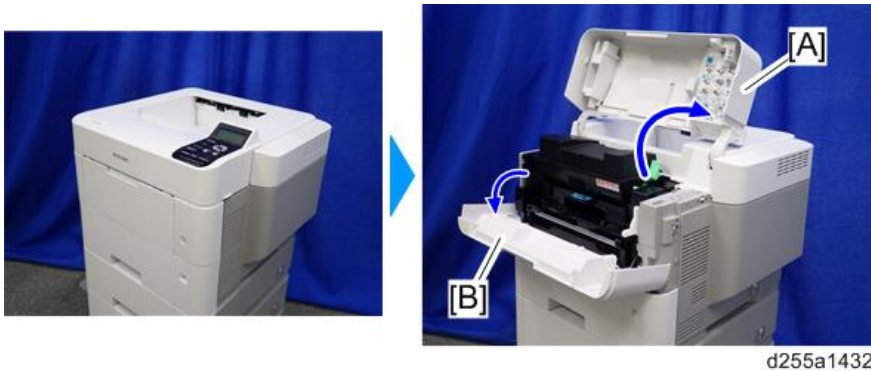
Clean the registration sensor 1 and opposing part.

1. Open the front cover.

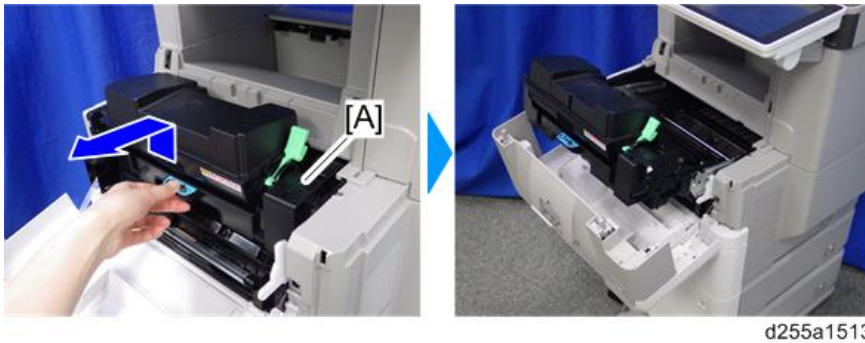
MP 501/601: Push the button [A] and open the front cover [B].



SP 5300/5310: Open the upper cover [A], and then open the front cover [B].



2. Pull out the PCDU [A].



3. Clean the registration sensor 1 [A] with a damp cloth from the backside of the PCDU [B].



4. Clean the opposing part [A] of the registration sensor 1 with the damp cloth.



Paper jam (J001) occurred after removing the jammed paper from the registration section

Symptom

Paper jam (J001) occur after removing the paper which was jammed between fusing section and registration section. This is because the registration filler has got under the registration roller when removing the jammed paper.

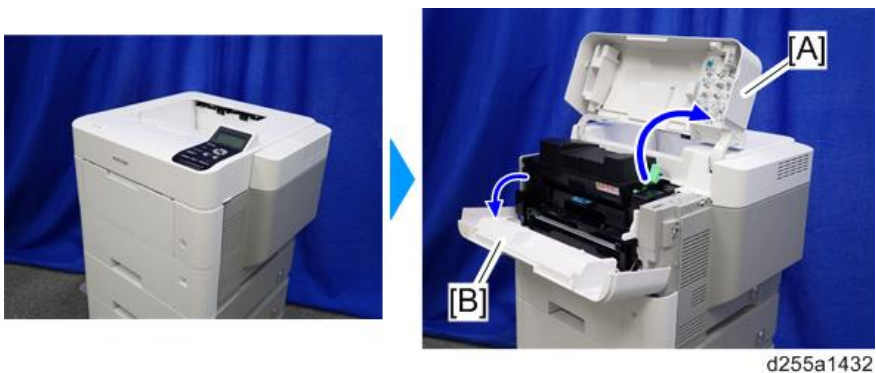
Solution

1. Open the front cover.

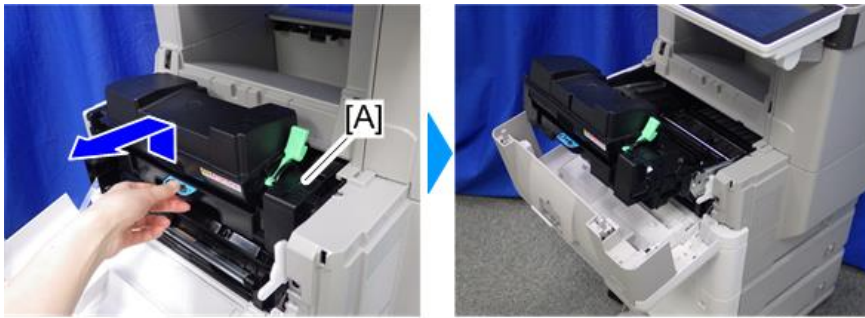
MP 501/601: Push the button [A] and open the front cover [B].



SP 5300/5310: Open the upper cover [A], and then open the front cover [B].

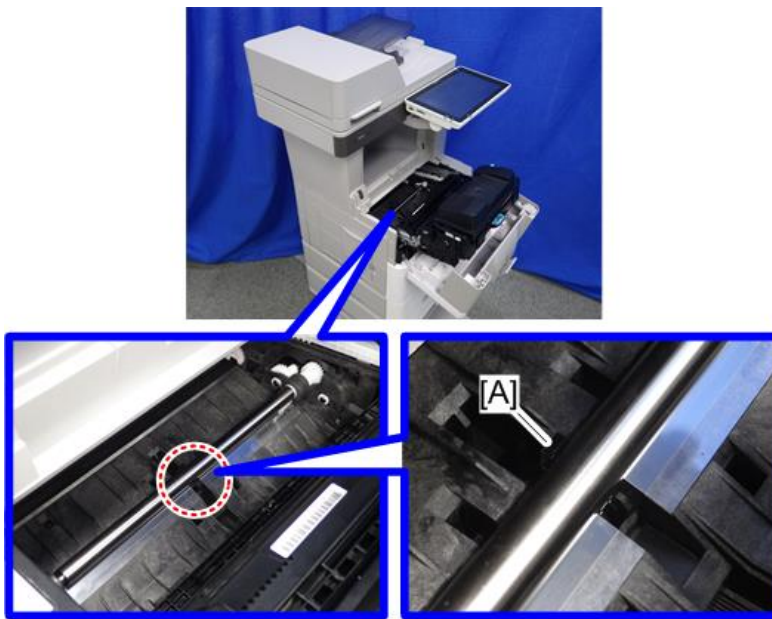


2. Pull out the PCDU [A].



d255a1513

3. Check whether the registration filler [A] moves smoothly.



d255a1517

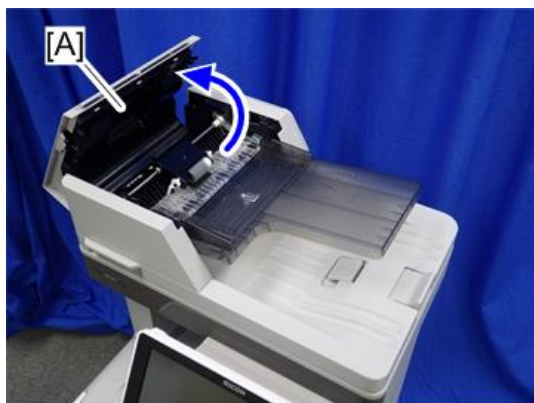
Non-feed jam in ARDF (MP 501/601 Only)

Symptom

Non-feed jam occur when 60 or more originals is strongly pushed into the ARDF.

Solution

- Open the ARDF upper cover [A] and remove the originals. Then place the originals into the ARDF. When placing the originals, do not push them into the ARDF.



d255a1234

- Instruct users to reduce the number of originals.

6.12.3 OTHERS

Troubles that can be improved by executing drum refresh mode

Execute the drum refresh mode when the following image quality failure occur.

- Background stains appear as bands perpendicular to the paper feed direction
- Vertical white streaks with about 1mm width in the form of a dotted line appear 15mm to the left of the paper center

Drum refresh procedure

↓ Note

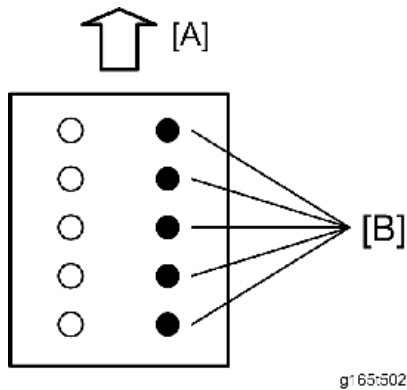
- It takes approximately 3 minutes to refresh the drum.
- If sheets of paper are loaded in the bypass tray, first remove them, and then refresh the drum.
- MP 501/601
 1. Press the [User Tools] icon on the operation panel.
 2. Press [Maintenance Features].
 3. Press [Maintenance].
 4. Press [Drum Refresh]
 5. Press [Start].
 6. Press [Exit].
- SP 5300/5310
 1. Press the [Menu] key on the control panel.
 2. Select [Quality Maintenance] -> Press [OK]

3. Select [Drum Refresh] -> Press [OK]
4. Select [OK].

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).



g*65:502

[A]: Paper feed direction

[B]: Problems at regular intervals

- 29.9 mm intervals: Charge roller
- 36.8 mm intervals: Registration roller
- 44.9 mm intervals: Development roller
- 61.2 mm intervals: Transfer roller
- 94.2 mm intervals: Drum
- 94.2 mm intervals: Pressure roller
- 109.9 mm intervals: Hot roller

SC670 (engine start up error) is displayed

Symptom

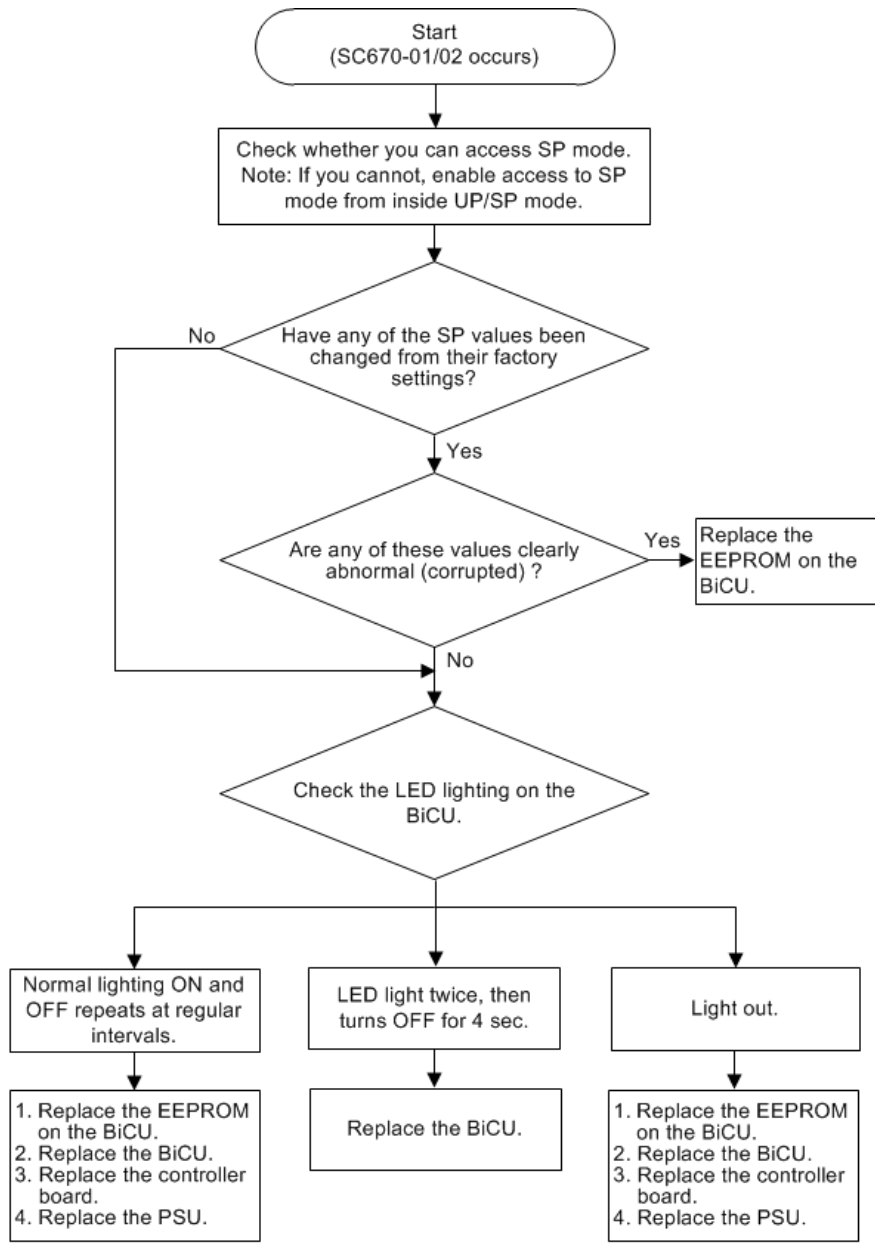
SC670 (engine start up error) is displayed.

Cause

The engine board resets at an unexpected timing, and does not start up again

Solution

If the symptom occurs, use the following flow chart to determine the cause and decide the best course of action.



w_d255a1533

SC672 (Controller start up error) is displayed**Symptom:**

The following occur:

SC672-00	Communication error between operation panel and controller after machine is powered on.
SC672-10	Communication error (receive) between operation panel and controller after machine is powered on.
SC672-11	Communication error (send) between operation panel and controller after machine is powered on.
SC672-12	Communication error between operation panel and controller after normal start-up.
SC672-13	Communication error between operation panel and controller after normal start-up; Operation panel not detected.

Note

- SC672 does not appear on the SMC report, as it is not logged.
- The Smart Operation Panel communicates with the controller via a USB cable and IPU.
- SC672 is triggered when the panel cannot communicate with the controller.

Cause:

Possible causes of SC672 include:

- USB communication path failure (USB cable, IPU).
- Controller boot up errors and/or operation panel boot up errors due to an abnormal break in operations of the controller.

Possible causes of operation panel cannot light include:

- USB communication path failure (USB cable, IPU).
- Operation panel cannot communicate with controller due to controller boot-up error.

Solution:

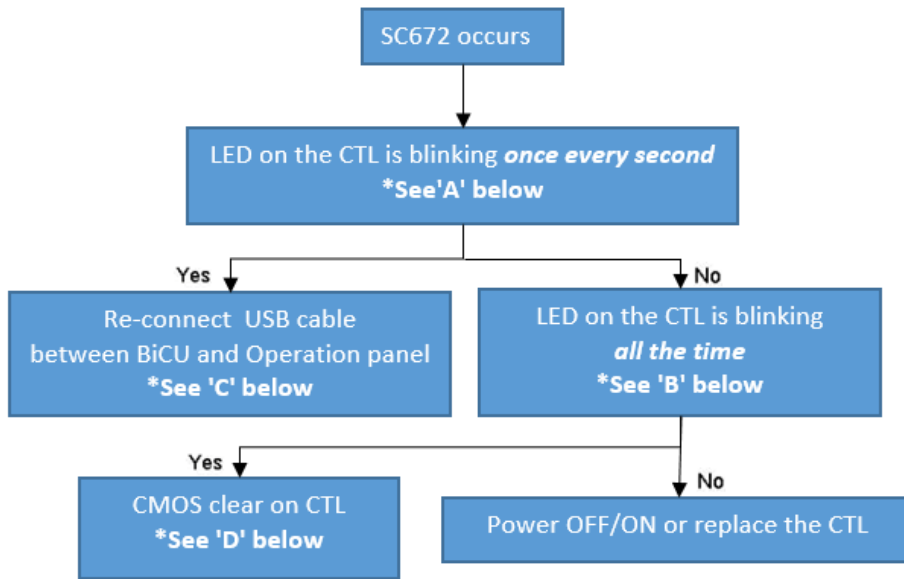
Do the following.

1. Turn the machine power OFF/ON.
2. Do the action in the flowchart below to determine the cause and best course of action when SC672 occurs.

Note

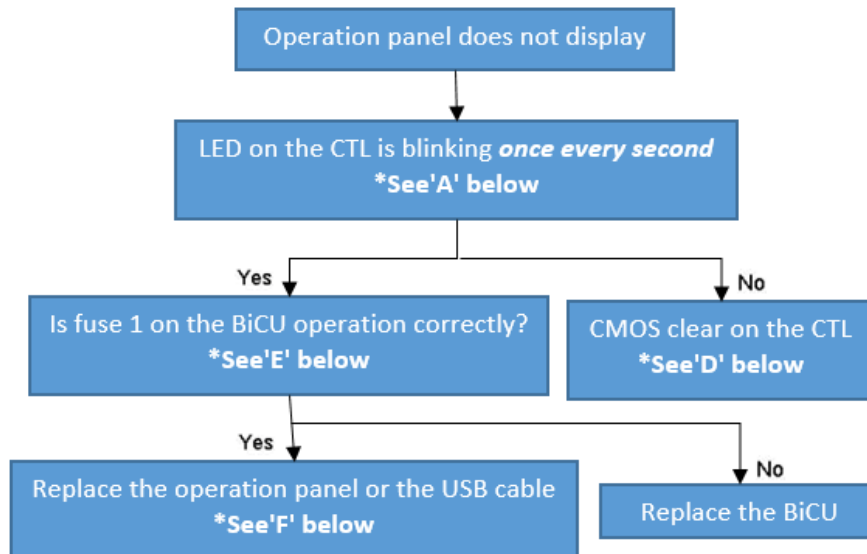
- If the SC recurs after you do the action in this flowchart, do the following:
 - If SC819 (cache error) appears in the SC history, replace the controller board.
 - If SC991 (SCS: scs time count level c') appears in the SC history, replace the controller board and USB cable.

Flowchart to determine parts to replace when SC672 occurs.



Parts	How to determine the cause
USB cable	LED on controller blinks <i>once every second</i>
Operation panel	LED on controller blinks <i>once every second</i>
Controller	LEDs on controller blink constantly

Flowchart to determine which parts to replace when no display on Operation Panel.

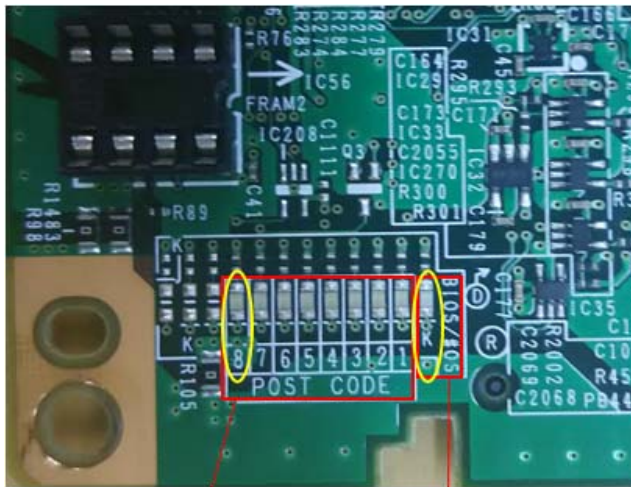


Parts	How to determine the cause
USB cable	LED on controller blinks <i>once every second</i>
Operation Panel	LED on controller blinks <i>once every second</i>
BiCU	Fuse 1 on the BiCU
Controller	LED on controller does not blink

[A]: LEDs on the controller board

Check the condition (lit, off, blinking) of the LED on the controller.

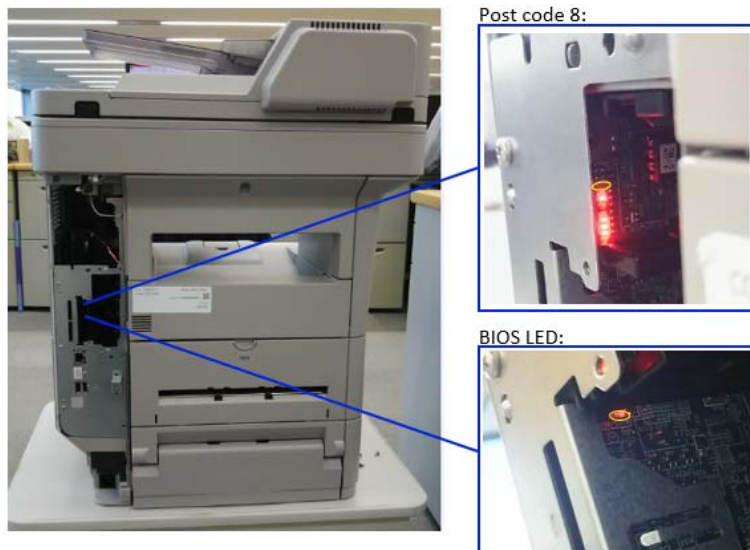
Normal situation: POSTCODE LED 8 and BIOS LED blinking **once every second**.



No.	Note
LED	For CPU - POSTCODE 8 and BIOS LED blink when the CPU is operating normally. - POSTCODE 8 and BIOS LED are lit or off when there is a problem with the CPU.

Confirmation procedure:

1. Remove the FCU unit. (Fax unit)
2. Remove the I/F slot.
3. Turn ON the machine and check the LED from the rear-right side of the machine.



Troubleshooting

[B]: Abnormal mode: LEDs on the controller board

LEDs 1 to 8 blink constantly

Example:



No.	Note
POSTCOD E 1-8	1. For self-diagnosis code (BIOS). 2. After the BIOS starts up, LEDs 4,5,7 turn off and LEDs 1,2,3 ,6 turn on and LED 8 blinks . LED 8 is lit or off when there is a problem with the CPU.
BIOS LED	- LED is lit when the BIOS is running. - LED blinks when the OS is running.

[C]: Reconnecting and replacing the USB cable:

- Reconnect the USB cable as shown below.

USB connector at the operation panel:



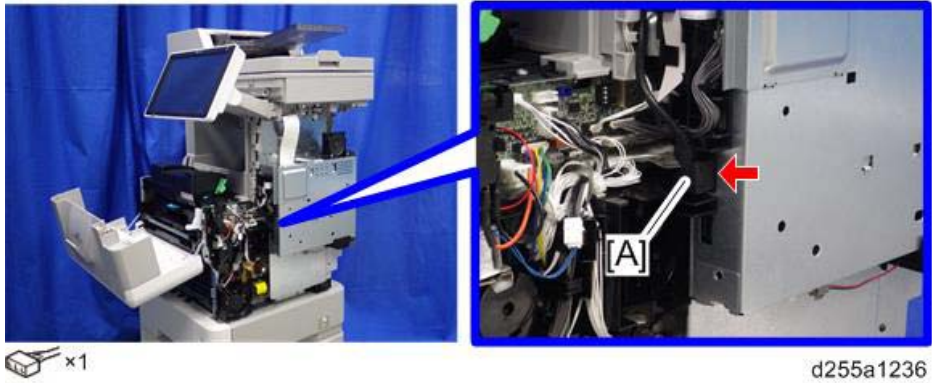
CABLE: OPERATION SUB-UNIT:USB3.0 PCB:SUB:PROGRAM:ASS'Y

Note

- When connecting the cable, hold the molded part of the cable as shown below so as not to apply excessive force on the connector part. Applying excessive force toward the upper direction on the connector may cause connection failure.



USB connector at the BiCU:



- Reference for replacing the USB cable
Refer to “4. Replacement and Adjustment > Operation Panel (MP 501/601)

[D]: CMOS clear procedure:

Turn the machine power OFF.

1. Turn Dip switch 1-3 ON for 10 seconds
2. Turn Dip switch 1-3 OFF
3. Turn the machine power ON.

Dip switches location on the controller board:



Troubleshooting

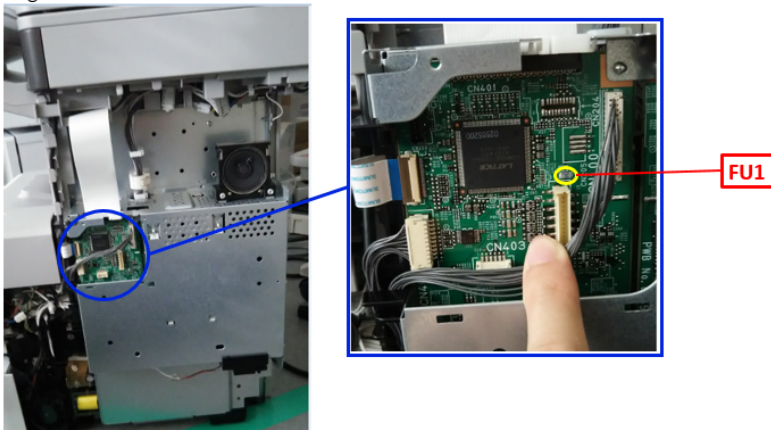
[E]: Fuse on the BiCU:

Check the Fuse 1 on the BiCU.

Address	MP 501/601	SP 5300/5310
FU1	5A 76V	T0.5A 63V

FU1 on the BiCU:

Right side of the machine:



[F]: For replacing the operation panel or the USB cable:

Refer to “4. Replacement and Adjustment > Operation Panel (MP 501/601) (p281~)”

DETAILED DESCRIPTIONS

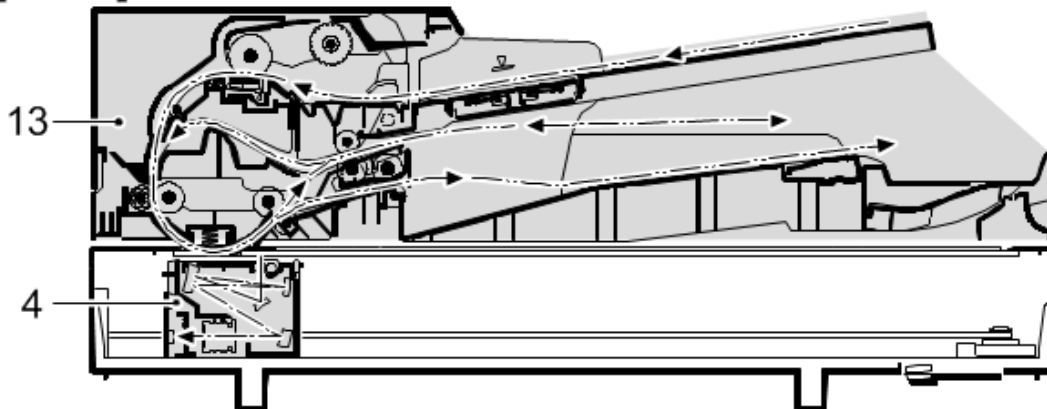
REVISION HISTORY		
Page	Date	Added/Updated/New
		None

7. DETAILED DESCRIPTIONS

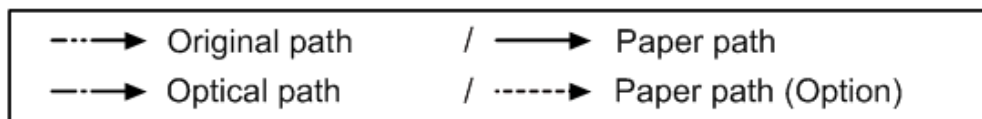
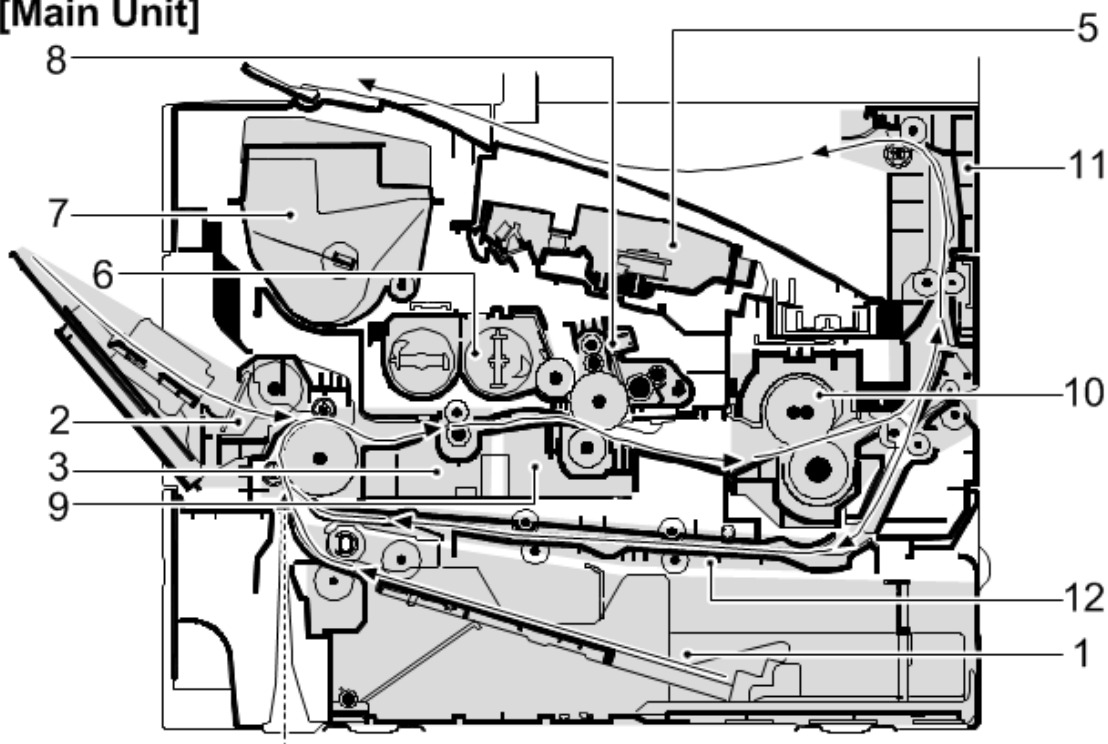
7.1 PRODUCT OVERVIEW

7.1.1 MP 501/601 COMPONENT LAYOUT / PAPER PATH

[ARDF]



[Main Unit]



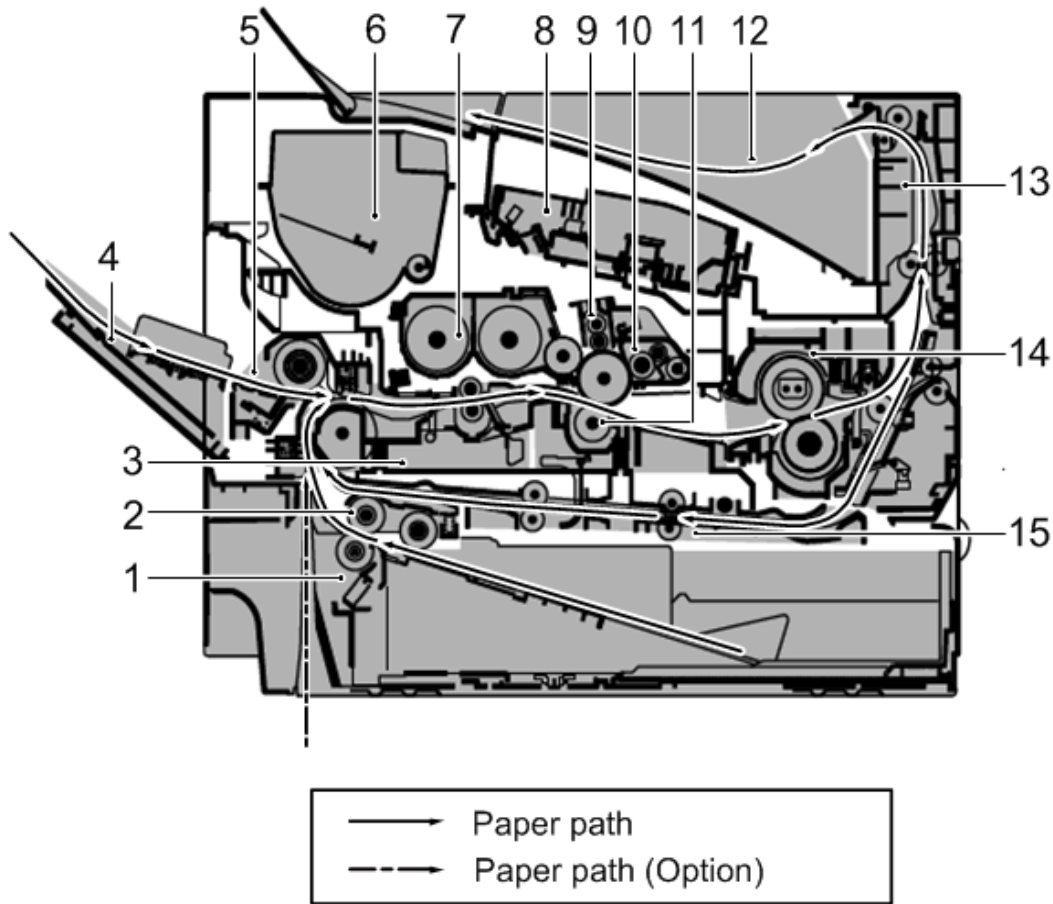
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Detailed Descriptions

Product Overview

No.	Name	No.	Name
1	Paper feed tray	8	Drum unit
2	Bypass tray unit	9	Transfer unit
3	Transportation section	10	Fusing unit
4	Scanner unit	11	Paper exit unit
5	Laser unit	12	Duplex unit
6	Development unit	13	ARDF
7	Toner cartridge		

SP 5300/5310 Component Layout / Paper Path



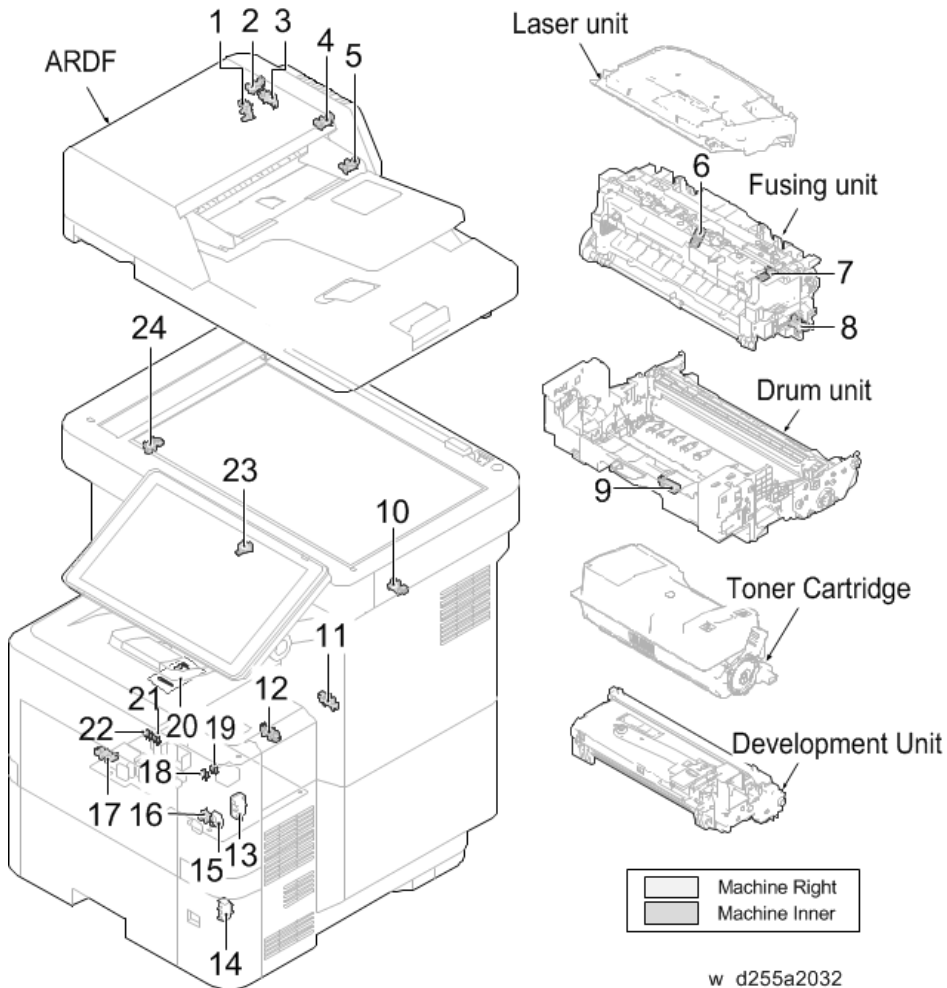
w_d255a2001

No.	Name	No.	Name
1	Paper feed tray	9	Charge roller
2	Paper feed unit	10	Drum unit
3	Transportation section	11	Transfer unit
4	Bypass tray	12	Paper exit tray
5	Bypass tray unit	13	Paper exit unit
6	Toner cartridge	14	Fusing unit
7	Development unit	15	Duplex unit
8	Laser unit		

Detailed Descriptions

7.1.2 PARTS LAYOUT

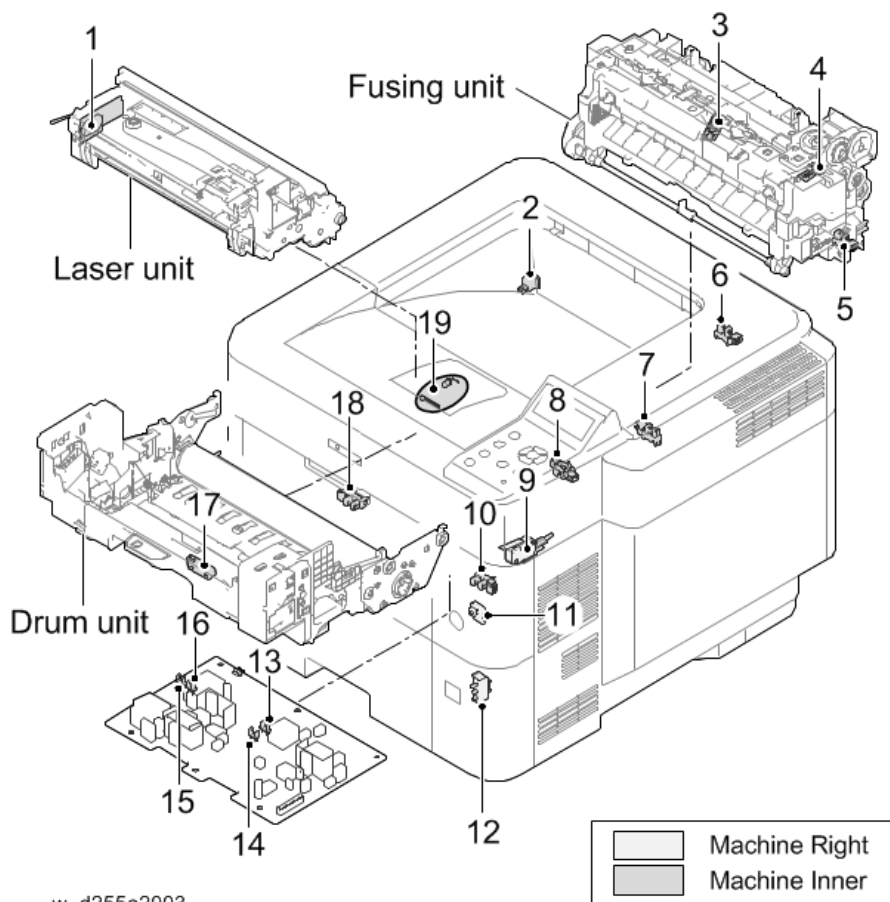
MP 501/601 Switches & Sensors



No.	Name	No.	Name
1	ARDF registration sensor	13	Interlock switch
2	ARDF original timing sensor	14	Paper feed tray size switch
3	ARDF open/close sensor	15	Main power switch PCB
4	ARDF original sensor	16	Paper feed tray limit sensor
5	ARDF position sensor	17	Bypass paper end sensor
6	Fusing thermistor 2 (Center)	18	Registration sensor 2
7	Fusing thermistor 1 (End)	19	Duplex sensor 2
8	Fusing sensor	20	Waste toner full sensor

No.	Name	No.	Name
9	Registration sensor 1	21	Paper end sensor 1
10	Paper exit full sensor	22	Paper end sensor 2
11	Duplex sensor 1	23	Rear cover switch
12	Envelope sensor	24	Scanner HP sensor

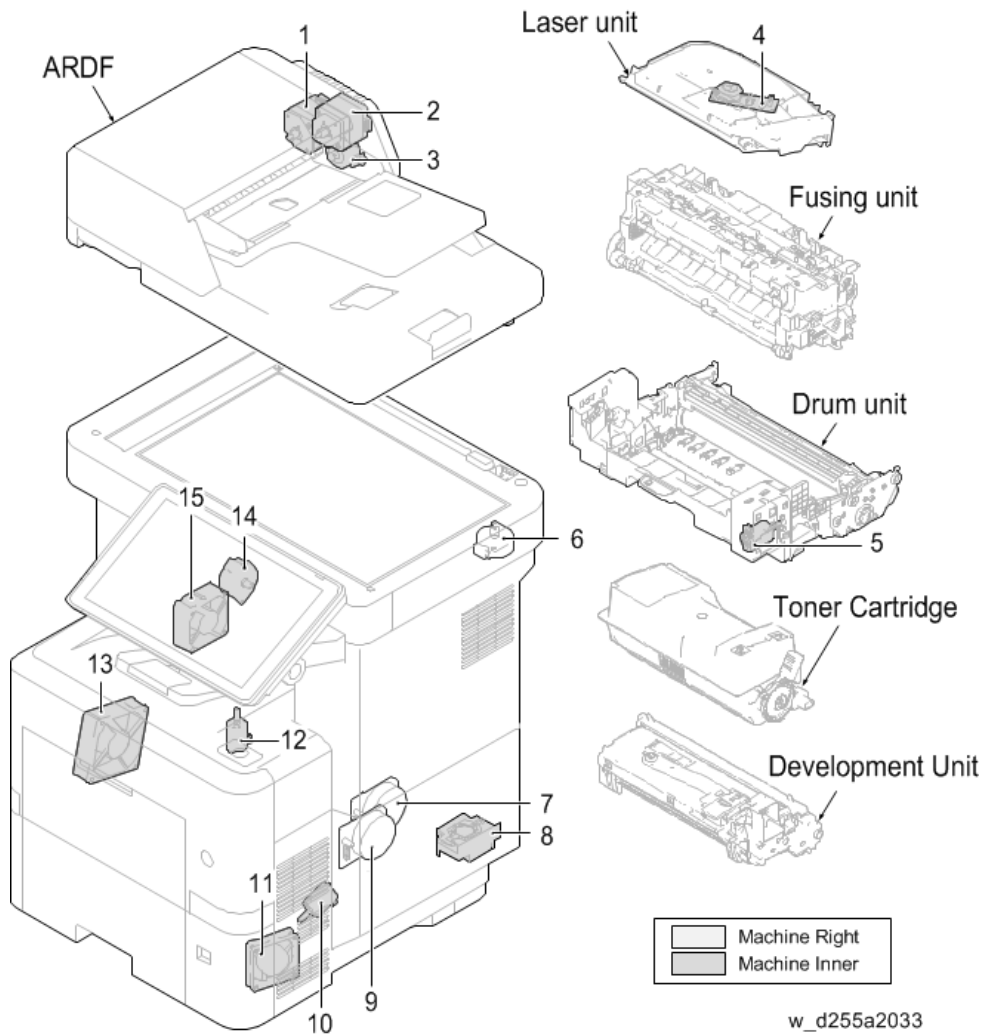
SP 5300/5310 Switches & Sensors



w_d255a2003

No.	Name	No.	Name
1	Toner density sensor PCB	11	Main power switch PCB
2	Rear cover switch	12	Paper feed tray size switch
3	Fusing thermistor 1 (End)	13	Duplex sensor 2
4	Fusing thermistor 2 (Center)	14	Registration sensor 2
5	Fusing sensor	15	Paper end sensor 2
6	Paper exit full sensor	16	Paper end sensor 1
7	Duplex sensor 1	17	Registration sensor 1
8	Envelope sensor	18	Bypass paper end sensor
9	Interlock switch	19	Waste toner full sensor
10	Paper feed tray limit sensor		

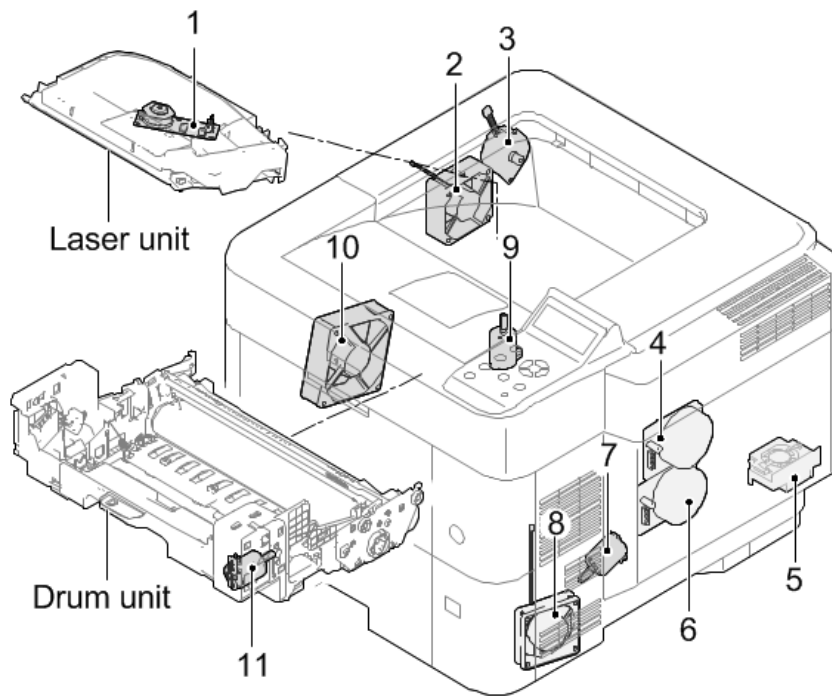
MP 501/601 Drive unit, Fans



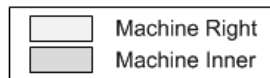
No.	Name	No.	Name
1	ARDF paper transport motor	9	Main motor
2	ARDF paper feed motor	10	Paper feed tray lift motor
3	ARDF inverter motor	11	PSU fan
4	Polygon motor	12	Fusing pressure release motor
5	Toner supply motor	13	Development fan
6	Scanner motor	14	Paper exit motor
7	Drum motor	15	Laser fan
8	Controller box fan		

Detailed Descriptions

SP 5300/5310 Drive unit, Fans

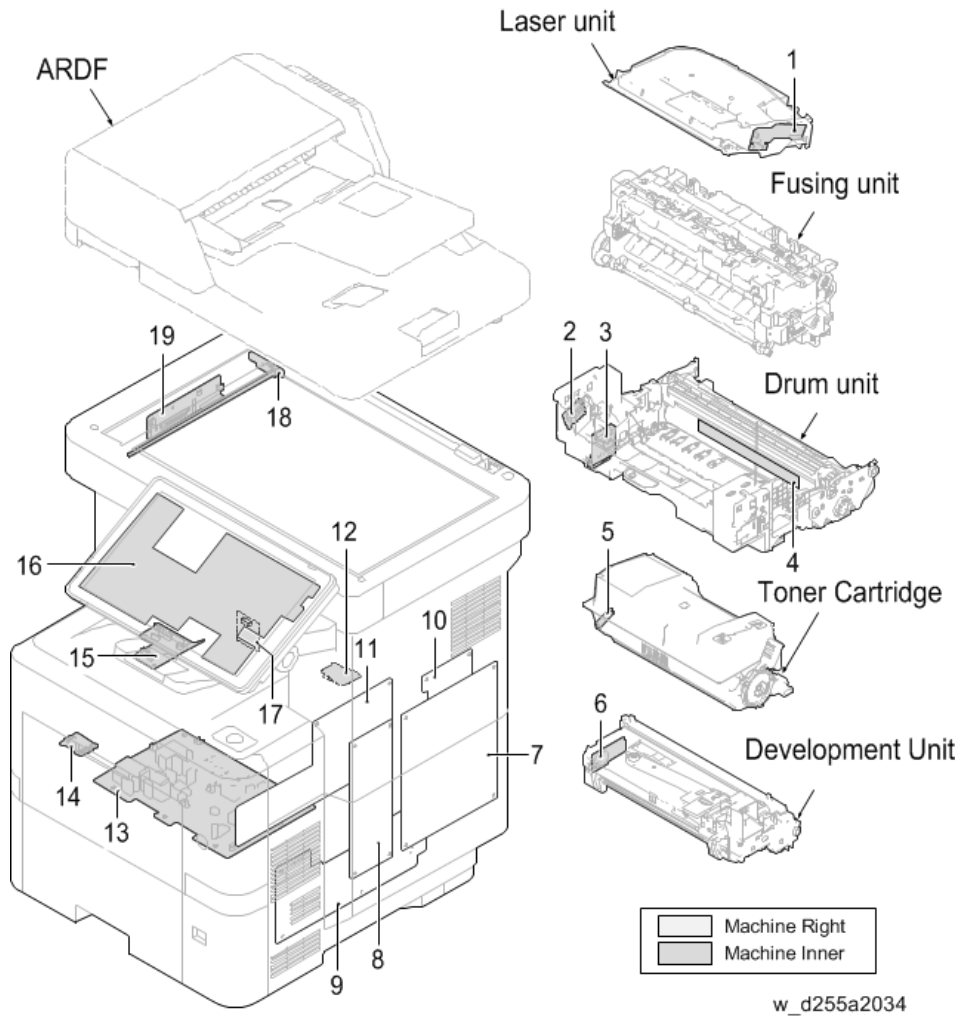


w_d255a2004



No.	Name	No.	Name
1	Polygon motor	7	Paper feed tray lift motor
2	Laser fan	8	PSU fan
3	Paper exit motor	9	Fusing pressure release motor
4	Drum motor	10	Development fan
5	Controller box fan	11	Toner supply motor
6	Main motor		

MP 501/601 Electrical Components



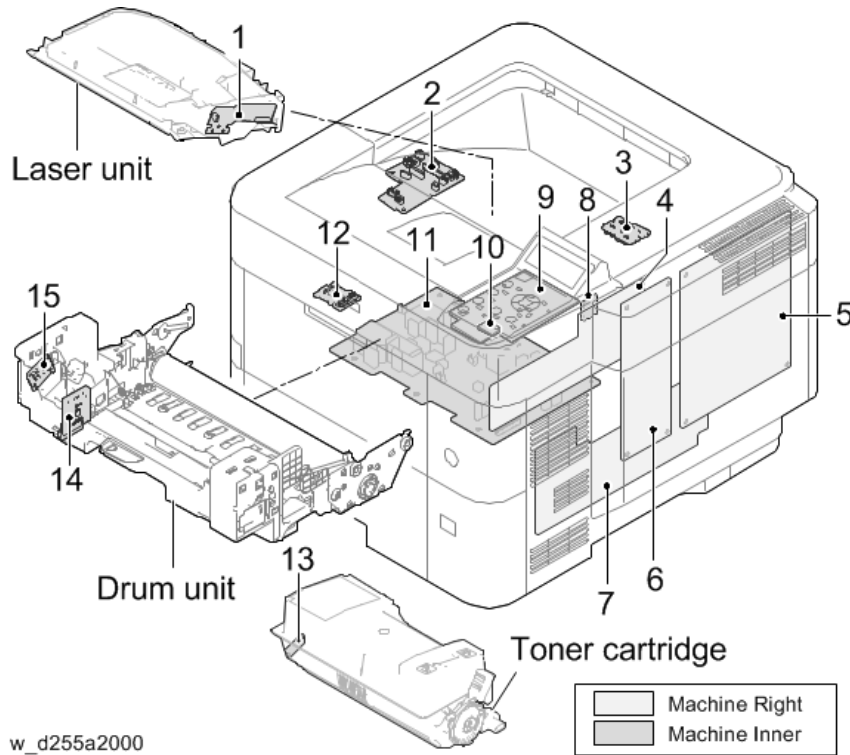
No.	Name	No.	Name
1	LDB	11	IOB
2	Toner cartridge connection PCB	12	Thermostat connection PCB
3	Drum PCB	13	Power pack
4	Drum heater PCB (Asia Only)	14	Drum connection PCB
5	Toner cartridge PCB	15	Connect-Left PCB
6	Toner density sensor PCB	16	OPU board
7	Controller board	17	Thermistor connection PCB

Detailed Descriptions

Product Overview

No.	Name	No.	Name
8	BiCU	18	LED PCB
9	PSU	19	SBU
10	Fax board		

SP 5300/5310 Electrical Components

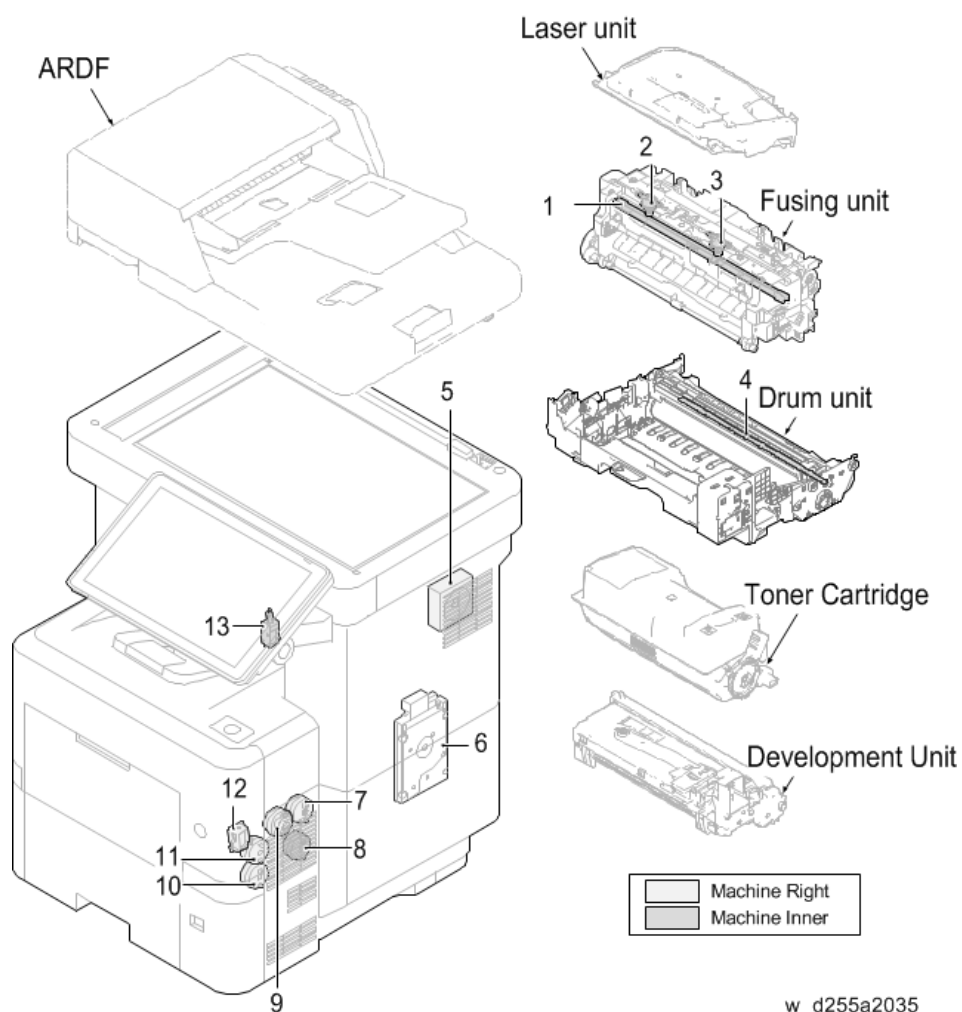


w_d255a2000

No.	Name	No.	Name
1	LDB	9	OPU Board
2	Connect-Left PCB	10	Sensor PCB
3	Thermostat connection PCB	11	Power pack
4	IOB	12	Drum connection PCB
5	Controller board	13	Toner cartridge PCB
6	BiCU	14	Drum PCB
7	PSU	15	Toner cartridge connection PCB
8	Thermistor connection PCB		

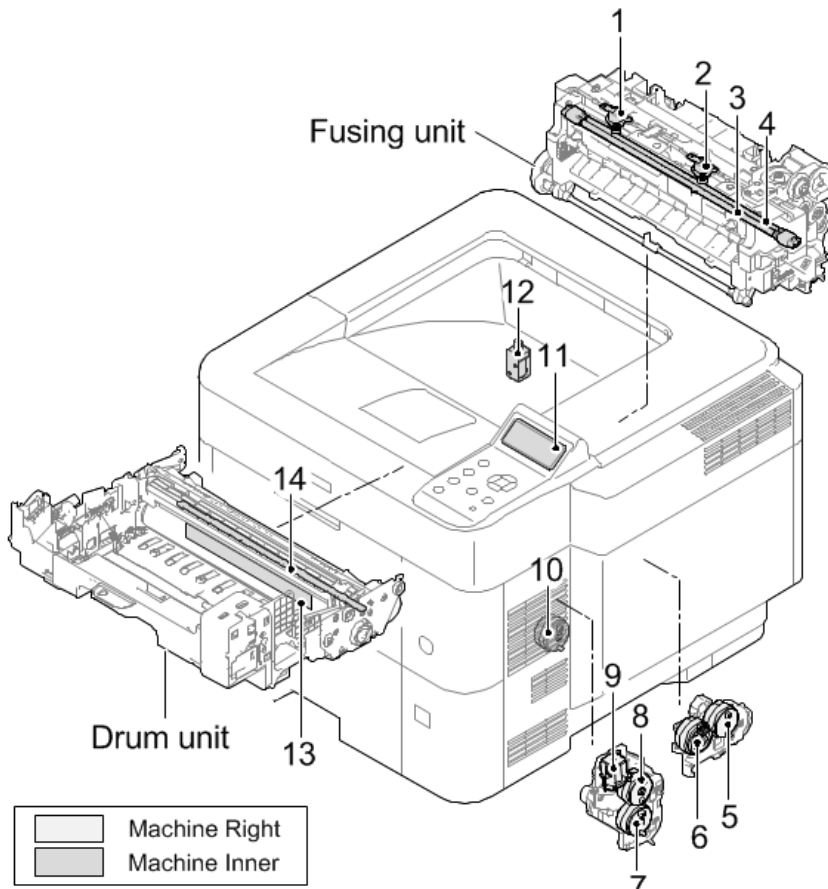
Detailed Descriptions

MP 501/601 Others



No.	Name	No.	Name
1	Fusing lamps	8	Duplex clutch
2	Fusing thermostat 1 (End)	9	Registration clutch
3	Fusing thermostat 2 (Center)	10	Paper feed clutch
4	Quenching lamp	11	Transport clutch
5	Speaker	12	Bypass solenoid
6	HDD	13	Inverter solenoid
7	Development clutch		

SP 5300/5310 Others



w_d255a2005

No.	Name	No.	Name
1	Fusing thermostat 1 (End)	8	Transport clutch
2	Fusing thermostat 2 (Center)	9	Bypass solenoid
3	Fusing lamp 1	10	Duplex clutch
4	Fusing lamp 2	11	Control panel
5	Development clutch	12	Inverter solenoid
6	Registration clutch	13	Drum heater PCB (Asia and Chinese Only)
7	Paper feed clutch	14	Quenching lamp

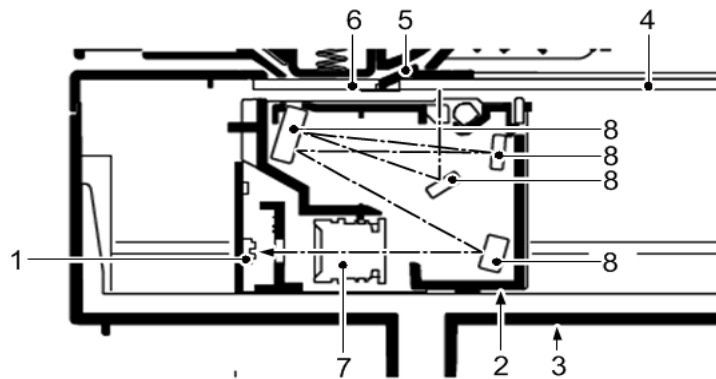
Detailed Descriptions

7.2 SCANNER UNIT (MP 501/601 ONLY)

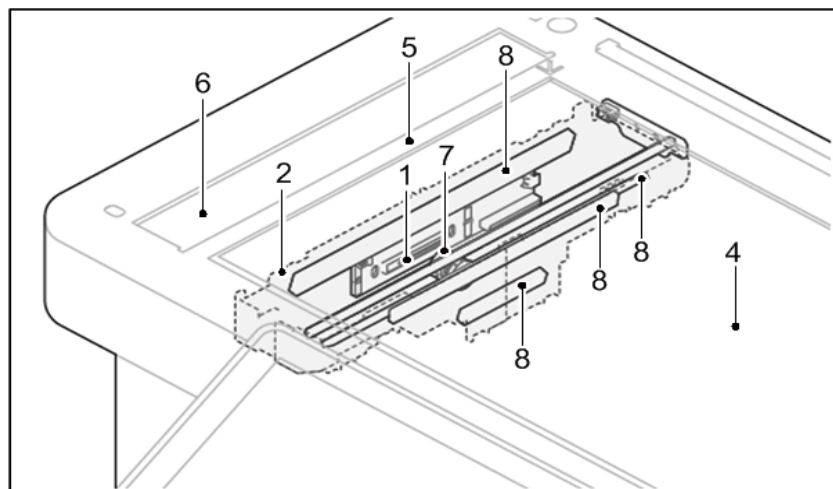
The original image is illuminated by the exposure lamp and scanned by the CCD, the reflected light being converted to an electrical signal.

If the ARDF is used, the scanner unit stops at the position of the ARDF exposure glass. Then the machine sequentially scans each line of the image on the original in synchronization with the movement of the original in the sub scan direction as it is fed by the ARDF.

No.	Name	No.	Name
1	CCD	5	Original size indicator plate
2	Carriage	6	Exposure glass (for ARDF)
3	Scanner frame	7	Lens
4	Exposure glass	8	Mirrors



d255a2006

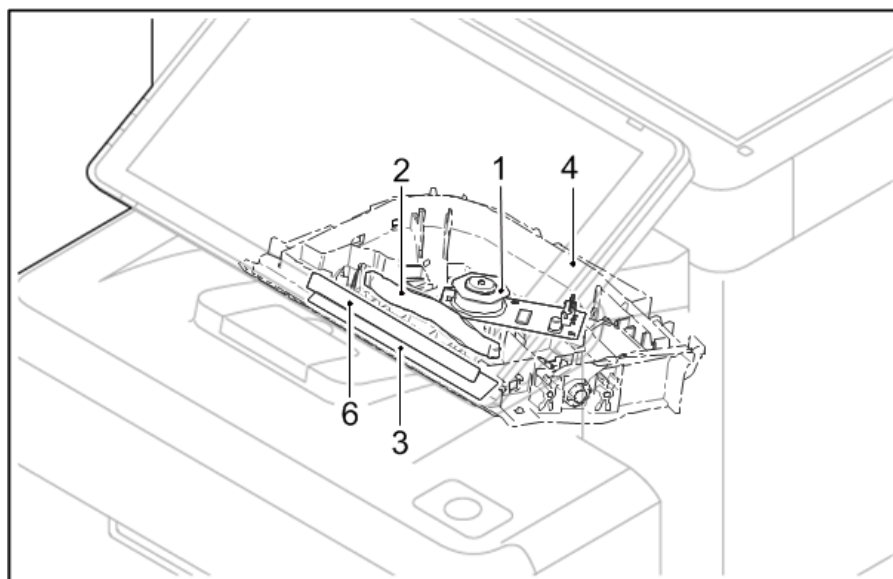
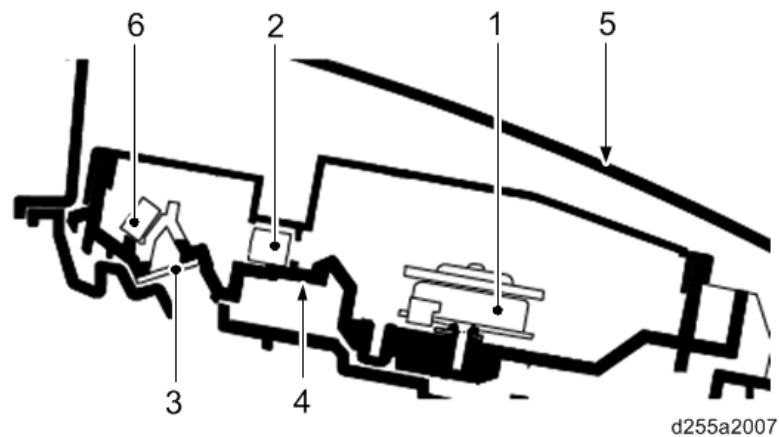


d255a2021

7.3 LASER UNIT

The charged surface of the drum is scanned by the laser beam from the laser unit. The polygon motor rotates to reflect the laser beam over the drum. Various lenses and mirrors are housed in the laser unit, to adjust the diameter of the laser beam, and focus it on the drum surface.

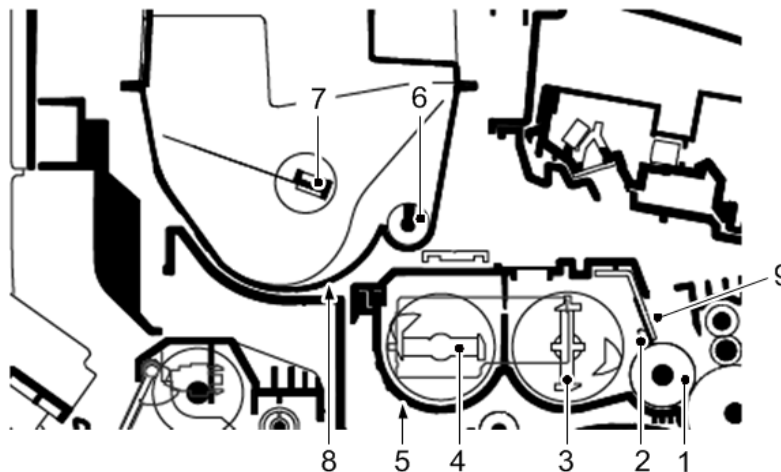
No.	Name	No.	Name
1	Polygon motor	4	Unit base
2	f-theta main lens	5	Unit cover
3	Dust shield glass	6	Mirror



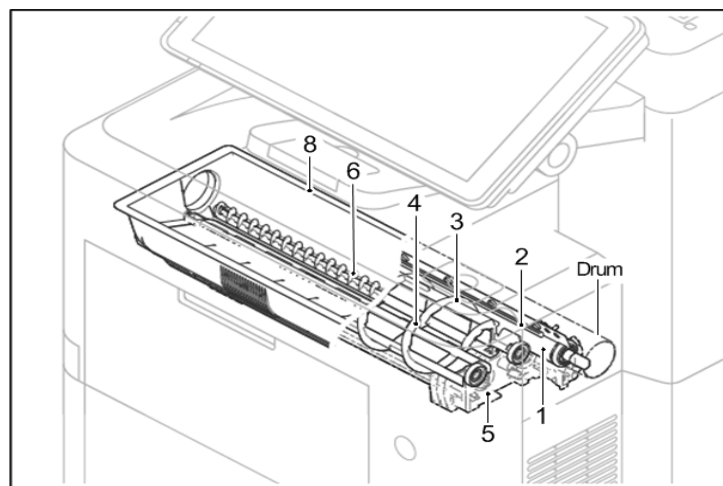
7.4 DEVELOPMENT UNIT

The development unit consists of the development roller that forms the magnetic brush, the development blade and the development agitators that agitate the toner in the development unit. The toner sensor checks whether or not toner remains in the development unit.

No.	Name	No.	Name
1	Development roller	6	Toner supply roller
2	Development blade	7	Toner agitator
3	Development agitator A	8	Toner cartridge
4	Development agitator B	9	Development blade
5	Development case		



d255a2008



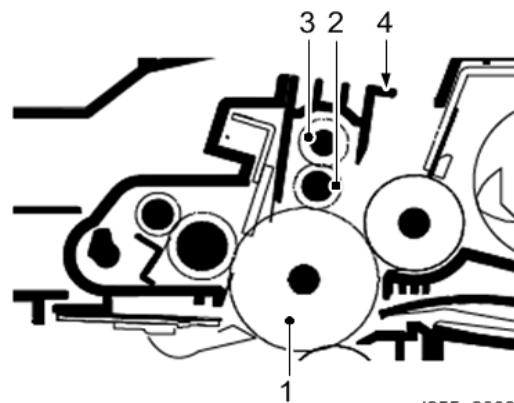
w_d255a2023

7.5 DRUM UNIT

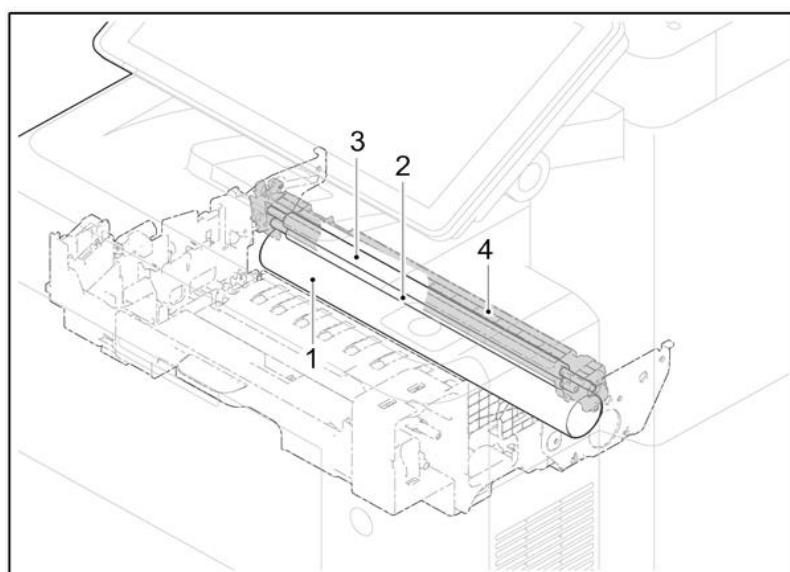
7.5.1 DRUM

The drum section consists of the drum, the charge roller unit, and the cleaning unit. The drum surface is uniformly charged in preparation for formation of residual image by the laser beam. After transfer is complete, toner remaining on the drum surface is removed with the cleaning blade and is sent to the waste toner bottle with the drum coil. The quenching lamp consists of LEDs and removes residual charge on the drum before main charging for the next image.

No.	Name	No.	Name
1	Drum	3	Cleaning roller (for charge roller)
2	Charge roller	4	Charge roller case



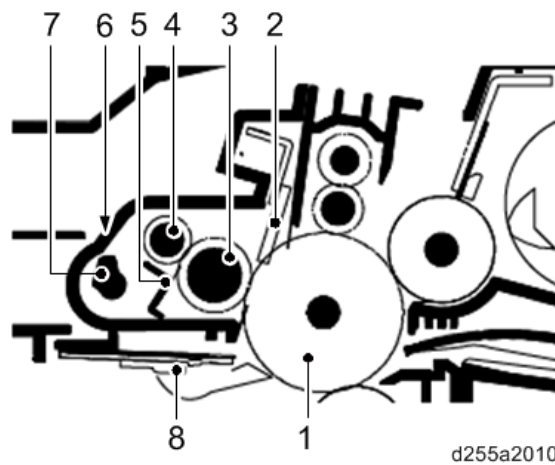
d255a2009



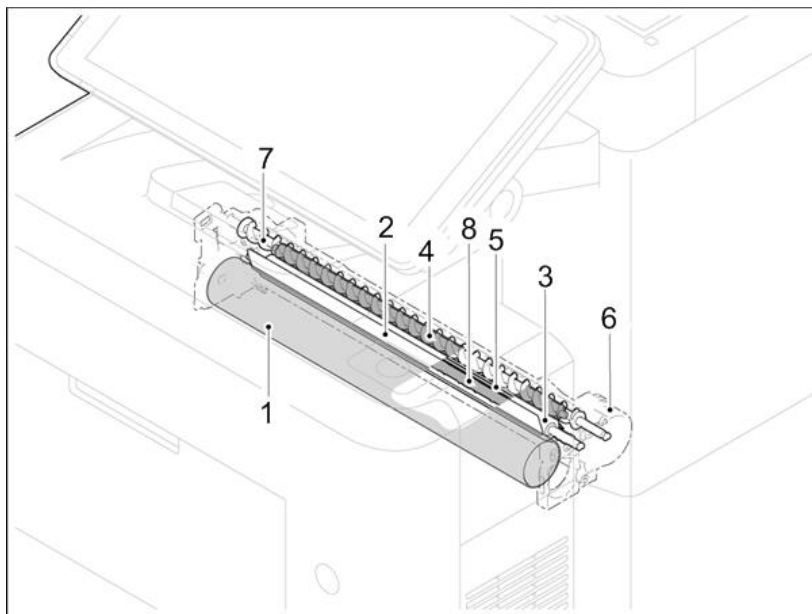
d255a2024

7.5.2 CLEANING UNIT

No.	Name	No.	Name
1	Drum	5	Scraper
2	Cleaning blade	6	Drum frame
3	Cleaning roller	7	Waste toner removal coil (drum coil)
4	Control roller	8	Quenching lamp



d255a2010

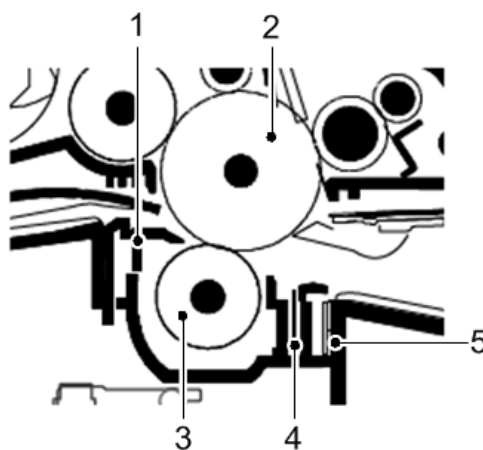


d255a2025

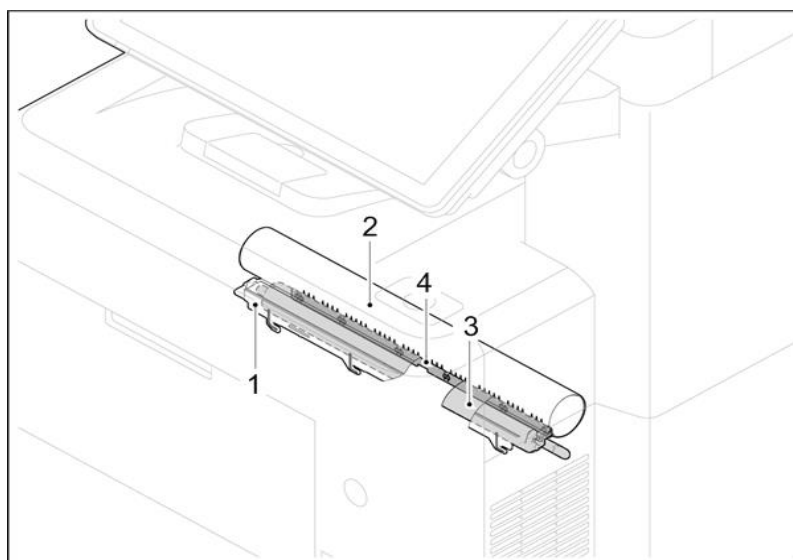
7.6 TRANSFER UNIT

The transfer unit consists mainly of the transfer roller, discharge plate and drum separation claws. A high voltage generated by the power pack is applied to the transfer roller for transfer charging. Paper after transfer is separated from the drum by applying the separation charge that is output from the power pack to the discharge plate.

No.	Name	No.	Name
1	Transfer guide plate	4	Discharge plate
2	Drum	5	Drum heater (Asia Only)
3	Transfer roller		



d255a2011

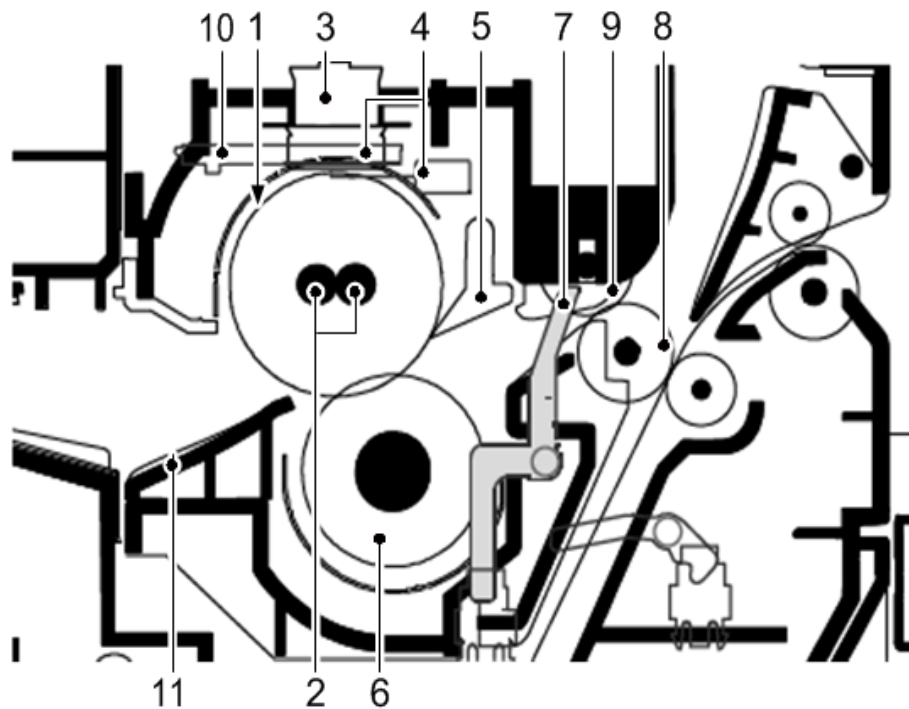


d255a2026

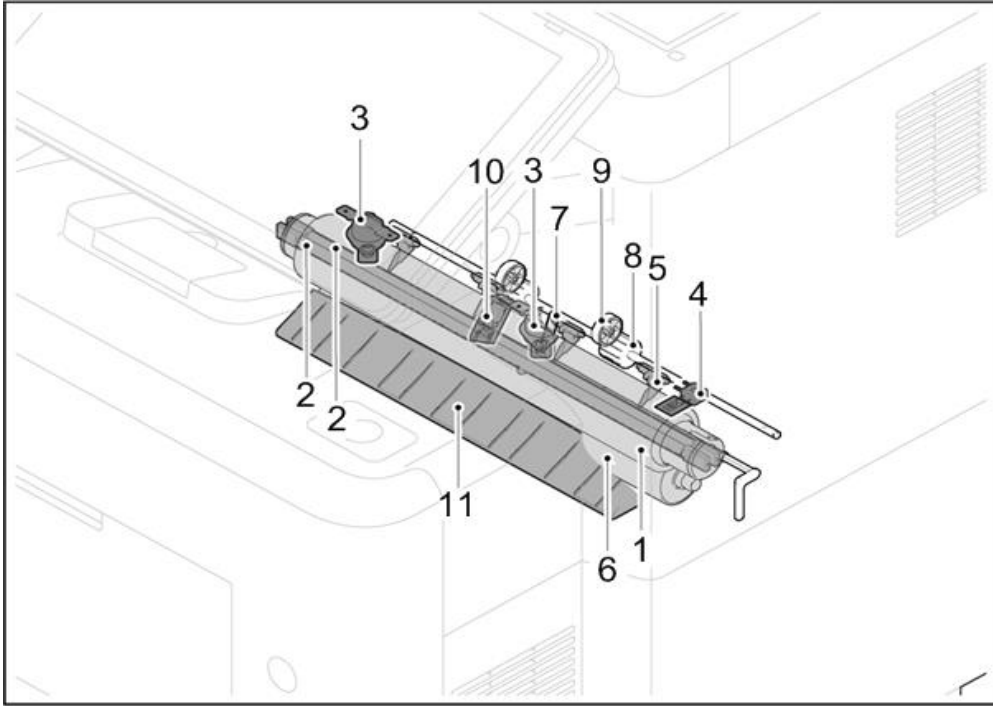
7.7 FUSING UNIT

The paper sent from the transfer unit is fed between the hot roller and the pressure roller. The hot roller is heated by the fusing lamps, and the toner is fused by heat and pressure and fixed onto the paper. The pressure roller is pressed by the fusing pressure spring. The surface temperature of the hot roller is detected by the fusing thermistor and controlled by the controller board. If the fusing unit reaches extremely high temperature, the power line will be shut off and the fusing lamp is forced to turn off.

No.	Name	No.	Name
1	Hot roller	7	Actuator (fusing sensor)
2	Fusing lamps	8	Fusing exit roller
3	Fusing thermostat	9	Fusing exit pulley
4	Fusing thermistor	10	Fusing thermistor
5	Separators	11	Fusing entrance guide
6	Pressure roller		



d255a2012



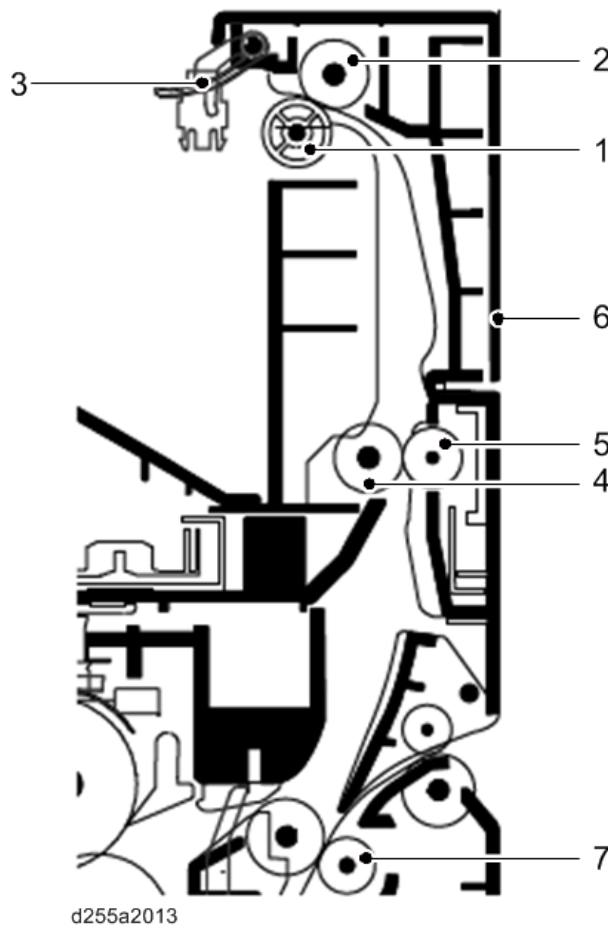
d255a2027

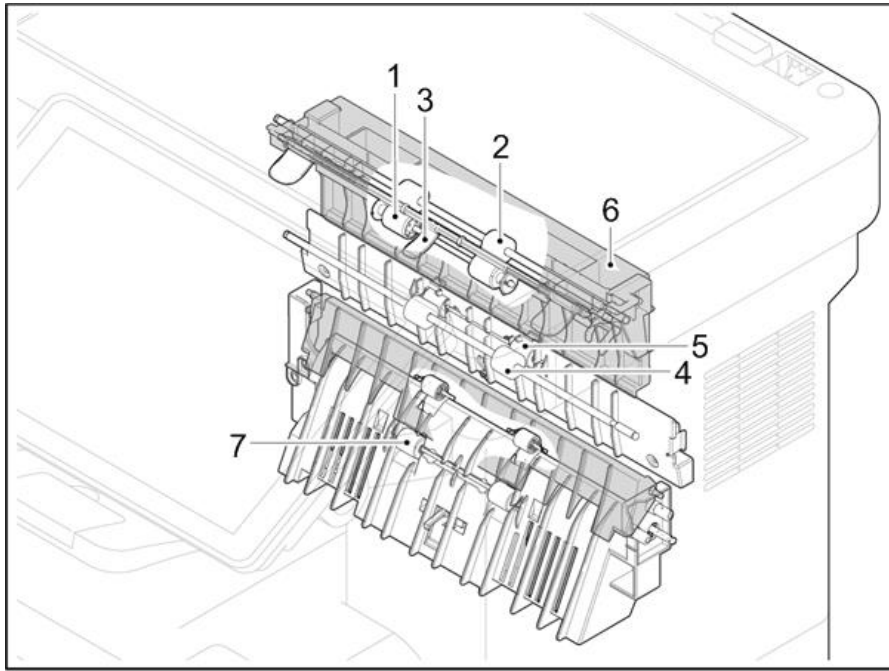
Detailed
Descriptions

7.8 PAPER EXIT UNIT

The paper exit unit consists of the transport path which sends the paper from the fusing unit to the paper exit tray, and the transport path which sends the paper to the duplex unit when duplex printing.

No.	Name	No.	Name
1	Upper paper exit pulley	5	Lower paper exit pulley
2	Upper paper exit roller	6	MP 501/601: Paper exit cover SP 5300/5310: Upper cover
3	Actuator (paper tray full sensor)	7	Duplex feed pulley
4	Lower paper exit roller		





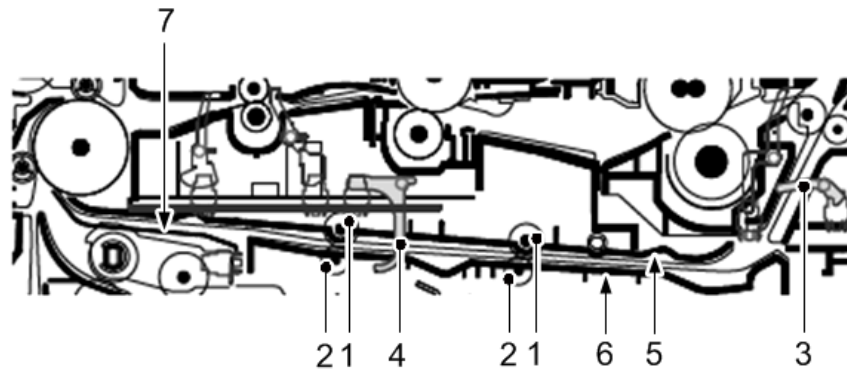
d255a2028

Detailed
Descriptions

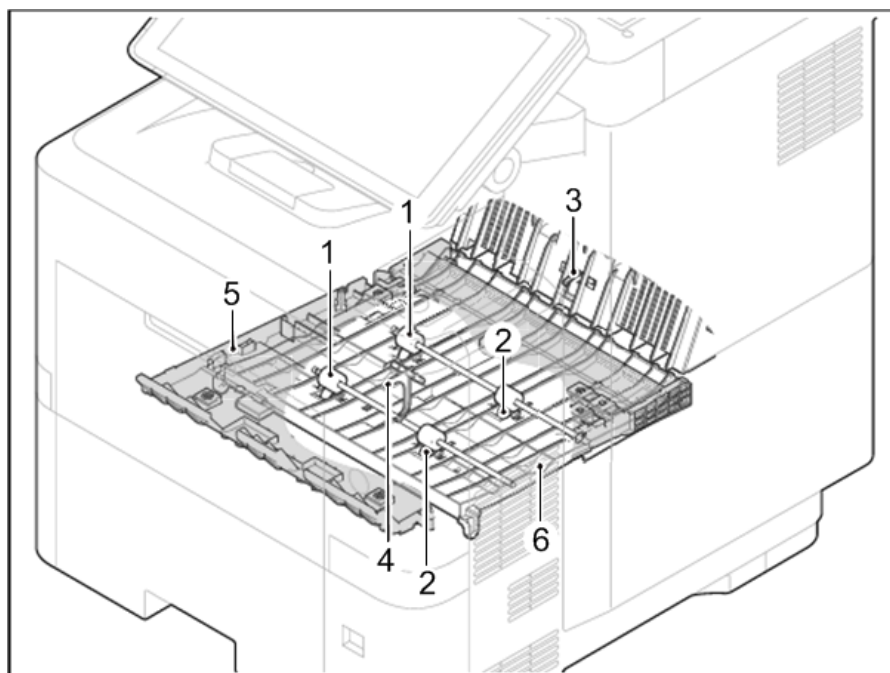
7.9 DUPLEX UNIT

The duplex unit consists of the transport path which sends the paper from the paper exit unit to the transportation section when duplex printing.

No.	Name	No.	Name
1	Duplex rollers	5	Duplex base
2	Duplex idle rollers	6	Duplex lower guide
3	Actuator (duplex sensor 1)	7	Feed upper guide
4	Actuator (duplex sensor 2)		



d255a2014



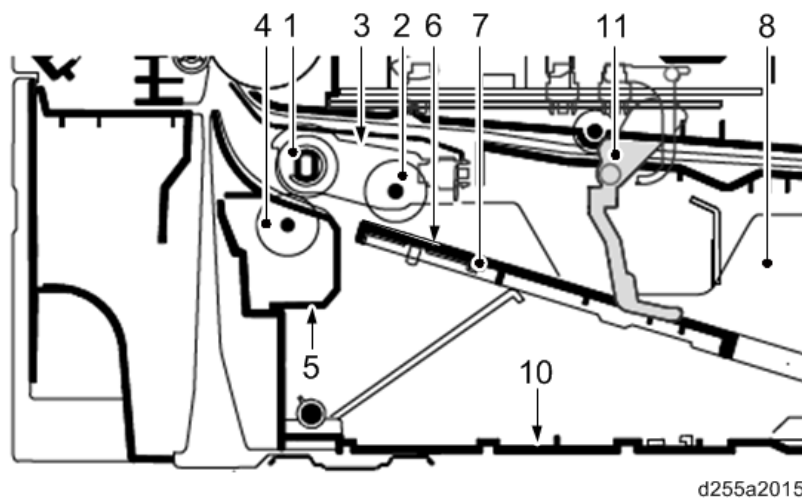
d255a2029

7.10 PAPER FEED UNIT

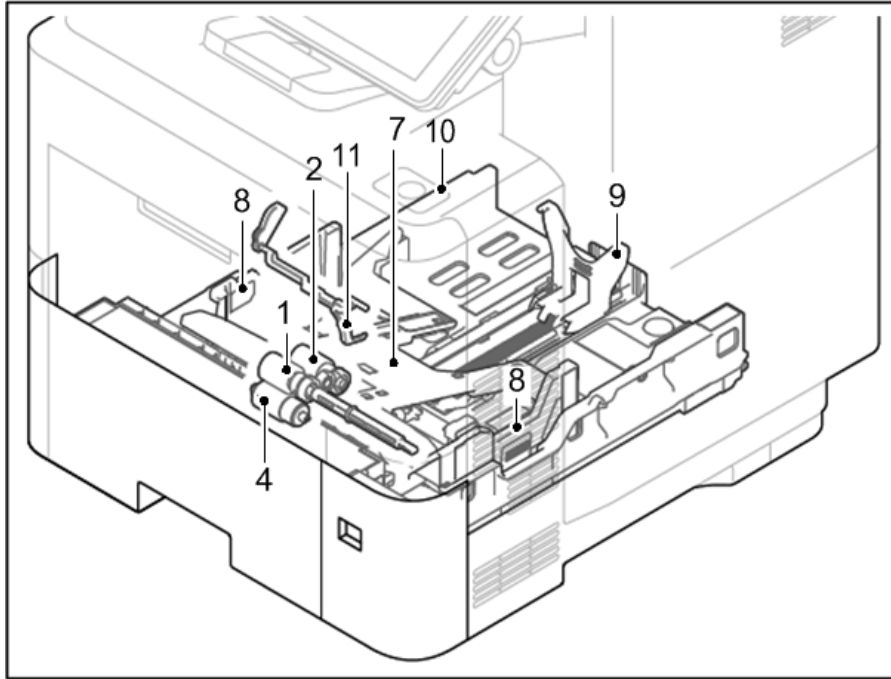
The paper feed unit consists of the paper feed section that feeds paper from the cassette, the bypass tray, and the paper transport section that conveys the fed paper to the transportation section.

The cassette can contain 500 sheets. The sheet from the cassette is pulled out by rotation of the pickup roller and sent to the transportation section by rotation of the paper feed roller. The separation roller prevents multiple feeding.

No.	Name	No.	Name
1	Paper feed roller	7	Bottom plate
2	Pickup roller	8	Paper width guide
3	Feed roller holder	9	Paper length guide
4	Separation roller	10	Cassette base
5	Separation roller holder	11	Actuator (paper end sensor)
6	Friction pad		



Paper Feed Unit

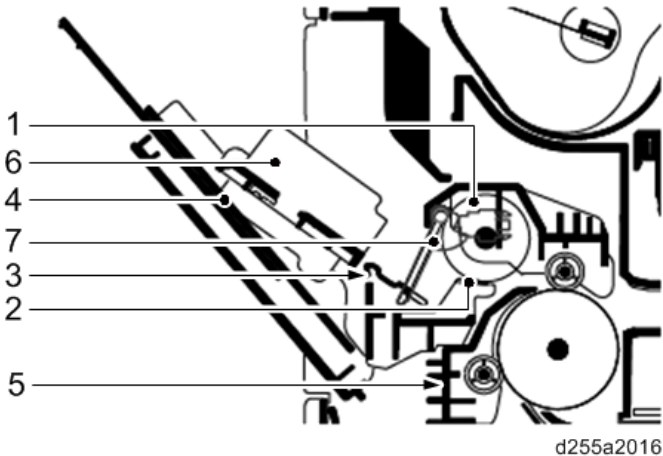


d255a2030

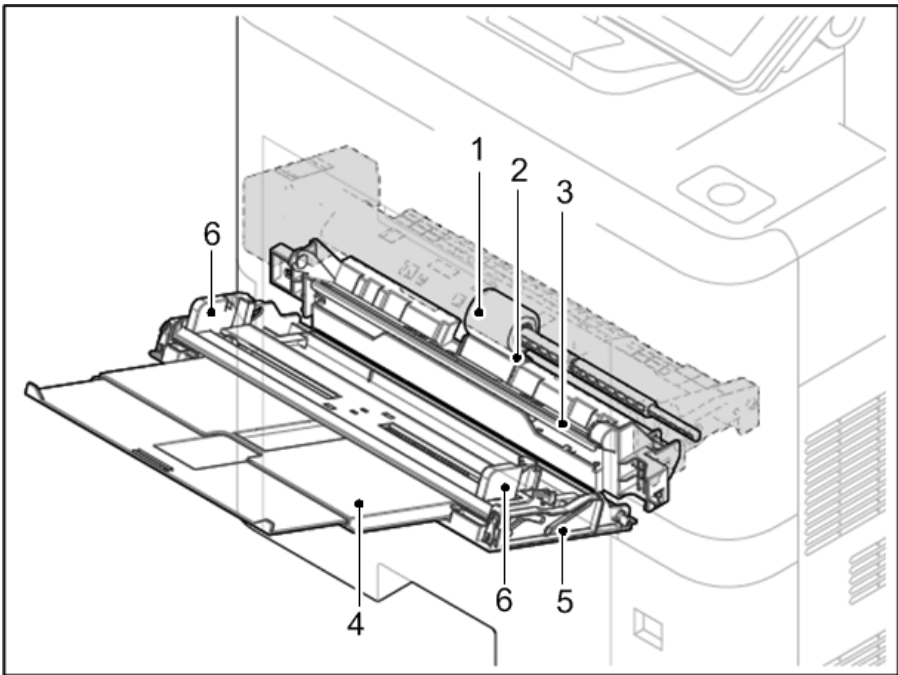
7.11 BYPASS TRAY UNIT

The bypass tray can contain 100 sheets. Feeding from the bypass tray is performed by the rotation of the bypass paper feed roller. The bypass separation pad prevents paper from multiple feeding.

No.	Name	No.	Name
1	Bypass paper feed roller	5	Bypass frame
2	Bypass separation pad	6	Bypass paper width guide
3	Bypass bottom plate	7	Actuator (bypass paper end sensor)
4	Bypass tray		



d255a2016



d255a2031

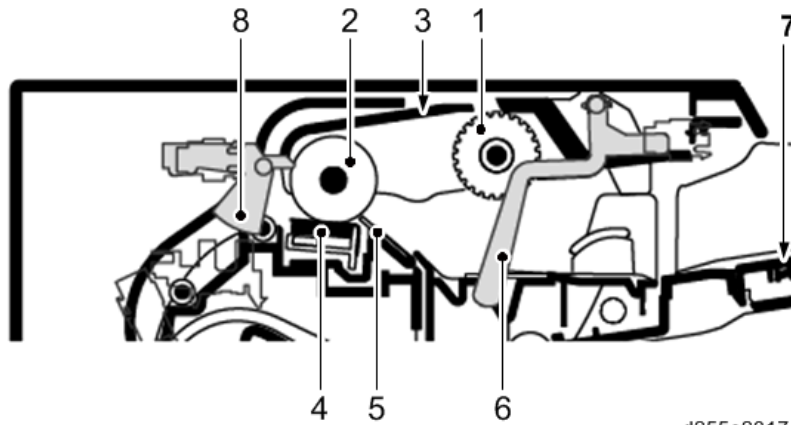
Detailed Descriptions

7.12 ARDF (MP 501/601 ONLY)

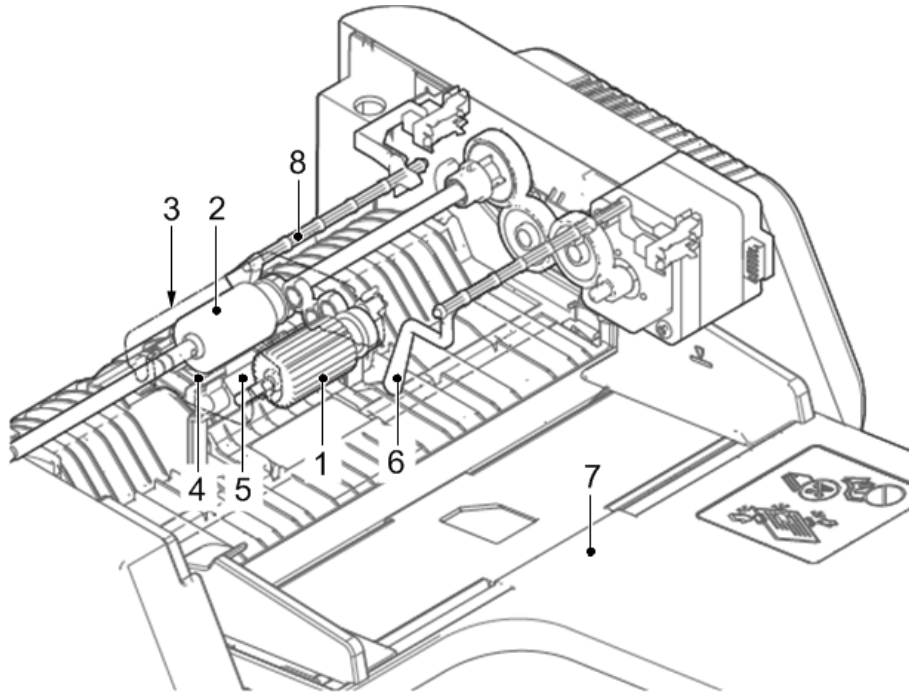
7.12.1 ORIGINAL FEED SECTION

The original feed section consists of the parts shown below. An original placed on the original tray is conveyed to the original feed section. The original is fed by the rotation of the ARDF pickup pulley and the ARDF paper feed roller.

No.	Name	No.	Name
1	ARDF pickup roller	5	Pre-separation pad
2	ARDF paper feed roller	6	Actuator (ARDF original sensor)
3	ARDF feed roller holder	7	Original tray
4	ARDF separation pad	8	Actuator (ARDF original timing sensor)



d255a2017



d255a2019

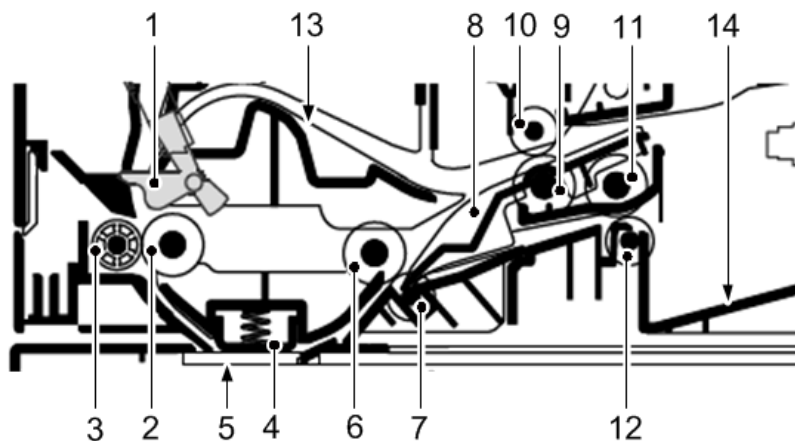
7.12.2 ORIGINAL TRANSPORT SECTION AND EXIT SECTION

The original transport section consists of the parts shown below. A transported original is scanned by the optical section (CCD) of the main unit when it passes the exposure glass of the ARDF in the main unit.

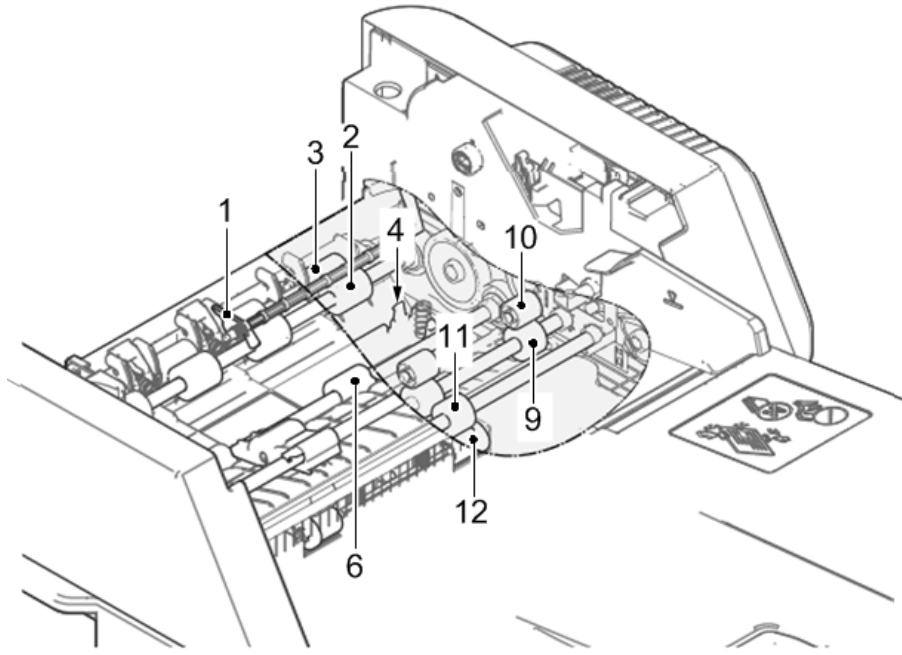
The original exit section consists of the parts shown below. An original that has completed scanning is ejected to the original exit table by the exit roller.

The original is transported temporarily to the original exit table and transported again to the original transport section by the junction roller.

No.	Name	No.	Name
1	Actuator (ARDF registration sensor)	8	Junction guide
2	ARDF registration roller	9	Junction roller
3	ARDF registration pulley	10	Junction pulley
4	Reading guide	11	ARDF exit roller
5	Exposure glass for ARDF	12	ARDF exit pulley
6	ARDF transport roller	13	ARDF exit guide
7	ARDF transport pulley	14	Original exit tray



d255a2018

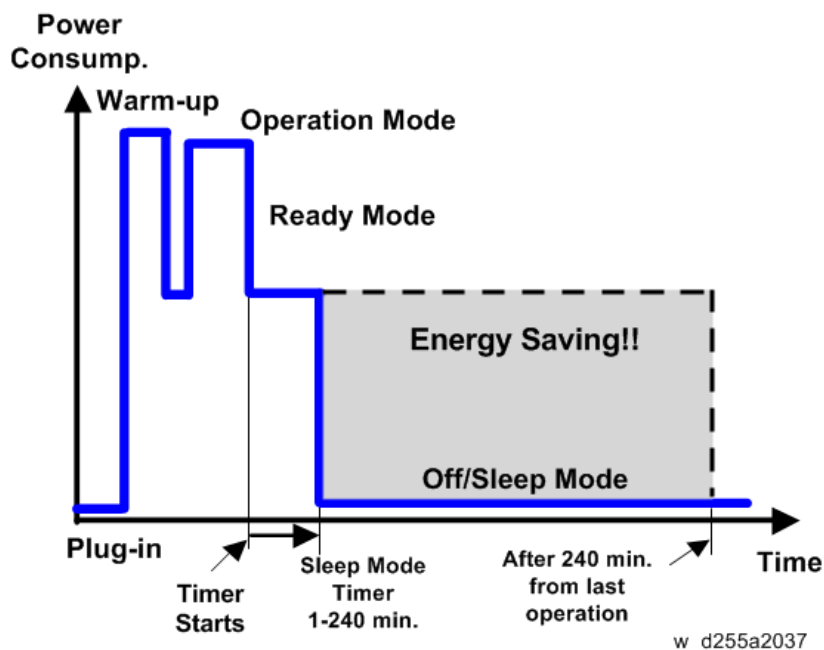


d255a2020

7.13 ENERGY SAVE

7.13.1 ENERGY SAVER MODES

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



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

Timer Settings

The user can set these timers in the following menu.

- MP 501/601: User Tools > System settings > Timer Settings
- SP 5300/5310: System > Low Power Mode Timer

Auto off timer (1 – 240 min): Off/Sleep Mode. Default setting: 1 min.

Return to Stand-by Mode

Recovery time from off/sleep mode: 10 sec.

Warm-up time:

- MP 501: 24 sec.(NA/AP), 60 sec.(EU)
- MP 601: 25.4 sec.(NA/AP), 60 sec.(EU)
- SP 5300: 21 sec.
- SP 5310: 25.4 sec.

Recommendation

We recommend that the default settings should be kept.

- If the customer requests that these settings should be changed, please explain that their energy costs could increase, and that they should consider the effects on the environment of extra energy use.
- If it is necessary to change the settings, please try to make sure that the Auto Off timer is not too long. Try with a shorter setting first, such as 30 min., then go to a longer one (such as 60 min.) if the customer is not satisfied.
- If the timers are all set to the maximum value, the machine will not begin saving energy until 240 minutes has expired after the last job. This means that after the customer has finished using the machine for the day, energy will be consumed that could otherwise be saved.
- If you change the settings, the energy consumed can be measured using SP8-941 (Machine Status), as explained below.

Energy Save Effectiveness

SP 8-941 (Machine Status) keeps a record of the amount of time that the machine spends in each mode.

- SP8-941-001: Operating mode
- SP 8-941-002: Standby mode
- SP 8-941-003: Panel off mode (Not used in this model)
- SP 8-941-004: Low power mode (Not used in this model)
- SP 8-941-005: Sleep mode

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

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

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

To use SP8-941 to calculate the energy consumed:

- At the start of the measurement period, read the values of SP8-941-001 to 005.
- At the end of the measurement period, read the values of SP8-941-001 to 005 again.
- Find the amount of time spent in each mode (subtract the earlier measurement from the later measurement).
- Multiply this by the power consumption spec for each mode.
- Convert the result to kWh (kilowatt hours)

Here is an example calculation.

Energy Save

Machine Condition	SP8-941: Machine Status	Time at Start (min.) ①	Time at End (min.) ②	Running time (hour) $(②-①)/60=③$	Power consumption Spec. (W) ④	Power consumption (KWH) $(③ \times ④) / 1000 = ⑤$
Operating	001: Operating Time	21089.0	21386.0	4.95	898	4.45
Stand by (Ready)	002: Standby Time	306163.0	308046.0	31.38	179	5.62
Energy save (Panel off)	003: Energy Save Time	74000	75111.0	18.52	148.09	2.74
Low power	004: Low Power Time	148000	150333	38.88	111	4.32
Sleep	005: Off Mode Time	508776.0	520377.0	193.35	1.8	0.35
Total						17.47

D255/D256/M281/M282
SERVICE MANUAL APPENDICES

D255/D256/M281/M282 APPENDICES

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APPENDIX: SPECIFICATIONS

REVISION HISTORY		
Page	Date	Added/Updated/New
		None

1. SPECIFICATIONS

1.1 GENERAL SPECIFICATIONS (MP 501/601)

1.1.1 MAINFRAME

Item		Spec.
Configuration:		Desktop
Color Supported:		Black and White
CPU:		Intel® Atom™ Processor BayTrail-I 1.46 GHz
RAM:		Standard: 2 GB
HDD:		320 GB
Scanning Element:		One-dimensional solid scanning through CCD
Printing process:		Laser beam scanning and electro-photographic printing
Development:		Monocomponent jumping development system
Fusing System:		Roller fusing system
Recommended Paper Size:	Tray 1 (Standard Tray):	A4 SEF, A5 SEF/LEF, A6 SEF, B5 SEF, B6 SEF, 8.5" × 14"(LG) SEF, 8.5" × 13"(Foolscap) SEF, 8.5" × 11"(LT) SEF, 8.25" × 14"(Government LG) SEF, 8.25" × 13"(Folio) SEF, 8" × 13"(F/GL) SEF, 8" × 10"(Eng Quatro) SEF, 7.25" × 10.5"(Executive) SEF, 5.5" × 8.5" (Half Letter) SEF, 16K SEF, 8.5" × 13.4" SEF <Custom Size Paper> Width: 105.0 mm (4.14 inch) - 216.0 mm (8.50 inch) Length: 148.0 mm (5.83 inch) - 356.0 mm (14.0 inch)

General Specifications (MP 501/601)

Item		Spec.
Recommended Paper Size:	Tray 2 to 5 (Optional Paper Feed Tray):	A4 SEF, A5 SEF, B5 SEF, B6 SEF, 8.5" x 14"(LG) SEF, 8.5" x 13"(Foolscap) SEF, 8.5" x 11"(LT) SEF, 8.25" x 14"(Government LG) SEF, 8.25" x 13"(Folio) SEF, 8" x 13"(F/GL) SEF, 8" x 10"(Eng Quatro) SEF, 7.25" x 10.5"(Executive) SEF, 5.5" x 8.5" (Half Letter) SEF, Com10 SEF, Monarch SEF, C5 SEF, C6 SEF, DL Env SEF, 16K SEF, 8.5" x 13.4" SEF <Custom Size Paper> Width: 92.0 mm (3.63 inch) - 216.0 mm (8.50 inch) Length: 162.0 mm (6.83 inch) - 356.0 mm (14.0 inch)
Recommended Paper Size:	Bypass Tray:	A4 SEF, A5 SEF/LEF, A6 SEF, B5 SEF, B6 SEF, 8.5" x 14"(LG) SEF, 8.5" x 13"(Foolscap) SEF, 8.5" x 11"(LT) SEF, 8.25" x 14"(Government LG) SEF, 8.25" x 13"(Folio) SEF, 8" x 13"(F/GL) SEF, 8" x 10"(Eng Quatro) SEF, 7.25" x 10.5"(Executive) SEF, 5.5" x 8.5" (Half Letter) SEF, Com10 SEF, Monarch SEF, C5 SEF, C6 SEF, DL Env SEF, 16K SEF, 8.5" x 13.4" SEF <Custom Size Paper> Width: 70.0 mm (2.76 inch) - 216.0 mm (8.50 inch) Length: 148.0 mm (5.83 inch) - 356.0 mm (14.0 inch)
Paper Feeding Capacity (LT/A4: 80gsm paper):	Standard:	600 sheets (500 sheets + 100 sheets/ bypass)
	Option:	Paper Feed Unit: 500 sheets
	Max:	2,600 sheets (500 sheets x 5 trays + 100 sheets/bypass)
Paper Output Capacity (LT/A4: 80gsm paper):	Max:	500 sheets

Item		Spec.
Paper Type Capacity:	Tray 1 (Standard Tray):	<p>Paper Type: Plain Paper (Not Displayed as Paper Type), Recycle Paper, Color Paper, Letterhead, Preprinted Paper, Bond Paper</p> <p>Thickness: Plain Paper 1, Plain Paper 2, Middle Thick, Thick Paper 1</p>
	Tray 2 to 5 (Optional Paper Feed Tray):	<p>Paper Type: Plain Paper (Not Displayed as Paper Type), Recycle Paper, Color Paper, Letterhead, Preprinted Paper, Bond Paper, Envelope</p> <p>Thickness: Plain Paper 1, Plain Paper 2, Middle Thick, Thick Paper 1, Thick Paper 2, Thick Paper 3</p>
	Bypass Tray:	<p>Paper Type: Plain Paper (Not Displayed as Paper Type), Recycle Paper, Color Paper, Special Paper, Letterhead, Preprinted Paper, Bond Paper, OHP, Label, Envelope</p> <p>Thickness: Thin Paper, Plain Paper 1, Plain Paper 2, Middle Thick, Thick Paper 1, Thick Paper 2, Thick Paper 3</p>
Paper Weight:	Tray 1 (Standard Tray):	64 - 120 g/m ² (17 - 44 lb. Bond)
	Tray 2-5 (Optional paper feed tray):	64 - 120 g/m ² (17 - 44 lb. Bond) * Envelope: 64 - 220 g/m ² (17 - 80 lb. Bond)
	Bypass Tray:	60 - 220 g/m ² (16 - 80 lb. Bond)
Max. Imageable Area:		216 x 356 mm (8.5 x 14.0 inches)
First Copy Time (LT/A4 SEF, Tray 1):		7 seconds
First Print Time		6 seconds

General Specifications (MP 501/601)

Item		Spec.
Warm-up Time:		<p>NA/AP: MP 501: 24 seconds MP 601: 25.4 seconds</p> <p>EU: 60 seconds</p> <p>* The warm-up time may differ depending on the conditions and environment of the machine.</p>
Power Source:		<p>NA: 120 - 127 V, 11 A, 60 Hz EU/AP: 220 - 240 V, 6 A, 50/60 Hz</p>
Max Power Consumption (Complete System):		<p>1.5 kW or less (The complete system consists of the main unit, four optional paper feed units, and wireless LAN board)</p>
Noise emission (Sound Power Level) (Complete System):		<p>MP 501: Stand-by: 30.4 dB (A) Printing: 73.3 dB (A)</p> <p>MP 601: Stand-by: 30.3 dB (A) Printing: 74.7 dB (A)</p> <p>(The complete system consists of the main unit, four optional paper feed units, and caster table)</p>
Target Monthly ACV:		<p>MP 501: 5.0K MP 601: 6.5K</p>
Reliability:	Max Monthly CV (5 years):	15K
	PM Cycle:	ARDF: 200K, Optics: 500K, Mainframe: 500K
	MCBC (Mean Copy Between Calls):	0.15 or less
Dimensions (W x D x H):		475 x 504 x 645 mm (18.8 x 19.9 x 25.4 inches)
Weight:		Less than 28 kg (62 lb.)

1.1.2 COPIER SPECIFICATIONS

Item		Spec.
CPM:		MP 501: 50 cpm (A4 SEF), 52 cpm (LT SEF) MP 601: 60 cpm (A4 SEF), 62 cpm (LT SEF)
Copy Resolution:		600 dpi/bit
Maximum Continuous Copy Run:		999 sheets
Reproduction Ratio:	NA:	155%, 129%, 100%, 93%, 78%, 65%
	EU/AP:	200%, 141%, 100%, 93%, 71%, 50%
Zoom:		From 25% to 400% in 1% step
Number of Copy Reservations:		8 jobs
Image Density:		Auto Density Selection Manual: 9 levels
Copy Mode:		Text Text/Photo Photo Pale Generation Copy (Default: Text)
Paper Selection:		Tray 1 Tray 2 (optional paper feed tray) Tray 3 (optional paper feed tray) Tray 4 (optional paper feed tray) Tray 5 (optional paper feed tray) Bypass Tray (Default: Tray 1)
Auto Tray Switch:		Yes
Duplex:		1 sided to 2 sided, 2sided to 2 sided, Book to 2 sided, Front and Back to 2 sided
Book:	Booklet:	Yes
	Magazine:	

General Specifications (MP 501/601)

Item		Spec.
	Layout & Booklet:	
Series:	Book to simplex:	Yes
	2 sided original to simplex:	
Combine (Layout):		<p>The following combinations are supported:</p> <ul style="list-style-type: none"> 2 into 1 simplex 4 into 1 simplex 8 into 1 simplex 1 duplex into 1 simplex 2 duplex into 1 simplex 4 duplex into 1 simplex 4 into 1 duplex 8 into 1 duplex 16 into 1 duplex 2 duplex into 1 duplex 4 duplex into 1 duplex 8 duplex into 1 duplex
Shift/Erase/ Margin Adjustment:	Centering:	Yes
	Cornering:	No
	Margin Adjustment:	1mm step (0-30mm) (Default: 0mm)
	Scan Position Adjustment:	No
	Creep Adjustment:	No
	Erase Center:	1mm step (2-99mm) (Default:10mm)
	Erase Border:	1mm step (2-99mm) (Default: 10mm)
Cover Sheet Chapter Slip Sheets:	Front Cover:	Copy or Blank (Default: Copy)
	Front and Back Cover:	
	Chapter:	Yes (Up to 20 chapters)

Item		Spec.
	Slip Sheets:	Yes
Image Rotation:		No
Electronic Sort:	Without Shift Sort:	Yes
	Rotate Sort:	No
	Shift Sort:	No
Electronic Stack:		No
Stapling:		No
Image Creation:	Repeat:	Yes
	Double Copy:	No
	Mirror:	No
	Positive/Negative:	No
	Erase Inside:	No
	Erase Outside:	No
Stamp/ Numbering:	Preset Stamp:	Yes (8 Stamps / 2 sizes) * Not from the By-pass tray
	User Stamp:	Yes (4 Stamps / 1 sizes) * Not from the By-pass tray
	Date Stamp:	Yes (5 Stamps) * Not from the By-pass tray
	Page Number:	Yes (6 Stamps) * Not from the By-pass tray
	Bates Numbering:	Yes * Not from the By-pass tray
	Printing copy prevention pattern:	Yes
Sharp/Soft:		7 levels
Contrast:		9 levels
Background Density Adjustment:		9 levels
Job Programs:		Mode: 25 Program Default: 1 Program

Item	Spec.
User Code:	8 digits / 1000 user codes
Interrupt Copy:	Yes
Auto Start:	Yes
Job Preset:	Yes (8 jobs)
Sample Copy:	Yes

1.1.3 PRINTER SPECIFICATIONS

Item	Spec.
Printer Language:	<p>Standard: RPCS, PCL 5e/6, PostScript 3, PDF, MediaPrint (JPEG, TIFF)</p> <p>Option: IPDS, XPS</p>
Print Resolution:	1200 × 1200 dpi, 600 × 600 dpi
Font:	<p>PCL: Scalable 45 fonts + Bitmapped: 6 fonts + International 13 fonts</p> <p>PS3: 136 Roman fonts</p>
Host Interfaces:	<p>Standard: Ethernet (1000BASE-T/ 100BASE-TX/ 10BASE-T), SD card slot, USB2.0 Host</p> <p>Option: IEEE 1284 parallel interface, IEEE 802.11a/b/g/n wireless LAN interface, Extended USB board, USB device server, Bluetooth interface</p>
Network Protocol:	TCP/IP (IPv4, IPv6)
USB interface: Supported operating system	Windows Vista/7/8/8.1/10, Windows Server 2003/2008/2008 R2/2012/2012 R2, OS X 10.8 or later

1.1.4 SCAN SPECIFICATIONS

Item		Spec.
Color Scan:		Standard
Scanning Speed:	BW:	60 pages/minute (A4/LT SEF, 300dpi)
	Color:	40 pages/minute (A4/LT SEF, 300dpi)
Scanning Resolution:		100 / 200 (default) / 300 / 400 / 600 dpi
Original sizes that can be scanned:		Length: 10 - 216 mm (0.4 - 8.5 inches) Width: 10 - 356 mm (0.4 - 14.0 inches)
Scan Area	Main:	216 mm (8.5 inches)
	Sub:	356 mm (14.0 inches)
sRGB Supported:		Yes
Network Interface:		Standard: Ethernet interface (1000BASE-T/100BASE-TX/10BASE-T) Option: IEEE 802.11a/b/g/n wireless LAN interface
Protocol:		Network: TCP/IP Sending E-mail: SMTP Scan to Folder: SMB, FTP Web Services on Devices for Scanning
Compression Type:		TIFF (MH, MR, MMR, JBIG2), JPEG
Scan Mode:		BW: Text, Text / Line Art, Text / Photo, Photo, Grey Scale Color: Text / Photo, Glossy Photo, Auto Color Select
Image Density:		Auto Density Selection Manual: 7 levels
Image Rotation:		Yes
SADF/Batch Mode:		Yes
Mixed Size Mode:		Mixed LT/LG Size only.
Reduce and Enlarge:		Yes

Item		Spec.
Split scan from Booklet type Original:		Yes
Digital Signature for PDF:		Yes
Single Page TIFF:	On	BW 1bit / (MH, MR or MMR)
	Off	BW 1bit, BW Grayscale or Full Color
Multi Page TIFF:	On	BW 1bit / (MH, MR or MMR)
	Off	BW 1bit, BW Grayscale or Full Color
Single Page JPEG:	On	BW Grayscale or Full Color / (JPEG)
	Off	-
Single Page PDF:	On	BW 1bit / (MH, MR, MMR or JBIG2), BW Grayscale / (JPEG), Full Color / (JPEG)
	Off	BW 1bit, BW Grayscale or Full Color
Multi Page PDF:	On	BW 1bit / (MH, MR, MMR or JBIG2), BW Grayscale / (JPEG), Full Color / (JPEG)
	Off	BW 1bit, BW Grayscale or Full Color
Single Page High Compression PDF:	On	BW Grayscale / (JPEG or JPEG2000), Full Color / (JPEG or JPEG2000)
	Off	-
Multi Page High Compression PDF:	On	BW Grayscale / (JPEG or JPEG2000), Full Color / (JPEG or JPEG2000)
	Off	-

Scan to Email

Item	Spec.
Requirement (Mail Protocol, Transmission Protocol, Protocol):	SMTP (Mail Server) Gateway and TCP/IP
Authorization Function:	SMTP authentication, POP before SMTP authentication
Resolution:	100, 200 (Default), 300, 400, 600
Max Email Address in HDD:	2,000
Register Group Address in HDD:	Max. 100 Group (Max. 500 addresses in one group address)
Input of Destination E-mail Address via Soft Key:	Possible, Max. 100 destinations per job
Search methods of Email Address in HDD:	By name and E-mail address
LDAP Search:	Yes
Max Address Numbers Per Send:	Max. 500 addresses per send
Attention:	To, cc, bcc
Email Size:	With Restriction: 128 – 102,400 KB Without Restriction: -
Input Subject:	Manual: Max. 128 Characters via soft key User Pre-register: Max. 20 Characters via soft key
Input Main body text:	Manual: Max. 80 Characters via soft key User Pre-register: Max. 400 Characters via soft key (80 characters × 5 lines) Preset: -
Input File Name:	Yes

Item	Spec.
File Type:	Single Page: TIFF/JPEG, PDF, High Compression PDF, Secure PDF, Digital Signature PDF, PDF/A Multi Page: TIFF, PDF, High Compression PDF, Secure PDF, Digital Signature PDF, PDF/OCR* *Option required
Program User Settings:	Up to 25 programs
Divide and send Email (If the file size exceed the max size.):	Yes (By page or size) / No (Default: Yes (By size)*) *If the sent file size exceeded the maximum E-mail size, it would be divided to multiple sending. In addition, the sent files might not be accepted by the receiving side due to the limitation in the receiving capacity at the receiver SMTP server or E-mail software setting.
Resend:	Yes / No (Default: Yes)

Scan to Folder

Item	Spec.
Protocol Support:	SMB, FTP
Security:	Client folder log-in (log-in name and password), Encryption of log-in name and password during transmission
Resolution:	100 dpi, 200 dpi, 300 dpi, 400 dpi, 600 dpi (Default: 200 dpi)
Register client folder address in HDD:	Max. 2,000 folders
Maintain client folder address in HDD:	Direct input on operation panel, Web Image Monitor, Smart Device Monitor
Direct addressing of destination client folder via soft key:	Yes SMB: Network path -> Client folder -> Password FTP: Server -> Network path -> User account -> Password

Item	Spec.
Search client folder:	SMB: Browsing directly to the designated folders FTP: By client folder name
Max. client folder numbers per send:	Max. 50 client folders / PCs per send
Simultaneous Transmission:	Max. 550
Group address:	Max group:100 Max member per group:500
Input File Name:	Yes
Scan to File size	2,000 MB per file
File Size when combined Scan to Folder & Scan to E-mail:	128 - 102, 400 KB Default = 2,048 KB (With restriction), 725MB (Without restriction), (Scan to E-mail file size applied).
File Type:	Single Page: TIFF/JPEG, PDF, High Compression PDF, Secure PDF, Digital Signature PDF Multi Page: TIFF, PDF, High Compression PDF, Secure PDF, Digital Signature PDF
Program User Settings:	Up to 25 programs
Resend:	Yes / No (Default: Yes)

Network TWAIN Driver

Item		Spec.
OS:		Windows Vista/7/8/8.1/10, Windows Server 2003/2008/2008 R2/2012/2012 R2 (Operates in 32-bit compatibility mode on 64-bit operating systems)
Resolution:	BW:	100 – 1200 dpi (Black and White / Grayscale)
	Color:	100 – 1200 dpi (Black and White / Grayscale)
Scan Mode:		Standard / Photo / OCR / Filing
Image Adjustment:		Brightness / Contrast / Threshold /Gamma Adjustment / Halftone Pattern
Endorser:		Supported
Stamp:		Date / Page Number / Text

1.2 GENERAL SPECIFICATIONS (SP 5300/5310)

1.2.1 MAINFRAME

Item	Spec.
Configuration:	Desktop
Color Supported:	Black and White
CPU:	Intel® Atom™ Processor BayTrail-I 1.46 GHz
RAM:	Standard: 2 GB
Printing process:	Laser beam scanning and electro-photographic printing
Development:	Monocomponent jumping development system
Fusing System:	Roller fusing system
Printer Language:	Standard: PCL 5e/6, PostScript 3, PDF Option: XPS, IPDS
Print Resolution:	1200 x 1200 dpi, 600 x 600 dpi
Font:	PCL: Scalable 45 fonts + Bitmapped: 6 fonts + International 13 fonts PS3: 136 Roman fonts
Host Interfaces:	Standard: Ethernet (10BASE-T/100BASE-TX/1000BASE-T) Option: IEEE 1284 parallel interface, IEEE 802.11a/b/g/n wireless LAN interface, USB device server, Extended USB board
Network Protocol:	TCP/IP (IPv4, IPv6)

General Specifications (SP 5300/5310)

Item		Spec.
Network/Operating System:		Windows Vista/7/8/8.1/10, Windows Server 2003/2008/2008 R2/2012/2012 R2, OS X 10.8 or later
Recommended Paper Size:	Tray 1 (Standard Tray):	A4 SEF, A5 SEF/LEF, A6 SEF, B5 SEF, B6 SEF, 8.5" x 14"(LG) SEF, 8.5" x 13"(Foolscap) SEF, 8.5" x 11"(LT) SEF, 8.25" x 14"(Government LG) SEF, 8.25" x 13"(Folio) SEF, 8" x 13"(F/GL) SEF, 8" x 10"(Eng Quatro) SEF, 7.25" x 10.5"(Executive) SEF, 5.5" x 8.5" (Half Letter) SEF, 16K SEF, 8.5" x 13.4" SEF <Custom Size Paper> Width: 105.0 mm (4.14 inch) - 216.0 mm (8.50 inch) Length: 148.0 mm (5.83 inch) - 356.0 mm (14.0 inch)
Recommended Paper Size:	Tray 2 to 5 (Optional Paper Feed Tray):	A4 SEF, A5 SEF, B5 SEF, B6 SEF, 8.5" x 14"(LG) SEF, 8.5" x 13"(Foolscap) SEF, 8.5" x 11"(LT) SEF, 8.25" x 14"(Government LG) SEF, 8.25" x 13"(Folio) SEF, 8" x 13"(F/GL) SEF, 8" x 10"(Eng Quatro) SEF, 7.25" x 10.5"(Executive) SEF, 5.5" x 8.5" (Half Letter) SEF, Com10 SEF, Monarch SEF, C5 SEF, C6 SEF, DL Env SEF, 16K SEF, 8.5" x 13.4" SEF <Custom Size Paper> Width: 92.0 mm (3.63 inch) - 216.0 mm (8.50 inch) Length: 162.0 mm (6.83 inch) - 356.0 mm (14.0 inch)
Recommended Paper Size:	Bypass Tray:	A4 SEF, A5 SEF/LEF, A6 SEF, B5 SEF, B6 SEF, 8.5" x 14"(LG) SEF, 8.5" x 13"(Foolscap) SEF, 8.5" x 11"(LT) SEF, 8.25" x 14"(Government LG) SEF, 8.25" x 13"(Folio) SEF, 8" x 13"(F/GL) SEF, 8" x 10"(Eng Quatro) SEF, 7.25" x 10.5"(Executive) SEF, 5.5" x 8.5" (Half Letter) SEF, Com10 SEF, Monarch SEF, C5 SEF, C6 SEF, DL Env SEF, 16K SEF, 8.5" x 13.4" SEF <Custom Size Paper> Width: 70.0 mm (2.76 inch) - 216.0 mm (8.50 inch) Length: 148.0 mm (5.83 inch) - 356.0 mm (14.0 inch)
Paper Feeding Capacity	Standard:	600 sheets (500 sheets + 100 sheets/ bypass)
	Option:	Paper Feed Unit: 500 sheets

Item		Spec.
(LT/A4: 80gsm paper):	Max:	2,600 sheets (500 sheets × 5 trays + 100 sheets/bypass)
Paper Output Capacity (LT/A4: 80gsm paper):	Max:	500 sheets
Paper Type Capacity:	Tray 1 (Standard Tray):	Plain Paper, Plain Paper 2, Middle Thick Paper, Thick Paper 1, Recycled Paper, Color Paper, Special Paper 1, Special Paper 2, Special Paper 3, Letterhead Paper, Preprinted Paper, Bond Paper
	Tray 2 to 5 (Optional Paper Feed Tray):	Plain Paper, Plain Paper 2, Middle Thick Paper, Thick Paper 1, Recycled Paper, Color Paper, Special Paper 1, Special Paper 2, Special Paper 3, Letterhead Paper, Preprinted Paper, Bond Paper, Envelope
	Bypass Tray:	Thin Paper, Plain Paper, Plain Paper 2, Middle Thick Paper, Thick Paper 1, Thick Paper 2, Thick Paper 3, Recycled Paper, Color Paper, Special Paper 1, Special Paper 2, Special Paper 3, Letterhead Paper, Preprinted Paper, Bond Paper, OHP, Label Paper, Envelope
Paper Weight:	Tray 1 (Standard Tray):	64 - 135 g/m ² (17 - 36 lb. Bond)
	Tray 2-5 (Optional paper feed tray):	64 - 220 g/m ² (17 - 80 lb. Bond)
	Bypass Tray:	60 - 220 g/m ² (16 - 80 lb. Bond)
First Print Time		6 seconds
Warm-up Time:		SP 5300: 21 seconds SP 5310: 25 seconds * The warm-up time may differ depending on the conditions and environment of the machine.

General Specifications (SP 5300/5310)

Item		Spec.
Power Source:		NA: 120 - 127 V, 11 A, 60 Hz EU/AP: 220 - 240 V, 6 A, 50/60 Hz
Max Power Consumption (Complete System):		1.4 kW or less (The complete system consists of the main unit, four optional paper feed units, and wireless LAN board)
Noise emission (Sound Power Level) (Complete System):		SP 5300: Stand-by: 30.7 dB (A) Printing: 70.5 dB (A) SP 5310: Stand-by: 29.9 dB (A) Printing: 70.1 dB (A) (The complete system consists of the main unit, four optional paper feed units, and caster table)
Target Monthly ACV:		SP 5300: 4.0K SP 5310: 5.5K
Reliability:	Max Monthly CV (5 years):	15K
	PM Cycle:	500K
	MCBC (Mean Copy Between Calls):	0.15 or less
Dimensions (W x D x H):		420 x 410 x 345 mm (16.6 x 16.2 x 13.6 inches)
Weight:		Less than 18 kg (40 lb.)

1.3 SUPPORTED PAPER SIZES

1.3.1 PAPER FEED

Remarks:

C	Supported: Select the paper size using the paper size dial on the tray.
D	Supported: Set the paper size dial on the tray to "Asterisk", and select the paper size with the control panel.
E	Supported: Select the paper size using the control panel.
-	Not supported.
*	The duplex function cannot be used with envelopes.

Paper	Size	Tray 1 (Main Paper Feed Tray)	Tray 2 to 5 (Optional Paper Feed Tray)	Bypass Tray
A4 SEF	210 × 297 mm	C	C	E
A5 SEF	148 × 210 mm	C	C	E
A5 LEF	210 × 148 mm	D	-	E
A6 SEF	105 × 148 mm	C	-	E
B5 SEF	182 × 257 mm	D	D	E
B6 SEF	128 × 182 mm	D	D	E
Legal SEF	8.5 × 14 inch	C	C	E
Foolscap SEF	8.5 × 13 inch	D	D	E
Letter SEF	8.5 × 11 inch	C	C	E
GovernmentLG SEF	8.25 × 14 inch	D	D	E
Folio SEF	8.25 × 13 inch	D	D	E

Supported Paper Sizes

Paper	Size	Tray 1 (Main Paper Feed Tray)	Tray 2 to 5 (Optional Paper Feed Tray)	Bypass Tray
F/GL SEF	8 x 13 inch	D	D	E
Eng Quatro SEF	8 x 10 inch	D	D	E
Executive SEF	7.25 x 10.5 inch	D	D	E
Half Letter SEF	5.5 x 8.5 inch	C	C	E
Com10 Env. SEF	4.125 x 9.5 inch	-	D	E*
Monarch Env. SEF	3.875 x 7.5 inch	-	D	E*
C5 Env. SEF	162 x 229 mm	-	D	E*
C6 Env. SEF	114 x 162 mm	-	D	E*
DL Env. SEF	110 x 220 mm	-	D	E*
16K SEF	195 x 267 mm	D	D	E
8 1/2 x 13 2/5 SEF	8.5 x 13.4 inch	D	D	E

Custom:

	Tray 1 (Main Tray)	Tray 2 to 5 (Optional Paper Feed Tray)	Bypass Tray
Width	105.0 - 216.0 mm 4.14 - 8.50 inch	92.0 - 216.0 mm 3.63 - 8.50 inch	70.0 - 216.0 mm 2.76 - 8.50 inch
Length	148.0 - 356.0 mm 5.83 - 14.0 inch	162.0 - 356.0 mm 6.38 - 14.0 inch	148.0 - 356.0 mm 5.83 - 14.0 inch

1.4 SOFTWARE ACCESSORIES

The printer drivers and utility software are provided on one CD-ROM. An auto-run installer allows you to select which components to install.

1.4.1 PRINTER DRIVERS

Windows

OS	Type	PCL5c	PCL6	PS3	XPS
Windows Vista	Starter	-	-	-	-
	Home Basic	✓	✓*3	✓*3	✓*1
	Home Premium	✓	✓*3	✓*3	✓*1
	Business	✓	✓*3	✓*3	✓*1
	Ultimate	✓	✓*3	✓*3	✓*1
	Enterprise	✓	✓*3	✓*3	✓*1
Windows 7	Starter	-	-	-	-
	Home Basic	-	-	-	-
	Home Premium	✓	✓	✓	✓
	Professional	✓	✓	✓	✓
	Ultimate	✓	✓	✓	✓
	Enterprise	✓	✓	✓	✓
Windows 8/8.1	Windows 8	✓	✓	✓	✓
	Windows 8.1	✓	✓	✓	✓
	Pro	✓	✓	✓	✓
	Enterprise	✓	✓	✓	✓
	RT	-	-	-	-
Windows 10	Home	✓	✓	✓	✓

Software Accessories

OS	Type	PCL5c	PCL6	PS3	XPS
	Mobile	-	-	-	-
	Pro	✓	✓	✓	✓
	Enterprise	✓	✓	✓	✓
	Education	✓	✓	✓	✓
	Mobile Enterprise	-	-	-	-
	IoT Core	-	-	-	-
Windows Server 2003/ R2	Standard Edition	✓*2	✓*2	✓*2	-
	Enterprise Edition	✓*2	✓*2	✓*2	-
	Datacenter Edition	-	-	-	-
	Web Edition	-	-	-	-
Windows Server 2008/R2	Standard Edition	✓	✓	✓	✓
	Enterprise Edition	✓	✓	✓	✓
	Standard without Hyper-V	✓	✓	✓	✓
	Enterprise without Hyper-V	✓	✓	✓	✓
	Datacenter Edition	-	-	-	-
	Web Edition	-	-	-	-
Windows Server 2012/R2	Foundation	✓	✓	✓	✓
	Essentials	✓	✓	✓	✓
	Standard	✓	✓	✓	✓
	Datacenter	-	-	-	-

✓: Supported

-: Not supported

* RPCS driver has been discontinued.

*1: SP1 or later is recommended

*2: SP2 or later is Recommended

*3: SP1 or later is recommended

Mac OS Environment

OS	PS3	Printer Utility for Mac
Mac OS 8.6 or later, Mac OS X classic	-	-
Mac OS X Native: v.10.8 or later	✓	-

✓: Supported

-: Not supported

UNIX Environment

UNIX Platforms	Version
Sun Solaris	9, 10
HP-UX	11.x, 11i v2, 11i v3
Red Hat Linux	Enterprise V4, V5, V6
SCO OpenServer	5.0.7, 6.0
IBM AIX	V 5L, V5.3, V6.1, V7.1

SAP R/3 Environment (Device Type / Barcode & OCR Package)

Device Type will be provided from SAP itself in SAP Printer Vendor Program.

For the detailed specification, please refer to another announcement to be issued in the future.

Supported Barcode & OCR Fonts	Barcode Fonts	Code 128, Code 39, Code 93, Codabar, 2 of 5 interleaved/Industrial/Matrix, MSI, USPS, UPC/EAN
	OCR Fonts	OCR A, OCR B

Note

- The PS3 drivers are all genuine AdobePS drivers, except for Windows 2000, which uses Microsoft PS.
- A PPD file for each operating system is provided with the driver.

1.4.2 SCANNER AND LAN FAX DRIVERS

Operating system for TWAIN driver:

Windows Vista/7/8/8.1/10, Windows Server 2003/2003 R2/2008/2008 R2/2012/2012 R2
(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 (SP1 or later)/7/8/8.1/10, Windows Server 2008/2008 R2/2012/2012 R2
(WIA scanner can function under both 32- and 64-bit operating systems.)

Operating system for LAN FAX driver:

Windows Vista/7/8/8.1/10, Windows Server 2003/2003 R2/2008/2008 R2/2012/2012 R2

Note

- The LAN Fax driver lets you fax documents directly from your PC. Address Book Editor and Cover Sheet Editor are to be installed as well.
- The Network TWAIN driver operates in 32-bit compatibility mode on 64-bit operating systems
- The Network TWAIN driver is provided on the scanner drivers CD-ROM.

1.5 OPTIONAL EQUIPMENT

1.5.1 PAPER FEED UNIT PB1100

Item	Spec.
Paper Size:	Half Letter SEF – A4 SEF
Paper Weight:	64 – 120 g/m ² (17 – 44 lb.)
Paper Capacity:	500 sheets (500 sheets × 1 tray with 80 g/m ² paper)
Power Consumption:	Less than 13 W (Average)
Dimension (W × D × H):	380 × 410 × 121 mm (15.0 × 16.2 × 4.8 inches)
Weight:	4.0 kg (8.9 lb.)

PREVENTIVE MAINTENANCE TABLES

REVISION HISTORY		
Page	Date	Added/Updated/New
		None

2. PREVENTIVE MAINTENANCE TABLES

2.1 MAINTENANCE TABLES

ⓘ Note

- The amounts mentioned as the PM interval indicate the number of prints.

2.1.1 PREVENTIVE MAINTENANCE ITEMS

Chart: A4 (LT)/6%

Mode: 3 prints/job

Environment: Normal temperature and humidity

Yield may change depending on circumstances and print conditions.

Symbol keys: C: Clean, R: Replace, L: Lubricant, I: Inspect

ⓘ Note

- 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.

Mainframe

ARDF (MP 501/601 Only)

Item	200K	EM	Life	Note
ARDF pickup roller	(R)	-	200K	
ARDF paper feed roller	(R)	-	200K	
ARDF friction pad	(R)	-	200K	

Optics (MP 501/601 Only)

Item	500K	EM	Life	Note
Exposure glass	-	C	-	Wipe with a soft cloth infiltrated with alcohol or neutral detergent.
Exposure glass (for ARDF)	-	C	-	Wipe with a dry cloth.

Mainframe

Item	500K	EM	Life	Note
Transfer roller	(R)	-	-	
Drum unit	(R)	-	-	
Development Unit	(R)	-	-	
Fusing Unit	(R)	-	-	
Paper feed roller	(R)	C	-	Wipe with a soft cloth infiltrated with alcohol or water.
Pickup roller	(R)	C	-	Wipe with a soft cloth infiltrated with alcohol or water.
Separation roller	(R)	C	-	Wipe with a soft cloth infiltrated with alcohol or water.
Bypass paper feed roller	(R)	C	-	Wipe with a soft cloth infiltrated with alcohol or water.
MP 501/601: Registration sensor SP 5300/5310: Registration sensor 1	C	C	-	Wipe with a soft cloth infiltrated with alcohol or water. Refer to the FSM for the cleaning procedure.

Item	500K	EM	Life	Note
Registration roller	-	C	-	Wipe with a soft dry cloth.
Vent	-	C	-	Wipe with a soft dry cloth.

Paper Feed Unit PB1100

Item	500K	EM	Life	Note
Paper feed roller	(R)	C	-	Wipe with a soft cloth infiltrated with alcohol or water.
Pickup roller	(R)	C	-	Wipe with a soft cloth infiltrated with alcohol or water.
Separation roller	(R)	C	-	Wipe with a soft cloth infiltrated with alcohol or water.

SP MODE TABLES

REVISION HISTORY		
Page	Date	Added/Updated/New
41 ~ 42	01/20/2017	Removed SP5759 Machine Limit Count

3. SP MODE TABLES

3.1 SERVICE PROGRAM MODE

CAUTION

- Make sure that the data-in LED (↻) is not on before you go into the SP mode. This LED indicates that some data is coming to the machine. When the LED is on, wait for the copier to process the data.

3.1.1 ENABLING AND DISABLING SERVICE PROGRAM MODE

Note

- The Service Program Mode is for use by service representatives only. If this mode is used by anyone other than service representatives for any reason, data might be deleted or settings might be changed. In such case, product quality cannot be guaranteed any more.

Entering SP Mode

For details, ask your supervisor.

Exiting SP Mode

- MP 501/601: Press [Exit] on the operation panel twice to return to the copy window.
- SP 5300/5310: Select [End] from the service mode main menu, and then press [OK].

3.1.2 TYPES OF SP MODES

Select one of the Service Program modes from the diagram below after you access the SP mode.

MP 501/601

- 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

Note

- This section explains the functions of the System/Printer/Scanner SP modes. Refer to the Fax service manual for the Fax SP modes.

SP 5300/5310

- Service SP: SP modes related to the controller/printer functions
- Engine SP: SP modes related to the engine functions

SP Mode Button Summary

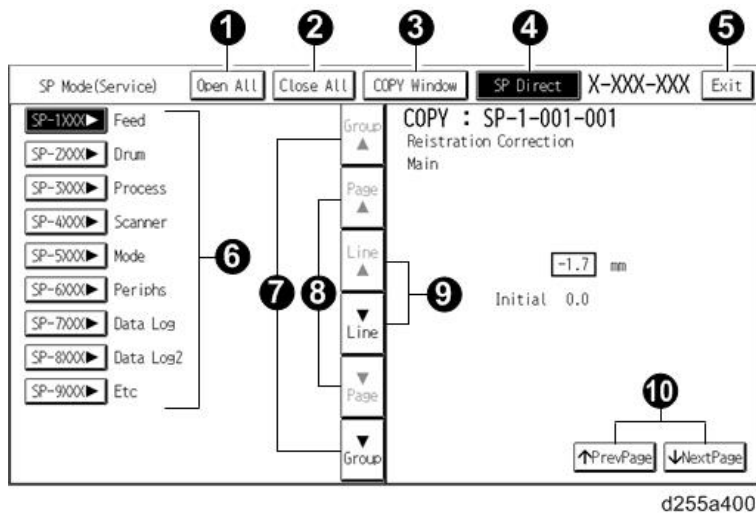
MP 501/601

Select one of the Service Program modes (Service, or Engine) from the touch panel.



d255a4000

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



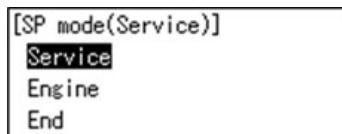
d255a4001

No.	Description
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.

No.	Description
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.

SP 5300/5310

Select one of the Service Program modes (Service, or Engine) with [▲/▼] keys, and then press the [OK] key.

**Switching Between SP Mode and Copy Mode for Test Printing (MP 501/601 Only)**

1. In the SP mode, select the test print. Then press [Copy Window].
2. Use the copy window (copier mode), to select the appropriate settings (paper size, etc.) for the test print.
3. Press [Start] to start the test print.
4. Press SP Mode (highlighted) to return to the SP mode screen and repeat from step 1.

Selecting the Program Number (MP 501/601 Only)


Program numbers have two or three levels.

1. Refer to the Service Tables to find the SP that you want to adjust before you begin.
2. Press the Group number on the left side SP Mode window that contains the SP that you want to adjust.
3. Use the scrolling buttons in the center of the SP mode window to show the SP number that you want to open. Then press that number to expand the list.
4. Use the center touch-panel buttons to scroll to the number and title of the item that you want to set and press it. The small entry box on the right activates and shows the below default or the current settings.

 **Note**

- Refer to the Service Tables for the range of allowed settings.

5. Do this procedure to enter a setting:

- Press  to toggle between plus and minus and use the keypad to enter the appropriate number. The number you enter writes over the previous setting.
- Press [#] to enter the setting. (The value is not registered if you enter a number that is out of range.)
- Press [Yes] when you are prompted to complete the selection.

6. If you need to perform a test print, press [Copy Window] to open the copy window and select the settings for the test print. Press [Start], and then press SP Mode (highlighted) in the copy window to return to the SP mode display.

7. Press [Exit] two times to return to the copy window when you are finished.

Service Mode Lock/Unlock

At locations where the machine contains sensitive data, the service representative 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 as the machine administrator, and then set "Service Mode Lock" to OFF:

MP 501/601: User Tools -> Machine Features -> System Settings -> Administrator Tools -> Service Mode Lock -> OFF

SP 5300/5310: Security Options -> Service Mode Lock -> Off

- This unlocks the machine and lets you get access to all the SP codes.
- The service representative 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 SP5-169-001 to "1" if you must use the printer bit switches.

3. After machine servicing is completed:

- Change SP5-169-001 from "1" to "0".
- Turn the main power off and on. Tell the administrator that you have completed servicing the machine.
- The Administrator will then set the "Service Mode Lock" to ON.

3.1.3 REMARKS

Display on the Operation Panel Screen

The maximum number of characters which can show on the operation panel screen is limited. For this reason, some of the SP modes shown on the screen need to be abbreviated. The following are abbreviations used for the SP modes for which the full description is over 20 characters.

Item	Description
Paper Weight	Thin Paper: 60-63 g/m ² , 16lb. Plain Paper 1: 64-74 g/m ² , 17-20lb. Plain Paper 2: 75-90 g/m ² , 20-24lb. Middle Thick: 91-105 g/m ² , 24-28lb. Thick Paper 1: 106-135 g/m ² , 28-36lb. Thick Paper 2: 136-170 g/m ² , 36-63lb. Thick Paper 3: 171-220 g/m ² , 63-80lb.
Paper Type	N: Normal paper MTH: Middle thick paper TH: Thick paper
Paper Feed Station	P: Paper tray B: By-pass table
Print Mode	S: Simplex D: Duplex

Notes on the LCD

Since the MP 501/601 (touch panel model) and SP 5300/5310 (4-line panel model) have different types of operation panel, characters are displayed differently. In this manual, characters are shown as they appear on the MP 501/601 (touch panel model).

Others

The following symbols are used in the SP mode tables.

- 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.
- An asterisk (*) to the right hand side of the mode number column means that this mode is stored in the NVRAM and EEPROM. If you do a RAM clear, this SP mode will be reset to the default value. "ENG" and "CTL" show which NVRAM contains the data.
 - ENG: EEPROM on the BiCU
 - CTL: NVRAM on the controller board
- A sharp (#) to the right hand side of the mode number column means that the main power must be turned OFF and ON to effect the setting change.
- **FA:** Factory setting
Data may be adjusted from the default setting at the factory. Refer to the factory setting sheets enclosed.

3.2 MAIN SP TABLES-1

3.2.1 SP1-XXX (FEED)

1001	[Reistration Correct]		
1-001-001	Main	ENG*	[-9.9 to 9.9 / 0 / 0.1 mm / step]
1-001-002	Option Tray 1	ENG*	[-9.9 to 9.9 / 0 / 0.1 mm / step]
1-001-003	Option Tray 2	ENG*	[-9.9 to 9.9 / 0 / 0.1 mm / step]
1-001-004	Option Tray 3	ENG*	[-9.9 to 9.9 / 0 / 0.1 mm / step]
1-001-005	Option Tray 4	ENG*	[-9.9 to 9.9 / 0 / 0.1 mm / step]
1-001-006	By-Pass Tray	ENG*	[-9.9 to 9.9 / 0 / 0.1 mm / step]
1-001-007	Duplex	ENG*	[-9.9 to 9.9 / 0 / 0.1 mm / step]

1002	[Reistration Correct]		
1-002-001	Main	ENG*	[-9.9 to 9.9 / 0 / 0.1 mm / step]
1-002-002	Option Tray 1	ENG*	[-9.9 to 9.9 / 0 / 0.1 mm / step]
1-002-003	Option Tray 2	ENG*	[-9.9 to 9.9 / 0 / 0.1 mm / step]
1-002-004	Option Tray 3	ENG*	[-9.9 to 9.9 / 0 / 0.1 mm / step]
1-002-005	Option Tray 4	ENG*	[-9.9 to 9.9 / 0 / 0.1 mm / step]
1-002-006	By-Pass Tray	ENG*	[-9.9 to 9.9 / 0 / 0.1 mm / step]
1-002-007	Duplex	ENG*	[-9.9 to 9.9 / 0 / 0.1 mm / step]

1885	[Tray1 narrow width paper mode]		
1-885-002	ON/OFF	ENG*	[0 or 1 / 0 / 1 / step]

1890	[Archive mode]		
1-890-001	ON/OFF	ENG*	[0 or 1 / 0 / 1 / step]

1891	[Scattering Control]		
1-891-001	Main	ENG*	[0 or 1 / 0 / 1 / step]
1-891-002	Option Tray 1	ENG*	[0 or 1 / 0 / 1 / step]
1-891-003	Option Tray 2	ENG*	[0 or 1 / 0 / 1 / step]
1-891-004	Option Tray 3	ENG*	[0 or 1 / 0 / 1 / step]
1-891-005	Option Tray 4	ENG*	[0 or 1 / 0 / 1 / step]
1-891-006	By-Pass Tray	ENG*	[0 or 1 / 0 / 1 / step]

1901	[Fuser Type Setting]		
1-901-001	-	ENG*	[0 or 1 / 0 / 1 / step]

1998	[Reserve SP]		
1-998-001	reserve01	ENG*	[0 to 255 / 0 / 1 / step]
1-998-002	reserve02	ENG*	[0 to 255 / 0 / 1 / step]
1-998-003	reserve03	ENG*	[0 to 255 / 0 / 1 / step]
1-998-004	reserve04	ENG*	[0 to 255 / 0 / 1 / step]
1-998-005	reserve05	ENG*	[0 to 255 / 0 / 1 / step]
1-998-006	reserve06	ENG*	[0 to 255 / 0 / 1 / step]
1-998-007	reserve07	ENG*	[0 to 255 / 0 / 1 / step]
1-998-008	reserve08	ENG*	[0 to 255 / 0 / 1 / step]
1-998-009	reserve09	ENG*	[0 to 255 / 0 / 1 / step]
1-998-010	reserve10	ENG*	[0 to 255 / 0 / 1 / step]
1-998-011	reserve11	ENG*	[0 to 255 / 0 / 1 / step]

1-998-012	reserve12	ENG*	[0 to 255 / 0 / 1 / step]
1-998-013	reserve13	ENG*	[0 to 255 / 0 / 1 / step]
1-998-014	reserve14	ENG*	[0 to 255 / 0 / 1 / step]
1-998-015	reserve15	ENG*	[0 to 255 / 0 / 1 / step]
1-998-016	reserve16	ENG*	[0 to 255 / 0 / 1 / step]
1-998-017	reserve17	ENG*	[0 to 65535 / 0 / 1 / step]
1-998-018	reserve18	ENG*	[0 to 65535 / 0 / 1 / step]
1-998-019	reserve19	ENG*	[0 to 65535 / 0 / 1 / step]
1-998-020	reserve20	ENG*	[0 to 65535 / 0 / 1 / step]
1-998-021	reserve21	ENG*	[0 to 65535 / 0 / 1 / step]
1-998-022	reserve22	ENG*	[0 to 65535 / 0 / 1 / step]
1-998-023	reserve23	ENG*	[0 to 65535 / 0 / 1 / step]
1-998-024	reserve24	ENG*	[0 to 65535 / 0 / 1 / step]
1-998-025	reserve25	ENG*	[0 to 4294967295 / 0 / 1 / step]
1-998-026	reserve26	ENG*	[0 to 4294967295 / 0 / 1 / step]
1-998-027	reserve27	ENG*	[0 to 4294967295 / 0 / 1 / step]
1-998-028	reserve28	ENG*	[0 to 4294967295 / 0 / 1 / step]
1-998-029	reserve29	ENG*	[0 to 4294967295 / 0 / 1 / step]
1-998-030	reserve30	ENG*	[0 to 4294967295 / 0 / 1 / step]
1-998-031	reserve31	ENG*	[0 to 4294967295 / 0 / 1 / step]
1-998-032	reserve32	ENG*	[0 to 4294967295 / 0 / 1 / step]
1-998-033	reserve33	ENG*	[0 to 255 / 0 / 1 / step]
1-998-034	reserve34	ENG*	[0 to 255 / 0 / 1 / step]

3.3 MAIN SP TABLES-2

3.3.1 SP2-XXX (DRUM)

2102	[Magnification Adjust]		
2-102-001	Main Mag.	ENG*	[-1 to 1 / 0 / 0.1% / step]

2103	[Erase Margin Adjust]		
2-103-001	Left Edge Width	ENG*	[0 to 9.9 / 4 / 0.1 mm / step]
2-103-002	Right Edge Width	ENG*	[0 to 9.9 / 4 / 0.1 mm / step]
2-103-003	Lead Edge Width	ENG*	[0 to 9.9 / 4 / 0.1 mm / step]
2-103-004	Trail Edge Width	ENG*	[0 to 9.9 / 4 / 0.1 mm / step]

2107	[Image Parameter]		
2-107-001	Image Gamma Flag	ENG*	[0 or 1 / 1 / 1 / step]

2107	[Vsync Timing]		
2-107-130	Normal	ENG	[0 to 255 / 0 / 1 / step]
2-107-131	Thick	ENG	[0 to 255 / 0 / 1 / step]

2109	[Test Pattern]		
2-109-003	Pattern Selection	ENG	[0 to 24 / 0 / 1 / step]
2-109-006	Density	ENG	[0 to 15 / 15 / 1 / step]

3.4 MAIN SP TABLES-3

3.4.1 SP3-XXX (PROCESS)

3900	[Drum Refresh]		
3-900-001	On	ENG	[0 or 1 / 0 / 1 / step]
3-900-002	Off	ENG	[0 or 1 / 0 / 1 / step]

3901 (UP)	[Drum Refresh] <ul style="list-style-type: none"> ▪ MP 501/601: [User Tools] -> [Machine Features] -> [Maintenance] -> [Drum Refresh] ▪ SP 5300/5310: [Menu] -> [Maintenance] -> [Quality Maintenance] -> [Drum Refresh] 		
3-901-001	-	ENG	[0 or 1 / 0 / 1 / step]

3902 (UP)	[Auto Drum Refresh] <ul style="list-style-type: none"> ▪ MP 501/601: [User Tools] -> [Machine Features] -> [Maintenance] -> [Auto Drum Refresh] ▪ SP 5300/5310: [Menu] -> [Maintenance] -> [Quality Maintenance] -> [Auto Drum Refresh] 		
3-902-001	-	ENG	[0 to 3 / 2 / 1 / step]

3903 (UP)	[Altitude Adjust] <ul style="list-style-type: none"> ▪ MP 501/601: [User Tools] -> [Machine Features] -> [Maintenance] -> [Altitude Adjustment] ▪ SP 5300/5310: [Menu] -> [Maintenance] -> [Quality Maintenance] -> [Altitude Adjustment] 		
3-903-001	-	ENG*	[0 to 2 / 0 / 1 / step]

Main SP Tables-3

3904 (UP)	[MainCharger Output] <ul style="list-style-type: none"> ▪ MP 501/601: [User Tools] -> [Machine Features] -> [Maintenance] -> [Charger Output] ▪ SP 5300/5310: [Menu] -> [Maintenance] -> [Quality Maintenance] -> [Charger Output] 		
3-904-001	-	ENG*	[1 to 5 / 3 / 1 / step]

3.5 MAIN SP TABLES-4

3.5.1 SP4-XXX (SCANNER)

4011 (MP 501/601 only)	[S-to-S Regist Adjustment]		
4-011-001	-	ENG*	[-3 to 3 / 0 / 0.1 mm / step]

4012 (MP 501/601 only)	[Scanner Erase Margin: Scale]		
4-012-001	Book: Leading Edge	ENG*	[0 to 10 / 0 / 0.1 mm / step]
4-012-002	Book: Trailing Edge	ENG*	[0 to 10 / 0 / 0.1 mm / step]
4-012-003	Book: Left	ENG*	[0 to 10 / 0 / 0.1 mm / step]
4-012-004	Book: Right	ENG*	[0 to 10 / 0 / 0.1 mm / step]

4013 (MP 501/601 only)	[Scanner Free run]		
4-013-002	Book mode :Lamp On	ENG	[0 or 1 / 0 / 1 / step]

4020 (MP 501/601 only)	[DF Dust Check]		
4-020-001	Dust Detect:On/Off	ENG	[0 or 1 / 0 / 1 / step]

Main SP Tables-4

4-020-002	Dust Detect:Lvl	ENG	[0 to 8 / 4 / 1 / step]
4-020-003	Dust Reject:Lvl	ENG	[0 to 4 / 0 / 1 / step]

4108 (MP 501/601 only)	[Sub Scan Speed.Adjustment]		
4-108-001	-	ENG	[-2.5 to 2.5 / 0 / 0.1 % / step]

4110 (MP 501/601 only)	[L-Edge Timing Adjustment]		
4-110-001	-	ENG	[-45 to 45 / 0 / 1 pulse / step]

4400 (MP 501/601 only)	[Scanner Erase Margin]		
4-400-001	Book: Leading Edge	ENG*	[0 to 10 / 0 / 0.1 mm / step]
4-400-002	Book: Trailing Edge	ENG*	[0 to 10 / 0 / 0.1 mm / step]
4-400-003	Book: Left	ENG*	[0 to 10 / 0 / 0.1 mm / step]
4-400-004	Book: Right	ENG*	[0 to 10 / 0 / 0.1 mm / step]
4-400-005	ADF:Trailing Edge	ENG*	[0 to 10 / 0 / 0.1 mm / step]
4-400-007	ADF:Left	ENG*	[0 to 10 / 0 / 0.1 mm / step]
4-400-008	ADF:Right	ENG*	[0 to 10 / 0 / 0.1 mm / step]

4417	[IPU Test Pattern]		
4-417-001	Test Pattern	ENG	[0 to 8 / 0 / 1 / step]

4609 (MP 501/601 only)	[Gray Balance Set]		
4-609-001	R: Book Scan	ENG*	[-384 to 255 / -100 / 1 digit / step]
4-609-002	R: DF Scan	ENG*	[-384 to 255 / -100 / 1 digit / step]

4610 (MP 501/601 only)	[Gray Balance Set]		
4-610-001	G: Book Scan	ENG*	[-384 to 255 / -100 / 1 digit / step]
4-610-002	G: DF Scan	ENG*	[-384 to 255 / -100 / 1 digit / step]
4-610-003	BW: Book Scan	ENG*	[-384 to 255 / -100 / 1 digit / step]
4-610-004	BW: Book Scan	ENG*	[-384 to 255 / -100 / 1 digit / step]

4611 (MP 501/601 only)	[Gray Balance Set]		
4-611-001	B: Book Scan	ENG*	[-384 to 255 / -100 / 1 digit / step]
4-611-002	B: DF Scan	ENG*	[-384 to 255 / -100 / 1 digit / step]

4646 (MP 501/601 only)	[Scan Adjust Error]		
4-646-001	White level	ENG	[0 to 65535 / 0 / 1 / step]
4-646-002	Black level	ENG	[0 to 65535 / 0 / 1 / step]

Main SP Tables-4

4647 (MP 501/601 only)	[Scanner Hard Error]		
4-647-001	Power-ON	ENG	[0 to 65535 / 0 / 1 / step]

4688 (MP 501/601 only)	[ADF Adjustment Density]		
4-688-001	-	ENG*	[50 to 150 / 103 / 1 % / step]

4699 (MP 501/601 only)	[SBU Test Pattern Change]		
4-699-001	-	ENG	[0 to 255 / 0 / 1 / step]

4903 (MP 501/601 only)	[Filter Setting]		
4-903-001	Ind Dot Erase: Text	ENG*	[0 to 7 / 0 / 1 / step]
4-903-002	Ind Dot Erase: Generation Copy	ENG*	[0 to 7 / 0 / 1 / step]

4905 (MP 501/601 only)	[Select Gradation Level]		
4-905-001	-	ENG*	[0 to 255 / 0 / 1 / step]

4938 (MP 501/601 only)	[ACS:Edge Mask]		
4-938-005	Scan:Sub LEdge	ENG*	[0 to 31 / 15 / 1 / step]
4-938-006	Scan:Sub TEdge	ENG*	[0 to 31 / 15 / 1 / step]
4-938-007	Scan:Main LEdge	ENG*	[0 to 31 / 15 / 1 / step]
4-938-008	Scan:Main TEdge	ENG*	[0 to 31 / 15 / 1 / step]

4939 (MP 501/601 only)	[ACS:Color Range]		
4-939-001	-	ENG*	[-2 to 2 / 0 / 1 / step]

4954 (MP 501/601 only)	[Restore Test Chart]		
4-954-005	Chromaticity Rank	ENG*	[0 to 255 / 0 / 1 / step]

4994 (MP 501/601 only)	[Adj Txt/Photo Recog Level]		
4-994-001	High Compression PDF	ENG*	[0 to 2 / 1 / 1 / step]

4996 (MP 501/601 only)	[White Paper Detection Level]		
4-996-001	-	ENG	[0 to 6 / 3 / 1 / step]

3.6 MAIN SP TABLES-5 (ENGINE)

3.6.1 SP5-XXX (MODE)

5186	[RK4: Setting]		
5-186-001	-	ENG*	[0 or 1 / 0 / 1 / step]

5801	[Memory Clear]		
5-801-002	Engine	ENG	[0 or 1 / 0 / 1 / step]

5802	[All Data Initialize]		
5-802-001	Result	ENG	[0 or 1 / 0 / 1 / step]

5803	[INPUT Check]		
5-803-001	Exit Full Sensor	ENG	[0 or 1 / 0 / 1 / step]
5-803-016	Key Card Set	ENG	[0 or 1 / 0 / 1 / step]
5-803-017	Key Counter Set	ENG	[0 or 1 / 0 / 1 / step]
5-803-018	IPU Version	ENG	[0 or 1 / 0 / 1 / step]

5804	[OUTPUT Check]		
5-804-001	CTLFAN Motor	ENG	[0 or 1 / 0 / 1 / step]
5-804-101	FAN:LSU/DLP/CENTER/REAR	ENG	[0 or 1 / 0 / 1 / step]
5-804-102	FAN:LVU	ENG	[0 or 1 / 0 / 1 / step]
5-804-103	Toner Motor	ENG	[0 or 1 / 0 / 1 / step]
5-804-202	Scanner Lamp	ENG	[0 or 1 / 0 / 1 / step]

5805	[Drum Heater]		
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Main SP Tables-5 (Engine)

5-805-002	-	ENG	[0 or 1 / 0 / 1 / step]
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5810	[SC Reset]		
5-810-001	Fusing SC Reset	ENG	[0 or 1 / 0 / 1 / step]

5811	[MachineSerial]		
5-811-002	Display	ENG*	[0 to 255 / 0 / 1 / step]

5811	[MachineSerial Set]		
5-811-004	IPU	ENG	[0 to 255 / 0 / 1 / step]

5811	[Machine Serial Update Date]		
5-811-021	Latest	ENG*	[0 or 1 / 0 / 1 / step]
5-811-022	Previous	ENG*	[0 or 1 / 0 / 1 / step]

5811	[MachineSerial]		
5-811-023	Previous	ENG*	[0 to 255 / 0 / 1 / step]

5811	[Machine Serial Update Date]		
5-811-024	Latest(IPU)	ENG*	[0 or 1 / 0 / 1 / step]
5-811-025	Previous(IPU)	ENG*	[0 or 1 / 0 / 1 / step]

5811	[MachineSerial]		
5-811-026	Previous(IPU)	ENG*	[0 to 255 / 0 / 1 / step]

5894	[ExternalCountSet]		
5-894-001	SW Charge Mode	ENG*	[0 to 2 / 0 / 1 / step]

5900	[Engine Log Upload]		
5-900-001	Pattern	ENG*	[0 to 4 / 0 / 1 / step]
5-900-002	Trigger	ENG*	[0 to 3 / 0 / 1 / step]

5901	[All Data Initialize]		
5-901-005	China	ENG	[0 or 1 / 0 / 1 / step]
5-901-006	EU(230V)	ENG	[0 or 1 / 0 / 1 / step]
5-901-007	NA(120V)	ENG	[0 or 1 / 0 / 1 / step]
5-901-008	Asia	ENG	[0 or 1 / 0 / 1 / step]
5-901-009	Oceania	ENG	[0 or 1 / 0 / 1 / step]

5930	[Meter Charge]		
5-930-001	Setting	ENG*	[0 or 1 / 1 / 1 / step]

5931	[Life Alert Disp.]		
5-931-001	Maintenance Kit	ENG*	[0 or 1 / 0 / 1 / step]

3.7 MAIN SP TABLES-5 (CONTROLLER)

3.7.1 SP5-XXX (MODE)

5001 (SP 5300/5310 only)	[All Indicators On]		
5-001-001	-	CTL*	[0 or 1 / 0 / 0 / step]

5009 (MP 501/601 only)	[Add display language]		
5-009-201	1-8	CTL*	[0 to 255 / 0 / 1 / step]
5-009-202	9-16		
5-009-203	17-24		
5-009-204	25-32		
5-009-205	33-40	CTL*	[0 to 255 / 0 / 1 / step]
5-009-206	41-48		
5-009-207	49-56		

5024	[mm/inch Display selection]		
5-024-001	0:mm 1:inch	CTL*	[0 or 1 / 0 / 1 / step]

5045 (MP 501/601 only)	[Accounting Counter]		
5-045-001	Counter Method	CTL*	[0 or 1 / 0 / 1 / step]

5051 (MP 501/601 only)	[TonerRefillDetectionDisplay]		
5-051-001	-	CTL*	[0 or 1 / 0 / 1 / step]

5055	[Display IP address]		
5-055-001	-	CTL*	[0 or 1 / 0 / 1 / step]

5071 (MP 501/601 only)	[Set Bypass Paper Size Display]		
5-071-001	-	CTL*	[0 or 1 / 0 / 1 / step]

5074 (MP 501/601 only)	[Home Key Customization]		
5-074-002	Login Setting	CTL*	[0 to 255 / 0 / 1 / step]
5-074-050	Show Home Edit Menu	CTL	[0 to 2 / 0 / 1 / step]
5-074-091	Function Setting	CTL*	[0 to 2 / 0 / 1 / step]
5-074-092	Product ID	CTL*	[0 to 0xffffffff / 0 / 1 / step]
5-074-093	Application Screen ID	CTL*	[0 to 255 / 0 / 1 / step]

Main SP Tables-5 (Controller)

5076 (MP 501/601 only)	[Copy:LT/LG Mixed Sizes Setting]		
5-076-001	0:OFF 1:ON	CTL*	[0 or 1 / 0 / 1 / step]

5081 (MP 501/601 only)	[ServiceSP Entry Code Setting]		
5-081-001	-	CTL*	[0 to 0 / 0 / 0 / step]

5083	[LED Light Switch Setting]		
5-083-001	Toner Near End	CTL	[0 or 1 / 0 / 1 / step]
5-083-002	Waste Toner Near End	CTL	[0 or 1 / 0 / 1 / step]

5113 (MP 501/601 only)	[Optional Counter Type]		
5-113-001	Default Optional Counter Type	CTL*	[0 to 12 / 0 / 1 / step]
5-113-002	External Optional Counter Type	CTL*	[0 to 3 / 0 / 1 / step]

5114 (MP 501/601 only)	[Optional Counter I/F]		
5-114-001	MF Key Card Extension	CTL*	[0 or 1 / 0 / 1 / step]

5118 (MP 501/601 only)	[Disable Copying]		
5-118-001	-	CTL*	[0 or 1 / 0 / 1 / step]

5120	[Mode Clear Opt. Counter Removal] (MP 501/601 only)		
5-120-001	0:Yes 1:StandBy 2:No	CTL*	[0 to 2 / 0 / 1 / step]

5121 (MP 501/601 only)	[Counter Up Timing]		
5-121-001	0:Feed 1:Exit	CTL*	[0 or 1 / 0 / 1 / step]

5127 (MP 501/601 only)	[APS OFF Mode]		
5-127-001	-	CTL*	[0 or 1 / 0 / 1 / step]

5150	[Length Setting]		
5-150-001	Bypass(0:OFF 1:Long)	CTL	[0 or 1 / 0 / 1 / step]

Main SP Tables-5 (Controller)

5162 (MP 501/601 only)	[App. Switch Method]		
5-162-001	-	CTL*	[0 or 1 / 0 / 1 / step]

5167 (MP 501/601 only)	[Fax Printing Mode at Optional Counter Off]		
5-167-001	-	CTL*	[0 or 1 / 0 / 1 / step]

5169	[CE Login]		
5-169-001	-	CTL*	[0 or 1 / 0 / 1 / step]

5188 (MP 501/601 only)	[Copy Nv Version]		
5-188-001	-	CTL*	[0 to 0 / 0 / 0 / step]

5191	[Mode Set]		
5-191-001	Power Str Set	CTL*	[0 or 1 / 1 / 1 / step]

5195	[Limitless SW]		
5-195-001	-	CTL*	[0 or 1 / 0 / 1 / step]

5212 (MP 501/601 only)	[Page Numbering]		
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5-212-003	Duplex Printout Left/Right Position of Left/Right Facing	CTL*	[-10 to 10 / 0 / 0.01 mm / step]
5-212-004	Duplex Printout Top/Bottom Position of Left/Right Facing	CTL*	[-10 to 10 / 0 / 0.01 mm / step]
5-212-018	Duplex Printout Left/Right Position of Top/Bottom Facing	CTL*	[-10 to 10 / 0 / 0.01 mm / step]
5-212-019	Duplex Printout Top/Bottom Position of Top/Bottom Facing	CTL*	[-10 to 10 / 0 / 0.01 mm / step]

5227 (MP 501/601 only)	[Page Numbering]		
5-227-201	Allow Page No. Entry	CTL*	[2 to 9 / 9 / 1 / step]
5-227-202	Zero Surplus Setting	CTL*	[0 or 1 / 0 / 1 / step]

5302	[Set Time]		
5-302-002	Time Difference	CTL*	[-1440 to 1440 / 540 / 1 / step]

5305	[Auto Off Set]		
5-305-101	Auto Off Limit Set	CTL*	[0 or 1 / 1 / 1 / step]

5307	[Daylight Saving Time]		
5-307-001	Setting	CTL*	[0 or 1 / 0 / 1 / step]
5-307-003	Rule Set(Start)	CTL*	[0x00 to 0xffffffff / 0 / 1 / step]

Main SP Tables-5 (Controller)

5-307-004	Rule Set(End)	CTL*	[0x00 to 0xffffffff / 0 / 1 / step]
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5401	[Access Control]		
5-401-103	Default Document ACL	CTL*	[0 to 3 / 0 / 1 / step] (MP 501/601 only)
5-401-104	Authentication Time	CTL*	[0 to 255 / 0 / 1 sec / step]
5-401-162	Extend Certification Detail	CTL*	[0 to 0xff / 0 / 1 / step]
5-401-200	SDK1 UniqueID	CTL*	[0 to 0xFFFFFFFF / 0 / 1 / step]
5-401-201	SDK1 Certification Method	CTL*	[0 to 0xFF / 0 / 1 / step]
5-401-210	SDK2 UniqueID	CTL*	[0 to 0xFFFFFFFF / 0 / 1 / step]
5-401-211	SDK2 Certification Method	CTL*	[0 to 0xFF / 0 / 1 / step]
5-401-220	SDK3 UniqueID	CTL*	[0 to 0xFFFFFFFF / 0 / 1 / step]
5-401-221	SDK3 Certification Method	CTL*	[0 to 0xFF / 0 / 1 / step]
5-401-230	SDK Certification Device	CTL*	[0 to 0xff / 0 / 1 / step]
5-401-240	Detail Option	CTL*	[0 to 0xff / 0 / 1 / step]

5402	[Access Control]		
5-402-101	SDKJ1 Limit Setting	CTL*	[0 to 0xFF / 0 / 1 / step]
5-402-102	SDKJ2 Limit Setting	CTL*	
5-402-103	SDKJ3 Limit Setting	CTL*	
5-402-104	SDKJ4 Limit Setting	CTL*	
5-402-105	SDKJ5 Limit Setting	CTL*	
5-402-106	SDKJ6 Limit Setting	CTL*	

5-402-107	SDKJ7 Limit Setting	CTL*		
5-402-108	SDKJ8 Limit Setting	CTL*		
5-402-109	SDKJ9 Limit Setting	CTL*		
5-402-110	SDKJ10 Limit Setting	CTL*		
5-402-111	SDKJ11 Limit Setting	CTL*		
5-402-112	SDKJ12 Limit Setting	CTL*		
5-402-113	SDKJ13 Limit Setting	CTL*		
5-402-114	SDKJ14 Limit Setting	CTL*		
5-402-115	SDKJ15 Limit Setting	CTL*		
5-402-116	SDKJ16 Limit Setting	CTL*		[0 to 0xFF / 0 / 1 / step]
5-402-117	SDKJ17 Limit Setting	CTL*		
5-402-118	SDKJ18 Limit Setting	CTL*		
5-402-119	SDKJ19 Limit Setting	CTL*		
5-402-120	SDKJ20 Limit Setting	CTL*		
5-402-121	SDKJ21 Limit Setting	CTL*		
5-402-122	SDKJ22 Limit Setting	CTL*		
5-402-123	SDKJ23 Limit Setting	CTL*		
5-402-124	SDKJ24 Limit Setting	CTL*		
5-402-125	SDKJ25 Limit Setting	CTL*		
5-402-126	SDKJ26 Limit Setting	CTL*		
5-402-127	SDKJ27 Limit Setting	CTL*		
5-402-128	SDKJ28 Limit Setting	CTL*		
5-402-129	SDKJ29 Limit Setting	CTL*		
5-402-130	SDKJ30 Limit Setting	CTL*		

Main SP Tables-5 (Controller)

5402	[Access Control]		
5-402-141	SDKJ1 ProductID	CTL*	[0 to 0xffffffff / 0 / 1 / step]
5-402-142	SDKJ2 ProductID	CTL*	
5-402-143	SDKJ3 ProductID	CTL*	
5-402-144	SDKJ4 ProductID	CTL*	
5-402-145	SDKJ5 ProductID	CTL*	
5-402-146	SDKJ6 ProductID	CTL*	
5-402-147	SDKJ7 ProductID	CTL*	
5-402-148	SDKJ8 ProductID	CTL*	
5-402-149	SDKJ9 ProductID	CTL*	[0 to 0xffffffff / 0 / 1 / step]
5-402-150	SDKJ10 ProductID	CTL*	
5-402-151	SDKJ11 ProductID	CTL*	
5-402-152	SDKJ12 ProductID	CTL*	
5-402-153	SDKJ13 ProductID	CTL*	
5-402-154	SDKJ14 ProductID	CTL*	
5-402-155	SDKJ15 ProductID	CTL*	
5-402-156	SDKJ16 ProductID	CTL*	
5-402-157	SDKJ17 ProductID	CTL*	
5-402-158	SDKJ18 ProductID	CTL*	
5-402-159	SDKJ19 ProductID	CTL*	
5-402-160	SDKJ20 ProductID	CTL*	
5-402-161	SDKJ21 ProductID	CTL*	
5-402-162	SDKJ22 ProductID	CTL*	
5-402-163	SDKJ23 ProductID	CTL*	
5-402-164	SDKJ24 ProductID	CTL*	

5-402-165	SDKJ25 ProductID	CTL*	
5-402-166	SDKJ26 ProductID	CTL*	
5-402-167	SDKJ27 ProductID	CTL*	
5-402-168	SDKJ28 ProductID	CTL*	
5-402-169	SDKJ29 ProductID	CTL*	
5-402-170	SDKJ30 ProductID	CTL*	

5404	[User Code Count Clear]		
5-404-001	User Code Count Clear	CTL	[0 to 0 / 0 / 0 / step]
5-404-101	User Code Count Clear Permit Setting	CTL	[0 or 1 / 0 / 1 / step]

5411	[LDAP-Certification]		
5-411-004	Simplified Authentication	CTL*	[0 or 1 / 1 / 1 / step]
5-411-005	Password Null Not Permit	CTL*	[0 or 1 / 1 / 1 / step]
5-411-006	Detail Option	CTL*	[0 to 0xff / 0 / 1 / step]

5412	[Krb-Certification]		
5-412-100	Encrypt Mode	CTL*	[0 to 0xFF / 0x1F / 1 / step]

5413	[Lockout Setting]		
5-413-001	Lockout On/Off	CTL*	[0 or 1 / 0 / 1 / step]
5-413-002	Lockout Threshold	CTL*	[1 to 10 / 5 / 1 / step]
5-413-003	Cancel On/Off	CTL*	[0 or 1 / 0 / 1 / step]
5-413-004	Cancel Time	CTL*	[1 to 9999 / 60 / 1 min / step]

Main SP Tables-5 (Controller)

5414	[Access Mitigation]		
5-414-001	Mitigation On/Off	CTL*	[0 or 1 / 0 / 1 / step]
5-414-002	Mitigation Time	CTL*	[0 to 60 / 15 / 1 min / step]

5415	[Password Attack]		
5-415-001	Permissible Number	CTL*	[0 to 100 / 30 / 1 / step]
5-415-002	Detect Time	CTL*	[1 to 10 / 5 / 1 / step]

5416	[Access Information]		
5-416-001	Access User Max Num	CTL*	[50 to 200 / 200 / 1 / step]
5-416-002	Access Password Max Num	CTL*	[50 to 200 / 200 / 1 / step]
5-416-003	Monitor Interval	CTL*	[1 to 10 / 3 / 1 / step]

5417	[Access Attack]		
5-417-001	Access Permissible Number	CTL*	[0 to 500 / 100 / 1 / step]
5-417-002	Attack DetectTime	CTL*	[10 to 30 / 10 / 1 sec / step]
5-417-003	Productivity Fall Waite	CTL*	[0 to 9 / 3 / 1 sec / step]
5-417-004	Attack Max Num	CTL*	[50 to 200 / 200 / 1 / step]

5420	[User Authentication]		
5-420-001	Copy	CTL*	[0 or 1 / 0 / 1 / step] (MP 501/601 only)
5-420-011	DocumentServer	CTL*	[0 or 1 / 0 / 1 / step] (MP 501/601 only)

5-420-021	Fax	CTL*	[0 or 1 / 0 / 1 / step] (MP 501/601 only)
5-420-031	Scanner	CTL*	[0 or 1 / 0 / 1 / step] (MP 501/601 only)
5-420-041	Printer	CTL*	[0 or 1 / 0 / 1 / step]
5-420-051	SDK1	CTL*	[0 or 1 / 0 / 1 / step]
5-420-061	SDK2	CTL*	[0 or 1 / 0 / 1 / step]
5-420-071	SDK3	CTL*	[0 or 1 / 0 / 1 / step]
5-420-081	Browser	CTL*	[0 or 1 / 0 / 1 / step] (MP 501/601 only)

5430 (MP 501/601 only)	[Auth Dialog Message Change]		
5-430-001	Message Change On/Off	CTL*	[0 or 1 / 0 / 1 / step]
5-430-002	Message Text Download	CTL*	[0 to 0 / 0 / 0 / step]
5-430-003	Message Text ID	CTL*	[0 to 0 / 0 / 0 / step]

5431 (MP 501/601 only)	[External Auth User Preset]		
5-431-010	Tag	CTL*	[0 or 1 / 1 / 1 / step]
5-431-011	Entry	CTL*	[0 or 1 / 1 / 1 / step]
5-431-012	Group	CTL*	[0 or 1 / 1 / 1 / step]
5-431-020	Mail	CTL*	[0 or 1 / 1 / 1 / step]
5-431-030	Fax	CTL*	[0 or 1 / 1 / 1 / step]

Main SP Tables-5 (Controller)

5-431-031	FaxSub	CTL*	[0 or 1 / 1 / 1 / step]
5-431-032	Folder	CTL*	[0 or 1 / 1 / 1 / step]
5-431-033	ProtectCode	CTL*	[0 or 1 / 1 / 1 / step]
5-431-034	SmtplAuth	CTL*	[0 or 1 / 1 / 1 / step]
5-431-035	LdapAuth	CTL*	[0 or 1 / 1 / 1 / step]
5-431-036	Smb Ftp Fldr Auth	CTL*	[0 or 1 / 1 / 1 / step]
5-431-037	AcntAcl	CTL*	[0 or 1 / 1 / 1 / step]
5-431-038	DocumentAcl	CTL*	[0 or 1 / 1 / 1 / step]
5-431-040	CertCrypt	CTL*	[0 or 1 / 0 / 1 / step]
5-431-050	UserLimitCount	CTL*	[0 or 1 / 1 / 1 / step]

5481	[Authentication Error Code]		
5-481-001	System Log Disp	CTL*	[0 or 1 / 0 / 1 / step]
5-481-002	Panel Disp	CTL*	[0 or 1 / 1 / 1 / step] (MP 501/601 only)

5490 (MP 501/601 only)	[MF KeyCard]		
5-490-001	Job Permit Setting	CTL*	[0 or 1 / 0 / 1 / step]

5491 (MP 501/601 only)	[Optional Counter]		
5-491-001	Detail Option	CTL*	[0 to 0xff / 0 / 1 / step]

5501	[PM Alarm]		
5-501-001	PM Alarm Level	CTL*	[0 to 9999 / 0 / 1 / step]
5-501-002	Original Count Alarm	CTL*	[0 or 1 / 0 / 1 / step] (MP 501/601 only)

5504	[Jam Alarm]		
5-504-001	Level Setting	CTL*	[0 to 3 / 3 / 1 / step]
5-504-002	Threshold	CTL*	[1 to 99 / 10 / 1 / step]

5505	[Error Alarm]		
5-505-001	Level Setting	CTL*	[0 to 255 / 19 / 1 / step]
5-505-002	Threshold	CTL*	[1 to 99 / 5 / 1 / step]

5507	[Supply/CC Alarm]		
5-507-001	Paper Supply Alarm	CTL*	[0 or 1 / 0 / 1 / step]
5-507-003	Toner Supply Alarm	CTL*	[0 or 1 / 1 / 1 / step]
5-507-006	WasteTonerBottle Supply Alarm	CTL*	[0 or 1 / 1 / 1 / step]
5-507-080	Toner Call Timing	CTL*	[0 or 1 / 0 / 1 / step]
5-507-081	Toner Call Threshold	CTL*	[10 to 90 / 10 / 10 % / step]
5-507-128	Interval: Others	CTL*	[250 to 10000 / 1000 / 1 / step]
5-507-133	Interval: A4	CTL*	[250 to 10000 / 1000 / 1 / step]
5-507-134	Interval: A5	CTL*	[250 to 10000 / 1000 / 1 / step]
5-507-142	Interval: B5	CTL*	[250 to 10000 / 1000 / 1 / step]
5-507-164	Interval: LG	CTL*	[250 to 10000 / 1000 / 1 / step]
5-507-166	Interval: LT	CTL*	[250 to 10000 / 1000 / 1 / step]

Main SP Tables-5 (Controller)

5-507-172	Interval: HLT	CTL*	[250 to 10000 / 1000 / 1 / step]
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5508 (MP 501/601 only)	[CC Call]		
5-508-001	Jam Remains	CTL*	[0 or 1 / 1 / 1 / step]
5-508-002	Continuous Jams	CTL*	[0 or 1 / 1 / 1 / step]
5-508-003	Continuous Door Open	CTL*	[0 or 1 / 1 / 1 / step]
5-508-011	Jam Detection: Time Length	CTL*	[3 to 30 / 10 / 1 / step]
5-508-012	Jam Detection: Continuous Count	CTL*	[2 to 10 / 5 / 1 / step]
5-508-013	Door Open: Time Length	CTL*	[3 to 30 / 10 / 1 / step]

5515	[SC/Alarm Setting]		
5-515-001	SC Call	CTL*	[0 or 1 / 1 / 1 / step]
5-515-002	Service Parts Near End Call	CTL*	[0 or 1 / 1 / 1 / step]
5-515-003	Service Parts End Call	CTL*	[0 or 1 / 1 / 1 / step]
5-515-004	User Call	CTL*	[0 or 1 / 1 / 1 / step]
5-515-006	Communication Test Call	CTL*	[0 or 1 / 1 / 1 / step]
5-515-007	Machine Information Notice	CTL*	[0 or 1 / 1 / 1 / step]
5-515-008	Alarm Notice	CTL*	[0 or 1 / 1 / 1 / step]

5-515-009	Non Genuine Tonner Ararm	CTL*	[0 or 1 / 1 / 1 / step]
5-515-010	Supply Automatic Ordering Call	CTL*	[0 or 1 / 1 / 1 / step]
5-515-011	Supply Management Report Call	CTL*	[0 or 1 / 1 / 1 / step]
5-515-012	Jam/Door Open Call	CTL*	[1 to 255 / 5 / 1 / step]
5-515-050	Timeout:Manual Call	CTL*	[1 to 255 / 10 / 1 min / step]
5-515-051	Timeout:Other Call	CTL*	[1 to 255 / 10 / 1 min / step]

5517	[Get Machine Information]		
5-517-031	Get SMC Info: Retry Interval	CTL*	[0 to 255 / 10 / 1 min / step]

5728	[Network Setting]		
5-728-001	NAT Machine Port1	CTL*	[1 to 65535 / 49101 / 1 / step]
5-728-002	NAT UI Port1	CTL*	[1 to 65535 / 55101 / 1 / step]
5-728-003	NAT Machine Port2	CTL*	[1 to 65535 / 49102 / 1 / step]
5-728-004	NAT UI Port2	CTL*	[1 to 65535 / 55102 / 1 / step]
5-728-005	NAT Machine Port3	CTL*	[1 to 65535 / 49103 / 1 / step]
5-728-006	NAT UI Port3	CTL*	[1 to 65535 / 55103 / 1 / step]
5-728-007	NAT Machine Port4	CTL*	[1 to 65535 / 49104 / 1 / step]
5-728-008	NAT UI Port4	CTL*	[1 to 65535 / 55104 / 1 / step]
5-728-009	NAT Machine Port5	CTL*	[1 to 65535 / 49105 / 1 / step]
5-728-010	NAT UI Port5	CTL*	[1 to 65535 / 55105 / 1 / step]
5-728-011	NAT Machine Port6	CTL*	[1 to 65535 / 49106 / 1 / step]
5-728-012	NAT UI Port6	CTL*	[1 to 65535 / 55106 / 1 / step]

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5-728-013	NAT Machine Port7	CTL*	[1 to 65535 / 49107 / 1 / step]
5-728-014	NAT UI Port7	CTL*	[1 to 65535 / 55107 / 1 / step]
5-728-015	NAT Machine Port8	CTL*	[1 to 65535 / 49108 / 1 / step]
5-728-016	NAT UI Port8	CTL*	[1 to 65535 / 55108 / 1 / step]
5-728-017	NAT Machine Port9	CTL*	[1 to 65535 / 49109 / 1 / step]
5-728-018	NAT UI Port9	CTL*	[1 to 65535 / 55109 / 1 / step]
5-728-019	NAT Machine Port10	CTL*	[1 to 65535 / 49110 / 1 / step]
5-728-020	NAT UI Port10	CTL*	[1 to 65535 / 55110 / 1 / step]

5730 (MP 501/601 only)	[Extended Function Setting]		
5-730-001	JavaTM Platform setting	CTL*	[0 or 1 / 1 / 1 / step]
5-730-010	Expiration Prior Alarm Set	CTL*	[0 to 999 / 20 / 1 days / step]

5731	[Counter Effect]		
5-731-001	Change Mk1 Cnt(Paper->Combine)	CTL*	[0 or 1 / 0 / 1 / step]

5734 (MP 501/601 only)	[PDF Setting]		
5-734-001	PDF/A Fixed	CTL*	[0 or 1 / 0 / 1 / step]

5741 (MP 501/601 only)	[Node Authentication Timuout]		
5-741-001	-	CTL*	[1 to 255 / 60 / 1 sec / step]

5745	[DeemedPowerConsumption]		
5-745-211	Controller Standby	CTL*	[0 to 9999 / 0 / 1 / step]
5-745-212	STR	CTL*	[0 to 9999 / 0 / 1 / step]
5-745-213	Main Power Off	CTL*	[0 to 9999 / 0 / 1 / step]
5-745-214	Scanning and Printing	CTL*	[0 to 9999 / 0 / 1 / step]
5-745-215	Printing	CTL*	[0 to 9999 / 0 / 1 / step]
5-745-216	Scanning	CTL*	[0 to 9999 / 0 / 1 / step]
5-745-217	Engine Standby	CTL*	[0 to 9999 / 0 / 1 / step]
5-745-218	Low Power Consumption	CTL*	[0 to 9999 / 0 / 1 / step]
5-745-219	Silent condition	CTL*	[0 to 9999 / 0 / 1 / step]
5-745-220	Heater Off	CTL*	[0 to 9999 / 0 / 1 / step]

5748 (MP 501/601 only)	[OpePanel Setting]		
5-748-101	Op Type Action Setting	CTL*	[0 to 255 / 0 / 1 / step]
5-748-201	Cheetah Panel Connect Setting	CTL	[0 or 1 / 0 / 1 / step]

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5749	[Import/Export]		
5-749-001	Export	CTL	[0 to 0 / 0 / 0 / step]
5-749-101	Import	CTL	[0 to 0 / 0 / 0 / step]

5751 (MP 501/601 only)	[Key Event Encryption Setting]		
5-751-001	Password	CTL*	[0 to 255/ 0 / 1 / step]

5752 (MP 501/601 only)	[Copy:WebAPI Setting]		
5-752-001	Copy:FlairAPI Setting	CTL*	[0 to 255 / 0 / 1 / step]

5755 (MP 501/601 only)	[Display Setting]		
5-755-001	Disp Administrator Password Change Scrn	CTL*	[0 to 0 / 0 / 0 / step]
5-755-002	Hide Administrator Password Change Scrn	CTL*	[0 to 0 / 0 / 0 / step]

5758 (MP 501/601 only)	[RemoteUI Setting]		
5-758-001	Authentication	CTL*	[0 or 1 / 0 / 1 / step]

5761 (MP 501/601 only)	[SmartOperationPanel Setting]		
5-761-001	Restore the default Home screen	CTL*	[0 to 255 / 0 / 1 / step]

5801	[Memory Clear]		
5-801-001	All Clear	CTL	[0 to 0 / 0 / 0 / step]
5-801-003	SCS	CTL	[0 to 0 / 0 / 0 / step]
5-801-004	IMH Memory Clr	CTL	[0 to 0 / 0 / 0 / step]
5-801-005	MCS	CTL	[0 to 0 / 0 / 0 / step]
5-801-006	Copier application	CTL	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
5-801-007	Fax Application	CTL	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
5-801-008	Printer Application	CTL	[0 to 0 / 0 / 0 / step]
5-801-009	Scanner Application	CTL	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
5-801-010	Web Service	CTL	[0 to 0 / 0 / 0 / step]
5-801-011	NCS	CTL	[0 to 0 / 0 / 0 / step]
5-801-012	R-FAX	CTL	[0 to 0 / 0 / 0 / step] (MP 501/601 only)

5-801-014	Clear DCS Setting	CTL	[0 to 0 / 0 / 0 / step]
5-801-015	Clear UCS Setting	CTL	[0 to 0 / 0 / 0 / step]
5-801-016	MIRS Setting	CTL	[0 to 0 / 0 / 0 / step]
5-801-017	CCS	CTL	[0 to 0 / 0 / 0 / step]
5-801-018	SRM Memory Clr	CTL	[0 to 0 / 0 / 0 / step]
5-801-019	LCS	CTL	[0 to 0 / 0 / 0 / step]
5-801-020	Web Uapli	CTL	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
5-801-021	ECS	CTL	[0 to 0 / 0 / 0 / step]
5-801-023	AICS	CTL	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
5-801-025	websys	CTL	[0 to 0 / 0 / 0 / step]
5-801-026	PLN	CTL	[0 to 0 / 0 / 0 / step]
5-801-027	SAS	CTL	[0 to 0 / 0 / 0 / step]
5-801-028	Rest WebService	CTL	[0 to 0 / 0 / 0 / step]

5812	[Service Tel. No. Setting]		
5-812-001	Service	CTL*	[0 to 0 / 0 / 0 / step]
5-812-002	Facsimile	CTL*	[0 to 0 / 0 / 0 / step]
5-812-003	Supply	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
5-812-004	Operation	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
5-812-101	Disp Inquiry	CTL*	[0 or 1 / 0 / 0 / step] (MP 501/601 only)

5816	[NRS Function]		
5-816-001	I/F Setting	CTL*	[0 to 2 / 2 / 1 / step]
5-816-002	CE Call	CTL*	[0 or 1 / 0 / 1 / step]
5-816-003	Function Flag	CTL*	[0 or 1 / 0 / 1 / step]
5-816-007	SSL Disable	CTL*	[0 or 1 / 0 / 1 / step]
5-816-008	RCG Connect Timeout	CTL*	[1 to 90 / 30 / 1 sec / step]
5-816-009	RCG Write Timeout	CTL*	[0 to 100 / 60 / 1 sec / step]
5-816-010	RCG Read Timeout	CTL*	[0 to 100 / 60 / 1 sec / step]
5-816-011	Port 80 Enable	CTL*	[0 or 1 / 0 / 1 / step]

5816	[Remote Service]		
5-816-013	RFU Timing	CTL*	[0 or 1 / 1 / 1 / step]
5-816-014	RCG Error Cause	CTL	[0 to 2 / 0 / 1 / step]
5-816-021	RCG-C Registered	CTL*	[0 or 1 / 0 / 1 / step]
5-816-023	Connect Type(N/M)	CTL*	[0 or 1 / 0 / 1 / step]
5-816-061	Cert Expire Timing	CTL*	[0 to 0 / 0 / 0 / step]

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5-816-062	Use Proxy	CTL*	[0 or 1 / 0 / 1 / step]
5-816-063	Proxy Host	CTL*	[0 to 0 / 0 / 0 / step]
5-816-064	Proxy PortNumber	CTL*	[0 to 0xffff / 0 / 1 / step]
5-816-065	Proxy User Name	CTL*	[0 to 0 / 0 / 0 / step]
5-816-066	Proxy Password	CTL*	[0 to 0 / 0 / 0 / step]
5-816-067	CERT:Up State	CTL*	[0 to 255 / 0 / 1 / step]
5-816-068	CERT:Error	CTL*	[0 to 255 / 0 / 1 / step]
5-816-069	CERT:Up ID	CTL*	[0 to 0 / 0 / 0 / step]
5-816-083	Firm Up Status	CTL*	[0 or 1 / 0 / 1 / step]
5-816-085	Firm Up User Check	CTL*	[0 or 1 / 0 / 1 / step]
5-816-086	Firmware Size	CTL*	[0x00 to 0xffff / 0x00 / 1 / step]
5-816-087	CERT:Macro Ver.	CTL	[0 to 0 / 0 / 0 / step]
5-816-088	CERT:PAC Ver.	CTL	[0 to 0 / 0 / 0 / step]
5-816-089	CERT:ID2Code	CTL	[0 to 0 / 0 / 0 / step]
5-816-090	CERT:Subject	CTL	[0 to 0 / 0 / 0 / step]
5-816-091	CERT:Serial No.	CTL	[0 to 0 / 0 / 0 / step]
5-816-092	CERT:Issuer	CTL	[0 to 0 / 0 / 0 / step]
5-816-093	CERT:Valid Start	CTL	[0 to 0 / 0 / 0 / step]
5-816-094	CERT:Valid End	CTL	[0 to 0 / 0 / 0 / step]
5-816-102	CERT:Encrypt Level	CTL*	[1 to 2 / 1 / 1 / step]
5-816-103	Client Communication Method	CTL*	[0 to 3 / 0 / 1 / step]
5-816-104	Client Communication Limit	CTL*	[0 or 1 / 0 / 1 / step]

5-816-115	Network Information Waiting timer	CTL*	[0 or 1 / 0 / 1 / step]
5-816-200	Manual Polling	CTL	[0 or 1 / 0 / 1 / step]
5-816-201	Regist Status	CTL	[0 or 1 / 0 / 1 / step]
5-816-202	Letter Number	CTL*	[0 or 1 / 0 / 0 / step]
5-816-203	Confirm Execute	CTL	[0 or 1 / 0 / 1 / step]
5-816-204	Confirm Result	CTL	[0 or 1 / 0 / 1 / step]
5-816-205	Confirm Place	CTL	[0 or 1 / 0 / 1 / step]
5-816-206	Register Execute	CTL	[0 or 1 / 0 / 1 / step]
5-816-207	Register Result	CTL	[0 to 255 / 0 / 1 / step]
5-816-208	Error Code	CTL	[-2147483647 to 2147483647 / 0 / 0 / step]
5-816-209	Instl Clear	CTL	[0 or 1 / 0 / 1 / step]
5-816-240	CommErrorTime	CTL	[0 to 0 / 0 / 1 / step]
5-816-241	CommErrorCode 1	CTL*	[0x00 to 0xffff / 0x00 / 1 / step]
5-816-242	CommErrorCode 2	CTL*	[0x00 to 0xffff / 0x00 / 1 / step]
5-816-243	CommErrorCode 3	CTL*	[0x00 to 0xffff / 0x00 / 1 / step]
5-816-244	CommErrorState 1	CTL*	[0 to 0xffff / 0x0000 / 1 / step]
5-816-245	CommErrorState 2	CTL*	[0 to 0xffff / 0x0000 / 1 / step]
5-816-246	CommErrorState 3	CTL*	[0 to 0xffff / 0x0000 / 1 / step]
5-816-247	SSL Error Count	CTL*	[0 to 255 / 0 / 1 / step]
5-816-248	Other Err Count	CTL*	[0 to 255 / 0 / 1 / step]
5-816-250	CommLog Print	CTL	[0 to 255 / 0 / 0 / step]

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5821	[Remote Service RCG Setting]		
5-821-002	RCG IPv4 Address	CTL*	[0 to 0xffffffff / 0 / 1 / step]
5-821-003	RCG Port	CTL*	[0 to 65535 / 443 / 1 / step]
5-821-004	RCG IPv4 URL Path	CTL*	[0 to 0 / 0 / 0 / step]
5-821-005	RCG IPv6 Address	CTL*	[0 to 0 / 0 / 0 / step]
5-821-006	RCG IPv6 URL Path	CTL*	[0 to 0 / 0 / 0 / step]
5-821-007	RCG Host Name	CTL*	[0 to 0 / 0 / 0 / step]
5-821-008	RCG Host URL Path	CTL*	[0 to 0 / 0 / 0 / step]

5824	[NV-RAM Data Upload]		
5-824-001	-	CTL	[0 to 0 / 0 / 0 / step]

5825	[NV-RAM Data Download]		
5-825-001	-	CTL	[0 to 0 / 0 / 0 / step]

5828	[Network Setting]		
5-828-050	1284 Compatibility (Centro)	CTL*	[0 or 1 / 1 / 1 / step]
5-828-052	ECP (Centro)	CTL*	[0 or 1 / 1 / 1 / step]
5-828-065	Job Spooling	CTL*	[0 or 1 / 1 / 1 / step]
5-828-066	Job Spooling Clear: Start Time	CTL*	[0 or 1 / 1 / 1 / step]
5-828-069	Job Spooling (Protocol)	CTL*	[0x00 to 0xff / 0x7f / 0 / step]
5-828-087	Protocol usage	CTL*	[0x00 to 0xffff / 0x00 / 1 / step]

5-828-090	TELNET(0:OFF 1:ON)	CTL*	[0x00 to 0xffff / 0x00 / 1 / step]
5-828-091	Web(0:OFF 1:ON)	CTL*	[0 or 1 / 1 / 1 / step]
5-828-145	Active IPv6 Link Local Address	CTL	[0 to 0 / 0 / 0 / step]
5-828-147	Active IPv6 Stateless Address 1	CTL	[0 to 0 / 0 / 0 / step]
5-828-149	Active IPv6 Stateless Address 2	CTL	[0 to 0 / 0 / 0 / step]
5-828-151	Active IPv6 Stateless Address 3	CTL	[0 to 0 / 0 / 0 / step]
5-828-153	Active IPv6 Stateless Address 4	CTL	[0 to 0 / 0 / 0 / step]
5-828-155	Active IPv6 Stateless Address 5	CTL	[0 to 0 / 0 / 0 / step]
5-828-156	IPv6 Manual Address	CTL*	[0 to 0 / 0 / 0 / step]
5-828-158	IPv6 Gateway Address	CTL*	[0 to 0 / 0 / 0 / step]
5-828-161	IPv6 Stateless Auto Setting	CTL*	[0 or 1 / 1 / 1 / step]
5-828-219	IPsec Aggressive Mode Setting	CTL*	[0 or 1 / 0 / 1 / step]
5-828-236	Web Item visible	CTL*	[0x0000 to 0xffff / 0xffff / 1 / step]
5-828-237	Web shopping link visible	CTL*	[0 or 1 / 1 / 1 / step]
5-828-238	Web Supplies Link visible	CTL*	[0 or 1 / 1 / 1 / step]
5-828-239	Web Link1 Name	CTL*	[0 to 0 / 0 / 0 / step]
5-828-240	Web Link1 URL	CTL*	[0 to 0 / 0 / 0 / step]

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5-828-241	Web Link1 visible	CTL*	[0 or 1 / 1 / 1 / step]
5-828-242	Web Link2 Name	CTL*	[0 to 0 / 0 / 0 / step]
5-828-243	Web Link2 URL	CTL*	[0 to 0 / 0 / 0 / step]
5-828-244	Web Link2 visible	CTL*	[0 or 1 / 1 / 1 / step]
5-828-249	DHCPv6 DUID	CTL	[0 to 0 / 0 / 0 / step]

5832	[HDD]		
5-832-001	HDD Formatting (ALL)	CTL	[0 to 0 / 0 / 0 / step]
5-832-002	HDD Formatting (IMH)	CTL	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
5-832-003	HDD Formatting (Thumbnail/OCR)	CTL	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
5-832-004	HDD Formatting (Job Log)	CTL	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
5-832-005	HDD Formatting (Printer Fonts)	CTL	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
5-832-006	HDD Formatting (User Info)	CTL	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
5-832-007	Mail RX Data	CTL	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
5-832-008	Mail TX Data	CTL	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
5-832-009	HDD Formatting (Data for a Design)	CTL	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
5-832-010	HDD Formatting (Log)	CTL	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
5-832-011	HDD Formatting (Ridoc I/F)	CTL	[0 to 0 / 0 / 0 / step] (MP 501/601 only)

5-832-012	HDD Formatting (Thumbnail)	CTL	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
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5836 (MP 501/601 only)	[Capture Setting]		
5-836-001	Capture Function (0:Off 1:On)	CTL*	[0 or 1 / 0 / 1 / step]
5-836-011	Capture Setting: Copy	CTL*	[0 or 1 / 0 / 1 / step]
5-836-012	Capture Setting: Doc. Svr.	CTL*	[0 or 1 / 0 / 1 / step]
5-836-013	Capture Setting: Fax RX Printer	CTL*	[0 or 1 / 0 / 1 / step]
5-836-014	Capture Setting: Fax TX	CTL*	[0 or 1 / 0 / 1 / step]
5-836-015	Capture Setting: Printer	CTL*	[0 or 1 / 0 / 1 / step]
5-836-016	Capture Setting: Scanner	CTL*	[0 or 1 / 0 / 1 / step]
5-836-017	Capture Setting: SDK	CTL*	[0 or 1 / 0 / 1 / step]
5-836-061	Captured File Resend (0:Off 1:On)	CTL*	[0 or 1 / 1 / 1 / step]
5-836-072	Reduction for Copy B&W Text	CTL*	[0 to 6 / 0 / 1 / step]
5-836-073	Reduction for Copy B&W Other	CTL*	[0 to 6 / 0 / 1 / step]
5-836-075	Reduction for Printer B&W	CTL*	[0 to 6 / 0 / 1 / step]

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5-836-082	Format for Copy B&W Text	CTL*	[0 to 3 / 1 / 1 / step]
5-836-083	Format for Copy B&W Other	CTL*	[0 to 3 / 1 / 1 / step]
5-836-085	Format for Printer B&W	CTL*	[0 to 3 / 1 / 1 / step]
5-836-091	Default for JPEG	CTL*	[5 to 95 / 50 / 1 / step]
5-836-101	Primary srv IP address	CTL*	[0 to 0xffffffff / 0x00 / 0 / step]
5-836-102	Primary srv scheme	CTL*	[0 to 0 / 0 / 0 / step]
5-836-103	Primary srv port number	CTL*	CTL*
5-836-104	Primary srv URL path	CTL*	[0 to 0 / 0 / 0 / step]
5-836-111	Secondary srv IP address	CTL*	[0 to 0xffffffff / 0x00 / 0 / step]
5-836-112	Secondary srv scheme	CTL*	[0 to 0 / 0 / 0 / step]
5-836-113	Secondary srv port number	CTL*	[1 to 65535 / 80 / 1 / step]
5-836-114	Secondary srv URL path	CTL*	[0 to 0 / 0 / 0 / step]
5-836-120	Default Reso Rate Switch	CTL*	[0 or 1 / 0 / 1 / step]
5-836-122	Reso: Copy(Mono)	CTL*	[0 to 255 / 3 / 1 / step]
5-836-124	Reso: Print(Mono)	CTL*	[0 to 255 / 3 / 1 / step]
5-836-125	Reso: Fax(Color)	CTL*	[0 to 255 / 4 / 1 / step]
5-836-126	Reso: Fax(Mono)	CTL*	[0 to 255 / 3 / 1 / step]
5-836-127	Reso: Scan(Color)	CTL*	[0 to 255 / 4 / 1 / step]

5-836-128	Reso: Scan(Mono)	CTL*	[0 to 255 / 3 / 1 / step]
5-836-129	Reso: SDK(Color)	CTL*	[0 to 255 / 4 / 1 / step]
5-836-130	Reso: SDK(Mono)	CTL*	[0 to 255 / 3 / 1 / step]
5-836-141	All Addr Info Switch	CTL*	[0 or 1 / 1 / 1 / step]
5-836-142	Stand-by Doc Max Number	CTL*	[10 to 10000 / 2000 / 1 / step]
5-836-143	ClearLightPDF Switch	CTL*	[0 or 1 / 0 / 1 / step]

5840	[IEEE 802.11]		
5-840-006	Channel MAX	CTL*	[1 to 14 / 14 / 1 / step]
5-840-007	Channel MIN	CTL*	[1 to 14 / 1 / 1 / step]
5-840-011	WEP Key Select	CTL*	[0x00 to 0x11 / 0x00 / 1 / step]
5-840-045	WPA Debug Lvl	CTL*	[1 to 3 / 3 / 1 / step]
5-840-046	11w	CTL*	[0 to 2 / 0 / 1 / step]
5-840-047	PSK Set Type	CTL*	[0 or 1 / 0 / 1 / step]

5841 (MP 501/601 only)	[Supply Name Setting]		
5-841-001	Toner Name Setting:Black	CTL*	[0 to 0 / 0 / 0 / step]

5842	[GWWS Analysis]		
5-842-001	Setting 1	CTL*	[0x00 to 0xFF / 0 / 1 / step]
5-842-002	Setting 2	CTL*	[0x00 to 0xFF / 0 / 1 / step]

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5844	[USB]		
5-844-001	Transfer Rate	CTL*	[1 to 4 / 4 / 0 / step]
5-844-002	Vendor ID	CTL*	[0x0000 to 0xffff / 0x05ca / 0 / step]
5-844-003	Product ID	CTL*	[0x0000 to 0xffff / 0x0403 / 0 / step]
5-844-004	Device Release Number	CTL*	[0 to 9999 / 100 / 1 / step]
5-844-005	Fixed USB Port	CTL*	[0 to 2 / 0 / 1 / step]
5-844-006	PnP Model Name	CTL*	[0 to 0 / 0 / 0 / step]
5-844-007	PnP Serial Number	CTL*	[0 to 0 / 0 / 0 / step]
5-844-008	Mac Supply Level	CTL*	[0 or 1 / 1 / 1 / step]
5-844-100	Notify Unsupport	CTL*	[0 or 1 / 1 / 1 / step]

5845	[Delivery Server Setting]		
5-845-001	FTP Port No.	CTL*	[1 to 65535 / 3670 / 1 / step] (MP 501/601 only)
5-845-002	IP Address (Primary)	CTL*	[0 to 0xffffffff / 0x00 / / step] (MP 501/601 only)
5-845-003	Retry Interval	CTL*	[60 to 900 / 300 / 1 sec / step] (SP 5300/5310 only)
5-845-004	No. of Retries	CTL*	[0 to 99 / 3 / 1 / step] (SP 5300/5310 only)
5-845-006	Delivery Error Display Time	CTL*	[0 to 999 / 300 / 1 / 1 sec / step] (MP 501/601 only)
5-845-008	IP Address (Secondary)	CTL*	[0 to 0xffffffff / 0x00 / / step] (MP 501/601 only)
5-845-009	Delivery Server Model	CTL*	[0 to 4 / 0 / 1 / step] (MP 501/601 only)

5-845-010	Delivery Svr. Capability	CTL*	[0 to 255 / 0 / 1 / step] (MP 501/601 only)
5-845-011	Delivery Svr. Capability (Ext)	CTL*	[0 to 255 / 0 / 1 / step] (MP 501/601 only)
5-845-013	Server Scheme(Primary)	CTL*	[0 to 0 / 0 / 1 / step] (MP 501/601 only)
5-845-014	Server Port Number(Primary)	CTL*	[1 to 65535 / 80 / 1 / step] (MP 501/601 only)
5-845-015	Server URL Path(Primary)	CTL*	[0 to 0 / 0 / 1 / step] (MP 501/601 only)
5-845-016	Server Scheme(Secondary)	CTL*	[0 to 0 / 0 / 1 / step] (MP 501/601 only)
5-845-017	Server Port Number(Secondary)	CTL*	[1 to 65535 / 80 / 1 / step] (MP 501/601 only)
5-845-018	Server URL Path(Secondary)	CTL*	[0 to 0 / 0 / 1 / step] (MP 501/601 only)
5-845-022	Rapid Sending Control	CTL*	[0 or 1 / 1 / 1 / step]

5846	[UCS Setting]		
5-846-001	Machine ID (for Delivery Server)	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
5-846-002	Machine ID Clear (for Delivery Server)	CTL*	[0 to 0 / 0 / 1 / step] (MP 501/601 only)
5-846-003	Maximum Entries	CTL*	[2000 to 20000 / 2000 / 1 / step] (MP 501/601 only)
5-846-006	Delivery Server Retry Timer	CTL*	[0 to 255 / 0 / 1 / step] (MP 501/601 only)
5-846-007	Delivery Server Retry Times	CTL*	[0 to 255 / 0 / 1 / step] (MP 501/601 only)
5-846-008	Delivery Server Maximum Entries	CTL*	[2000 to 20000 / 2000 / 1 / step] (MP 501/601 only)

Main SP Tables-5 (Controller)

5-846-010	LDAP Search Timeout	CTL*	[1 to 255 / 60 / 1 / step]
5-846-020	WSD Maximum Entries	CTL*	[50 to 250 / 250 / 1 / step] (MP 501/601 only)
5-846-021	Folder Auth Change	CTL*	[0 or 1 / 0 / 1 / step] (MP 501/601 only)
5-846-040	Addr Book Migration(USB->HDD)	CTL	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
5-846-041	Fill Addr Acl Info	CTL	[0 to 0 / 0 / 0 / step]
5-846-043	Addr Book Media	CTL*	[0 to 30 / 0 / 1 / step]
5-846-047	Initialize Local Addr Book	CTL	[0 to 0 / 0 / 0 / step]
5-846-048	Initialize Delivery Addr Book	CTL	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
5-846-049	Initialize LDAP Addr Book	CTL	[0 to 0 / 0 / 0 / step]
5-846-050	Initialize All Addr Book	CTL	[0 to 0 / 0 / 0 / step]
5-846-051	Backup All Addr Book	CTL	[0 to 0 / 0 / 0 / step]
5-846-052	Restore All Addr Book	CTL	[0 to 0 / 0 / 0 / step]
5-846-053	Clear Backup Info	CTL	[0 to 0 / 0 / 0 / step]
5-846-060	Search option	CTL*	[0x00 to 0xff / 0x0f / 1 / step]
5-846-062	Complexity option 1	CTL*	[0 to 32 / 0 / 1 / step]
5-846-063	Complexity option 2	CTL*	[0 to 32 / 0 / 1 / step]
5-846-064	Complexity option 3	CTL*	[0 to 32 / 0 / 1 / step]
5-846-065	Complexity option 4	CTL*	[0 to 32 / 0 / 1 / step]
5-846-091	FTP Auth Port Setting	CTL*	[0 to 65535 / 3671 / 1 / step] (MP 501/601 only)
5-846-094	Encryption Stat	CTL*	[0 to 255 / 0 / 0 / step]

5847 (MP 501/601 only)	[Rep Resolution Reduction]		
5-847-002	Rate for Copy B&W Text	CTL*	[0 to 6 / 0 / 1 / step]
5-847-003	Rate for Copy B&W Other	CTL*	[0 to 6 / 0 / 1 / step]
5-847-005	Rate for Printer B&W	CTL*	[0 to 6 / 0 / 1 / step]
5-847-007	Rate for Printer B&W 1200dpi	CTL*	[0 to 6 / 1 / 1 / step]
5-847-021	Network Quality Default for JPEG	CTL*	[5 to 95 / 50 / 1 / step]

5848	[Web Service]		
5-848-002	Access Ctrl: Repository(onlyLower4bits)	CTL*	[0x00 to 0xFF / 0x02 / 0 / step] (MP 501/601 only)
5-848-003	Access Ctrl: Doc.Svr.Print (Lower 4bits)	CTL*	[0x00 to 0xFF / 0x00 / 0 / step] (MP 501/601 only)
5-848-004	Access Ctrl: udirectory (Lower 4bits)	CTL*	[0x00 to 0xFF / 0x00 / 0 / step]
5-848-007	Access Ctrl: Comm. Log Fax(Lower 4bits)	CTL*	[0x00 to 0xFF / 0x00 / 0 / step] (MP 501/601 only)
5-848-009	Access Ctrl: Job Ctrl (Lower 4bits)	CTL*	[0x00 to 0xFF / 0x00 / 0 / step]
5-848-011	Access Ctrl: Devicemanagement(Lower 4bits)	CTL*	[0x00 to 0xFF / 0x00 / 0 / step]
5-848-021	Access Ctrl: Delivery (Lower 4bits)	CTL*	[0x00 to 0xFF / 0x00 / 0 / step] (MP 501/601 only)

Main SP Tables-5 (Controller)

5-848-022	Access Ctrl: uadministration (Lower 4bits)	CTL*	[0x00 to 0xFF / 0x00 / 0 / step]
5-848-024	Access Ctrl: Log Service (Lower 4bits)	CTL*	[0x00 to 0xFF / 0x00 / 0 / step]
5-848-025	Access Ctrl: Rest WebService (Lower 4bits)	CTL*	[0x00 to 0xFF / 0x00 / 0 / step]
5-848-099	Repository: Download Image Setting	CTL*	[0x00 to 0xFF / 0x00 / 0 / step] (MP 501/601 only)
5-848-100	Repository: Download Image Max. Size	CTL*	[1 to 2048 / 2048 / 0 / step] (MP 501/601 only)
5-848-150	Log Operation Mode	CTL*	[0 to 9 / 0 / 1 / step]

5848	[LogTrans]		
5-848-217	Setting: Timing	CTL*	[0 to 2 / 0 / 1 / step]

5849	[Installation Date]		
5-849-001	Display	CTL*	[0 to 0 / 0 / 0 / step]
5-849-002	Switch to Print	CTL*	[0 or 1 / 0 / 1 / step]
5-849-003	Total Counter	CTL*	[0 to 99999999 / 0 / 1 / step]

5851	[Bluetooth]		
5-851-001	Mode	CTL*	[0x00 to 0x01/ 0x00 / 1 / step]

5853 (MP 501/601 only)	[Stamp Data Download]		
5-853-001	-	CTL	[0 to 0 / 0 / 0 / step]

5856	[Remote ROM Update]		
5-856-002	Local Port	CTL	[0 or 1 / 0 / 1 / step]

5858	[Save Machine Info]		
5-858-001	0:OFF 1:ON	CTL*	[0 or 1 / 1 / 1 / step]
5-858-002	Target(0:HDD 1:SD)	CTL*	[0 or 1 / 0 / 1 / step]
5-858-003	Make LogTrace Dir	CTL*	[0 or 1 / 0 / 1 / step]
5-858-101	Start Date	CTL*	[0 to 20371212 / 0 / 1 / step]
5-858-102	Days of Tracing	CTL*	[1 to 180 / 2 / 1 day / step]
5-858-103	Acquire Fax Address(0:OFF 1:ON)	CTL*	[0 or 1 / 0 / 1 / step]
5-858-111	Acquire All Info & Logs	CTL*	[0 or 1 / 0 / 1 / step]
5-858-121	Acquire Configuration Page	CTL*	[0 or 1 / 0 / 1 / step]
5-858-122	Acquire Font Page	CTL*	[0 or 1 / 0 / 1 / step]
5-858-123	Acquire Print Setting List	CTL*	[0 or 1 / 0 / 1 / step]
5-858-124	Acquire Error Log	CTL*	[0 or 1 / 0 / 1 / step]
5-858-131	Acquire Fax Info	CTL*	[0 or 1 / 0 / 1 / step]
5-858-141	Acquire All Debug Logs	CTL*	[0 or 1 / 0 / 1 / step]
5-858-142	Acquire Only Controller Debug Logs	CTL*	[0 or 1 / 0 / 1 / step]
5-858-143	Acquire Only Engine Debug Logs	CTL*	[0 or 1 / 0 / 1 / step]
5-858-144	Acquire Only Opepanel Debug Logs	CTL*	[0 or 1 / 0 / 1 / step]
5-858-145	Acquire Only FCU Debug Logs	CTL*	[0 or 1 / 0 / 1 / step]

Main SP Tables-5 (Controller)

5860	[SMTP/POP3/IMAP4]		
5-860-002	SMTP Svr Port No	CTL*	[1 to 65535 / 25 / 1 / step] (SP 5300/5310 only)
5-860-003	SMTP Authentication	CTL*	[0 or 1 / 0 / 1 / step] (SP 5300/5310 only)
5-860-006	SMTP Auth. Encryption	CTL*	[0 to 2 / 0 / 1 / step] (SP 5300/5310 only)
5-860-007	POP before SMTP	CTL*	[0 or 1 / 0 / 1 / step] (SP 5300/5310 only)
5-860-008	POPtoSMTP Waiting Time	CTL*	[0 to 10000 / 300 / 1ms / step] (SP 5300/5310 only)
5-860-009	Mail Receive Protocol	CTL*	[1 to 3 / 1 / 1 / step] (SP 5300/5310 only)
5-860-013	POP3/IMAP4 Auth. Encryption	CTL*	[0 to 2 / 0 / 1 / step] (SP 5300/5310 only)
5-860-014	POP3 Svr Port No	CTL*	[1 to 65535 / 110 / 1 / step] (SP 5300/5310 only)
5-860-015	IMAP4 Svr Port No	CTL*	[1 to 65535 / 143 / 1 / step] (SP 5300/5310 only)
5-860-016	SMTP Rx Port No	CTL*	[1 to 65535 / 25 / 1 / step] (SP 5300/5310 only)
5-860-017	Mail Rx Interval	CTL*	[2 to 1440 / 3 / 1min / step] (SP 5300/5310 only)
5-860-019	Mail Keep Setting	CTL*	[0 to 2 / 0 / 1 / step] (SP 5300/5310 only)
5-860-020	Partial Mail Receive Timeout	CTL*	[1 to 168 / 72 / 1 hour / step]
5-860-021	MDN Response RFC2298 Compliance	CTL*	[0 or 1 / 1 / 1 / step]

5-860-022	SMTP Auth. From Field Replacement	CTL*	[0 or 1 / 0 / 1 / step]
5-860-025	SMTP Auth. Direct Setting	CTL*	[0 to 0xff / 0x0 / 8 / step]
5-860-026	S/MIME:MIME Header Setting	CTL*	[0 to 2 / 0 / 1 / step]
5-860-028	S/MIME: Authentication Check	CTL*	[0 or 1 / 0 / 1 / step] (MP 501/601 only)

5866	[E-Mail Report]		
5-866-001	Report Validity	CTL	[0 or 1 / 0 / 1 / step] (SP 5300/5310 only)
5-866-005	Add Date Field	CTL*	[0 or 1 / 0 / 1 / step] (SP 5300/5310 only)
5-866-110	CounterE-Mail:Validity	CTL*	[0 or 1 / 0 / 1 / step] (MP 501/601 only)
5-866-111	CounterE-Mail:Destination Registration	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
5-866-112	CounterE-Mail:Send Test	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
5-866-113	CounterE-Mail:Next Send Date	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
5-866-114	CounterE-Mail:Send Date Setting	CTL*	[0 to 31 / 0 / 1 / step] (MP 501/601 only)
5-866-115	CounterE-Mail:Send Time Setting	CTL*	[0 to 2359 / 0 / 1 / step] (MP 501/601 only)
5-866-121	CounterE-Mail:Destination1	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
5-866-122	CounterE-Mail:Destination2	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)

Main SP Tables-5 (Controller)

5-866-123	CounterE-Mail:Destination3	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
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5869 (SP 5300/5310 only)	[RAM Disk Setting]		
5-869-001	Mail Function	CTL*	[0 or 1 / 0 / 1 / step]

5870	[Common KeyInfo Writing]		
5-870-001	Writing	CTL	[0 or 1 / 0 / 1 / step]
5-870-003	Initialize	CTL	[0 or 1 / 0 / 1 / step]
5-870-004	Writing: 2048bit	CTL	[0 or 1 / 0 / 1 / step]

5873	[SDCardAppliMove]		
5-873-001	MoveExec	CTL	[0 to 0 / 0 / 1 / step]
5-873-002	UndoExec	CTL	[0 to 0 / 0 / 1 / step]

5875	[SC Auto Reboot]		
5-875-001	Reboot Setting	CTL*	[0 or 1 / 0 / 1 / step]
5-875-002	Reboot Type	CTL*	[0 or 1 / 1 / 1 / step]

5878	[Option Setup]		
5-878-001	Data Overwrite Security	CTL	[0 to 0 / 0 / 0 / step]
5-878-002	HDD Encryption	CTL	[0 to 0 / 0 / 0 / step]
5-878-004	OCR Dictionary	CTL	[0 to 0 / 0 / 0 / step] (MP 501/601 only)

5881 (MP 501/601 only)	[Fixed Phrase Block Erasing]		
5-881-001	-	CTL	[0 to 0 / 0 / 0 / step]

5885 (MP 501/601 only)	[Set WIM Function]		
5-885-020	DocSvr Acc Ctrl	CTL*	[0x00 to 0xFF / 0x00 / 0 / step]
5-885-050	DocSvr Format	CTL*	[0 to 2 / 0 / 1 / step]
5-885-051	DocSvr Trans	CTL*	[5 to 20 / 10 / 1 / step]
5-885-100	Set Signature	CTL*	[0 to 2 / 0 / 1 / step]
5-885-101	Set Encrypsion	CTL*	[0 or 1 / 0 / 1 / step]
5-885-200	Detect Mem Leak	CTL*	[0x00 to 0xFF / 0x00 / 0 / step]

5886 (MP 501/601 only)	[Farm Update Setting]		
5-886-100	Skip Version Check	CTL*	[0 or 1 / 0 / 1 / step]
5-886-101	Skip LR Check	CTL*	[0 or 1 / 0 / 1 / step]
5-886-111	Auto Update Setting	CTL*	[0 or 1 / 0 / 1 / step]
5-886-112	Auto Update Prohibit Term Setting	CTL*	[0 or 1 / 1 / 1 / step]
5-886-113	Auto Update Prohibit Start hour	CTL*	[0 to 23 / 9 / 1 hour / step]
5-886-114	Auto Update Prohibit End hour	CTL*	[0 to 23 / 17 / 1 hour / step]

Main SP Tables-5 (Controller)

5-886-115	SFU Auto Download Setting	CTL*	[0 or 1 / 0 / 0 / step]
5-886-116	Auto Update Next Date	CTL*	[0 to 0 / 0 / 0 / step]
5-886-117	Auto Update Retry Interval Hour	CTL*	[1 to 24 / 1 / 1 hour / step]
5-886-119	Auto Update @Remote Using Setting	CTL*	[0 or 1 / 0 / 0 / step]
5-886-120	Auto Update Prohibit Day of Week Setting	CTL*	[0 to 255 / 0 / 1 / step]
5-886-150	Cheetah Firm Exclusion	CTL*	[0 or 1 / 0 / 1 / step]
5-886-201	Restore Date	CTL*	[0 to 0 / 0 / 0 / step]
5-886-202	Save Old Version List	CTL	[0 to 0 / 0 / 0 / step]

5887	[SD Get Counter]		
5-887-001	-	CTL	[0 to 0 / 0 / 0 / step]

5888	[Personal Information Protect]		
5-888-001	-	CTL*	[0 or 1 / 0 / 1 / step]

5893	[SDK Application Counter]		
5-893-001	SDK-1	CTL	[0 to 0 / 0 / 0 / step]
5-893-002	SDK-2	CTL	[0 to 0 / 0 / 0 / step]
5-893-003	SDK-3	CTL	[0 to 0 / 0 / 0 / step]
5-893-004	SDK-4	CTL	[0 to 0 / 0 / 0 / step]
5-893-005	SDK-5	CTL	[0 to 0 / 0 / 0 / step]

5-893-006	SDK-6	CTL	[0 to 0 / 0 / 0 / step]
5-893-007	SDK-7	CTL	[0 to 0 / 0 / 0 / step]
5-893-008	SDK-8	CTL	[0 to 0 / 0 / 0 / step]
5-893-009	SDK-9	CTL	[0 to 0 / 0 / 0 / step]
5-893-010	SDK-10	CTL	[0 to 0 / 0 / 0 / step]
5-893-011	SDK-11	CTL	[0 to 0 / 0 / 0 / step]
5-893-012	SDK-12	CTL	[0 to 0 / 0 / 0 / step]

5907	[Plug & Play Maker/Model Name]		
5-907-001	-	CTL*	[0 to 255 / 0 / 1 / step]

5913 (MP 501/601 only)	[Switchover Permission Time]		
5-913-002	Print Application Timer	CTL*	[0 to 30 / 3 / 1 / step]

5967 (MP 501/601 only)	[Copy Server : Set Function]		
5-967-001	(0:ON 1:OFF)	CTL*	[0 or 1 / 0 / 1 / step]

5973 (MP 501/601 only)	[User Stamp Registration]		
5-973-101	Frame deletion setting	CTL*	[0 to 3 / 0 / 1 / step]

Main SP Tables-5 (Controller)

5985 (MP 501/601 only)	[Device Setting]		
5-985-001	On Board NIC	CTL	[0 to 2 / 0 / 1 / step]
5-985-002	On Board USB	CTL	[0 or 1 / 0 / 1 / step]

5990	[SP Print Mode]		
5-990-001	All (Data List)	CTL	[0 to 255 / 0 / 0 / step]
5-990-002	SP (Mode Data List)	CTL	[0 to 255 / 0 / 0 / step]
5-990-003	User Program	CTL	[0 to 255 / 0 / 0 / step] (MP 501/601 only)
5-990-004	Logging Data	CTL	[0 to 255 / 0 / 0 / step]
5-990-005	Diagnostic Report	CTL	[0 to 255 / 0 / 0 / step]
5-990-006	Non-Default	CTL	[0 to 255 / 0 / 0 / step]
5-990-007	NIB Summary	CTL	[0 to 0 / 0 / 0 / step]
5-990-008	Capture Log	CTL	[0 to 255 / 0 / 1 / step] (MP 501/601 only)
5-990-022	Scanner SP	CTL	[0 to 255 / 0 / 0 / step] (MP 501/601 only)
5-990-023	Scanner User Program	CTL	[0 to 255 / 0 / 0 / step] (MP 501/601 only)
5-990-024	SDK/J Summary	CTL	[0 to 0 / 0 / 0 / step]
5-990-025	SDK/J Application Info	CTL	[0 to 0 / 0 / 0 / step]
5-990-026	Printer SP	CTL	[0 to 255 / 0 / 0 / step]
5-990-027	SmartOperationPanel SP	CTL	[0 to 255 / 0 / 0 / step] (MP 501/601 only)
5-990-028	SmartOperationPanel UP	CTL	[0 to 255 / 0 / 0 / step] (MP 501/601 only)

5990 (MP 501/601 only)	[SMC Print]		
5-990-021	Copier User Program	CTL	[0 to 0 / 0 / 0 / step]

5992	[SP Text Mode]		
5-992-001	All (Data List)	CTL	[0 to 255 / 0 / 0 / step]
5-992-002	SP (Mode Data List)	CTL	[0 to 255 / 0 / 0 / step]
5-992-003	User Program	CTL	[0 to 255 / 0 / 0 / step] (MP 501/601 only)
5-992-004	Logging Data	CTL	[0 to 255 / 0 / 0 / step]
5-992-005	Diagnostic Report	CTL	[0 to 255 / 0 / 0 / step]
5-992-006	Non-Default	CTL	[0 to 255 / 0 / 0 / step]
5-992-007	NIB Summary	CTL	[0 to 0 / 0 / 0 / step]
5-992-008	Capture Log	CTL	[0 to 255 / 0 / 1 / step] (MP 501/601 only)
5-992-021	Copier User Program	CTL	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
5-992-022	Scanner SP	CTL	[0 to 255 / 0 / 0 / step] (MP 501/601 only)
5-992-023	Scanner User Program	CTL	[0 to 255 / 0 / 0 / step] (MP 501/601 only)
5-992-024	SDK/J Summary	CTL	[0 to 0 / 0 / 0 / step]
5-992-025	SDK/J Application Info	CTL	[0 to 0 / 0 / 0 / step]
5-992-026	Printer SP	CTL	[0 to 255 / 0 / 0 / step]
5-992-027	SmartOperationPanel SP	CTL	[0 to 255 / 0 / 0 / step] (MP 501/601 only)

Main SP Tables-5 (Controller)

5-992-028	SmartOperationPanel UP	CTL	[0 to 255 / 0 / 0 / step] (MP 501/601 only)
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3.8 MAIN SP TABLES-6 (MP 501/601 ONLY)

3.8.1 SP6-XXX (PERIPHERALS)

6006		[ADF Adjustment]	
6-006-001	Side-to-Side Regist: Front	ENG*	[-3 to 3 / 0 / 0.1 mm / step]
6-006-002	Side-to-Side Regist: Rear	ENG*	[-3 to 3 / 0 / 0.1 mm / step]

6026		[ADF Timing Adjustment]	
6-026-001	Leading Edge Start Timing: Front	ENG	[-32 to 32 / 0 / 1 pulse / step]
6-026-002	Leading Edge Start Timing: Rear	ENG	[-32 to 32 / 0 / 1 pulse / step]
6-026-003	Leading Edge End Timing: Front	ENG	[-32 to 32 / 0 / 1 pulse / step]
6-026-004	Leading Edge End Timing: Rear	ENG	[-32 to 32 / 0 / 1 pulse / step]

6027		[ADF Adjustment Scan Speed]	
6-027-001	Simplex Mode	ENG	[-2.5 to 2.5 / 0 / 0.1 % / step]
6-027-002	Duplex Mode: Front	ENG	[-2.5 to 2.5 / 0 / 0.1 % / step]
6-027-003	Duplex Mode: Rear	ENG	[-2.5 to 2.5 / 0 / 0.1 % / step]

3.9 MAIN SP TABLES-7 (ENGINE)

3.9.1 SP7-XXX (DATA LOG)

7621	[PM Counter Disp:Pages]		
7-621-002	PM Parts	ENG*	[0 to 9999999 / 0 / 1 page / step]

7801	[ROM Info Display]		
7-801-002	P/#: Engine	ENG	[0 to 0 / 0 / 0 / step]
7-801-009	P/#: PFU1	ENG	[0 to 0 / 0 / 0 / step]
7-801-015	P/#: IPU	ENG	[0 to 0 / 0 / 0 / step]
7-801-019	P/#: PFU2	ENG	[0 to 0 / 0 / 0 / step]
7-801-040	P/#: PFU3	ENG	[0 to 0 / 0 / 0 / step]
7-801-041	P/#: PFU4	ENG	[0 to 0 / 0 / 0 / step]
7-801-102	Version: Engine	ENG	[0 to 0 / 0 / 0 / step]
7-801-109	Version:PFU1	ENG	[0 to 0 / 0 / 0 / step]
7-801-115	Version: IPU	ENG	[0 to 0 / 0 / 0 / step]
7-801-119	Version:PFU2	ENG	[0 to 0 / 0 / 0 / step]
7-801-140	Version:PFU3	ENG	[0 to 0 / 0 / 0 / step]
7-801-141	Version:PFU4	ENG	[0 to 0 / 0 / 0 / step]

7804	[Reset-PM Count]		
7-804-002	Engine	ENG	[0 or 1 / 0 / 1 / step]

7852	[DF Glass Dust Check]		
7-852-001	Dust Detection: Counter	ENG*	[0 to 65535 / 0 / 1 / step]

7-852-002	Dust Detection: Clear Counter	ENG*	[0 to 65535 / 0 / 1 / step]
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7935	[Toner Bottle Log]		
7-935-001	SerialNo.	ENG*	[0 to 255 / 0 / 1 / step]

7979	[ENG Reset Log]		
7-979-001	Data1	ENG*	[0x00 to 0xFF / 0x00 / 1 / step]
7-979-002	Data2	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1 / step]
7-979-003	Data3	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1 / step]
7-979-004	Data4	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1 / step]
7-979-005	Data5	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1 / step]
7-979-006	Data6	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1 / step]
7-979-007	Data7	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1 / step]
7-979-008	Data8	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1 / step]
7-979-009	Data9	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1 / step]
7-979-010	Data10	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1 / step]
7-979-011	Data11	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1 / step]
7-979-012	Data12	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1 / step]

Main SP Tables-7 (Engine)

7-979-013	Data13	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1 / step]
7-979-014	Data14	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1 / step]
7-979-015	Data15	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1 / step]
7-979-016	Data16	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1 / step]
7-979-017	Data17	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1 / step]
7-979-018	Data18	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1 / step]
7-979-019	Data19	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1 / step]
7-979-020	Data20	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1 / step]
7-979-021	Data21	ENG*	[0x0000 to 0xFFFF / 0x0000 / 1 / step]

3.10 MAIN SP TABLES-7 (CONTROLLER)

3.10.1 SP7-XXX (DATA LOG)

7401	[Total SC]		
7-401-001	SC Counter	CTL*	[0 to 65535 / 0 / 0 / step]
7-401-002	Total SC Counter	CTL*	[0 to 65535 / 0 / 0 / step]

7403	[SC History]		
7-403-001	Latest	CTL*	[0 to 0 / 0 / 0 / step]
7-403-002	Latest 1	CTL*	[0 to 0 / 0 / 0 / step]
7-403-003	Latest 2	CTL*	[0 to 0 / 0 / 0 / step]
7-403-004	Latest 3	CTL*	[0 to 0 / 0 / 0 / step]
7-403-005	Latest 4	CTL*	[0 to 0 / 0 / 0 / step]
7-403-006	Latest 5	CTL*	[0 to 0 / 0 / 0 / step]
7-403-007	Latest 6	CTL*	[0 to 0 / 0 / 0 / step]
7-403-008	Latest 7	CTL*	[0 to 0 / 0 / 0 / step]
7-403-009	Latest 8	CTL*	[0 to 0 / 0 / 0 / step]
7-403-010	Latest 9	CTL*	[0 to 0 / 0 / 0 / step]

7404	[Software Error History]		
7-404-001	Latest	CTL*	[0 to 0 / 0 / 0 / step]
7-404-002	Latest 1	CTL*	[0 to 0 / 0 / 0 / step]
7-404-003	Latest 2	CTL*	[0 to 0 / 0 / 0 / step]
7-404-004	Latest 3	CTL*	[0 to 0 / 0 / 0 / step]
7-404-005	Latest 4	CTL*	[0 to 0 / 0 / 0 / step]
7-404-006	Latest 5	CTL*	[0 to 0 / 0 / 0 / step]

Main SP Tables-7 (Controller)

7-404-007	Latest 6	CTL*	[0 to 0 / 0 / 0 / step]
7-404-008	Latest 7	CTL*	[0 to 0 / 0 / 0 / step]
7-404-009	Latest 8	CTL*	[0 to 0 / 0 / 0 / step]
7-404-010	Latest 9	CTL*	[0 to 0 / 0 / 0 / step]

7502	[Total Paper Jam]		
7-502-001	Jam Counter	CTL*	[0 to 65535 / 0 / 0 / step]
7-502-002	Total Jam Counter	CTL*	[0 to 65535 / 0 / 0 / step]

7503 (MP 501/601 only)	[Total Original Jam Counter]		
7-503-001	-	CTL*	[0 to 65535 / 0 / 0 / step]

7503 (MP 501/601 only)	[Total Original Jam]		
7-503-002	Total Original Counter	CTL*	[0 to 65535 / 0 / 0 / step]

7504	[Paper Jam Location]		
7-504-001	At Power On	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-010	Process Not Ready	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-011	Transport Not Ready	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-012	Driving Detection	CTL*	[0 to 65535 / 0 / 0 / step]

7-504-013	No Duplex Feed Notification from CTL	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-014	Fusing Not Ready	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-015	Printing Error Jam 1	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-016	Printing Error Jam 2	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-017	Printing Error Jam 3	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-018	Printing Error Jam 4	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-019	Printing Error Jam 5	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-020	Printing Error Jam 6	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-021	Printing Error Jam 7	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-022	Printing Error Jam 8	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-023	Printing Error Jam 9	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-024	Printing Error Jam 10	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-025	Printing Error Jam 11	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-026	Printing Error Jam 12	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-027	Exceed Duplex Interleaf Limit	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-028	Tray 1: On	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-029	Duplex: On	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-030	Bypass Tray: On	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-031	Tray 1 Double-Feed	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-032	Tray 2 Double-Feed	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-033	Tray 3 Double-Feed	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-034	Tray 4 Double-Feed	CTL*	[0 to 65535 / 0 / 0 / step]

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7-504-035	Tray 5 Double-Feed	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-036	Duplex Double-Feed	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-037	Bypass Tray Double-Feed	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-038	Feed2 Sensor: ON (Cass3 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-039	Feed2 Sensor: ON (Cass4 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-040	Feed2 Sensor: ON (Cass5 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-041	Feed2 Sensor: OFF (Cass3 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-042	Feed2 Sensor: OFF (Cass4 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-043	Feed2 Sensor: OFF (Cass5 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-044	Feed3 Sensor: ON (Cass4 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-045	Feed3 Sensor: ON (Cass5 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-046	Feed3 Sensor: OFF (Cass4 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-047	Feed3 Sensor: OFF (Cass5 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-048	Feed4 Sensor: ON (Cass5 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-049	Feed4 Sensor: OFF (Cass5 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-050	Registration Sensor: ON (Cass2 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]

7-504-051	Registration Sensor: ON (Cass3 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-052	Registration Sensor: ON (Cass4 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-053	Registration Sensor: ON (Cass5 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-054	Registration Sensor: OFF (Cass2 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-055	Registration Sensor: OFF (Cass3 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-056	Registration Sensor: OFF (Cass4 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-057	Registration Sensor: OFF (Cass5 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-058	Registration Exit Sensor: ON (Cass1 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-059	Registration Exit Sensor: ON (Cass2 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-060	Registration Exit Sensor: ON (Cass3 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-061	Registration Exit Sensor: ON (Cass4 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-062	Registration Exit Sensor: ON (Cass5 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-063	Registration Exit Sensor: ON (Duplex Feed)	CTL*	[0 to 65535 / 0 / 0 / step]

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7-504-064	Registration Exit Sensor: ON (MFP Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-065	Registration Exit Sensor: OFF (Cass1 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-066	Registration Exit Sensor: OFF (Cass2 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-067	Registration Exit Sensor: OFF (Cass3 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-068	Registration Exit Sensor: OFF (Cass4 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-069	Registration Exit Sensor: OFF (Cass5 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-070	Registration Exit Sensor: OFF (Duplex Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-071	Registration Exit Sensor: OFF (MFP Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-072	Exit Sensor: ON (Cass1 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-073	Exit Sensor: ON (Cass2 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-074	Exit Sensor: ON (Cass3 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-075	Exit Sensor: ON (Cass4 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]

7-504-076	Exit Sensor: ON (Cass5 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-077	Exit Sensor: ON (Duplex Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-078	Exit Sensor: ON (MFP Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-079	Exit Sensor: OFF (Cass1 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-080	Exit Sensor: OFF (Cass2 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-081	Exit Sensor: OFF (Cass3 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-082	Exit Sensor: OFF (Cass4 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-083	Exit Sensor: OFF (Cass5 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-084	Exit Sensor: OFF (Duplex Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-085	Exit Sensor: OFF (MFP Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-086	Duplex Trans. Sensor1: ON (Cass1 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-087	Duplex Trans. Sensor1: ON (Cass2 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-088	Duplex Trans. Sensor1: ON (Cass3 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-089	Duplex Trans. Sensor1: ON (Cass4 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]

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7-504-090	Duplex Trans. Sensor1: ON (Cass5 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-091	Duplex Trans. Sensor1: ON (MFP Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-092	Duplex Trans. Sensor2: ON (Cass1 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-093	Duplex Trans. Sensor2: ON (Cass2 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-094	Duplex Trans. Sensor2: ON (Cass3 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-095	Duplex Trans. Sensor2: ON (Cass4 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-096	Duplex Trans. Sensor2: ON (Cass5 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-097	Duplex Trans. Sensor2: ON (MFP Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-098	Duplex Trans. Sensor2: OFF (Duplex Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-099	Tray 2: On	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-100	Tray 3: On	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-101	Tray 4: On	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-102	Tray 5: On	CTL*	[0 to 65535 / 0 / 0 / step]

7505 (MP 501/601 only)	[Original Jam Detection]		
7-505-001	At Power On	CTL*	[0 to 65535 / 0 / 0 / step]
7-505-002	Registration Sensor: ON	CTL*	[0 to 65535 / 0 / 0 / step]
7-505-003	Registration Sensor: OFF	CTL*	[0 to 65535 / 0 / 0 / step]

7506	[Jam Count by Paper Size]		
7-506-006	A5 LEF	CTL*	[0 to 65535 / 0 / 0 / step]
7-506-044	HLT LEF	CTL*	[0 to 65535 / 0 / 0 / step]
7-506-133	A4 SEF	CTL*	[0 to 65535 / 0 / 0 / step]
7-506-134	A5 SEF	CTL*	[0 to 65535 / 0 / 0 / step]
7-506-142	B5 SEF	CTL*	[0 to 65535 / 0 / 0 / step]
7-506-164	LG SEF	CTL*	[0 to 65535 / 0 / 0 / step]
7-506-166	LT SEF	CTL*	[0 to 65535 / 0 / 0 / step]
7-506-172	HLT SEF	CTL*	[0 to 65535 / 0 / 0 / step]
7-506-255	Others	CTL*	[0 to 65535 / 0 / 0 / step]

7507	[Plotter Jam History]		
7-507-001	Latest	CTL*	[0 to 0 / 0 / 0 / step]
7-507-002	Latest 1	CTL*	[0 to 0 / 0 / 0 / step]
7-507-003	Latest 2	CTL*	[0 to 0 / 0 / 0 / step]
7-507-004	Latest 3	CTL*	[0 to 0 / 0 / 0 / step]
7-507-005	Latest 4	CTL*	[0 to 0 / 0 / 0 / step]
7-507-006	Latest 5	CTL*	[0 to 0 / 0 / 0 / step]

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7-507-007	Latest 6	CTL*	[0 to 0 / 0 / 0 / step]
7-507-008	Latest 7	CTL*	[0 to 0 / 0 / 0 / step]
7-507-009	Latest 8	CTL*	[0 to 0 / 0 / 0 / step]
7-507-010	Latest 9	CTL*	[0 to 0 / 0 / 0 / step]

7508 (MP 501/601 only)	[Original Jam History]		
7-508-001	Latest	CTL*	[0 to 0 / 0 / 0 / step]
7-508-002	Latest 1	CTL*	[0 to 0 / 0 / 0 / step]
7-508-003	Latest 2	CTL*	[0 to 0 / 0 / 0 / step]
7-508-004	Latest 3	CTL*	[0 to 0 / 0 / 0 / step]
7-508-005	Latest 4	CTL*	[0 to 0 / 0 / 0 / step]
7-508-006	Latest 5	CTL*	[0 to 0 / 0 / 0 / step]
7-508-007	Latest 6	CTL*	[0 to 0 / 0 / 0 / step]
7-508-008	Latest 7	CTL*	[0 to 0 / 0 / 0 / step]
7-508-009	Latest 8	CTL*	[0 to 0 / 0 / 0 / step]
7-508-010	Latest 9	CTL*	[0 to 0 / 0 / 0 / step]

7514	[Paper Jam Count by Location]		
7-514-001	At Power On	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-010	Process Not Ready	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-011	Transport Not Ready	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-012	Driving Detection	CTL*	[0 to 65535 / 0 / 0 / step]

7-514-013	No Duplex Feed Notification from CTL	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-014	Fusing Not Ready	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-015	Printing Error Jam 1	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-016	Printing Error Jam 2	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-017	Printing Error Jam 3	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-018	Printing Error Jam 4	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-019	Printing Error Jam 5	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-020	Printing Error Jam 6	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-021	Printing Error Jam 7	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-022	Printing Error Jam 8	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-023	Printing Error Jam 9	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-024	Printing Error Jam 10	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-025	Printing Error Jam 11	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-026	Printing Error Jam 12	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-027	Exceed Duplex Interleaf Limit	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-028	Tray 1: On	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-029	Duplex: On	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-030	Bypass Tray: On	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-031	Tray 1 Double-Feed	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-032	Tray 2 Double-Feed	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-033	Tray 3 Double-Feed	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-034	Tray 4 Double-Feed	CTL*	[0 to 65535 / 0 / 0 / step]

Main SP Tables-7 (Controller)

7-514-035	Tray 5 Double-Feed	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-036	Duplex Double-Feed	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-037	Bypass Tray Double-Feed	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-038	Feed2 Sensor: ON (Cass3 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-039	Feed2 Sensor: ON (Cass4 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-040	Feed2 Sensor: ON (Cass5 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-041	Feed2 Sensor: OFF (Cass3 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-042	Feed2 Sensor: OFF (Cass4 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-043	Feed2 Sensor: OFF (Cass5 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-044	Feed3 Sensor: ON (Cass4 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-045	Feed3 Sensor: ON (Cass5 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-046	Feed3 Sensor: OFF (Cass4 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-047	Feed3 Sensor: OFF (Cass5 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-048	Feed4 Sensor: ON (Cass5 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-049	Feed4 Sensor: OFF (Cass5 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-050	Registration Sensor: ON (Cass2 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]

7-514-051	Registration Sensor: ON (Cass3 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-052	Registration Sensor: ON (Cass4 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-053	Registration Sensor: ON (Cass5 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-054	Registration Sensor: OFF (Cass2 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-055	Registration Sensor: OFF (Cass3 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-056	Registration Sensor: OFF (Cass4 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-057	Registration Sensor: OFF (Cass5 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-058	Registration Exit Sensor: ON (Cass1 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-059	Registration Exit Sensor: ON (Cass2 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-060	Registration Exit Sensor: ON (Cass3 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-061	Registration Exit Sensor: ON (Cass4 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-062	Registration Exit Sensor: ON (Cass5 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-063	Registration Exit Sensor: ON (Duplex Feed)	CTL*	[0 to 65535 / 0 / 0 / step]

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7-514-064	Registration Exit Sensor: ON (MFP Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-065	Registration Exit Sensor: OFF (Cass1 Feed)	CTL	[0 to 65535 / 0 / 0 / step]
7-514-066	Registration Exit Sensor: OFF (Cass2 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-067	Registration Exit Sensor: OFF (Cass3 Feed)	CTL	[0 to 65535 / 0 / 0 / step]
7-514-068	Registration Exit Sensor: OFF (Cass4 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-069	Registration Exit Sensor: OFF (Cass5 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-070	Registration Exit Sensor: OFF (Duplex Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-071	Registration Exit Sensor: OFF (MFP Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-072	Exit Sensor: ON (Cass1 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-073	Exit Sensor: ON (Cass2 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-074	Exit Sensor: ON (Cass3 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-075	Exit Sensor: ON (Cass4 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]

7-514-076	Exit Sensor: ON (Cass5 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-077	Exit Sensor: ON (Duplex Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-078	Exit Sensor: ON (MFP Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-079	Exit Sensor: OFF (Cass1 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-080	Exit Sensor: OFF (Cass2 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-081	Exit Sensor: OFF (Cass3 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-082	Exit Sensor: OFF (Cass4 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-083	Exit Sensor: OFF (Cass5 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-084	Exit Sensor: OFF (Duplex Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-085	Exit Sensor: OFF (MFP Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-086	Duplex Trans. Sensor1: ON (Cass1 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-087	Duplex Trans. Sensor1: ON (Cass2 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-088	Duplex Trans. Sensor1: ON (Cass3 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-089	Duplex Trans. Sensor1: ON (Cass4 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]

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7-514-090	Duplex Trans. Sensor1: ON (Cass5 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-504-091	Duplex Trans. Sensor1: ON (MFP Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-092	Duplex Trans. Sensor2: ON (Cass1 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-093	Duplex Trans. Sensor2: ON (Cass2 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-094	Duplex Trans. Sensor2: ON (Cass3 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-095	Duplex Trans. Sensor2: ON (Cass4 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-096	Duplex Trans. Sensor2: ON (Cass5 Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-097	Duplex Trans. Sensor2: ON (MFP Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-098	Duplex Trans. Sensor2: OFF (Duplex Feed)	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-099	Tray 2: On	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-100	Tray 3: On	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-101	Tray 4: On	CTL*	[0 to 65535 / 0 / 0 / step]
7-514-102	Tray 5: On	CTL*	[0 to 65535 / 0 / 0 / step]

7515 (MP 501/601 only)	[Original Jam Count by Detection]		
7-515-001	At Power On	CTL*	[0 to 65535 / 0 / 0 / step]
7-515-002	Registration Sensor: ON	CTL*	[0 to 65535 / 0 / 0 / step]
7-515-003	Registration Sensor: OFF	CTL*	[0 to 65535 / 0 / 0 / step]

7516	[Paper Size Jam Count]		
7-516-006	A5 LEF	CTL*	[0 to 65535 / 0 / 0 / step]
7-516-044	HLT LEF	CTL*	[0 to 65535 / 0 / 0 / step]
7-516-133	A4 SEF	CTL*	[0 to 65535 / 0 / 0 / step]
7-516-134	A5 SEF	CTL*	[0 to 65535 / 0 / 0 / step]
7-516-142	B5 SEF	CTL*	[0 to 65535 / 0 / 0 / step]
7-516-164	LG SEF	CTL*	[0 to 65535 / 0 / 0 / step]
7-516-166	LT SEF	CTL*	[0 to 65535 / 0 / 0 / step]
7-516-172	HLT SEF	CTL*	[0 to 65535 / 0 / 0 / step]
7-516-255	Others	CTL*	[0 to 65535 / 0 / 0 / step]

7520	[Update Log]		
7-520-001	ErrorRecord1	CTL*	[0 to 255 / 0 / 1 / step]
7-520-002	ErrorRecord2	CTL*	[0 to 255 / 0 / 1 / step]
7-520-003	ErrorRecord3	CTL*	[0 to 255 / 0 / 1 / step]
7-520-004	ErrorRecord4	CTL*	[0 to 255 / 0 / 1 / step]
7-520-005	ErrorRecord5	CTL*	[0 to 255 / 0 / 1 / step]
7-520-006	ErrorRecord6	CTL*	[0 to 255 / 0 / 1 / step]

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7-520-007	ErrorRecord7	CTL*	[0 to 255 / 0 / 1 / step]
7-520-008	ErrorRecord8	CTL*	[0 to 255 / 0 / 1 / step]
7-520-009	ErrorRecord9	CTL*	[0 to 255 / 0 / 1 / step]
7-520-010	ErrorRecord10	CTL*	[0 to 255 / 0 / 1 / step]
7-520-011	Auto:StartDate1	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
7-520-012	Auto:StartDate2	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
7-520-013	Auto:StartDate3	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
7-520-014	Auto:StartDate4	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
7-520-015	Auto:StartDate5	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
7-520-021	Auto:EndDate1	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
7-520-022	Auto:EndDate2	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
7-520-023	Auto:EndDate3	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
7-520-024	Auto:EndDate4	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
7-520-025	Auto:EndDate5	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
7-520-031	Auto:Piecemark1	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
7-520-032	Auto:Piecemark2	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
7-520-033	Auto:Piecemark3	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)

7-520-034	Auto:Piecemark4	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
7-520-035	Auto:Piecemark5	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
7-520-041	Auto:Version1	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
7-520-042	Auto:Version2	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
7-520-043	Auto:Version3	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
7-520-044	Auto:Version4	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
7-520-045	Auto:Version5	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
7-520-051	Auto:Result1	CTL*	[0 to 255 / 0 / 1 / step] (MP 501/601 only)
7-520-052	Auto:Result2	CTL*	[0 to 255 / 0 / 1 / step] (MP 501/601 only)
7-520-053	Auto:Result3	CTL*	[0 to 255 / 0 / 1 / step] (MP 501/601 only)
7-520-054	Auto:Result4	CTL*	[0 to 255 / 0 / 1 / step] (MP 501/601 only)
7-520-055	Auto:Result5	CTL*	[0 to 255 / 0 / 1 / step] (MP 501/601 only)
7-520-056	Auto:Result6	CTL*	[0 to 255 / 0 / 1 / step] (MP 501/601 only)
7-520-057	Auto:Result7	CTL*	[0 to 255 / 0 / 1 / step] (MP 501/601 only)
7-520-058	Auto:Result8	CTL*	[0 to 255 / 0 / 1 / step] (MP 501/601 only)

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7-520-059	Auto:Result9	CTL*	[0 to 255 / 0 / 1 / step] (MP 501/601 only)
7-520-060	Auto:Result10	CTL*	[0 to 255 / 0 / 1 / step] (MP 501/601 only)

7801	[ROM No./ Firmware Version]		
7-801-255	-	CTL	[0 to 0 / 0 / 0 / step]

7803	[PM Counter Display]		
7-803-001	Paper	CTL*	[0 to 9999999 / 0 / 0 / step]

7804	[PM Counter Reset]		
7-804-001	Paper	CTL	[0 to 0 / 0 / 0 / step]

7807	[SC/Jam Counter Reset]		
7-807-001	-	CTL	[0 to 0 / 0 / 0 / step]

7826 (MP 501/601 only)	[MF Error Counter]		
7-826-001	Error Total	CTL*	[0 to 9999999 / 0 / 0 / step]
7-826-002	Error Staple	CTL*	[0 to 9999999 / 0 / 0 / step]

7827 (MP 501/601 only)	[MF Error Couter Clear]		
7-827-001	-	CTL	[0 to 0 / 0 / 0 / step]

7832	[Self-Diagnose Result Display]		
7-832-001	-	CTL	[0 to 0 / 0 / 0 / step]

7836	[Total Memory Size]		
7-836-001	-	CTL	[0 to 0xffffffff / 0 / 0 MB / step]

7840 (MP 501/601 only)	[Service SP Entry Code Chg Hist]		
7-840-001	Change Time :Latest	CTL*	[0 to 0 / 0 / 0 / step]
7-840-002	Change Time :Last1	CTL*	[0 to 0 / 0 / 0 / step]
7-840-101	Initialize Time :Latest	CTL*	[0 to 0 / 0 / 0 / step]
7-840-102	Initialize Time :Last1	CTL*	[0 to 0 / 0 / 0 / step]

7901	[Assert Info.]		
7-901-001	File Name	CTL*	[0 to 0 / 0 / 0 / step]
7-901-002	Number of Lines	CTL*	[0 to 0 / 0 / 0 / step]
7-901-003	Location	CTL*	[0 to 0 / 0 / 0 / step]

7910	[ROM No]		
7-910-001	System/Copy	CTL*	[0 to 0 / 0 / 0 / step]
7-910-002	Engine	CTL*	[0 to 0 / 0 / 0 / step]
7-910-003	Lcdc	CTL*	[0 to 0 / 0 / 0 / step]
7-910-009	Bank	CTL*	[0 to 0 / 0 / 0 / step]
7-910-012	FCU	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)

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7-910-015	Engine(IPU)	CTL*	[0 to 0 / 0 / 0 / step]
7-910-018	NetworkSupport	CTL*	[0 to 0 / 0 / 0 / step]
7-910-019	Bank2	CTL*	[0 to 0 / 0 / 0 / step]
7-910-022	BIOS	CTL*	[0 to 0 / 0 / 0 / step]
7-910-023	HDD Format Option	CTL*	[0 to 0 / 0 / 0 / step]
7-910-040	Bank3	CTL*	[0 to 0 / 0 / 0 / step]
7-910-041	Bank4	CTL*	[0 to 0 / 0 / 0 / step]
7-910-150	RPCS	CTL*	[0 to 0 / 0 / 0 / step]
7-910-151	PS	CTL*	[0 to 0 / 0 / 0 / step]
7-910-158	PCL	CTL*	[0 to 0 / 0 / 0 / step]
7-910-159	PCLXL	CTL*	[0 to 0 / 0 / 0 / step]
7-910-162	PDF	CTL*	[0 to 0 / 0 / 0 / step]
7-910-165	PJL	CTL*	[0 to 0 / 0 / 0 / step]
7-910-166	IPDS	CTL*	[0 to 0 / 0 / 0 / step]
7-910-167	MediaPrint:JPEG	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
7-910-168	MediaPrint:TIFF	CTL*	[0 to 0 / 0 / 0 / step]
7-910-169	XPS	CTL*	[0 to 0 / 0 / 0 / step]
7-910-180	FONT	CTL*	[0 to 0 / 0 / 0 / step]
7-910-181	FONT1	CTL*	[0 to 0 / 0 / 0 / step]
7-910-182	FONT2	CTL*	[0 to 0 / 0 / 0 / step]
7-910-183	FONT3	CTL*	[0 to 0 / 0 / 0 / step]
7-910-184	FONT4	CTL*	[0 to 0 / 0 / 0 / step]
7-910-185	FONT5	CTL*	[0 to 0 / 0 / 0 / step]
7-910-200	Factory	CTL*	[0 to 0 / 0 / 0 / step]

7-910-201	Copy	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
7-910-202	NetworkDocBox	CTL*	[0 to 0 / 0 / 0 / step]
7-910-203	Fax	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
7-910-204	Printer	CTL*	[0 to 0 / 0 / 0 / step]
7-910-205	Scanner	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
7-910-206	RFax	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
7-910-210	MIB	CTL*	[0 to 0 / 0 / 0 / step]
7-910-211	Websupport	CTL*	[0 to 0 / 0 / 0 / step]
7-910-212	WebUapl	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
7-910-213	SDK1	CTL*	[0 to 0 / 0 / 0 / step]
7-910-214	SDK2	CTL*	[0 to 0 / 0 / 0 / step]
7-910-215	SDK3	CTL*	[0 to 0 / 0 / 0 / step]
7-910-250	Package	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)

7911	[Firmware Version]		
7-911-001	System/Copy	CTL*	[0 to 0 / 0 / 0 / step]
7-911-002	Engine	CTL*	[0 to 0 / 0 / 0 / step]
7-911-003	Lcdc	CTL*	[0 to 0 / 0 / 0 / step]
7-911-009	Bank	CTL	[0 to 0 / 0 / 0 / step]
7-911-012	FCU	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
7-911-015	Engine(IPU)	CTL	[0 to 0 / 0 / 0 / step]

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7-911-018	NetworkSupport	CTL*	[0 to 0 / 0 / 0 / step]
7-911-019	Bank2	CTL	[0 to 0 / 0 / 0 / step]
7-911-022	BIOS	CTL	[0 to 0 / 0 / 0 / step]
7-911-023	HDD Format Option	CTL*	[0 to 0 / 0 / 0 / step]
7-911-040	Bank3	CTL	[0 to 0 / 0 / 0 / step]
7-911-041	Bank4	CTL	[0 to 0 / 0 / 0 / step]
7-911-150	RPCS	CTL*	[0 to 0 / 0 / 0 / step]
7-911-151	PS	CTL*	[0 to 0 / 0 / 0 / step]
7-911-158	PCL	CTL*	[0 to 0 / 0 / 0 / step]
7-911-159	PCLXL	CTL*	[0 to 0 / 0 / 0 / step]
7-911-162	PDF	CTL*	[0 to 0 / 0 / 0 / step]
7-911-165	PJL	CTL*	[0 to 0 / 0 / 0 / step]
7-911-166	IPDS	CTL	[0 to 0 / 0 / 0 / step]
7-911-167	MediaPrint:JPEG	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
7-911-168	MediaPrint:TIFF	CTL*	[0 to 0 / 0 / 0 / step]
7-911-169	XPS	CTL*	[0 to 0 / 0 / 0 / step]
7-911-180	FONT	CTL*	[0 to 0 / 0 / 0 / step]
7-911-181	FONT1	CTL*	[0 to 0 / 0 / 0 / step]
7-911-182	FONT2	CTL*	[0 to 0 / 0 / 0 / step]
7-911-183	FONT3	CTL*	[0 to 0 / 0 / 0 / step]
7-911-184	FONT4	CTL*	[0 to 0 / 0 / 0 / step]
7-911-185	FONT5	CTL*	[0 to 0 / 0 / 0 / step]
7-911-200	Factory	CTL*	[0 to 0 / 0 / 0 / step]
7-911-201	Copy	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)

7-911-202	NetworkDocBox	CTL*	[0 to 0 / 0 / 0 / step]
7-911-203	Fax	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
7-911-204	Printer	CTL*	[0 to 0 / 0 / 0 / step]
7-911-205	Scanner	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
7-911-206	RFax	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
7-911-210	MIB	CTL*	[0 to 0 / 0 / 0 / step]
7-911-211	Websupport	CTL*	[0 to 0 / 0 / 0 / step]
7-911-212	WebUapl	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)
7-911-213	SDK1	CTL*	[0 to 0 / 0 / 0 / step]
7-911-214	SDK2	CTL*	[0 to 0 / 0 / 0 / step]
7-911-215	SDK3	CTL*	[0 to 0 / 0 / 0 / step]
7-911-250	Package	CTL*	[0 to 0 / 0 / 0 / step] (MP 501/601 only)

3.11 MAIN SP TABLES-8

3.11.1 SP8-XXX (DATA LOG2)

Many of these counters are provided for features that are currently not available, such as sending color faxes, and so on. However, here are some Group 8 codes that when used in combination with others, can provide useful information.

SP Numbers	What They Do
SP8211 to SP8216	The number of pages scanned to the document server.
SP8401 to SP8406	The number of pages printed from the document server.
SP8691 to SP8696	The number of pages sent from the document server.

Specifically, the following questions can be answered:

- How is the document server actually being used?
- What application is using the document server most frequently?
- What data in the document server is being reused?

Most of the SPs in this group are prefixed with a letter that indicates the mode of operation (the mode of operation is referred to as an "application"). Before reading the Group 8 Service Table, make sure that you understand what these prefixes mean.

Prefixes	What it means	
T:	Total: (Grand Total).	Grand total of the items counted for all applications (C, F, P, etc.).
C:	Copy application.	Totals (pages, jobs, etc.) executed for each application when the job was not stored on the document server.
F:	Fax application.	
P:	Print application.	
S:	Scan application.	

Prefixes	What it means	
L:	Local storage (document server)	Totals (jobs, pages, etc.) for the document server. The L: counters work differently case by case. Sometimes, they count jobs/pages stored on the document server; this can be in document server mode (from the document server window), or from another mode, such as from a printer driver or by pressing the Store File button in the Copy mode window. Sometimes, they include occasions when the user uses a file that is already on the document server. Each counter will be discussed case by case.
O:	Other applications (external network applications, for example)	Refers to network applications such as Web Image Monitor. Utilities developed with the SDK (Software Development Kit) will also be counted with this group in the future.

The Group 8 SP codes are limited to 17 characters, forced by the necessity of displaying them on the small LCDs of printers and faxes that also use these SPs. Read over the list of abbreviations below and refer to it again if you see the name of an SP that you do not understand.

Key for Abbreviations

Abbreviation	What it means
/	"By", e.g. "T:Jobs/Apl" = Total Jobs "by" Application
>	More (2> "2 or more", 4> "4 or more")
AddBook	Address Book
Apl	Application
B/W	Black & White
Bk	Black
C	Cyan
ColCr	Color Create
ColMode	Color Mode

Abbreviation	What it means
Comb	Combine
Comp	Compression
Deliv	Delivery
DesApl	Designated Application. The application (Copy, Fax, Scan, Print) used to store the job on the document server, for example.
Dev Counter	Development Count, no. of pages developed.
Dup, Duplex	Duplex, printing on both sides
Emul	Emulation
FC	Full Color
FIN	Post-print processing, i.e. finishing (punching, stapling, etc.)
Full Bleed	No Margins
GenCopy	Generation Copy Mode
GPC	Get Print Counter. For jobs 10 pages or less, this counter does not count up. For jobs larger than 10 pages, this counter counts up by the number that is in excess of 10 (e.g., for an 11-page job, the counter counts up 11-10 =1)
IFax	Internet Fax
ImgEdt	Image Edit performed on the original with the copier GUI, e.g. border removal, adding stamps, page numbers, etc.
K	Black (YMCK)
LS	Local Storage. Refers to the document server.
LSize	Large (paper) Size
Mag	Magnification
MC	One color (monochrome)

Abbreviation	What it means
NRS	New Remote Service, which allows a service center to monitor machines remotely. "NRS" is used overseas, "CSS" is used in Japan.
Org	Original for scanning
OrgJam	Original Jam
Palm 2	Print Job Manager/Desk Top Editor: A pair of utilities that allows print jobs to be distributed evenly among the printers on the network, and allows files to moved around, combined, and converted to different formats.
PC	Personal Computer
PGS	Pages. A page is the total scanned surface of the original. Duplex pages count as two pages, and A3 simplex count as two pages if the A3/DLT counter SP is switched ON.
PJob	Print Jobs
Ppr	Paper
PrtJam	Printer (plotter) Jam
PrtPGS	Print Pages
R	Red (Toner Remaining). Applies to the wide format model A2 only. This machine is under development and currently not available.
Rez	Resolution
SC	Service Code (Error SC code displayed)
Scn	Scan
Sim, Simplex	Simplex, printing on 1 side.
S-to-Email	Scan-to-E-mail
SMC	SMC report printed with SP5990. All of the Group 8 counters are recorded in the SMC report.
Svr	Server

Abbreviation	What it means
TonEnd	Toner End
TonSave	Toner Save
TXJob	Send, Transmission
YMC	Yellow, Magenta, Cyan
YMCK	Yellow, Magenta, Cyan, Black

Note

- All of the Group 8 SPs are reset with SP5 801 1 Memory All Clear.

8001	T:Total Jobs	*CTL	<p>These SPs count the number of times each application is used to do a job. [0 to 99999999/ 0 / 1/step]</p> <p>Note: The L: counter is the total number of times the other applications are used to send a job to the document server, plus the number of times a file already on the document server is used.</p>
8002	C:Total Jobs	*CTL	
8003	F:Total Jobs	*CTL	
8004	P:Total Jobs	*CTL	
8005	S:Total Jobs	*CTL	
8006	L:Total Jobs	*CTL	

- These SPs reveal the number of times an application is used, not the number of pages processed.
- When an application is opened for image input or output, this counts as one job.
- Interrupted jobs (paper jams, etc.) are counted, even though they do not finish.
- Only jobs executed by the customer are counted. Jobs executed by the customer engineer using the SP modes are not counted.
- When using secure printing (when a password is required to start the print job), the job is counted at the time when either "Delete Data" or "Specify Output" is specified.
- A job is counted as a fax job when the job is stored for sending.
- When a fax is received to fax memory, the F: counter increments but the L: counter does not (the document server is not used).
- A fax broadcast counts as one job for the F: counter (the fax destinations in the broadcast are not counted separately).
- A fax broadcast is counted only after all the faxes have been sent to their destinations. If one transmission generates an error, then the broadcast will not be counted until the transmission

has been completed.

- A printed fax report counts as one job for the F: counter.
- The F: counter does not distinguish between fax sending or receiving.
- When a copy job on the document server is printed, SP8022 also increments, and when a print job stored on the document server is printed, SP8024 also increments.
- When an original is both copied and stored on the document server, the C: and L: counters both increment.
- When a print job is stored on the document server, only the L: counter increments.
- When the user presses the Document Server button to store the job on the document server, only the L: counter increments.
- When the user enters document server mode and prints data stored on the document server, only the L: counter increments.
- When an image received from Palm 2 is received and stored, the L: counter increments.
- When the customer prints a report (user code list, for example), the O: counter increments. However, for fax reports and reports executed from the fax application, the F: counter increments.

8011	T:Jobs/LS	*CTL	These SPs count the number of jobs stored to the document server by each application, to reveal how local storage is being used for input. [0 to 99999999/ 0 / 1/step] The L: counter counts the number of jobs stored from within the document server mode screen at the operation panel.
8012	C:Jobs/LS	*CTL	
8013	F:Jobs/LS	*CTL	
8014	P:Jobs/LS	*CTL	
8015	S:Jobs/LS	*CTL	
8016	L:Jobs/LS	*CTL	
8017	O:Jobs/LS	*CTL	

- When a scan job is sent to the document server, the S: counter increments. When you enter document server mode and then scan an original, the L: counter increments.
- When a print job is sent to the document server, the P: counter increments.
- When a network application sends data to the document server, the O: counter increments.
- When an image from Palm 2 is stored on the document server, the O: counter increments.
- When a fax is sent to the document server, the F: counter increments.

8021	T:Pjob/LS	*CTL	These SPs reveal how files printed from the document server were stored on the
8022	C:Pjob/LS	*CTL	

8023	F:Pjob/LS	*CTL	document server originally. [0 to 99999999/ 0 / 1/step] The L: counter counts the number of jobs stored from within the document server mode screen at the operation panel.
8024	P:Pjob/LS	*CTL	
8025	S:Pjob/LS	*CTL	
8026	L:Pjob/LS	*CTL	
8027	O:Pjob/LS	*CTL	

- When a copy job stored on the document server is printed with another application, the C: counter increments.
- When an application like DeskTopBinder merges a copy job that was stored on the document server with a print job that was stored on the document server, the C: and P: counters both increment.
- When a job already on the document server is printed with another application, the L: counter increments.
- When a scanner job stored on the document server is printed with another application, the S: counter increments. If the original was scanned from within document server mode, then the L: counter increments.
- When images stored on the document server by a network application (including Palm 2), are printed with another application, the O: counter increments.
- When a copy job stored on the document server is printed with a network application (Web Image Monitor, for example), the C: counter increments.
- When a fax on the document server is printed, the F: counter increments.

8031	T:Pjob/DesApl	*CTL	These SPs reveal what applications were used to output documents from the document server. [0 to 99999999/ 0 / 1/step] The L: counter counts the number of jobs printed from within the document server mode screen at the operation panel.
8032	C:Pjob/DesApl	*CTL	
8033	F:Pjob/DesApl	*CTL	
8034	P:Pjob/DesApl	*CTL	
8035	S:Pjob/DesApl	*CTL	
8036	L:Pjob/DesApl	*CTL	
8037	O:Pjob/DesApl	*CTL	

- When documents already stored on the document server are printed, the count for the application that started the print job is incremented.
- When the print job is started from a network application (Desk Top Binder, Web Image Monitor,

etc.) the L: counter increments.

8041	T:TX Jobs/LS	*CTL	These SPs count the applications that stored files on the document server that were later accessed for transmission over the telephone line or over a network (attached to an e-mail, or as a fax image by I-Fax). [0 to 99999999/ 0 / 1/step] Note: Jobs merged for sending are counted separately. The L: counter counts the number of jobs scanned from within the document server mode screen at the operation panel.
8042	C:TX Jobs/LS	*CTL	
8043	F:TX Jobs/LS	*CTL	
8044	P:TX Jobs/LS	*CTL	
8045	S:TX Jobs/LS	*CTL	
8046	L:TX Jobs/LS	*CTL	
8047	O:TX Jobs/LS	*CTL	

- When a stored copy job is sent from the document server, the C: counter increments.
- When images stored on the document server by a network application or Palm2 are sent as an e-mail, the O: counter increments.

8051	T:TX Jobs/DesApl	*CTL	These SPs count the applications used to send files from the document server over the telephone line or over a network (attached to an e-mail, or as a fax image by I-Fax). Jobs merged for sending are counted separately. [0 to 99999999/ 0 / 1/step] The L: counter counts the number of jobs sent from within the document server mode screen at the operation panel.
8052	C:TX Jobs/DesApl	*CTL	
8053	F:TX Jobs/DesApl	*CTL	
8054	P:TX Jobs/DesApl	*CTL	
8055	S:TX Jobs/DesApl	*CTL	
8056	L:TX Jobs/DesApl	*CTL	
8057	O:TX Jobs/DesApl	*CTL	

- If the send is started from Desk Top Binder or Web Image Monitor, for example, then the O: counter increments.

8061	T:FIN Jobs	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs total the finishing methods. The finishing method is specified by the application.		
8062	C:FIN Jobs	*CTL	[0 to 99999999/ 0 / 1/step]

	These SPs total finishing methods for copy jobs only. The finishing method is specified by the application.		
8063	F:FIN Jobs	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs total finishing methods for fax jobs only. The finishing method is specified by the application. Note: Finishing features for fax jobs are not available at this time.		
8064	P:FIN Jobs	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs total finishing methods for print jobs only. The finishing method is specified by the application.		
8065	S:FIN Jobs	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs total finishing methods for scan jobs only. The finishing method is specified by the application. Note: Finishing features for scan jobs are not available at this time.		
8066	L:FIN Jobs	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs total finishing methods for jobs output from within the document server mode screen at the operation panel. The finishing method is specified from the print window within document server mode.		
8067	O:FIN Jobs	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs total finishing methods for jobs executed by an external application, over the network. The finishing method is specified by the application.		

Last three digits for SP8 061 to 067

806x-001	Sort	Number of jobs started in Sort mode. When a stored copy job is set for Sort and then stored on the document server, the L: counter increments. (See SP8 066 1)
806x-002	Stack	Number of jobs started out of Sort mode.
806x-003	Staple	Number of jobs started in Staple mode.
806x-004	Booklet	Number of jobs started in Booklet mode. If the machine is in staple mode, the Staple counter also increments.

806x-005	Z-Fold	Number of jobs started In any mode other than the Booklet mode and set for folding (Z-fold).
806x-006	Punch	Number of jobs started in Punch mode. When Punch is set for a print job, the P: counter increments. (See SP8 064 6.)
806x-007	Other	Reserved. Not used.
806x-008	Inside-Fold	Not used
806x-009	Three-IN-Fold	Not used
806x-010	Three-OUT-Fold	Not used
806x-011	Four-Fold	Not used
806x-012	KANNON-Fold	Not used
806x-013	Perfect-Bind	Not used
806x-014	Ring-Bind	Not used
806x-015	3rd Vendor	

8071	T:Jobs/PGS	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count the number of jobs broken down by the number of pages in the job, regardless of which application was used.		
8072	C:Jobs/PGS	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count and calculate the number of copy jobs by size based on the number of pages in the job.		
8073	F:Jobs/PGS	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count and calculate the number of fax jobs by size based on the number of pages in the job.		
8074	P:Jobs/PGS	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count and calculate the number of print jobs by size based on the number of pages in the job.		
8075	S:Jobs/PGS	*CTL	[0 to 99999999/ 0 / 1/step]

	These SPs count and calculate the number of scan jobs by size based on the number of pages in the job.		
8076	L:Jobs/PGS	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count and calculate the number of jobs printed from within the document server mode window at the operation panel, by the number of pages in the job.		
8077	O:Jobs/PGS	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count and calculate the number of "Other" application jobs (Web Image Monitor, Palm 2, etc.) by size based on the number of pages in the job.		

Last three digits for SP8 071 to 077

807x-001	1 Page	8 07x 8	21 to 50 Pages
807x-002	2 Pages	8 07x 9	51 to 100 Pages
807x-003	3 Pages	8 07x 10	101 to 300 Pages
807x-004	4 Pages	8 07x 11	301 to 500 Pages
807x-005	5 Pages	8 07x 12	501 to 700 Pages
807x-006	6 to 10 Pages	8 07x 13	701 to 1000 Pages
807x-007	11 to 20 Pages	8 07x 14	More than 1001 Pages

- For example: When a copy job stored on the document server is printed in document server mode, the appropriate L: counter (SP8076 0xx) increments.
- Printing a fax report counts as a job and increments the F: counter (SP 8073).
- Interrupted jobs (paper jam, etc.) are counted, even though they do not finish.
- If a job is paused and re-started, it counts as one job.
- If the finisher runs out of staples during a print and staple job, then the job is counted at the time the error occurs.
- For copy jobs (SP 8072) and scan jobs (SP 8075), the total is calculated by multiplying the number of sets of copies by the number of pages scanned. (One duplex page counts as 2.)
- The first test print and subsequent test prints to adjust settings are added to the number of pages of the copy job (SP 8072).
- When printing the first page of a job from within the document server screen, the page is counted.

8111	T:FAX TX Jobs	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count the total number of jobs (color or black-and-white) sent by fax, either directly or using a file stored on the document server, on a telephone line. Note: Color fax sending is not available at this time.		
8113	F: FAX TX Jobs	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count the total number of jobs (color or black-and-white) sent by fax directly on a telephone line. Note: Color fax sending is not available at this time.		
811x-001	B/W		
811x-002	Color		

- These counters count jobs, not pages.
- This SP counts fax jobs sent over a telephone line with a fax application, including documents stored on the document server.
- If the mode is changed during the job, the job will count with the mode set when the job started.
- If the same document is faxed to both a public fax line and an I-Fax at a destination where both are available, then this counter increments, and the I-Fax counter (8 12x) also increments.
- The fax job is counted when the job is scanned for sending, not when the job is sent.

8121	T:IFAX TX Jobs	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count the total number of jobs (color or black-and-white) sent, either directly or using a file stored on the document server, as fax images using I-Fax. Note: Color fax sending is not available at this time.		
8123	F: IFAX TX Jobs	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count the number of jobs (color or black-and-white) sent (not stored on the document server), as fax images using I-Fax. Note: Color fax sending is not available at this time.		
812x-001	B/W		
812x-002	Color		

- These counters count jobs, not pages.

Main SP Tables-8

- The counters for color are provided for future use; the color fax feature is not available at this time.
- The fax job is counted when the job is scanned for sending, not when the job is sent.

8131	T:S-to-Email Jobs	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count the total number of jobs (color or black-and-white) scanned and attached to an e-mail, regardless of whether the document server was used or not.		
8135	S:S-to-Email Jobs	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count the number of jobs (color or black-and-white) scanned and attached to e-mail, without storing the original on the document server.		
813x-001	B/W		
813x-002	Color		
813x-003	ACS		

- These counters count jobs, not pages.
- If the job is stored on the document server, after the job is stored it is determined to be color or black-and-white then counted.
- If the job is cancelled during scanning, or if the job is cancelled while the document is waiting to be sent, the job is not counted.
- If the job is cancelled during sending, it may or may not be counted, depending on what stage of the process had been reached when the job was cancelled.
- If several jobs are combined for sending to the Scan Router, Scan-to-Email, or Scan-to-PC, or if one job is sent to more than one destination. each send is counted separately. For example, if the same document is sent by Scan-to-Email as well as Scan-to-PC, then it is counted twice (once for Scan-to-Email and once for Scan-to-PC).

8141	T:Deliv Jobs/Svr	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count the total number of jobs (color or black-and-white) scanned and sent to a Scan Router server.		
8145	S: Deliv Jobs/Svr	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count the number of jobs (color or black-and-white) scanned in scanner mode and sent to a Scan Router server.		

814x-001	B/W
814x-002	Color
814x-003	ACS

- These counters count jobs, not pages.
- The jobs are counted even though the arrival and reception of the jobs at the Scan Router server cannot be confirmed.
- If even one color image is mixed with black-and-white images, then the job is counted as a "Color" job.
- If the job is cancelled during scanning, or if the job is cancelled while the document is waiting to be delivered, the job is not counted.
- If the job is cancelled during sending, it may or may not be counted, depending on what stage of the process had been reached when the job was cancelled.
- Even if several files are combined for sending, the transmission counts as one job.

8151	T:Deliv Jobs/PC	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count the total number of jobs (color or black-and-white) scanned and sent to a folder on a PC (Scan-to-PC). Note: At the present time, 8 151 and 8 155 perform identical counts.		
8155	S:Deliv Jobs/PC	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count the total number of jobs (color or black-and-white) scanned and sent with Scan-to-PC.		
815x-001	B/W		
815x-002	Color		
815x-003	ACS		

- These counters count jobs, not pages.
- If the job is cancelled during scanning, it is not counted.
- If the job is cancelled while it is waiting to be sent, the job is not counted.
- If the job is cancelled during sending, it may or may not be counted, depending on what stage of the process had been reached when the job was cancelled.
- Even if several files are combined for sending, the transmission counts as one job.

Main SP Tables-8

8161	T:PCFAX TX Jobs	*CTL	These SPs count the number of PC Fax transmission jobs. A job is counted from when it is registered for sending, not when it is sent. [0 to 99999999/ 0 / 1/step] Note: At the present time, these counters perform identical counts.
8163	F:PCFAX TX Jobs	*CTL	

- This counts fax jobs started from a PC using a PC fax application, and sending the data out to the destination from the PC through the copier.

8171	T:Deliv Jobs/WSD	*CTL	These SPs count the pages scanned by WS. [0 to 99999999/ 0 / 1/step]
8175	S:Deliv Jobs/WSD	*CTL	
001	B/W		
002	Color		
003	ACS		

8181	T:Scan to Media Jobs	*CTL	These SPs count the scanned pages in a media by the scanner application. [0 to 99999999/ 0 / 1/step]
8185	S:Scan to Media Jobs	*CTL	
001	B/W		
002	Color		
003	ACS		

8191	T:Total Scan PGS	*CTL	These SPs count the pages scanned by each application that uses the scanner to scan images. [0 to 99999999/ 0 / 1/step]
8192	C:Total Scan PGS	*CTL	
8193	F:Total Scan PGS	*CTL	
8195	S:Total Scan PGS	*CTL	
8196	L:Total Scan PGS	*CTL	

- SP 8 191 to 8 196 count the number of scanned sides of pages, not the number of physical

pages.

- These counters do not count reading user stamp data, or reading color charts to adjust color.
- Previews done with a scanner driver are not counted.
- A count is done only after all images of a job have been scanned.
- Scans made in SP mode are not counted.

Examples

- If both sides of 3 A4 sheets are copied and stored to the document server using the Store File button in the Copy mode window, the C: count is 6 and the L: count is 6.
- If both sides of 3 A4 sheets are copied but not stored, the C: count is 6.
- If you enter document server mode then scan 6 pages, the L: count is 6.

8201	T:LSize Scan PGS A3/DLT, Larger	*CTL	[0 to 99999999/ 0 / 1/step]
	<p>These SPs count the total number of large pages input with the scanner for scan and copy jobs. Large size paper scanned for fax transmission is not counted.</p> <p>Note: These counters are displayed in the SMC Report, and in the User Tools display.</p>		
8203	F: LSize Scan PGS A3/DLT, Larger	*CTL	[0 to 99999999/ 0 / 1/step]
	<p>These SPs count the total number of large pages input with the scanner for fax transmission.</p> <p>Note: These counters are displayed in the SMC Report, and in the User Tools display.</p>		
8205	S:LSize Scan PGS A3/DLT, Larger	*CTL	[0 to 99999999/ 0 / 1/step]
	<p>These SPs count the total number of large pages input with the scanner for scan jobs only. Large size paper scanned for fax transmission is not counted.</p> <p>Note: These counters are displayed in the SMC Report, and in the User Tools display.</p>		

8211	T:Scan PGS/LS	*CTL	These SPs count the number of pages scanned into the document server [0 to 99999999/ 0 / 1/step]
8212	C:Scan PGS/LS	*CTL	
8213	F:Scan PGS/LS	*CTL	The L: counter counts the number of pages

Main SP Tables-8

8215	S:Scan PGS/LS	*CTL	stored from within the document server mode screen at the operation panel, and with the Store File button from within the Copy mode screen.
8216	L:Scan PGS/LS	*CTL	

- Reading user stamp data is not counted.
- If a job is cancelled, the pages output as far as the cancellation are counted.
- If the scanner application scans and stores 3 B5 sheets and 1 A4 sheet, the S: count is 4.
- If pages are copied but not stored on the document server, these counters do not change.
- If both sides of 3 A4 sheets are copied and stored to the document server, the C: count is 6 and the L: count is 6.
- If you enter document server mode then scan 6 pages, the L: count is 6.

8221	ADF Org Feeds	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count the number of pages fed through the ADF for front and back side scanning.		
001	Front Number of front sides fed for scanning: With an ADF that can scan both sides simultaneously, the Front side count is the same as the number of pages fed for either simplex or duplex scanning. With an ADF that cannot scan both sides simultaneously, the Front side count is the same as the number of pages fed for duplex front side scanning. (The front side is determined by which side the user loads face up.)		
002	Back Number of rear sides fed for scanning: With an ADF that can scan both sides simultaneously, the Back count is the same as the number of pages fed for duplex scanning. With an ADF that cannot scan both sides simultaneously, the Back count is the same as the number of pages fed for duplex rear-side scanning.		

- When 1 sheet is fed for duplex scanning the Front count is 1 and the Back count is 1.
- If a jam occurs during the job, recovery processing is not counted to avoid double counting. Also, the pages are not counted if the jam occurs before the first sheet is output.

8231	Scan PGS/Mode	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count the number of pages scanned by each ADF mode to determine the work load on the ADF.		
001	Large Volume	Selectable. Large copy jobs that cannot be loaded in the ADF at one time.	
002	SADF	Selectable. Feeding pages one by one through the ADF.	
003	Mixed Size	Selectable. Select "Mixed Sizes" on the operation panel.	
004	Custom Size	Selectable. Originals of non-standard size.	
005	Platen	Book mode. Raising the ADF and placing the original directly on the platen.	
006	Mixed 1side/2side	Simplex and Duplex mode.	

- If the scan mode is changed during the job, for example, if the user switches from ADF to Platen mode, the count is done for the last selected mode.
- The user cannot select mixed sizes or non-standard sizes with the fax application so if the original's page sizes are mixed or non-standard, these are not counted.
- If the user selects "Mixed Sizes" for copying in the platen mode, the Mixed Size count is enabled.
- In the SADF mode if the user copies 1 page in platen mode and then copies 2 pages with SADF, the Platen count is 1 and the SADF count is 3.

8241	T:Scan PGS/Org	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count the total number of scanned pages by original type for all jobs, regardless of which application was used.		
8242	C:Scan PGS/Org	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count the number of pages scanned by original type for Copy jobs.		
8243	F:Scan PGS/Org	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count the number of pages scanned by original type for Fax jobs.		

8245	S:Scan PGS/Org	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count the number of pages scanned by original type for Scan jobs.		
8246	L:Scan PGS/Org	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count the number of pages scanned and stored from within the document server mode screen at the operation panel, and with the Store File button from within the Copy mode screen		

Last three digits for SP8 241 to 246

	8 241	8 242	8 243	8 245	8 246
824x-001: Text	Yes	Yes	Yes	Yes	Yes
824x-002: Text/Photo	Yes	Yes	Yes	Yes	Yes
824x-003: Photo	Yes	Yes	Yes	Yes	Yes
824x-004: GenCopy, Pale	Yes	Yes	No	Yes	Yes
824x-005: Map	Yes	Yes	No	No	Yes
824x-006: Normal/Detail	Yes	No	Yes	No	No
824x-007: Fine/Super Fine	Yes	No	Yes	No	No
824x-008: Binary	Yes	No	No	Yes	No
824x-009: Grayscale	Yes	No	No	Yes	No
824x-010: Color	Yes	No	No	Yes	No
824x-011: Other	Yes	Yes	Yes	Yes	Yes

- If the scan mode is changed during the job, for example, if the user switches from ADF to Platen mode, the count is done for the last selected mode.

8251	T:Scan PGS/ImgEdt	*CTL	These SPs show how many times Image Edit features have been selected at the operation panel for each application. Some examples of these editing features are: <ul style="list-style-type: none"> ▪ Erase → Border
8252	C:Scan PGS/ImgEdt	*CTL	
8255	S : Scan PGS/ImgEdr	*CTL	
8256	L:Scan PGS/ImgEdt	*CTL	

8257	O:Scan PGS/ImgEdt	*CTL	<ul style="list-style-type: none"> ▪ Erase → Center ▪ Image Repeat ▪ Centering ▪ Positive/Negative <p>[0 to 99999999/ 0 / 1/step]</p> <p>Note: The count totals the number of times the edit features have been used. A detailed breakdown of exactly which features have been used is not given.</p>
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The L: counter counts the number of pages stored from within the document server mode screen at the operation panel, and with the Store File button from within the Copy mode screen.

8261	T:Scn PGS/ ColCr	*CTL	-
8262	C:Scn PGS/ ColCr	*CTL	-
8265	S:Scn PGS/Color	*CTL	-
8266	L:Scn PGS/ColCr	*CTL	-

Last three digits for SP8 261, 262, 265 and 266

826x-001	Color Conversion	These SPs show how many times color creation features have been selected at the operation panel.
826x-002	Color Erase	
826x-003	Background	
826x-004	Other	

8281	T:Scan PGS/TWAIN	*CTL	<p>These SPs count the number of pages scanned using a TWAIN driver. These counters reveal how the TWAIN driver is used for delivery functions.</p> <p>[0 to 99999999/ 0 / 1/step]</p> <p>Note: At the present time, these counters perform identical counts.</p>
8285	S:Scan PGS/TWAIN	*CTL	

Main SP Tables-8

8291	T:Scan PGS/Stamp	*CTL	These SPs count the number of pages stamped with the stamp in the ADF unit. [0 to 99999999/ 0 / 1/step]
8293	F:Scan PGS/Stamp	*CTL	
8295	S:Scan PGS/Stamp	*CTL	

The L: counter counts the number of pages stored from within the document server mode screen at the operation panel, and with the Store File button from within the Copy mode screen

8301	T:Scan PGS/Size	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count by size the total number of pages scanned by all applications. Use these totals to compare original page size (scanning) and output (printing) page size [SP 8-441].		
8302	C:Scan PGS/Size	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count by size the total number of pages scanned by the Copy application. Use these totals to compare original page size (scanning) and output (printing) page size [SP 8-442].		
8303	F:Scan PGS/Size	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count by size the total number of pages scanned by the Fax application. Use these totals to compare original page size (scanning) and output page size [SP 8-443].		
8305	S:Scan PGS/Size	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count by size the total number of pages scanned by the Scan application. Use these totals to compare original page size (scanning) and output page size [SP 8-445].		
8306	L:Scan PGS/Size	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count by size the total number of pages scanned and stored from within the document server mode screen at the operation panel, and with the Store File button from within the Copy mode screen. Use these totals to compare original page size (scanning) and output page size [SP 8-446].		

Last three digits for SP8 301 to 306

830x-001	A3	830x-007	LG
830x-002	A4	830x-008	LT
830x-003	A5	830x-009	HLT
830x-004	B4	830x-010	Full Bleed
830x-005	B5	830x-254	Other (Standard)
830x-006	DLT	830x-255	Other (Custom)

8311	T:Scan PGS/Rez	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count by resolution setting the total number of pages scanned by applications that can specify resolution settings.		
8315	S: Scan PGS/Rez	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count by resolution setting the total number of pages scanned by applications that can specify resolution settings. Note: At the present time, SP8-311 and SP8-315 perform identical counts.		

Last three digits for SP8 311 and 315

831x-001	1200 dpi
831x-002	600 dpi to 1199 dpi
831x-003	400 dpi to 599 dpi
831x-004	200 dpi to 399 dpi
831x-005	199 dpi or less

- Copy resolution settings are fixed so they are not counted.
- The Fax application does not allow finely-adjusted resolution settings so no count is done for the Fax application.

Main SP Tables-8

8321	T: Sacn Poster	*CTL	[0 to 99999999/ 0 / 1/step]
8322	C: Sacn Poster	*CTL	[0 to 99999999/ 0 / 1/step]
8326	L: Sacn Poster	*CTL	[0 to 99999999/ 0 / 1/step]

832x-001	2 Sheet
832x-002	4 Sheet
832x-003	9 Sheet

8381	T: Total PrtPGS	*CTL	These SPs count the number of pages printed by the customer. The counter for the application used for storing the pages increments. [0 to 99999999/ 0 / 1/step] The L: counter counts the number of pages stored from within the document server mode screen at the operation panel. Pages stored with the Store File button from within the Copy mode screen go to the C: counter.
8382	C: Total PrtPGS	*CTL	
8383	F: Total PrtPGS	*CTL	
8384	P: Total PrtPGS	*CTL	
8385	S: Total PrtPGS	*CTL	
8386	L: Total PrtPGS	*CTL	
8387	O: Total PrtPGS	*CTL	

- When several documents are merged for a print job, the number of pages stored is counted for the application that stored them.
- These counters are used primarily to calculate charges on use of the machine, so the following pages are not counted as printed pages:
 - Blank pages in a duplex printing job.
 - Blank pages inserted as document covers, chapter title sheets, and slip sheets.
 - Reports printed to confirm counts.
 - All reports done in the service mode (service summaries, engine maintenance reports, etc.)
 - Test prints for machine image adjustment.
 - Error notification reports.
 - Partially printed pages as the result of a copier jam.

8391	LSize PrtPGS		
	These SPs count pages printed on paper sizes A4/LT and larger. Note: In addition to being displayed in the SMC Report, these counters are also displayed in the User Tools display on the copy machine.		
001	A3/DLT, Larger	*CTL	[0 to 99999999/ 0 / 1/step]
003	BannaerPaper	*CTL	[0 to 9999999/ 0 / 1/step]

8401	T:PrtPGS/LS	*CTL	These SPs count the number of pages printed from the document server. The counter for the application used to print the pages is incremented. The L: counter counts the number of jobs stored from within the document server mode screen at the operation panel. [0 to 99999999/ 0 / 1/step]
8402	C:PrtPGS/LS	*CTL	
8403	F:PrtPGS/LS	*CTL	
8404	P:PrtPGS/LS	*CTL	
8405	S:PrtPGS/LS	*CTL	
8406	L:PrtPGS/LS	*CTL	

- Print jobs done with Web Image Monitor and Desk Top Binder are added to the L: count.
- Fax jobs done with Web Image Monitor and Desk Top Binder are added to the F: count.

8411	Prints/Duplex	*CTL	This SP counts the amount of paper (front/back counted as 1 page) used for duplex printing. Last pages printed only on one side are not counted. [0 to 99999999/ 0 / 1/step]
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8421	T:PrtPGS/Dup Comb	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count by binding and combine, and n-Up settings the number of pages processed for printing. This is the total for all applications.		
8422	C:PrtPGS/Dup Comb	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count by binding and combine, and n-Up settings the number of pages processed for printing by the copier application.		

8423	F:PrtPGS/Dup Comb	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count by binding and combine, and n-Up settings the number of pages processed for printing by the fax application.		
8424	P:PrtPGS/Dup Comb	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count by binding and combine, and n-Up settings the number of pages processed for printing by the printer application.		
8425	S:PrtPGS/Dup Comb	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count by binding and combine, and n-Up settings the number of pages processed for printing by the scanner application.		
8426	L:PrtPGS/Dup Comb	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count by binding and combine, and n-Up settings the number of pages processed for printing from within the document server mode window at the operation panel.		
8427	O:PrtPGS/Dup Comb	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count by binding and combine, and n-Up settings the number of pages processed for printing by Other applications		

Last three digits for SP8 421 to 427

842x-001	Simplex> Duplex	-
842x-002	Duplex> Duplex	-
842x-003	Book> Duplex	-
842x-004	Simplex Combine	-
842x-005	Duplex Combine	-
842x-006	2in1	2 pages on 1 side (2-Up)
842x-007	4in1	4 pages on 1 side (4-Up)
842x-008	6in1	6 pages on 1 side (6-Up)
842x-009	8in1	8 pages on 1 side (8-Up)
842x-010	9in1	9 pages on 1 side (9-Up)

842x-011	16in1	16 pages on 1 side (16-Up)
842x-012	Booklet	-
842x-013	Magazine	-
842x-014	2in1 + Booklet	-
842x-015	4in1 + Booklet	-
842x-016	6in1 + Booklet	-
842x-017	8in1 + Booklet	-
842x-018	9in1 + Booklet	-
842x-019	2in1 + Magazine	-
842x-020	4in1 + Magazine	-
842x-021	6in1 + Magazine	-
842x-022	8in1 + Magazine	-
842x-023	9in1 + Magazine	-
842x-024	16in1 + Magazine	-

- These counts (SP8 421 to SP8 427) are especially useful for customers who need to improve their compliance with ISO standards for the reduction of paper consumption.
- Pages that are only partially printed with the n-Up functions are counted as 1 page.
- Here is a summary of how the counters work for Booklet and Magazine modes:

Booklet		Magazine	
Original Pages	Count	Original Pages	Count
1	1	1	1
2	2	2	2
3	2	3	2
4	2	4	2
5	3	5	4
6	4	6	4

Main SP Tables-8

Booklet		Magazine	
Original Pages	Count	Original Pages	Count
7	4	7	4
8	4	8	4

8431	T:PrtPGS/ImgEdt	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count the total number of pages output with the three features below, regardless of which application was used.		
8432	C:PrtPGS/ImgEdt	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count the total number of pages output with the three features below with the copy application.		
8434	P:PrtPGS/ImgEdt	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count the total number of pages output with the three features below with the print application.		
8436	L:PrtPGS/ImgEdt	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count the total number of pages output from within the document server mode window at the operation panel with the three features below.		
8437	O:PrtPGS/ImgEdt	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count the total number of pages output with the three features below with Other applications.		

Last three digits for SP8 431 to 437

843x-001	Cover/Slip Sheet	Total number of covers or slip sheets inserted. The count for a cover printed on both sides counts 2.
843x-002	Series/Book	The number of pages printed in series (one side) or printed as a book with booklet right/left pagination.
843x-003	User Stamp	The number of pages printed where stamps were applied, including page numbering and date stamping.

8441	T:PrtPGS/Ppr Size	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count by print paper size the number of pages printed by all applications.		
8442	C:PrtPGS/Ppr Size	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count by print paper size the number of pages printed by the copy application.		
8443	F:PrtPGS/Ppr Size	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count by print paper size the number of pages printed by the fax application.		
8444	P:PrtPGS/Ppr Size	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count by print paper size the number of pages printed by the printer application.		
8445	S:PrtPGS/Ppr Size	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count by print paper size the number of pages printed by the scanner application.		
8446	L:PrtPGS/Ppr Size	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count by print paper size the number of pages printed from within the document server mode window at the operation panel.		
8447	O:PrtPGS/Ppr Size	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count by print paper size the number of pages printed by Other applications.		

Last three digits for SP8 441 to 447

844x-001	A3
844x-002	A4
844x-003	A5
844x-004	B4
844x-005	B5
844x-006	DLT

Main SP Tables-8

844x-007	LG
844x-008	LT
844x-009	HLT
844x-010	Full Bleed
844x-254	Other (Standard)
844x-255	Other (Custom)

- These counters do not distinguish between LEF and SEF.

8451	PrtPGS/Ppr Tray	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count the number of sheets fed from each paper feed station.		
001	Bypass Tray	Bypass Tray	
002	Tray 1	Machine	
003	Tray 2	Paper Tray Unit (Option)	
004	Tray 3	Paper Tray Unit (Option)	
005	Tray 4	Paper Tray Unit (Option)	
006	Tray 5	Not used	
007	Tray 6	Not used	
008	Tray 7	Not used	
009	Tray 8	Not used	
010	Tray 9	Not used	
011	Tray10	Not used	
012	Tray11	Not used	
013	Tray12	Not used	
014	Tray13	Not used	
015	Tray14	Not used	
016	Tray15	Not used	

8461	T:PrtPGS/Ppr Type	*CTL	[0 to 99999999/ 0 / 1/step]
	<p>These SPs count by paper type the number pages printed by all applications.</p> <ul style="list-style-type: none"> ▪ These counters are not the same as the PM counter. The PM counter is based on feed timing to accurately measure the service life of the feed rollers. However, these counts are based on output timing. ▪ Blank sheets (covers, chapter covers, slip sheets) are also counted. ▪ During duplex printing, pages printed on both sides count as 1, and a page printed on one side counts as 1. 		
8462	C:PrtPGS/Ppr Type	*CTL	[0 to 99999999/ 0 / 1/step]
	<p>These SPs count by paper type the number pages printed by the copy application.</p>		
8463	F:PrtPGS/Ppr Type	*CTL	[0 to 99999999/ 0 / 1/step]
	<p>These SPs count by paper type the number pages printed by the fax application.</p>		
8464	P:PrtPGS/Ppr Type	*CTL	[0 to 99999999/ 0 / 1/step]
	<p>These SPs count by paper type the number pages printed by the printer application.</p>		
8466	L:PrtPGS/Ppr Type	*CTL	[0 to 99999999/ 0 / 1/step]
	<p>These SPs count by paper type the number pages printed from within the document server mode window at the operation panel.</p>		

Last three digits for SP8 461 to 466

846x-001	Normal
846x-002	Recycled
846x-003	Special
846x-004	Thick
846x-005	Normal (Back)
846x-006	Thick (Back)
846x-007	OHP

Main SP Tables-8

846x-008	Other
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8471	PrtPGS/Mag	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count by magnification rate the number of pages printed.		
001	49% or less		
002	50% to 99%		
003	100%		
004	101% to 200%		
005	201% or more		

- Counts are done for magnification adjusted for pages, not only on the operation panel but performed remotely with an external network application capable of performing magnification adjustment as well.
- Magnification adjustments done with printer drivers with PC applications such as Excel are also counted.
- Magnification adjustments done for adjustments after they have been stored on the document server are not counted.
- Magnification adjustments performed automatically during Auto Reduce/Enlarge copying are counted.
- The magnification rates of blank cover sheets, slip sheets, etc. are automatically assigned a rate of 100%.

8481	T:PrtPGS/TonSave	*CTL	[0 to 99999999/ 0 / 1/step]
8484	P:PrtPGS/TonSave	*CTL	[0 to 99999999/ 0 / 1/step]
These SPs count the number of pages printed with the Toner Save feature switched on. Note: These SPs return the same results as this SP is limited to the Print application.			

8491	T:PrtPGS/Col Mode	*CTL	These SPs count the number of pages printed in the Color Mode by
8492	C:PrtPGS/Col Mode	*CTL	

8493	F:PrtPGS/Col Mode	*CTL	each application.
8496	L:PrtPGS/Col Mode	*CTL	
8497	O:PrtPGS/Col Mode	*CTL	

Last three digits for SP8 491 to 493, 496 and 497

849x-001	B/W
849x-002	Single Color
849x-003	Two Color
849x-004	Full Color
849x-051	B/W(Banner)
849x-052	Single Color(Banner)
849x-053	Two Color(Banner)
849x-054	Full Color(Banner)

8501	T:PrtPGS/Col Mode	*CTL	These SPs count the number of pages printed in the Color Mode by the print application.
8504	P:PrtPGS/Col Mode	*CTL	
8507	O:PrtPGS/Col Mode	*CTL	

Last three digits for SP8 501, 504 and 507

850x-001	B/W
850x-002	Mono Color
850x-003	Full Color
850x-004	Single Color
850x-005	Two Color
850x-051	B/W(Banner)
850x-052	Full Color(Banner)

Main SP Tables-8

850x-053	Single Color(Banner)
850x-054	Two Color(Banner)

8511	T:PrtPGS/Emul	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count by printer emulation mode the total number of pages printed.		
8514	P:PrtPGS/Emul	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count by printer emulation mode the total number of pages printed.		

Last three digits for SP8 511 and 514

851x-001	RPCS	-
851x-002	RPDL	-
851x-003	PS3	-
851x-004	R98	-
851x-005	R16	-
851x-006	GL/GL2	-
851x-007	R55	-
851x-008	RTIFF	-
851x-009	PDF	-
851x-010	PCL5e/5c	-
851x-011	PCL XL	-
851x-012	IPDL-C	-
851x-013	BM-Links	Japan Only
851x-014	Other	-
851x-015	IPDS	-
851x-016	XPS	-

- SP8 511 and SP8 514 return the same results as they are both limited to the Print application.
- Print jobs output to the document server are not counted.

8521	T:PrtPGS/FIN	*CTL	[0 to 99999999 / 0 / 1/step]
	These SPs count by finishing mode the total number of pages printed by all applications.		
8522	C:PrtPGS/FIN	*CTL	[0 to 99999999 / 0 / 1/step]
	These SPs count by finishing mode the total number of pages printed by the Copy application.		
8523	F:PrtPGS/FIN	*CTL	[0 to 99999999 / 0 / 1/step]
	These SPs count by finishing mode the total number of pages printed by the Fax application. Note: Print finishing options for received faxes are currently not available.		
8524	P:PrtPGS/FIN	*CTL	[0 to 99999999 / 0 / 1/step]
	These SPs count by finishing mode the total number of pages printed by the Print application.		
8525	S:PrtPGS/FIN	*CTL	[0 to 99999999 / 0 / 1/step]
	These SPs count by finishing mode the total number of pages printed by the Scanner application.		
8526	L:PrtPGS/FIN	*CTL	[0 to 99999999 / 0 / 1/step]
	These SPs count by finishing mode the total number of pages printed from within the document server mode window at the operation panel.		

Last three digits for SP8 521 to 526

852x-001	Sort	852x-009	Three-IN-Fold
852x-002	Stack	852x-010	Three-OUT-Fold
852x-003	Staple	852x-011	Four-Fold
852x-004	Booklet	852x-012	KANNON-Fold
852x-005	Z-Fold	852x-013	Perfect-Bind

Main SP Tables-8

852x-006	Punch	852x-014	Ring-Bind
852x-007	Other	852x-015	3rd Vendor
852x-008	Inside-Fold		

Note

- If stapling is selected for finishing and the stack is too large for stapling, the unstapled pages are still counted.
- The counts for staple finishing are based on output to the staple tray, so jam recoveries are counted.

8531	Staple		
	This SP counts the amount of staples used (-001) or count stapled (-002) by the machine.		
001	Staples	*CTL	[0 to 99999999 / 0 / 1]
002	Stapless	*CTL	[0 to 99999999 / 0 / 1]

8551	T:PrtBooks/FIN	*CTL	-
8552	C:PrtBooks/FIN	*CTL	-
8554	P:PrtBooks/FIN	*CTL	-
8556	L:PrtBooks/FIN	*CTL	-
855x-001	Perfect-Bind	Not used	
855x-002	Ring-Bind	Not used	

8561	T:A Sheet Of Paper	*CTL	[0 to 99999999 / 0 / 1/step]
8562	C:A Sheet Of Paper	*CTL	[0 to 99999999 / 0 / 1/step]
8563	F:A Sheet Of Paper	*CTL	[0 to 99999999 / 0 / 1/step]
8564	P:A Sheet Of Paper	*CTL	[0 to 99999999 / 0 / 1/step]
8566	L:A Sheet Of Paper	*CTL	[0 to 99999999 / 0 / 1/step]
8567	O:A Sheet Of Paper	*CTL	[0 to 99999999 / 0 / 1/step]

Last three digits for SP8 561 to 567

856x-001	Total: Over A3/DLT
856x-002	Total: Under A3/DLT
856x-003	Duplex: Over A3/DLT
856x-004	Duplex: Under A3/DLT

8581	T:Counter	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count the total output broken down by color output, regardless of the application used. In addition to being displayed in the SMC Report, these counters are also displayed in the User Tools display on the copy machine.		
001	Total		
002	Total: Full Color		
003	B&W/Single Color		
004	Development: CMY		
005	Development: K		
006	Copy: Color		
007	Copy: B/W		
008	Print: Color		
009	Print: B/W		
010	Total: Color		
011	Total: B/W		
012	Full Color: A3		
013	Full Color: B4 JIS or Smaller		
014	Full Color Print		
015	Mono Color Print		

Main SP Tables-8

016	Full Color GPC
017	Twin Color Mode Print
018	Full Color Print(Twin)
019	Mono Color Print(Twin)
020	Full Color Total(CV)
021	Mono Color Total(CV)
022	Full Color Print(CV)
028	Development: CMY(A3)
029	Development: K(A3)
030	Total: Color(A3)
031	Total: B/W(A3)
032	Total: B/W(A3)

8582	C:Counter	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count the total output of the copy application broken down by color output.		
001	B/W		
002	Single Color		
003	Two Color		
004	Full Color		

8583	F:Counter	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count the total output of the fax application broken down by color output.		
001	B/W		
002	Single Color		

8584	P:Counter	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count the total output of the print application broken down by color output.		
001	B/W		
002	Mono Color		
003	Full Color		
004	Single Color		
005	Two Color		

8586	L:Counter	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count the total output of the local storage broken down by color output.		
001	B/W		
002	Single Color		
003	Two Color		
004	Full Color		

8591	O:Counter	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count the totals for A3/DLT paper use, number of duplex pages printed, and the number of staples used. These totals are for Other (O:) applications only.		
001	A3/DLT		
002	Duplex		
005	Banner		

8601	T:Coverage Counter	*CTL	[0 to 2147483647/ 0 / 1%/step]
	These SPs count the total coverage for each color and the total printout pages for each printing mode.		

Main SP Tables-8

001	B/W
002	Color
011	B/W Printing Pages
012	Color Printing Pages
021	Coverage Counter 1
022	Coverage Counter 2
023	Coverage Counter 3
031	Coverage Counter 1 (YMC)
032	Coverage Counter 2 (YMC)
033	Coverage Counter 3 (YMC)

8602	C:Coverage Counter	*CTL	[0 to 2147483647/ 0 / 1%/step]
	These SPs count the total coverage for each color and the total printout pages for each printing mode.		
8603	F:Coverage Counter	*CTL	[0 to 2147483647/ 0 / 1%/step]
	These SPs count the total coverage for each color and the total printout pages for each printing mode.		
8604	P:Coverage Counter	*CTL	[0 to 2147483647/ 0 / 1%/step]
	These SPs count the total coverage for each color and the total printout pages for each printing mode.		
8606	L:Coverage Counter	*CTL	[0 to 2147483647/ 0 / 1%/step]
	These SPs count the total coverage for each color and the total printout pages for each printing mode.		

Last three digits for SP8 602 to 606

	8 602	8 603	8 604	8 606
860x-001: B/W	Yes	Yes	Yes	Yes
860x-002: Single Color	Yes	Yes	Yes	Yes

860x-003: Two Color	Yes	No	Yes	Yes
860x-004: Full Color	Yes	No	Yes	Yes

8617	SDK Apli Counter	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count the total printout pages for each SDK applicaion.		
001	SDK-1		
002	SDK-2		
003	SDK-3		
004	SDK-4		
005	SDK-5		
006	SDK-6		
007	SDK-7		
008	SDK-8		
009	SDK-9		
010	SDK-10		
011	SDK-11		
012	SDK-12		

8621	Func Use Counter DFU
001 to 064	Function 001 to Function 064

8631	T:FAX TX PGS	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count by color mode the number of pages sent by fax to a telephone number.		
8633	F:FAX TX PGS	*CTL	[0 to 99999999/ 0 / 1/step]

Main SP Tables-8

	These SPs count by color mode the number of pages sent by fax to a telephone number.
863x-001	B/W
863x-002	Color

- If a document has color and black-and-white pages mixed, the pages are counted separately as B/W or Color.
- At the present time, this feature is provided for the Fax application only so SP8631 and SP8633 are the same.
- The counts include error pages.
- If a document is sent to more than one destination with a Group transmission, the count is done for each destination.
- Polling transmissions are counted but polling RX are not.
- Relay, memory, and confidential mailbox transmissions and are counted for each destination.

8641	T:IFAX TX PGS	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count by color mode the number of pages sent by fax to as fax images using I-Fax.		
8643	F:IFAX TX PGS	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count by color mode the number of pages sent by Fax as fax images using I-Fax.		
864x-001	B/W		
864x-002	Color		

- If a document has color and black-and-white pages mixed, the pages are counted separately as B/W or Color.
- At the present time, this feature is provided for the Fax application only so SP8641 and SP8643 are the same.
- The counts include error pages.
- If a document is sent to more than one destination with a Group transmission, the count is done for each destination.
- Polling transmissions are counted but polling RX are not.
- Relay, memory, and confidential mailbox transmissions and are counted for each destination.

8651	T:S-to-Email PGS	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count by color mode the total number of pages attached to an e-mail for both the Scan and document server applications.		
8655	S:S-to-Email PGS	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count by color mode the total number of pages attached to an e-mail for the Scan application only.		
865x-001	B/W		
865x-002	Color		

 **Note**

- The count for B/W and Color pages is done after the document is stored on the HDD. If the job is cancelled before it is stored, the pages are not counted.
- If Scan-to-Email is used to send a 10-page document to 5 addresses, the count is 10 (the pages are sent to the same SMTP server together).
- If Scan-to-PC is used to send a 10-page document to 5 folders, the count is 50 (the document is sent to each destination of the SMB/FTP server).
- Due to restrictions on some devices, if Scan-to-Email is used to send a 10-page document to a large number of destinations, the count may be divided and counted separately. For example, if a 10-page document is sent to 200 addresses, the count is 10 for the first 100 destinations and the count is also 10 for the second 100 destinations, for a total of 20.).

8661	T:Deliv PGS/Svr	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count by color mode the total number of pages sent to a Scan Router server by both Scan and LS applications.		
8665	S:Deliv PGS/Svr	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count by color mode the total number of pages sent to a Scan Router server by the Scan application.		
866x-001	B/W		
866x-002	Color		

 **Note**

- The B/W and Color counts are done after the document is stored on the HDD of the Scan Router server.
- If the job is canceled before storage on the Scan Router server finishes, the counts are not done.
- The count is executed even if regardless of confirmation of the arrival at the Scan Router server.

8671	T:Deliv PGS/PC	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count by color mode the total number of pages sent to a folder on a PC (Scan-to-PC) with the Scan and LS applications.		
8675	S: Deliv PGS/PC	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count by color mode the total number of pages sent with Scan-to-PC with the Scan application.		
867x-001	B/W		
867x-002	Color		

8681	T:PCFAX TXPGS	*CTL	These SPs count the number of pages sent by PC Fax. These SPs are provided for the Fax application only, so the counts for SP8 681 and SP8 683 are the same. [0 to 99999999/ 0 / 1/step]
8683	F:PCFAX TXPGS	*CTL	

- This counts pages sent from a PC using a PC fax application, from the PC through the copier to the destination.
- When sending the same message to more than one place using broadcasting, the pages are only counted once. (For example, a 10-page fax is sent to location A and location B. The counter goes up by 10, not 20.)

8691	T:TX PGS/LS	*CTL	These SPs count the number of pages sent from the document server. The counter for the application that was used to store the pages is incremented. [0 to 99999999/ 0 / 1/step]
8692	C:TX PGS/LS	*CTL	
8693	F:TX PGS/LS	*CTL	
8694	P:TX PGS/LS	*CTL	

8695	S:TX PGS/LS	*CTL	The L: counter counts the number of pages stored from within the document server mode screen at the operation panel. Pages stored with the Store File button from within the Copy mode screen go to the C: counter.
8696	L:TX PGS/LS	*CTL	

 **Note**

- Print jobs done with Web Image Monitor and Desk Top Binder are added to the count.
- If several documents are merged for sending, the number of pages stored are counted for the application that stored them.
- When several documents are sent by a Fax broadcast, the F: count is done for the number of pages sent to each destination.

8701	TX PGS/Port	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count the number of pages sent by the physical port used to send them. For example, if a 3-page original is sent to 4 destinations via ISDN G4, the count for ISDN (G3, G4) is 12.		
001	PSTN-1		
002	PSTN-2		
003	PSTN-3		
004	ISDN (G3,G4)		
005	Network		

8711	T:Scan PGS/Comp	*CTL	[0 to 99999999/ 0 / 1/step]
8715	S:Scan PGS/Comp	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count the number of pages sent by each compression mode.		
871x-001	JPEG/JPEG2000		
871x-002	TIFF(Multi/Single)		
871x-003	PDF		
871x-004	Other		
871x-005	PDF/Comp		

Main SP Tables-8

871x-006	PDF/A
871x-007	PDF(OCR)
871x-008	PDF/Comp(OCR)
871x-009	PDF/A(OCR)

8721	T: Deliv PGS/WSD	*CTL	[0 to 99999999/ 0 / 1/step]
8725	S: Deliv PGS/WSD	*CTL	
	These SPs count the number of pages scanned by each scanner mode.		
872x-001	B/W		
872x-002	Color		

8731	T:Scan PGS/Media	*CTL	[0 to 99999999/ 0 / 1/step]
8735	S:Scan PGS/Media	*CTL	
	These SPs count the number of pages scanned and saved in a meia by each scanner mode.		
873x-001	B/W		
873x-002	Color		

8741	RX PGS/Port	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count the number of pages received by the physical port used to receive them.		
001	PSTN-1		
002	PSTN-2		
003	PSTN-3		
004	ISDN (G3,G4)		
005	Network		

8771	Dev Counter	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count the frequency of use (number of rotations of the development rollers) for black and other color toners.		
001	Total		
002	K		
003	Y		
004	M		
005	C		

8781	Toner_Botol_Info.	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs display the number of already replaced toner bottles. Note: Currently, the data in SP7-833-011 through 014 and the data in SP8-781-001 through 004 are the same.		
001	BK	The number of black-toner bottles	
002	Y	The number of yellow-toner bottles	
003	M	The number of magenta-toner bottles	
004	C	The number of cyan-toner bottles	

8791	LS Memory Remain	*CTL	[0 to 100 / 0 / 1/%]
	This SP displays the percent of space available on the document server for storing documents.		
001	BK	The number of black-toner bottles	

8801	Toner Remain	*CTL	[0 to 100/ 0 / 1/%]
	These SPs display the percent of toner remaining for each color. This SP allows the user to check the toner supply at any time. Note: This precise method of measuring remaining toner supply (1% steps) is better than other machines in the market that can only measure in increments of 10 (10% steps).		

001	K
002	Y
003	M
004	C

8811	Eco Counter		
001	Eco Total	*CTL	[0 to 99999999 / 0 / 1/step]
	Displays the number of pages reduced by using the color, full color, duplex and combine function.		
004	Duplex	*CTL	[0 to 99999999 / 0 / 1/step]
	Displays the number of pages reduced by using the duplex function.		
005	Combine	*CTL	[0 to 99999999 / 0 / 1/step]
	Displays the number of pages reduced by using the combine function.		
008	Duplex(%)	*CTL	[0 to 100 / 0 / 1/%]
	Displays the utilization ratio of the duplex function.		
009	Combine(%)	*CTL	[0 to 100 / 0 / 1/%]
	Displays the utilization ratio of the combine function.		
010	Paper Cut(%)	*CTL	[0 to 100/ 0 / 1/%]
	Displays the paper reduction ratio.		
051	Sync Eco Total	*CTL	[0 to 99999999/ 0 / 1/step]
054	Sync Duplex	*CTL	[0 to 99999999/ 0 / 1/step]
055	Sync Combine	*CTL	[0 to 99999999/ 0 / 1/step]
058	Sync Duplex(%)	*CTL	[0 to 100/ 0 / 1/%]
059	Sync Combine(%)	*CTL	[0 to 100/ 0 / 1/%]
060	Sync Paper Cut(%)	*CTL	[0 to 100/ 0 / 1/%]
101	Eco Totalr>Last	*CTL	[0 to 99999999/ 0 / 1/step]

104	Duplex>Last	*CTL	[0 to 99999999/ 0 / 1/step]
105	Combine>Last	*CTL	[0 to 99999999/ 0 / 1/step]
108	Duplex(%):Last	*CTL	[0 to 100/ 0 / 1/%]
109	Combine(%):Last	*CTL	[0 to 100/ 0 / 1/%]
110	Paper Cut(%):Last	*CTL	[0 to 100/ 0 / 1/%]
151	Sync Eco Totalr>Last	*CTL	[0 to 9999999 / 0 / 1/step]
154	Sync Duplex>Last	*CTL	[0 to 9999999 / 0 / 1/step]
155	Sync Combine>Last	*CTL	[0 to 9999999 / 0 / 1/step]
158	Sync Duplex(%):Last	*CTL	[0 to 100/ 0 / 1/%]
159	Sync Combine(%):Last	*CTL	[0 to 100/ 0 / 1/%]
160	Sync Paper Cut(%):Last	*CTL	[0 to 100/ 0 / 1/%]

8851	CVr Cnt: 0-10%	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs display the number of scanned sheets on which the coverage of each color is from 0% to 10%.		
011	0 to 2%: BK	031	5 to 7%: BK
012	0 to 2%: Y	032	5 to 7%: Y
013	0 to 2%: M	033	5 to 7%: M
014	0 to 2%: C	034	5 to 7%: C
021	3 to 4%: BK	041	8 to 10%: BK
022	3 to 4%: Y	042	8 to 10%: Y
023	3 to 4%: M	043	8 to 10%: M
024	3 to 4%: C	044	8 to 10%: C

8861	CVr Cnt: 11-20%	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs display the number of scanned sheets on which the coverage of each color is from 11% to 20%.		

Main SP Tables-8

001	BK
002	Y
003	M
004	C

8871	CVr Cnt: 21-30%	*CTL	[0 to 9999999/ 0 / 1/step]
	These SPs display the number of scanned sheets on which the coverage of each color is from 21% to 30%.		
001	BK		
002	Y		
003	M		
004	C		

8881	CVr Cnt: 31%-	*CTL	[0 to 9999999/ 0 / 1/step]
	These SPs display the number of scanned sheets on which the coverage of each color is 31% or higher.		
001	BK		
002	Y		
003	M		
004	C		

8891	Page/Toner Bottle	*CTL	[0 to 9999999/ 0 / 1/step]
	These SPs display the amount of the remaining current toner for each color.		
001	BK		
002	Y		
003	M		

004	C
-----	---

8901	Page/Toner_Prev1	*CTL	[0 to 9999999/ 0 / 1/step]
	These SPs display the amount of the remaining previous toner for each color.		
001	BK		
002	Y		
003	M		
004	C		

8911	Page/Toner_Prev2	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs display the amount of the remaining 2nd previous toner for each color.		
001	BK		
002	Y		
003	M		
004	C		

8921	Cvr Cnt/Total	*CTL	[0 to 2147483647/ 0 / 1/%]
	Displays the total coverage and total printout number for each color.		
001	Coverage(%):BK		
002	Coverage (%) Y		
003	Coverage (%) M		
004	Coverage (%) C		
8921	Cvr Cnt/Total	*CTL	[0 to 99999999/ 0 / 1/step]
011	Coverage /P: BK		

Main SP Tables-8

012	Coverage /P: Y
013	Coverage /P: M
014	Coverage /P: C

8941	Machine Status	*CTL	[0 to 99999999/ 0 / 1/step]
	These SPs count the amount of time the machine spends in each operation mode. These SPs are useful for customers who need to investigate machine operation for improvement in their compliance with ISO Standards.		
001	Operation Time	Engine operation time. Does not include time while controller is saving data to HDD (while engine is not operating).	
002	Standby Time	Engine not operating. Includes time while controller saves data to HDD. Does not include time spent in Energy Save, Low Power, or Off modes.	
003	Energy Save Time	Includes time while the machine is performing background printing.	
004	Low Power Time	Includes time in Energy Save mode with Engine on. Includes time while machine is performing background printing.	
005	Off Mode Time	Includes time while machine is performing background printing. Does not include time machine remains powered off with the power switches.	
006	SC	Total time when SC errors have been staying.	
007	PrtJam	Total time when paper jams have been staying during printing.	
008	OrgJam	Total time when original jams have been staying during scanning.	
009	Supply PM Unit End	Total time when toner end has been staying.	

8951	AddBook Register	*CTL	-
	These SPs count the number of events when the machine manages data registration.		
001	User Code /User ID	User code registrations.	[0 to 99999/ 0 / 1/step]
002	Mail Address	Mail address registrations.	
003	Fax Destination	Fax destination registrations.	
004	Group	Group destination registrations.	
005	Transfer Request	Fax relay destination registrations for relay TX.	
006	F-Code	F-Code box registrations.	
007	Copy Program	Copy application registrations with the Program (job settings) feature.	[0 to 255 / 0 / 1/step]
008	Fax Program	Fax application registrations with the Program (job settings) feature.	
009	Printer Program	Printer application registrations with the Program (job settings) feature.	
010	Scanner Program	Scanner application registrations with the Program (job settings) feature.	

8961	Electricity Status	*CTL	[0 to 99999999/ 0 / 1/step]
	-		
001	Ctrl Standby Time		
002	STR Time		
003	Main Power Off Time		
004	Reading and Printing Time		

Main SP Tables-8

005	Printing Time
006	Reading Time
007	Eng Waiting Time
008	Low Power State Time
009	Silent State Time
010	Heater Off State Time
011	LCD on Time
101	Silent Print

8971	Unit Control	*CTL	[0 to 99999999/ 0 / 1/step]
	-		
001	Engine Off Recovery Count		
002	Power Off Count		
003	Force Power Off Count		

8999	Admin. Counter List		
	Displays the total coverage and total printout number for each color.		
001	Total	*CTL	[0 to 99999999/ 0 / 1]
002	Copy: Full Color	*CTL	[0 to 99999999/ 0 / 1]
003	Copy: BW	*CTL	[0 to 99999999/ 0 / 1]
004	Copy: Single Color	*CTL	[0 to 99999999/ 0 / 1]
005	Copy: Two Color	*CTL	[0 to 99999999/ 0 / 1]
006	Printer Full Color	*CTL	[0 to 99999999/ 0 / 1]
007	Printer BW	*CTL	[0 to 99999999/ 0 / 1]
008	Printer Single Color	*CTL	[0 to 99999999/ 0 / 1]
009	Printer Two Color	*CTL	[0 to 99999999/ 0 / 1]

010	Fax Print: BW	*CTL	[0 to 99999999/ 0 / 1]
011	Fax Print: Single Color	*CTL	[0 to 99999999/ 0 / 1]
013	Duplex	*CTL	[0 to 99999999/ 0 / 1]
022	Copy: Full Color(%)	*CTL	[0 to 2147483647/ 0 / 1]
023	Copy: BW(%)	*CTL	[0 to 2147483647/ 0 / 1]
024	Copy: Single Color(%)	*CTL	[0 to 2147483647/ 0 / 1]
025	Copy: Two Color(%)	*CTL	[0 to 2147483647/ 0 / 1]
026	Printer: Full Color(%)	*CTL	[0 to 2147483647/ 0 / 1]
027	Printer: BW(%)	*CTL	[0 to 2147483647/ 0 / 1]
028	Printer: Single Color(%)	*CTL	[0 to 2147483647/ 0 / 1]
029	Printer: Two Color(%)	*CTL	[0 to 2147483647/ 0 / 1]
030	Fax Print: BW(%)	*CTL	[0 to 2147483647/ 0 / 1]
031	Fax Print: Single Color(%)	*CTL	[0 to 2147483647/ 0 / 1]
101	Transmission Total: Color	*CTL	[0 to 99999999/ 0 / 1]
102	Transmission Total: BW	*CTL	[0 to 99999999/ 0 / 1]
103	FAX Transmission	*CTL	[0 to 99999999/ 0 / 1]
104	Scanner Transmission: Color	*CTL	[0 to 99999999/ 0 / 1]
105	Scanner Transmission: BW	*CTL	[0 to 99999999/ 0 / 1]

3.12 PRINTER SERVICE MODE

3.12.1 PRINTER SERVICE MODE

1001	Bit Switch			
001	Bit Switch 1		0	1
	bit 0	DFU	-	-
	bit 1	Responding with the hostname as the sysName	Model name (PnP name)	Hostname
		This BitSwitch can change the value of the sysName. <ul style="list-style-type: none"> ▪ 0 (default): Model name (PnP name) such as "MP 501SPF" ▪ 1: Host name 		
	bit 2	DFU	-	-
	bit 3	No I/O Timeout	Disabled	Enabled
		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	Disabled	Enabled
		If this BitSwitch is enabled, print jobs will be saved to the GW SD slot and not output to paper.		
	bit 5	[PS and PDF] Paper size error margin	±5pt	±10pt
		When a PS job is printed by using a custom paper size, the job might not be printed because of a paper size mismatch caused by a calculation error. By default, the error margin for matching to a paper size is ±5 points. By enabling this bit switch, the error margin for matching to a paper size can be extended to ±10 points.		
	bit 6	Not used	-	-
	bit 7	[RPCS,PCL]: Printable area frame border	Disabled	Enabled
		Prints all RPCS and PCL jobs with a border around the printable area.		

1001	Bit Switch			
002	Bit Switch 2		0	1
	bit 0	Not used	-	-
	bit 1	DFU	-	-
	bit 2	Not used	-	-
	bit 3	[PCL5e/c.PS]: PDL Auto Switching	Enabled	Disabled
		Enables/disable the MFPs ability to change the PDL processor mid-job. Some host systems submit jobs that contain both PS and PCL5e/c. If Auto PDL switching is disabled, these jobs will not be printed properly.		
	bit 4	Not used	-	-
	bit 5	DFU	-	-
	bit 6	Not used	-	-
	bit 7	DFU	-	-

1001	Bit Switch			
003	Bit Switch 3		0	1
	bit 0 to 1	DFU	-	-
	bit 2	[PCL5e/c]: Legacy HP compatibility	Disabled	Enabled
		Uses the same left margin as older HP models such as HP4000/HP8000. In other words, the left margin defined in the job (usually "<ESC>*r0A") will be changed to "<ESC>*r1A".		
	bit 3 to 7	DFU	-	-

1001	Bit Switch			
004	Bit Switch 4		0	1

1001	Bit Switch			
	bit 0 to 2	DFU	-	-
	bit 3	IPDS print-side reversal	Disabled	Enabled
		If enabled, the simplex pages of IPDS jobs will be printed on the front side because of printing on the back side of the page. This might reduce printing speed.		
	bit 4 to 5	DFU	-	-
	bit 6	Not used	-	-
	bit 7	DFU	-	-

1001	Bit Switch			
005	Bit Switch 5		0	1
	bit 0	Not used	-	-
	bit 1	Multiple copies if a paper size or type mismatch occurs	Disabled (Single copy)	Enabled (Multiple copy)
		If a paper size or type mismatch occurs during the printing of multiple copies, only a single copy is output by default. Using this BitSwitch, the device can be configured to print all copies even if a paper mismatch occurs.		
	bit 2	Prevent SDK applications from altering the contents of a job.	Disabled	Enabled
		If this BitSwitch is enabled, SDK applications will not be able to alter print data. This is achieved by preventing SDK applications from accessing a module called the "GPS Filter". Note: The main purpose of this BitSwitch is for troubleshooting the effects of SDK applications on data.		
	bit 3	[PS] PS Criteria	Pattern3	Pattern1

1001	Bit Switch			
		<p>Change the number of PS criterion used by the PS interpreter to determine whether a job is PS data or not. For details, refer to page 4-1 "Printing Features".</p> <ul style="list-style-type: none"> ▪ Pattern3: The larger the pattern number, the greater the number of criterion used. ▪ Pattern1: A small number of PS tags and headers 		
	bit 4	Increase max. number of stored jobs.	Disabled (100)	Enabled
		<p>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.</p>		
	bit 5	Not used	-	-
	bit 6	Method for determining the image rotation for the edge to bind on.	Disabled	Enabled
		<p>If enabled, the image rotation will be performed as they were in the specifications of older models for the binding of pages of mixed orientation jobs.</p> <p>The old models are below:</p> <ul style="list-style-type: none"> - PCL: Pre-04A models - PS/PDF/RPCS:Pre-05S models 		
	bit 7	Letterhead mode printing	Disabled	Enabled (Duplex)
		<p>Routes all pages through the duplex unit.</p> <p>If this is disabled, simplex pages or the last page of an odd-paged duplex job, are not routed through the duplex unit. This could result in problems with letterhead/pre-printed pages.</p> <p>Only affects pages specified as Letterhead paper.</p>		

1001	Bit Switch			
006	Bit Switch 6		0	1
	bit 0	Not used	-	-
	bit 1 to 5	DFU	-	-
	bit 6	Not used	-	-
	bit 7	DFU	-	-

1001	Bit Switch			
007	Bit Switch 7		0	1
	bit 0	Not used	-	-
	bit 1 to 7	DFU	-	-

1001	Bit Switch			
008	Bit Switch 8		0	1
	bit 0 to 2	DFU	-	-
	bit 3	Not used	-	-
	bit 4 to 5	DFU	-	-
	bit 6	PCL, RPCS, PS: Forced BW print	Enabled	Disabled
		Switches whether to ignore PDL color command. (MP 501/601 Only)		
	bit 7	Not used	-	-

1001	Bit Switch			
009	Bit Switch 9		0	1

1001	Bit Switch			
	bit 0	PDL Auto Detection timeout of jobs submitted via USB or Parallel Port (IEEE 1284).	Disabled (Immediately)	Enabled (10 seconds)
		To be used if PDL auto-detection fails. A failure of PDL autodetection does not 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	Not used	-	-
	bit 2	Job Cancel	Disabled (Not cancelled)	Enabled (Cancelled)
		If this bit switch, all jobs will be cancelled after a jam occurs. Note: If this BitSwitch is enabled, printing under the following conditions might result in problems: - Job submission via USB or Parallel Port - Spool printing (WIM >Configuration > Device Settings > System)		
	bit 3	Not used	-	-
	bit 4	Timing of the PjL Status ReadBack (JOB END) when printing multiple collated copies.	Disabled	Enabled
		This BitSwitch determines the timing of the PjL USTATUS JOB END sent when multiple collated copies are being printed. <ul style="list-style-type: none"> ▪ 0 (default): JOB END is sent by the device to the client after the first copy has completed printing. This causes the page counter to be incremented after the first copy and then again at the end of the job. ▪ 1: JOB END is sent by the device to the client after the last copy has finished printing. This causes the page counter to be incremented at the end of each job. 		
	bit 5	Display UTF-8 text in the operation panel	Enabled	Disabled

1001		Bit Switch		
		<ul style="list-style-type: none"> 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. <p>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 BitSwitch is enabled (=0).</p>		
	bit 6	Disable super option	Disabled	Enabled
		Switches super option disable on / off. If this is On, multiple jobs are grouped at LPR port. PDL settings are enabled even jobs that are specified queue names are sent.		
	bit 7	Enable/Disable Print from USB/SD's Preview function	Enabled	Disabled
		<p>Determines whether Print from USB/SD will have the Preview function. (MP 501/601 Only)</p> <ul style="list-style-type: none"> Enabled (=0): Print from USB/SD will have the Preview function. Disabled (=1): Print from USB/SD will not have the Preview function. 		

1001		Bit Switch		
010	Bit Switch A		0	1
	bit 0 to 4	DFU	-	-
	bit 5	Store and Skip Errored Job locks the queue	Queue is not locked after SSEJ	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. (MP 501/601 Only)		
	bit 6	Allow use of Store and Skip Errored Job if connected to an external charge device.	Does not allow SSEJ with ECD	Allows SSEJ with ECD

1001	Bit Switch			
		If this is 0, Store and Skip Errored Job (SSEJ) will be automatically disabled if an external charge device is connected. (MP 501/601 Only) Note: We do not officially support enabling this bit switch (1). Use it at your own risk.		
	bit 7	Job cancels remaining pages when the paid-for pages have been printed on an external charge device	Job does not cancel	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. (MP 501/601 Only)		

1001	Bit Switch			
011	Bit Switch B		0	1
	bit 0	Show Menu List	Hide Menu List	Show Menu List
		If this is 0, the Menu List button will be removed from Printer Features. (MP 501/601 Only)		
	bit 1	Print job interruption	Does not allow interruption	Allow interruption
		<ul style="list-style-type: none"> ▪ 0 (default): Print jobs are not interrupted. If a job is promoted to the top of the print queue, it will wait for the currently printing job to finish. ▪ 1: If a job is promoted to the top of the queue, it will interrupt the currently printing job and start printing immediately. 		
	bit 2	Switch for enabling or disabling Limitless Paper Feeding for the Bypass Tray	Enabled	Disabled

1001	Bit Switch			
		<p>When the Bypass Tray is the target of the Auto Tray Select and Any Size/Type is configured for the Tray Setting Priority setting of the Bypass Tray, this BitSwitch can switch the behavior whether or not Limitless Paper Feeding is applied to the Bypass Tray.* The default is Enabled (=0).</p> <p>*Limitless Paper Feeding will try a matching tray of the next highest priority if a job specified to Auto Tray Select as the tray setting is submitted and the tray runs out of paper.</p> <ul style="list-style-type: none"> ▪ 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. ▪ 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>Limitations when this BitSwitch is set to "1":</p> <ul style="list-style-type: none"> - The "Paper Tray Priority: Printer" setting must be configured to a tray other than the Bypass Tray. - Jobs that contain more than one paper size cannot be printed. 		
	bit 3	Not used	-	-
	bit 4	<p>Add "Apply Auto Paper Select" is the condition that decides if the device's paper size or paper type should be overwritten.</p> <p>If this BitSwitch is set to "1" (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 overwritten by the job's commands when "Tray Setting Priority" is set to "Driver/Command" or "Any Type".</p> <ul style="list-style-type: none"> - Apply Auto Paper Select = OFF: Overwritten (priority is given to the job's commands) - Apply Auto Paper Select = ON: Not overwritten (priority is given to the device settings) 	Disabled	Enabled
	bit 5	DFU	-	-

1001	Bit Switch			
	Bit 6	The tray selection setting when a paper size or paper type mismatch occurs.	Disabled	Enabled
		If the tray selection setting is enabled, selecting the tray that the "Apply Auto Paper Select" setting is configured to "Off" cannot be done when a paper size or paper type mismatch occurs.		
	bit 7	DFU	-	-

1001	Bit Switch			
012	Bit Switch C		0	1
	bit 0 to 4	DFU	-	-
	bit 5	Change the user ID type displayed on the operation panel	Disabled	Enabled
		As of 15S models, the Login User Name can be displayed on the operation panel. The user ID type displayed on the operation panel can be changed by configuring BitSwitch #12-5 as follows: <ul style="list-style-type: none"> ▪ 0 (default): Login User Name ▪ 1: User ID. If this is enabled, User ID will be displayed, which is equivalent to the behavior exhibited in 14A and earlier models. 		
	bit 6	AirPrint	Enabled	Disabled
		AirPrint can be disabled by changing this BitSwitch from 0 (default) to 1.		
	bit 7	DFU	-	-

1003	[Clear Setting]	
1003-001	Initialize System	Initializes settings in the System menu of the user mode.
1003-003	Delete Program	DFU

Printer Service Mode

1004	[Print Summary]	
1004-001	Service Summary	Prints the service summary sheet (a summary of all the controller settings).
1004-002	Service Summary2	

1005	[Display Version]	
1005-001	Printer Version	Displays the version of the controller firmware. (SP 5300/5310 only)
1005-002	Printer Version	Displays the version of the controller firmware. (MP 501/601 only)

1006 (MP 501/601 only)	[Sample / Locked Print]	
1006-001	0:Link with Doc. Srv 1:Enable	-

1007 (SP 5300/5310 only)	[Supply Display]	
1007-001	Development	Enables or disables the display for information on each consumable supply. [0 or 1 / 1 / 1 /step] 0: OFF, 1: ON
1007-002	PCU	
1007-003	Transfer	
1007-004	Int. Transfer	
1007-005	Transfer Roller	
1007-006	Fuser	
1007-007	Fuser Oil	

1110 (MP 501/601 only)	[Media Print Device Setting]	
	Enable or disable the media print support function.	
1110-002	0:Disable 1:Enable	[0 to 1 / 1 / 1/step]

1111 (MP 501/601 only)	[All Job Delete Mode]	
	Selects whether to include an image processing job in jobs subject to full cancellation from the SCS job list.	
1111-001	0:excluding New Job 1:including New Job	[0 or 1 / 1 / 1/step]

SP Mode Tables

3.13 SCANNER SERVICE MODE (MP 501/601 ONLY)

3.13.1 SP1-XXX

1005	[Erase Margin(Remote scan)]		
1-005-001	Range from 0 to 5 mm	CTL*	[0 to 5 / 0 / 1 / step]

1009	[Remote scan disable]		
1-009-001	0:Enable 1:Disable	CTL*	[0 or 1 / 0 / 1 / step]

1010	[Non Display ClearLight PDF]		
1-010-001	0:Display 1:Nondisplay	CTL*	[0 or 1 / 0 / 1 / step]

1011	[Org Count Disp]		
1-011-001	0:ON 1:OFF	CTL*	[0 or 1 / 0 / 1 / step]

1012	[UserInfo Release]		
1-012-001	0:No 1:Yes	CTL*	[0 or 1 / 1 / 1 / step]

1013	[Scan to Media Device Setting]		
1-013-002	0:OFF 1:ON	CTL*	[0 or 1 / 1 / 1 / step]

1014	[Scan to Folder Pass Input Set]		
1-014-001	0:OFF 1:ON	CTL*	[0 or 1 / 0 / 1 / step]

1040	[Scan:LT/LG Mixed Sizes Setting]		
1-040-001	0:OFF 1:ON	CTL*	[0 or 1 / 0 / 1 / step]

1041	[Scan:FlairAPI Setting]		
1-014-001	0x00 - 0xff	CTL*	[0 to 255 / 0 / 1 / step]

3.13.2 SP2-XXX

2021	[Compression Level(Grayscale)]		
2-021-001	Comp1:5-95	CTL*	[5 to 95 / 20 / 1 / step]
2-021-002	Comp2:5-95	CTL*	[5 to 95 / 40 / 1 / step]
2-021-003	Comp3:5-95	CTL*	[5 to 95 / 65 / 1 / step]
2-021-004	Comp4:5-95	CTL*	[5 to 95 / 80 / 1 / step]
2-021-005	Comp5:5-95	CTL*	[5 to 95 / 95 / 1 / step]

2023	[ClearLightPDF:ACS Setting]		
2-023-001	0:OFF 1:ON	CTL*	[0 or 1 / 1 / 1 / step]

2024	[Compression ratio of ClearLightPDF]		
2-024-001	Compression Ratio(Normal)	CTL*	[5 to 95 / 25 / 1 / step]
2-024-002	Compression Ratio(High)	CTL*	[5 to 95 / 15 / 1 / step]

Scanner Service Mode (MP 501/601 Only)

2025	[Compression ratio of ClearLightPDF JPEG2000]		
2-025-001	Compression Ratio(Normal) JPEG2000	CTL*	[5 to 95 / 25 / 1 / step]
2-025-002	Compression Ratio(High) JPEG2000	CTL*	[5 to 95 / 15 / 1 / step]

2030	[OCR PDF DetectSens]		
2-030-001	White Lumi Value: 0 - 255	CTL*	[0 to 255 / 250 / 1 / step]
2-030-002	White Pix Ratio: 0 - 100	CTL*	[0 to 100 / 80 / 1 / step]
2-030-003	White Tile Ratio: 0 -100	CTL*	[0 to 100 / 80 / 1 / step]

3.14 INPUT AND OUTPUT CHECK

3.14.1 INPUT CHECK TABLE (SP5-803)

When entering the Input Check mode, 8 digits display the result for a section. Each digit corresponds to a different device as shown in the table.

Bit No.	7	6	5	4	3	2	1	0
Result	0 or 1	0 or 1	0 or 1	0 or 1	0 or 1	0 or 1	0 or 1	0 or 1

SP	Description	Reading	
		0	1
5-803-001	Exit Full Sensor	Paper detected	Paper not detected
5-803-016	Key Card Set	Set	Not set
5-803-017	Key Counter Set	Set	Not set
5-803-018	IPU Version	-	-

3.14.2 OUTPUT CHECK TABLE (SP5-804)

Activates the electrical components for functional check.

It is not possible to activate more than one component at the same time.

SP	Display
5-804-001	CTLFAN Motor
5-804-101	FAN:LSU/DLP/CENTER/REAR
5-804-102	FAN:LVU
5-804-103	Toner Motor
5-804-202	Scanner Lamp

SOFTWARE CONFIGURATION

REVISION HISTORY		
Page	Date	Added/Updated/New
		None

4. SOFTWARE CONFIGURATION

4.1 PRINTING FEATURES

4.1.1 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+.

4.1.2 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. This is only possible if the job was not created using a driver.

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

Note

- The printer is unable to detect PCL6 or RPCS. However these are almost always created using a driver and therefore contain the PJI command specifying the PDL.

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.

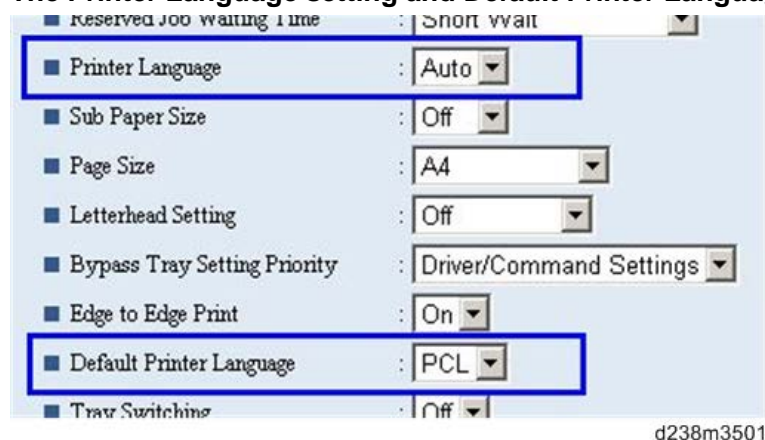
3. PS interpreter:

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".

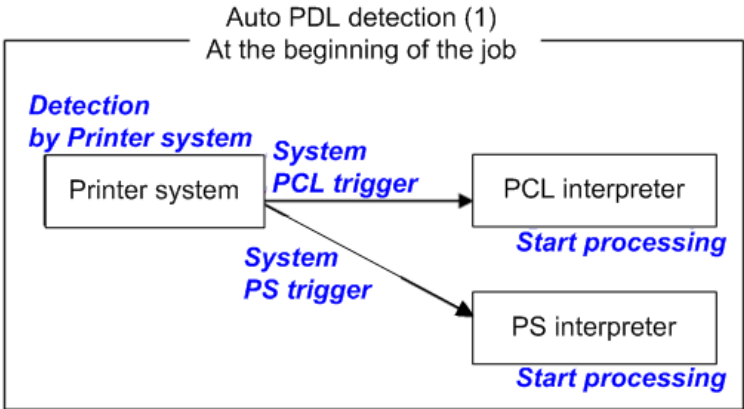
The Printer Language setting and Default Printer Language setting in WIM:



PDL selection and switching

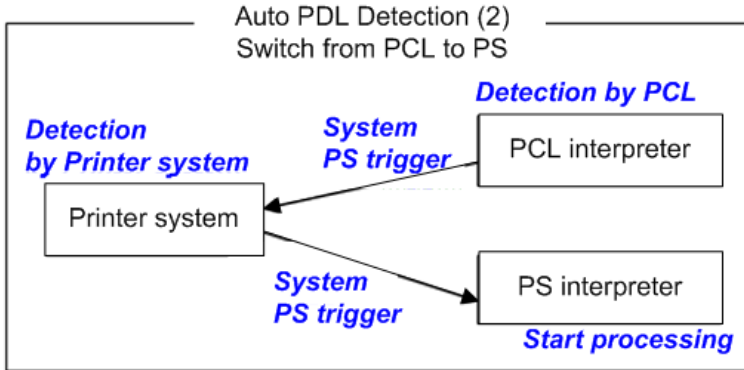
3 types of PDL selection/switching are performed:

- 1. PDL selection (PCL5 or PS (including PDF)) at the beginning of the job: performed by the printer system



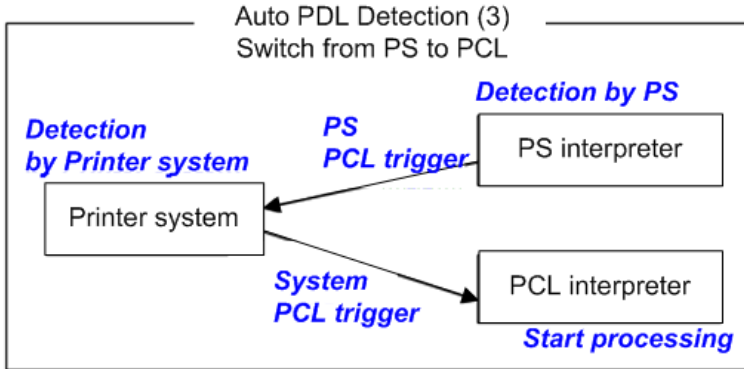
w_d238m3502

- 2. PDL switching from PCL5 to PS: performed by the PCL interpreter and the printer system



w_d238m3503

- 3. PDL switching from PS to PCL5: performed by the PS interpreter and the printer system



w_d238m3504

Triggers

Printer system

Printing Features

PCL5 triggers	[ESC]E [FF]
PS triggers	%!PS-Adobe-3.1 "%!" "dict begin" "bind def" "findfont" "showpage" "/statusdict" "0 startjob" [EOT] "}" + space character + "def" "userdict" (*)
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.
- "%%" can be added to the PS triggers by configuring Printer Bit Switch 5-3=1
- 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.

4.1.3 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:

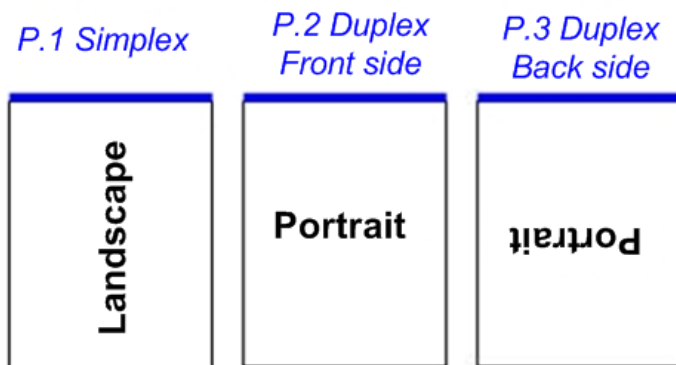
A uniform binding edge (short or long edge) will only be applied if the job is stapled, punched, or Z-folded. Otherwise, the bound edge might differ from page to page.

Example:

A 3-page job. Page 1 has the PCL simplex command. Page 2 and 3 have the PCL duplex long-edge bind commands.

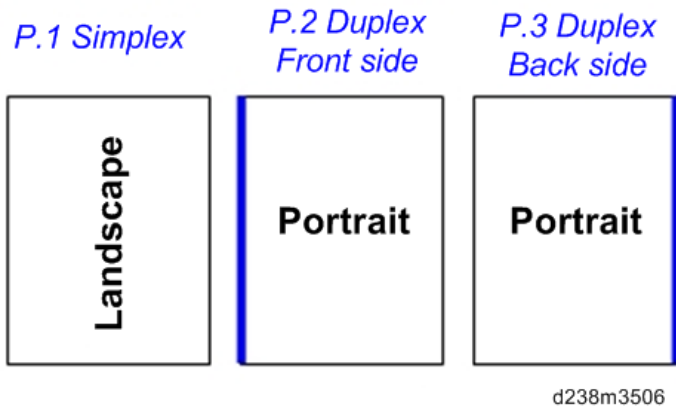
No finishing options (staple, punch, z-fold) are used.

Bit Switch #5-6=0:



w_d238m3505

Bit Switch #5-6=1:



Note

- Used in conjunction with Bit Switch #5-6, Orientation Auto Detect for PS/PDF jobs might cause unexpected results.

4.1.4 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.

- The page count for a single copy is returned after the first copy is printed.
- The page count for the rest of the copies, excluding the first copy, is returned after all copies have been printed.
- 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
```

Printing Features

```
@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
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>

4.2 SCANNER FEATURES (MP 501/601 ONLY)

4.2.1 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

Scanner SP 1-012-001=1 (default):



w_d238m3507

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.

4.2.2 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 (Fig.1)
2. The mail header "From:" field = user (Fig.2)
3. The SMTP username = device (Fig.1)

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. (see Fig.3)

To solve the problem, the Administrator's address must be the same as the device's address.

Scanner Features (MP 501/601 Only)

If this is done:

1. The "Mail From:" field = device (Fig.1)
2. The mail header "From:" field = administrator (Fig.3)
3. The SMTP username = device (Fig.1)

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.

Fig.1 Default device SMTP username, password and email address

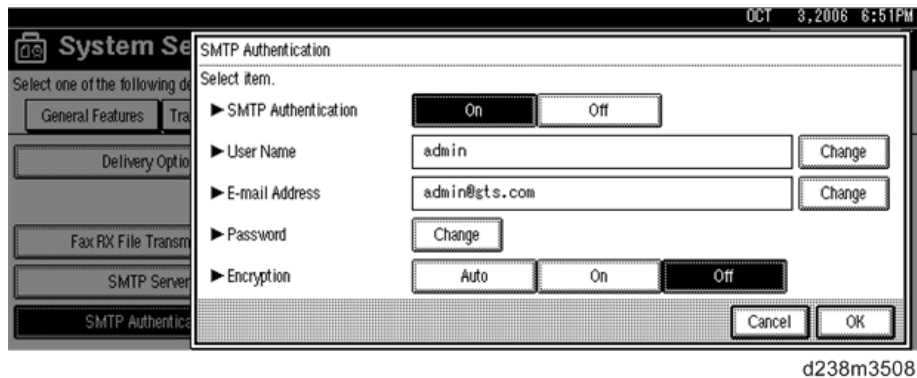


Fig.2 A user's email address in the Address Book

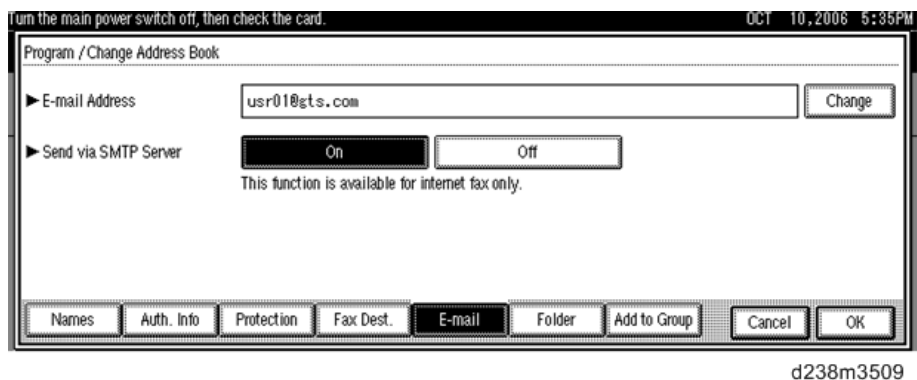
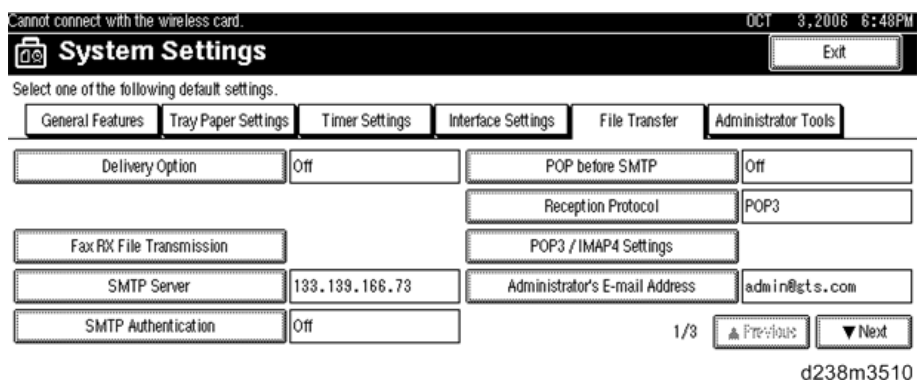


Fig.3 Administrator's email address



4.2.3 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:

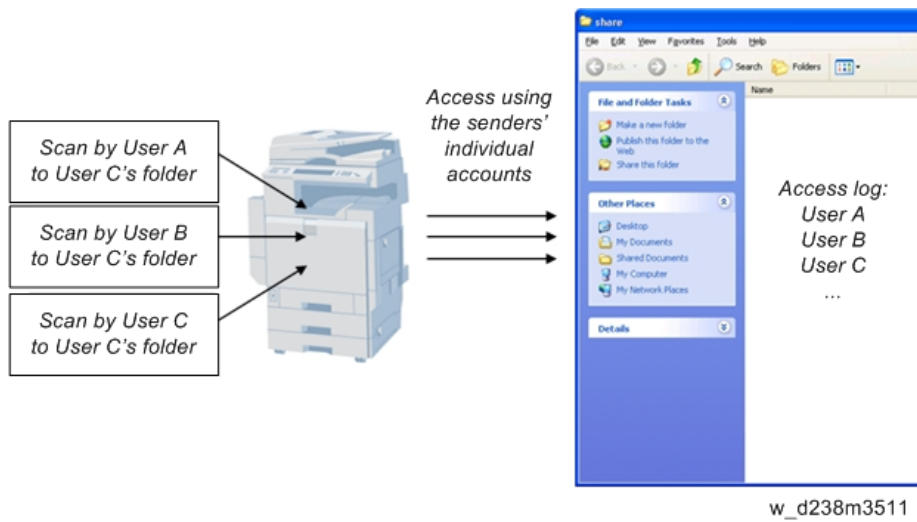
Case	Destination selection	User auth.	Account used to access the folder
A	Manual entry	Either enabled or disabled	The user's account *
B	Destination list	disabled	The recipient's account (as configured in the Address Book's Folder Authentication setting)
C		enabled	If SP 5-846-021 = 0 (default): The 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.

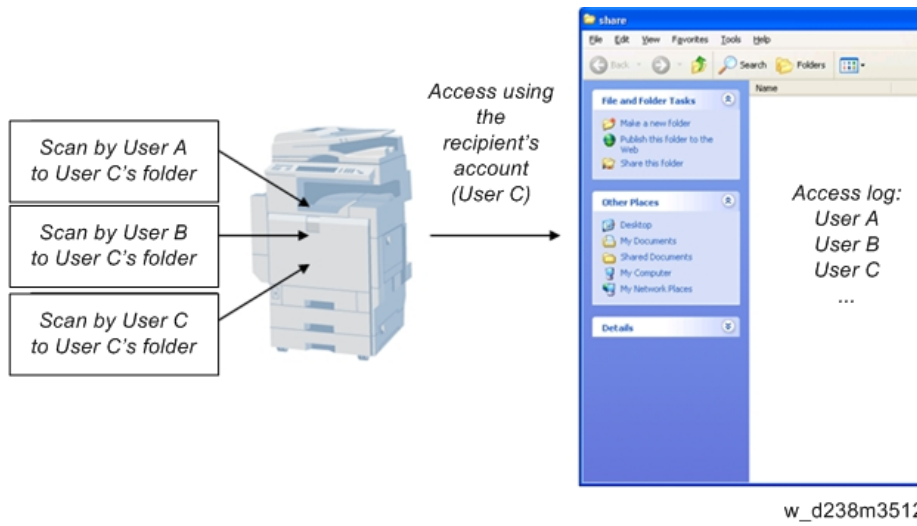
The destination's access logs:

Case A or Case C with SP=0: The access logs can be used to determine which user sent the scan.

Scanner Features (MP 501/601 Only)



Case B or Case C with SP=1: All access will be logged as the same user.



4.3 MANAGEMENT FEATURES

4.3.1 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.

4.4 SECURITY FEATURES

4.4.1 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.



4.4.2 HOW TO RESTRICT WEB IMAGE MONITOR ACCESS TO THE DOCUMENT SERVER (MP 501/601 ONLY)

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.

4.4.3 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)	
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.

D255/D256

FAX OPTION

REVISION HISTORY		
Page	Date	Added/Updated/New
67	10/19/2016	Removed Bit Switch 1 G3 Communication Parameter Resol: 44

D255/D256

FAX OPTION

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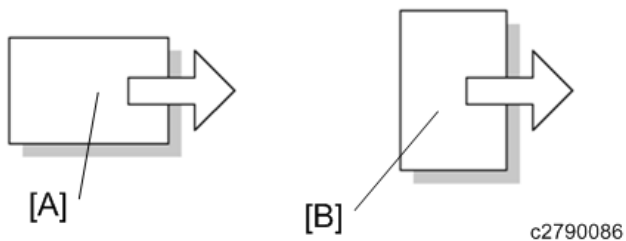
READ THIS FIRST

Symbols and Abbreviations

Conventions Used in this Manual

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
	Spring
	Flat Flexible Cable
	Timing Belt
SEF	Short Edge Feed [A]
LEF	Long Edge Feed [B]



Cautions, Notes, etc.

The following headings provide special information:

WARNING

- Failure to obey warning information could result in serious injury or death.

CAUTION

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

 **Important**

- Obey these guidelines to avoid problems such as misfeeds, damage to originals, loss of valuable data and to prevent damage to the machine.
- Always obey these guidelines to avoid serious problems such as misfeeds, damage to originals, loss of valuable data and to prevent damage to the machine. bold is added for emphasis.

 **Note**

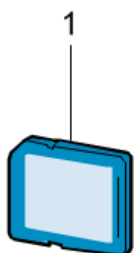
- This document provides tips and advice about how to best service the machine.

1. INSTALLATION

1.1 FAX CONNECTION UNIT TYPE M24 (D3CP-05, 06, 07)

1.1.1 ACCESSORY CHECK

No.	Description	Q'ty
1	Fax Connection Unit SD card	1
-	EMC address decal (EU only)	1
-	RoHS sheet (AP/CHN only)	1
-	RoHS decal (AP/CHN only)	1



d255a1297

1.1.2 INSTALLATION PROCEDURE

This unit allows a machine without the fax unit installed (client 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 machines.
- Machines that have the fax unit installed cannot be used as the client machine.
- Only one machine can be registered as the Remote Machine.
- Firmware for this unit: "aics" (software number: D3CP5759)
- 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 machine.

Order of installation:

1. Install the Fax Connection Unit in the remote machine (fax unit is already installed).

2. Install the Fax Connection Unit in the client machine (fax unit is not installed).
3. Register the client machine in the remote machine.

★ Important

- **Do not register the remote machine before the client machine is registered on the remote machine. Otherwise, the remote machine can not be registered.**

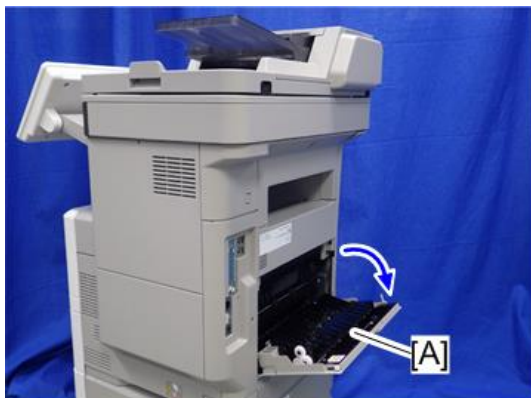
4. Register the remote machine in the client machine.

Installing the fax connection unit

↓ Note

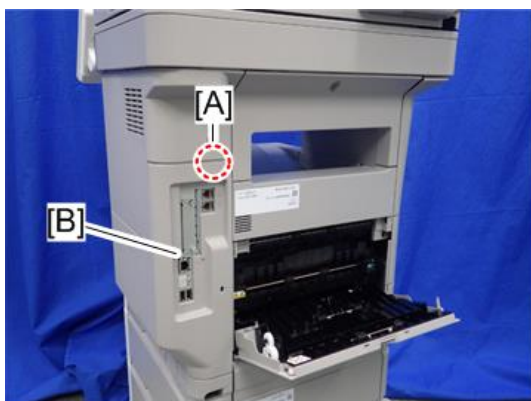
- Before starting this procedure, connect the network cable to the target machine(s), and then configure the network settings.
- When installing more than one SD card, perform the merge operation. For details about how to merge, refer to "SD Card Appli Move" in "Main Chapters" of the field service manual.

1. Turn OFF the main power.
2. Open the rear upper cover [A].



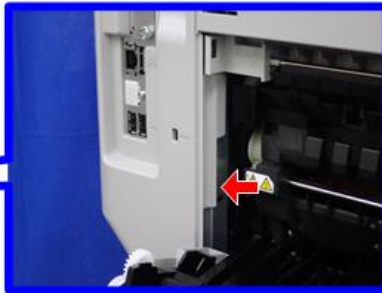
d255a1030

3. Insert a flathead screwdriver into [A] to release a hook of the controller cover [B].



d255a1080

4. Release the hook by opening the right side of the cover, and then remove the cover [A] by rotating it in the direction of the blue arrow.



d255a1032

Note

- Be careful not to damage the hooks at the rear of the controller cover when you remove or install the controller cover.



d255a1033

5. Insert the Fax Connection Unit Type M24 SD card into SD card slot 1 [A] (upper slot).



d255a1469

6. Reassemble the machine.
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.



Registering the client machine(s)

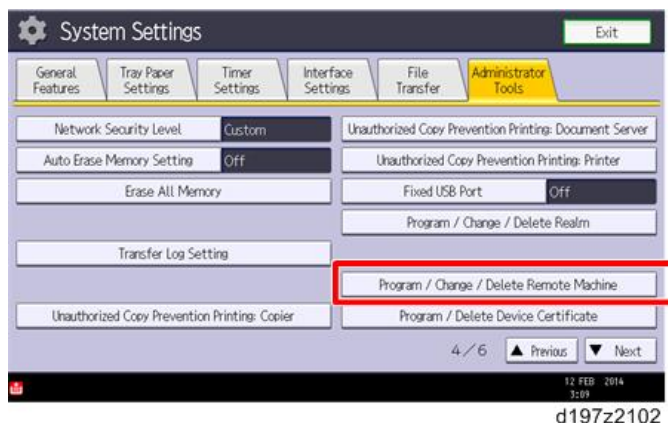
★ Important

- Do not register the remote machine in the client machine before registering the client machine in the remote machine. Otherwise, registering the remote machine fails.

↓ Note

- Before starting this procedure, connect the network cable to the target machine(s), and then configure the network settings.

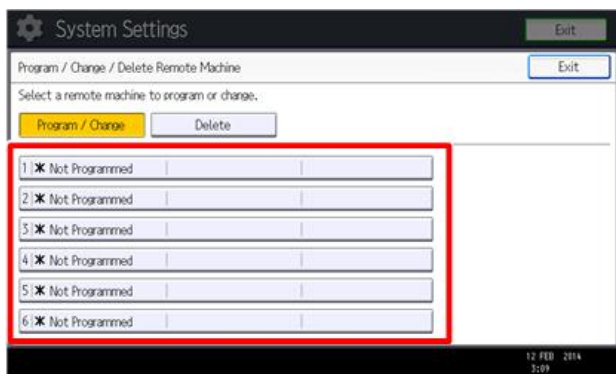
1. On the remote machine, press the [User Tools] icon on the operation panel.
2. Press [Machine Features].
3. Press [System Settings].
4. Press [Administrator Tools].
5. Press [Program/Change/Delete Remote Machine].



6. Press [* Not Programmed], and then enter the IP address or host name of one of the client machines.

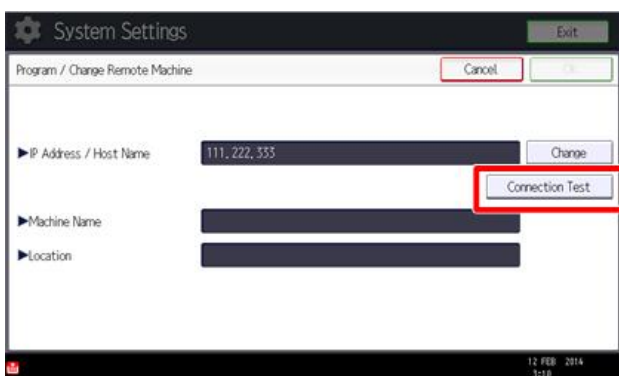
↓ Note

- Up to six machines can be registered as the client machines.



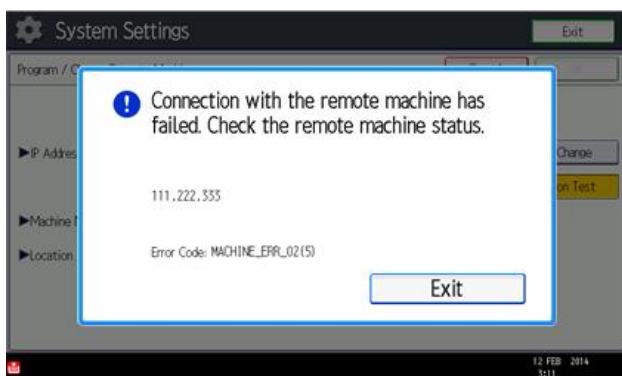
d197z2103

7. Press [Connection Test] to check the connection with the client machine.



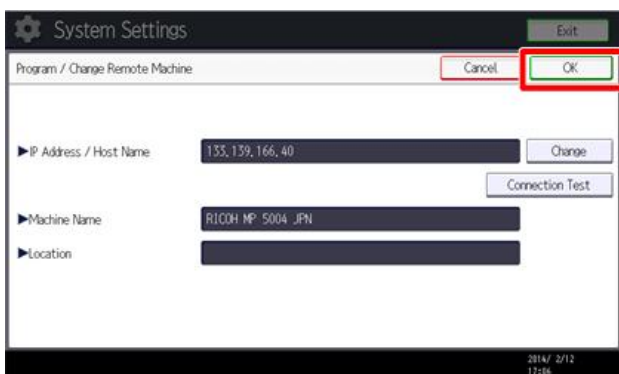
d197z2104

- If an error message is displayed, check the network connection with the client- machine and make sure that the IP address of the client machine is correct.



d197z2105

8. Press [OK] after "Connection Test" has been successfully done.



d197z2106

9. Press [Exit].

Registering the remote machine

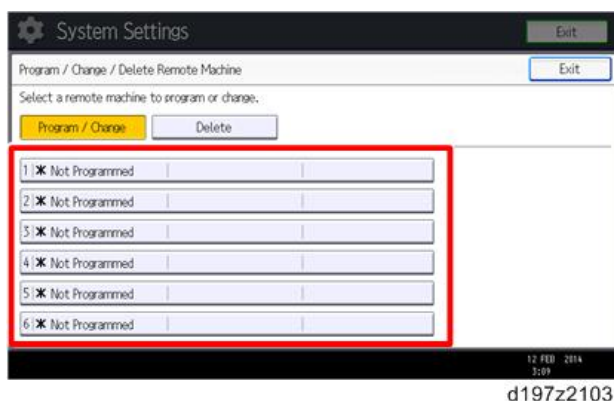
Note

- Only one machine can be registered as the remote machine.
- First register the client machine in the remote machine before proceeding this procedure. Otherwise, registering the remote machine fails.

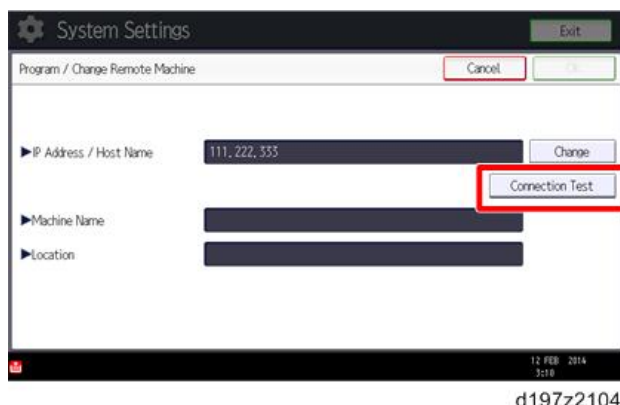
1. On the client machine, press [User Tools] icon on the operation panel.
2. Press [Machine Features].
3. Press [System Settings].
4. Press [Administrator Tools].
5. Press [Program/Change/Delete Remote Machine].
6. Press [* Not Programmed], and then enter the IP address or host name of o the remote machine.

Note

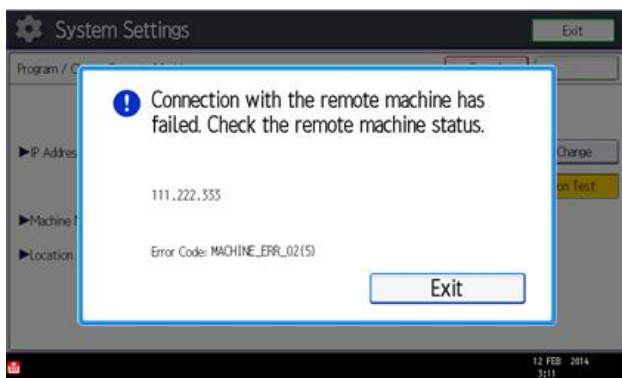
- Only one machine can be registered as the remote machine.



7. Press [Connection Test] to check the connection with the remote machine.

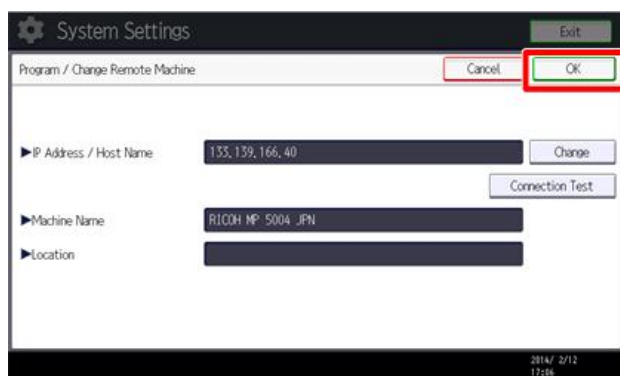


- If an error message is displayed, check the network connection with the remote machine and make sure that the IP address of the remote machine is correct.



d197z2105

8. Press [OK] after "Connection Test" has been successfully done.



d197z2106

9. Press [Exit].

Configuring the remote reception settings

Perform the following procedure to enable the client 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 fax connection unit, Registering the client machine(s), Registering the remote machine), the client machines can **send** faxes via the remote machine. The procedures shown below are necessary to enable the client machines to **receive** faxes.

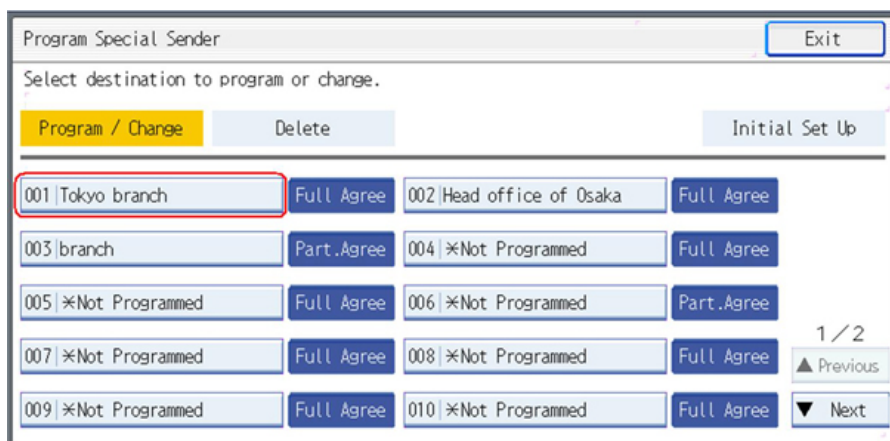
1) If you use "Remote Reception Setting per Line"

- On the remote machine, press [User Tools] icon on the operation panel.
- Press [Facsimile Features] in [Machine Features].
- Press [Remote Reception Setting per Line] in [Reception Settings].
- Enter an IP address or a host name of the client machine to connect.
- Press [Set], and [Exit] to exit from the setting.

2) If you use "Remote Reception per Sender"

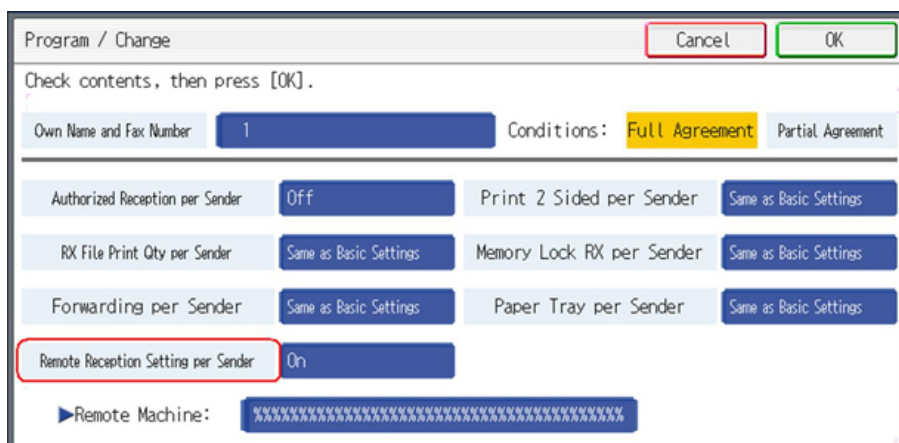
- On the remote machine, press [User Tools] icon on the operation panel.
- Press [Facsimile Features] in [Machine Features].
- Press [Program Special Sender] in [Reception Settings].

4. Select the Special Sender.



d1661001

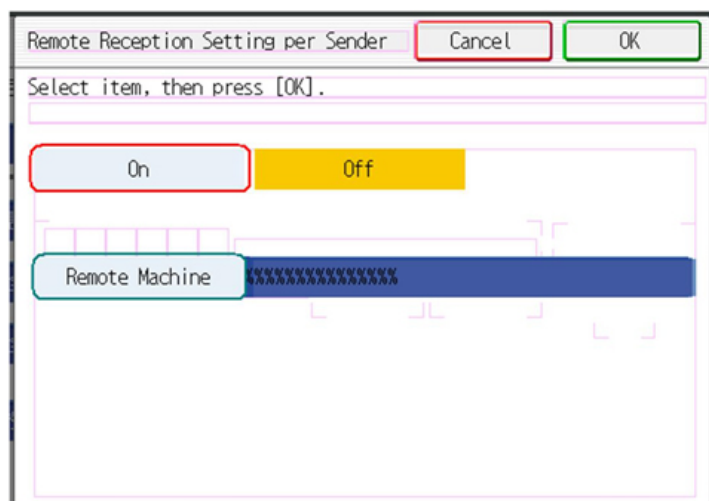
5. Press [Remote Reception Setting per Sender].



d1661002

6. Press [On].

7. Press [Remote Machine].



d1661003

8. Enter an IP address or a host name of the client machine to connect.

9. Press [OK] to exit from the setting.

Remote fax icon addition for remote machine

This procedure allows the [Remote Fax] icon to appear on the home screen of the operation panel.

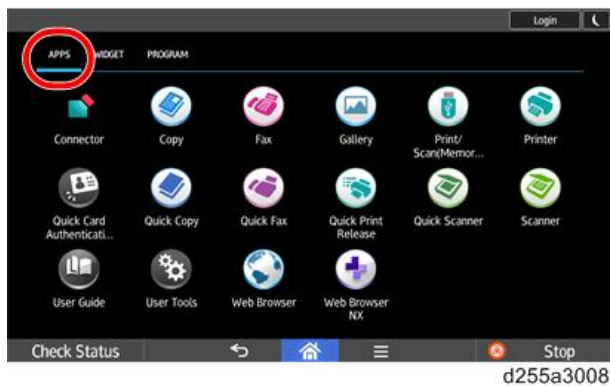
Note

- The [Remote Fax] icon is supposed to appear automatically on the home screen of the client machine(s) after installing the Remote Fax Function. If the icon does not appear, perform the procedure below to add the [Remote Fax] icon manually.

1. Press the application list icon in the home screen.



2. Press [APPS] tab.



- Press and hold down the [Remote Fax] icon from the list.
- Drag the icon to where you want to place it on the home screen.

2. REPLACEMENT AND ADJUSTMENT

2.1 FCU

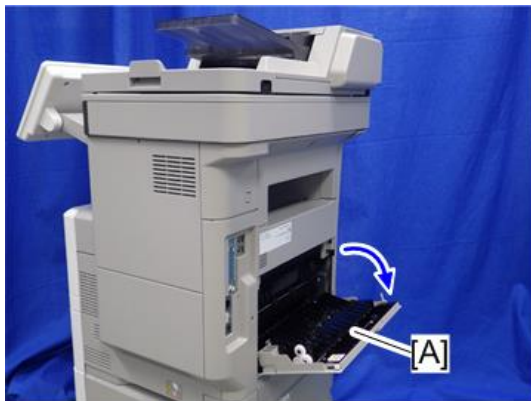
2.1.1 SRAM DATA TRANSFER PROCEDURE

When you replace the FCU board, transfer the SRAM data from the old FCU board to the new FCU board. Perform the following procedure to back up the SRAM data.

Note

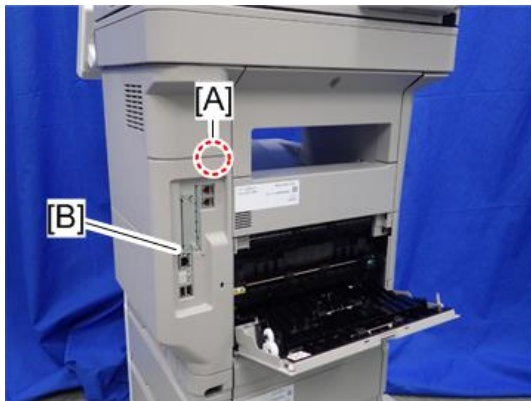
- The following data can be transferred: TTI, RTI, CSI, Fax bit switch settings, RAM address settings, NCU parameter settings.

1. Open the rear upper cover [A].



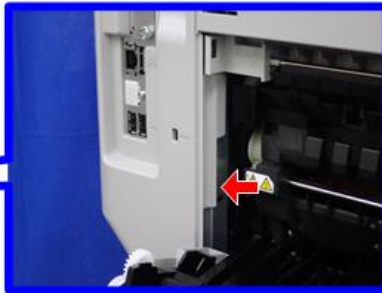
d255a1030

2. Insert a flathead screwdriver into [A] to release a hook of the controller cover [B].



d255a1080

3. Release the hook by opening the right side of the cover as shown below, and then remove the cover [A] by rotating it in the direction of the blue arrow.



d255a1032

Note

- Be careful not to damage the hooks on the inside of the controller cover when you remove or install the controller cover.



d255a1033

4. Insert a flathead screwdriver in the order of ①, ②, and ③ to release three hooks.
5. Remove the rear left stay [A].

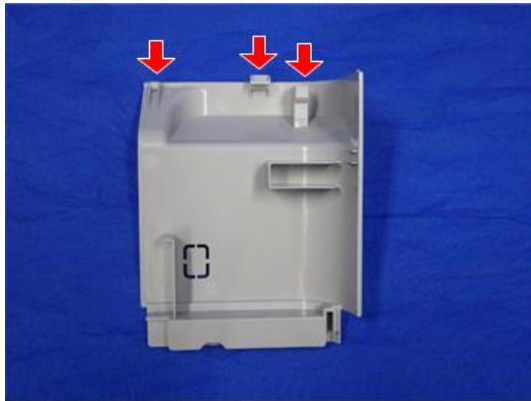


d255a1034

Note

- Be careful not to damage the hooks on the inside of the rear left stay when you

remove or install the rear left stay.



d255a1036

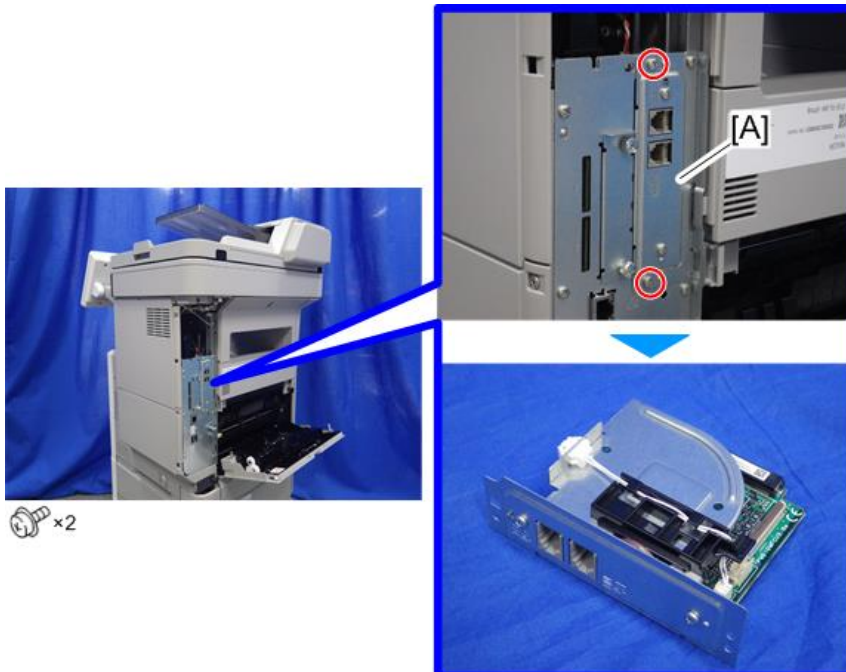
6. Disconnect the connector of the speaker.



x1

d255a3000

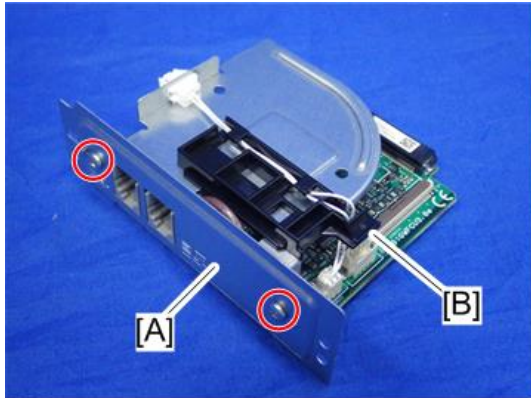
7. Remove the fax unit [A].



x2

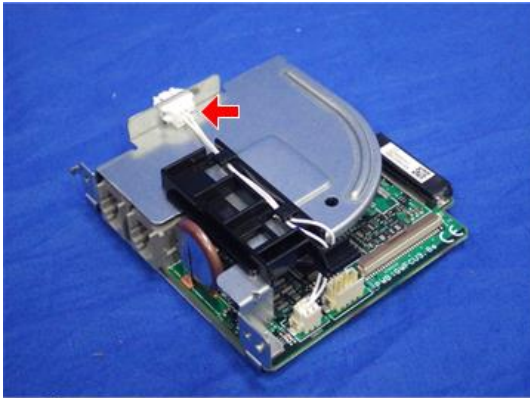
d255a3001

8. Remove the bracket [A] from the fax unit [B].



 x2 d255a3002

9. Disconnect the connector.



 x1 d255a3003

10. Remove the FCU board [A].



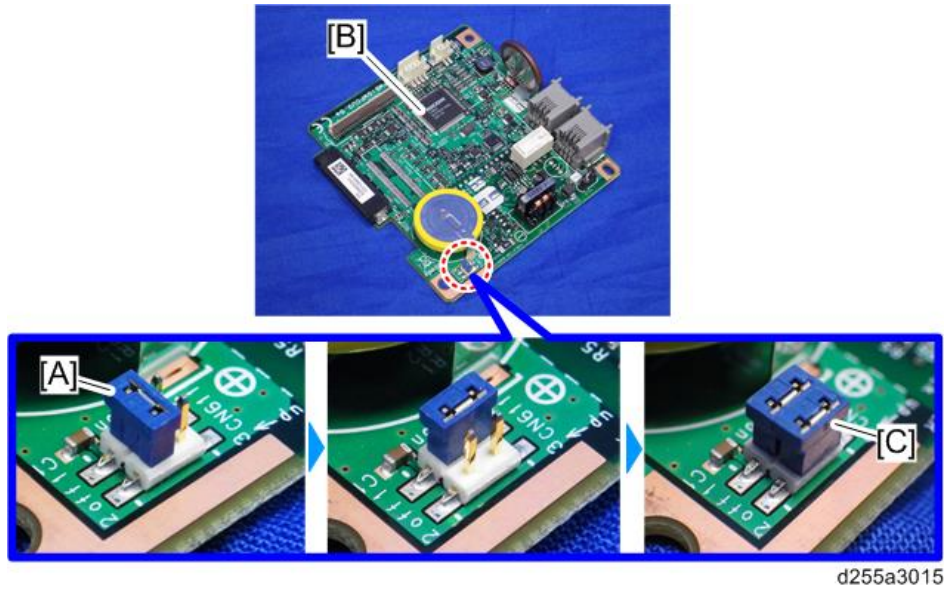
 x3



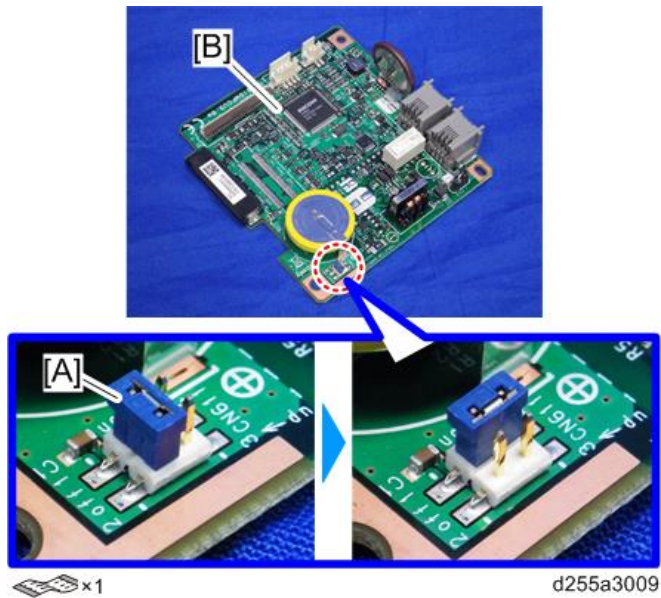
d255a3004

11. Change the orientation of the battery jumper switch [A] on the removed FCU board [B], and then attach the battery jumper switch [C].

The battery jumper switch [C] is provided with the new FCU board.



12. Change the orientation of the battery jumper switch [A] on the new FCU board [B].



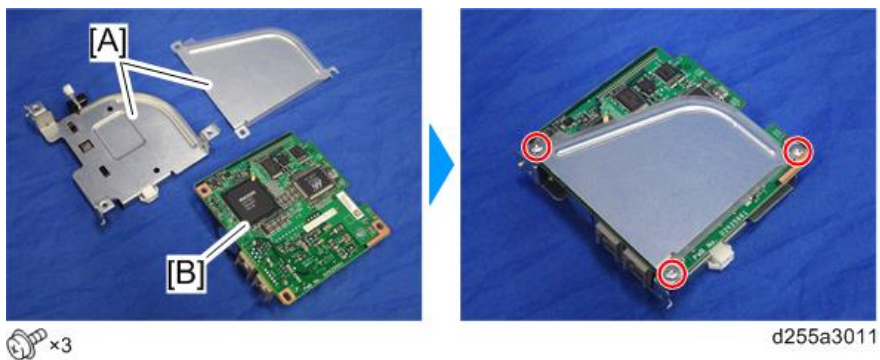
×1

Note

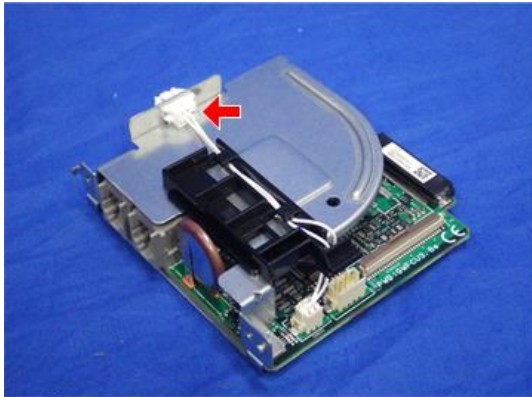
- If the battery jumper switch is not in the correct position, SC820 will occur.

13. Install the new FCU board to the fax unit.

1. Attach the two brackets [A] to the new FCU board [B].



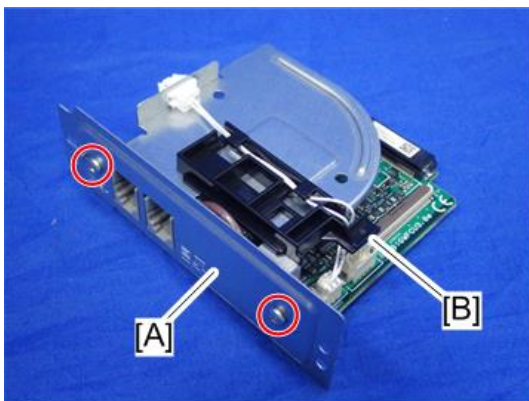
2. Connect the connector.



 x1

d255a3003

3. Attach the bracket [A].

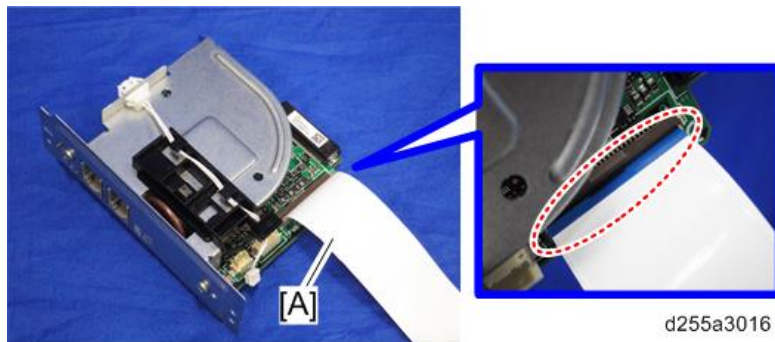


 x2

d255a3002

14. Attach the flat cable [A] to CN603 of the new fax unit.

Make sure that the blue tape of the flat cable faces outward.



 x1

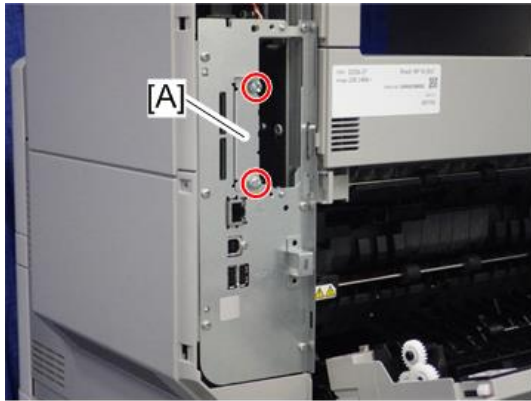
d255a3016

15. Remove the cap [A] from the controller box cover [B].



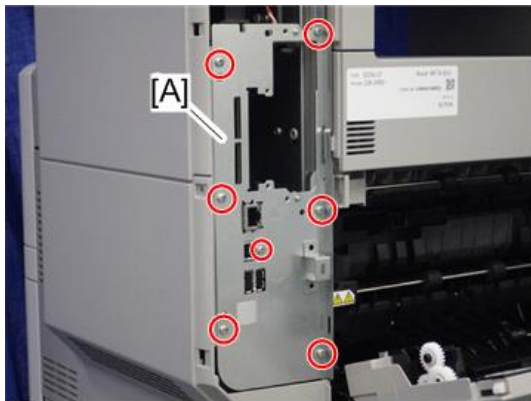
d255a3017

16. Remove the slot cover [A].



 x2 d255a3018

17. Remove the controller box cover [A].



 x7 d255a3026

18. Install the new fax unit [A] to the main machine.



 x1

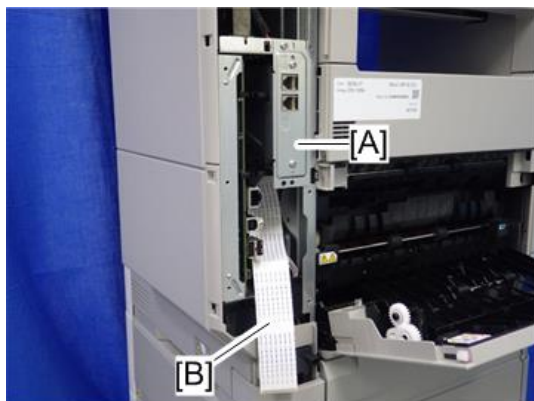


d255a3020

 **Note**

- When installing the new fax unit [A], be careful not to damage the flat cable [B]. After installing the new fax unit [A], pull out the flat cable [B] from the main machine, as

shown below.



d255a3021

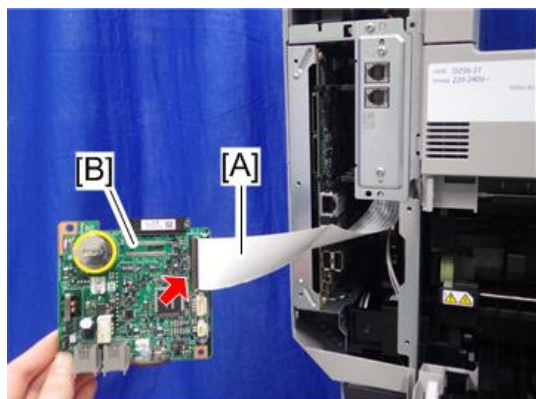
19. Connect the connector of the speaker.



 x1

d255a3022

20. Connect the flat cable [A] to CN603 of the removed FCU board [B].



 x1

d255a3023

21. Turn ON the main power.

SRAM data transmission starts. When the transmission is completed, you will hear a beeper sound.

Note

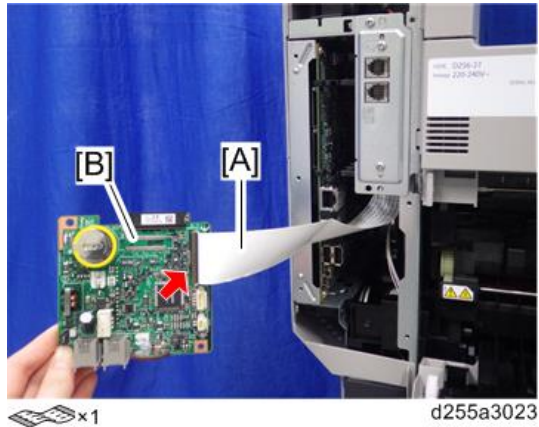
- The beeper sound is at the same volume as the speaker sound.
- The beeper sounds even if the speaker sound is turned off.
- If the beeper does not sound, repeat the main power OFF/ON until the beeper sounds, and then perform the transmission procedure. If the data cannot be transmitted, repeat transmission 2 or 3 times.
- If the beeper does not sound after turning the main power OFF/ON 3 times, you need

FCU

to input the settings stored in SRAM memory manually.

22. When the message "Ready" is displayed on the operation panel, turn the main power OFF.

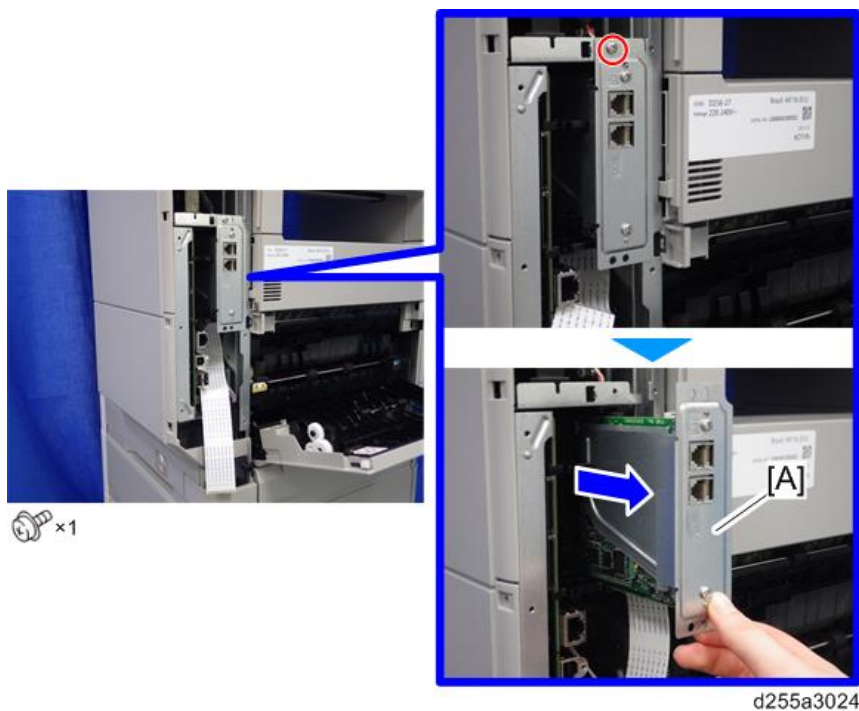
23. Disconnect the flat cable [A] from the removed FCU board [B].



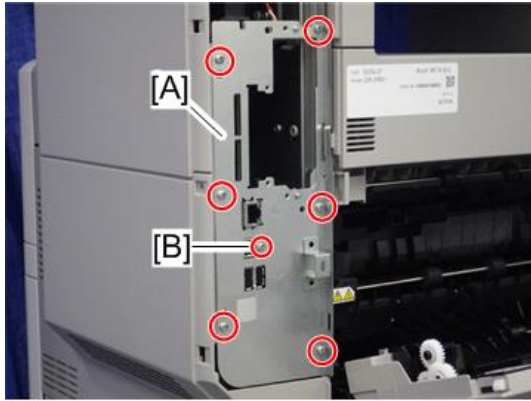
24. Disconnect the connector of the speaker.



25. Remove the new FCU board [A] from the main machine.



26. Reattach the controller box cover [A].



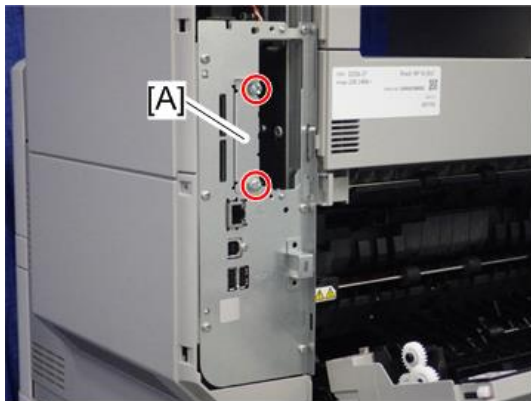
 x7

d255a3019

 **Note**

- The screw [B] is a small screw. Be careful not to use the wrong screw.

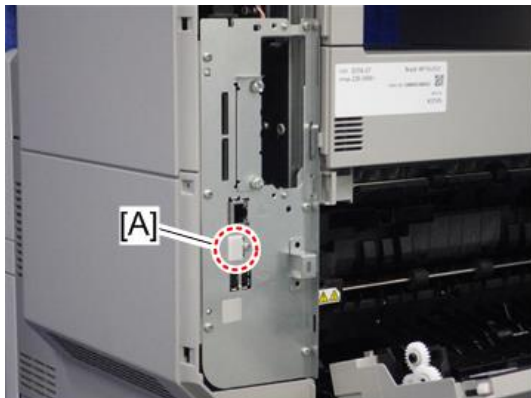
27. Reattach the slot cover [A].



 x2

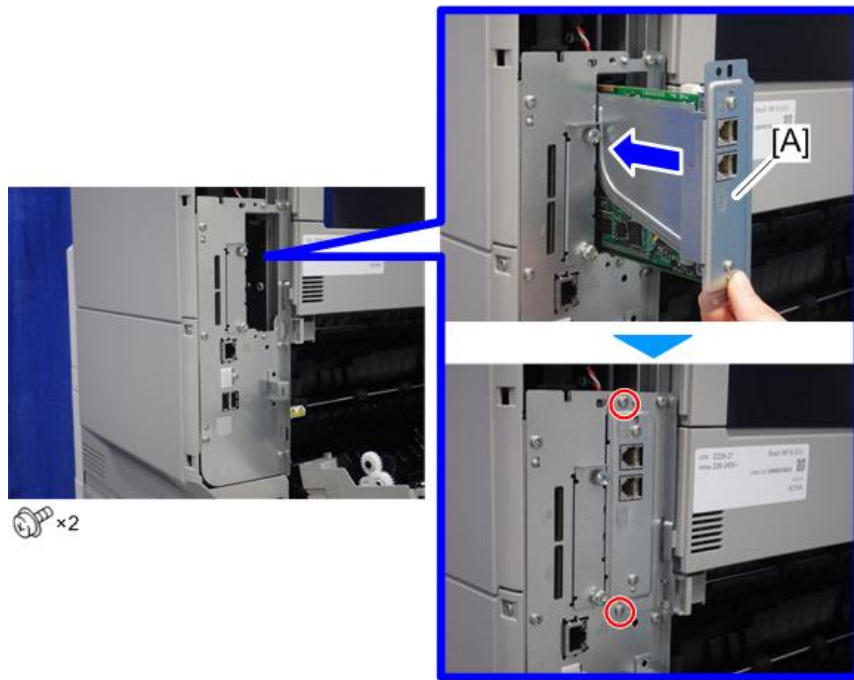
d255a3018

28. Reattach the cap [A].



d255a3025

29. Install the new fax unit [A] to the main machine.



d255a3027

30. Connect the connector of the speaker.



d255a3000

31. Reassemble the machine.

32. Turn ON the main power. Execute SP6-101 to print the system parameter list.

33. Check the system parameter list to make sure that the data is transferred correctly.

34. Set the correct date and time from the [User Tools].

- User Tools > Machine Features > System Settings > Timer Setting > Set Date/Time

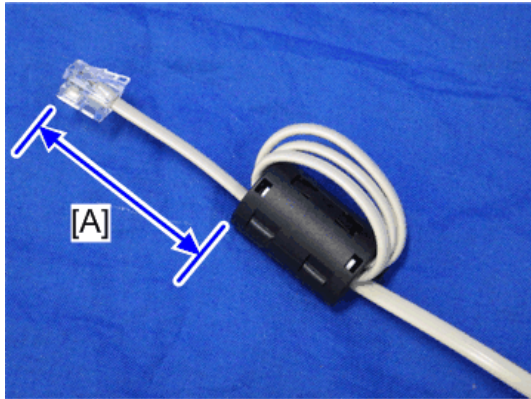
Note

- If any of the SRAM data was not transferred, input those settings manually.

When replacing the Fax modular cable

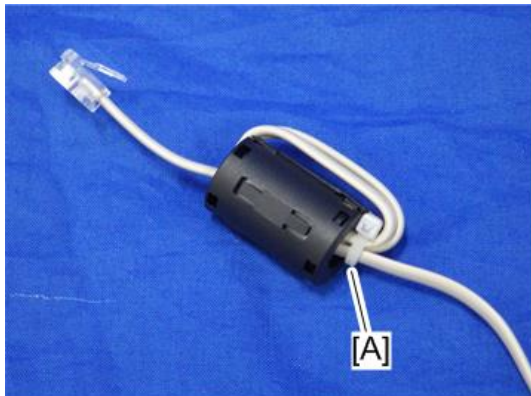
When you replace the Fax modular cable, attach the ferrite core with the following procedure.

- 1. Make three loops 5 cm (2.0 inches) [A] from the end of the modular cable (connection side to the machine) and attach the ferrite core to the loops as shown.**



d255a3030

- 2. Fix the modular cable with the bind [A] as shown below.**



d255a3031

3. TROUBLESHOOTING

3.1 ERROR CODES

3.1.1 ERROR CODES

If an error code is displayed, retry communication. If the same problem occurs, try to fix the problem as suggested below.

Note

- Error codes appear 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"> ▪ Check the connection. ▪ The other party may be incompatible. ▪ Replace the FCU. ▪ Check for DIS/NSF with an oscilloscope. ▪ If the RX signal is weak, there may be a bad connection.
0-01	DCN received unexpectedly	<ul style="list-style-type: none"> ▪ The other party is out of paper or has a paper jam. ▪ The other party pressed [Stop] during communication.
0-03	Incompatible modem at the other party	<ul style="list-style-type: none"> ▪ The other party is incompatible.

Code	Meaning	Suggested Cause/Action
0-04	CFR or FTT not received after modem training	<ul style="list-style-type: none"> ▪ Check the connection. ▪ Try changing the TX level and/or cable equalizer settings. ▪ Replace the FCU. ▪ The other machine may be defective. Try sending to another machine. ▪ If the RX signal is weak or defective, there may be a bad connection. <p>Reference:</p> <ul style="list-style-type: none"> ▪ TX level: NCU Parameter 01 (PSTN) ▪ Cable equalizer: G3 Switch 07 (PSTN) ▪ Dedicated TX parameters in Service Program Mode
0-05	Modem training fails even G3 shifts down to 2400 bps.	<ul style="list-style-type: none"> ▪ Check the connection. ▪ Try adjusting the TX level and/or cable equalizer. ▪ Replace the FCU. ▪ Check for line problems. <p>Reference: See error code 0-04.</p>
0-06	The other terminal did not reply to DCS	<ul style="list-style-type: none"> ▪ Check the connection. ▪ Try adjusting the TX level and/or cable equalizer settings. ▪ Replace the FCU. ▪ The other party may be defective or incompatible; try sending to another machine. ▪ Check for line problems. <p>Reference: See error code 0-04.</p>

Error Codes

Code	Meaning	Suggested Cause/Action
0-07	No post-message response from the other party after a page was sent	<ul style="list-style-type: none"> ▪ Check the connection. ▪ Replace the FCU. ▪ The other party is out of paper or has a paper jam. ▪ The other party may have disconnected the call. ▪ Check for a bad line. ▪ The other machine may be defective. Try sending to another machine.
0-08	The other party sent RTN or PIN after receiving a page, because there were too many errors	<ul style="list-style-type: none"> ▪ Check the connection. ▪ Replace the FCU. ▪ The other party may have a paper jam, or run out of paper or memory space. ▪ Try adjusting the TX level and/or cable equalizer settings. ▪ The other party may have a defective modem/FCU; try sending to another machine. ▪ Check for line problems and noise. <p>Reference:</p> <ul style="list-style-type: none"> ▪ TX level: NCU Parameter 01 (PSTN) ▪ Cable equalizer: G3 Switch 07 (PSTN) ▪ Dedicated TX parameters in Service Program Mode
0-14	Non-standard post message response code received	<ul style="list-style-type: none"> ▪ Incompatible or defective remote terminal; try sending to another machine. ▪ Noisy line; resend. ▪ Try adjusting the TX level and/or cable equalizer settings. ▪ Replace the FCU. <p>Reference: See error code 0-08.</p>

Code	Meaning	Suggested Cause/Action
0-15	The other terminal is not capable of specific functions.	<p>The other party is unable to accepting the following functions, or the other party's memory is full.</p> <ul style="list-style-type: none"> ▪ Confidential RX ▪ Transfer function ▪ SEP/SUB/PWD/SID
0-16	CFR or FTT not detected after modem training in confidential or transfer mode	<ul style="list-style-type: none"> ▪ Check the connection. ▪ Replace the FCU. ▪ Try adjusting the TX level and/or cable equalizer settings. ▪ The other machine may have disconnected, or it may be defective. Try sending to another machine. ▪ If the RX signal level is too low, there may be a line problem. <p>Reference: See error code 0-08.</p>
0-17	Communication was interrupted by pressing [Stop]	<ul style="list-style-type: none"> ▪ If [Stop] was not pressed and this error keeps occurring, replace the operation panel or the operation panel drive board.
0-20	Facsimile data not received within 6 s of retraining	<ul style="list-style-type: none"> ▪ Check the connection. ▪ Replace the FCU. ▪ Check for line problems. ▪ Try calling another fax machine. ▪ Try adjusting the reconstruction time for the first line and/or RX cable equalizer setting. <p>Reference: Reconstruction time - G3 Switch 0A, Bit 6 RX cable equalizer - G3 Switch 07 (PSTN)</p>

Error Codes

Code	Meaning	Suggested Cause/Action
0-21	EOL signal (end-of-line) from the other party not received within 5 s of the previous EOL signal	<ul style="list-style-type: none"> ▪ Check the connection between the FCU and line. ▪ Check for line noise or other line problems. ▪ Replace the FCU. ▪ The remote machine may be defective or may have been disconnected. <p>Reference: Maximum interval between EOLs and between ECM frames - G3 Bit Switch 0A, Bit 4</p>
0-22	The signal from the other party was interrupted for more than the acceptable modem carrier drop time (default: 200 ms)	<ul style="list-style-type: none"> ▪ Check the connection. ▪ Replace the FCU. ▪ The remote machine may be defective. ▪ Check for line noise or other line problems. ▪ Try adjusting the acceptable modem carrier drop time. <p>Reference: Acceptable modem carrier drop time: G3 Switch 0A, Bits 0 and 1</p>
0-23	Too many errors during reception	<ul style="list-style-type: none"> ▪ Check the connection. ▪ Replace the FCU. ▪ The remote machine may be defective. ▪ Check for line noise or other line problems. ▪ Try asking the other party to adjust their TX level. ▪ Try adjusting the RX cable equalizer setting and/or RX error criteria. <p>Reference: RX cable equalizer: G3 Switch 07 (PSTN) RX error criteria: Communication Switch 02, Bits 0 and 1</p>
0-29	Data block format failure in ECM reception	<ul style="list-style-type: none"> ▪ Check for line noise or other line problems. ▪ Check the FCU - NCU connectors. ▪ Replace the NCU or FCU.

Code	Meaning	Suggested Cause/Action
0-30	The other terminal did not reply to NSS(A) in AI short protocol mode	<ul style="list-style-type: none"> ▪ Check the connection. ▪ Try adjusting the TX level and/or cable equalizer settings. ▪ The other terminal may not be compatible. <p>Reference: Dedicated TX parameters - Section 4</p>
0-32	The other terminal sent a DCS, which contained functions that the receiving machine cannot handle.	<ul style="list-style-type: none"> ▪ Check the protocol dump list. ▪ Ask the other party to contact the manufacturer.
0-33	The data reception (not ECM) is not completed within 10 minutes.	<ul style="list-style-type: none"> ▪ Check the connection. ▪ The other terminal may have a defective modem/FCU.
0-52	Polarity changed during communication	<ul style="list-style-type: none"> ▪ Check the connection. Retry communication.
0-55	FCU does not detect the SG3.	<ul style="list-style-type: none"> ▪ FCU firmware or board defective. ▪ SG3 firmware or board defective.
0-56	The stored message data exceeds the capacity of the mailbox in the SG3.	<ul style="list-style-type: none"> ▪ SG3 firmware or board defective.
0-70	The communication mode specified in CM/JM was not available (V.8 calling and called terminal)	<ul style="list-style-type: none"> ▪ The other terminal did not have a compatible communication mode (e.g., the other terminal was a V.34 data modem and not a fax modem.) ▪ A polling TX file was not ready at the other terminal when polling RX was initiated from the calling terminal.
0-74	The calling terminal fell back to T.30 mode, because it could not detect ANSam after sending CI.	<ul style="list-style-type: none"> ▪ The calling terminal could not detect ANSam due to noise, etc. ▪ ANSam was too short to detect. ▪ Check the connection and condition. ▪ Try making a call to another V.8/V.34 fax.

Error Codes

Code	Meaning	Suggested Cause/Action
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"> ▪ The terminal could not detect ANSam. ▪ Check the connection and condition. ▪ Try receiving a call from another V.8/V.34 fax.
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"> ▪ The called terminal could not detect a CM due to noise, etc. ▪ Check the connection. and condition. ▪ Try making a call to another V.8/V.34 fax.
0-77	The called terminal fell back to T.30 mode, because it could not detect a CJ in response to JM (JM timeout).	<ul style="list-style-type: none"> ▪ The calling terminal could not detect a JM due to noise, etc. ▪ A network that has narrow bandwidth cannot pass JM to the other party. ▪ Check the connection and condition. ▪ Try receiving a call from another V.8/V.34 fax.
0-79	The called terminal detected CI while waiting for a V.21 signal.	<ul style="list-style-type: none"> ▪ Check for line noise or other line problems. ▪ If this error occurs, the called terminal falls back to T.30 mode.
0-80	The line was disconnected due to a timeout in V.34 phase 2 – line probing.	<ul style="list-style-type: none"> ▪ The guard timer expired while starting these phases. Serious noise, narrow bandwidth, or low signal level can cause these errors. <p>If these errors happen at the transmitting terminal:</p> <ul style="list-style-type: none"> ▪ Try making a call later. ▪ Try using V.17 or a slower modem using dedicated TX parameters. ▪ Try increasing the TX level. ▪ Try adjusting the TX cable equalizer
0-81	The line was disconnected due to a timeout in V.34 phase 3 – equalizer training.	
0-82	The line was disconnected due to a timeout in the V.34 phase 4 – control channel start-up.	

Code	Meaning	Suggested Cause/Action
0-83	The line was disconnected due to a timeout in the V.34 control channel restart sequence.	<p>setting.</p> <p>If these errors happen at the receiving terminal:</p> <ul style="list-style-type: none"> ▪ Try adjusting the RX cable equalizer setting. ▪ Try increasing the TX level. ▪ Try using V.17 or a slower modem if the same error is frequent when receiving from multiple senders.
0-84	The line was disconnected due to abnormal signaling in V.34 phase 4 – control channel start-up.	<ul style="list-style-type: none"> ▪ The signal did not stop within 10 s. ▪ Turn OFF the main power, and then turn it back ON. ▪ If the same error is frequent, replace the FCU.
0-85	The line was disconnected due to abnormal signaling in V.34 control channel restart.	<ul style="list-style-type: none"> ▪ The signal did not stop within 10 s. ▪ Turn OFF the main power, and then turn it back ON. ▪ If the same error is frequent, replace the FCU.
0-86	The line was disconnected because the other terminal requested a data rate using MPh that was not available in the currently selected symbol rate.	<ul style="list-style-type: none"> ▪ The other terminal was incompatible. ▪ Ask the other party to contact the manufacturer.
0-87	The control channel started after an unsuccessful primary channel.	<ul style="list-style-type: none"> ▪ The receiving terminal restarted the control channel because data reception in the primary channel was not successful. ▪ This does not result in an error communication.
0-88	The line was disconnected because PPR was transmitted/received 9 (default) times within the same ECM frame.	<ul style="list-style-type: none"> ▪ Try using a lower data rate at the start. ▪ Try adjusting the cable equalizer setting.

Error Codes

Code	Meaning	Suggested Cause/Action
2-11	Only one V.21 connection flag was received	<ul style="list-style-type: none"> Replace the FCU.
2-12	Modem clock irregularity	<ul style="list-style-type: none"> Replace the FCU.
2-13	Modem initialization error	<ul style="list-style-type: none"> Turn OFF the main power, and then turn it back ON. Update the modem ROM. Replace the FCU.
2-22	Counter overflow error of JBIG chip	If error occurs frequently, change the settings for resolution, paper size, and compression type.
2-23	JBIG compression or reconstruction error	Turn OFF the main power, and then turn it back ON.
2-24	JBIG ASIC error	<ul style="list-style-type: none"> Turn OFF the main power, and then turn it back ON.
2-25	JBIG data reconstruction error (BIH error)	<ul style="list-style-type: none"> JBIG data error Check the sender's JBIG function. Update the FCU ROM.
2-26	JBIG data reconstruction error (Float marker error)	
2-27	JBIG data reconstruction error (End marker error)	
2-28	JBIG data reconstruction error (Timeout)	
2-29	JBIG trailing edge maker error	<ul style="list-style-type: none"> FCU defective Check the destination device.
2-50	The machine resets itself for a fatal FCU system error	<ul style="list-style-type: none"> If this is frequent, update the ROM, or replace the FCU.
2-51	The machine resets itself because of a fatal communication error	<ul style="list-style-type: none"> If this is frequent, update the ROM, or replace the FCU.

Code	Meaning	Suggested Cause/Action
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"> The user did the same operation many times, and this gave too much load to the machine.
4-01	Line current was cut	<ul style="list-style-type: none"> Check the line connector. Check for line problems. Replace the FCU.
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"> Get the ID Codes the same and/or the CSIs programmed correctly, and then resend. The machine at the other party may be defective.
5-00	Data reconstruction not possible	<ul style="list-style-type: none"> Replace the FCU.
5-10	DCR timer expired	<ul style="list-style-type: none"> Replace the FCU.
5-20	Storage impossible because of a lack of memory	<ul style="list-style-type: none"> Temporary memory shortage. Test the SAF memory.
5-21	Memory overflow	
5-23	Print data error when printing a substitute RX or confidential RX message	<ul style="list-style-type: none"> Test the SAF memory. Ask the other party to resend the message.
5-25	SAF file access error	<ul style="list-style-type: none"> Replace an SD card or HDD. Replace the FCU.
6-00	G3 ECM - T1 time out during reception of facsimile data	<ul style="list-style-type: none"> Try adjusting the RX cable equalizer. Replace the FCU.
6-01	G3 ECM - no V.21 signal was received	
6-02	G3 ECM - EOR was received	

Error Codes

Code	Meaning	Suggested Cause/Action
6-04	G3 ECM - RTC not detected	<ul style="list-style-type: none"> ▪ Check the connection. ▪ Check for a bad line or defective remote terminal. ▪ Replace the FCU.
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"> ▪ Check the connection. ▪ Check for a bad line or defective remote terminal. ▪ Replace the FCU. ▪ Try adjusting the RX cable equalizer <p>Reference:</p> <ul style="list-style-type: none"> ▪ RX cable equalizer - G3 Switch 07 (PSTN)
6-06	G3 ECM - coding/decoding error	<ul style="list-style-type: none"> ▪ Defective FCU. ▪ The other terminal may be defective.
6-08	G3 ECM - PIP/PIN received in reply to PPS.NULL	<ul style="list-style-type: none"> ▪ The other party pressed [Stop] during communication. ▪ The other terminal may be defective.
6-09	G3 ECM - ERR received	<ul style="list-style-type: none"> ▪ Check for a noisy line. ▪ Adjust the TX levels of the communicating machines. ▪ See code 6-05.
6-10	G3 ECM - error frames still received at the other party after all communication attempts at 2400 bps	<ul style="list-style-type: none"> ▪ Check for line noise. ▪ Adjust the TX level (use NCU parameter 01 or the dedicated TX parameter for that address). ▪ Check the connection. ▪ Defective remote terminal.
6-21	V.21 flag detected during high speed modem communication	<ul style="list-style-type: none"> ▪ The other terminal may be defective or incompatible.
6-22	The machine resets the sequence because of an abnormal handshake in the V.34 control channel	<ul style="list-style-type: none"> ▪ Check for line noise. ▪ If the same error occurs frequently, replace the FCU. ▪ Defective remote terminal.

Code	Meaning	Suggested Cause/Action
6-99	V.21 signal not stopped within 6 s	<ul style="list-style-type: none"> Replace the FCU.
13-17	SIP user name registration error	<ul style="list-style-type: none"> Double registration of the SIP user name. Capacity for user-name registration in the SIP server is not sufficient.
13-18	SIP server access error	<ul style="list-style-type: none"> Incorrect initial setting for the SIP server. Defective SIP server.
13-24	SIP authentication error	<ul style="list-style-type: none"> Registered password in the device does not match the password in the SIP server.
13-25	Network I/F setting error	<ul style="list-style-type: none"> IPV4 is not active in the active protocol setting. IP address of the device is not registered.
13-26	Network I/F setting error at power on	<ul style="list-style-type: none"> Active protocol setting does not match the I/F setting for SIP server. IP address of the device is not registered.
13-27	IP address setting error	<ul style="list-style-type: none"> IP address of the device is not registered.
14-00	SMTP Send Error	<ul style="list-style-type: none"> Error occurred during sending to the SMTP server. Occurs for any error other than 14-01 to 16. For example, the mail address of the system administrator is not registered.
14-01	SMTP Connection Failed	<ul style="list-style-type: none"> Failed to connect to the SMTP server (timeout) because the server could not be found. The PC is not ready to transfer files. SMTP server not functioning correctly. The DNS IP address is not registered. Network not operating correctly. Destination folder selection not correct.

Error Codes

Code	Meaning	Suggested Cause/Action
14-02	No Service by SMTP Service (421)	<ul style="list-style-type: none"> ▪ SMTP server operating incorrectly or the destination for direct SMTP sending is not correct. ▪ Contact the system administrator and check that the SMTP server has the correct settings and operates correctly. ▪ Contact the system administrator for direct SMTP sending and check the sending destination.
14-03	Access to SMTP Server Denied (450)	<ul style="list-style-type: none"> ▪ Failed to access the SMTP server because the access is denied. ▪ SMTP server operating incorrectly. Contact the system administrator to determine if there is a problem with the SMTP server and to check that the SMTP server settings are correct. ▪ Folder send destination is incorrect. Contact the system administrator to determine that the SMTP server settings and path to the server are correct. ▪ Device settings incorrect. Confirm that the user name and password settings are correct. ▪ Direct SMTP destination incorrect. Contact the system administrator to determine if there is a problem at the destination and that the settings at the destination are correct.
14-04	Access to SMTP Server Denied (550)	<ul style="list-style-type: none"> ▪ SMTP server operating incorrectly ▪ Direct SMTP sending not operating correctly

Code	Meaning	Suggested Cause/Action
14-05	SMTP Server HDD Full (452)	<ul style="list-style-type: none"> ▪ Failed to access the SMTP server because the HDD on the server is full. ▪ Insufficient free space on the HDD of the SMTP server. Contact the system administrator and check the amount of space remaining on the SMTP server HDD. ▪ Insufficient free space on the HDD where the destination folder is located. Contact the system administrator and check the amount of space remaining on the HDD where the target folder is located. ▪ Insufficient free space on the HDD at the target destination for SMTP direct sending. Contact the system administrator. Check the amount of space remaining on the target HDD or check if the mail size setting is the default value (2MB). ▪ Check the size of the original data. For example, if the original has too many pages, the data size can be too big to send.
14-06	User Not Found on SMTP Server (551)	<ul style="list-style-type: none"> ▪ The designated user does not exist. ▪ The designated user does not exist on the SMTP server. ▪ The designated address is not for use with direct SMTP sending.
14-07	Data Send to SMTP Server Failed (4XX)	<ul style="list-style-type: none"> ▪ Failed to access the SMTP server because the transmission failed. ▪ PC not operating correctly. ▪ SMTP server operating incorrectly. ▪ Network not operating correctly. ▪ Destination folder setting incorrect. ▪ Direct SMTP sending not operating correctly.

Error Codes

Code	Meaning	Suggested Cause/Action
14-08	Data Send to SMTP Server Failed (5XX)	<ul style="list-style-type: none"> ▪ Failed to access the SMTP server because the transmission failed. ▪ SMTP server operating incorrectly. ▪ Destination folder setting incorrect. ▪ Direct SMTP sending not operating correctly. ▪ Software application error.
14-09	Authorization Failed for Sending to SMTP Server	<ul style="list-style-type: none"> ▪ POP-Before-SMTP or SMTP authorization failed. ▪ Incorrect setting for file transfer
14-10	Addresses Exceeded	<ul style="list-style-type: none"> ▪ Number of broadcast addresses exceeded the limit for the SMTP server.
14-11	Buffer Full	<ul style="list-style-type: none"> ▪ The send buffer is full so the transmission could not be completed. Buffer is full due to using Scan-to-Email while the buffer is being used send mail at the same time.
14-12	Data Size Too Large	<ul style="list-style-type: none"> ▪ Transmission was cancelled because the detected size of the file was too large.
14-13	Send Cancelled	<ul style="list-style-type: none"> ▪ Processing is interrupted because the user pressed [Stop].
14-14	Security Locked File Error	<ul style="list-style-type: none"> ▪ Update the software because of the defective software.
14-15	Mail Data Error	<ul style="list-style-type: none"> ▪ The transmitting a mail is interrupted via DCS due to the incorrect data. ▪ Update the software because of the defective software.
14-16	Maximum Division Number Error	<ul style="list-style-type: none"> ▪ When a mail is divided for the mail transmission and the division number of a mail are more than the specified number, the mail transmission is interrupted. ▪ Update the software because of the defective software.

Code	Meaning	Suggested Cause/Action
14-17	Incorrect Ticket	<ul style="list-style-type: none"> Update the software because of the defective software.
14-18	Access to MCS File Error	<ul style="list-style-type: none"> The access to MCS file is denied due to the no permission of access. Update the software because of the defective software.
14-20	SMTP Authentication error	<ul style="list-style-type: none"> Make sure the administrator's e-mail address is same as the SMTP authentication address or POP before SMTP address.
14-21	Transmission error of S/MIME	<ul style="list-style-type: none"> Register the correct user certificate and device certificate.
14-30	MCS File Creation Failed	<p>Failed to create the MCS file because:</p> <ul style="list-style-type: none"> The number of files created with other applications on the Document Server has exceeded the limit. HDD is full or not operating correctly. Software error.
14-31	UFS File Creation Failed	<p>UFS file could not be created:</p> <ul style="list-style-type: none"> Not enough space in UFS area to handle both Scan-to-Email and IFAX transmission. HDD full or not operating correctly. Software error.
14-32	Cancelled the Mail Due to Error Detected by NFAX	<ul style="list-style-type: none"> Error detected with NFAX and send was cancelled due to a software error.
14-33	No Mail Address For the Machine	<ul style="list-style-type: none"> Neither the mail address of the machine nor the mail address of the network administrator is registered.

Error Codes

Code	Meaning	Suggested Cause/Action
14-34	Address designated in the domain for SMTP sending does not exist	<ul style="list-style-type: none"> ▪ Operational error in normal mail sending or direct SMTP sending. ▪ Check the address selected in the address book for SMTP sending. ▪ Check the domain selection.
14-50	Mail Job Task Error	<p>Due to an FCU mail job task error, the send was cancelled:</p> <ul style="list-style-type: none"> ▪ Address book was being edited during creation of the notification mail. ▪ Software error.
14-51	UCS Destination Download Error	<p>Not even one return notification can be downloaded:</p> <ul style="list-style-type: none"> ▪ The address book was being edited. ▪ The number for the specified destination does not exist (it was deleted or edited after the job was created).
14-60	Send Cancel Failed	<ul style="list-style-type: none"> ▪ The cancel operation by the user failed.
14-61	Notification Mail Send Failed for All Destinations	<ul style="list-style-type: none"> ▪ All addresses for return notification mail failed.
14-62	Transmission Error due to the existence of zero line page	<ul style="list-style-type: none"> ▪ When the 0 line page exists in received pages with G3 communication, the transmission is interrupted.
14-63	Fax Communication Unit: Transmission Error	<p>Check the followings.</p> <ul style="list-style-type: none"> ▪ Name of SMTP server ▪ Port number of SMTP ▪ DNS setting ▪ Server name (FTP) ▪ Path name (computer name and shared folder name at SMTP/ NCP) ▪ Active protocol setting (Netware/ NCP) ▪ NW flame type (NCP) ▪ Log-on mode (NDS tree/ bindery)

Code	Meaning	Suggested Cause/Action
-		<p>Check the SMTP server.</p> <ul style="list-style-type: none"> ▪ Check if the SMTP server works normally and is connected to the network. ▪ Check if the settings of the SMTP are correct.
-		<p>Check the DNS server.</p> <ul style="list-style-type: none"> ▪ Check if the DNS server works normally and is connected to the network. ▪ Check if the settings of the DNS server are correct.
-		<p>Check the network.</p> <ul style="list-style-type: none"> ▪ Check if the LAN works normally. ▪ Check if the no firewall exists.
-		<p>Check the destination folder for the data transfer.</p> <ul style="list-style-type: none"> ▪ Check if the destination folder works normally. ▪ Check if the settings of the destination folder are correct.
-		<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"> ▪ Check if the destination SMTP server works normally. ▪ Check if the settings of the destination SMTP server are correct.
15-01	POP3/IMAP4 Server Not Registered	<ul style="list-style-type: none"> ▪ At startup, the system detected that the IP address of the POP3/IMAP4 server has not been registered in the machine.
15-02	POP3/IMAP4 Mail Account Information Not Registered	<ul style="list-style-type: none"> ▪ The POP3/IMAP4 mail account has not been registered.
15-03	Mail Address Not Registered	<ul style="list-style-type: none"> ▪ The mail address has not been registered.
15-10	DCS Mail Receive Error	<ul style="list-style-type: none"> ▪ Error other than 15-11 to 15-18.

Error Codes

Code	Meaning	Suggested Cause/Action
15-11	Connection Error	<p>The DNS or POP3/IMAP4 server could not be found:</p> <ul style="list-style-type: none"> ▪ The IP address for DNS or POP3/IMAP4 server is not stored in the machine. ▪ The DNS IP address is not registered. ▪ Network not operating correctly.
15-12	Authorization Error	<p>POP3/IMAP4 send authorization failed:</p> <ul style="list-style-type: none"> ▪ Incorrect IFAX user name or password. ▪ Another device, such as the PC, attempted access. ▪ POP3/IMAP4 settings incorrect.
15-13	Receive Buffer Full	<ul style="list-style-type: none"> ▪ Occurs only during manual reception. Transmission cannot be received due to insufficient buffer space. The buffer is being used for mail send or Scan-to-Email.
15-14	Mail Header Format Error	<ul style="list-style-type: none"> ▪ The mail header is not standard format. For example, the Date line description is incorrect.
15-15	Mail Divide Error	<ul style="list-style-type: none"> ▪ The e-mail is not in standard format. There is no boundary between parts of the e-mail, including the header.
15-16	Mail Size Receive Error	<ul style="list-style-type: none"> ▪ The mail cannot be received because it is too large.
15-17	Receive Timeout	<ul style="list-style-type: none"> ▪ May occur during manual receiving only because the network is not operating correctly.
15-18	Incomplete Mail Received	<ul style="list-style-type: none"> ▪ Only one portion of the mail was received.
15-31	Final Destination for Transfer Request Reception Format Error	<ul style="list-style-type: none"> ▪ The format of the final destination for the transfer request was incorrect.

Code	Meaning	Suggested Cause/Action
15-39	Send/Delivery Destination Error	The transmission cannot be delivered to the final destination: <ul style="list-style-type: none"> Destination file format is incorrect. Could not create the destination for the file transmission.
15-41	SMTP Receive Error	<ul style="list-style-type: none"> Reception rejected because the transaction exceeded the limit for the "Auth. E-mail RX" setting.
15-42	Off Ramp Gateway Error	<ul style="list-style-type: none"> The delivery destination address was specified with Off Ramp Gateway OFF.
15-43	Address Format Error	<ul style="list-style-type: none"> Format error in the address of the Off Ramp Gateway.
15-44	Addresses Over	<ul style="list-style-type: none"> The number of addresses for the Off Ramp Gateway exceeded the limit of 30.
15-61	Attachment File Format Error	<ul style="list-style-type: none"> The attached file is not TIFF format.
15-62	TIFF File Compatibility Error	Could not receive transmission due to: <ul style="list-style-type: none"> Resolution error Image of resolution greater than 200 dpi without extended memory. Resolution is not supported. Page size error The page size was larger than A3. Compression error File was compressed with other than MH, MR, or MMR.
15-63	TIFF Parameter Error	The TIFF file sent as the attachment could not be received because the TIFF header is incorrect: <ul style="list-style-type: none"> The TIFF file attachment is a type not supported. The TIFF file attachment is corrupted. Software error.

Error Codes

Code	Meaning	Suggested Cause/Action
15-64	TIFF Decompression Error	<p>The file received as an attachment caused the TIFF decompression error:</p> <ul style="list-style-type: none"> ▪ The TIFF format of the attachment is corrupted. ▪ Software error.
15-71	Not Binary Image Data	<ul style="list-style-type: none"> ▪ The file could not be received because the attachment was not binary image data.
15-73	MDN Status Error	<ul style="list-style-type: none"> ▪ The disposition line in the header of the Return Receipt could not be found, or there is a problem with the firmware.
15-74	MDN Message ID Error	<ul style="list-style-type: none"> ▪ Could not find the Original Message ID line in the header of the Return Receipt, or there is a problem with the firmware.
15-80	Mail Job Task Read Error	<ul style="list-style-type: none"> ▪ Could not receive the transmission because the destination buffer is full and the destination could not be created (this error may occur when receiving a transfer request or a request for notification of reception).
15-81	Repeated Destination Registration Error	<ul style="list-style-type: none"> ▪ 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).
15-91	Send Registration Error	<p>Could not receive the file for transfer to the final destination:</p> <ul style="list-style-type: none"> ▪ The format of the final destination or the transfer destination is incorrect. ▪ Destinations are full so the final and transfer destinations could not be created.

Code	Meaning	Suggested Cause/Action
15-92	Memory Overflow	<ul style="list-style-type: none"> Transmission could not be received because memory overflowed during the transaction.
15-93	Memory Access Error	<ul style="list-style-type: none"> Transaction could not complete due to a malfunction of SAF memory.
15-94	Incorrect ID Code	<ul style="list-style-type: none"> The machine rejected an incoming e-mail for transfer request, because the ID code in the incoming e-mail did not match the ID code registered in the machine.
15-95	Transfer Station Function	<ul style="list-style-type: none"> The machine rejected an incoming e-mail for transfer because the transfer function was unavailable.
16-00	No IP address registered	<ul style="list-style-type: none"> 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. Register the DNS server for the remote machine or configure an IP address of the remote machine.
22-00	Original length exceeded the maximum scan length	<ul style="list-style-type: none"> Divide the original into more than one page. Check the resolution used for scanning. Lower the scan resolution if possible. Add optional page memory.
22-01	Memory overflow while receiving	<ul style="list-style-type: none"> Wait for the files in the queue to be sent. Delete unnecessary files from memory. Transfer the substitute reception files to another fax machine, if the machine's printer is busy or out of order. Add an optional SAF memory card or hard disk.

Error Codes

Code	Meaning	Suggested Cause/Action
22-02	TX or RX job stalled due to line disconnection at the other party	<ul style="list-style-type: none"> ▪ The job started normally but did not finish normally; data may or may not have been received fully. ▪ Restart the machine.
22-04	The machine cannot store received data in the SAF	<ul style="list-style-type: none"> ▪ Update the ROM ▪ Replace the FCU.
22-05	No G3 parameter confirmation answer	<ul style="list-style-type: none"> ▪ Defective FCU board or firmware.
23-00	Data read timeout during construction	<ul style="list-style-type: none"> ▪ Restart the machine. ▪ Replace the FCU.
25-00	The machine software resets itself after a fatal transmission error occurred	<ul style="list-style-type: none"> ▪ Update the ROM ▪ Replace the FCU.
F0-xx	V.34 modem error	<ul style="list-style-type: none"> ▪ Replace the FCU.
F6-xx	SG3 modem error	<ul style="list-style-type: none"> ▪ Update the SG3 modem ROM. ▪ Replace the SG3 board. ▪ Check for line noise or other line problems. ▪ Try communicating another V.8/V.34 fax.

3.2 FAX CONNECTION UNIT ERROR CODES

3.2.1 FAX CONNECTION UNIT ERROR CODE LIST

MACHINE_ERR_01

Error Code	Possible Causes	Troubleshooting Procedures
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 is disconnected because of no response within a specified time.	
01(14)	<ul style="list-style-type: none"> ▪ Either this machine or the machine at the other party has entered SP mode or Initial settings. ▪ An established connection exists. 	<ul style="list-style-type: none"> ▪ Exit SP mode or initial settings. ▪ Wait until the connection has finished.

MACHINE_ERR_02

Error Code	Possible Causes	Troubleshooting Procedures
02(5)	<ul style="list-style-type: none"> ▪ Wrong IP address/host name was used. ▪ The main power of the other machine at destination is OFF. ▪ LAN cable is disconnected. ▪ Network is rebooting. 	<ul style="list-style-type: none"> ▪ Enter the correct IP address/host name ▪ Turn ON the main power. ▪ Connect the LAN cable ▪ Wait until rebooting has finished.

MACHINE_ERR_03

Error Code	Possible Causes	Troubleshooting Procedures	
03	<ul style="list-style-type: none"> ▪ No user authentication (i.e. Basic/Windows/LDAP/Custom Auth.) applies to fax application. ▪ Settings other than user authentication are applied to the fax application. 	Configure the user authentication setting for client and remote machines as follows:	
		Client Machine	Remote Machine
		OFF	OFF
		ON	OFF
		ON	ON

MACHINE_ERR_04

Error Code	Possible Causes	Troubleshooting Procedures
04	Although the same user is registered on the remote machine and client machine, the user name and login password do not match.	<ul style="list-style-type: none"> ▪ Register the same user to both the remote machine and client machine. ▪ Make sure to match the username and login password.

MACHINE_ERR_05

Error Code	Possible Causes	Troubleshooting Procedures
05	An unauthorized user tried to connect.	Authorize the user to use fax connection.

MACHINE_ERR_06

Error Code	Possible Causes	Troubleshooting Procedures
06	Timeout error on the node authentication	Adjust the value of SP5-741-001 to prolong the timeout for node authentication.

MACHINE_ERR_07

Error Code	Possible Causes	Troubleshooting Procedures
07	Multiple destinations are set in the client machine.	On the client machine, execute SP5-801-021 to clear AICS memory

MACHINE_ERR_08

Error Code	Possible Causes	Troubleshooting Procedures
08(1)	<ul style="list-style-type: none"> ▪ A client machine connects to another client machine. ▪ The client machine is not registered on the remote machine as destinations. 	<ul style="list-style-type: none"> ▪ Connect to the remote machine. ▪ Register the client machine to the remote machine as a destination.
08(2)	<ul style="list-style-type: none"> ▪ A remote machine connects to another Remote Machine. ▪ The wrong remote machine is registered on the client machine. 	<ul style="list-style-type: none"> ▪ Connect to the client machine. ▪ Check the remote machine registered on the client machine.

3.3 IFAX TROUBLESHOOTING

3.3.1 IFAX TROUBLESHOOTING

Use the following procedures to determine whether the machine or another part of the network is causing the problem.

Communication Route	Item	Troubleshooting Procedures
General LAN	1. Connection with the LAN	<ul style="list-style-type: none"> ▪ Check that the LAN cable is connected to the machine. ▪ Check that the LEDs on the hub are lit.
	2. LAN activity	Check that other devices connected to the LAN can communicate through the LAN.
Between IFAX and PC	1. Network settings on the PC	<ul style="list-style-type: none"> ▪ Check the network settings on the PC. ▪ Check with the network administrator for the IP address. (Is the IP address registered in the TCP/IP properties in the network setup correct?)
	2. Check that PC can connect with the machine	<p>Use the "ping" command on the PC to contact the machine.</p> <p>At the MS-DOS prompt, type ping then the IP address of the machine, then press Enter.</p>
	3. LAN settings in the machine	<ul style="list-style-type: none"> ▪ Check the LAN parameters ▪ Check if there is an IP address conflict with other PCs. <p>Use the "Network" function in the User Tools.</p> <p>If there is an IP address conflict, inform the administrator.</p>

Communication Route	Item	Troubleshooting Procedures
Between machine and e-mail server	1. LAN settings in the machine	<ul style="list-style-type: none"> ▪ Check the LAN parameters ▪ Check if there is an IP address conflict with other PCs. <p>Use the "Network" function in the User Tools.</p> <p>If there is an IP address conflict, inform the administrator.</p>
	2. E-mail account on the server	<ul style="list-style-type: none"> ▪ Make sure that the machine can log into the e-mail server. ▪ Check that the account and password stored in the server are the same as in the machine. <p>Ask the administrator to check.</p>
	3. E-mail server	<p>Make sure that the client devices which have an account in the server can send/receive e-mail.</p> <p>Ask the administrator to check.</p> <p>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"> ▪ Make sure that the PC can log into the e-mail server. ▪ Check that the account and password stored in the server are the same as in the machine. <p>Ask the administrator to check.</p>

Communication Route	Item	Troubleshooting Procedures
	2. E-mail server	<p>Make sure that the client devices which have an account in the server can send/receive e-mail.</p> <p>Ask the administrator to check.</p> <p>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"> ▪ Make sure that the e-mail address is actually used. ▪ Check that the e-mail address contains no incorrect characters such as spaces.
	4. Router settings	<ul style="list-style-type: none"> ▪ Use the "ping" command to contact the router. ▪ Check that other devices connected to the router can sent data over the router. <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"> ▪ Check whether e-mail can be sent to another address on the same network, using the application e-mail software. ▪ Check the error e-mail message. <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		Troubleshooting Procedures
1	LAN cable connected?	Check the LAN cable connection.
2	Specified IP address/hostname correct?	Check the IP address/host name.
3	Firewall/NAT installed?	The firewall cannot be breached. Send by another method (Fax, Internet Fax)
4	Transmission sent manually?	Manual sending not supported.
5	IP address of local machine registered?	Register the IP address.
6	Remote terminal port number setting other than 1720 (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 host name specified?	Contact the network administrator.
9	Remote fax a T.38 terminal?	Check whether the remote fax is a T38 terminal.
10	Remote fax switched off or busy?	Check that the remote fax is ON.
11	Network bandwidth too narrow?	Request the network administrator to increase the bandwidth.
		Raise the delay level. (IPFAX SW 01 Bit 0 to 3)
		IP-Fax bandwidth is the same as the DCS speed. Set IP-Fax SW00 Bit 6 to 1.

12	Remote fax cancelled transmission?	Check whether the remote fax cancelled the transmission.
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Cannot send via VoIP Gateway

Check Point		Troubleshooting Procedures
1	LAN cable connected?	Check the LAN cable connection.
2	VoIP Gateway T.38 standard?	Contact the network administrator.
3	VoIP Gateway installed correctly?	Contact the network administrator.
4	VoIP Gateway power switched on?	Contact the network administrator.
5	Is the IP address/host name of the specified Gateway correct?	Check the IP address/host name.
6	Number of the specified fax correct?	Check the remote fax number.
7	Firewall/NAT installed?	The firewall cannot be breached. Send by another method (Fax, Internet Fax)
8	Transmission sent manually?	Manual sending not supported.
9	IP address of local fax registered?	Register the IP address.
10	DNS registered when host name specified?	Contact the network administrator.
11	Remote fax a G3 fax?	Check that the remote fax is a G3 fax.
12	G3 fax connected to VoIP gateway?	Check that G3 fax is connected.
13	Remote G3 fax turned ON?	Check that G3 fax is 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		Troubleshooting Procedures
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?	The firewall cannot be breached. Send by 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 turned 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 server host name specified?	Contact the network administrator.
9	Enable H.323/Enable SIP 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		Troubleshooting Procedures
1	LAN cable connected?	Check the LAN cable connection.
2	Firewall/NAT installed?	The firewall cannot be breached. Send by another method (Fax, Internet Fax)
3	IP address of local fax registered?	Register the IP address.
4	Port number specified at remote sender fax (if required)?	Request the sender to specify the port number.
5	Specified port number correct (if required)?	Request the sender to check the port number.
6	DNS server registered when host name specified on sender side?	Contact the network administrator.  Note <ul style="list-style-type: none"> The sender machine displays this error code if the sender fax is a Ricoh model.
7	Network bandwidth too narrow?	Request the system administrator to increase the bandwidth.
		Lower the start modem reception baud rate on the receiving side. (IPFAX SW06)

8	Remote fax cancelled transmission?	Check whether the remote fax cancelled the transmission.
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Cannot receive by VoIP Gateway

Check Point		Troubleshooting Procedures
1	LAN cable connected?	Check the LAN cable connection.
2	Firewall/NAT installed?	The firewall cannot be breached. Send by another method (Fax, Internet Fax)
3	VoIP Gateway installed correctly?	Contact the network administrator.
4	VoIP Gateway power turned ON?	Contact the network administrator.
5	IP address/host name of specified VoIP Gateway correct on sender's side?	Request the remote fax to check the IP address/host name.
6	DNS server registered when host name specified on sender side?	Contact the network administrator.
7	Network bandwidth too narrow?	Request the network administrator to increase the bandwidth.
8	G3 fax connected?	Check that G3 fax is connected.
9	G3 fax power turned ON?	Check that G3 fax is ON.

Cannot receive by Alias Fax number

Check Point		Troubleshooting Procedures
1	LAN cable connected?	Check the LAN cable connection.
2	Firewall/NAT installed?	The firewall cannot be breached. Send by another method (Fax, Internet Fax)

3	Gatekeeper/SIP server installed correctly?	<p>Contact the network administrator.</p> <p>Note</p> <ul style="list-style-type: none"> The sender machine displays this error code when the sender fax is a Ricoh model.
4	Power to Gatekeeper/SIP server turned ON?	<p>Contact the network administrator.</p> <p>Note</p> <ul style="list-style-type: none"> The sender machine displays this error code when the sender fax is a Ricoh model.
5	IP address/host name of Gatekeeper/SIP server correct on the sender's side?	<p>Request the sender to check the IP address/host name.</p> <p>Note</p> <ul style="list-style-type: none"> The sender machine displays this error code when the sender fax is a Ricoh model.
6	DNS server registered when Gatekeeper/SIP server host name specified on sender's side?	<p>Contact the network administrator.</p> <p>Note</p> <ul style="list-style-type: none"> The sender machine displays this error code when the sender fax is a Ricoh model.
7	Enable H.323/Enable SIP SW set to on?	<p>Request the sender to check the settings. User Parameter SW 34 Bit 0/SW 34 Bit 1</p> <p>Note</p> <ul style="list-style-type: none"> Only if the remote sender fax is a Ricoh fax.
8	Local fax IP address registered?	Register the IP address.
9	Local fax Alias number registered?	Register the Alias number.
10	Network bandwidth too narrow?	Request the system administrator to increase the bandwidth.
		Lower the start modem reception baud rate on the receiving side. (IPFAX SW06)

11	Remote fax cancelled transmission?	Check whether the remote fax cancelled the transmission.
12	Local fax registered in Gatekeeper/SIP server?	Contact the network administrator. Note <ul style="list-style-type: none">The sender machine displays this error code when the sender fax is a Ricoh model.

4. SERVICE TABLES

4.1 SERVICE PROGRAM TABLES

4.1.1 SP1-XXX (BIT SWITCHES)

1	Mode No.	Function
101	System Switch	
	001 – 032	00 – 1F Change the bit switches for system settings for the fax option Refer to page 65 "Bit Switches - 1": "System Switches".
102	Ifax Switch	
	001 – 016	00 – 0F Change the bit switches for internet fax settings for the fax option Refer to page 80 "Bit Switches - 2": "I-Fax Switches".
103	Printer Switch	
	001 – 016	00 – 0F Change the bit switches for printer settings for the fax option Refer to page 80 "Bit Switches - 2": "Printer Switches".
104	Communication Switch	
	001 – 032	00 – 1F Change the bit switches for communication settings for the fax option Refer to page 95 "Bit Switches - 3": "Communication Switches".
105	G3-1 Switch	
	001 – 016	00 – 0F Change the bit switches for the protocol settings of the standard G3 board Refer to page 105 "Bit Switches - 4": "G3 Switches".
111	IP fax Switch	

	001 – 016	00 – 0F	Change the bit switches for optional IP fax parameters Refer to page 115 "Bit Switches - 5": "IP Fax Switches".
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4.1.2 SP2-XXX (RAM)

2	Mode No.		Function
101	RAM Read/Write		
	001		Change RAM data for the fax board directly. Refer to page 136 "Service RAM Addresses".
102	Memory Dump		
	001	G3-1 Memory Dump	Print out RAM data for the fax board. Refer to page 136 "Service RAM Addresses".
103	G3-1 NCU Parameters		
	001 – 023	CC, 01 – 22	NCU parameter settings for the standard G3 board. Refer to page 124 "NCU Parameters".

4.1.3 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	-	

4.1.4 SP4-XXX (ROM VERSIONS)

4	Mode No.		Function
101	001	FCU ROM Version	Displays the FCU ROM version.
102	001	Error Codes	Displays the latest 64 fax error codes.
103	001	G3-1 ROM Version	Displays the G3-1 modem version.

4.1.5 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	Resets all the current bit switch settings.
106	Reset Security Bit Switches	

	000	Resets only the security bit switches. If you select automatic output/display for the user parameter switches, the security settings are initialized.
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4.1.6 SP6-XXX (REPORTS)

6	Mode No.	Function
101	System Parameter List	
	000	- Touch the "ON" button to print the system parameter list.
102	Service Monitor Report	
	000	- Touch the "ON" button to print the service monitor report.
103	G3 Protocol Dump List	
	002	G3-1 (All Communications) Prints the protocol dump list of all communications for the G3-1 line.
	003	G3-1 (1 Communication) Prints the protocol dump list of the last communication for the G3-1 line.
105	All Files print out	
	000	- Prints out all the user files in the SAF memory, including confidential messages. Note <ul style="list-style-type: none"> Do not use this function, unless the customer is having trouble printing confidential messages or recovering files stored using the memory lock feature.
106	Journal Print out	
	001	All Journals The machine prints all the communication records on the report.

	002	Specified Date	The machine prints all communication records after the specified date.
107	Log List Print out		
	001	All log files	These log print out functions are for designer use only.
	002	Printer	
	003	SC/TRAP Stored	
	004	Decompression	
	005	Scanner	
	006	JOB/SAF	
	007	Reconstruction	
	008	JBIG	
	009	Fax Driver	
	010	G3 CCU	
	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.

4.1.7 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

4.2 BIT SWITCHES - 1

★ Important

- 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.

4.2.1 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 in the journal for each G3 communication.

	<p>Example:</p> <p>0000 32V34 288/264 L0100 03 04 (1) (2)(3) (4) (5) (6) (7) (8)</p> <p>(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.</p> <p>Note</p> <ul style="list-style-type: none"> ▪ EQM and RX level are fixed at "FFFF" in TX mode. ▪ The seventh and eighth numbers are fixed at "00" for transmission records and ECM reception records. 	
	<p>RX level calculation</p> <p>Example:</p> <p>0000 32V34 288/264 L0100 03 04 (1) (2)(3) (4) (5) (6) (7) (8)</p> <p>The four-digit hexadecimal value (N) after "L" indicates the RX level. The high byte is given first, followed by the low byte. Divide the decimal value of N by -16 to get the RX level. In the above example, the decimal value of N (= 0100 [H]) is 256. So, the actual RX level is $256/-16 = -16$ dB</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.


D255/D256
FAX OPTION

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)
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  Note <ul style="list-style-type: none"> ▪ "40" is displayed while receiving a fax message using AI short protocol.
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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	-	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 turned ON if a fax message disappeared from the memory when the power was turned off last. NOTE: If "0" is selected, no reports are printed and no one may recognize that fax data is gone due to a power failure.
6	Conditions for printing the protocol dump list 0: Print for all communications 1: Print only when there is a communication error	This switch becomes effective only when system switch 00 bit 6 is set to 1. 1: Set this bit to 1 when you wish to print a protocol dump list only for communications with errors. NOTE: The memory size is limited. Use this bit switch only when some log reports are necessary.
7	Not used	Do not change this setting.

System Switch 0A (SP No. 1-101-011)		
No	Function	Comments
0	Automatic port selection 0: Disabled, 1: Enabled	When "1" is selected, a suitable port is automatically selected if the selected port is not used. NOTE: This bit is useful if all communication lines at a customer site are not the same quality
1-3	Not used	Do not change these settings.
4	Dialing on the ten-key pad when the external telephone is off-hook 0: Disabled 1: Enabled	0: Prevents dialing from the ten-key pad while the external telephone is off-hook. Use this setting when the external telephone is not by the machine, or if a wireless telephone is connected as an external telephone. 1: The user can dial on the machine's ten-key pad when the handset is off-hook.

5	On hook dial 0: Disabled 1: Enabled	0: On hook dial is disabled.
6-7	Not used	Do not change 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 remains the same)	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 possible with this setting.
4-7	Not used	Do not change these settings.

System Switch 0F (SP No. 1-101-016)			
No	Function	Comments	
0 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			

System Switch 10 (SP No. 1-101-017)		
No	Function	Comments

0-7	Threshold memory level for parallel memory transmission	Threshold = N x 128 KB + 256 KB N can be between 00 - FF(H) Default setting: 02(H) = 512 KB
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System Switch 11 (SP No. 1-101-018)		
No	Function	Comments
0	TTI printing position 0: Superimposed on the page data 1: Printed before the data leading edge	Change this bit to 1 if the TTI overprints information that the customer considers to be important (G3 transmissions). NOTE: If "1" is selected, it is possible that sent data is printed on two sheets of paper.
1-2	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.

System Switch 12 (SP No. 1-101-019)		
No	Function	Comments
0-7	TTI printing position in the main scan direction	TTI: 08 to 92 (BCD) mm Input even numbers only. This setting determines the print start position for the TTI from the left edge of the paper. If the TTI is moved too far to the right, it may overwrite the file number which is on the top right of the page. On an A4 page, if the TTI is moved over by more than 50 mm, it may overwrite the page number.

System Switch 13 - Not used (do not change these settings)

System Switch 14 - Not used (do not change these settings)

System Switch 15 (SP No. 1-101-022)

No	Function			Comments
0	Not used			Do not change the settings.
1	Going into the Energy Saver mode automatically 0: Enabled 1: Disabled			1: The machine will restart from the Energy Saver mode quickly, because the +5V power supply is active even in the Energy Saver mode. The LED of the operation switch is flashing instead of entering Energy Saver mode. Use this setting if an external telephone has to be used when the machine is in the Energy Saver mode.
2-3	Not used			Do not change these settings.
4-5	Interval for preventing the machine from entering Energy Saver mode if there is a pending transmission file.			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.
	Bit 5	Bit 4	Setting	
	0	0	1 min	
	0	1	30 min	
	1	0	1 hour	
	1	1	24 hours	
6-7	Not used			Do not change


System Switch 16 (SP No. 1-101-023)		
No	Function	Comments
0	Parallel Broadcasting 0: Disabled 1: Enabled	1: The machine sends messages simultaneously using all available ports during broadcasting. NOTE: If a customer wants to keep a line available for fax reception or other reasons, select "0" (Disable).
1-7	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)	<p>Sets the value to x4KB. When the amount of available memory drops below this setting, RX documents are printed to conserve memory.</p> <p>Initial setting 0x80 (512 KB)</p> <p> Note</p> <ul style="list-style-type: none"> 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	<p>0: RTI, CSI, CPS codes are displayed on the top line of the LCD panel during communication.</p> <p>1: Codes are switched off (no display)</p>
1-7	Not used	Do not change these settings.

System Switch 1E (SP No. 1-101-031)		
No	Function	Comments

0	<p>Communication after the Journal data storage area has become full</p> <p>0: Impossible 1: Possible</p>	<p>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.</p> <p>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.</p> <p>Note</p> <ul style="list-style-type: none"> This setting is effective only when Automatic Journal printout is enabled but the machine cannot print the report (e.g., no paper).
1*	<p>Action when the SAF memory has become full during scanning</p> <p>0: The current page is erased. 1: The entire file is erased.</p>	<p>0: If the SAF memory becomes full during scanning for a memory transmission, the successfully scanned pages are transmitted.</p> <p>1: If the SAF memory becomes full during scanning for a memory transmission, the file is erased and no pages are transmitted.</p> <p>Note</p> <ul style="list-style-type: none"> This setting is effective only when Automatic Journal printout is enabled but the machine cannot print the report (e.g., no paper).
2	<p>RTI/CSI display priority</p> <p>0: RTI 1: CSI</p>	<p>This bit determines which identifier, RTI or CSI, is displayed on the LCD while the machine is communicating in G3 non-standard mode.</p>
3	<p>File No. printing</p> <p>0: Enabled 1: Disabled</p>	<p>1: File numbers are not printed on any reports.</p> <p>NOTE: The file numbers may not be printed in the sequential order. If a customer does not like this numbering, select "0".</p>

4	<p>Action when authorized reception is enabled but authorized RTIs/CSIs are not yet programmed</p> <p>0: All fax reception is disabled 1: Faxes can be received if the sender has an RTI or CSI</p>	<p>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.</p> <p>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)".</p>
5-7	Not used	Do not change the settings

* This setting can be used for the client machine which has no FCU.

System Switch 1F (SP No. 1-101-032)		
No	Function	Comments
0	Not used	Do not change the settings.
1	<p>Report printout after an original jam during SAF storage or if the SAF memory fills up</p> <p>0: Enabled 1: Disabled</p>	<p>0: When an original jams, or the SAF memory overflows during scanning, a report will be printed.</p> <p>Change this bit to "1" if the customer does not want to have a report in these cases.</p> <p>Memory TX – Memory storage report Parallel memory TX – Transmission result report</p>
2	Not used	Do not change the settings.
3	<p>Received fax print start timing (G3 reception)</p> <p>0: After receiving each page 1: After receiving all pages</p>	<p>0: The machine prints each page immediately after the machine receives it.</p> <p>1: The machine prints the complete message after the machine receives all the pages in the memory.</p>
4-6	Not used	Do not change the factory settings.

<p>7</p>	<p>Action when a fax SC has occurred</p> <p>0: Automatic reset</p> <p>1: Fax unit stops</p>	<p>0: When the fax unit detects a fax SC code other than SC1201 and SC1207, the fax unit automatically resets itself.</p> <p>1: When the fax unit detects any fax SC code, the fax unit stops.</p> <p>Reference: For fax SC codes, see "Troubleshooting".</p>
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D255/D256
FAX OPTION

4.3 BIT SWITCHES - 2

★ Important

- 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 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	
<p>0: Off (not selected), 1: On (selected)</p> <p>If more than one of these three bits is set to "1", the larger size has priority. For example, if both Bit 2 and Bit 1 are set to "1" then the maximum size is "A3" (Bit 2).</p> <p>When mail is sent, there is no negotiation with the receiving machine at the destination, so the sending machine cannot make a selection for the receiving capabilities (original width setting) of the receiving machine. The original width selected with this switch is used as the RX machine's original width setting, and the original is reduced to this size before sending. The default is A4.</p> <p>If the width selected with this switch is higher than the receiving machine can accept, the machine detects this and this causes an error.</p>		

I-fax Switch 01 (SP No. 1-102-002)		
No	Function	Comments
Original Line Resolution of TX Attachment File		These settings set the maximum resolution of the original that the destination can receive.
0	200x100 Standard	0: Not selected 1: Selected If more than one of these three bits is set to "1", the higher resolution has priority. For example, if both Bit 0 and Bit 2 are set to "1" Then The Resolution is set for "Bit 2 200 x 400.
1	200x200 Detail	
2	200x400 Fine	
3	300 x 300 Reserve	
4	400 x 400 Super Fine	
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) When on (set to "1"), the machine converts millimeters to inches for sending mail. There is no switch for converting inches to millimeters. Unlike G3 fax transmissions which can negotiate between sender and receiver to determine the setting, mail cannot negotiate between terminals; the mm/inch selection is determined by the sender fax. When this switch is Off (0):</p> <ul style="list-style-type: none"> ▪ Images scanned in inches are sent in inches. ▪ Images scanned in mm are sent in mm. ▪ Images received in inches are transmitted in inches. ▪ Images received in mm are transmitted in mm. <p>When this switch is On (1):</p> <ul style="list-style-type: none"> ▪ Images scanned in inches are sent in inches. ▪ Images scanned in mm are converted to inches. ▪ Images received in inches are transmitted in inches. ▪ Images received in mm are converted to inches. 		

I-fax Switch 02 (SP No. 1-102-003)		
No	Function	Comments

0	<p>RX Text Mail Header Processing</p> <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.</p> <p>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	<p>Output from Attached Document at E-mail TX Error</p> <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.</p> <p>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"</p> <p>Sends from PC mail a request for a Return Receipt. Receives the Return Receipt with "dispatched" in the 2nd part:</p> <p>Disposition: Automatic-action/MDN-send automatically; dispatched</p> <p>The "dispatched" string is included in the Subject string.</p> <p>01: "Displayed"</p> <p>Sends from PC mail a request for a Return Receipt. Receives the Return Receipt with "displayed" in the 2nd part:</p> <p>Disposition: Automatic-action/MDN-send automatically; displayed</p> <p>The "displayed" string is included in the Subject string.</p> <p>10: Reserved</p> <p>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
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. 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	<p>Subject corresponding to mail post database</p> <p>0: Standard subject 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"> 1) When the service technician sets the service (software) switch. 2) When memory sending or delivery specified by F code is applied by the SMTP server 3) With relay broadcasting (1st stage without the Schmidt 4 function). <p>Note</p> <ul style="list-style-type: none"> ▪ 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).
2-7	Not Used

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: "1st destination + Total number of destinations: 9" in the Journal indicates a broadcast to 9 destinations.</p> <p>0: Not recorded 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 1: Enabled</p>
2	Size Setting: Tiff: Mail/Folder	

	Enables or disables a function to adjust the file size in the main scan direction when sending a TIFF file to e-mail destination or folder destination. 0: OFF (Disable) 1: ON (Enable)
3-7	Not Used

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	

	<p>This setting determines whether files received with SMTP protocol are delivered or output immediately.</p> <p>0: Off. Files received via SMTP are output immediately without delivery.</p> <p>1: On. Files received via SMTP are delivered immediately to their destinations.</p>
1	<p>Set to select the signature when receiving SMTP mail.</p> <p>0: No sign</p> <p>1: Always sign</p>
2	<p>Set to encrypt the data when receiving SMTP mail.</p> <p>0: No encryption</p> <p>1: Encryption</p>
3-7	Not used

4.3.2 PRINTER SWITCHES

Printer Switch 00 (SP No. 1-103-001)		
No	Function	Comments
0	<p>Select page separation marks</p> <p>0: Off</p> <p>1: On</p>	<p>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.</p> <p>1: If a 2 page RX transmission is split into two pages, for example, [*] [2] is printed in the bottom right corner of the 1st page and only a [2] is printed in the upper right corner of the 2nd page.</p> <p> Note</p> <ul style="list-style-type: none"> This helps the user to identify pages that have been split because the size of the paper is smaller than the size of the document received. (When A5 is used to print an A4 size document, for example.)

1	Repetition of data when the received page is longer than the printer paper 0: Off 1: On	1: Default. 10 mm of the trailing edge of the previous page are repeated at the top of the next page. 0: The next page continues from where the previous page stopped without any repeated text.
2	Prints the date and time on received fax messages 0: Disabled 1: Enabled	This switch is only effective when user parameter 02 - bit 2 (printing the received date and time on received fax messages) is enabled. 1: The machine prints the received and printed date and time at the bottom of each received page.
3-7	Not used	Do not change the settings.

Printer Switch 01 (SP No. 1-103-002)		
No	Function	Comments
0-6	Not used	Do not change the settings.
7	Received message width restriction in the protocol signal to the sender 0: Disabled 1: Enabled	0: The machine informs the transmitting machine of the print width depending on the paper size available from the paper feed stations. Refer to the table on the next page for how the machine chooses the paper width used in the setup protocol (NSF/DIS). 1: The machine informs the transmitting machine of the fixed paper width which is specified by bits 3 and 4 above.

Relationship between available paper sizes and printer width used in the setup protocol

Available Paper Size	Printer width used in the Protocol (NSF/DIS)
A4 or 8.5" x 11"	297 mm width
B5	256 mm width
A5 or 8.5" x 5.5"	216 mm width

No paper available (Paper end)	216 mm width
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Printer Switch 02 (SP No. 1-103-003)		
No	Function	Comments
0*	1st paper feed station usage for fax printing 0: Enabled 1: Disabled	0: The paper feed station can be used to print fax messages and reports. 1: The specified paper feed station will not be used for printing fax messages and reports.
1*	2nd paper feed station usage for fax printing 0: Enabled 1: Disabled	<p>Note</p> <ul style="list-style-type: none"> 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.
2*	3rd paper feed station usage for fax printing 0: Enabled 1: Disabled	
3*	4th paper feed station usage for fax printing 0: Enabled 1: Disabled	
4*	LCT usage for fax printing 0: Enabled 1: Disabled	
5-7	Not used	

* This setting can be used for the client 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 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 6	Length of the duplicated image on the next page, when page separation has taken place.		
	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.	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 machine which has no FCU.

Printer Switch 07 (SP No. 1-103-008)		
No	Function	Comments
0-3	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)

Printer Switch 09 - Not used (do not change the settings)

Printer Switch 0A - Not used (do not change the settings)

Printer Switch 0B - Not used (do not change the settings)

Printer Switch 0C - Not used (do not change the settings)

Printer Switch 0E (SP No. 1-103-015)

No	Function	Comments
0*	Paper size selection priority 0: Width 1: Length	0: A paper size that has the same width as the received data is selected first. 1: A paper size which has enough length to print all the received lines without reduction is selected first.
1*	Paper size selected for printing A4 width fax data 0: 8.5" x 11" size 1: A4 size	This switch determines which paper size is selected for printing A4 width fax data, when the machine has both A4 and 8.5" x 11" size paper.
2	Page separation 0: Enabled 1: Disabled	1: If all paper sizes in the machine require page separation to print a received fax message, the machine does not print the message (Substitute Reception is used). After a larger size of paper is set in a cassette, the machine automatically prints the fax message.
3-4	Printing the sample image on reports	"Same size" means the sample image is

	Bit 4	Bit 3	Setting	printed at 100%, even if page separation occurs. User Parameter Switch 19 (13H) bit 4 must be set to "0" to enable this switch.
	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 machine which has no FCU.

Printer Switch 0F (SP No. 1-103-016)				
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:

Bit Switches - 2

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 machine which has no FCU.

4.4 BIT SWITCHES - 3

★ Important

- 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 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	<p>JBIG compression method: Reception</p> <p>0: Only basic supported</p> <p>1: Basic and optional both supported</p>	<p>Change the setting when communication problems occur using JBIG compression.</p>
6	<p>JBIG compression method: Transmission</p> <p>0: Basic mode priority</p> <p>1: Optional mode priority</p>	<p>Change the setting when communication problems occur using JBIG compression.</p>
7	<p>Closed network (reception)</p> <p>0: Disabled</p> <p>1: Enabled</p>	<p>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.</p>

Communication Switch 01 (SP No. 1-104-002)				
No	Function			Comments
0	<p>ECM</p> <p>0: Off 1: On</p>			<p>If this bit is set to 0, ECM is switched off for all communications.</p> <p>In addition, V.8 protocol and JBIG compression are switched off automatically.</p>
1	Not used			Do not change the setting.
2-3	Wrong connection prevention method			<p>(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.</p> <p>(1,0): The same as above, except that only the last 4 digits are compared.</p> <p>(1,1): The machine will disconnect the line without sending a fax message, if the other end</p>
	Bit 3	Bit 2	Setting	
	0	0	None	
	0	1	8 digit CSI	
	1	0	4 digit CSI	
	1	1	CSI/RTI	

		<p>does not identify itself with an RTI or CSI. (0,0): Nothing is checked; transmission will always go ahead.</p> <p>Note</p> <ul style="list-style-type: none"> This function does not work when dialing is done from the external telephone. 	
4-5	Not used	Do not change the setting.	
6-7	Maximum printable page length available		
	Bit 7	Bit 6	Setting
	0	0	No limit
	0	1	B4 (364 mm)
	1	0	A4 (297 mm)
	1	1	Not used
<p>The setting determined by these bits is informed to the transmitting terminal in the pre-message protocol exchange (in the DIS/NSF frames).</p>			

Communication Switch 02 (SP No. 1-104-003)		
No	Function	Comments
0	G3 Burst error threshold 0: Low 1: High	<p>If there are more consecutive error lines in the received page than the threshold, the machine will send a negative response. The Low and High threshold values depend on the sub-scan resolution, and are as follows.</p>
		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
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Communication Switch 11 – Not used (do not change the settings.)

Communication Switch 12 (SP No. 1-104-019)		
No	Function	Comments
0-7	Memory transmission: Interval between dialing attempts to the same destination	01 – FF (Hex) minutes

Communication Switch 13 – Not used (do not change the settings.)

Communication Switch 14 (SP No. 1-104-021)		
No	Function	Comments
0	Inch-to-mm conversion during transmission 0: Disabled, 1: Enabled	0: In immediate transmission, data scanned in inch format are transmitted without conversion. In memory transmission, data stored in the SAF memory in mm format are transmitted without conversion. Note: When storing the scanned data into SAF memory, the fax unit always converts the data into mm format. 1: The machine converts the scanned data or stored data in the SAF memory to the format which was specified in the set-up protocol (DIS/NSF) before transmission.
1-5	Not used	Do not change the factory settings.

6-7	Available unit of resolution in which fax messages are received		<p>For the best performance, do not change the factory settings.</p> <p>The setting determined by these bits is informed to the transmitting terminal in the pre-message protocol exchange (in the DIS/NSF frames).</p>	
	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 (SP No. 1-104-023)		
No	Function	Comments
0	Not used	Do not change the settings.
1	Optional G3 unit (G3-2) 0: Not installed 1: Installed	Change this bit to 1 when installing the first optional G3 unit.
2	Not used	
3	Select PSTN connection 0: Off 1: On	<p>This switch enables the G3-2.</p> <p>0: Off, no connection 1: Recognizes and enables G3-2.</p> <p>This switch can be used only after G3-2 has been installed.</p>
4-7	Not used	Do not change the settings.

Communication Switch 17 (SP No. 1-104-024)		
No	Function	Comments
0	SEP reception 0: Disabled 1: Enabled	0: Polling transmission to another maker's machine using the SEP (Selective Polling) signal is disabled.

1	SUB reception 0: Disabled 1: Enabled	0: Confidential reception to another maker's machine using the SUB (Sub-address) signal is disabled.
2	PWD reception 0: Disabled 1: Enabled	0: Disables features that require PWD (Password) signal reception.
3-4	Not used	Do not change the settings.
5	PSTN dial-in routing setting 0: OFF 1: ON	1: The machine sets multiple PSTN dial-in 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	PSTN 2 dial-in routing 0: Off 1: On	Enables or disables dial-in routing for the PSTN 2 connection.
7	PSTN 3 dial-in routing 0: Off 1: On	Enables or disables dial-in routing for the PSTN 3 connection.

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)

4.5 BIT SWITCHES - 4

★ Important

- 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 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 output 0: Off 1: On (Forbid output)	Do not change this setting (Default: 0: Off), unless communication problem is caused by a CED or ANSam transmission.
7	Not used	Do not change 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	Not Used	Do not change the settings.

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. $\sqrt{N_{\text{Transmit}}} \leq N_{\text{Resend}}$ NTransmit- Number of transmitted frames NResend- 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
	Bit 5	Bit 4	Setting			

	0	0	V.29	is set at these speeds.
	0	1	V.17	
	1	0	V.34	
	1	1	Not used	
6-7	Not used			Do not change the settings.

G3 Switch 06 (SP No. 1-105-007)						
No	Function					Comments
0-3	Initial RX modem rate(kbps)					These bits set the initial starting modem rate for reception. Use a lower setting if high speeds pose problems during reception. If a modem rate 14.4 kbps or slower is selected, V.8 protocol should be disabled manually. Cross reference V.8 protocol on/off - G3 switch 03, bit2
	Bit 3	Bit 2	Bit 1	Bit 0	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 signal loss at higher frequencies because of the length of wire between the modem and the telephone exchange. Use the dedicated transmission parameters for specific receivers. Also, try using the cable equalizer if one or more of the following symptoms occurs. Communication error Modem rate fallback occurs frequently. Note <ul style="list-style-type: none"> This setting is not effective in V.34 communications.
	Bit 1	Bit 0	Setting	
	0	0	None	
	0	1	Low	
	1	0	Medium	
	1	1	High	
2-3	PSTN cable equalizer (RX mode: Internal)			Use a higher setting if there is signal loss at higher frequencies because of the

	Bit 3	Bit 2	Setting	<p>length of wire between the modem and the telephone exchange.</p> <p>Also, try using the cable equalizer if one or more of the following symptoms occurs.</p> <p>Communication error with error codes such as 0-20, 0-23, etc.</p> <p>Modem rate fallback occurs frequently.</p> <p>Note</p> <ul style="list-style-type: none"> This setting is not effective in V.34 communications.
	0	0	None	
	0	1	Low	
	1	0	Medium	
	1	1	High	
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: Normal parameter 1: Specific parameter			0: This uses the fixed table in the ROM for dial tone detection. 1: This uses the specific parameter adjusted with SRAM (69ECBEH - 69ECDEH). Select this if the dial tone cannot be detected when the "Normal parameter: 0" is selected.
7	Not used			Do not change the settings.

G3 Switch 08 - Not used (do not change the settings)

G3 Switch 09 - Not used (do not change the settings)

G3 Switch 0A (SP No. 1-105-011)

No	Function	Comments
0-1	Maximum allowable carrier drop during image data reception	These bits set the acceptable modem carrier drop time.

	Bit 1	Bit 0	Value (ms)	
	0	0	200	Try a longer setting if error code 0-22 is frequent.
	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
0-3	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 the 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

Bit Switches - 4

0	Alarm when an error occurred in Phase C or later 0: Disabled 1: Enabled	If the customer wants to hear an alarm after each error communication, change this bit to "1".
1	Alarm when the handset is off-hook at the end of communication 0: Disabled 1: Enabled	If the customer wants to hear an alarm if the handset is off-hook at the end of fax communication, change this bit to "1".
2-3	Not used	Do not change these settings.
4	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.

4.6 BIT SWITCHES - 5

★ Important

- 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 IP FAX SWITCHES

IP Fax Switch 00 (SP No. 1-111-001)		
No.	Function	Comments
0	Not used	Do not change this setting.
1	IP Fax Transport 0: TCP, 1: UDP	Selects TCP or UDP protocol for IP-Fax
2	IP Fax single port selection 0: OFF, 1: ON (enable)	Selects single data port.
3	IP Fax double ports (single data port) selection 0: OFF, 1: ON (enable)	Selects whether IP-Fax uses a double port.
4	IP Fax Gatekeeper 0: OFF, 1: ON (enable)	Enables/disables the gatekeeper for IP-Fax.
5	IP Fax T30 bit signal reverse 0: LSB first, 1: MSB first	Reverses the T30 bit signal.
6	IP Fax max bit rate setting 0: Not affected, 1: Affected	When "0" is selected, the max bit rate does not affect the value of the DIS/DCS. When "1" is selected, the max bit rate affects the value of the DIS/DCS.

7	<p>IP Fax received telephone number confirmation</p> <p>0: No confirmation, 1: Confirmation</p>	<p>When "0" is selected, fax data is received without checking the telephone number.</p> <p>When "1" is selected, fax data is received only when confirming that the telephone number from the sender matches the registered telephone number in this machine. If this confirmation fails, the line is disconnected.</p>
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IP Fax Switch 01 (SP No. 1-111-002)					
No.	Function				Comments
0-3	<p>IP Fax delay level setting</p> <p>Selects the acceptable delay level.</p> <p>Level 0 is the highest quality</p> <p>Default is "0000" (level 0).</p>				
	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	<p>IP Fax preamble wait time setting</p>			<p>Selects the preamble wait time.</p> <p>[00 to 0f]</p> <p>There are 16 values in this 4-bit binary switch combination.</p> <p>Waiting time: set value level x 100 ms</p> <p>Max: 0f (1500 ms) Min: 00 (No wait time)</p> <p>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	When "0" is selected, the bit signal reverse method is decided by the maker code. When "1" is selected, the bit signal reverse method is decided by the internal bit switch. When communicating between IP Fax devices, LSB first is selected.)
1	IP Fax transmission speed setting 0: Modem speed 1: No limitation	Selects the transmit speed for IP Fax communication.
2	SIP transport setting 0: TCP 1: UDP	This bit switch sets the transport that has priority for receiving IP Fax data. This function is activated only when the sender has both TCP and UDP.
3	CCM connection 0: No CCM connection 1: CCM connection	When "1" is selected, only the connection call message with H.323 or no tunneled H.245 is transmitted via CCM.
4	Message reception selection from non-registered SIP server 0: Answer 1: Not answer	0: This answers the INVITE message from the SIP server not registered for the machine. 1: This does not receive the INVITE message from the SIP server not registered for the machine and send a refusal message.
5	ECM communication setting 0: No limit for image compression 1: Limit for image compression	0: This does not limit the type of the image compression with ECM communication. 1: When the other end machine is Cisco, this permits the image compression other than JBIG or MMR with ECM communication.
6-7	Not used	Do not change these settings.

IP Fax Switch 03 (SP No. 1-111-004)

No.	Function	Comments
-----	----------	----------

0	Effective field limitation for G3 standard function information 0: OFF, 1: 4byte (DIS)	Limits the effective field for standard G3 function information.
1	Switching between G3 standard and G3 non standard 0: Enable switching 1: G3 standard only	Enables/disables switching between G3 standard and G3 non-standard.
2	Not used	Do not change this setting.
3	ECM frame size selection at transmitting 0: 256byte, 1: 64byte	Selects the ECM frame size for sending.
4	DIS detection times for echo prevention 0: 1 time, 1: 2 times	Sets the number of times for DIS to detect echoes.
5	CTC transmission selection 0: PPRx1 1: PPRx4	When "0" is selected, the transmission condition is decided by error frame numbers. When "1" is selected, the transmission condition is based on the ITU-T method.
6	Shift down setting at receiving negative code 0: OFF, 1: ON	Selects whether to shift down when negative codes are received.
7	Not used	Do not change this setting.

IP Fax Switch 04 (SP No. 1-111-005)		
No.	Function	Comments
0-3	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					

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 fail safe timer. This timer sets the interval between "setup" data transmission and T.38 phase decision. If your destination return is late on the network or G3 fax return is late, adjust the longer interval timer. The default is "00" (75 seconds).
	Bit 5	Bit 4		
	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.

IP Fax Switch 09 (SP No. 1-111-010)		
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	This changes the interval for transmit 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	0: Use this setting normally. 1: This setting is used only when a customer wants to connect the machine with SIP server + VOIP-GW provided by AVAYA Inc.		
6-7	Not used.	Do not change these settings.		

IP Fax Switch 0A - Not used (do not change the settings)

IP Fax Switch 0B - Not used (do not change the settings)

IP Fax Switch 0C - Not used (do not change the settings)

IP Fax Switch 0D - Not used (do not change the settings)

IP Fax Switch 0E (SP No. 1-111-013)

No.	Function	Comments
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.

4.7 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); if SP2-103 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 frequency: range 1, lower limit		SP2-103-004
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

NCU Parameters

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	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.

4.8 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.

4.8.1 PROGRAMMING PROCEDURE

1. Set the bit 0 of System Bit Switch 00 to 1.
2. Press the [Address Book Management] icon in the home screen.
3. Select the address book that you want to program.
4. For the fax parameter, select [Fax Dest.], for the E-mail parameter, select [Email], then press [Start].
5. The settings for the switch 00 are now displayed. Press the bit number that you wish to change.

 **Note**

- To scroll through the parameter switches, press [Next] or [Previous].
6. After the setting is changed, press [OK].
 7. After finishing, reset bit 0 of System Bit Switch 00 to 0.

4.8.2 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>Range: 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					If communication with a particular remote terminal often contains errors, the signal level may be inappropriate. Adjust the TX level for communications with that terminal until the results are better. If the setting is "Disabled", the NCU parameter 01 setting is used. ⚡ Note <ul style="list-style-type: none"> Do not use settings other than listed on the left. 	
	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	Cable equalizer Bit 7: 0, Bit 6: 0, Bit 5: 0 = None Bit 7: 0, Bit 6: 0, Bit 5: 1 = Low Bit 7: 0, Bit 6: 1, Bit 5: 0 = Medium Bit 7: 0, Bit 6: 1, Bit 5: 1 = High Bit 7: 1, Bit 6: 1, Bit 5: 1 = Disabled					Use a higher setting if there is signal loss at higher frequencies because of the length of wire between the modem and the telephone exchange when calling the number stored in this Quick/Speed Dial. Also, try using the cable equalizer if one or more of the following symptoms occurs. Communication error with error codes such as 0-20, 0-23, etc. Modem rate fallback occurs frequently. ⚡ Note <ul style="list-style-type: none"> Do not use settings other than listed on the left. If the setting is "Disabled", the bit switch setting is used.	

Switch 02

Dedicated Transmission Parameters

No	FUNCTION					COMMENTS
0-3	Initial TX modem rate					If training with a particular remote terminal always takes too long, the initial modem rate may be too high. Reduce the initial TX modem rate using these bits. For the settings 14.4 or kbps slower, Switch 04 bit 4 must be changed to 0. Note Do not use settings other than listed on the left. If the setting is "Disabled", the bit switch setting is used.
	Bit3	Bit2	Bit1	Bit0	bps	
	0	0	0	0	Not used	
	0	0	0	1	2400	
	0	0	1	0	4800	
	0	0	1	1	7200	
	0	1	0	0	9600	
	0	1	0	1	12000	
	0	1	1	0	14400	
	0	1	1	1	16800	
	1	0	0	0	19200	
	1	0	0	1	21600	
	1	0	1	0	24000	
	1	0	1	1	26400	
	1	1	0	0	28800	
	1	1	0	1	31200	
	1	1	1	0	33600	
	1	1	1	1	Disabled	
Other settings: Not used						
4-7	Not used				Do not change the settings.	

Switch 03		
No	FUNCTION	COMMENTS

<p>0-1</p>	<p>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</p>	<p>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 become effective to the special senders. If the setting is "Disabled", the bit switch setting is used.</p>
<p>2-3</p>	<p>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</p>	<p>(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.</p>
<p>4</p>	<p>V.8 protocol 0: Off 1: Disabled</p>	<p>If transmissions to a specific destination always end at a lower modem rate (14,400 bps or lower), disable V.8 protocol so as not to use V.34 protocol. 0: V.34 communication will not be possible. If the setting is "Disabled", the bit switch setting is used.</p>
<p>5</p>	<p>Compression modes available in transmit mode 0: MH only 1: Disabled</p>	<p>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.</p>
<p>6-7</p>	<p>ECM during transmission Bit 7: 0, Bit 6: 0 = Off Bit 7: 0, Bit 6: 1 = On Bit 7: 1, Bit 6: 0 = Not used Bit 7: 1, Bit 6: 1 = Disabled</p>	<p>For example, if ECM is switched on but is not wanted when sending to a particular terminal, use the (0, 0) setting. Note <ul style="list-style-type: none"> ▪ V.8/V.34 protocol and JBIG compression are automatically disabled if ECM is disabled. ▪ If the setting is "Disabled", the bit switch setting is used. </p>

Dedicated Transmission Parameters

Switch 04 - Not used (do not change the settings)
Switch 05 - Not used (do not change the settings)
Switch 06 - Not used (do not change the settings)
Switch 07 - Not used (do not change the settings)
Switch 08 - Not used (do not change the settings)
Switch 09 - Not used (do not change the settings)

E-mail Parameters

The initial settings of the following e-mail parameters are all "0" (all parameters disabled).

Switch 00		
No	FUNCTION	COMMENTS
0	MH Compression mode for e-mail attachments 0: Off 1: On	Switches MH compression on and off for files attached to e-mails for sending.
1	MR Compression mode for e-mail attachments 0: Off 1: On	Switches MR compression on and off for files attached to e-mails for sending.
2	MMR Compression mode for e-mail attachments 0: Off 1: On	Switches MMR compression on and off for files attached to e-mails for sending.
3-6	Not used	Do not change these settings.
7	Designates the bits to reference for compression method of e-mail attachments 0: Registered (Bit 0 to 6) 1: No registration.	The "0" selection (default) references the settings for Bits 00, 01, 02 above. The "1" selection ignores the selections of Bits 00, 01, 02.

Switch 01		
No	FUNCTION	COMMENTS
0	Original width of e-mail attachment: A4 0: Off 1: On	Sets the original width of the e-mail attachment as A4.
1	Original width of e-mail attachment: B4 0: Off 1: On	Sets the original width of the e-mail attachment as B4.
2	Original width of e-mail attachment: A3 0: Off 1: On	Sets the original width of the e-mail attachment as A3.
3-6	Not used	Do not change these settings.
7	Designates the bits to reference for original size of e-mail attachments 0: Registered (Bit 0 to 6) 1: No registration.	The "0" selection (default) references the settings for Bits 00, 01, 02 above. The "1" selection ignores the selections of Bit 00.

Switch 02		
No	FUNCTION	COMMENTS
0	Line resolution of e-mail attachment: 200 x 100 0: Off 1: On	Sets the line resolution of the e-mail attachment as 200 x100.
1	Line resolution of e-mail attachment: 200 x 200 0: Off 1: On	Sets the line resolution of the e-mail attachment as 200 x 200.

Dedicated Transmission Parameters

2	Line resolution of e-mail attachment: 200 x 400 0: Off 1: On	Sets the line resolution of the e-mail attachment as 200 x 400.
3	Not used	Do not change these settings.
4	Line resolution of e-mail attachment: 400 x 400 0: Off 1: On	Sets the line resolution of the e-mail attachment as 400 x 400.
5-6	Not used	Do not change these settings.
7	Designates the bits to reference for original size of e-mail attachments 0: Registered (Bit 0 to 6) 1: No registration.	The "0" selection (default) references the settings for Bits 00, 01, 02, 04 above. The "1" selection ignores the selections of Bits 00, 01, 02, 04.

Switch 03 - Not used (do not change the settings)

Switch 04		
No	FUNCTION	COMMENTS
0	Full mode address selection 0: Full mode address 1: No full mode (simple mode)	If the other ends have the addresses, which have the full mode function flag ("0"), this machine determines them as full mode standard machines. <ul style="list-style-type: none"> ▪ This machine attaches the "demand of reception confirmation" to a message when transmitting. ▪ This machine updates the reception capability to the address book when receiving.
1-7	Not used	Do not change these settings.

Switch 05		
No	FUNCTION	COMMENTS

0	Directr transmission selection to SMTP server 0: ON 1: OFF	Allows or does not allow the direct transmission to SMTP server.
1-7	Not used	Do not change these settings.

D255/D256
FAX OPTION

Switch 06 - Not used (do not change the settings)
Switch 07 - Not used (do not change the settings)
Switch 08 - Not used (do not change the settings)
Switch 09 - Not used (do not change the settings)

4.9 SERVICE RAM ADDRESSES

4.9.1 SERVICE 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: Specify the order of the information shown under "Destination" in the Journal, the Immediate TX Result Report, and on the [Transmission File Status] screen for fax transmission.

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 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

Service RAM Addresses

Bit 3: 90° image rotation during B5 portrait TX (This switch is not printed on the user parameter list.) 0: Off, 1: On

Bit 4: Reduction of sample images on reports to 50% in the main scan and sub-scan directions. (This switch is not printed on the user parameter list.) 0: Technician adjustment (printer switch 0E bits 3 and 4), 1: 50% reduction

Bit 5: Use of A5 size paper for reports (This switch is not printed on the user parameter list.) 0: Off, 1: On

Bits 6 and 7: Not used

6800E4(H) - User parameter switch 20 (SWUSR_14)

Bit 0: Automatic printing of the LAN fax result report 0: Off, 1: On

Bit 1: Not used.

Bits 2 to 5: Store documents in memory, which could not be printed from PC fax (LAN fax) driver

Bit 5	Bit 4	Bit 3	Bit 2	Setting
0	0	0	0	0 min.
0	0	0	1	1 min.
↓	↓	↓	↓	↓
1	1	1	0	14 min.
1	1	1	1	15 min.

Bits 6 and 7: Not used.

6800E5(H) - User parameter switch 21 (SWUSR_15)

Bit 0: Print results of sending reception notice request message 0: Disabled (print only when error occurs), 1: Enabled

Bit 1: Respond to e-mail reception acknowledgment request 0: Disabled, 1: Enabled

Bit 2: Not used

Bit 3: File format for forwarded folders 0: TIFF, 1: PDF

Bit 4: Transmit Journal by E-mail 0: Disabled, 1: Enabled

Bit 5: Not used

Bit 6: Network error display 0: Displayed, 1: Not displayed

Bit 7: Transmit error mail notification 0: Enabled, 1: Disabled

6800E6(H) - User parameter switch 22 (SWUSR_16)

(This switch is not printed on the user parameter list.)

Bit 0: Dial tone detection (PSTN 1) 0: Disabled, 1: Enabled

Bits 1 to 7: Not used

6800E7(H) – User parameter switch 23 (SWUSR_17): Not used

6800E8(H) - User parameter switch 24 (SWUSR_18): Not used

6800E9(H) - User parameter switch 25 (SWUSR_19)

Bit 0: Not used

Bit 1: Reception mode switch timer 0: Off, 1: On (switching Fax or Fax/Tel)

Bit 2: Mode priority switch 0: Fax first, 1: Tel first

Bit 3: Dial in function (Japan Only)

Bit 4: **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

Service RAM Addresses

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)

Service RAM Addresses

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)

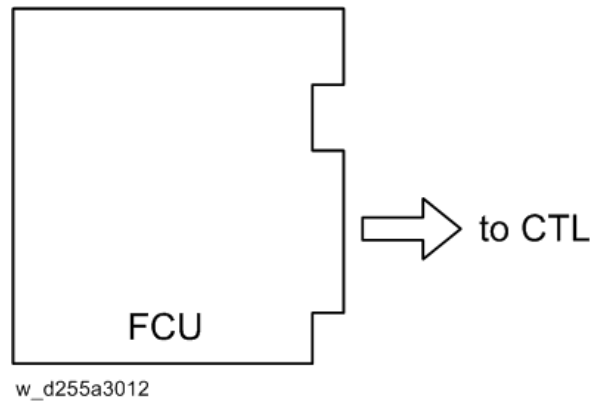
Defaults: NA: 64, EU: 1B, ASIA: 32

6B3AEC(H) – Dial tone disconnect permission time (20 ms)

Defaults: NA: 11, EU: 0F, ASIA: 11

5. DETAILED SECTION DESCRIPTIONS

5.1 OVERVIEW



The FCU controls all the fax communications and fax features, in cooperation with the controller board. Also, the FCU contains the ROM, SRAM and NCU circuits.

SAF Memory Back-up

A rechargeable battery backs up the SAF memory (DRAM) for 12 hours.

ROM

4 MB flash ROMs for system software storage

SRAM

The 512 KB SRAM for system and user parameter storage is backed up by a lithium battery.

SRAM Back-up

A lithium battery backs up the system parameters and programmed items in the SRAM, in case the base copier's main power switch is turned off.

Switches

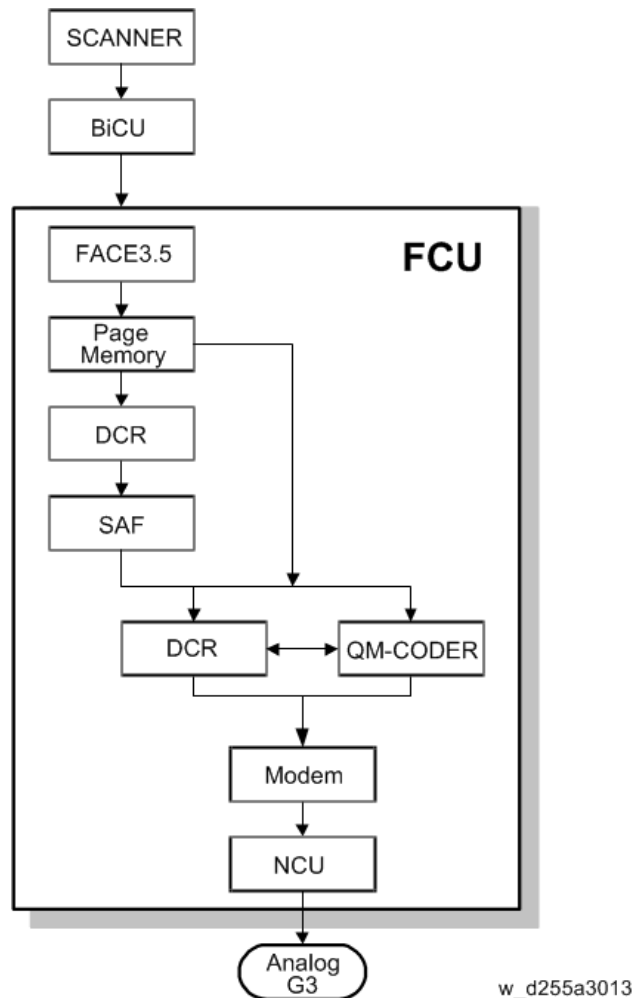
Item	Description
SW1	Switches the SRAM backup battery on/off.

CPU

This controls the energy-efficient operation of the FCU board.

5.3 VIDEO DATA PATH

5.3.1 TRANSMISSION



Memory Transmission and Parallel Memory Transmission

The base copier's scanner scans the original at the selected resolution in inch format. The BiCU processes the data and transfers it to the FCU.

Note

- When scanning a fax original, the BiCU uses the MTF, independent dot erase and thresholding parameter settings programmed in the fax unit's scanner bit switches, not the copier's SP modes.

Then, the FCU converts the data to mm format, and compresses the data in MMR or raw format to store it in the SAF memory. If image rotation will be done, the image is rotated in page memory before compression.

At the time of transmission, the FCU decompresses the stored data, then re-compresses and/or reduces the data if necessary for transmission. The NCU transmits the data to the line.

Immediate Transmission

The base copier's scanner scans the original at the resolution agreed with the receiving terminal. The BiCU video processes the data and transfers it to the FCU.

Note

- When scanning a fax original, the BiCU uses the MTF, independent dot erase and thresholding parameter settings programmed in the fax unit's scanner bit switches, not the copier's SP modes.

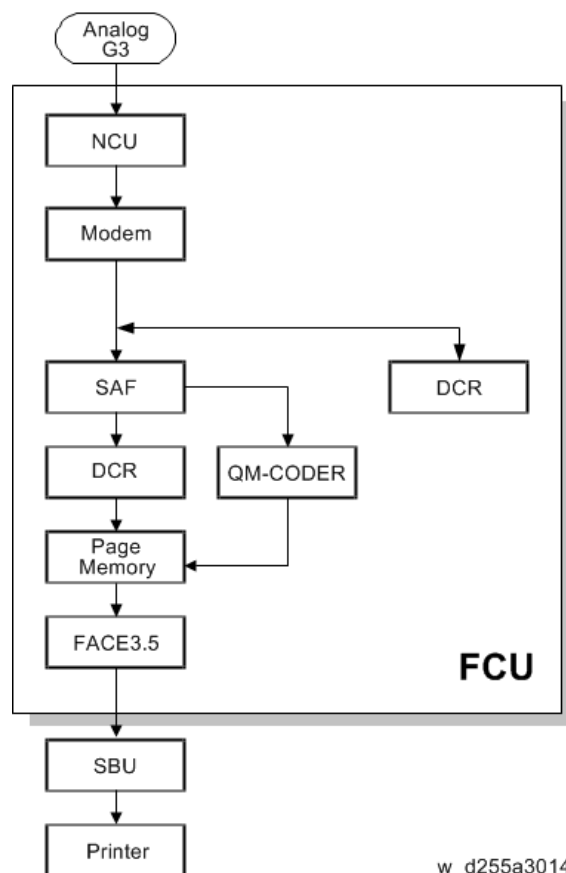
Then the FCU stores the data in page memory, and compresses the data for transmission. The NCU transmits the data to the line.

JBIG Transmission

Memory transmission: If the receiver has JBIG compression, the data goes from the DCR to the QM-Coder. Then the NCU transmits the data to the line.

Immediate transmission: If the receiver has JBIG compression, the data goes from the page memory to the QM-Coder. Then the NCU transmits the data to the line.

5.3.2 RECEPTION



First, the FCU stores the incoming data from either an analog line to the SAF memory. (The data goes to the FACE3 at the same time, and is checked for error lines/frames.)

The FCU then decompresses the data and transfers it to page memory. If image rotation will be

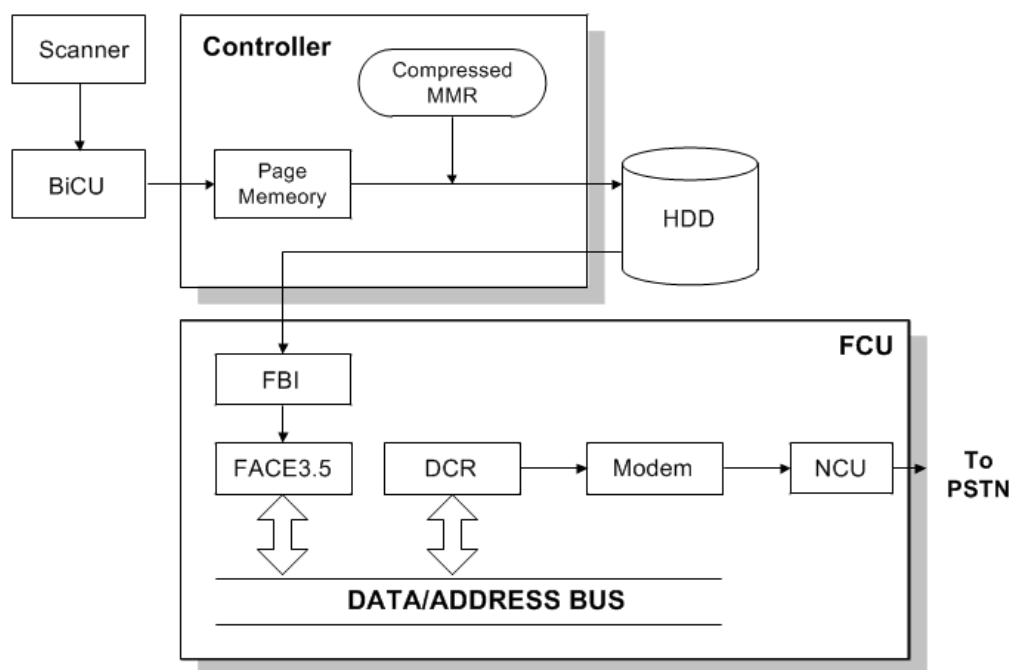
done, the image is rotated in the page memory. The data is transferred to the BiCU.

JBIG Reception

When data compressed with JBIG comes in on PSTN-1 (the standard analog line), the data is sent to the QM-CODER for decompression. Then the data is stored in the page memory, and transferred to the BiCU.

5.4 FAX COMMUNICATION FEATURES

5.4.1 DOCUMENT SERVER



w_d255a3028

The base copier's scanner scans the original at the selected resolution. The BiCU video processes the data and transfers it to the controller board.

Then the controller stores the data in the page memory for the copier function, and compresses the data in MMR (by software) to store it in the HDD. If image rotation will be done, the image is rotated in the page memory before compression.

For transmission, the stored image data is transferred to the FCU. The FCU decompresses the image data, then recompresses and/or reduces the data if necessary for transmission. The NCU transmits the data to the line.

The documents can be stored in the HDD (Document Server) from the fax application. The stored documents in the document sever can be used for the fax transmission in many times. More than one document and the scanned document can be combined into one file and then the file can be transmitted.

- When using the document server, the SAF memory is not used.
- The document is compressed with MMR and stored.
- Up to 9,000 pages can be stored (1 file: Up to 1,000 pages) from the fax application.
- Only stored documents from the fax application can be transmitted.
- Scanned documents are given a name automatically, such as "FAX001". But it is possible to change the file name, user name and password.
- Up to 30 files can be selected at once.

Note

- The compression method of the fax application is different from the copy application. The storing time is longer than the copier storing.
- When selecting "Print 1st page", the stored document will be reduced to A4 size.

5.4.2 INTERNET MAIL COMMUNICATION

Mail Transmission

This machine supports T.37 full mode. (ITU-T Recommendation, RFC2532). The difference between T.37 simple mode and full mode is as follows.

Function	T.37 Simple Mode	T.37 Full Mode
Resolution	200 x 100 200 x 200	200 x 100 200 x 200 200 x 400 400 x 400 (if available)
RX Paper Width	A4, 8.5" x 14"	A4, B4, A3
RX Data Compression Method	MH	MH (default), MR, MMR
Signals	Image data transmission only	Image data transmission, exchange of capability information between the two terminals, and acknowledgement of receipt of fax messages

Data Formats

The scanned data is converted into a TIFF-F formatted file.

The fields of the e-mail and their contents are as follows:

Field	Content
From	Mail address of the sender
Reply To	Destination requested for reply
To	Mail address of the destination

Field	Content
Bcc	Backup mail address
Subject	From CSI or RTI (Fax Message No. xxxx)
Content Type	Multipart/mixed Attached files: image/tiff
Content Transfer Encoding	Base 64, 7-bit, 8-bit, Quoted Printable
Message Body	MIME-converted TIFF-F (MIME standards specify how files are attached to e-mail messages)

Direct SMTP Transmission

Internet Fax documents can be sent directly to their destinations without going through the SMTP server. (Internet Faxes normally transmit via the SMTP server.)

For example:

e-mail address:	gts@ricoh.co.jp
SMTP server address:	gts.abcd.com

In this case, this feature destination e-mail address (gts@ricoh.co.jp) is read as the SMTP server address "gts.abcd.com", and the transmissions bypass the SMTP server.

Selectable Options

These options are available for selection:

- With the default settings, the scan resolution can be either standard or detail. Inch-mm conversion before TX depends on IFAX SW01 Bit 7. Detail resolution will be used if Super Fine resolution is selected, unless Fine resolution is enabled with IFAX SW01.
- The requirements for originals (document size, scan width, and memory capacity) are the same as for G3 fax memory TX.
- The default compression is TIFF-F format.
- IFAX SW00: Acceptable paper widths for sending
- IFAX SW09: Maximum number of attempts to the same destination

Secure Internet Transmission

SMTP Authentication:

- User Tools > Machine Features > System Settings > File Transfer > SMTP Authentication

POP Before SMTP:

- User Tools > Machine Features > System Settings > File Transfer > POP Before SMTP

Mail Reception

This machine supports three types of e-mail reception:

- POP3 (Post Office Protocol Ver. 3.)
- IMAP4 (Internet Messaging Access Protocol)
- SMTP (Simple Mail Transfer Protocol)

Note

- For details: Core Technology Manual – Facsimile Processes – Faxing from a PC – Internet/LAN Fax Boards – Mail Reception

POP3/IMAP4 Mail Reception Procedure

The machine automatically picks up e-mail from the server at an interval which is adjustable in the range 2 to 1440 min. in 1-minute steps:

- User Tools > Machine Features > System Settings > File Transfer > E-mail Reception Interval

SMTP Reception

1. The IFAX must be registered as an SMTP server in the MX record of the DNS server, and the address of the received mail must specify the IFAX.
2. To enable SMTP reception: User Tools > Machine Features > System Settings > File Transfer > Reception Protocol
 - Even if the MX record on the DNS server includes the IFAX, mail cannot be received with SMTP until SMTP reception is enabled:
 - However, if SMTP reception is selected and the machine is not registered in the MX record of the DNS server, then either IMAP4 or POP3 is used, depending on the setting: User Tools > Machine Features > System Settings > File Transfer > Reception Protocol

Mail Delivery Conditions: Transferring Mail Received With SMTP

1. The machine must be set up for SMTP mail delivery:
User Tools > Machine Features > Facsimile Features > Reception Settings > SMTP RX File Delivery Settings
2. If the user wishes to limit this feature so that the machine will only deliver mail from designated senders, the machine's "Auth. E-mail RX" feature must be set (User Tools > Machine Features > Facsimile Features > E-mail Settings > SMTP RX File Delivery Settings).
3. If the "SMTP RX File Delivery Setting" is set to "0" to prohibit SMTP receiving, and if there is mail designated for delivery, then the machine responds with an error. (User Tools > Machine Features > Facsimile Features > E-mail Settings > SMTP RX File Delivery Settings)
4. If the quick dial, speed dial, or group dial entry is incorrect, the mail transmission is lost, and

the IFAX issues an error to the SMTP server and outputs an error report.

Auth. E-mail RX

In order to limit access to mail delivery with IFAX, the addresses of senders must be limited using the Access Limit Entry. Only one entry can be registered.

1. Access Limit Entry

For example, to limit access to @IFAX.ricoh.co.jp:

gts@IFAX.ricoh.co.jp	Matches and is delivered.
gts@IFAX.abcde.co.jp	Does not match and is not delivered.
IFAX@ricoh.co.jp	Does not match and is not delivered.

2. Conditions

- The length of the Access Limit Entry is limited to 127 characters.
- If the Access Limit Entry address and the mail address of the incoming mail do not match, the incoming mail is discarded and not delivered, and the SMTP server responds with an error. However, in this case an error report is not output.
- If the Access Limit Entry address is not registered, and if the incoming mail specifies a delivery destination, then the mail is delivered unconditionally.

Handling Mail Reception Errors

Abnormal files

When an error of this type occurs, the machine stops receiving and commands the server to erase the message. Then the machine prints an error report and sends information about the error by e-mail to the sender address (specified in the "From" or "Reply-to" field of the message). If there is an incomplete received message in the machine memory, it will be erased.

The machine prints an error message when it fails to send the receive error notification after a certain number of attempts.

The following types of files are judged to be abnormal if one or more of the following are detected:

1. Unsupported MIME headers.

Supported types of MIME header

Header	Supported Types
Content-Type	Multipart/mixed, text/plain, message/rfc822 Image/tiff
Charset	US-ASCII, ISO 8859 X. Other types cannot be handled, and some garbage may appear in the data.

Header	Supported Types
Content-Transfer-Encoding	Base 64, 7-bit, 8-bit, Quoted Printable

2. MIME decoding errors
3. File format not recognized as TIFF-F format
4. Resolution, document size, or compression type cannot be accepted

Remaining SAF capacity error

The machine calls the server but does not receive e-mail if the remaining SAF capacity is less than a certain value (the value depends on IFAX Switch 08. The e-mail will be received when the SAF capacity increases (for example, after substitute reception files have been printed). The error handling method for this type of error is the same as for "Abnormal files".

If the capacity of the SAF memory drops to zero during reception, the machine operates in the same way as when receiving an abnormal file (refer to "Abnormal files" above).

Secure Internet Reception

To enable password encryption and higher level security: User Tools> Machine Features > System Settings > File Transfer > POP3/IMAP4 Settings > Encryption (set to "On")

Transfer Request: Request By Mail

For details: Core Technology Manual – Facsimile Processes – Faxing from a PC – Internet/LAN Fax Boards – Transfer Request

The fields of the e-mail and their contents are as follows:

Field	Content
From	E-mail address of the requesting terminal
To	Destination address (Transfer Station address)
Bcc	Blind carbon copy
Subject	From TSI (Fax Message No. xxxx)
Content-Type	Multipart/mixed Text/Plain (for a text part), image/tiff (for attached files)
Content-Transfer-Encoding	Base 64, 7-Bit, 8-bit, Quoted Printable

Field	Content
Mail body (text part)	RELAY-ID-: xxxx (xxxx: 4 digits for an ID code) RELAY: #01#*X#**01....
Message body	MIME-converted TIFF-F.

E-Mail Options (Sub TX Mode)

The following features are available as options for mail sending: entering a subject, designating the level of importance, confirming reception of the mail.

Subject and Level of Importance

You can enter a subject message with: Sub TX Mode > E-mail Options

The Subject entry for the mail being sent is limited to 64 characters. The subject can also be prefixed with an "Urgent" or "High" notation.

How the Subject Differs According to Mail Type

Mail Type	Item 1	Item 2		Item 3
Subject Entry	---	Entry Condition		
No Subject Entry		1. "CSI" ("RTI")		Fax Message No. + File No.
		2. "RTI"	CSI not registered	
		3. "CSI"	RTI not registered	
		4. None	CSI, RTI not registered	
Confirmation of Reception	From	1. "CSI" ("RTI")		Normal: Return Receipt (dispatched). You can select "displayed" with IFAX SW02 Bits 2 and 3.
		2. "RTI"	CSI not registered	
		3. "CSI"	RTI not registered	Error: Return Receipt (processed/error)
		4. None	CSI, RTI not registered	

Mail Type	Item 1	Item 2		Item 3
Mail delivery, memory transfer, SMTP receiving and delivery	From	RTI or CSI of the station designated for delivery	Mail delivery	Fax Message No. + File Number
		RTI or CSI of sender	Mail sending from G3 memory	
		Mail address of sender	Memory sending	
		Mail address of sender	SMTP receiving and delivery (Off Ramp Gateway)	
Mail error notification	---	Error Message No. xxxx From CSI (RTI)		

Items 1, 2, and 3 in the table above are in the Subject.

Subjects Displayed on the PC

Sender	Date	Size	Subject
Substation 2	04/25/2002	1,513	Parts List
Substation 2	04/25/2002	1,147	Specifications
Main Station	06/09/2002	33,561	[Urgent] Memo 2041
		21,624,200	

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E-mail Messages

After entering the subject, you can enter a message with: Sub TX Mode> E-mail Options
 An e-mail message (up to 5 lines) can be pre-registered with: User Tools > Machine Features > System Settings > File Transfer > Program/Change/Delete E-mail Message

Limitations on Entries

Item	Maximum
Number of Lines	5 lines
Line Length	80 characters
Name Length	20 characters

Message Disposition Notification (MDN)

For details: Core Technology Manual – Facsimile Processes – Faxing from a PC – Internet/LAN Fax Boards – E-mail Options

The network system administrator can confirm whether a sent mail has been received correctly or not. This function is enabled only when "I-FAX switch 02 Bit 4" is set to "1". This confirmation is done in four steps.

1. Send request for confirmation of mail reception. To enable or disable this request (known as MDN):
2. Sub TX Mode> E-mail Options
3. Mail reception (receive confirmation request)
4. Send confirmation of mail reception
5. Receive confirmation of mail reception

The other party's machine will not respond to the request unless the two conditions below are met:

- The other party's machine must be set up to respond to the confirmation request.
- The other party's machine must support MDN (Message Disposition Notification).

- Setting up the Receiving Party -

The receiving party will respond to the confirmation request if:

1. The "Disposition Notification To" field is in the received mail header (automatically inserted in the 4th line in the upper table on the previous page, if MDN is enabled), and
2. Sending the disposition notification must be enabled (User Parameter Setting SW21 (15 [H]) Bit 1 for this model). The content of the response is as follows:

Normal reception:	"Return Receipt (dispatched)" in the Subject line
IFAX SW02 (Bit 2, 3)	"Return Receipt (displayed)" in the Subject line
Error:	"Return Receipt (processed/error)" in the Subject line

Handling Reports

1. Sending a Request for a Return Receipt by Mail
After the mail sender transmits a request for a return receipt, the mail sender's journal is annotated with two hyphens (--) in the Result column and a "Q" in the Mode column.
2. Mail Receipt (Request for Receipt Confirmation) and Sending Mail Receipt Response
After the mail receiver sends a response to the request for a return receipt, the mail receiver's journal is annotated with two hyphens (--) in the Result column and an "A" in the Mode column.
3. Receiving the Return Receipt Mail

- After the mail sender receives a return receipt, the information in the mail sender's journal about the receipt request is replaced, i.e. the journal is annotated with "OK" in the Result column.
- When the return receipt reports an error, the journal is annotated with an "E" in the Result column.
- The arrival of the return receipt is not recorded in the journal as a separate communication. Its arrival is only reported by the presence of "OK" or "E" in the Result column.
- If the mail address used by the sender specifies a mailing list (i.e., a Group destination; the machine sends the mail to more than one location. See "How to set up Mail Delivery"), the Result column of the Journal is updated every time a return receipt is received. For example, if the mailing list was to 5 destinations, the Result column indicates the result of the communication with the 5th destination only. The results of the communications to the first 4 destinations are not shown.

Exceptions: If one of the communications had an error, the Result column will indicate E, even if subsequent communications were OK.

If two of the communications had an error, the Journal will indicate the destination for the first error only.

Report Sample

DATE	TIME	ADDRESS	MODE	TIME	PAGE
----- RESULT -----					
MAY. 5	10:15	fuser_01@domlg. rlcch. co.	Mail SM	0'09"	2
	10:16	fuser_01@domlg. rlcch. co.	Mail SQ	0'05"	1
	10:17	s_yedashi@domlg. rlcch. co.	Mail SQ	0'09"	2
	10:18	m_masataka@domlg. rlcch. co.	Mail SMA	0'05"	1
----- OK -----					

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5.5 IP-FAX

5.5.1 WHAT IS IP-FAX?

For details: Core Technology Manual – Facsimile Processes – Faxing from a PC – Internet/LAN Fax Boards – IP-FAX

5.5.2 T.38 PACKET FORMAT

TCP is selected by default for this machine, but you can change this to UDP with IPFAX SW 00 Bit 1.

UDP Related Switches

IP-Fax Switch 01						
No.	Function					Comments
0-3	Select IP FAX Delay Level					Raise the level by selecting a higher setting if too many transmission errors are occurring on the network. If TCP/UDP is enabled on the network, raise this setting on the T.30 machine. Increasing the delay time allows the recovery of more lost packets. If only UDP is enabled, increase the number of redundant packets. Level 1~2: 3 Redundant packets Level 3: 4 Redundant packets
	Bit 3	Bit 2	Bit 1	Bit 0	Level	
	0	0	0	0	0	
	0	0	0	1	1	
	0	0	1	0	2	
0	0	1	1	3		

5.5.3 SETTINGS

User parameter switch 34 (22[H]), bit 0

IP-Fax Gate Keeper usage, 0: No, 1: Yes

IP Fax Switches: Various IP-FAX settings (see the bit switch table)

6. SPECIFICATIONS

6.1 GENERAL SPECIFICATIONS

6.1.1 FCU

Item	Spec.
Type:	Desktop type transceiver
Circuit:	PSTN PABX
Connection	Direct couple
Original Size:	<ul style="list-style-type: none"> ▪ Book (Face down) Maximum Length: 356 mm (14.0 inch) Maximum Width: 216 mm (8.5 inch) ▪ ARDF (Face up) Maximum Length: 356 mm (14.0 inch) Maximum Width: 216 mm (8.5 inch)
Scanning Method:	Flat bed, with CCD
Resolution:	8 × 3.85 lines/mm, 200 × 100 dpi (Standard character), 8 × 7.7 lines/mm, 200 × 200 dpi (Detail character)
Transmission Time:	3 seconds at 28,800 bps, Standard resolution (JBIG transmission: 2 seconds)
Data Compression:	MH, MR, MMR, JBIG
Protocol:	Group 3 with ECM
Modulation:	TCM: V.34, V.17 QAM: V.29, V.17 PhM: V27ter FSK: V.8, V21
Data Rate:	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)

General Specifications

Item	Spec.
I/O Rate:	With ECM: 0 ms/line Without ECM: 2.5, 5, 10, 20, or 40 ms/line
Memory Capacity:	<ul style="list-style-type: none"> ▪ SAF: 4 MB ▪ Page Memory: 4 MB

6.1.2 CAPABILITIES OF PROGRAMMABLE ITEMS

The following table shows the capabilities of each programmable items.

Item	Maximum Value
Number of destinations you can register in the address book	2000
Number of groups you can register	100
Number of destinations you can register in a group	500
Number of destinations you can register into a keystroke program	500
Number of programs you can register in a group	100
Number of communication results you can check on this machine	200
Number of special senders you can register	250
Number of documents you can store in memory for memory transmission	800
Number of pages you can send for memory transmission	1000
Number of pages you can store in memory for memory transmission *1	320

*1: Measured using an ITU-T #1 test document (Slerexe letter) at standard resolution, auto image density mode, and Text mode.

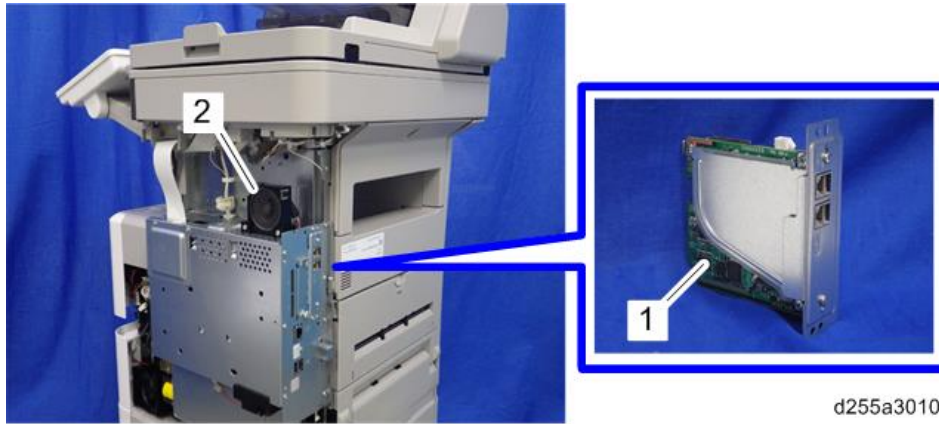
6.2 IFAX SPECIFICATIONS

Item	Spec.
Connectivity:	<ul style="list-style-type: none"> ▪ Standard: Ethernet interface (1000BASE-T/100 BASE-TX/10 BASE-T) ▪ Optional: IEEE 802.11a/b/g/n wireless LAN interface
Resolution:	200 × 100 dpi (Standard resolution), 200 × 200 dpi (Detail resolution)
Transmission Time:	<p>1 s (through a LAN to the server) Condition: ITU-T #1 test document (Selerexe Letter) MTF correction: OFF TTI: None Resolution: 200 × 100 dpi Communication speed: 10 Mbps Correspondent device: E-mail server Line conditions: No terminal access</p>
Document Size:	Maximum Original Size: A4
E-mail File Format:	<p>Single/Multi-part, MIME Conversion Attached file fomrs: TIFF-F (MH, MR*, MMR*) *: Full mode</p>
Protocol:	<p>Transmission: SMTP, TCP/IP Reception: POP3, SMTP, IMAP4, TCP/IP</p>
Data Rate:	1000 Mbps (1000 Base-T), 100 Mbps (100 Base-Tx), 10 Mbps (10 Base-T)
Authentication Method:	SMTP-AUTH, POP before SMTP, A-POP
Remark:	The machine must be set up as an e-mail client before installation. Any client PCs connected to the machine through a LAN must also be e-mail clients, or some features will not work (e.g. Autorouting).

6.3 IP-FAX SPECIFICATIONS

Item	Spec.
Network:	<ul style="list-style-type: none"> ▪ Standard: Ethernet interface (1000BASE-T/100 BASE-TX/10 BASE-T) ▪ Optional: IEEE 802.11a/b/g/n wireless LAN interface
Scan line density:	200 × 100dpi (standard character), 200 × 200dpi (detail character)
Maximum Original size:	A4 (SEF), 81/2" × 14" (SEF)
Maximum scanning size:	216 mm × 356 mm (8.5" × 14.0")
Transmission protocol:	Recommendation: T.38, TCP, UDP/IP communication, SIP (RFC 3261 compliant), H.323 v2
Compatible machines:	IP-Fax compatible machines
IP-Fax transmission function:	<p>Specify IP address and send faxes to an IP-Fax compatible fax through a network.</p> <p>Also capable of sending faxes to a G3 fax connected to a telephone line via a VoIP gateway.</p>
IP-Fax reception function:	<p>Receive faxes sent from an IP-Fax compatible fax through a network.</p> <p>Also capable of receiving faxes from a G3 fax connected to a telephone line via a VoIP gateway.</p>

6.4 FAX UNIT CONFIGURATION



No.	Component
1	FCU
2	Speaker